



Core Sustainability Objective		Evaluation Criteria (Measures / Indicators)	Contribution option will make to core sustainability objective							Sift/Gate <sup>1</sup>
			--	-	0	+	++	U	Na	
		Reducing greenhouse gas emissions and combating climate change and its effects								
		1. Climatic factors and adaptability								
1.1. Ensure resilience and adaptability of rail network against extreme weather events and other probable climate change impacts	1.1.1	Surface route crossing geology vulnerable to landslip (Determined by BGS Landslide Hazard Assessment areas), as measured by <i>length of cutting crossing areas of significant landslip potential (m)</i>								3
	1.1.2	Surface route exposed to greater risks from increasing rainfall as measured by <i>length of surface route at risk of flooding in Flood Zone 2 and 3</i>								3
		2. Greenhouse gases								
2.1. Contribute to the reduction of greenhouse gas emissions	2.1.1	Change in CO <sub>2</sub> equivalent (CO <sub>2</sub> e) emissions released as a result of modal shift from classic rail, road and air to high speed rail								4
	2.1.2	Carbon emissions resulting from construction in terms of embedded carbon from surface route, tunnel boring, cutting and viaduct as measured by <i>CO<sub>2</sub>e per metre and total footprint (tCO<sub>2</sub>)</i>								2
		Natural and cultural and resource protection and environmental enhancement								
		3. Landscape								
3.1. Maintain or where possible enhance existing landscape character and qualities  Reference is also made to Tranquillity, 12.1.3, which accommodates landscape considerations	3.1.1	Direct impacts to nationally designated landscape resources as measured by:								2
	3.1.1a	• <i>length of surface route crossing<sup>2</sup> National Parks</i>								2
	3.1.1b	• <i>length of surface route crossing Areas of Outstanding National Beauty (AONB)</i>								2
	3.1.2	Indirect impacts to nationally designated landscape resources, as measured by:								3
	3.1.2a	• <i>length of surface route within 2km of National Parks and number of areas so affected</i>								3
	3.1.2b	• <i>length of surface route within 2km of AONB and number of areas so affected</i>								3

<sup>1</sup> The sift or gate number refers to stage at which the relevant information is first considered. Sift 3 information should be taken to include Sift 2.5 information as well.

<sup>2</sup> Intersection or any direct impact is taken to occur where a relevant feature is within 50m of the centreline of the route.

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	3.1.3	Direct and indirect impacts on the landscape character and qualities of the wider countryside as measured by:								3
	3.1.3a	<ul style="list-style-type: none"> <li>degree of consistency with landscape quality objectives within relevant landscape character assessments</li> </ul>								4
	3.1.3b	<ul style="list-style-type: none"> <li>approximate extent of visibility</li> </ul>								4
	3.1.3c	<ul style="list-style-type: none"> <li>length of route crossing woodlands and/or traditional orchards and numbers so affected</li> </ul>								3
		4. Townscape and cultural heritage								
4.1. Maintain or where possible enhance existing townscape character	4.1.1	Incursion into strategically designated views as measured by <i>number of strategically designated views impinged</i> .								2 & 3 <sup>3</sup>
	4.1.2	Direct Impacts to conservation areas as measured by <i>number of conservation areas intersected and number of areas so affected</i>								2 & 3
	4.1.3	Indirect Impacts to conservation areas as measured by <i>total length of conservation areas within 500m likely to have a view of the route, and number of areas so affected</i> .								2 & 4
	4.1.4	Degree of fit with respect to existing townscape character <sup>4</sup>								3
4.2. Preserve and protect historic assets	4.2.1	Direct impacts to internationally (or quasi internationally) designated historic sites as measured by:								2
	4.2.1a	<ul style="list-style-type: none"> <li>total length of intersection by surface route of World Heritage Sites and number of sites so affected</li> </ul>								2
	4.2.1b	<ul style="list-style-type: none"> <li>number of Grade I listed structures directly impacted</li> </ul>								2
	4.2.1c	<ul style="list-style-type: none"> <li>total length of intersection by surface route of Grade I Registered Parks and Gardens and number of sites so affected</li> </ul>								2
	4.2.2	Indirect impacts to setting of internationally designated historic sites, as measured by:								2
	4.2.2a	<ul style="list-style-type: none"> <li>total length of surface route crossing designated World Heritage Site buffer and number of buffers so affected</li> </ul>								2
	4.2.2b	<ul style="list-style-type: none"> <li>number of Grade I listed structures within 350m of centre line and likely to have views of it</li> </ul>								2

<sup>3</sup> All issues under 4.1 to be addressed at sift 2 for stations only

<sup>4</sup> Issue to be addressed for stations and depots only

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	4.2.2c	<ul style="list-style-type: none"><li>total length of surface route within 1km of Grade I Registered Parks and Gardens and number of sites so affected</li></ul>								2
	4.2.3	Direct impacts to higher priority nationally designated historic sites as measured by:								2
	4.2.3a	<ul style="list-style-type: none"><li>number of Scheduled Monuments directly impacted</li></ul>								2
	4.2.3b	<ul style="list-style-type: none"><li>number of Grade II* listed structures directly impacted</li></ul>								2
	4.2.3c	<ul style="list-style-type: none"><li>total length of intersection by surface route of Grade II* Registered Parks and Gardens and number of sites so affected</li></ul>								2
	4.2.3d	<ul style="list-style-type: none"><li>total length of intersection by surface route of Registered Historic Battlefields and number of sites so affected</li></ul>								2
	4.2.4	Indirect impacts to setting of higher priority nationally designated historic sites, as measured by:								2
	4.2.4a	<ul style="list-style-type: none"><li>number of Scheduled Monuments within 350m of centre of surface routes or from station footprint, and likely to have views of it</li></ul>								2
	4.2.4b	<ul style="list-style-type: none"><li>number of Grade II* listed structures within 350m of centre of surface routes or from station footprint, and likely to have views of it</li></ul>								2
	4.2.4c	<ul style="list-style-type: none"><li>total length of surface route within 1km of Grade II* Registered Parks and Gardens and number of sites so affected</li></ul>								2
	4.2.4d	<ul style="list-style-type: none"><li>total length of surface route within 1km of Registered Historic Battlefields and number of sites so affected</li></ul>								2
	4.2.5	Direct impacts to Grade II historic features, as measured by:								2
	4.2.5a	<ul style="list-style-type: none"><li>number of Grade II listed structures directly impacted by line</li></ul>								2
	4.2.5b	<ul style="list-style-type: none"><li>total length of intersection by surface route of Grade II Registered Parks and Gardens and number of sites so affected</li></ul>								2
	4.2.6	Indirect impacts to Grade II historic features, as measured by:								3
	4.2.6a	<ul style="list-style-type: none"><li>number of Grade II listed structures within 350m of centre of surface routes or 50m from station footprint and likely to have views of it</li></ul>								3
	4.2.6b	<ul style="list-style-type: none"><li>total length of surface route within 1km of Grade II Registered Parks and Gardens and number of sites so affected</li></ul>								3

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		5. Biodiversity and geodiversity								
5.1. Maintain or where possible enhance biodiversity and geodiversity	5.1.1	Direct impacts to sites of international importance as measured by:								2
	5.1.1a	• <i>length of intersection by surface routes of SACs/candidate SACs (cSAC) and SCIs and number of sites so affected</i>								2
	5.1.1b	• <i>length of intersection by surface routes of SPAs/potential SPAs (pSPA) and number of sites so affected</i>								2
	5.1.1c	• <i>length of intersection by surface routes of Ramsar sites and number of sites so affected</i>								2
	5.1.1d	• <i>length of intersection by surface routes of other internationally designated sites and number of sites so affected (biosphere reserves, national geoparks, Biogenetic reserves, EU diploma sites)</i>								2
	5.1.2	Potential indirect impacts to sites of international importance as measured by:								2
	5.1.2a	• <i>number of Natura 2000 sites within 10km subject to potentially indirect effects</i>								2
	5.1.2b	• <i>number of other internationally designated sites (biosphere reserves, Biogenetic reserves, EU diploma areas) within 10km subject to potentially indirect effects</i>								3
	5.1.3	Direct impacts to sites of national importance, as measured by:								2
	5.1.3a	• <i>length of surface route crossing national nature reserves (NNR) and number of sites so affected</i>								2
	5.1.3b	• <i>length of surface route crossing sites of special scientific interest (SSSIs),(including geological, and number of sites so affected</i>								2
	5.1.4	Potential indirect impacts to sites of national importance, as measured by:								3
	5.1.4a	• <i>length of surface route within 2km of NNRs, and number of sites so affected</i>								3
	5.1.4b	• <i>length of surface route within 2km of SSSIs (including geological) , and number of sites so affected</i>								3
	5.1.5	Direct impacts to sites of regional importance, as measured by:								3
5.1.5a	• <i>length of surface route crossing biodiversity action plan (BAP) habitats and number of sites so affected</i>								3	

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	5.1.5b	<ul style="list-style-type: none"><li>length of surface route crossing ancient woodland and number of sites so affected</li></ul>								3
	5.1.5c	<ul style="list-style-type: none"><li>length of surface route crossing Local Nature Reserves and number of sites so affected</li></ul>								4
	5.1.6	Area of potential new habitat creation in terms of:								4
	5.1.6a	<ul style="list-style-type: none"><li>BAP habitat</li></ul>								4
	5.1.6b	<ul style="list-style-type: none"><li>habitat for BAP species</li></ul>								4
	5.1.6c	<ul style="list-style-type: none"><li>habitats referred to in Natural England's Natural Area Profiles</li></ul>								4
	5.1.7	Potential for increased connectivity of BAP habitats								4
	5.1.8	Potential to buffer nearby designated sites								4
		6. Water resources								
6.1. Protect watercourses and surface water bodies	6.1.1	Direct impacts to controlled waters, as measured by:								2
	6.1.1a	<ul style="list-style-type: none"><li>number and length of major river diversions</li></ul>								3
	6.1.1b	<ul style="list-style-type: none"><li>number and length of minor river diversions</li></ul>								3
	6.1.1c	<ul style="list-style-type: none"><li>number of major river crossings</li></ul>								2
	6.1.1d	<ul style="list-style-type: none"><li>number of minor river and navigable waterway crossings</li></ul>								3
	6.1.1e	<ul style="list-style-type: none"><li>area of catchment upstream of river crossing points</li></ul>								3
	6.1.1f	<ul style="list-style-type: none"><li>number of water bodies (lakes and reservoirs) intersected</li></ul>								3
6.2. Protect groundwater resources	6.2.1	Direct impacts to strategic aquifers, as measured by:								2
	6.2.1a	<ul style="list-style-type: none"><li>length of route in tunnel or cut located in aquifers of "good yield" and "good quality" under the WFD</li></ul>								3
	6.2.1b	<ul style="list-style-type: none"><li>length of route in tunnel or cut located in aquifers of "good yield" and "poor quality" under the WFD</li></ul>								3
	6.2.1c	<ul style="list-style-type: none"><li>length of route in tunnel or cut located in aquifers of "poor yield" and "good quality" under the WFD</li></ul>								3
	6.2.2	Direct impacts to vulnerable water supplies as measured by length of cut or tunnel source protection zones (SPZ1 and SPZ2)								3

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		7. Flood risk								
7.1. Minimise and where possible reduce the risk of flooding from water bodies and surface water	7.1.1	Direct impacts to floodplains, as measured by <i>length of surface route within 1 in 100 year flood zones (Flood Zone 3)</i>								2
		Creating sustainable communities								
		8. Air quality								
8.1. Maintain or where possible enhance local air quality	8.1.1	Impacts on air quality arising from increased road traffic at stations due to HS2 as measured by <i>impacts to Air Quality Management Areas (AQMA)</i>								4
		9. Noise and vibration								
9.1. Maintain or where possible enhance the local noise environment <sup>5</sup> NB: criterion 12.1.2 to be used at Sift 2 as a rough indication of properties subject to potential noise (and visual impact) from the operational scheme Reference is also made to Tranquillity, 12.1.3, which accommodates noise considerations]	9.1.1	See 12.1.2								2
	9.1.2	Change in the population potentially annoyed by operational noise and Present Value of Benefits (PVB) for daytime operational-related residential noise.								3
	9.1.3	Number of dwellings potentially qualifying for noise insulation (based on the Noise Insulation Regulations 1996).								3
9.2. Maintain local vibration environment	9.2.1	Risk of vibration and reradiated noise as measured by <i>number of properties within 100m of tunnelled sections</i>								2

<sup>5</sup> See also criterion 12.1.2, which is to be used at Sift 2 as a rough indication of properties subject to potential noise (and visual impact) from the operational scheme

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		10. Community integrity								
10.1. Maintain or where possible enhance community integrity	10.1.1	Potential loss of community integrity, as measured by <sup>6</sup> :								2
	10.1.1a	• <i>number of dwellings likely to be demolished</i>								2
	10.1.1b	• <i>number of community properties likely to be demolished</i>								2
	10.1.1c	• <i>number of demolitions of commercial properties likely to be demolished</i>								2
	10.1.1d	• <i>number of industrial properties likely to be demolished</i>								2
	10.1.2	Residential dwellings and communities at risk of isolation, as measured by <i>number of dwellings enclosed by major barriers such as transport routes as a result of HS2</i>								3
	10.1.3	Residential dwellings and communities at risk of severance, as measured by <i>number of dwellings or communities divided by major barriers such as transport routes as a result of HS2</i>								3
	10.1.4	Risk of exacerbating deprivation, as measured by:								3
	10.1.4a	• <i>number of dwellings in the 20% most deprived areas potentially demolished</i>								3
	10.1.4b	• <i>number of dwellings in the 20% most deprived areas potentially at risk of isolation</i>								4
	10.1.5	Loss of community amenity, as measured by length of surface route crossing Country Parks and greens and number of sites so affected								3
	10.1.6	Impacts on social capital as measured by cumulative impacts from demolitions, severance & access, community landtake and changes in transport access								4
10.1.7	Risk of disproportionate effects on equality groups, as measured by <i>number of properties with disproportionately high numbers of equality groups demolished or at high risk of isolation, where known</i>								4	

<sup>6</sup> Zone of impact taken as corridor 50m each side of the centreline



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		11. Accessibility								
11.1. Maintain or where possible enhance pedestrian and recreational access	11.1.1	Interruption to linear access as measured by:								3
	11.1.1a	• <i>number of promoted recreational routes severed and/or requiring diversion</i>								3
	11.1.1b	• <i>number of national cycle paths severed and/or requiring diversion</i>								3
	11.1.2	Loss of recreational access as measured by <i>length of surface route crossing National Trust land and open access land (including mountain, moor, heath, downland and registered common land)</i>								3
11.2. Maintain or where possible enhance public transport interchange	11.2.1	Potential to improve transport option choices								4
	11.2.2	Population in the 20% most deprived areas with better access to public transport services								4
	11.2.3	Potential to improve public transport interchanges as a result of option, as measured by <i>number of interchange opportunities at stations</i>								3
		12. Health and well-being								
12.1. Maintain or where possible improve health and well-being	12.1.1	Combined impacts on the key determinants of health and well-being <sup>7</sup>								4
	12.1.2	Number of people at risk of experiencing disturbance during construction, as measured by <i>number of dwellings within 100m of surface sections of line (between 50m and150m of centre line)</i> <sup>8</sup>								2
	12.1.3	Impacts on areas of relatively high tranquillity, as measured by <i>length of surface route through highest 20% of tranquillity quadrants</i> <sup>9</sup>								3
12.2. Reduce health inequalities	12.2.1	Impacts on health inequalities as measured by <i>communities within 20% most health deprived areas subject to combined health impacts (as recorded under 12.1.1)</i>								4
	12.2.2	Number of people with greatest susceptibility to health impacts at risk of experiencing nuisance during construction, as measured by <i>number of dwellings recorded at 12.1.2 within 20% most deprived areas</i>								4

<sup>7</sup> Key determinants of health and well-being taken as physical environment (particularly issues 3, 8 and 9); access (particularly issues under 10 and 11); safety (issues under 13); physical activity; and socio-economics (issues under 15).

<sup>8</sup> This measure is also to be used at Sift 2 as a rough indication of properties subject to potential noise and visual impact from the operational scheme

<sup>9</sup> Relevant also to noise and landscape

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		13. Security and safety								
13.1. Contribute to the reduction of road traffic accidents	13.1.1	Change in likelihood of road traffic accidents as a result of option (modal shift)								4
13.2 Minimise the likelihood or consequences of accidents	13.1.2	Relative density of potential risk features such as road crossings, built up areas, switches and points								4
13.3. Avoid major hazards	13.1.3	Risk of impacts to or from potentially hazardous industrial activity, as measured by <i>number of COMAH registered sites between 50m and 150m of centreline</i>								4
		14. Economic prosperity								
14.1. Support economic competitiveness and make efficient use of public funds	14.1.1	Transport economic efficiency for business users & transport providers (i.e. excluding environmental and wider economic benefits and costs) as measured by <i>“in work time” time savings, congestion relief on road and rail networks in £M</i>								4
14.2. Support wider economic growth and enhance employment opportunities	14.2.1	Wider economic impacts (agglomeration impacts as productivity improvements arising from changes in effective density of economic activity) as measured by <i>monetary figure for GDP or GVA in £M</i>								4
		15. Economic welfare								
15.1. Support wider economic welfare growth	15.1.1	Transport economic efficiency for consumers as measured by <i>commuting and leisure time savings, congestion relief on road and rail networks in £M</i>								4
	15.1.2	Number of jobs created directly and indirectly from construction								4
	15.1.3	Number of jobs created directly and indirectly from operation								4
	15.1.4	Number of jobs displaced due to demolition of commercial properties around stations and depots								3
15.2. Support local economy	15.2.1	Numbers of jobs supported through development around stations								2
	15.2.2	Number of housing units supported through development around stations								2
15.3. Enhance regeneration	15.3.1	Number of jobs supported in regeneration areas (20% most deprived areas according to the IMD) around stations								2

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	15.3.2	Numbers of housing units supported in regeneration areas (20% most deprived areas according to the IMD) around stations								2
15.4. Support regional and local growth	15.4.1	Degree of support for or conflict with strategic growth areas (as identified in regional strategies) and Enterprise Zones								3
	15.4.2	Degree of support for or conflict with local development policies or planning aspirations								2 or 4
	15.4.3	Degree of support for or conflict with local transport strategies or initiatives								2 or 4
	15.4.4	Degree of support for or conflict with extant planning consent for commercial development >5000m <sup>2</sup> or 100 housing units								2 or 4
		Sustainable Consumption and Production								
		16. Soil and land resources								
16.1. Maintain or where possible enhance land resources	16.1.1	Direct impacts on agricultural land, as measured by:								2
	16.1.1a	• <i>length of surface route crossing Grade 1 agricultural land and area of intersection</i>								2
	16.1.1b	• <i>length of surface route crossing Grade 2 agricultural land and area of intersection</i>								3
	16.1.2	Indirect impacts on agricultural land, as measured by:								4
	16.1.2a	• <i>area of Grade 1 land potentially isolated</i>								4
	16.1.2b	• <i>area of Grade 2 land potentially isolated</i>								4
	16.1.3	Direct impacts to Green Belt as measured by:								2
	16.1.3a	• <i>length of surface route crossing designated Green Belt and area of intersection</i>								2
	16.1.3b	• <i>area of Green Belt land potentially isolated.</i>								4
	16.1.4	Area of land designated for mineral extraction.								3
	16.1.5	Loss of land designated for waste disposal, as measured by length of surface route crossing areas designated as active waste disposal								3
16.2. Encourage the use of brownfield sites	16.2.1	Productive use of land, as measured by number and total area of "high risk" brownfield sites (former landfill and gaswork sites) brought back into beneficial use, either wholly or partially								3

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		17. Waste generation								
17.1. Prevent and minimise waste production	17.1.1	Volumes of inert and non-hazardous waste spoil potentially requiring off-line disposal as a result of option								3
	17.1.2	Volumes of hazardous waste spoil potentially requiring pre-treatment prior to off-site disposal as indicated by <i>historic and active landfills</i>								3
		18. Resource use								
18.1. Conserve and protect primary material resources	18.1.1	Intensity of material resource use as measured by estimated required tonnage of steel and concrete								3