Department for Transport

Draft National Policy Statement for National Networks

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Contents

1. Introduction

Purpose and scope

1.1 The NPS sets out the Government's vision and policy for the future development of nationally significant infrastructure projects on the national road and rail networks. It provides guidance for promoters of nationally significant infrastructure projects, and the basis for the examination by the Examining Authority and decisions by the Secretary of State. The thresholds for nationally significant infrastructure projects are defined in the Planning Act 2008 ("the Planning Act") as amended (for highway and railway projects) by The Highway and Railway (Nationally Significant Infrastructure Project) Order 2013 ("the Threshold Order").[1] For the purposes of this NPS these developments are referred to as national road, rail and strategic rail freight interchange developments.

1.2 The Secretary of State will use this national policy statement as the primary basis for making decisions on development consent applications for national networks nationally significant infrastructure projects in England.[2] Other national policy statements may also be relevant to decisions on national network nationally significant infrastructure projects. Under section 104 of the Planning Act the Secretary of State must decide an application for a national networks nationally significant infrastructure project in accordance with this national policy statement (NPS) unless it is satisfied that to do so would:

- lead to the UK being in breach of its international obligations;
- be unlawful;
- lead to the Secretary of State being in breach of any duty imposed by or under any legislation;
- result in adverse impacts of the development outweighing its benefits;
- be contrary to regulations about how the decisions are to be taken.[3]

1.3 Where a development does not meet the current requirements for a nationally significant infrastructure project set out in the Planning Act (as amended by the Threshold Order), but is considered to be nationally significant, there is a power in the Planning Act for the Secretary of State, on application, to direct that a development should be treated as a

[1] The Highway and Railway (Nationally Significant Infrastructure Project) Order 2013 No.1883 Article 4
[2] In Scotland, Wales and Northern Ireland, the authorisation of all national networks projects are devolved. to the Scottish Government, Welsh Government and Northern Ireland Assembly. Whilst the Government recognises the importance of rail infrastructure development in Wales as well as England, and the UK Government's responsibility in this area, it is outside of the scope of this document to set out planning proposals for Wales, which is devolved to the Welsh Government.
[3] Planning Act 2008 Section 104 – Decisions of Panel and Council

nationally significant infrastructure project.[4] In these circumstances any application for development consent would need to be considered in accordance with this NPS. The relevant development plan is also likely to be an important and relevant matter especially in respect of establishing the need for the development.[5]

1.4 In England, this NPS may also be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 or any successor legislation.

1.5 The policy set out in this NPS on strategic rail freight interchanges confirms the policy on strategic rail freight interchanges set out in the policy guidance published in 2011.[6] The 2011 guidance will be cancelled once the final national networks NPS has been designated.

1.6 This NPS does not cover High Speed Two. The High Speed Two Hybrid Bill will seek the necessary legal powers to enable the construction and operation of Phase 1 of High Speed Two (HS2), including the powers to acquire the necessary land and undertake the works required. A Hybrid Bill process will also be used for Phase 2 of HS2. This NPS sets out the Government's policy for development of the road and rail networks and strategic rail freight interchanges, taking into account the capacity and connectivity that will be delivered through HS2.[7]

Appraisal of Sustainability and Appropriate Assessment

1.7 The NPS has been subject to an Appraisal of Sustainability. The Appraisal of Sustainability incorporates a Strategic Environmental Assessment (Pursuant to Directive 2001/42/EC as transposed by SI 2004/1633).[8] The Appraisal of Sustainability thoroughly considers reasonable alternatives to the policy set out in this national policy statement. The Government has chosen the policy set out in this national policy statement as it strikes the best balance between the Government's economic, environment and social objectives.

1.8 The NPS has also been assessed under the Habitats and Wild Birds Directive and Regulations.[9] The Appraisal of Sustainability and Appropriate Assessment under the Habitats Regulations have been published alongside this NPS.

1.9 Appropriate Environmental Impact Assessments and Appropriate Assessment under the Habitats Regulations will be carried out on individual development proposals.

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[4] Planning Act 2008 Section 35 – Directions in relation to projects of national significance
[5] Planning Act 2008 Section 104 (2) (d)
[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4377/strategic-rail-freight-interchange.pdf
[7] See also DfT, *The Strategic Case for HS2* (October 2013) – https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254360/strategic-case.pdf
[8] European Parliament and Council Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment .
[9] The European Council Directive (92/43/EEC) on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Directive 2009/147/EC (Codified version of Directive 79/409/EEC) on the conservation of wild birds.

2. The need for development of the national networks and Government's policy

Summary of need

Transport is an engine for growth. The national road and rail networks that connect our cities, regions and international gateways play a significant part in supporting economic growth and productivity as well as facilitating passenger, business and leisure journeys across the country. Well-connected and high-performing networks with sufficient capacity are vital to meet the country's long-term needs and support a prosperous economy.[10]

Government's vision and strategic objectives for the national networks

The Government will deliver national networks that meet the country's long-term needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:

- Networks with the capacity and connectivity to support national and local economic activity and facilitate growth and create jobs.
- Networks which support and improve journey quality, reliability and safety.
- Networks which support the delivery of environmental goals and the move to a low carbon economy.
- Networks which join up our communities and link effectively to each other.

Our national networks are already under considerable pressure. On the road network, it is estimated that around 16% of all travel time in 2010 was spent delayed in traffic.[11] On the rail network, overall crowding on London and South East rail services across the morning and afternoon peaks on a typical weekday in autumn 2012 was 3.0%, with the worst performing operator's services experiencing 7.1% of passengers in excess of capacity.[12]

The long term drivers of demand to travel – GDP and population growth – are forecast to increase substantially over the coming years.[13] This will increase the

[10] The *Eddington Transport Study: The Case for Action* 2006
[11] Based on forecast figures from the National Transport Model for all England roads.
[12] https://www.gov.uk/government/publications/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2012
[13] On current projections real GDP is expected to increase by 56% over the 20 years to 2032 (Office of Budget Responsibility, 2012, Fiscal Sustainability Report). Under the central projection from the Office of National Statistics, the UK population is expected to grow by 11 million people from 2010 to 2035 (Office of National Statistics).

pressure on our networks even further. Up to 2030 under central forecasts, road traffic is forecast to increase by 30%, rail journeys by 40%, while rail freight has the potential to nearly double.[14] Without action, congestion and crowding will constrain the economy and reduce quality of life.

Whilst advances in mobile technology are important and will influence travel demand, they are not expected to have a significant impact. In recent years advances in mobile IT, teleconferencing, email, the World Wide Web and social media have occurred alongside growth in travel demand on the national road and rail networks.

There is also a need for development on the national networks to unlock regional economic growth and regeneration, particularly in the most disadvantaged areas. Improved and new transport links can create opportunities for regeneration by improving connectivity and performance, opening up new markets, new job opportunities, and new opportunities for growth. They can help rebalance the economy, rather than accentuate existing divisions.

Developments in other sectors will also place pressure on specific parts of the networks. Areas of high growth, housing developments, new employment opportunities and development of other large infrastructure projects will have significant impacts on the use of the national networks.

Whilst the key driver of the need for development of the national networks will usually be economic, broader environment, safety and accessibility goals will also generate requirements for investment.

In their current state, without development, the national networks will act as a constraint to sustainable economic growth, quality of life and wider environmental objectives. The Government has therefore concluded that there is a compelling need for development of the national networks. The Examining Authority and the Secretary of State should therefore start its assessment of applications for infrastructure covered by this NPS on that basis.

The need for development of the national road network

Importance of the national road network

2.1 Roads are the most heavily used mode of transport in England and a crucial part of the transport network. By volume roads account for 90% of passenger journeys and two thirds of freight.[15] Every year passengers travel more than 440 billion miles by road in Great Britain.[16]

[14] Road traffic forecast figures from the National Transport Model, August 2013. Rail passenger forecasts from the Network Modelling Framework, October 2011. Rail freight forecasts from Network Rail.
[15] *Transport Statistics Great Britain* Table TSGB0101 and TSGB0101
[16] *Transport Statistics Great Britain* Table TSGB0101

2.2 The majority of nationally significant infrastructure projects on the national road network will be developments on the strategic road network.[17] The strategic road network provides critical links between cities, joins up communities, connects our major ports, airports and rail terminals. It provides a vital role in people's journeys, and drives prosperity by supporting new development, encouraging trade and attracting investment.

2.3 The strategic road network, although only making up 2% of roads in England, carries a third of all road traffic and two thirds of freight traffic.[18] Some 85% of the public use the network as drivers or passengers in any 12-month period.[19] Even those that never drive on the strategic road network are reliant on it to deliver many of the goods that they need.

Drivers of need for development of the national road network

Economic growth and user satisfaction

2.4 Well-connected road infrastructure with sufficient capacity is a vital component of economic success. However, the national road network is expected to face such significant challenges in the years ahead that the Government needs to respond in order to ensure the continued well-being of the economy and society.

Traffic growth

2.5 Traffic on the road network is expected to rise over time. Economic growth, substantial population increases and a fall in the cost of car travel from fuel efficiency improvements are all expected to cause traffic to grow. Improvements in technology, making car travel cheaper and more comfortable, may accelerate this trend.

2.6 Figures 2.1 and 2.2 below demonstrate the scale of the expected increase in road traffic over time. Based on central estimates of population, incomes and fuel costs, road traffic on English roads is forecast to increase by 42% between 2010 and 2040. On the strategic road network, road traffic is forecast to grow by 46% over the same period.[20]

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[17] The strategic road network includes trunk roads and motorways in England where the Secretary of State is the traffic authority. Under the Planning Act thresholds (as amended by the Threshold Order), development of local roads will only be NSIPs if an order under Section 35 of the Planning Act has been made designating the development as a NSIP.

[18] *Transport Statistics Great Britain*: Tables TRA4104 and TRA4105

[19] National Road User Satisfaction Survey

[20] Forecasts from National Transport Model, August 2013. Central estimates are shown in red in the charts. Between 2010-2040 the population in England is expected to rise by 20%, GDP per capita is projected to rise by 57% and the fuel cost of driving is projected to fall by 28%. Sources: ONS 2008 Principal Projection, OBR Budget 2013 and DECC/DfT respectively. A fuller discussion on the drivers of demand for transport and how these are used in the NTM is set out in the Department's Road Transport forecasts. See *Road Transport Forecasts 2013* and subsequent updates.

2.7 The Department has also examined what could happen in a range of different scenarios. Figures 2.1 and 2.2 below show the sensitivities of road traffic forecasts to different scenarios of population and economic growth. The low demand scenario which assumes Office for National Statistic's low population growth and the Office for Budget Responsibility's low productivity scenario, represents a 26% increase in traffic on the strategic road network to 2040. This is still a substantial rise on current levels and shows that growth in traffic nationwide is likely in any conceivable scenario.

Figure 2.1 England traffic (billion vehicle miles)

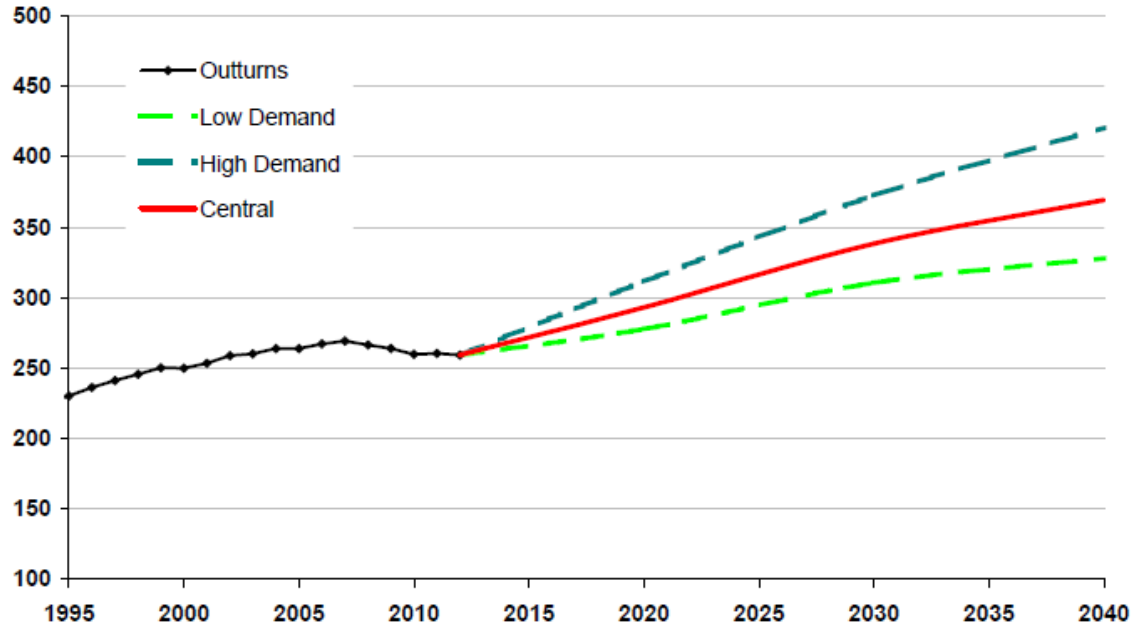
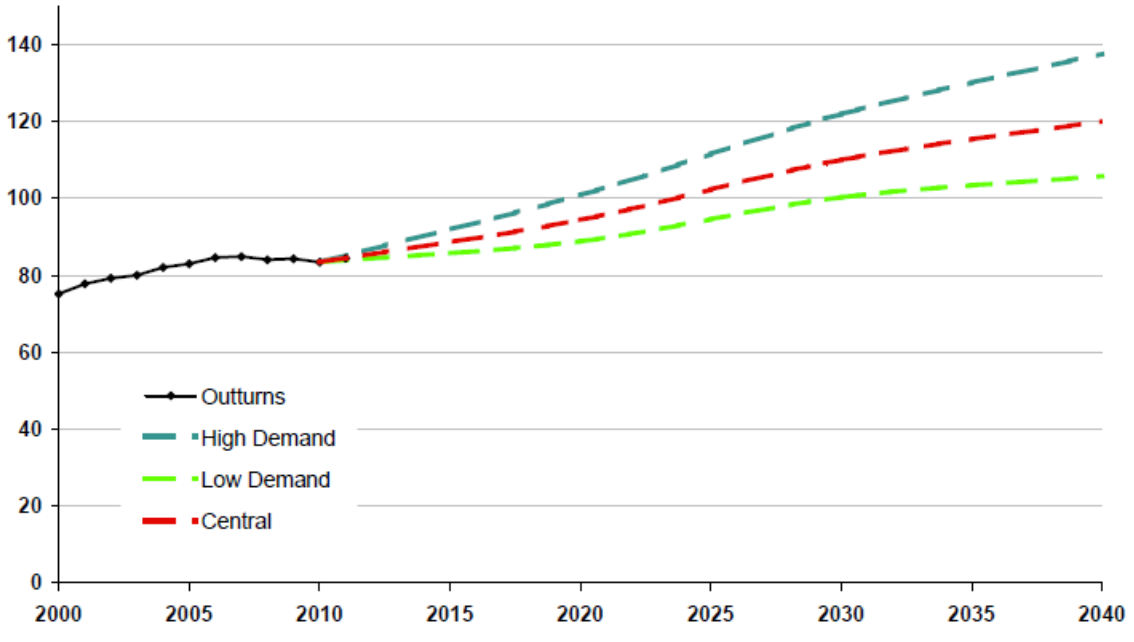


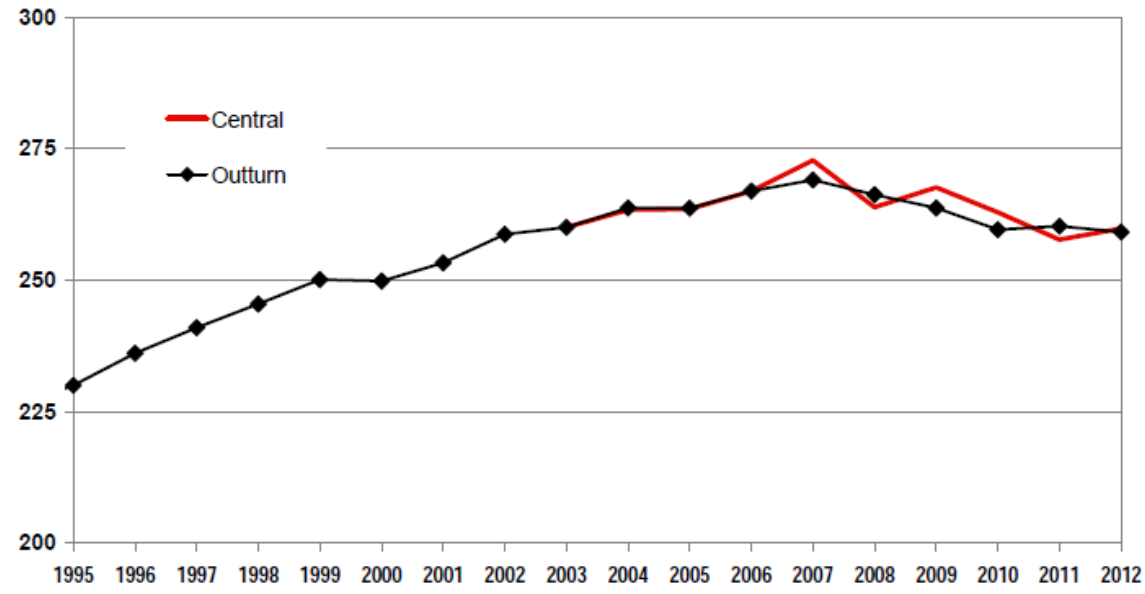
Figure 2.2 England SRN traffic (billion vehicle miles)



2.8 Whilst there have been fluctuations in road traffic levels in recent years, with a decline of around 3.5% between 2007 and 2010 on all England roads and 1.6% on the strategic road network, this was largely a response to the economic downturn and the rising price of oil.[21] The overall picture is one of continuing increased car use. Recent research has found evidence of continuing strong growth in groups representing approximately 70% of the driving-age population in Britain.[22] Whilst traffic in urban areas may be falling due to increased investment in public transport, traffic on motorways and rural areas is increasing.[23]

2.9 The Department expects that as the economy grows and population increases there will be significant traffic growth, particularly on the strategic road network.[24] This view is based on the forecasts from the National Transport Model in Figures 2.1 and 2.2. The model has performed well in the past at forecasting traffic levels as shown in Figure 2.3.

Figure 2.3 Historic and forecasted traffic (billion vehicle miles)



Congestion and impact on economic growth

2.10 Increased traffic without sufficient capacity will result in more congestion, greater delays and more unpredictable journeys.

[21] Department for Transport traffic count data. These figures take account of a large programme of detrunking that took place over the period. These figures are for traffic on the network as it is defined today. See DfT, Action for Roads (July 2013), p18 and *Road Traffic Statistics* Table TRA4201.
[22] RAC Foundation, *On the Move*. The report found continuing strong growth in non-company car use outside London for those aged 30 and over, in particular females. See also Department for Transport, *Road Traffic Forecasts 2013* and successor documents.
[23] For example, traffic on motorways has risen 7% to 26 billion vehicles kilometres from the low in Q1 2010. Rural A roads and rural minor roads have risen 3% and 4% from their respective lows in Q4 2010 and Q2 2010.
[24] Between 2010 and 2012 traffic on the strategic road network increased by 1.4%. See DfT, *Action for Roads* (July 2013), p18.

2.11 Without action it is forecast that the proportion of travel time spent delayed in traffic will increase from 16% to 24% by 2040. This amounts to:

- A 66% increase in the number of hours households spend delayed in traffic each year, from 44 hours to 73 hours.
- A 150% increase in the number of working days lost to congestion each year (from 40 million to 100 million). [25]

2.12 Tables 2.1 and 2.2 below and the maps in Annex A demonstrate the scale of the expected increase in congestion in more detail.[26] On the strategic road network, under the central scenario, the number of seconds lost per kilometre to congestion is projected to more than double by 2040. Even in the extreme low traffic growth scenario, deterioration in travelling conditions is still projected, with lost seconds per kilometre increasing by more than 50%. Whilst national congestion forecasts will change over time as forecasts for transport demand are updated, the tables and maps presented in this document nevertheless demonstrate the significant increase in expected congestion on the road network in the absence of intervention.

Table 2.1 Change in congestion on road network (from 2010)

Year	Low traffic forecast	Central traffic forecasts	High traffic forecast
2020	6%	15%	26%
2030	22%	41%	67%
2040	33%	62%	109%

Table 2.2 Change in congestion on strategic road network (from 2010)

Year	Low traffic forecast	Central traffic forecasts	High traffic forecast
2020	2%	19%	42%
2030	32%	71%	137%
2040	52%	120%	256%

[25] Based on forecast figures from the National Transport Model for all England roads, 2010 and 2040, central scenario, August 2013.
[26] Based on forecast figures from the National Transport Model, August 2013.

2.13 Without action congestion will constrain the economy and impact negatively on quality of life. In 2010 the direct costs of congestion on our strategic road network were estimated at £2 billion per annum and this figure is expected to rise to £8.6 billion per annum by 2040 without any intervention.[27]

- Congestion constrains the economy by increasing costs to businesses, damaging their competitiveness and making it harder for them to access export markets.[28]
- Congestion leads to a marked deterioration in the experience of road users. For some, particularly those with time-pressured journeys, congestion can cause frustration and stress, as well as inconvenience, reducing quality of life.[29]
- Congestion constrains job opportunities as workers have more difficulty accessing labour markets. Businesses regularly consider access to good roads and other transport connections as key criteria in making decisions about where to locate.[30]

2.14 Improved and new road transport links can also play an important role in unlocking economic development and housing. Economic growth requires a range of factors, of which transport can be important where it is unblocking barriers for labour or product markets.

Environment, safety and sustainable transport

2.15 Whilst key drivers of the need for development of the national road network will usually be economic growth and user satisfaction, wider factors impacting on quality of life also affect the need for development. In some cases development will be needed to fix safety problems, enhance the environment, or enhance accessibility for pedestrians and cyclists.

Government's policy for addressing need

2.16 The Government has considered a number of alternatives to development of the national road network and concluded that they are not viable or desirable.

Maintenance and asset management

2.17 A well maintained and managed national road network makes for safer roads with less congestion and ensures value for money on whole life costs. Whilst maintenance and asset management (e.g. operating decisions) are important they will do nothing to enhance capacity to cater for traffic growth, tackle existing pressures on the network or unlock economic development and housing.

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[27] Based on forecast figures from DfT National Transport Model. Although it would not be realistic or cost effective to eliminate congestion completely as the costs of building new infrastructure would outweigh the time savings benefits to travellers, these figures illustrate that the cost of not responding to transport pressures can be substantial.
[28] *The Eddington Transport Study: The Case for Action* 2006
[29] National Road User Satisfaction Survey (NRUSS) Annual Report 2011/12
[30] *The Eddington Transport Study: The Case for Action* 2006

Demand management

2.18 Non-fiscal measures to influence the use of the national road network for journeys, including provision of information and traffic management, can only make a relatively small impact in alleviating the damaging effects of congestion. Some areas have undertaken significant demand constraint measures or used smarter choices to reduce car use for some sectors, which has resulted in reduction in urban traffic, but this has not translated into less pressure on the strategic road network.[31]

2.19 The Government has ruled out the introduction of national road pricing to manage demand on the strategic road network on deliverability and public acceptability grounds.[32]

Modal shift

2.20 Across Government, policies are being implemented and considered which encourage sustainable transport modes including public transport, cycling and walking. However, it is not realistic for public transport, walking or cycling to represent a viable alternative to the private car for all journeys, particularly in rural areas and for some longer or multi-leg journeys. If rail use was to increase by 50% (in terms of passenger miles) this would only be equivalent to a reduction of 5% in all road use.[33]

Conclusion on alternatives

2.21 These alternatives will not be sufficient to address the damaging effects of congestion on the economy, quality of life and job opportunities. The Government has therefore concluded that there is a compelling need for development of the national road network. Without investment to improve the performance of the road network, it will be difficult to support further economic development, employment and housing and this will impede economic growth and reduce people's quality of life.

Government's policy

2.22 The Government's policy is to reduce congestion and unreliability by focusing on improving and enhancing the existing national road network.[34] Enhancements to the existing national road network will

[31] For example, *The Effects of Smarter Choice Programmes in the Sustainable Travel Towns: Summary Report* found that the percentage reduction in longer road trips was significantly lower than for shorter road trips. Car driver trips for journeys of 10-50km reduced by 3% and there was little or no reduction in car driver trips over 50km. See http://webarchive.nationalarchives.gov.uk/20111005180138/http://www.dft.gov.uk/publications/the-effects-of-smarter-choice-programmes-in-the-sustainable-travel-towns-summary-report p40.

[32] On local roads, decisions about demand management are for local and London traffic authorities and they have a range of approaches they can use. See paragraph 3.21.

[33] See *Transport Statistics Great Britain 2012* for modal comparisons – https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34979/modal-comparisons-summary.pdf.

[34] Some improvements and enhancements will meet the NSIP thresholds and so fall to be considered through the development consent order process. Others will be outside the NSIP thresholds and so fall to be considered under other approvals processes.

include development beyond the existing highway boundary. Development will include:

- enhancements such as junction improvements, upgraded technology and new slip roads to address congestion and improve performance and resilience;
- implementing "smart motorways" (also known as "managed motorways") to increase capacity and improve performance;[35]
- improvements to trunk roads, in particular dualling of single carriageway strategic trunk roads to increase capacity and improve performance and resilience.

2.23 However, in some cases, to meet the demands on the national road network it will not be sufficient to simply expand capacity on the existing network. In those circumstances new road alignments and corresponding links, including alignments which cross a river or estuary, may be needed to support increased capacity and connectivity to meet the needs created by economic and demographic growth.

2.24 The Government's policy is to deliver improvements in capacity and connectivity on the national road network to support economic growth and improve quality of life, rather than meet unconstrained traffic growth. Whilst most schemes for improvements or enhancements to the national road network will be brought forward primarily for economic reasons, it is also possible that improvements and enhancements to the national road network could be brought forward, or included as part of a wider scheme, to improve safety, enhance the environment and improve accessibility for pedestrians and cyclists.

The need for development of the national rail network

Importance of the national rail network

2.25 The railways are a vital part of the country's transport infrastructure. In 2012/13, the rail network in Great Britain consisted of 15,753 km (9788 miles) of route open to traffic and 2,532 stations.[36] A total of 58.4 billion kilometres and 1.5 billion journeys were undertaken by rail passengers on the network.[37] Around 60% of these journeys were for business and commuting/education purposes.[38] Approximately 9% of 'freight miles' in Great Britain are carried by rail[39] and the amount of freight moved by rail

[35] Where smart motorways are implemented the hard shoulder is transformed into a permanent additional running lane and traffic flow is moderated by the use of variable speed limits. This improves capacity and reduces congestion without taking additional land and generally has less environmental implications than other forms of development.
[36] Office of Rail Regulation, *Total Length of Route/Number of Passenger Stations*, http://dataportal.orr.gov.uk/displayreport/report/html/0e0f55cb-da0e-46a0-b2b1-bfe021596257
[37] Office of Rail Regulation, Passenger rail usage statistics http://www.rail-reg.gov.uk/server/show/nav.3016
[38] 2012 National Travel Survey
[39] Source: DfT, *Transport Statistics Great Britain 2012*, Table TSGB0403, https://www.gov.uk/government/statistical-data-sets/tsgb04-freight

in 2012/13 was 21 billion net tonne kilometres.[40] In the context of the Government's vision for the transport system as an engine for economic growth and social development, the railway must offer a safe and reliable route to work, facilitate increases in both business and leisure travel, support regional and local public transport to connect communities with public services, with workplaces and with each other, and provide for the transport of freight across the country, and to and from ports in order to help meet environmental goals and improve the quality of life.

Drivers of need for development of the national rail network

Economic growth and user satisfaction

2.26 Demand for passenger rail travel has risen strongly in recent years. Between 1994/95 and 2012/13, total passenger miles travelled doubled from 18 billion to 36 billion. The fastest growth over this period has been in demand in London and the South East, although there has been a high level of growth across all sectors.

2.27 Overall crowding on London and South East rail services across the morning and afternoon peaks on a typical weekday in autumn 2012 was 3.0%, with the worst performing operator's services experiencing 7.1% of passengers in excess of capacity.[41]

2.28 Passenger demand is predicted to continue to grow significantly.[42] Estimates for demand growth by 2030, based on current GDP trend forecasts and fares policy, are set out in Table 2.3 and are split by the three main passenger rail sectors. Forecasts suggest that growth in long distance rail passenger travel will be around 15 percentage points greater than the average growth in total passenger kilometres travelled [43] (see Table 2.3).

Table 2.3 Growth in passenger miles from 2011 (Great Britain)

Year	2020	2026	2030
London & South East	17-21%	28-34%	34-42%
Long distance	22-28%	39-49%	50-63%
Regional	8-10%	16-20%	19-24%
Total (average)	**17-21%**	**29-36%**	**36-46%**

Source: Network Modelling Framework (NMF) – estimates based on model runs conducted in October 2011.

[40] Office of Rail Regulation, Freight rail usage statistics, http://www.rail-reg.gov.uk/server/show/nav.3016

[41] https://www.gov.uk/government/publications/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2012

[42] Forecasts are best estimates of likely future demand, based on modelling work. They involve considerable uncertainty, and are therefore expressed as a range.

[43] The difference by 2030 between growth in long distance services and growth in total rail passenger km in the high and low case scenarios.

2.29 Rail freight transports over 100 million tonnes of goods per year. It has expanded by 65% since 1994/95. Overall forecast growth is for an increase in total tonne kilometres of 3% annual growth to 2033 and 3% to 2043, compared to growth of about 2.8% since the mid 1990s.[44] Rail freight delivers nearly all the coal for the nation's electricity generation and over a quarter of containerised food, clothes and white goods. Rail freight is therefore of strategic importance, is already playing an increasingly significant role in logistics and, particularly as it increases its market share of container traffic, is an increasingly important driver of economic growth.

Environment

2.30 Rail transport has a crucial role to play in delivering significant reductions in pollution and congestion. Tonne for tonne, rail freight produces 70% less CO_2 than road freight, up to fifteen times lower NOx emissions and nearly 90% lower PM10 emissions.[45] It also has de-congestion benefits – depending on its load, each freight train can remove between 43 and 77 HGVs from the road.[46]

Conclusion

2.31 The Government has therefore concluded that there is a compelling need for development of the national rail network.

Government's policy for addressing need

Economic growth and user satisfaction

2.32 In the short to medium term, the Government's policy is to improve the capacity, capability and reliability of the rail network at key locations for both passenger and freight movements to reflect growth in demand, reduce crowding, improve journey times, maintain or improve operational performance and facilitate modal shift from road to rail. The rail network is predominantly a mixed traffic network and the provision of capacity for both freight and passenger services is core to the network. Some of this growth can be accommodated by making more efficient use of our existing railway infrastructure and rolling stock, such as by running more or longer trains or encouraging passengers to travel at less congested times of the day. Signalling and power supply improvements, and more modern electric rolling stock, as well as providing a more comfortable and reliable passenger experience, can also reduce journey times and offer opportunities to increase service frequencies and reduce crowding. Relatively modest infrastructure interventions can often deliver significant capacity benefits by removing pinch points and blockages.

2.33 As demand pressures rise, this incremental approach may no longer be sufficient to maintain the desired levels of service in the longer term.[47]

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[44] *Network Rail Freight Market Study* (October 2013)
[45] *Delivering a Sustainable Transport System: The Logistics Perspective*. DfT, December 2008
[46] Network Rail: *The Value and Importance of Rail Freight*
[47] 2025 and beyond

Substantial investment in infrastructure capacity – particularly on inter-urban routes between our key cities, London & South East routes and major city commuter routes – will be needed. The maintenance of a competitive and sustainable economy against a background of continued economic globalisation will mean that there is a need to support measures that deliver step change improvements in capacity and connectivity between key centres, by speeding up journey times and encouraging further modal shift to rail. The Government will therefore consider new or re-opened alignments to improve capacity, speed, connectivity and reliability. Rail is a safer, greener and faster mode of transport for large passenger volumes and for long distances, including inter-city journeys.

2.34 Where major new inter-urban alignments are required, high speed rail alignments are expected to offer the most effective way to provide a step change in inter-city capacity and connectivity, as well as helping to deliver long term sustainable economic growth. High speed rail would offer the opportunity for a shift to rail from air and road, by delivering improved connectivity between major conurbations and economic centres through improved journey times and reliability that upgrades to the conventional rail network could not match. Transferring many inter-city services to a high speed railway would also release capacity on the conventional network, increasing opportunities for additional commuter, regional and freight services. Given these potential benefits, where major new rail alignments are required, high speed rail will be considered.

Environment

2.35 Modal shift from road and aviation to rail can help reduce transport's carbon emissions. For these reasons, Government seeks to accommodate an increase in rail travel and rail freight where that is practical and affordable by providing for extra capacity.

2.36 There is therefore a need to improve the environmental performance of the railway by continuing to roll out a programme of rail electrification. The Government's strategy is to provide for increasing use of efficient and sustainable electric trains for both passenger and freight services.

The need for development of Strategic Rail Freight interchanges

Importance of strategic rail freight interchanges

2.37 The logistics industry, which directly employs over two million people across more than 190,000 companies generating over £90 billion annually, underpins the efficient operation of most sectors of the wider national economy.[48] Over recent years, rail freight has started to play an increasingly significant role in logistics and has become an important driver of economic growth.

[48] Great Britain figures, http://www.skillsforlogistics.org/home/about/overview/

2.38 A strategic rail freight interchange (SRFI) is a large multi-purpose rail freight interchange and distribution centre linked into both the rail and trunk road system. It has rail-served warehousing and container handling facilities and may also include manufacturing and processing activities.

2.39 For many freight movements rail is unable to undertake a full end-to-end journey for the goods concerned. Rail freight interchanges (RFI) enable freight to be transferred between transport modes, thus allowing rail to be used to best effect to undertake the long-haul primary trunk journey, with other modes (usually road) providing the secondary (final delivery) leg of the journey.

2.40 The aim of an SRFI is to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road, through co-location of other distribution and freight activities. SRFIs are a key element in reducing the cost to users of moving freight by rail and important in facilitating the transfer of freight from road to rail.

2.41 The logistics industry provides warehousing and distribution networks for UK manufacturers, importers and retailers; currently this is predominantly a road based industry. However the users and buyers of warehousing and distribution services are increasingly looking to integrate rail freight into their transport operations with rail freight options sometimes specified in procurement contracts. This requires the logistics industry to develop new facilities that need to be located alongside the major rail routes, close to major trunk roads as well as near to the conurbations that consume the goods. In addition, the nature of that commercial development is such that some degree of flexibility is needed at the planning stage, in order to allow the development to respond to market requirements as they arise.

Drivers of need for strategic rail freight interchanges

The changing needs of the logistics sector

2.42 A network of SRFIs is a key element in aiding the transfer of freight from road to rail, supporting sustainable distribution, rail freight growth and meeting the changing needs of the logistics industry, especially the ports and retail sector. The location of many existing rail freight interchanges in traditional urban locations means that there is no opportunity to expand, that they lack warehousing and they are not conveniently located for the modern logistics and supply chain industry.

Rail freight growth

2.43 The development of additional capacity at Felixstowe North Terminal and the construction of London Gateway will lead to a significant increase in logistics operations. This will increase the need for SRFI development to reduce the dependence on road haulage to serve the major markets.

2.44 The industry, working with Network Rail, has produced unconstrained rail freight forecasts to 2023 and 2033. The results are summarised in the

table below. These forecasts are considered robust and the Government has accepted them for planning purposes.

2.45 While these forecasts, in themselves, do not provide sufficient granularity to allow site-specific need cases to be demonstrated, they confirm the need for an expanded network of large SRFIs across the regions to accommodate the long-term growth in rail freight. They also indicate that new rail freight interchanges, especially in areas poorly served by such facilities at present, are likely to attract substantial business, generally new to rail.

Table 2.4 Rail freight forecasts to 2023 and 2033: tonne km (Great Britain)

	Billion tonne km			
	2011	2023	2033	Compound annual growth 2011 to 2033
Solid fuels	7	4	3	-2%
Construction 4		4	5	1%
Metals and ore	3	3	3	0%
Ports: Intermodal	5	11	16	5%
Domestic: Intermodal	1	7	13	12%
Other	4	4	4	0%
Total	23	33	44	3%

Source: Network Rail, *Freight Market Study*, published 31 October 2013

Environmental

2.46 The environmental advantages of rail freight have already been noted at paragraph 2.30, although it is recognised that at the point of rail to road transhipment the reduction in HGV movements will be lower and it is important for the environmental impacts at these locations to be minimised.

UK economy, national and local benefits – jobs and growth

2.47 SRFIs can provide considerable benefits for the local economy: for example, because many of the on-site functions of major distribution operations are relatively labour-intensive this can create many new job opportunities and contribute to the enhancement of people's skills and use of technology, with wider longer term benefits to the economy. The availability of a suitable workforce will therefore be an important consideration.

Government's policy for addressing need for SFRIs

2.48 The Government's vision for transport is for a low carbon sustainable transport system that is an engine for economic growth, but is also safer and improves the quality of life in our communities. The transfer of freight from road to rail has a part to play in a low carbon economy and help to address climate change.

2.49 To facilitate this modal transfer, a network of SRFIs is needed across the regions, to serve regional, sub-regional and cross-regional markets. In all cases it is essential that these have good connectivity both with the road and rail network, in particular the strategic rail freight network (see maps at Annex B). The enhanced connectivity provided by a network of SRFIs should, in turn, provide improved trading links with our European neighbours and improved international connectivity and enhanced port growth.

2.50 Alternatives to new strategic rail freight interchange developments are not viable or desirable:

- *Reliance on the existing rail freight interchanges to manage demand* – Perpetuating the status quo, by design or default, is simply not a viable option. Road congestion would continue to increase and the deep-sea ports would face increasing difficulties in ensuring the efficient inland movement of the forecast growth in the volume of sea freight trade, causing port congestion and unacceptable costs and delays for shippers. This would constitute a constraint on economic growth, private sector investment and job creation.
- *Reliance on road-based logistics* – Even with significant future improvements and enhancements to the road network, the forecast growth in freight demand would lead to increasing congestion both on the road network and at our ports, together with a continued increase in transport carbon emissions. To avoid these unacceptable outcomes we need to secure substantial modal shift to rail which, in turn, will require sustained investment in the capability both of the national rail network and in the terminals and interchange facilities which serve it.
- *Reliance on a larger number of smaller rail freight interchange terminals* – The increasing performance and efficiency required of our logistics system would not allow continued reliance on an expanded network of smaller terminals. While there is a place for local terminals, these cannot provide the scale economies, operating efficiencies and benefits of the related business facilities and linkages offered by SRFIs.

2.51 The Government has therefore concluded that there is a compelling need for an expanded network of strategic rail freight interchanges. It is important that SRFIs are located near the business markets they will serve – major urban centres, or groups of centres – and are linked to key supply chain routes. Given the need for effective connections for both rail and road, the number of locations suitable as SRFIs will be limited, which will restrict the scope for developers to identify viable alternative sites.

3. Wider Government policy on the national networks

3.1 The need for development of the national networks, and the Government's policy for addressing that need must be seen in the context of the Government's wider policies on the environment, safety, technology, sustainable transport and accessibility. This section sets out the Government's wider policies as they relate to projects coming forward for the national networks that are nationally significant infrastructure projects and more generally.

Environment

Emissions

3.2 Transport will play an important part in meeting the Government's legally binding carbon targets and other environmental targets. As part of this there is a need to shift to greener technologies and fuels, and to promote lower carbon transport choices. Over the next decade, the biggest reduction in emissions from domestic transport is likely to come from efficiency improvements in conventional vehicles, specifically cars and vans, driven primarily by EU targets for new vehicle CO_2 performance.

3.3 As technology develops, ultra-low emission vehicles (ULEVs), including pure electric vehicles, plug-in hybrids and fuel cell electric vehicles, will play an increasing role in the way we travel. These vehicles are now starting to come onto the market in significant numbers, and in the coming decade we will move towards the mass market roll-out of ULEVs. The Government is committed to supporting the switch to the latest ultra-low emission vehicles.

3.4 While, considered in isolation, individual schemes may result in an increase in CO_2 emissions, the Government's overarching plan for reducing carbon emissions will ensure that any such increases do not compromise its overall CO_2 reduction commitments.[49] Increases in carbon emissions from a development should not therefore need to be considered by the Examining Authority and the Secretary of State.

[49] *The Carbon Plan – reducing greenhouse gas emissions* (December 2011) and successor documents, https://www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2

3.5 The impact of road development on aggregate levels of emissions is likely to be very small. Impacts of road development need to be seen against significant projected reductions in carbon emissions and improvements in air quality as a result of current and future policies to meet the Government's legally binding carbon budgets and the European Union's air quality limit values. For example:

- Carbon – the annual CO_2 impacts from delivering a programme of investment on the strategic road network of the scale envisaged in *Investing in Britain's Future* amount to well below 0.1% of average annual carbon emissions allowed in the fourth carbon budget.[50]

- Air quality – aggregate air quality impacts from delivering a programme of investment on the strategic road network of the scale envisaged in *Investing in Britain's Future* are small. Total PM10 and NO_X might be expected to increase slightly, but this needs to be seen in the context of projected reductions in emissions over time. PM10 and NO_X are expected to decrease over the next decade or so as a result of tighter vehicle emission standards, then flatten, with further falls over time due to greater levels of electric and other ultra-low emission vehicles.

Wider environmental policy

3.6 The Government recognises that for development of the national road and rail networks to be sustainable it should be designed to minimise social and environmental impacts and improve quality of life. In delivering new schemes, the Government will expect applicants to mitigate environmental and social impacts. Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental benefits as part of schemes. The Government's detailed policy on environmental mitigations for developments is set out in Chapter 5 of this document.

3.7 Outside the nationally significant infrastructure project regime, Government policy is to bring forward targeted works to address existing environmental problems on the strategic road network and improve the performance of the network. This includes reconnecting habitats and ecosystems, enhancing the settings of historic and cultural heritage features, respecting and enhancing landscape quality, improving water quality and reducing flood risk, reducing excessive noise and addressing areas of poor air quality.

[50] This is based on a roads programme of the scale envisaged in Investing in Britain's Future, over a 10 to 15 year period.

Safety

Roads

3.8 The UK's roads are amongst the safest in the world, and there have been significant improvements over past decades, with fatalities and serious injuries almost half the number they were 15 years ago.[51] Nonetheless, road deaths and injuries are a tragedy for all affected, and accidents also have a major economic cost, estimated at over £15 billion a year.[52] Incidents on the network also lead to increased unreliability and delay for other users.

3.9 The Government's overall vision and approach on road safety is set out in *Strategic Framework for Road Safety*.[53] It is one in which Britain remains a world leader in road safety; where highway authorities are empowered to take informed decisions within their area; where driver and rider training gives learners the skills they need to be safe on our roads; and where tough measures are taken against the minority of offenders who deliberately choose to drive dangerously.

Rail

3.10 The continued safe operation of the rail network is of the utmost importance. On the rail network, it is the Government's policy, supported by legislation, to reduce the risk of accidents so far as reasonably practicable (the 'ALARP Principle'). Rail schemes should take account of this and seek to improve safety where the opportunity exists and there is value for money in doing so.

Technology

3.11 New and emerging technologies have the potential to make a significant difference both to the travel choices and behaviours of individuals, and to the way in which we travel. This is evident from the growing trends around improvements and innovations in travel data and information systems, intelligent traffic management and increasing levels of vehicle automation.

3.12 Innovative transport technologies have the potential to revolutionise the way we travel, improving the safety and reliability of journeys, while reducing costs and environmental impacts. The Government will continue to monitor the potential benefits and risks associated with new and emerging technologies, working with industry to enable innovation and support new technologies that have the potential to improve transport as these developments come forward.

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[51] *Reported Road Casualties Great Britain 2011*, KSI rates compared to 1994-98 average

[52] A valuation of road accidents and casualties in Great Britain in 2011 in *Reported Road Casualties Great Britain 2011* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/9275/rrcgb2011-02.pdf

[53] See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8146/strategicframework.pdf and successor documents.

Sustainable transport

3.13 The Government is committed to providing people with options to choose sustainable modes and making door-to-door journeys by sustainable means an attractive and convenient option. This is essential to reducing carbon emissions from transport.[54]

3.14 As part of the Government's commitment to sustainable travel it will invest in developing a high-quality cycling and walking environment.

- There is a direct role for the national road network to play in helping walkers and cyclists. The Government expects applicants to address the needs of cyclists and walkers in the design of new schemes. The Government also expects applicants to identify opportunities to invest in infrastructure in locations where the national road network severs communities and acts as a barrier to cycling and walking, including by correcting historic problems, retrofitting the latest solutions and ensuring that it is easy and safe for cyclists to use junctions.
- On the rail network, Station Travel Plans are a means of engaging with station users and community organisations to facilitate improvements that will encourage them to change the way they travel to the station. Train operators will also be asked to consider the door-to-door journey in new franchise specifications that will aim to facilitate enhanced integration between sustainable transport modes.

Accessibility

3.15 The Government is committed to creating a more accessible and inclusive transport that works for everyone.[55]

3.16 The Government will continue to work to ensure that the bus and train fleets comply with modern access standards by 2020, and to improve rail station access for passengers with reduced mobility. The private car will continue to play an important role, providing disabled people with independence where other forms of transport are not accessible or available.

3.17 The Government expects applicants to look for opportunities to improve access for all on and around the national networks by designing and delivering schemes that take account of accessibility and the diverse requirements of users, and through delivering small-scale improvements that improve accessibility and reduce community severance, where that is appropriate.

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[54] See, for example, *Door to Door: A strategy for improving sustainable transport integration* and successor documents. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/142539/door-to-door-strategy.pdf.

[55] *Transport for Everyone: an action plan to improve accessibility for all* sets out the Government's strategy for improving accessibility.

Government’s policy on road tolling and charging

Strategic road network

3.18 Government's policy is not to introduce national road pricing to manage demand on the strategic road network.

3.19 The Government will consider tolling as a means of funding new road capacity on the strategic road network. New road capacity would include entirely new roads and existing roads where they are transformed by an improvement scheme.

3.20 River and estuarial crossings will normally be funded by tolls or road user charges.

Local road network

3.21 Decisions about local tolling and charging schemes are for local and London traffic authorities.

4. Assessment principles

General principles of assessment

4.1 This part of the NPS sets out general policies in accordance with which applications relating to national networks infrastructure are to be decided.

4.2 In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account:

- its potential benefits including its contribution to meeting the need for national networks infrastructure, job creation and any long-term or wider benefits;
- its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.

4.3 In this context, environmental, social and economic benefits and adverse impacts, should be considered at national, regional and local levels. These may be identified in this NPS, or elsewhere.

4.4 Applications for development of the road and rail networks will be supported by a transport business case. This will normally be developed based on the Department's Transport Business Case guidance and WebTAG guidance.[56] The economic case prepared for a transport business case will assess the economic, environmental and social impacts of a development. The information provided will need to be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development.

4.5 In the case of strategic rail freight interchanges, a judgement of viability will be made within the market framework, and taking account of Government interventions such as, for instance, investment in the strategic rail freight network.

4.6 The Examining Authority should only recommend, and the Secretary of State should only impose, requirements[57] in relation to a development consent that are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in

[56] See Department for Transport (2013) *The Transport Business Cases* (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85930/dft-transport-business-case.pdf) and Department for Transport, *Transport Analysis Guidance* – WebTAG (http://www.dft.gov.uk/webtag/) and successor documents.
[57] As defined in section 120 of the Planning Act 2008

all other respects. The guidance in Circular 11/95, as revised, on "The Use of Conditions in Planning Permissions" or any successor to it, should be taken into account where requirements are proposed.[58]

4.7 Planning obligations[59] should only be sought where they are necessary to make the development acceptable in planning terms, directly related to the proposed development and fairly and reasonably related in scale and kind to the development.

Linear infrastructure

4.8 This NPS is dealing predominantly with linear infrastructure – road and rail development. These differ from some of the other types of infrastructure covered by the Planning Act for several reasons:

- These networks are designed to link together separate points. Consequently, benefits are heavily dependent on both the location of the network and the improvement to it.
- Linear infrastructure is connected to a wider network, and any impacts from the development will have an effect on pre-existing sections of the network.
- Improvements to infrastructure are often connected to pre-existing sections of the network. Where relevant, this may minimise the total impact of development, but may place some limits on the opportunity for alternatives.[60]

4.9 In considering applications for linear infrastructure, decision-makers will need to bear in mind the specific conditions under which such developments must be designed. The generic impacts section of this NPS has been written to take these differences into account.

4.10 Paragraphs 4.8 and 4.9 do not apply to strategic rail freight interchanges.

Environmental Impact Assessment

4.11 All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive[61] must be accompanied by an Environmental Statement (ES) where the project is likely to have significant effects on the environment, describing the aspects of the environment likely to be significantly affected by the project.[62] The Directive specifically requires an environmental impact assessment to identify, describe and assess effects on human beings,[63] fauna and flora,

[58] http://planningguidance.planningportal.gov.uk/blog/guidance/use-of-planning-conditions/what-is-the-governments-policy-on-the-use-of-conditions-in-planning-permissions/
[59] Where the words "planning obligations" are used in this NPS they refer to "development consent obligations" under section 106 of the Town & Country Planning Act 1990 as amended by section 174 of the Planning Act 2008
[60] See also paragraphs 4.22 to 4.25 on alternatives.
[61] Council Directive 92/2011 on the assessment of the effects of certain public and private projects on the environment
[62] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2009/2263)
[63] The effects on human beings includes effects on health.

soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 of the Infrastructure Planning (Environment Impact Assessment Regulations) 2009 requires a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects. Further guidance can be found in the online planning policy portal.[64] When examining a proposal, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. Any requests for further information should be proportionate and focus only on significant effects. In this NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.

4.12 When considering significant cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence). Further guidance and advice can be found in the planning guidance portal.[65] The Examining Authority may also have other evidence before it, for example from a Transport Business Case, appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required.

4.13 The Examining Authority should consider how significant cumulative effects and the interrelationship between effects might as a whole affect the environment, even though they may be acceptable when considered on an individual basis with mitigation measures in place.

4.14 In some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.

4.15 Where some details are still to be finalised the ES should set out, to the best of the applicant's knowledge, what the maximum extent of the proposed development may be, for example in terms of site area and assess the maximum or "worse case" potential adverse effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.

4.16 Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate development consent requirements in the DCO.

[64] See http://planningguidance.planningportal.gov.uk
[65] http://planningguidance.planningportal.gov.uk

Clearly, if development consent is granted for a proposal and at a later stage the applicant wishes for technical or commercial reasons to construct it in such a way that it is outside the terms of what has been consented, for example because its extent will be greater than has been provided for in terms of the consent, it will be necessary to apply for a change to be made to the development consent, and the application to change the consent may need to be accompanied by further environmental information to supplement the original ES.

4.17 In cases where the EIA Directive does not apply to a project, and an ES is not therefore required, the applicant should instead provide information proportionate to the project on the likely significant environmental, social and economic effects.[66] References to an Environmental Statement in this NPS should be taken as including a statement which provides this information, even if the EIA Directive does not apply.

Habitats Regulations Assessment

4.18 Prior to granting a development consent order, the Secretary of State must, under the Habitats Regulations,[67] consider whether the project is likely to have a significant effect on a European site,[68] or on any site to which the same protection[69] is applied as a matter of policy, either alone or in combination with other plans or projects.[70] Applicants should also refer to paragraphs 5.13 to 5.31 of this national policy statement on biodiversity and geological conservation and to paragraphs 5.2 to 5.12 on air emissions. The applicant should seek the advice of Natural England and, where appropriate, for cross-boundary impacts, Natural Resources Wales and Scottish Natural Heritage to ensure that impacts on European sites in Wales and Scotland are adequately considered.

4.19 Applicants are required to provide sufficient information with their applications for development consent to enable the Secretary of State to carry out an appropriate assessment if required. This information should include details of any mitigation measures that are proposed to minimise or avoid any likely significant effects. The information provided may also assist the Secretary of State in concluding that an appropriate

[66] See paragraphs 4.2 to 4.4 above.
[67] The Conservation of Habitats and Species Regulations 2010 and the Offshore Marine Conservation (Natural Habitats &c) Regulations 2007 (as amended)
[68] This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in regulation 8 of the Conservation of Habitats and Species Regulations 2010. See the Government Circular referred to in the introduction above for further information on the requirements of the Habitats Regulations
[69] Para 118 of the *National Planning Policy Framework* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[70] Further guidance on the requirements of the Habitats Regulations can be found in Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System* (ODPM 06/2005, Defra 01/2005) (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf). It should be noted that this document does not cover more recent legislative requirements. Where this circular has been superseded, reference should be made to the latest successor document. For road developments HD 44/09 Assessment of Implications (of Highways and/or Roads Projects) on European Sites (Including Appropriate Assessment) is also relevant.

assessment is not required because significant effects on European sites are unlikely or can be excluded on the basis of objective information.

4.20 If it is not possible to rule out an adverse effect on the integrity of the site, it is possible to apply for derogation from the Habitats Directive, subject to meeting three tests. These tests are that no feasible, less-damaging alternatives should exist, that there is an overriding public interest in the proposal going ahead, and that adequate compensation measures will be put in place to ensure the overall coherence of the network of protected sites is maintained.[71]

4.21 In cases where a national network development affects a European site, and in the absence of alternative solutions, the decision-maker may need to consider whether there are any imperative reasons of overriding public interest (IROPI) in allowing the development to proceed. In such circumstances, the contribution the development will make toward meeting the national demand for network capacity, as set out in the most up to-date forecasts available, will provide a partial estimate for the national economic benefits offered by the development.

Alternatives

4.22 The Appraisal of Sustainability accompanying this national policy statement assesses reasonable strategic alternatives to meeting the need for new nationally significant national networks infrastructure. These strategic alternatives do not need to be assessed by the Examining Authority when examining a project or the Secretary of State when taking a decision.

4.23 This NPS does not make any specific proposals for individual developments. Such developments will be for applicants to determine and will need to be examined by the Examining Authority in accordance with this NPS.

4.24 While this national policy statement and supporting Appraisal of Sustainability have shown that there is no alternative, at a strategic level, to meeting the need for new National Network infrastructure as a whole, it must not be assumed that there will be no alternatives for individual projects. The EIA Directive requires each project to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.

4.25 There may also be specific legal requirements for the consideration of alternatives, for example, under the Habitats and Water Framework Directives; policy requirements, for example the flood risk sequential test and the need to consider alternatives where applicants are seeking compulsory acquisition powers in respect of a particular project.

[71] Further information will be available in guidance to be published shortly by Defra.

Criteria for "good design" for national network infrastructure

4.26 The visual appearance of a building or infrastructure is sometimes considered to be the most important factor in good design. But high quality and inclusive design goes far beyond aesthetic considerations. The functionality of an object – be it a building or other type of infrastructure – including fitness for purpose and sustainability, is equally important. Applying "good design" to national network projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible. It is acknowledged, however that the nature of much national network infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.

4.27 A good design is one which meets many of the policy objectives of the NPS. It should meet the principal objectives of the scheme by eliminating or substantially mitigating the identified problems by improving operational conditions and simultaneously minimising adverse impacts. Ideally it should also mitigate any existing adverse impacts, for example safety or environmental. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable taking into account capital cost, economics and environmental impacts.

4.28 In the light of the above, and given the importance which the Planning Act places on good design and sustainability, the Secretary of State needs to be satisfied that national networks infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In so doing, the applicant should therefore take into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some national networks infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character and function, landscape permeability, landform and vegetation.

4.29 Applicants should be able to demonstrate in their application documents[72] how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected. In examining applications the Examining Authority should take into account the ultimate purpose of the

[72] For example, in the explanatory statement where a development is subject to Environmental Impact Assessment.

infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy.

4.30 Applicants should consider professional, independent advice on the design aspects of a proposal. In particular, the Design Council can provide support for and encourage design review for nationally important schemes.[73]

Climate change adaptation

4.31 Section 10(3)(a) of the Planning Act requires the Secretary of State to have regard to the desirability of mitigating, and adapting to, climate change in designating a NPS.

4.32 This part of the NPS sets out how the NPS puts Government policy on climate change adaptation into practice, and in particular how applicants and the Secretary of State should take the effects of climate change into account when developing and consenting infrastructure. While climate change mitigation is essential to minimise the most dangerous impacts of climate change, previous global greenhouse gas emissions have already committed us to some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms, wildfires as well as rising sea levels.

4.33 Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.

4.34 The Government has published a set of UK Climate Projections and has developed a statutory National Adaptation Programme.[74] In addition, the Government's Adaptation Reporting Power[75] will invite reporting authorities (a defined list of public bodies and statutory undertakers, including Highways Agency, Network Rail and the Office of Rail Regulation) to build on their climate change risk assessments and report on progress implementing adaptation actions.

[73] http://www.communities.gov.uk/publications/planningandbuilding/letterdesignplanning
[74] s.58 of the Climate Change Act 2008. https://www.gov.uk/government/policies/adapting-to-climate-change/supporting-pages/national-adaptation-programme
[75] s.62 of the Climate Change Act 2008. https://www.gov.uk/government/policies/adapting-to-climate-change/supporting-pages/adaptation-reporting-power

4.35 New national networks infrastructure will typically be long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build and operation. The ES should set out how the proposal will take account of the projected impacts of climate change.

4.36 Where transport infrastructure has safety critical elements, the applicant should apply the high emissions scenario (high impact, low likelihood) to those elements critical to the safe operation of the infrastructure.

4.37 The applicant should take into account the potential impacts of climate change using the latest UK Climate Projections available at the time the ES was prepared to ensure they have identified appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of the ES, the Examining Authority should consider whether they need to request further information from the applicant.

4.38 If any adaptation measures give rise to consequential impacts the Secretary of State should consider the impact of those in relation to the application as a whole and the impacts guidance set out in this part of this NPS (e.g. on flooding, water resources, biodiversity, landscape and coastal change).

4.39 The applicant should demonstrate that there are not critical features of the design of new national networks infrastructure which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections, taking account of the latest credible scientific evidence on, for example, sea level rise (e.g. by referring to additional maximum credible scenarios – i.e. from the Intergovernmental Panel on Climate Change or EA) and that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime.

4.40 Any adaptation measures should be based on the latest set of UK Climate Projections, the Government's national Climate Change Risk Assessment and consultation with statutory consultees.

4.41 Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so.

4.42 Where adaptation measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (e.g. coastal processes), the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (e.g. reserving land for future extension, increasing height of an existing sea wall, or requiring a new sea wall).

Pollution control and other environmental protection regimes

4.43 Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality and the marine environment, or which include noise and vibration, may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes. Any activities within the development that are regulated under those regimes will need to obtain the relevant permissions before the activities can be operated.

4.44 The planning and pollution control systems are separate but complementary. The planning system controls the development and use of land in the public interest. It plays a key role in protecting and improving the natural environment, public health and safety, and amenity, for example by attaching requirements to allow developments which would otherwise not be environmentally acceptable to proceed, and preventing harmful development which cannot be made acceptable even through requirements. Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the releases of substances to the environment from different sources to the lowest practicable level. It also ensures that ambient air and water quality meet standards that guard against impacts to the environment or human health. The Environmental Permit cannot control impacts from sources outside the facility's boundary.[76]

4.45 The Examining Authority and the Secretary of State (in deciding an application) should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. They should work on the assumption that the relevant pollution control regime will be properly applied and enforced. Decisions under the Planning Act should complement but not duplicate those taken under the relevant pollution control regime.

4.46 These considerations apply in an analogous way to other environmental regulatory regimes, including those on land drainage and flood defence and biodiversity.

4.47 There is a statutory duty on applicants to consult the Marine Management Organisation (MMO) on nationally significant projects which would affect, or would be likely to affect, any relevant marine areas as defined in the Planning Act (as amended by section 23 of the Marine and Coastal Access Act 2009). The Secretary of State's consent may include a deemed marine licence and the MMO will advise on what conditions should apply to the deemed marine licence. Where appropriate, the

[76] More information on Environmental Permits can be found on Defra's website: http://archive.defra.gov.uk/environment/policy/permits/documents/ep2010guidance.pdf and the Environment Agency's website: http://www.environment-agency.gov.uk/business/topics/permitting/default.aspx

MMO should actively participate in examinations, and Examining Authorities engage with such matters, to help ensure that nationally significant infrastructure projects are licensed in accordance with environmental legislation, including European directives.

4.48 When an applicant applies for an Environmental Permit (EP), the relevant regulator (the Environment Agency) requires that the application demonstrates that processes are in place to meet all relevant EP requirements. In examining the impacts of the project, the Examining Authority may wish to seek the views of the regulator on the scope of the permit or consent and any management plans (such as any produced for noise) that would be included in an Environmental Permit application.

4.49 Applicants are encouraged to begin pre-application discussions with the Environment Agency as early as possible. It is however expected that an applicant will have first thought through the requirements as a starting point for discussion. Some consents require a significant amount of preparation and as an example, the Environment Agency suggests that applicants should start work towards submitting the permit application at least 6 months prior to the submission of an application for a development consent order where they wish to parallel track the applications. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority.

4.50 The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. This will require close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, Drainage Boards, and water and sewerage undertakers, to ensure that in the case of potentially polluting developments:

- the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and
- the effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits.

4.51 The Secretary of State should not refuse consent on the basis of regulated impacts unless there is good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.

Common law nuisance and statutory nuisance

4.52 Section 158 of the Planning Act provides a defence of statutory authority in civil or criminal proceedings for nuisance. Such a defence is also available in respect of anything else authorised by an order granting development consent. The defence does not extinguish the local authority's duties under Part III of the Environmental Protection Act 1990 ("the 1990 Act") to inspect its area and take reasonable steps to investigate complaints of statutory nuisance and to serve an abatement notice where satisfied of its existence, likely occurrence or recurrence.

4.53 It is very important that, during the examination of a nationally significant infrastructure project, possible sources of nuisance under section 79(1) of the 1990 Act and how they may be mitigated or limited are considered by the Examining Authority so they can recommend appropriate requirements that the Secretary of State might include in any subsequent order granting development consent.

4.54 The defence of statutory authority is subject to any contrary provision made by the Secretary of State in any particular case by an order granting development consent (section 158(3) of the Planning Act).

Safety

Safety on the strategic road network

4.55 New highways developments provide an opportunity to make significant safety improvements. Some developments may have safety as a key objective, but even where safety is not the main driver of a development the opportunity should be taken to improve safety including introducing the most modern and effective safety measures where proportionate. Highway developments can potentially generate significant accident reduction benefits when they are well designed.

4.56 The applicant should undertake an objective assessment of the impact of the proposed development on safety including the impact of any mitigation measures. This should use the methodology outlined in the guidance from DfT (IAF/WebTAG) and from the Highways Agency.

4.57 They should also put in place arrangements for undertaking the road safety audit process. Road Safety audits are a mandatory requirement for all trunk road Highway Improvement Schemes in the UK (including motorways).

4.58 Road safety audits are intended to ensure that operational road safety experience is applied during the design and construction process so that the number and severity of collisions is as low as is reasonably practicable.

4.59 The applicant should be able to demonstrate that their scheme is consistent with the Highways Agency's Safety Framework for the strategic road network and with the national Strategic Framework for Road Safety.[77] Applicants will wish to show that they have taken all steps that are reasonably required to:

- minimise the risk of death and injury arising from their development;
- contribute to an overall reduction in road casualties; and
- contribute to an overall reduction in the number of unplanned incidents.

4.60 They will also wish to demonstrate that:

- they have considered the safety implications of their project from the outset; and
- they are putting in place rigorous processes for monitoring and evaluating safety.

4.61 The Secretary of State should not grant development consent unless he or she is satisfied that all reasonable steps have been taken and will be taken to:

- minimise the risk of road casualties arising from the scheme; and
- contribute to an overall improvement in the safety of the strategic road network.

Safety on the railways

4.62 Since the railways are one of the safest forms of transport, safety is unlikely to be the main driver for development. However, the opportunity should usually be taken to introduce the most modern and effective safety measures.

4.63 The rail industry is required by law to consider the impact on safety of any proposed changes to the rail network, through rigorous risk assessment. The principle of "so far as is reasonably practicable" (SFAIRP) is applied through the Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS) which were made under the Health and Safety at Work Act, etc. 1974, and are enforced by the Office of Rail Regulation (ORR – the independent rail safety regulator).[78]

4.64 For significant developments, the rail industry is also required by EU legislation to comply with Common Safety Methods published in the Official Journal of the European Union.

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[77] See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/8146/strategicframework.pdf and http://assets.highways.gov.uk/our-road-network/our-network/Safety/N110040%20-%20Safety%20Framework%20for%20the%20Strategic%20Road%20Network%202011.pdf and successor documents.

[78] Guidance on ROGS can be found at http://www.rail-reg.gov.uk/server/show/ConWebDoc.8990

4.65 The Secretary of State should expect the applicant to have complied with all relevant regulations, industry guidance and regulatory guidance from the ORR.

4.66 The Secretary of State should expect the safety assessment to have considered the safety implications during the construction, commissioning and operational phases of the development.

4.67 The Secretary of State should not grant development consent unless it is satisfied that all reasonable steps have been taken and will be taken to:

- minimise the risk of deaths or injury arising from the scheme; and
- contribute to an overall improvement in societal safety levels;

noting that railway developments can influence risk levels both on and off the railway network.

4.68 The Secretary of State should not consent to development which would lead to a disproportionate increase in the risk of death or injury.

Security considerations

4.69 National security considerations apply across all national infrastructure sectors. The Department for Transport acts as the Sector Sponsor Department for the national networks and in this capacity has lead responsibility for security matters in that sector and for directing the security approach to be taken. DfT works closely with Government agencies including the Centre for the Protection of National Infrastructure (CPNI) to reduce the vulnerability of the most 'critical' infrastructure assets in the sector to terrorism and other national security threats.

4.70 Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. Where applications for development consent for infrastructure covered by this NPS relate to potentially 'critical' infrastructure, there may be national security considerations.

4.71 Where national security implications have been identified, the applicant should consult with relevant security experts from CPNI and DfT, to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks. If CPNI and DfT, as appropriate, are satisfied that security issues have been adequately addressed in the project when the application is submitted, they will provide confirmation of this to the Secretary of State, and the Examining Authority should not need to give any further consideration to the details of the security measures during the examination.

4.72 The applicant should only include sufficient information in the application as is necessary to enable the Examining Authority to examine the development consent issues and make a properly informed recommendation on the application.

4.73 In exceptional cases, where examination of an application would involve public disclosure of information about defence or national security which would not be in the national interest, the Secretary of State can intervene and may appoint an examiner to consider evidence in closed session.

Health

4.74 National road and rail networks including strategic rail freight interchanges have the potential to affect the health, well-being and quality of life of the population.

4.75 These can have direct impacts on health including increasing traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests.

4.76 New or enhanced national network infrastructure may have indirect health impacts, for example if they affect access to key public services, local transport or the use of open space for recreation and physical activity.

4.77 As described in the relevant sections of this NPS, where the proposed project has an effect on human beings, the ES should assess these effects for each element of the project, identifying any adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate. These impacts may affect people simultaneously, so the applicant, and the Secretary of State in determining an application for development consent, should consider the cumulative impact on health.

Strategic rail freight interchanges

Rail freight interchange function and form

4.78 All applications for strategic rail freight interchanges should include warehouses to which goods can be delivered from the railway network either directly or by another form of transport. Applicants should ensure that a significant proportion of the warehousing on a proposed site is rail connected from the outset.

4.79 Strategic rail freight interchanges (SRFIs) are not only locations for freight access to the railway but also locations for businesses capable now or in the future of supporting their commercial activities by rail. Therefore, from the outset, RFIs should be developed in a form that can accommodate both rail and non-rail activities.

Transport links and location requirements

4.80 Because of the strategic nature of large rail freight interchanges it is important that new SRFIs or proposed extensions to RFIs upgrading them to SRFIs are appropriately located relative to the markets they will serve, which will largely focus on major urban centres, or groups of centres, and key supply chain routes. Because the vast majority of freight in the UK is moved by road, proposed new rail freight interchanges should have good road access as this will allow rail to effectively compete with, and work alongside, road freight to achieve a modal shift to rail.

4.81 Adequate links to the rail and road networks are essential. Rail access will vary between rail lines, both in the number of services that can be accommodated, and the physical characteristics such as the train length and, for intermodal services, the size of intermodal units that can be carried (the 'loading gauge'). As a minimum a strategic rail freight interchange (SRFI) should ideally be located on a route with a gauge capability of W8 or more, or capable of enhancement to a suitable gauge. For road links, the Government's policy is set out in Circular 02/2013 *The strategic road network and the delivery of sustainable development*.

4.82 SRFIs tend to be large scale commercial operations, which are most likely to need continuous working arrangements (up to 24 hours). By necessity they involve large structures, buildings and the operation of heavy machinery. Locationally, therefore, they often may not be considered suitable adjacent to residential areas or environmentally sensitive areas such as National Parks and AONBs, which may be sensitive to the impact of noise and movements. However, depending on the particular circumstances involved, appropriate mitigation measures may be available to limit the impacts of noise and light in populated areas.

4.83 SFRIs can provide many benefits for the local economy. For example because many of the on-site functions of major distribution operations are relatively labour intensive this can create many new job opportunities. The existence of an available and economic local workforce will therefore be an important consideration for the applicant.

Scale and design

4.84 Applications for a proposed SRFI should provide for a number of rail connected buildings for initial take up, plus rail infrastructure to allow more extensive rail connection within the site in the longer term. The initial stages of the development must provide an operational rail network connection and areas for intermodal handling and container storage. It is not essential for all buildings on the site to be rail connected from the outset, but a significant element should be.

4.85 As a minimum, a SRFI should be capable of handling four trains per day and, where possible, be capable of increasing the number of trains handled. SRFIs should, where possible, have the capability to handle 775 metre trains with appropriately configured on-site infrastructure and layout. This should seek to minimise the need for on-site rail shunting and provide for a configuration which, ideally, will allow main line access for trains from either direction.

5. Generic impacts

5.1 Some impacts will be relevant to any national networks infrastructure, whatever the type. The following sections set out how these impacts should be considered. While the NPS covers developments in England only, assessments of impacts should take account of any impacts this type of infrastructure may have in the Devolved Administrations. Where projects affect cross-border links, scheme promoters should work with the devolved administrations.

Air quality and emissions

Introduction

5.2 Increases in emissions of pollutants during the construction or operation phases of projects on the National Networks can result in the worsening of local air quality. This can contribute to adverse impacts on human health, on protected species and habitats. Impacts on protected species and habitats are covered in paragraphs 5.13 to 5.31 and 5.131 to 5.147. Current UK legislation sets out health-based ambient air quality objectives In addition, the European Union has established common, health-based ambient concentration limit values (LVs) for the main pollutants in the Ambient Air Quality Directive (2008/50/EU) ('the Air Quality Directive'), which Member States are required to meet by various dates.

5.3 Developments on the National Networks can also have beneficial effects on air quality, for example through reduced congestion. The geographical extent and distribution of these effects can cover a large area, well beyond an individual scheme. Air quality impacts are generated by all types of infrastructure development to varying extents. Development on the National Networks in general and road schemes in particular, creates complex challenges with regards to air quality, given the very wide geographical area over which impacts (positive and negative) can potentially be felt. The guidance below provides additional clarity (when compared to other such guidance) given the complex nature of impacts created by national network developments.

Applicant's assessment

5.4 Where the project is likely to have significant air quality impacts (both on and off-scheme) the applicant should undertake an assessment of the impacts of the proposed project as part of the Environmental Statement (ES).

5.5 The ES should describe:

- existing air quality levels;
- a forecast of air quality at the time of opening, assuming that the scheme is not built (the 'future baseline') and taking account of the impact of the scheme; and
- any significant air quality effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project.

5.6 In addition to information on the likely significant effects of a project, the Secretary of State should be provided with a judgment on the risk as to whether the project would affect the UK's ability to comply with the Air Quality Directive.

Decision making

5.7 The Secretary of State should consider air quality impacts over the wider area likely to be affected, as well as in the near vicinity of the scheme. In all cases the Secretary of State must take account of relevant statutory air quality thresholds set out in domestic and European legislation.

5.8 Air quality considerations are likely to be particularly relevant where schemes are proposed within or adjacent to Air Quality Management Areas, areas with exceedences of Limit Values or national objectives or where they may have potential impacts on Natura 2000 sites including those outside England.

5.9 The Secretary of State must give air quality considerations substantial weight where a project would lead to a significant air quality impact and/or lead to a deterioration in air quality in a zone/agglomeration[79] where the air quality breaches the air quality limit values.

5.10 Where a project is likely to lead to a breach of the air quality thresholds, the applicant should work with the relevant authorities to secure appropriate mitigation measures to allow the proposal to proceed. The Secretary of State should refuse consent where, even taking into account mitigation, the air quality impacts of the scheme will:

- result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or
- substantially affect the ability of a non-compliant area to achieve compliance within the timescales as reported to the European Commission.

[79] The United Kingdom is split into 43 zones and agglomerations for the purpose of reporting air quality within those zones to the European Commission under the Air Quality Directive.

Mitigation

5.11 The Secretary of State should consider whether mitigation measures put forward by the applicant are acceptable. A management plan may help codify mitigation at this stage.

5.12 Mitigation measures may affect the project design, layout, construction, operation and/or may comprise measures to improve air quality in pollution hotspots beyond the immediate locality of the scheme. Measures could include changes to the route of the new scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions, and speed control. Off- scheme measures could include proposals to reduce the use of older, more polluting vehicles in congested urban roads, retrofitting them with pollution abatement technology or other means of incentivising greater use of cleaner vehicles.

Biodiversity and geological conservation

Introduction

5.13 Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Government policy for the natural environment is set out in the *Natural Environment White Paper* (NEWP). [80] The essential principle set out in this is that the value of nature and the range of services that ecosystems provide to society should be at the heart of any decision. In line with the NEWP, any assessments of proposals should consider the impact on ecosystem services to ensure that transport interventions maintain a healthy, sustainable environment. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance.[81]

5.14 The wide range of legislative provisions at the international and national level that can impact on planning decisions affecting biodiversity and geological conservation issues are set out in a Government Circular.[82]

Applicant's assessment

5.15 Where the development is subject to EIA the applicant should ensure that the ES clearly sets out any effects on internationally, nationally and

[80] http://www.defra.gov.uk/environment/natural/whitepaper/
[81] A list of designated sites (including marine sites) is included in the Geological Conservation Review held by the Joint Nature Conservation Committee (JNCC), www.jncc.gov.uk/earthheritage.
[82] Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* (ODPM 06/2005, Defra 01/2005) – https://www.gov.uk/government/publications/biodiversity-and-geological-conservation-circular-06-2005. It should be noted that this document does not cover more recent legislative requirements, such as the Marine Strategy Framework Directive. Where this circular has been superseded, reference should be made to the latest successor document.

locally designated sites of ecological or geological conservation importance, including those outside England, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and considers the full range of potential impacts on ecosystems. The applicant should provide environmental information proportionate to the infrastructure where EIA is not required (see paragraphs 4.11 to 4.16).

5.16 The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.[83]

Decision making

5.17 The Government's biodiversity strategy is set out Biodiversity 2020: A Strategy for England's wildlife and ecosystem services.[84] Its aim is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge of climate change: failure to address this challenge will result in significant impact on biodiversity.

5.18 As a general principle, and subject to the specific policies below, development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated.

5.19 In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.

International sites

5.20 The most important sites for biodiversity are those identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for European sites[85] (see also paragraphs 4.18 to 4.21). The *National Planning Policy Framework*

[83] See, for example, the biodiversity planning toolkit created by the Association of Local Government Ecologists in partnership with NGOs, Defra, SNCB and the Environment Agency (www.biodiversityplanningtoolkit.com) . See also the Design Manual for Roads and Bridges – Volume 11, Section 3 Part 4 *Ecology and Nature Conservation*.
[84] Strategy for England; similar strategies apply in Wales, Scotland and Northern Ireland.
[85] This includes candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in regulation 8 of the Conservation of Habitats and Species Regulations 2010. See the Government Circular referred to in the introduction above for further information on the requirements of the Habitats Regulations.

states that the following wildlife sites should have the same protection as European sites:

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites;[86] and
- sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation and listed or proposed Ramsar sites.

Sites of Special Scientific Interest

5.21 Many Sites of Special Scientific Interest (SSSIs) are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of SSSIs not covered by an international designation, should be given a high degree of protection. All National Nature Reserves are notified as SSSIs.

5.22 Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. The Secretary of State should ensure that the applicants proposals to mitigate the harmful[87] aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest, are acceptable. Where necessary, requirements and/or planning obligations should be used to ensure these proposals are delivered.

Marine Conservation Zones

5.23 Marine Conservation Zones (MCZs) introduced under the Marine and Coastal Access Act 2009, are areas that have been designated for the purpose of conserving marine flora or fauna, marine habitat or types of marine habitat or features of geological or geomorphological interest. The protected feature or features and the conservation objectives for the MCZ are stated in the designation order for the MCZ, which provides statutory protection for these areas. Measures to restrict damaging activities will be implemented by the Marine Management Organisation (MMO) and other relevant organisations. As a public authority, the

[86] Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.
[87] In line with the principle above, the term "harm" should be understood to mean significant harm.

Secretary of State is bound by the duties in relation to MCZs imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.

Regional and Local Sites

5.24 Sites of regional and local biodiversity and geological interest, which include Local Geological Sites, Local Nature Reserves and Local Wildlife Sites, have a fundamental role to play in meeting overall national biodiversity targets, contributing to the quality of life and the well-being of the community, and in supporting research and education. The Secretary of State should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent.

Irreplaceable habitats including ancient woodland and veteran trees

5.25 Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran tress found outside ancient woodland, unless the need for and benefits of the development, in that location[88] clearly outweigh the loss of the habitat. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided.[89] Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why.

Biodiversity within developments

5.26 Development proposals potentially provide many opportunities for building-in beneficial biodiversity or geological features as part of good design.[90] When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning agreements where appropriate in order to ensure that such beneficial features are delivered.

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[88] The words "the need for, and benefits of, the development in that location" should be understood to mean the national need for the infrastructure and the benefits it will bring, as well as the justification why the project has to take place in the location proposed.

[89] This does not prevent the loss of such trees where the decision-maker is satisfied that their loss is unavoidable

[90] The *Natural Environment White Paper* 2011 identifies opportunities for transport to contribute to the creation of coherent and resilient ecological networks. See http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf.

Protection of other habitats and species

5.27 Many individual wildlife species receive statutory protection under a range of legislative provisions.[91]

5.28 Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales[92] and thereby requiring conservation action. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of development. Where appropriate, requirements or planning agreements may be used in order to deliver this protection. The Secretary of State should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits (including need) of the development clearly outweigh that harm.

Mitigation

5.29 Applicants should include appropriate mitigation measures as an integral part of their proposed development including identifying where and how they are proposed to be secured. In particular, the applicant should demonstrate that:

- during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;
- during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements;
- habitats will, where practicable, be restored after construction works have finished;
- developments will be designed and landscaped to minimise habitat fragmentation and provide green corridors where feasible and cost effective;
- opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge.

[91] Certain plant and animal species, including all wild birds, are protected under the Wildlife and Countryside Act 1981. European plant and animal species are protected under the Conservation of Habitats and Species Regulations 2010 (as amended). Some other animals are protected under their own legislation, for example Protection of Badgers Act 1992.

[92] Lists of habitats and species of principal importance for the conservation of biological diversity in England published in response to Section 41 of the Natural Environment and Rural Communities Act 2006 are available from the Biodiversity Action Reporting System website at http://ukbars.defra.gov.uk/news/details.asp?X=45

5.30 The Secretary of State should consider what appropriate requirements should be attached to any consent and/or in any planning obligations entered into in order to ensure that mitigation measures are delivered.

5.31 The Secretary of State will need to take account of what mitigation measures may have been agreed between the applicant and Natural England and/or the MMO, and whether Natural England and/or or the MMO has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences.

Waste management

Introduction

5.32 Government policy on hazardous and non-hazardous waste is intended to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Where this is not possible, waste management regulation ensures that waste is disposed of in a way that is least damaging to the environment and to human health.

5.33 Sustainable waste management is implemented through the "waste hierarchy":

- prevention;
- preparing for reuse;
- recycling;
- other recovery, including energy recovery; and
- disposal.

5.34 Large infrastructure projects may generate hazardous and non-hazardous waste during the construction and operation. The Environment Agency's Environmental Permitting regime incorporates operational waste management requirements for certain activities. When an applicant applies to the Environment Agency for an Environmental Permit, the Agency will require the application to demonstrate that processes are in place to meet all relevant permit requirements.

Applicant's assessment

5.35 The applicant should set out the arrangements that are proposed for managing any waste produced. The arrangements described should include information on the proposed waste recovery and disposal system for all waste generated by the development. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.

Decision making

5.36 The Secretary of State should consider the extent to which the applicant has proposed an effective process that they will follow to ensure effective management of hazardous and non-hazardous waste arising from the construction and operation of the proposed development. It should be satisfied that in the process set out:

- any such waste will be properly managed, both on-site and off-site;
- the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and
- adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome.

5.37 Where necessary, the Secretary of State should use requirements or obligations to ensure that appropriate measures for waste management are applied.

5.38 Where the project will be subject to the Environment Agency's Environmental Permitting regime, waste management arrangements during operations will be covered by the permit and the considerations set out in paragraphs 4.43 to 4.51 will apply.

Civil and military aviation and defence interests

Introduction

5.39 Civil and military aerodromes, aviation technical sites, and other types of defence interests (both onshore and offshore) can be affected by new national networks infrastructure development.

Aviation

5.40 UK airspace is important for both civilian and military aviation interests. It is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new national networks infrastructure. Similarly, aerodromes can have important economic and social benefits, particularly at the regional and local level. Commercial civil aviation is largely confined to designated corridors of controlled airspace and set approaches to airports. However, civilian leisure and military aircraft may often fly outside of 'controlled air space'. The approaches and flight patterns to aerodromes are not necessarily routine and can be irregular owing to a variety of factors including the performance characteristics of the aircraft concerned and the prevailing meteorological conditions.

5.41 Certain civil aerodromes, and aviation technical sites, selected on the basis of their importance to the national air transport system, are officially safeguarded in order to ensure that their operation is not inhibited by new development. A similar official safeguarding system applies to certain military aerodromes and defence assets, selected on the basis of their strategic importance. Areas of airspace around aerodromes used by aircraft taking off or on approach and landing are described as "obstacle limitation surfaces" (OLS) and defined according to criteria set out in relevant Civil Aviation Authority (CAA) guidance.[93] Aerodromes that are officially safeguarded will have CAA certified Safeguarding maps showing the OLS.

5.42 The certified Safeguarding maps depicting the OLS and other criteria (e.g. to minimise "birdstrike" hazards) are deposited with the relevant local planning authorities. Circular 1/2003[94] provides advice to planning authorities on the official safeguarding of aerodromes and includes a list of the aerodromes which are officially safeguarded. The Circular and CAA guidance also recommends that the operators of aerodromes which are not officially safeguarded should take steps to protect their aerodrome from the effects of possible adverse development by establishing an agreed consultation procedure between themselves and the local planning authority or authorities.

5.43 There are also "Public Safety Zones" at the end of runways of the busiest airports in the UK, within which development is restricted to minimise risks to people on the ground in the event of an aircraft accident on take-off or landing. Advice is provided on Public Safety Zones in Circular 01/2002.[95]

5.44 The military Low Flying system covers the whole of the UK and enables low flying activities as low as 75m (mean separation distance). A considerable amount of military flying for training purposes is conducted at as low as 30m in designated Tactical Training Areas (TTAs) in mid Wales, Cumbria, the Scottish Border region and in the Electronic Warfare Range in the Scottish Border area. New national networks infrastructure may cause obstructions in Ministry of Defence (MoD) low flying areas.

5.45 Safe and efficient operations within UK airspace is dependent upon communications, navigation and surveillance (CNS) infrastructure, including radar (often referred to as 'technical sites'). National Networks infrastructure development may interfere with the operation of radar by limiting the capacity to handle air traffic, and aircraft landing systems. It may also act as a reflector or diffractor of radio signals on which navigational aids rely (an effect which is particularly likely to arise when large structures are located close to radar installations).

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[93] CAA (Dec 2008) CAP 168: *Licensing of Aerodromes*
[94] DfT/ODPM Circular 01/2003: *Safeguarding, Aerodromes, Technical Sites and Military Explosives Storage Areas*
[95] DfT/ODPM Circular 01/2002: *Control of Development in Airport Safety Zones*

Other defence interests

5.46 The MoD operates military training areas, military danger zones (offshore Danger and Exercise areas), military explosives storage areas and TTAs. There are extensive Danger and Exercise Areas across the UK Continental Shelf Area (UKCS) for military firing that are essential for national defence.

5.47 Other operational defence assets may be affected by new development, e.g. the maritime acoustic facilities used to test and calibrate noise emissions from naval vessels, such as at Portland Harbour. The MoD also operates Air Defence radars and Meteorological radars which have wide coverage over the UK (onshore and offshore). It is important that new national networks infrastructure does not significantly impede or compromise the safe and effective use of any defence assets.

Applicant's assessment

5.48 Where the proposed development may have an effect on civil or military aviation and/or other defence assets an assessment of potential effects should be carried out.

5.49 The applicant should consult the MoD, CAA, National Air Traffic Services (NATS) and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation or other defence interests.

5.50 Any assessment on aviation or other defence interests should include potential impacts during construction and operation of the project upon the operation of CNS infrastructure, flight patterns (both civil and military), other defence assets and aerodrome operational procedures.

5.51 If any relevant changes are made to proposals during the pre-application and determination period, it is the responsibility of the applicant to ensure that the relevant aviation and defence consultees are informed as soon as reasonably possible.

Decision making

5.52 The Secretary of State should be satisfied that effects on civil and military aviation and other defence assets have been addressed by the applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, it should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out. It may also be appropriate to expect operators of the aerodrome to consider making reasonable changes to operational procedures. The Secretary of State will have regard to the necessity, acceptability and reasonableness of operational changes to aerodromes, and the risks or harm of such changes when taking decisions. When making such a judgement in the case of military aerodromes, the

Secretary of State should have regard to interests of defence and national security.

5.53 If there are conflicts between the Government's national networks policies and military interests in relation to the application, the Secretary of State expects the relevant parties to have made appropriate efforts to work together to identify realistic and pragmatic solutions to the conflicts. In so doing, the parties should seek to protect the aims and interests of the other parties as far as possible.

5.54 There are statutory requirements concerning lighting to tall structures.[96] Where lighting is requested on structures that go beyond statutory requirements by any of the relevant aviation and defence consultees, the Secretary of State should be satisfied of the necessity of such lighting taking into account the case put forward by the consultees. The effect of such lighting on the landscape and ecology may be a relevant consideration.

5.55 Where, after reasonable mitigation, operational changes, obligations and requirements have been proposed, the Secretary of State considers that:

- a development would prevent a licensed aerodrome from maintaining its licence;
- the benefits of the proposed development are outweighed by the harm to aerodromes serving business, training or emergency service needs; or
- the development would significantly impede or compromise the safe and effective use of defence assets or significantly limit military training;

development consent should not be granted.

Mitigation

5.56 Where a proposed national networks infrastructure development would significantly impede or compromise the safe and effective use of civil or military aviation or defence assets and or significantly limit military training, the Secretary of State may consider the use of 'Grampian'[97] or other forms of requirement which relate to the use of future technological solutions to mitigate impacts. Where technological solutions have not yet been developed or proven, the Secretary of State will need to consider the likelihood of a solution becoming available within the time limit for implementation of the development consent.

[96] Articles 133 and 134 Air Navigation Order 2005

[97] A negative condition that prevents the start of a development until specific actions, mitigation or other development have been completed.

5.57 Mitigation for infringement of OLS may include:

- amendments to layout or scale of infrastructure to reduce the height, provided that it does not result in an unreasonable reduction of capacity or unreasonable constraints on the operation of the proposed national networks infrastructure;
- changes to operational procedures of the aerodromes in accordance with relevant guidance, provided that safety assurances can be provided by the operator that are acceptable to the CAA where the changes are proposed to a civilian aerodrome (and provided that it does not result in an unreasonable reduction of capacity or unreasonable constraints on the operation of the aerodrome); and
- upgrading of installation of obstacle lighting and/or by notification in Aeronautical Information Service publications.

5.58 For CNS infrastructure, the UK military Low Flying system (including TTAs) and designated air traffic routes, mitigation may include:

- lighting; and
- upgrading of existing CNS infrastructure, the cost of which the applicant may reasonably be required to contribute in part or in full.

5.59 Mitigation for effects on radar and navigational systems may include reducing the scale of a project, although in some cases it is likely to be unreasonable to require mitigation by way of a reduction in the scale of development, for example where this would result in a material reduction in capacity or operation would be severely constrained. However, there may be exceptional circumstances where a small reduction in capacity or other small change to a project will result in proportionately greater mitigation. In these cases, the Secretary of State may consider that the benefits of the mitigation outweigh the marginal loss, for example of capacity.

Coastal change

Introduction

5.60 Where infrastructure projects are proposed on the coast, coastal change is a key consideration. This section is concerned both with the impacts which national networks infrastructure can have as a driver of coastal change and with how to ensure that developments are resilient to ongoing and potential future coastal change. The aim of the Government's planning policy is to reduce risk from coastal change by avoiding inappropriate development in vulnerable areas, or adding to the impacts of physical changes to the coast.

5.61 The construction of national networks infrastructure on the coast may involve, for example, dredging, dredge spoil deposition, marine landing facility construction and flood and coastal protection measures which could result in direct effects on the coastline, seabed, marine ecology and biodiversity, and the historic environment.

5.62 Additionally indirect changes to the coastline and seabed might arise as a result of a hydrodynamic response to some of these direct changes. This could lead to localised or more widespread coastal erosion or accretion and changes to offshore features such as submerged banks and ridges, marine biodiversity and the historic environment.

5.63 This section only applies to national networks infrastructure projects situated on or near the coast. The sections on biodiversity and geological conservation, flood risk, the historic environment and climate change adaptation, including the increased risk of coastal erosion, are also relevant, as is advice on access to coastal recreation sites and features in the section on land use.

Applicant's assessment

5.64 Applications for development in a Coastal Change Management Area (CCMA) should make it clear why there is a need for it to be located in a CCMA.[98] For developments In a CCMA, applicants should undertake an assessment of the vulnerability of the proposed development to coastal change, taking account of climate change, during the project's operational life.

5.65 For any projects involving dredging or disposal into the sea, the applicant should consult the Marine Management Organisation (MMO) at an early stage. The applicant should also consult the MMO on projects which could impact on coastal change, since the MMO may also be involved in considering other projects which may have related coastal impacts.

5.66 The applicant should examine the broader context of coastal protection around the proposed project, and the influence in both directions, i.e. coast on project, and project on coast. [99]

5.67 The applicant should be particularly careful to identify any effects of physical changes on the integrity and special features of Marine Conservation Zones, candidate marine Special Areas of Conservation (SACs), coastal SACs and candidate coastal SACs, coastal Special Protection Areas (SPAs) and potential coastal SPAs, Ramsar sites, Sites of Community Importance (SCIs) and potential SCIs and sites of Special Scientific Interest. For any projects affecting the above marine protected areas, the applicant should consult Natural England at an early stage.

Decision making

5.68 When assessing applications in a CCMA, the Secretary of State should not grant development consent unless it is demonstrated that the development:

- will be safe over its planned lifetime and will not have an unacceptable impact on coastal change;

[98] CCMAs are areas identified in Local Plans as likely to be affected by coastal change (physical change to the shoreline through erosion, coastal landslip, permanent inundation or coastal accretion).
[99] The relevant information will include Shoreline Management Plans.

- will not compromise the character of the coast covered by designations;
- provides wider sustainability benefits; and
- does not hinder the creation and maintenance of a continuous signed and managed route around the coast.

5.69 Essential infrastructure may be granted development consent in a CCMA, provided there are clear plans to manage the impacts of coastal change on it, and it will not have an adverse impact on rates of coastal change elsewhere.

5.70 The Marine and Coastal Access Act 2009 provides for the preparation of a Marine Policy Statement (MPS) and a number of marine plans. The Secretary of State must have regard to the MPS and applicable marine plans in taking any decision which relates to the exercise of any function capable of affecting any part of the UK marine area.[100] In the event of a conflict between any of these marine planning documents and this NPS, the NPS prevails for the purposes of decision making given the national significance of the infrastructure.

5.71 Substantial weight should be attached to the risks of flooding and coastal erosion. The applicant must demonstrate that full account has been taken of the policy on assessment and mitigation in paragraphs 5.85-5.107 of this NPS, taking account of the potential effects of climate change on these risks.

Mitigation

5.72 Applicants should propose appropriate mitigation measures to address adverse physical changes to the coast in consultation with the MMO, the Environment Agency, Local Planning Authorities, other statutory consultees, Coastal Partnerships and other coastal groups, as it considers appropriate. The Secretary of State should consider whether the mitigation requirements put forward by an applicant are acceptable and whether requirements should be attached to any grant of development consent in order to secure their delivery.

5.73 The Secretary of State should also ensure development granted consent in a CCMA is not impacted by coastal change – if necessary by limiting the planned life-time of the proposed development and including restoration requirements where these are necessary to reduce the risk to people and the development.

[100] s.104(2)(aa) of the Planning Act 2008

Dust, odour, artificial light, smoke, steam

Introduction

5.74 During the construction and operation of national networks infrastructure there is potential for the release of a range of emissions such as odour, dust, steam, smoke and artificial light. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990. Note that pollution impacts from some of these emissions (e.g. dust, smoke) are covered in the section on air emissions and that these and others (e.g. odour) may also be covered by pollution control or other environmental consenting regimes so that paragraphs 4.43 to 4.51 and 5.2 to 5.12 will apply.

5.75 Because of the potential effects of these emissions and in view of the availability of the defence of statutory authority against nuisance claims described in paragraphs 4.52 to 4.54, it is important that the potential for these impacts is considered by the applicant in their application and by the Secretary of State in taking decisions on development consents.

5.76 For nationally significant infrastructure projects of the type covered by this NPS, some impact on amenity for local communities is likely to be unavoidable. Impacts should be kept to a minimum and should be at a level that is acceptable.

Applicant's assessment

5.77 The applicant should assess the potential for and emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity, as part of the Environmental Statement (see paragraphs 4.11 to 4.17).

5.78 In particular, the assessment provided by the applicant should describe:

- the type and quantity of emissions;
- aspects of the development which may give rise to emissions during construction, operation and decommissioning;
- premises or locations that may be affected by the emissions;
- effects of the emission on identified premises or locations; and
- measures to be employed in preventing or mitigating the emissions.

5.79 The applicant is advised to consult the relevant local planning authority and, where appropriate, the Environment Agency (EA) about the scope and methodology of the assessment.

Decision making

5.80 The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to minimise any detrimental impact on amenity from emissions of odour, dust, steam, smoke and artificial light. This includes the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

5.81 If development consent is granted for a project, the Secretary of State should consider whether there is a justification for all of the authorised project (including any associated development) being covered by a defence of statutory authority against nuisance claims. If the Secretary of State cannot conclude that this is justified, then the defence should be disapplied, in whole or in part, through a provision in the development consent order.

Mitigation

5.82 The Secretary of State should ensure the applicant has provided sufficient information to show that any necessary mitigation will be put into place. In particular, the Secretary of State should consider whether to require the applicant to abide by a scheme of management and mitigation concerning emissions of odour, dust, steam, smoke, artificial light from the development to reduce any loss to amenity which might arise during the construction and operation of the development. A construction management plan may help codify mitigation.

Flood risk

Introduction

5.83 Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK, while sea levels will continue to rise. Within the lifetime of nationally significant infrastructure projects, these factors will lead to increased flood risks in areas susceptible to flooding, and to an increased risk of flooding in some areas which are not currently thought of as being at risk. The applicant, the Examining Authority and the Secretary of State (in taking decisions) should take account of the policy on climate change adaptation in paragraphs 4.31 to 4.42.

5.84 The *National Planning Policy Framework* (paragraphs 100 to 104) makes clear that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. But where development is necessary, it should be made safe without increasing flood risk elsewhere. The guidance supporting the *National Planning Policy Framework* explains that essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk, is permissible in areas of high flood risk, subject to the requirements of the Exception Test.

Applicant's assessment

5.85 Applications for projects in the following locations should be accompanied by a flood risk assessment (FRA):

- Flood Zones 2 and 3, medium and high probability of river and sea flooding;
- Flood Zone 1 (low probability of river and sea flooding) for projects of 1 hectare or greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that there are critical drainage problems.

5.86 This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.

5.87 In preparing a FRA the applicant should:

- consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom) in addition to the risk of flooding to the project and demonstrate how these risks will be managed and, where relevant, mitigated so that the development remains safe throughout its lifetime;
- take the impacts of climate change into account clearly stating the development lifetime over which the assessment has been made;
- consider the vulnerability of those using the infrastructure including arrangements for safe access and exit;
- include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project;
- consider if there is a need to remain operational during a worst case flood event over the development's lifetime;
- provide the evidence for the Secretary of State to apply the Sequential Test and Exception Test, as appropriate.

5.88 Further guidance can be found in the web-based planning practice guidance supporting the *National Planning Policy Framework* issued by the Government.[101]

5.89 Applicants for projects which may be affected by, or may add to, flood risk are advised to seek sufficiently early pre-application discussions with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal

[101] http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/what-is-a-site-specific-flood-risk-assessment/. http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/what-is-a-site-specific-flood-risk-assessment/what-level-of-detail-is-needed-in-a-flood-risk-assessment/. Further guidance is also available from the Environment Agency at http://www.environment-agency.gov.uk/research/planning/82584.aspx

Drainage Boards, sewerage undertakers, highways authorities and reservoir owners and operators. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the FRA, and identify the information that will be required by the Secretary of State to reach a decision on the application once it has been submitted and examined. If the Environment Agency has concerns about the proposal on flood risk grounds, the applicant is encouraged to discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, preferably before the application for development consent is submitted.

Decision making

5.90 Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:

- the application is supported by an appropriate FRA;
- the Sequential Test (see paragraph 101 of the *National Planning Policy Framework*) has been applied as part of site selection and, if required, the Exception Test (see paragraph 102 of the *National Planning Policy Framework*).

5.91 When determining an application the Secretary of State should be satisfied that flood risk will not be increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a flood risk assessment, following the Sequential Test and, if required, the Exception Test, it can be demonstrated that:

- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and
- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.

5.92 For construction work which has drainage implications,[102] approval for the project's drainage system will form part of any development consent issued by the Secretary of State. The Secretary of State will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010.[103] In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any Sustainable Drainage Systems (SuDS), including any necessary access rights to property. The Secretary of State, should be satisfied that the most appropriate body is being given the responsibility for maintaining

[102] As defined in paragraph 7(2) of Schedule 3 to the Flood and Water Management Act 2010.
[103] The National Standards set out requirements for the design, construction, operation and maintenance of SuDS and may include guidance to which the Secretary of State should have regard.

any SuDS, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority, or another body such as the Internal Drainage Board.

5.93 If the Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the Environment Agency to try and resolve the concerns.

5.94 The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of flooding to the proposed infrastructure and others. However, the nature of linear infrastructure means that there will be cases where:

- upgrades are made to existing infrastructure in an area at risk of flooding;
- infrastructure in a flood risk area is being replaced;
- infrastructure is being provided to serve a flood risk area; and
- infrastructure is being provided connecting two points that are not in flood risk areas, but where the most viable route between the two passes through such an area.

5.95 The design of linear infrastructure and the use of embankments in particular, may mean that linear infrastructure can reduce the risk of flooding for the surrounding area. In such cases the Secretary of State should take account of any positive benefit to placing linear infrastructure in a flood-risk area.

5.96 Where linear infrastructure has been proposed in a flood risk area, the Secretary of State should expect reasonable mitigation measures to have been made, to ensure that the infrastructure remains functional in the event of predicted flooding.

The Sequential Test

5.97 Preference should be given to locating projects in Flood Zone 1. If there is no reasonably available site[104] in Flood Zone 1, then projects can be located in Flood Zone 2. If there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. If the development is not essential transport infrastructure that has to cross the area at risk, it is not appropriate in Flood Zone 3b, the functional floodplain where water has to flow and be stored in times of flood.

[104]Guidance on interpreting the term “reasonably available site” in this test can be found in the Practice Guide which accompanies PPS 25 or its successor document. The applicant should justify with evidence to the Examining Authority what area of search has been used in examining whether there are reasonably available sites. This will allow the Examining Authority to consider whether the sequential test has been made as part of site selection.

The Exception Test

5.98 If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood Zone 3a the Exception Test can be applied. The test provides a method of managing flood risk while still allowing necessary development to occur.

5.99 The Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site, taking into account the need for national networks infrastructure to remain operational during floods.

5.100 Both elements of the test will have to be passed for development to be consented. For the Exception Test to be passed:

- it must be demonstrated that the project provides wider sustainability benefits to the community[105] that outweigh flood risk; and
- a FRA must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall.

5.101 In addition, any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows.

Mitigation

5.102 To satisfactorily manage flood risk and the impact of the natural water cycle on people and property, good design and infrastructure may need to be secured using requirements such as conditions and obligations.

5.103 In this document the term Sustainable Drainage Systems (SuDS) is frequently used and taken to cover the whole range of sustainable approaches to surface water drainage management including:

- source control measures including rainwater recycling and drainage;
- infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities;
- filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns;
- filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed;

[105] These would include the benefits (including need) for the infrastructure set out in Chapter 2.

- basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding; and
- flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding.

5.104 Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.

5.105 The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, unless specific off-site arrangements are made and result in the same net effect.

5.106 It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation.

5.107 The sequential approach should be applied to the layout and design of the project. Vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken to lower flood risk by improving flow routes, flood storage capacity and using SuDS.

The historic environment

Introduction

5.108 The construction and operation of national networks infrastructure has the potential to result in adverse impacts on the historic environment.

5.109 The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

5.110 Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called ‘heritage assets’. Heritage assets may be buildings, monuments, sites, places, areas or landscapes. The sum of the heritage interests that a heritage asset holds is referred to as its

significance. Significance derives not only from a heritage asset's physical presence, but also from its setting.[106]

5.111 Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: World Heritage Sites; Scheduled Monuments; Listed Buildings; Protected Wreck Sites; Protected Military Remains; Registered Parks and Gardens; and Registered Battlefields; Conservation Areas.[107]

5.112 Non-designated heritage assets of archaeological interest[108] that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.

5.113 The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision making process) on the basis of clear evidence that the assets have a significance that merit consideration in that process, even though those assets are of lesser value than designated heritage assets.

Applicant's assessment

5.114 The applicant should undertake an assessment of the impacts of the proposed project as part of the Environmental Statement (ES).

5.115 The ES should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record[109] should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage

[106] Setting of a heritage asset is the surroundings in which it is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

[107] The issuing of licenses to undertake works on Protected Wreck Sites in English waters is the responsibility of the Secretary of State for Culture, Media and Sport and does not form part of development consent orders. The issuing of licences for Protected Military Remains is the responsibility of the Secretary of State for Defence.

[108] There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

[109] Historic Environment Records (HERs) are information services maintained by local authorities and National Park Authorities with a view to providing access to comprehensive and dynamic resources relating to the historic environment of an area for public benefit and use. Details of HERs in England are available from the Heritage Gateway website at http://www.heritagegateway.org.uk/Gateway/CHR/. English Heritage hold additional information about heritage assets in English or http://www.english-heritage.org.uk/. English Heritage should also be consulted, where relevant.

assets with archaeological interest, the ES should include an appropriate desk-based assessment and, where necessary, a field evaluation.

Decision making

5.116 In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:

- relevant information provided with the application and, where applicable, relevant information submitted during examination of the application;
- any designation records;
- the relevant Historic Environment Record(s), and similar sources of information;[110]
- representations made by interested parties during the examination; and
- where appropriate, and when the need to understand the significance of the heritage asset demands it, expert advice.

5.117 In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.

5.118 The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).

5.119 When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, harm or loss affecting any

[110] Guidance on the available sources of information can be found in PPS5 *Planning for the Historic Environment: Historic Environment Planning Practice Guide* (or any successor document).

designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.

5.120 Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss.

5.121 Where the proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site; and
- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and
- the harm or loss is outweighed by the benefit of bringing the site back into use.

5.122 Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

5.123 Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to their significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.

5.124 Where the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development and the significance of the asset in question, the Secretary of State should consider imposing a requirement that the applicant will prevent the loss occurring until the relevant development or part of development has commenced.

5.125 Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

5.126 Where there is evidence of deliberate neglect of or damage to a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.

Recording

5.127 A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.

5.128 Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the importance and the impact. Applicants should be required to deposit copies of the reports with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.

5.129 The Secretary of State may add requirements to the development consent order to ensure that this is undertaken in a timely manner in accordance with a written scheme of investigation that meets the requirements of this section and has been agreed in writing with the relevant Local Authority (or, where the development is in English waters, the Marine Management Organisation (MMO) and English Heritage) and that the completion of the exercise is properly secured.[111]

5.130 Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State should consider requirements to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

Landscape and visual impacts

Introduction

5.131 The landscape and visual effects of proposed projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development. In this context, references to landscape should be taken as covering seascape and townscape, where appropriate.

[111] Guidance on the contents of a written scheme of investigation is set out in the PPS5 Practice Guide (or any successor to it).

Applicant's assessment

5.132 The applicant should carry out a landscape and visual assessment and report it in the ES. A number of guides have been produced to assist in addressing landscape issues.[112] The landscape and visual assessment should include reference to any landscape character assessment and associated studies, as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England.

5.133 The applicant's assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).

5.134 The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, rural tranquillity and nature conservation.

Decision making

Landscape impact

5.135 Landscape effects depend on the nature of the existing landscape likely to be affected and nature of the effect likely to occur. Both of these factors need to be considered in judging the impact of a project on landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.

Development proposed within nationally designated areas

5.136 Great weight should be given to conserving landscape and scenic beauty in nationally designated areas. National Parks, the Broads and Areas of Outstanding Natural Beauty have the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the Secretary of State has a statutory duty to have regard to in decisions.[113]

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[112] *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, April 2013. Natural England publishes profiles for National Character Areas – see http://www.naturalengland.org.uk/publications/nca/default.aspx

[113] For an explanation of the statutory purposes and of the duties which will apply, see *Duties on relevant authorities to have regard to the purposes of National Parks, AONBs and the Norfolk and Suffolk Broads* at http://archive.defra.gov.uk/rural/documents/protected/npaonb-duties-guide.pdf

5.137 Nevertheless, the Secretary of State may grant development consent in these areas in exceptional circumstances. The development should be demonstrated to be in the public interest and consideration of such applications should include an assessment of:

- the need for the development, including in terms of any national considerations,[114] and the impact of consenting, or not consenting it, upon the local economy;
- the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

5.138 Where consent is given in these areas, the Secretary of State should be satisfied that the applicant has ensured that the project will be carried out to high environmental standards and, where necessary, should consider the imposition of appropriate requirements to ensure these standards are delivered.

Developments outside nationally designated areas which might affect them

5.139 The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. This should include projects in England which may have impacts on designated areas in Wales or on National Scenic Areas in Scotland .

5.140 The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.

Developments in other areas

5.141 Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.

5.142 In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant

[114] National considerations should be understood to include the national need for the infrastructure as set out in Chapter 2 and the contribution of the infrastructure to the national economy.

constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.

Visual impact

5.143 The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast, especially those defined as Heritage Coast.[115]

5.144 It may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on sensitive receptors. Although each application will need to be looked at on its merits, this may assist the Secretary of State in judging the weight that should be given to the assessed visual impacts of the proposed development.

Mitigation

5.145 Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design of a proposed development may result in a significant operational constraint and reduction in function. There may, however, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in scale or function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape effects outweigh the marginal loss of scale or function.

5.146 Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design including choice of materials, and landscaping schemes, depending on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration.

5.147 Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site, although if such landscaping was proposed to be consented by the development consent order it would have to be included within the order limits for that application. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista.

[115] See paragraph 114 of the *National Planning Policy Framework.*

Land use including open space, green infrastructure and Green Belt

Introduction

5.148 Access to high quality open spaces and the countryside[116] and opportunities for sport and recreation can be a means of providing necessary mitigation and/or compensation requirements. Green infrastructure can also enable developments to provide positive environmental and economic benefits.

5.149 The re-use of previously developed land for new development can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used. However, this may not be possible for some forms of infrastructure, particularly linear infrastructure such as roads and railway lines.

5.150 Green Belts, defined in a development plan[117] are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belts is their openness. For further information on the purposes of Green Belt policy see the *National Planning Policy Framework*.[118]

Applicant's assessment

5.151 The ES should identify existing and proposed[119] land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan.

5.152 Applicants considering proposals which would involve building on open space, sports or recreational buildings and land should have regard to any local authority's assessment of need for such types of land and buildings.

5.153 During any pre-application discussions with the applicant, the local planning authority (LPA) should identify any concerns it has about the impacts of the application on land-use, having regard to the development plan and relevant applications, and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements. These are also matters that local authorities may wish to

[116] All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.
[117] Or else so designated under the Green Belt (London and Home Counties) Act 1938.
[118] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf.
[119] For example, where a planning application has been submitted.

include in their Local Impact Report which can be submitted after an application for development consent has been accepted.

5.154 Applicants should take into account the economic and other benefits of the best and most versatile agricultural land (defined in grades 1, 2 and 3a of the Agricultural Land Classification). Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land (grades 3b, 4 and 5) in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil quality taking into account any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites. However, brownfield sites may have significant biodiversity or geodiversity interest and if this is the case these should be retained or incorporated into the development, in line with paragraphs 5.13 to 5.31 on biodiversity and geological conservation. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how this is proposed to be addressed.[120]

5.155 Applicants should safeguard any mineral resources on the proposed site as far as possible.

5.156 The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and if it is, whether their proposal may be inappropriate development within the meaning of Green Belt policy (as set out in the *National Planning Policy Framework*[121] or any successor document).

5.157 Linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and as far as possible of the need to contribute to the achievement of the objectives for the use of land in Green Belts.

Decision making

5.158 Where the project conflicts with a proposal in a development plan, the Secretary of State should take account of the stage which the development plan document has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented or precluded. The closer the development

[120] For further guidance see *Model Procedures for Management of Land Contamination* (CLR11) which sets out procedures for risk assessment, deciding on remedial options and implementing remediation. See http://publications.environment-agency.gov.uk/pdf/SCHO0804BIBR-e-e.pdf

[121] See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

plan document is to being adopted by the LPA, the greater the weight which can be attached to the impact of the proposal on the plan.

5.159 The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has clearly shown the open space or the buildings and land to be surplus to requirements or the loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity or quality in a suitable location.

5.160 Where networks of green infrastructure have been identified in development plans, they should normally be protected from development, and, where possible, strengthened by or integrated within it. The value of linear infrastructure and its footprint in supporting biodiversity and ecosystems should also be taken into account when assessing the impact on green infrastructure.

5.161 The decision-maker should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land in preference to that of a higher quality except where such land is of high biodiversity value.

5.162 In considering the impact on maintaining coastal recreation sites and features, the Secretary of State should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the Secretary of State should consider the implications for development of the creation of a continuous signed and managed route around the coast, as proposed in the Marine and Coastal Access Act 2009.

5.163 In all cases, the Secretary of State must also take account of the limitations under which road and railway developments operate. Technical requirements (e.g. the need for a relatively straight and level alignment) may result in impacts on land use that are greater than for other types of nationally significant infrastructure.

5.164 When located in the Green Belt national networks infrastructure projects may comprise inappropriate development. Inappropriate development[122] is by definition harmful to the Green Belt and there is a presumption against it except in very special circumstances. The Secretary of State will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations. In view of the presumption against inappropriate development, the Secretary of State

[122] See *National Planning Policy Framework* paragraphs 79-92

will attach substantial weight to the harm to the Green Belt, when considering any application for such development.

Mitigation

5.165 Applicants can minimise the direct effects of a project on the existing use of the proposed site, or proposed uses near the site by the application of good design principles, including the layout of the project and the protection of soils during construction.[123]

5.166 Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to new coastal access routes, National Trails and other rights of way.

5.167 The Secretary of State should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any planning obligations for example, to provide exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness, quality and accessibility. Alternatively, where Sections 131 and 132 of the Planning Act apply, any replacement land provided under those sections will need to conform to the requirements of those sections.

5.168 Where a proposed development has an impact on a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.

5.169 Where a project has a sterilising effect on land use there may be scope for this to be mitigated through, for example, using the land for nature conservation or wildlife corridors or for parking and storage in employment areas.

5.170 Rights of way, National Trails, and other rights of access to land (e.g. open access land) are important recreational facilities for walkers, cyclists and horse riders. Applicants are expected to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, rights of way and open access land. The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements in respect of these measures might be attached to any grant of development consent.

[123] For more info see Defra, *Code of Practice for the Sustainable Use of Soils on Construction Sites*.

Noise and vibration

Introduction

5.171 Excessive noise can have wide-ranging impacts on the quality of human life and health (e.g. owing to annoyance or sleep disturbance), use and enjoyment of areas of value such as quiet places and areas with high landscape quality. The Government's policy is set out in the Noise Policy Statement for England.[124] It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references to "noise" below apply equally to assessment of impacts of vibration.

5.172 Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed in accordance with the Biodiversity and Geological Conservation section of this NPS.

5.173 Factors that will determine the likely noise impact include:

- the inherent operational noise from the proposed development and its characteristics;
- the proximity of the proposed development to noise sensitive premises (including residential properties, schools and hospitals) and noise sensitive areas (including certain parks and open spaces);
- the proximity of the proposed development to quiet places and other areas that are particularly valued for their tranquility, acoustic environment or landscape quality such as National Parks or Areas of Outstanding Natural Beauty; and
- the proximity of the proposed development to designated sites where noise may have an adverse impact on the special features of interest, protected species or other wildlife.

Applicant's assessment

5.174 Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment, which should form part of the ES:

- A description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise.

[124] http://archive.defra.gov.uk/environment/quality/noise/policy/documents/noise-policy.pdf

- Identification of noise sensitive premises and noise sensitive areas that may be affected.
- The characteristics of the existing noise environment.
- A prediction on how the noise environment will change with the proposed development:
  - in the shorter term such as during the construction period;
  - in the longer term during the operating life of the infrastructure;
  - at particular times of the day, evening and night as appropriate.
- An assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.
- Measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.
- The nature and extent of the noise assessment should be proportionate to the likely noise impact.

5.175 Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. In particular, for road schemes, the guidance set out in the Design Manual for Roads and Bridges Volume 11, Section 3 should be followed.[125] The prediction of road traffic noise should be based on the method described in *Calculation of Road Traffic Noise*. The prediction of noise from new railways should be based on the method described in *Calculation of Railway Noise*. Where appropriate, the appraisal process described in the Department for Transport's Transport Appraisal Guidance Noise Sub Objective 3.3.2 should be used.[126] For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.

5.176 The applicant should consult Natural England with regard to assessment of noise on designated nature conservation sites, protected landscapes, protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.

Decision making

5.177 Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the *National Planning Policy Framework* and the *Noise Policy*

[125] Design Manual for Roads and Bridges (DMRB) http://www.dft.gov.uk/ha/standards/dmrb/
[126] WebTag 3.3.2 http://www.dft.gov.uk/webtag/documents/expert/unit3.3.2.php

Statement for England[127] and the associated *National Planning Practice Guidance* on noise.[128]

5.178 The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission.

5.179 The Secretary of State should not grant development consent unless satisfied that the proposals will meet the following aims:

- avoid significant adverse impacts on health and quality of life from noise as a result of the new development;
- mitigate and minimise other adverse impacts on health and quality of life from noise from the new development; and
- where possible, contribute to improvements to health and quality of life through the effective management and control of noise.

5.180 In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based.

Mitigation

5.181 The Examining Authority and the Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. The Secretary of State may wish to impose requirements to ensure delivery of all mitigation measures.

5.182 Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:

- engineering: containment of noise generated;
- materials: use of materials that reduce noise (for example low noise road surfacing)
- lay-out: adequate distance between source and noise-sensitive receptors; incorporating good design to minimise noise transmission through screening by natural or purpose built barriers;
- administrative: specifying acceptable noise limits or times of use (e.g. in the case of railway station PA systems).

5.183 For most road and rail network schemes, the relevant Noise Insulation Regulations will apply. These place a duty on and provide powers to the relevant authority to offer noise mitigation through improved sound

[127] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf
[128] http://planningguidance.planningportal.gov.uk

insulation to dwellings with associated ventilation to deal with both construction and operational noise. An indication of the likely eligibility for such compensation should be included in the ES. In extreme cases, the applicant may consider it appropriate to provide noise mitigation through the compulsory acquisition of affected properties in order to gain consent for what might otherwise be unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the DCO order land in relation to which compulsory acquisition powers are being sought.

Impacts on transport networks

Introduction

5.184 This section deals solely with the transport impacts of strategic rail freight interchanges (SRFIs) and of construction sites on the networks whilst a scheme is being developed. In these cases, the most significant impact of any nationally significant infrastructure project on the national networks will be on the surrounding transport infrastructure, for instance: an increase in HGV traffic on the road network around a SRFI, congestion and delay on the surrounding network caused by a road construction site, or impacts on rail service reliability resulting from construction or improvement on the rail network and possible congestion on surrounding roads. These impacts would be likely to lead to an increase in congestion and crowding, with a resulting impact on safety (particularly on the road network).

Applicant's assessment

5.185 If a project is likely to have significant transport implications, the applicant's ES (see paragraphs 4.11 to 4.16) should include a transport assessment, using the IAF/WebTAG methodology stipulated in Department for Transport guidance,[129] or any successor to such methodology. Applicants should consult the Highways Agency and/or the relevant highway authority, as appropriate, on the assessment and mitigation. The assessment should distinguish between the construction and operation project stages as appropriate.

5.186 Applicants should have regard to DfT Circular 02/2013 *The strategic road network and the delivery of sustainable development* which sets out the way in which Highways Agency will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network.

5.187 The IAF/WebTAG methodology enables a simplified analysis of the congestion and environmental disbenefits of increased road traffic.

[129] Guidance on transport assessments is at http://dft.gov.uk/prg/regional/transportassessments/guidanceonta

5.188 It is recognised that the data to inform a Transport Assessment may be incomplete, particularly as regards origins and destinations of goods beyond the national or regional distribution centre. The consequent element of uncertainty in the outputs should be taken into account. The assessment should illustrate accessibility to the site by all modes and the likely modal split of journeys to and from the site. Where appropriate, the applicant should prepare a travel plan including management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport and sustainable modes where relevant, to reduce the need for parking associated with the proposal and to mitigate transport impacts.

5.189 If additional transport infrastructure is proposed, applicants should discuss with network providers the possibility of co-funding by Government for any third-party benefits. Guidance has been issued in England which explains the circumstances where this may be possible.[130] Government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time, and cannot provide financial support to a scheme that solely mitigates the impacts of a specific development. Any decisions on co-funded transport infrastructure will need to be taken in the context of the Government's wider policy of transport improvements.

Decision making

5.190 Substantial weight should be placed on transport impacts. The Secretary of State should expect applicants to accept requirements and/or obligations for funding infrastructure and otherwise mitigating adverse impacts on transport networks, as set out below.

5.191 Provided that the applicant is willing to commit to planning or transport obligations, to mitigate transport impacts identified in the IAF/WebTAG transport assessment (with attribution of costs calculated in accordance with the Department's guidance) then development consent should not be withheld. Appropriate weight should be applied to residual effects on the surrounding transport infrastructure.

Mitigation

5.192 Where mitigation is needed, possible demand management measures must be considered by the applicant. Travel planning should be undertaken for all major development.

5.193 Where development would worsen accessibility, particularly including by pedestrians and cyclists, such impacts should be mitigated so far as reasonably possible.

[130] http://www.dft.gov.uk/pgr/regional/fundingtransportinfrastructure/

Water quality and resources

Introduction

5.194 Infrastructure development can have adverse effects on the water environment, including groundwater, inland surface water, transitional waters[131] and coastal waters. During the construction and operation, it can lead to increased demand for water, involve discharges to water and cause adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants to the water environment. These effects could lead to adverse impacts on health or on protected species and habitats (see Section paragraphs 5.13 to 5.31 on biodiversity and geological conservation) and could, in particular, result in surface waters, groundwaters or protected areas[132] failing to meet environmental objectives established under the Water Framework Directive.

5.195 The Government's planning policies make clear that the planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, water pollution. The Government has issued guidance on water supply, wastewater and water quality considerations in the planning system.[133] Where applicable an application for a development consent order has to contain a plan with accompanying information identifying water bodies in a river basin management plan.[134]

Applicant's assessment

5.196 Applicants should make early contact with the relevant regulators including the Environment Agency for abstraction licensing and with water supply companies likely to supply the water. Where the project is likely to have adverse effects on the water environment, the applicant should ascertain the existing status of, and carry out an assessment of the impacts of the proposed project on water quality, water resources and physical characteristics as part of the Environmental Impact Assessment (EIA) and set this out in Environmental Statement (ES) (if EIA development) or equivalent.

5.197 For those projects that are improvements to the existing infrastructure, such as widening, opportunities should be taken, where feasible,

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[131] As defined in the Water Framework Directive (2000/60/EC), transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.
[132] Protected areas are areas which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water.
[133] http://planningguidance.planningportal.gov.uk/blog/guidance/water-supply-wastewater-and-water-quality/why-should-planning-be-concerned-with-water-supply-wastewater-and-water-quality/
[134] The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, s5(2)(l)(iii))

to improve upon the quality of existing discharges where these are identified and shown to contribute towards Water Framework Directive commitments.

5.198 The ES should describe:

- the existing quality of waters affected by the proposed project,
- existing water resources affected by the proposed project and the impacts of the proposed project on water resources,
- existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project and any impact of physical modifications to these characteristics;
- any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions; and
- any cumulative effects.

Decision making

5.199 Activities that discharge to the water environment are subject to pollution control. The considerations set out in paragraphs 4.41 to 4.49 on the interface between planning and pollution control therefore apply. These considerations will also apply in an analogous way to the abstraction licensing regime regulating activities that take water from the water environment, and to the control regimes relating to works to, and structures in, on, or under a controlled water.

5.200 The Secretary of State will generally need to give impacts on the water environment more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive.

5.201 The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. In terms of Water Framework Directive compliance, the overall aim of projects should be no deterioration of ecological status in watercourses, and to ensure that Article 4.7 of the Water Framework Directive Regulations does not need to be applied. The Secretary of State should also consider the interactions of the proposed project with other plans such as Water Resources Management Plans, Shoreline/Estuary Management Plans and Marine Plans.

5.202 The Examining Authority and the Secretary of State should consider proposals to mitigate adverse effects on the water environment put forward by the applicant and whether appropriate requirements should be attached to any development consent and/or planning obligations entered into. If the Environment Agency continues to have concerns and

objects to the grant of development consent on the grounds of impacts on water quality/resources, the Secretary of State can grant consent, but will need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the Environment Agency to try to resolve the concerns and that the Environment Agency is satisfied with the outcome.

Mitigation

5.203 The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling.

5.204 The Secretary of State should consider whether the mitigation measures put forward by the applicant which are needed for operation and construction (and which are over and above any which may form part of the project application) are acceptable. A construction management plan may help codify mitigation.

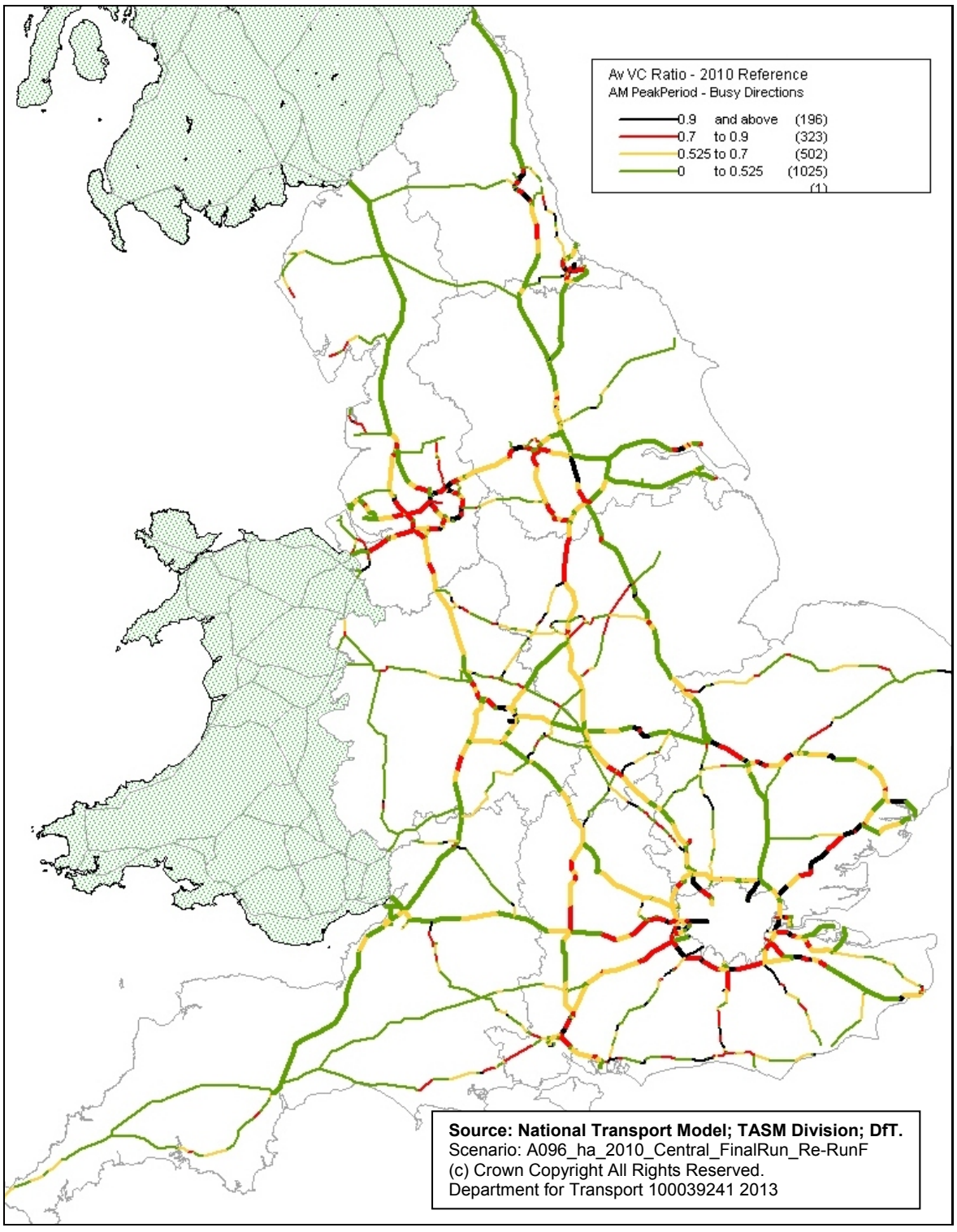
5.205 The project should adhere to any National Standards for sustainable drainage systems (SuDs). The National SuDs Standards will introduce a hierarchical approach to drainage design that promotes the most sustainable approach but recognises feasibility, and use of conventional drainage systems as part of a sustainable solution for any given site given its constraints.[135]

5.206 The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated areas for storage and unloading, with appropriate drainage facilities, should be clearly marked.

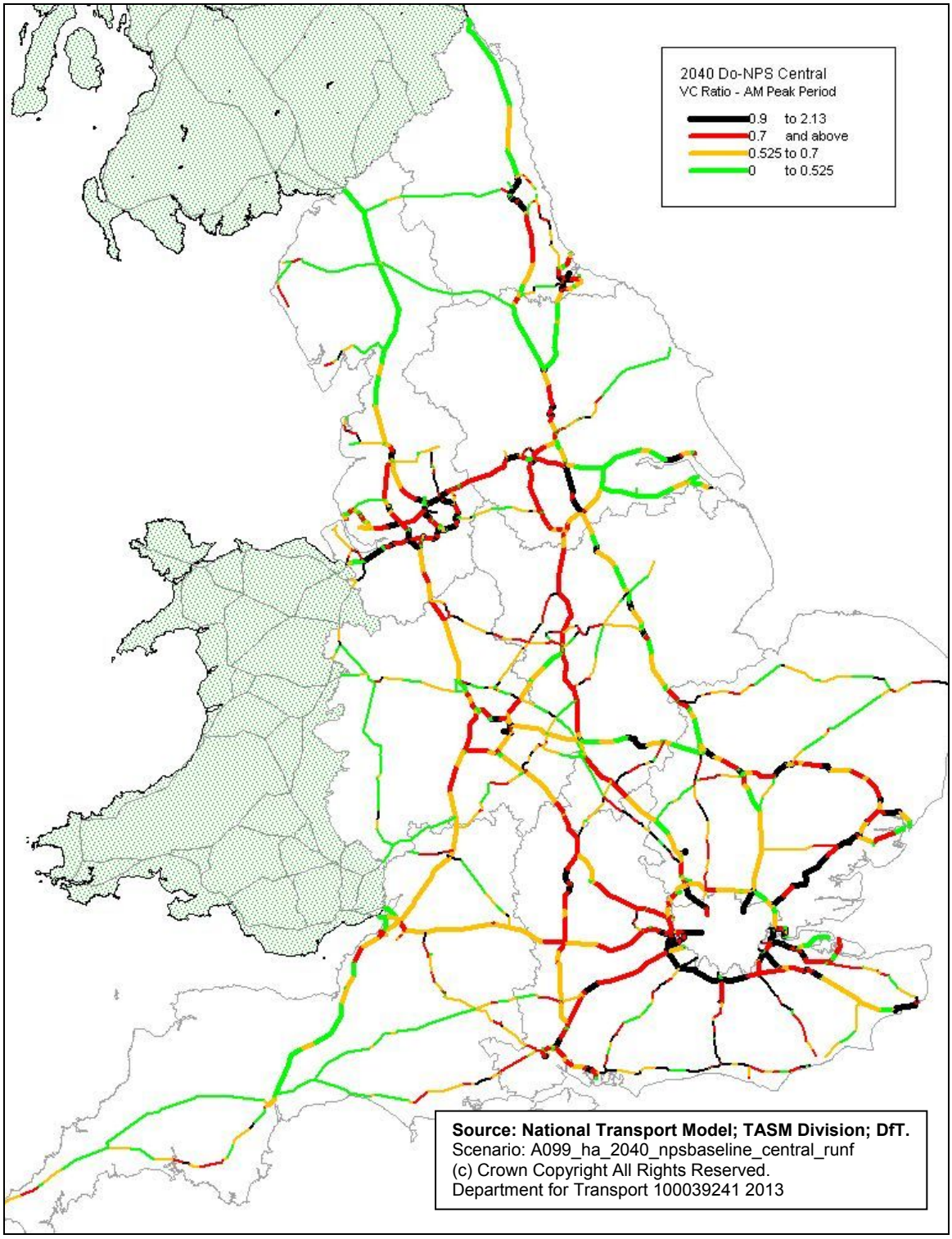
[135] See paragraphs 5.92 and 5.107.

Annex A: Congestion on the strategic road network

Congestion on the strategic road network in 2010

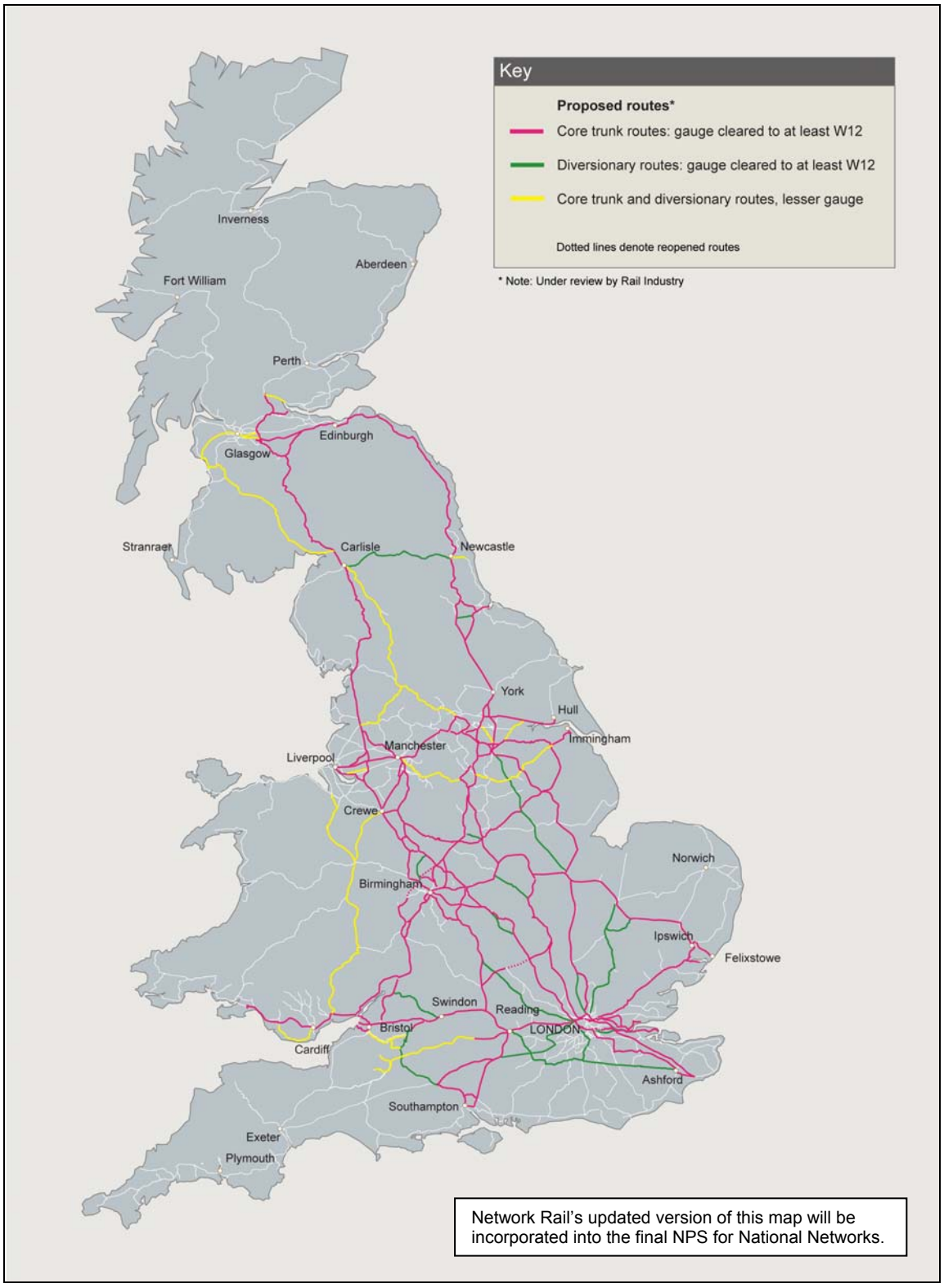


Congestion on the strategic road network in 2040

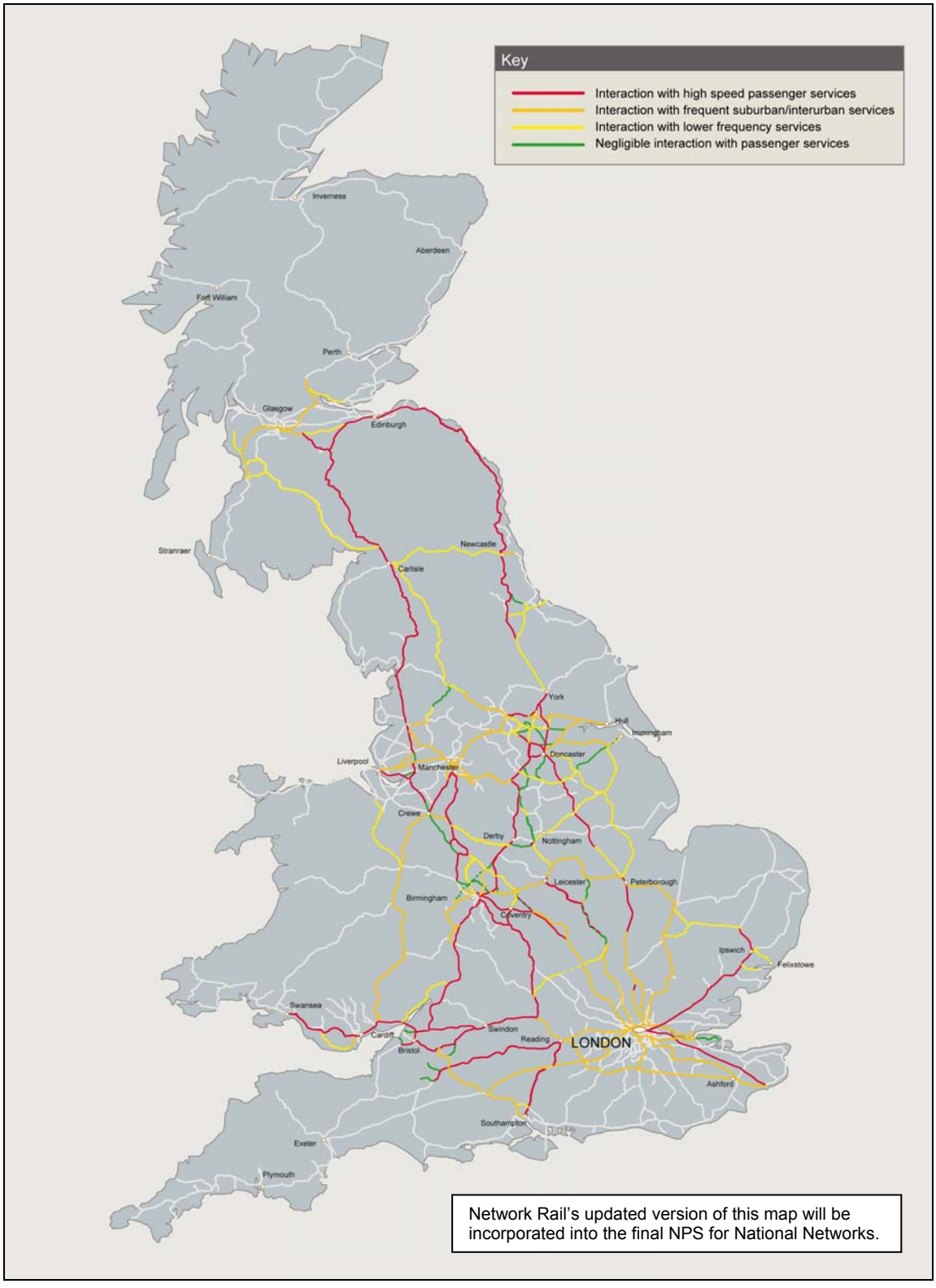


Annex B: Maps of strategic rail freight network

The proposed Strategic Freight Network



Key Strategic Freight Routes – interaction with passenger traffic



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