## EXHIBIT LIST

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1. Summary of Evidence – The Woodland Trust

1.1. Ancient Woodland is an area that has been wooded continuously since at least 1600AD. This includes “ancient semi-natural woodland” (mainly made up of trees and shrubs native to the site, usually arising from natural regeneration), and “plantations on ancient woodland sites” (replanted with conifer and broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi).

1.2. Some ancient woods may even link back to the original wild woodland that covered the UK around 10,000 years ago, after the last ice age. Since they have developed over such long timescales, ancient woods have unique features such as relatively undisturbed soils and communities of plants and animals that depend on the stable conditions ancient woodland provides, some of which are rare and vulnerable. They are our richest land-based habitat for wildlife.

1.3. Ancient woodland, as the product of centuries of habitat continuity and undisturbed soils, is an irreplaceable resource. As such, its loss cannot be compensated for by creating new woodland – an irreplaceable habitat cannot, by definition be replaced.

1.4. A nationally important project promoted by Government such as High Speed 2 should be adopting best practice in relation to its impacts on ancient woodland. To achieve best practice there should be no net loss in biodiversity terms. Any project that adversely affects ancient woodland results in a net loss of biodiversity as ancient woodland is irreplaceable and no amount of translocation or planting can mitigate or compensate for that loss.

1.5. Phase 1 of High Speed 2 is destroying 30.9 hectares of ancient woodland. The current design of Phase 2a will result in the loss of 10.2 hectares of ancient woodland. The full extent of the loss associated with Phase 2b has not yet been identified with precision but it will impact on at least a further 18 ancient woodlands.

1.6. The proposed Phase 2a scheme will, between Whitmore Heath and Madeley, result in the loss of 6.7 hectares of ancient woodland. This is the single biggest loss of ancient woodland on the entire High Speed 2 route (all three phases) and will result in Phase 2a giving rise to loss of ancient woodland at a rate which is some 23% greater per kilometre than Phase 1.

1.7. The single tunnel option between Whitmore Heath and Madeley would drastically reduce the scale of this loss, reducing the overall loss of ancient woodland on Phase 2a by over 60%, while maintaining the wider connectivity of habitats across the landscape that currently benefits wildlife, plants and people.

1.8. The loss of 6 hectares of irreplaceable ancient woodland from Whitmore Wood is a matter of national significance. In the opinion of the Trust loss of this scale is such that even the additional costs associated with extending the tunnel in this area are justified to avoid it.
1.9. The single tunnel would also provide additional benefits such as: a reduction in the number of homes demolished; a reduction in traffic disruption; reduced engineering complexity in the area of the River Lea and the West Coast Mainline; decreased loss of agricultural land and; decreased noise and vibration impacts\(^1\).

1.10. The Government has committed to improving protection of ancient woodland and has the ambition that this be the first generation to leave the environment in a better state than we found it. The adoption of the single tunnel would be in accordance with this aim; by contrast failing to avoid the loss of this large area of ancient woodland would not.

\(^1\) See chapter 6.5 Environmental appraisal of the Single Tunnel, Whitmore Heath to Madeley Tunnel Report 15 March 2018
The full evidence

INTRODUCTION

2. The Woodland Trust

2.1. My name is Luci Ryan and I am employed by the Woodland Trust as an Environmental Impact Assessor in the Campaigns team. I have an Honours Degree in Ecology and a Masters of Research in Science of the Environment.

2.2. I have worked in the environment sector for over 20 years, including as the Manager of the Consents Department at Wellington Regional Council and as an ecological consultant for Beca Carter Hollings and Ferner. At the Trust, I provide ecological and planning advice on complex planning applications affecting ancient woodland. I have been the Trust’s first point of contact for our work on High Speed Two for more than five years, including reviewing and responding to all consultations relating to the High Speed 2 project and representing the Trust at meetings with HS2 Ltd., Natural England, Defra and the Department for Transport. I am the author of “Impacts of Development of Ancient Woodland” Ryan 2012, a literature review which is referenced by Natural England in their current standing advice on ancient woodland.

2.3. The Woodland Trust is the UK’s leading woodland conservation charity, and wants to see a UK rich in native woods and trees, for people and wildlife. The Trust aims to achieve this by restoring and improving woodland biodiversity and increasing people’s understanding and enjoyment of woods and trees. The Trust owns and safeguards over 1,000 woods across the UK and has more than 500,000 members and supporters. The Trust is recognised to be a national authority on ancient woods and trees and a protector of the benefits and values that they deliver for society.

3. Context of the evidence

3.1. My evidence examines the information and proposals for the two tunnel options between Whitmore Heath and Madeley on High Speed 2 Phase 2a, with particular reference to ancient woodland. My evidence does not cover wider issues of impact of the scheme on ancient woodland outside of this area as we will cover this at a later date.

3.2. For clarity the Woodland Trust has adopted the Promoters terminology for referring to the two tunnel options;

- The proposed scheme – the two tunnel option currently proposed as part of the Bill, and;
- The single tunnel – the 6.4km long tunnel currently under discussion as an alternative to the proposed scheme

3.3. The Trust is not against the principle of a high speed rail route, but has serious concerns over the environmental impact of the proposed route, particularly upon Ancient Woodland. The proposed scheme has a significant impact on two ancient woodlands; Whitmore Wood and Barhill Wood. As I shall explain, Ancient woodland is irreplaceable and cannot be re-created elsewhere. It is therefore essential that this habitat is protected from loss and damage.
3.4. Ancient woodland is one of the country’s richest terrestrial wildlife habitats, home to 256 species of conservation concern as listed on the UK Biodiversity Action Plan. The varied climate and geology of the UK, combined with management by man, has led to a diversity of ancient woodland forms and species associated with them. The extremely long timeframes involved in the formation of these woodland habitats means that they can never be recreated, making them one of the few landscapes in the UK that are truly irreplaceable.

3.5. Newly planted woods do not provide suitable habitat for many species of conservation concern, so without ancient woodland these species will be lost. Furthermore, ancient woodland also holds a unique, immeasurable value for all those who visit or have an association with it, a feature of ancient woodland that is difficult to quantify and so is readily ignored. Natural England clearly states in their Standing Advice on ancient woodland (January 2018) “the irreplaceable nature of ancient woodland and veteran trees means that loss or damage cannot simply be rectified by mitigation and compensation measures.”

3.6. The current Phase 2a scheme would lead to the damage and loss of at least 10.2 hectares of ancient woodland2. Adoption of the single tunnel could reduce this loss by 6.4 hectares.

3.7. On Phase 1 of High Speed 2 the Select Committee took forward the proposal for a longer tunnel in the Chilterns. This has saved over 10 hectares of ancient woodland. The same approach should be adopted on Phase 2a.

4. Policy and emerging policy for ancient woodland

4.1. Ancient woodland has long been recognised by government as an irreplaceable habitat. The Government’s current forestry policy document Keepers of Time (2007) states, “England’s ancient woodlands and trees represent a living cultural heritage, a natural equivalent to our great churches and castles. They are also our richest wildlife habitat and are highly valued by people as places of tranquillity and inspiration”. The first policy statement in Keepers of Time reinforces this concept by stating that “the existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland”.

4.2. In recent years Government’s commitment to recognising the importance of and improving protection of ancient woodland has increased. The Conservative Party 2017 manifesto made clear their intention towards forests and ancient woodland when they stated “We will continue to ensure that public forests and woodland are kept in trust for the nation, and provide stronger protections for our ancient woodland”. The Secretary of State for the Environment has supported this intention further when he spoke at the National Farmers Union Conference and said “We all have, all of us as citizens, a moral obligation to hand over our environment in a better state than we found it”.

4.3. More recently the intention to improve protection of ancient woodland has been reiterated in the 25 year plan for the environment “A Green Future” which states “Beyond the economic

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2 Based on latest figures provided by HS2 Ltd. in the Ancient Woodland Strategy for Phase 2a
3 NFU Farming Conference 20 February 2018
benefits, the Government recognises the significant heritage value and irreplaceable character of ancient woodland and veteran trees. We are committed to ensuring stronger protection of our ancient woodlands, making sure they are sustainably managed to provide a wide range of social, environmental, societal and economic benefits”. After the launch to the 25 year plan the prime minister stated that “Our goal is a healthy and beautiful natural environment which we can all enjoy, and which we can be proud to pass on to the next generation. This plan is how we will achieve it.”

4.4. Subsequently a draft revision of the wording of the National Planning Policy Framework was published in March 2018 to reflect this clearer stance and the wording currently under consultation is “development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland) should be refused, unless there are wholly exceptional reasons and a suitable mitigation strategy exists.”

5. National Policy Summary

5.1. National Planning Policy Framework

5.1.1. The National Planning Policy Framework recognises the value of ecological networks, specifically mentioning ancient woodland in paragraph 118: “planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland, and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss”.

5.1.2. The National Planning Policy Guidance confirms that Ancient Semi-Natural Woodland and Plantation on Ancient Woodland Sites have equal protection in the National Planning Policy Framework. This is reiterated in the glossary of the draft revised National Planning Policy Framework.

5.2. The Natural Environment White Paper

5.2.1. The evidence on which the Government has based its key policies in the White Paper is found in the Lawton Review. The review’s findings recognised the importance of habitat networks, and reducing fragmentation of habitats. The review also stated that the Government must “provide greater protection to other priority habitats and features that form part of ecological networks, particularly Local Wildlife Sites, ancient woodland and other priority BAP habitats”. The White Paper carried this forward into a Government commitment to “providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites (in recognition of their particular value).”

5.2.2. The White Paper also says “We will move progressively from net biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks.”

5.2.3. The Government’s 25 year plan for the environment illustrates the continuing importance placed on ancient woodland by successive governments and it clearly builds further on the White Paper by stating “we will develop a Nature Recovery Network providing 500,000 hectares of additional wildlife habitat, more effectively
linking existing protected sites and landscapes, as well as urban green and blue infrastructure. Such a network will deliver on the recommendations from Professor Sir John Lawton: recovering wildlife will require more habitat; in better condition; in bigger patches that are more closely connected”. Further fragmentation of ancient woodland is incompatible with this approach.

5.3. The Natural Environment and Rural Communities Act
5.3.1. Section 40 of the Natural Environment and Rural Communities Act (NERC Act, 2006) places a duty on public bodies to consider biodiversity in the full range of their activities.
5.3.2. It is a legal requirement that: “Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”

5.4. Ancient woodland and veteran trees: protecting them from development, Planning and Development Guidance from Natural England and the Forestry Commission (January 2018)
5.4.1. This sets out among other things that planning authorities and developers should start by looking for ways to avoid development affecting ancient woodland or veteran trees by means such as redesigning the scheme.
5.4.2. On the issue of compensation it states: “Compensation measures are always a last resort because ancient woodland and veteran trees and their habitat are irreplaceable. These measures can only partially compensate for damage.”

5.5. Biodiversity 2020
5.5.1. The mission for the Government’s biodiversity strategy Biodiversity 2020 is:
5.5.2. “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.”
5.5.3. Paragraph 2.16 includes the following statement “We are committed to providing appropriate protection to ancient woodlands”

5.6. Overall the Trust considers that it is impossible for the proposed scheme (i.e. the two tunnel option) to achieve a net gain for biodiversity and compliance with national policy in its current form because of the loss of a significant area of irreplaceable ancient woodland habitat.

6. Assessment of Tunnel Options
6.1. The Promoter has recently published the Whitmore Heath to Madeley Tunnel report, which provides a comparison of the proposed scheme of two tunnels and an alternative single tunnel option.

6.2. The single tunnel option would prevent the loss of 6.4 hectares of ancient woodland on the Ancient Woodland Inventory from two woods; Whitmore Wood and Barhill Wood.

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6.3. The proposed scheme would result in the single biggest loss of ancient woodland on the entire High Speed 2 project so far (including what is currently known about Phase 2b).

6.4. Whitmore Wood covers an area just over 19 hectares. It comprises of both ancient semi-natural woodland and plantation on ancient woodland. As well as being on the Ancient Woodland Inventory it is a Site of Biological Importance.

6.5. Sites of Biological Importance are defined as “the best remaining examples within the County of habitats which rate highly on the basis of such factors as naturalness, diversity, or rarity of species or communities. These sites are frequently the remnants of larger areas of semi-natural vegetation, which may not be either sufficiently extensive or undisturbed to warrant SSSI [Site of Special Scientific Interest] status, but they are important examples of characteristic or notable vegetation types or habitat complexes, sometimes with associated dependant plant or animal species. As such, they provide an invaluable complement to the SSSIs and contribute the most significant element in the County’s nature conservation resource, most of which is irreplaceable in the event of loss or damage”

6.6. Phase 2a is 64km long and based on the information available in the recently published Ancient Woodland Strategy would result in the loss of 10.2 hectares of ancient woodland. This means that under the proposed scheme, Phase 2a causes 23% more loss of ancient woodland per kilometre of track built than Phase 1\(^5\). However, if the Single Tunnel option was adopted then the loss of ancient woodland on Phase 2a would be reduced by 6.4 hectares (63%). Phase 2a when compared to Phase 1 would then be 62% less damaging to ancient woodland per kilometre. Without taking into account the other benefits that would be derived from construction of the single tunnel this significant reduction on the impact of Phase 2a on the irreplaceable ancient woodland is sufficient of itself to justify the adoption of the single tunnel scheme.

6.7. The Promoter notes that there may be further opportunities to improve the proposed scheme by the adoption of additional mitigation measures to reduce environmental impacts so long “as these do not add unreasonable costs to the project or unreasonable delays to the construction programme”. In relation to ancient woodland loss these include reducing the height of the retaining wall in Whitmore Wood and changing the horizontal alignment and track spacing to the north and west of the Whitmore Heath tunnel. The Promoter concludes that this would reduce the land take within the ancient woodland at Whitmore Heath, but does not state by how much.

6.8. In the Trust’s opinion, the Promoter’s approach of viewing the protection of irreplaceable ancient woodland as adding unreasonable costs and delays is not consistent with the Government’s environmental aspirations. These are clearly set out in 2017 Conservative Party Phase 1 will result in the loss of 30.9ha of ancient woodland over 240km or 0.13ha/km. Phase 2a results in the loss of 10.2ha of ancient woodland over 64km or 0.16ha/km. This is a 23% higher loss per kilometre than Phase 1. If the single tunnel option was adopted ancient woodland loss on Phase 2a would decrease to 3.8ha over 64km of track or 0.05ha/km. Phase 2a would then have 62% less impact on ancient woodland per kilometre than Phase 1.
manifesto, the draft revised National Planning and Policy Framework and the 25 year plan for the environment.

6.9. Whilst any reduction in ancient woodland loss is to be welcomed, based on the information available the Trust believes that the reduction currently proposed by the Promoter is likely to be on a small scale and nothing like the huge reduction that would occur if the single tunnel were adopted instead. None of the further opportunities identified in the Tunnel Report\textsuperscript{6} reduce the scheme’s impact on Barhill Wood.

6.10. Whilst the Trust would like to see the adoption of the single tunnel scheme in order to save a significant area of irreplaceable habitat, it recognises that the benefits of the single tunnel are much more far reaching. As well as saving 6.4 hectares of ancient woodland the report notes that the tunnel would provide additional benefits such as: retained connectivity across the wider landscape for people, livestock, wildlife and plants; reduced noise and vibration impacts on people, livestock and wildlife receptors; reduction in the number of homes to be demolished; reduced impact on water courses; reduced disruption to the West Coast mainline; reduced engineering complexity; a reduction in the impact on local landscape character and the settings of listed buildings; reduction in loss of agricultural land, and; avoidance of historic landfills and potential contamination from them.

6.11. The Trust is not presenting evidence on these additional benefits as they fall outside its charitable aims. However the Trust does consider that it is important to view the single tunnel holistically and not break the benefits down into individual parts to be viewed in isolation.

6.12. The single tunnel is the only option consistent with the Government’s 25 year plan for the environment and the draft National Planning and Policy Framework’s approach to ancient woodland. No other option proposed has been demonstrated to be justified on a wholly exceptional basis.

7. Conclusion

7.1. Ancient woodland is a precious and irreplaceable habitat which is sadly in serious decline across the United Kingdom. Any loss results in significant environmental impact, and always entails a net loss to biodiversity.

7.2. The Trust would like to see the Committee recommend the Promoter adopt the single tunnel option. In our opinion the benefits to the environment, economy and well-being of the local community outweigh the predicted additional cost to the scheme. High Speed 2 is a Government backed project and therefore should act as the gold standard which other projects are measured against.

7.3. The Government’s forestry policy document, the 25 Year Plan for the Environment, the Conservative Party manifesto, the Standing Advice on Ancient Woodland and the proposed changes to the National Planning and Policy Framework all clearly indicate the Government’s commitment to protecting the environment and improving the protection of ancient woodland.

\textsuperscript{6} Whitmore Heath to Madeley Tunnel Report, High Speed 2, 15 March 2018
7.4. If Phase 2a of High Speed 2 continues unaltered then the Scheme will have a more detrimental impact on the environment per kilometre than Phase 1. This sends a very mixed message about what the Government says it aims to do and what it is actually doing in practice – thereby undermining claims that concern for the environment is a fundamental tenet of Government policy.

7.5. Adoption of the single tunnel proposal would show that the Government is committed to following up words with positive actions on the ground; this in turn would send a clear message to others in the development sector that they need to follow suit.

7.6. Whilst the project is not bound by the draft National Planning and Policy Framework because it is subject to a hybrid bill, the loss of such a huge area of ancient woodland in one location is not justified. The Government must be seen to be applying the “wholly exceptional test” to its own projects if the proposed wording of the draft National Planning and Policy Framework is to be effectively adopted by other developers.
The Woodland Trust

Evidence on impacts on ancient woodland affected by the proposed HS2 Phase 2a scheme in the area of Whitmore

Luci Ryan  BSc (Hons), MRes
The Woodland Trust

• Luci Ryan, ecologist with over 20 years’ experience
• Woodland Trust is the UK’s woodland conservation charity
• Significant estate
• 500,000 members and supporters
• National authority on ancient woods and trees

Evidence on impacts on ancient woodland affected by the proposed HS2 Phase 2a scheme in the area of Whitmore
Ancient Woodland

- Existed since at least 1600 AD
- Some date back as far as 10,000 years
- The country’s richest terrestrial habitat with 256 species of conservation concern
- Covers less than 3% of England
- Irreplaceable habitat, so impossible to recreate with newly planted trees
- Huge contribution to historic and natural landscape of our nation
Government ambition

• The Prime Minister said at the launch of 25 year plan in January 2018: “Our goal is a healthy and beautiful natural environment which we can all enjoy, and which we can be proud to pass on to the next generation”

• Defra’s 25 year Plan says “the Government recognises the significant heritage value and irreplaceable character of ancient woodland and veteran trees”

• The draft NPPF says “development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland) should be refused, unless there are wholly exceptional reasons”
Impact of HS2 near Whitmore

- Proposed scheme will cause loss of 6.7ha of ancient woodland
- 23% greater per km than Phase 1
- Directly affects 4 ancient woodlands
  - Whitmore Wood, 6ha, Barhill Wood 0.4ha, two unnamed woodlands 0.3ha
- Single tunnel option would save 6.4 ha
- 62% less impact per km than Phase 1
- Total loss of ancient woodland from Phase 1 is 30.9ha
- Total loss from Phase 2a is 10.2ha
Whitmore Wood

• Whitmore Wood is an ancient woodland just under 19ha in area

• Ancient semi-natural woodland and plantation on ancient woodland are irreplaceable habitats

• The wood is also a Site of Biological Importance

• These are high value sites locally which contribute a significant part of a County’s nature conservation resource
We ask the Committee to:

• Direct HS2 to adopt the proposed single tunnel option
• This would save 6.4 ha, reducing the impact of Phase 2a on ancient woodland by 60%
• The single tunnel option would also provide benefits to the local community and the local economy
• Adoption of the single tunnel option would confirm the Government’s commitment to protect the environment
• The circumstances surrounding the proposed tunnel option and the losses of ancient woodland caused by it are not “wholly exceptional” so as to justify any other option other than the single tunnel.