

8<sup>th</sup> November 2019

By email only to: [a417missinglink@highwaysengland.co.uk](mailto:a417missinglink@highwaysengland.co.uk)



Dear Sir / Madam

## **A417 MISSING LINK PUBLIC CONSULTATION**

Thank you for consulting the Cotswolds Conservation Board ('the Board') on the A417 Missing Link Public Consultation.

The Board acknowledges that a scheme is needed to improve the 'missing link' section of the A417. We recognise that such a scheme would improve traffic flows and journey times and reduce congestion, air pollution and, most importantly, the number of accidents. Given that this section of the A417 is located entirely within the Cotswolds Area of Outstanding Natural Beauty (AONB), the Board further recognises that the proposed scheme could not be implemented outside this designated area.

We very much appreciate Highways England's positive engagement with the Board and other key stakeholders. The Board has taken – and continues to take - a pro-active role in supporting and helping Highways England to enhance and refine the proposed scheme. For example, the Board has:

- played a key role in instigating and developing the agreed 'landscape-led' approach, in particular, the associated vision, design principles, objectives and sub objectives;
- put forward the proposed option for the A436 link road, which performs better, both economically and environmentally, than the other two link road options that are referred to in the consultation documents.

The agreed landscape-led approach is particularly important because the whole of the Cotswolds AONB is an area whose distinctive character and natural beauty are so outstanding that it is in the nation's interest to safeguard it. This landscape-led approach is given further weight by the fact that the Government-commissioned 'Landscapes Review' of National Parks and AONBs recommends that the Cotswolds AONB '*stands out as a leading candidate*' for National Park status.

The Board's statutory purposes require us to consider, when reviewing the proposed scheme, whether it:

- (i) delivers the agreed landscape-led approach, including the agreed vision, design principles, objective and sub objectives. (and provides the best practical option for doing so);
- (ii) sufficiently avoids, mitigates and moderates adverse effects – and further enhances the natural beauty of the AONB and public enjoyment of it - where possible;
- (iii) is fully consistent with the letter and spirit of relevant legislation and national policy.

### **Key consideration (i): Delivers the agreed landscape-led approach**

One of the design principles for the agreed landscape-led approach is that '*any scheme must have substantially more benefits than negative impacts for the Cotswolds AONB*'.

Conserving, enhancing, understanding and enjoying the Cotswolds Area of Outstanding Natural Beauty

Cotswolds Conservation Board Fosse Way Northleach Gloucestershire GL54 3JH

Tel: 01451 862000 Fax: 01451 862001 Email: [info@cotswoldsaonb.org.uk](mailto:info@cotswoldsaonb.org.uk)

Website: [www.cotswoldsaonb.org.uk](http://www.cotswoldsaonb.org.uk)

This principle closely aligns with the Government's '25 Year Environment Plan' aspiration to embed a '*net environmental gain*' principle for development. We note that the Preliminary Environmental Information Report (PEIR) does not provide a comprehensive assessment of the overall balance of adverse and beneficial effects. Rather, it only indicates that '*there will be a mix of adverse and beneficial effects*'.

We appreciate that there is still a large amount of data that needs to be collated and assessed and that, as such, it is not currently possible for Highways England to clearly demonstrate that the proposed scheme delivers the agreed landscape-led approach.

The Board recognises that the proposed scheme could potentially have a number of beneficial effects, in addition to the key transport and traffic benefits outlined above. These include:

- the recreational opportunities provided by the re-purposed A417;
- the improved crossing across the A417 for the Cotswold Way National Trail;
- the proposed reduction of traffic intrusion along the Cotswold escarpment; and
- the proposed habitat creation.

However, we are also of the opinion that some of the potential benefits of the scheme may not be as significant as the consultation documents imply. For example, the Board considers that Highways England's aspirations for the proposed green bridge are unlikely to deliver the desired ecological benefits.

It is also the Board's opinion that the potential benefits of the proposed scheme could potentially be outweighed by significant adverse effects, resulting in substantial net harm to the Cotswolds AONB. These include:

- the adverse effects associated with creating a 1km long and 25m deep cutting through the Cotswold escarpment;
- the large quantities of material that would need to be extracted and disposed of as a result of this cutting;
- the construction of the new roads across the High Wold and the proposed infilling of the head of the Upper Churn Valley at Shab Hill Junction.

On this basis, it is not currently clear that the proposed scheme delivers significantly more beneficial effects than adverse effects. As such, it is also not clear that key consideration (i) has been adequately addressed.

**Key Consideration (ii): Avoids, mitigates and moderates adverse effects and further enhances the natural beauty - and public enjoyment - of the Cotswolds AONB**

The Board has previously put forward a number of proposals that could potentially help to avoid, mitigate and / or moderate adverse effects. Crucially, they could also potentially help to further enhance the scheme. Key proposals have been incorporated into the Board's recommendations below.

The Board considers that it would be appropriate for Highways England to thoroughly consider these recommendations and to provide clear justification for how they propose to address them. We consider that this would be an essential component of demonstrating that key consideration (ii) has been adequately addressed.

### **Key Consideration (iii): Fully consistent with the letter and spirit of relevant legislation and national policy**

Highways England has a statutory duty to have regard to conserving and enhancing the natural beauty of the Cotswolds AONB (the 'duty of regard'). The expectation of this duty is not only that adverse impacts will be avoided, where possible, but that opportunities will also be taken to enhance the natural beauty of the AONB.

National policy relating to nationally important road projects (such as the A417 Missing Link scheme) sets out a number of requirements that Highways England must address. These include considering:

- the extent to which adverse effects could be moderated;
- the scope for meeting the need for the scheme in some other way;
- measures to enhance the environment.

The Board is of the opinion that, in order for the proposed scheme to be fully consistent with relevant legislation and national policy, including the points outlined above, key considerations (i) and (ii) would also need to be adequately addressed. This is not currently the case.

### **Summary**

For the reasons outlined above (and explained in more detail in Annex 1), it is the Board's view that the proposed scheme does not – at this stage, in its current form and with the information currently provided by Highways England – adequately address these three key considerations.

On this basis, the Board currently objects to the proposed scheme. However, it is important to emphasise that this should not be taken to imply that the Board objects to an A417 missing link scheme in principle. It is also important to emphasise our wish to continue to work with Highways England towards the goal of achieving a landscape-led scheme.

To this end, the Board would like to make a number of recommendations that could help to ensure that the scheme comes significantly closer to addressing the key considerations outlined above.

### **Recommendations**

The Board recommends that Highways England should:

1. Undertake a comprehensive, quantitative assessment of the overall balance of adverse and beneficial effects across all Environmental Impact Assessment (EIA) topics, both individually and cumulatively, taking into account the agreed landscape-led approach.
2. Give further consideration to the potential benefits and viability of having a cut-and-cover tunnel instead of a cutting between Cold Slad Lane and Shab Hill Junction. [N.B. It is important to note that, based on data provided in the consultation documents, the Board has calculated that the cost of a cut-and-cover tunnel for this section of the scheme is likely to be broadly similar to - or only slightly greater than - a cutting.]

3. Give further consideration to alternatives to infilling the head of the Upper Churn Valley at Shab Hill Junction (particularly if a cut-and cover tunnel and / or relocating the Shab Hill Junction become viable options) and the wider adverse effects of excavating and disposing of large volumes of excavated material on site.

If the cut-and-cover option is shown to be viable and becomes the preferred option:

4. Review the relative merits of Alternatives 2 and 3 for the A436 link road.

If the cut-and-cover option does not become the preferred option:

5. Give further consideration to having a green bridge that covers a considerably longer section of the A417 than currently proposed.

The Board's additional recommendations are for Highways England to give further consideration to:

6. Locating and configuring the proposed Shab Hill Junction a few hundred metres further north than in the current proposal.
7. Replacing the proposed Birdlip – Shab Hill link road with a bypass around the south side of Birdlip that connects traffic to and from Stroud with a revised Cowley Junction.
8. Providing a more coherent narrative regarding the interactions between historic landscape character, habitats and wildlife, public access and landscape, and the implications of these interactions for a landscape-led scheme.
9. The cumulative effects, on the Cotswolds AONB, of the proposed scheme in combination with its forerunners in creating the Swindon to Gloucester Expressway (in line with PINS Advice Note 17).
10. Clarifying how the land within the 'red line' will be used (e.g. what will go where), during both construction and operation.
11. Highlighting clearly the sheer scale of the proposed scheme, particularly in comparison with major road schemes, involving cuttings and / or tunnels.

If the recommendations outlined above are not progressed or implemented then, for those stakeholders who, like ourselves, have real concerns against our statutory duty, it does seem beholden on Highways England to provide robust justifications for their decisions.

We ask that this work is undertaken and the outcomes shared and discussed with key stakeholders, including the Board, well before the formal submission of a planning application.

To be helpful we have incorporated our recommendations, together with additional comments, in our responses to the questions posed in the Feedback Questionnaire. These responses are covered in Annex 1, below.

## **Conclusion**

We ask you to accept the Board's recommendations, the agreed vision, design principles and objectives of the agreed landscape-led approach, including the principle of providing '*substantially more benefits than negative impacts for the Cotswolds AONB*'.

The Board fully appreciates the restrictions placed upon Highways England in relation to the scheme's budget. We appreciate it has challenged the principles and vision, making it difficult for Highways England to deliver a scheme that genuinely addresses this landscaped approach and the other key considerations outlined above.

The Board remains committed to continuing to work with Highways England and their consultants in a constructive way on an ongoing basis. We trust that Highways England will give full consideration to the Board's comments and recommendations as part of the scheme development process. We look forward to discussing these matters in detail and seeing comprehensive, fully evidenced formal responses to these recommendations in due course.

If you have any queries regarding the Board's consultation response, please contact Andy Parsons, our new Chief Executive Officer ([andy.parsons@cotswoldsaonb.org.uk](mailto:andy.parsons@cotswoldsaonb.org.uk)). Andy and I will be attending the A417 Strategic Stakeholder Panel meeting on 14<sup>th</sup> November and we very much look forward to continuing our dialogue with you at this time.

Yours faithfully,

Elizabeth Eyre  
Chairman on behalf of the Cotswolds Conservation Board

## **ANNEX 1. SUPPORTING INFORMATION FOR THE RESPONSE OF THE COTSWOLDS CONSERVATION BOARD TO THE A417 MISSING LINK SCHEME CONSULTATION**

### **1. Do you have any comments on our proposed route from the Brockworth bypass to Shab Hill Junction?**

#### **Summary**

The proposed route from Brockworth bypass to Shab Hill Junction is likely to have significant adverse effects on the Cotswolds Area of Outstanding Natural Beauty (AONB). In particular, there are likely to be significant adverse effects associated with the proposed cutting between Cold Slad Lane and Shab Hill Junction.

Based on the information provided in the consultation documents, the Cotswolds Conservation Board's ('the Board') own calculations (which have been provided by a highly experienced Chartered Civil Engineer) identify that the cost of a cut-and-cover tunnel is likely to be broadly similar to - or only slightly greater than - the cost of a cutting.

In addition to being financially competitive, the cut-and-cover tunnel option would have a wide range of additional, significant benefits. For example, it would: significantly reduce the amount of 'surplus' excavated material; remove the need for - and cost of - installing a green bridge; further reduce landscape, visual and biodiversity impacts and pollution (noise, air and light); increase tranquillity; and enhance the experience of walking on the Cotswold Way National Trail.

The Board's key recommendation in relation to Question 1 (taking account of the financial envelope that so constrains Highways England) is to:

- Give further consideration to the potential benefits and viability of having a cut-and-cover tunnel instead of a cutting between Cold Slad Lane and Shab Hill Junction and instead of a green bridge.

#### **Supporting Information**

The proposed route from Brockworth bypass to Shab Hill Junction is likely to have significant adverse effects on the Cotswolds AONB. In particular, there are likely to be significant adverse effects associated with the proposed cutting between Cold Slad Lane and Shab Hill Junction. There are also likely to be significant adverse effects associated with widening the existing road footprint (from three lanes to five lanes) and with creating the new section of road between the Air Balloon and Shab Hill Junction on currently undeveloped land.

The cutting would be approximately one kilometre long and up to 25m deep, below the current ground level (which is more than the height of five double decker buses). Based on the 'Indicative Cross Section at Crickley Hill', the cutting will also be approximately 35m wide at road level (which is equivalent to the full width of a motorway) and approximately 60m wide at the top of the cutting (i.e. as wide as two motorways).

Table 10-12 of the Preliminary Environmental Information Report (PEIR) shows that nearly 1.5 million cubic metres of raw material will need to be extracted along the proposed route. This is equivalent to the volume of approximately 600 Olympic size swimming pools. A comparison of the data in Table 10-12 with the current and proposed ground levels shown on the 'Mainline Plan and Profile' indicates that approximately two-thirds of this material (i.e. one million cubic metres – the volume of 400 Olympic size swimming pools) would come from the 1km long cutting between Cold Slad Lane and Shab Hill Junction.

These figures are based on a scenario the Board would class as 'optimistic' (i.e. the scenario shown in the 'Indicative Cross Section at Crickley Hill' on the 'Climbing the Escarpment Consultation Plan'). In this scenario, the ground conditions would be stable enough to allow for vertical walls up to 10m high on each side of the road in the cutting. Above these vertical walls, the cutting on the southern side of the road would slope at an angle of approximately 45° from the horizontal.

However, in reality, there is a significant risk that the slopes of the cutting will have to be very much shallower due to the instability of the geology of the Cotswold escarpment. For example, the 'Geology and Soils' section of the PEIR highlights the complexity and inherent instability of the escarpment geology, including the potential for rockfalls, the reactivation of ancient landslides and the potential effect of ground water on stability.

If further investigations demonstrate that the geology is less stable than in this 'optimistic' scenario, it may be necessary for the slope angles of any permanent open cuttings to be closer to 30° from the horizontal, rather than 45° from the horizontal, and without any vertical faces. In addition, there may be a need for horizontal benches to be constructed at intervals on the slopes in order to arrest any local rock falls and prevent rock from rolling down onto the carriageway.

This relatively 'pessimistic' scenario would result in a significantly wider cutting. For example, for the cutting shown in the 'Indicative Cross Section at Crickley Hill', the width of the top of the cutting would increase from approximately 60m to over 100m. This equates to the width of three motorways. As a result, the total volume of material that needs to be excavated and disposed of would also significantly increase. As such, the figures provided in Table 10-12 of the PEIR could actually be a significant under-estimate. This scenario would also result in a range of additional significant adverse effects relating to landscape, biodiversity, noise, heritage, etc.

To put the scale of this cutting into a wider context, it is useful to compare it with other significant road cuttings in, or near, other protected landscapes. For example:

- The Stokenchurch cutting in the Chilterns AONB is a similar length (1.2km) but almost twice as deep (up to 47m) as the proposed scheme.
- The infamous Twyford Down cutting, close to the South Downs National park, is three times as long (3.2km), twice as wide (122m) and a similar depth (up to 30m) as the proposed scheme. Under the 'pessimistic' scenario outlined above, the Twyford Down cutting would only be approximately 35% wider.

With regards to the widening of the existing road footprint from three lanes to five lanes, this is likely to increase the visual impact of the road and will also require the realignment of Norman's Brook, which could adversely affect the local hydrology / hydrogeology. Even where the road is in the cutting (as shown on the 'Indicative Cross Section at Crickley Hill'), the road would be more visible to key receptors such as users of the Cotswold Way National than it is now. In the short term, the widening of the road would require the removal of nearly all the trees and vegetation to the south side of the road. Although new vegetation is proposed to mitigate this impact, there will be a considerable period of time before this new vegetation becomes as well established as the current vegetation (and before it provides effective screening and filtering of views).

With regards to the new section of road between the Air Balloon and Shab Hill Junction, this new road will rise up approximately 40m between these two points over a visually prominent hillside. The fact that the road will be in a cutting could potentially help to mitigate visual impacts but the visual impacts may still be significant. In the vicinity of the Air Balloon, the cutting on the south side of the road is likely to be higher than the cutting on the north side,

which could create a significant adverse visual impact for receptors at locations such as Leckhampton Hill. This new section of road would also result in the permanent loss of a small section of woodland at the northern end of Emma's Grove, which the PEIR identifies as being ancient in origin (although not formally designated as ancient woodland).

### **Cut-and-cover tunnel option**

Based on the information provided in the consultation documents, the Board's own calculations (which have been provided by a highly experience Chartered Civil Engineer) identify that the cost of a cut-and-cover tunnel is likely to be broadly similar to - or only slightly greater than - the cost of a cutting. This negates Highways England's previous assertion that the cost of a tunnel would be significantly more than the cost of a cutting, which we suspect may have been based on their own guideline costs of bored tunnels.

These calculations are not included in this response (due to the significant level of detail that they go into) but the Board would be happy to share and discuss these calculations with Highways England.

In addition to being financially competitive, the cut-and-cover option would significantly reduce the amount of material that has to be extracted in the first place, as the temporary cutting that would be required could have steeper sides than a permanent cutting. This option would also allow for a significant amount of extracted material to be re-deposited in-situ. It would, therefore, also reduce the amount of extracted material that has to be disposed of elsewhere on site and / or exported off-site (i.e. the 'surplus').

The Board's calculations estimate that the cut-and-cover tunnel option could potentially reduce the amount of surplus material arising from the 1km section that is currently proposed as a cutting by approximately 69-75%). For example, in the 'pessimistic' scenario, outlined above, the amount of surplus material relating to this 1km section would be reduced from approximately 1.1 million cubic metres to approximately 270,000 cubic metres. For the scheme as a whole, replacing the 1km long cutting with a 1km long cut-and-cover tunnel option could potentially reduce the total amount of surplus material by approximately 50%.

This option would also remove the need to provide a 'green bridge' - and the cost of installing and maintaining the green bridge - as it would provide all of the benefits of a green bridge over a much larger area.

The cut-and-cover tunnel option would have a wide range of additional benefits. For example, it would:

- Potentially reduce the need to fill in the valley at the proposed Shab Hill Junction, which is currently an area of calcareous grassland priority habitat and a key component of the landscape character of the Upper Churn Valley, and / or reduce the amount of material that has to be taken off site.
- Further reduce operational air pollution levels, including at Crickley Hill and Barrow Wake SSSI and at Emma's Grove.
- Further reduce operational noise levels. In particular, it could potentially reduce noise pollution at the Air Balloon cottages to below Significant Observed Adverse Effect Level (SOAEL). In this scenario, none of the four properties that are currently above SOAEL would remain above SOAEL. It could also potentially reduce noise levels at Shab Hill Junction by reducing the need to fill in the valley at this location and, therefore, allowing for the junction to be constructed at a lower – and less exposed – elevation.
- Reduce light pollution from vehicle lights at night-time.



- Avoid the permanent loss of small section of woodland at Emma's Grove, which would occur with the proposed permanent open cutting. This is because this section of woodland could be reinstated after the cut-and-fill tunnel has been installed.
- Reduce the amount of permanent land-take associated with a permanent open cutting and, therefore, reduce the area of land adversely affected by the scheme.
- Increase tranquillity.
- Enhance the experience of walking on the Cotswold Way National Trail, the Gloucestershire Way and the rest of the Public Rights of Way (PRoW) network along this section of the routes.

In addition, the route of the cut-and-fill tunnel could potentially be used for agriculture, the creation of appropriate priority habitats, enhancing landscape character and / or recreational uses.

The Board's key recommendations in relation to Question 1 are shown in the summary, above.

## 2. Do you have any comments on our proposed green bridge?

### Summary

The Cotswolds Conservation Board ('the Board') acknowledges that a green bridge could provide a number of potential benefits. However, we consider that Highways England's aspirations for the proposed green bridge are unlikely to deliver the desired ecological benefits.

The Board's key recommendations in relation to Question 2 are:

- If a cut-and-cover tunnel option is shown to be viable and becomes the preferred option (instead of the proposed cutting between Cold Slad Lane and Shab Hill Junction):
  - use the cut-and-cover tunnel option instead of a green bridge.
- If a cut-and-cover tunnel option does not become the preferred option:
  - give further consideration to having a green bridge that covers a considerably longer section of the A417 than currently proposed.

### Supporting information

The Board acknowledges that a green bridge could provide a number of potential benefits. In particular, providing a traffic free crossing across the A417 for users of the Cotswold Way National Trail and other recreational users would be a significant benefit. A green bridge could also potentially provide for some degree of connectivity, in terms of biodiversity, and allow for some habitat creation.

However, the Board considers that Highways England's aspirations for the proposed green bridge are unlikely to deliver the desired ecological benefits. The Consultation Booklet states that '*our proposed scheme would create new habitat links, including limestone grassland, new hedgerows, native scrub and trees in keeping with the character of the local landscape*' and that '*the green bridge would deliver a new wildlife corridor in the area*'. This level of 'habitat packing', where small areas of lots of different habitats are packed into a limited space, would not be appropriate, especially given that this space would also have to be shared with recreational users.

For example, the area created for each habitat might not be sufficient to provide a viable ecology or connectivity. Trees and habitats such as scrub might also out-compete and over-grow more sensitive habitats, such as calcareous grassland. Habit packing would also require more intensive management, which could become costly in the longer term. A significantly larger green bridge would be required to meet - and maximise - the desired ecological and recreational benefits.

As outlined in response to Question 1, the Board has identified that the cost of a cut-and-cover tunnel between Cold Slad Lane and Shab Hill Junction would be financially competitive, compared to a cutting, for this section of the proposed route. If a cut-and-cover tunnel option is considered viable and becomes the preferred option, there would be no need to install a green bridge. This is because the objectives of a green bridge could already be met on the re-instated land covering the cut-and-cover tunnel. This option would also allow the objectives of a green bridge to be delivered over a much larger area, thereby providing significantly more benefits than a green bridge.

The Board's key recommendations in relation to Question 2 are shown in the summary, above.



### **3. Do you have any comments on our proposed route from Shab Hill to Cowley Junction?**

#### **Summary**

The Cotswolds Conservation Board ('the Board') has three key concerns relating to the proposed route from Shab Hill to Cowley Junction. There are:

- the potential adverse impacts of Shab Hill Junction;
- the location of Shab Hill Junction; and
- the link road from Birdlip to Shab Hill Junction.

The Board's key recommendations in relation to Question 3 are as follows:

- Give further consideration to:
  - alternatives to infilling the head of the Upper Churn Valley at Shab Hill Junction (particularly if a cut-and cover tunnel and / or relocating the Shab Hill Junction become viable options) and the wider adverse effects of excavating and disposing of large volumes of excavated material on site;
  - locating and configuring the proposed Shab Hill Junction a few hundred metres further north than in the current proposal;
  - replacing the proposed Birdlip – Shab Hill link road with a bypass around the south side of Birdlip that connects traffic to and from Stroud with a revised Cowley Junction (thereby removing through traffic from the centre of Birdlip and potentially improving traffic flow).

#### **Supporting Information**

Constructing a completely new 3.5km long, 4 lane wide A-road across the undeveloped and highly sensitive High Wold landscape of the Cotswolds AONB will inevitably have significant adverse effects. The Board acknowledges that some of these adverse effects will be offset, to some degree, by the beneficial effects of closing and repurposing the existing A417 between the Air Balloon and Cowley Junction.

The only way to reduce the adverse effects to virtually zero would be to have a road tunnel from the bottom of the Cotswold escarpment to Cowley Junction. The Board acknowledges that this is not viable within the current financial constraints of the scheme. However, the Board considers that there are still a number of ways in which the adverse effects of the proposed route between Shab Hill and Cowley Junction could be further reduced. These primarily relate to Shab Hill Junction and the link road from Birdlip to Shab Hill Junction.

#### **Shab Hill Junction – adverse effects**

The Consultation Booklet states that '*placing the [Shab Hill] junction in lower-lying land will reduce the traffic noise in the wider area, and its visual impact from Barrow Wake and Shab Hill*'. However, the Board strongly challenges this assertion for the reasons outlined below.

The proposed Shab Hill Junction would be located in an area that is currently the head of a valley. The base of this section of the valley is approximately 20m or more below the land to the north, south and west. However, analysis of the 'Indicative Cross Section at Shab Hill' in the 'Shab Hill to Cowley Junction Consultation Plan' shows that:

- the A417 at this point would be up to approximately 20m above current ground levels;
- the underpass, which connects the roundabouts on each side of the A417, would be up to approximately 10m above current ground levels;
- the proposed earthworks to the east of the junction would raise the ground level by approximately 20m.

So, rather than placing the junction in lower-lying land, as asserted in the Consultation Booklet, the proposed works would, in fact, install the A417 and all the Shab Hill Junction infrastructure in an elevated position, well above the current ground level. This seriously calls into question the supposed benefits relating to noise and visual impact.

Rather than utilising the natural contours of the valley to place the junction in lower lying land, it would appear that the natural contours of the valley are being used to provide a convenient location for depositing significant amounts of excavated material. The scale of these earthworks is re-enforced by the data in Table 10-12 of the Preliminary Environmental Information Report (PEIR). This table indicates that 441,301 cubic metres of excavated material would be deposited in the 1.62km long section of the route between Ullen Wood and Stockwell Farm (i.e. between 'chainage' 2420 and 4040). This is equivalent to the volume of 177 Olympic sized swimming pools. The vast majority of this material would be deposited into the valley, which is just 150m wide (approximately), from north to south, where it would be crossed by the A417. The earthworks would extend along the valley, from west to east, for approximately 350m. This is equivalent in width to approximately 10 motorways.

These earthworks would have a significant adverse effect on the landscape character of this section of the 'High Wold Valley – Upper Churn Valley' (Landscape Character Type (LCT) 8C in the Cotswolds AONB Landscape Character Assessment). They would also have a significant adverse effect on approximately 3ha of lowland calcareous grassland, which is a priority habitat at a national level and is also one of the 'special qualities' of the Cotswolds AONB. Whilst the Board recognises the potential benefits of disposing of the excavated material on site, this should not outweigh the potential adverse effects on landscape character and biodiversity. To do so would undermine the agreed landscape-led approach.

As outlined in response to Question 1, a cut-and-cover tunnel option could significantly reduce the amount of excavated material that needs to be deposited elsewhere within the proposed route. This would significantly reduce the need to deposit excavated material in the valley where Shab Hill Junction is currently proposed. This would then allow for the junction – and the associated infrastructure – to be genuinely located in lower-lying land.

The Board's recommendation in relation to the adverse effects of Shab Hill Junction is provided in the summary above.

#### Shab Hill Junction - location

The Board has previously suggested that Shab Hill Junction could potentially be located up to a few hundred metres further north, at the southern end of the proposed cutting (i.e. in close proximity to the point where the Gloucestershire Way currently crosses the Birdlip Radio Station track). This option would potentially enable the junction, and associated infrastructure, to be partly located within the cutting. This would significantly reduce noise levels across the wider landscape as well as the visual impact of the junction. It would also help to minimise the potential adverse impacts on the valley where the junction is currently proposed, as outlined above.

### The link road from Birdlip to Shab Hill Junction

The proposed scheme includes a link road from Birdlip to Shab Hill Junction. This link road would utilise the existing road network, including the B4070, part of the current A417 and the minor road between Barrow Wake and Birdlip Radio Station.

The Board has previously asked Highways England to consider an alternative option, which would incorporate a bypass to the south of Birdlip, which would connect with the current A417 to the east of Birdlip and then Cowley Junction. This would have a number of potential benefits, compared to the current proposal. These include:

- significantly reducing the amount of traffic passing through Birdlip village;
- making the whole area between Birdlip and the Air Balloon and between Barrow Wake and Shab Hill virtually car free;
- the potential to downgrade the B4070 north of Birdlip and the minor road from Barrow Wake to Birdlip Radio Station; could potentially be downgraded and incorporated into the proposals for the repurposed A417. The minor road from Barrow Wake to Birdlip Radio Station could also potentially be downgraded as access to the radio station could be linked to the Shab Hill Junction.
- further enhancing the tranquillity and air quality of the Cotswold escarpment and the Cotswold Way National Trail;
- further enhance biodiversity, by reducing the amount of traffic in close proximity to the south east edge of the Crickley Hill and Barrow Wake SSSI
- potentially reducing the scale of infrastructure that is currently proposed at Shab Hill Junction and the associated adverse effects (as outlined above).

The Board's recommendation in relation to this alternative option is provided in the summary above.

#### **4. Do you have any comments on our proposal for Alternative 2 as the preferred A436 link road?**

##### **Summary**

The currently proposed Alternative 2 option for the A436 link road was devised and put forward by the Cotswolds Conservation Board ('the Board'). Alternative 2 performs better, both economically and environmentally, than Highways England's original link road proposal (Alternative 1).

However, if the cut-and-cover tunnel option (proposed in the Board's response to Question 1) is considered to be viable and becomes the preferred option for the section of the A417 between Cold Slad Lane and Shab Hill, then the merits of the proposed route of Alternative 2 become less clear cut.

The Board's key recommendation in relation to Question 4 is:

- If a cut-and-cover tunnel option is shown to be viable and becomes the preferred option (instead of the proposed cutting between Cold Slad Lane and Shab Hill Junction):
  - review the relative merits of Alternatives 2 and 3 for the A436 link road.

If Alternative 2 still remained the preferred option in this cut-and-cover tunnel scenario, there may still be scope to adjust the exact route of Alternative 2. For example, it may be appropriate for the Alternative 2 route to follow a lower contour line in order to reduce visual impacts.

It is worth noting that, even if the cut-and-cover tunnel did become the preferred option, the Board would still prefer Alternative 2 to Alternative 1.

##### **Supporting Information**

The currently proposed Alternative 2 option for the A436 link road was devised and put forward by the Cotswolds Conservation Board ('the Board'). Highways England has identified that Alternative 2 performs better, both economically and environmentally, than their original link road proposal (Alternative 1).

From a landscape perspective, one of the key advantages of Alternative 2, compared to Alternative 1, is that it allows for a significant area along the top of the Cotswold escarpment, including adjacent to sections of the Cotswold Way National Trail, to become car free.

When the Board put forward Alternative 2, it also put forward what is now referred to, in the consultation documents, as Alternative 3. A significant factor in Highways England identifying Alternative 2 as the preferred option (over Alternative 3) was that closely aligning the A436 with the new A417 route would reduce land-take and would reduce the overall area of land affected by these route.

However, if the cut-and-cover tunnel option is considered to be viable and becomes the preferred option for this section of the A417, the alignment of the A436 link road and the A417 is no longer a factor. This is because this section of the A417 would be underground and the only surface route in this location would be the A436 link road. The benefits of Alternative 2, over and above the benefits of Alternative 3, then become less clear cut.

Therefore, the Board considers that it would be appropriate to review the relative merits of Alternative 2 and Alternative 3. Key considerations in this review would include the visual

impact of the two options (for example, for receptors on Leckhampton Hill), impacts on the ancient woodland of Ullen Wood and impacts on the Public Rights of Way (PRoW) network.

The Board's key recommendation in relation to Question 4 is provided in the summary above.



## **5. Do you have any comments on our proposals for repurposing the existing A417?**

### **Summary**

The Cotswolds Conservation Board ('the Board') endorses the proposed repurposing of the existing A417 and the benefits that this could provide, including:

- creating a new route for walkers, cyclists and horse riders;
- the proposed tree planting, native hedgerows and species-rich grassland;
- enhanced tranquillity and air quality along this section of the High Wold and Cotswold escarpment.

However, the Board suggest that further consideration should also be given to how the repurposed A417 could integrate more effectively with the local landscape character of the Cotswolds AONB. For example, in some circumstances and / or locations, it may be appropriate to realign the proposed recreational route with natural field boundaries.

## 6. Do you have anything you think we will need to consider as we develop our construction plans further?

### Summary

A key consideration as the construction plans are developed further should be the agreed landscape-led approach, which should underpin the scheme. A key component of this landscape-led approach should be a comprehensive assessment of the overall balance of adverse and beneficial effects. Given that there is still a lot of data to be compiled and assessed, it is very difficult to gauge this overall balance at this stage. However, it is vital that this assessment is undertaken – and discussed with key stakeholders – well before the planning application is submitted.

The Cotswolds Conservation Board's ('the Board') key recommendation in relation to this issue is to:

- Undertake a comprehensive, quantitative assessment of the overall balance of adverse and beneficial effects across all Environmental Impact Assessment (EIA) topics, both individually and cumulatively.

Given the agreed landscape-led approach for this scheme, this assessment should pay particular attention – and give signification weight - to the topic of landscape and to the other factors that contribute to the natural beauty of the Cotswolds AONB.

The Board's recommendations relating to Question 1-5 and Question 7 are also relevant to Question 6.

### Supporting Information

#### Landscape-led approach

Highways England, the Board and other key stakeholders have agreed that a landscape-led approach should underpin the A417 missing link scheme. This landscape-led approach is articulated in the Scheme Vision, Scheme Design Principles and Scheme Objectives. Therefore, a key consideration is whether the proposed scheme delivers this landscape-led approach (and provides the best practical option for doing so).

The 'Scheme Vision' is for a landscape-led highways improvement scheme that will, inter alia, conserve and enhance the special character of the Cotswolds AONB, reconnect landscapes and ecology, bring about landscape, wildlife and heritage benefits and improve local communities' quality of life.

The 'Scheme Design Principles' are that:

- Any solution ... must ensure that the scheme is designed to meet the character of the landscape, not the other way round.
- Any scheme should bring about substantial benefits for the Cotswolds landscape and environment, as well as people's enjoyment of the area.
- Any scheme must have substantially more benefits than negative impacts for the Cotswolds AONB.

It is worth noting that this final design principle closely aligns with the Government's '25 Year Environment Plan' intention to embed a '*net environmental gain*' principle for development.

This landscape-led approach, including the balance of adverse and beneficial effects, should be a key consideration as the construction plans are developed further.

In order to assess the success of the scheme in delivering this landscape-led approach, the Board considers that it will be essential for a comprehensive assessment to be undertaken of the overall balance of adverse and beneficial effects. This assessment should be applied to all of the Environmental Impact Assessment (EIA) topics, both individually and collectively.

Given that there is an agreed landscape-led approach for this scheme, this assessment should pay particular attention – and give signification weight - to the topic of landscape (including the special qualities of the Cotswolds AONB) and to the other factors that contribute to the natural beauty of the Cotswolds AONB (including the inter-relationship of these factors).<sup>1</sup>

The Preliminary Environmental Information Report (PEIR) identifies that there is still a large amount of data that needs to be collated and assessed. As such, the Board acknowledges that it is not currently possible for Highways England to fully assess the overall balance of adverse and beneficial effects. For example, the PEIR only goes as far as to state that *'there will be a mix of adverse and beneficial effects'*. However, the Board considers that it will be crucial for Highways England to undertake this full assessment – and discuss its findings with key stakeholders - well before they submit the planning applications.

This assessment should, where possible, be quantitative. For example, with regards to biodiversity, it should quantify losses and gains in area of priority habitats and length of hedgerow. For landscape, it should compare a Landscape and Visual Impact Assessment (LVIA) of the proposed scheme with a LVIA of the current road. Both LVIAs should clearly differentiate between the sensitivity of receptors and the magnitude of effect.

The assessment should clearly and consistently quantify the scale of adverse and beneficial effects. For example, it should specify whether the effects are major, moderate, minor or neutral.

The Board's key recommendation in relation to this issue is provided in the summary above.

#### Tunnel options that the Board has previously put forward

The Board has previously asked Highways England to consider three tunnel options, which we have referred to as the 'Gold', 'Red' and 'Blue' options. For example, we advocated consideration of these tunnel options in our response to the Environmental Impact Assessment (EIA) Scoping consultation in June 2019. The 'Red' option incorporated a cut-and-cover tunnel option along the lines of the one that we have now identified as being financially viable.

In the Board's EIA Scoping consultation response we made the following comments:

*We have advised Highways England that there are alternative options that were not identified in the options appraisal process that could meet (or at very least much more fully address) the scheme Vision, Design Principles and Objectives. These would also much more fully inform the NPSNN tests to demonstrate the 'exceptional circumstances' required*

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<sup>1</sup> A useful reference point, with regards to the factors that contribute to natural beauty, is Natural England's *'Guidance for assessing for assessing landscapes for designation as National Parks or Areas of Outstanding Natural Beauty in England'* (e.g. Table 3 and Appendix 1). The policy headings of the Cotswolds AONB Management Plan 2018-2023 also provide a useful reference point in this regard.

*to justify construction of new infrastructure in an AONB; and would fully take into account other relevant policies and legislation.*

*We believe that this policy context means the EIA must consider more ambitious but still – in a national context – proportionate measures to ‘ameliorate’ (i.e. ‘avoid’, ‘remedy’ and ‘reduce’) adverse environmental effects, taking account of costs and achieving high environmental standards. For example, given the substantial depth of cuttings that are now being proposed through a very sensitive part of the Cotswolds escarpment and the potentially difficult ground and groundwater conditions, the Board has identified that the cost difference between the cuttings proposed and an alternative involving a ‘cut-and-cover’ tunnel may not be significant.*

*Taking these points into account, the Board’s principle recommendation is that the alternative options that are assessed and compared in the EIA should include the ‘Gold’, ‘Red’ and ‘Blue’ options shown in Annex 3. It is worth noting that:*

- all three alternatives are significantly different from tunnel options considered prior to public consultation*
- all of the Board’s alternatives are presented as holistic landscape-led vision incorporating other beneficial considerations such as a Birdlip relief road instead of the proposed Birdlip Link.*
- all the options are within the range of best past practice for protected landscapes.*

Whilst the Board appreciates the financial envelope that constrains the scope of the proposed scheme, it would have been appreciated if Highways England had more thoroughly considered the three tunnel options that the Board had proposed previously.

## **7. Do you have any comments on our PEI Report and other proposed mitigation measures?**

### **Summary**

The Board's key recommendations in relation to Question 7 are as follows:

- Give greater consideration to:
  - providing a more coherent narrative regarding the interactions between historic landscape character, habitats and wildlife, public access and landscape, and the implications of these interactions for a landscape-led scheme;
  - the cumulative effects, on the Cotswolds AONB, of the proposed scheme in combination with its forerunners in creating the Swindon to Gloucester Expressway (in line with PINS Advice Note 17);
  - clarifying how the land within the 'red line' will be used (e.g. what will go where), during both construction and operation;
  - highlighting clearly the sheer scale of the proposed scheme, particularly in comparison with major road schemes, involving cuttings and / or tunnels, in (or near) other protected landscapes.

### **Supporting Information**

The Board's response to Question 6 has already highlighted a key concern relating to the amount of data that still need needs to be compiled and assessed. This makes it very difficult to comprehensively gauge the overall balance of adverse and beneficial effects at this stage. In addition, the Board would like to flag up the following issues in relation to Question 7:

- The interactions between different environmental topics and the implications of these interactions for a landscape-led scheme.
- The cumulative effects of the proposed scheme in combination with its forerunners in creating the Swindon to Gloucester Expressway.
- How the land within the proposed 'red line' will be used during the construction and operational phases of the scheme.
- The scale of the proposed scheme.

#### Interactions

As highlighted in the Board's response to the A417 Environmental Impact Assessment (EIA) scoping consultation in June 2019, the Board recommends that Highways England should thoroughly assess the interactions between the various environmental topics. In particular, it is important to assess the implications of these interactions for a landscape-led scheme.

The Board's key recommendation relating to this issue is provided in the summary above.

#### Cumulative effects

As with the previous comments relating to 'interactions', the Board has previously highlighted (in our response to the EIA scoping consultation) the need to thoroughly assess the

cumulative effects of the proposed scheme. This includes the cumulative effects of the different components of the scheme itself. However, it also includes the cumulative effects of the scheme in combination with its forerunners in creating the Swindon to Gloucester Expressway (e.g. the construction of the A417 dual carriageway between Swindon and Cowley Junction).

The Board's key recommendation relating to this issue is provided in the summary above.

### Red line

The PEIR helps to explain the purpose of the 'red line' boundary. However, it doesn't, at this stage, provide a clear indication of exactly how each block of land within this 'red line' boundary will be used during the construction and operational phases. This is an important consideration as it could potentially influence the adverse and beneficial effects of the scheme. Therefore, it will be important for Highways England to provide this information – and discuss it with key stakeholders – well before the planning application is submitted.

It would be very difficult to provide a definitive red line boundary until all the relevant data has been compiled and assessed. For example, the Landscape and Visual Impact Assessment(s) (LVIAs) might show that it would be appropriate to mitigate some of the visual impacts off-site, near the 'receptor', as well as within the current red line boundary.

The Board's key recommendation relating to this issue is provided in the summary above.

### Scale

From the consultation documents that have been provided, it is very difficult to get an impression of the overall scale of the proposed scheme. For example, the 'Consultation Plan' simply shows the proposed scheme as a relatively thin line, overlying a flattened geography on A3 paper. The only data that really provides an indication of the overall scale of the scheme is the earthworks data in Table 10-12 of the Preliminary Environmental Information Report (PEIR), which the Board has referred to in response to Question 1. However, even this data is hard to visualise.

In its response to this consultation, the Board has endeavoured to provide a more explicit indication of the scale of the proposed scheme. For example, we have compared the volume of material that will need to be extracted and disposed of to the volume of Olympic size swimming pools. We have also compared the depth of the proposed cutting to the height of double decker buses and the width of the cutting, the roads and the earthworks to the width of a motorway. In addition, we have compared the scale of the cutting in the proposed scheme with the scale of cuttings in other major road schemes in, or near, other protected landscapes.

It would be very helpful if Highways England's documentation, including the future planning application, made the scale of scheme much more explicit.

The Board's key recommendation, in relation to this issue is provided in the summary above.