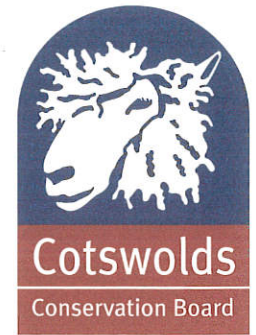


Nick Aldworth
Regional Director (South West)
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23rd August 2018

Dear Nick

A417 Missing Link: Comments on Land Bridge options

The following comments are based on the information presented to date. In our letter of 15th August we requested further information, but think it is perhaps most constructive to offer the following at this stage given Highways England's (HE) request for comments. That said, we have found it difficult to comment fully without having at least some idea of long sections, the form the structures would take and how they would relate to the proposal for the A436 crossing the A417.

Our comments draw on a series of field visits we have made to highways and rail tunnels and land bridges together with other research. This includes the cases referred to in Natural England Commissioned Report NECR181, *Green Bridges* (2015) and in The Landscape Institute's Technical Guidance Note 09/2015 *Green Bridges* (2015) and examples given in the HE presentation to the technical working group.

We note that none of the cases referred to, nor any of the HS1 examples we have looked at, relate to addressing the key issue of the landscape impact of deep cuttings through escarpments or ridges.

Neither the Natural England nor Landscape Institute reports give figures for or discusses depths of cuttings or height above road level. The Landscape Institute guidance note explicitly states "*The review did not include cut and cover tunnels. It is acknowledged that much of the literature has concentrated on the role of green bridges as wildlife crossings, and to date there is relatively little information on the effectiveness for landscape and visual mitigation.*"

Several fundamental issues that characterise the A417, its setting and location challenge the efficacy of land bridges:

- a. Land bridges (particularly when limited to the 50m width advanced by HE at the recent technical working group) are not effective at screening noise, especially where there are likely to be exposed rock faces and wind; yet tranquillity is a highly valued aspect of the local environment which is heavily used for quiet recreation as well as by wildlife.
- b. Land bridges can be very effective at linking routes through well-screened landscapes, such as the Scotney access drive, provided they have adequate provision for banking and vegetation and that this is in keeping with the landscape; by contrast, the A417 route is cutting through an exposed escarpment landscape valued for its elevated, wide panoramic views and calcareous grassland.

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

- c. We fully appreciate the value of land bridges in the right circumstances and believe they probably work best over relatively shallow cuttings and where approach embankments don't need to be too big and overall height above the road is not much more than c.10m.
- d. Land bridges pose significant design challenges when crossing deep cuttings. Scotney appears to be less than 10m deep; the Lady James bridge at Hindhead is little more than an ordinary bridleway bridge but illustrates the problem of needing artificially steepened and partly heightened abutments over an asymmetrical cutting 18m deep.
- e. As we understand it, the deepest part of the proposed A417 cutting is more like 22m, comparable to the deepest part of the M3 Twyford Down, but deeper to width proportionately, since it would be a dual carriageway and therefore narrower than a motorway.
- f. Land bridges are not effective in mitigating large scale topographical landscape impacts where there are views over, down and up through the cutting they bridge. There are also serious design challenges in terms of how they are seen from the road. The Scotney example is a stark structure when viewed from below.

Highways England (HE) have identified six potential land bridge locations, prioritised three locations i.e C, D and E and have signalled a land bridge of 50m width. We do not believe that the jointly agreed Vision, design principles and objectives will be adequately met by any of the land bridge locations identified and prioritised by HE to date. The appended assessment aims to review each location along Option 30 against the design principles for the scheme. They each have different merits and downsides, but none meet the strategic scheme vision and objectives in a substantive way.

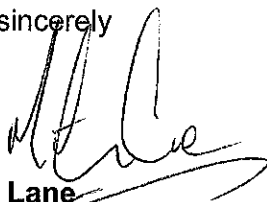
The inadequacy of land bridges as a solution to key landscape impacts becomes especially apparent when compared with possible variants of option 30 incorporating tunnel options. Such variants are entirely justifiable when compared to tunnels that have been or are proposed to be incorporated into dual carriageway roads with similar or less traffic throughputs, both within and outside protected landscapes, (see appended list).

In the recent technical working group meeting (18 July) HE indicated that a 50m land bridge may not be able to provide for landscape, biodiversity and access. HE's statement in mid July indicated that access (on foot, cycle or horse) could be directed to use the proposed road bridge for the A436 crossing the A417. But this fails to address key aspects of the scheme Vision, design principles etc?

HE are fully aware of the current challenges for Cotswold Way National Trail users crossing the A417 at the Air Balloon. They are also aware of the range of benefits that a wide, tranquil landscape crossing could provide for those users. National Trails were created to enable people to explore Britain's finest landscapes.

A genuinely landscape led solution must be sought, one that takes full account of access and the quality of experience for walkers, cyclists and riders using the National Trail and other access opportunities in the vicinity of the Missing Link.

Yours sincerely



Martin Lane
Director

A417: Assessment of Land Bridge Options along Option 30

1. Delivering Substantial Benefits	Location A	Location B	Location C	Location D	Location E	Location F	Location G
<ul style="list-style-type: none"> • <i>Improve connectivity and access</i> • <i>Cotswold Way</i> • <i>Gloucs Way</i> • <i>other rights of way</i> 	Minimal benefit	Limited benefit: significant drop; cutting to E looming over	Good location for Cotswold & Gloucs Ways at Crickley	Good location for Cotswold & Gloucs Ways at Crickley	No benefit at Crickley; some benefit for Gloucs Way	Limited benefit local rights of way.	Limited benefit: local rights of way
<ul style="list-style-type: none"> • <i>Reduce severance of the scarp and scarp-top</i> • <i>landscape</i> • <i>access & visual</i> • <i>ecology</i> • <i>historic character</i> 	No benefit for scarp	No benefit for scarp	Minimal benefit for landscape & historic character. Benefits for access, ecology Visual unclear	Minimal benefit for landscape & historic character. Benefits for access, ecology Visual unclear	No benefit for scarp	No benefit for scarp	No benefit for scarp
<ul style="list-style-type: none"> • <i>Improve</i> • <i>tranquillity</i> • <i>air quality</i> 	Minimal benefit	Minimal benefit	Minimal benefit	Minimal benefit	Minimal benefit	Minimal benefit	Minimal benefit
<ul style="list-style-type: none"> • <i>Improve management of Heritage Assets:</i> • <i>access</i> • <i>setting</i> 	No obvious benefit	No obvious benefit	Benefit access to Crickley Hill SAM; No setting benefit	Benefit access to Crickley Hill SAM; No setting benefit	No obvious benefit	No obvious benefit	No obvious benefit
<ul style="list-style-type: none"> • <i>Enhance historic character and amenity of local settlements and local roads</i> • <i>prevent rat-running</i> • <i>sensitive design</i> 	No benefit	No benefit	No benefit	No benefit	No benefit	No benefit	No benefit
<ul style="list-style-type: none"> • <i>Maximise use of land parcels isolated by new road for habitat creation</i> • <i>deciduous woodland</i> • <i>limestone grassland</i> • <i>rock faces, ledges.</i> 	Detailed design	Detailed design	Detailed design	Detailed design	Detailed design	Detailed design	Detailed design
<ul style="list-style-type: none"> • <i>Minimal street lighting and sign illumination.</i> 	?Neutral	?Neutral	?Neutral	?Neutral	?Neutral	?Neutral	?Neutral
<ul style="list-style-type: none"> • <i>Ensure suitable access is maintained</i> • <i>Agricultural</i> • <i>Private</i> 	?Neutral/ depends on precise location	?Neutral/ depends on precise location	?Neutral/ depends on precise location	?Neutral/ depends on precise location	?Neutral/ depends on precise location	?Neutral/ depends on precise location	?Neutral/ depends on precise location
<ul style="list-style-type: none"> • <i>[Biodiversity (incl. construction)]</i> • <i>Protect SSSIs</i> • <i>conserve biodiversity</i> 	Limited benefit (Not obviously helps protected	Limited benefit (Not obviously helps protected	Some benefit (may help protected	Some benefit (may help protected	Limited benefit (Not obviously helps protected	Limited benefit (Not obviously helps protected	Limited benefit (Not obviously helps protected

Road Tunnel Summary: location and traffic throughput per tunnel length

Tunnels (Road No. and Location)		Context	Daily traffic	Annual traffic	Length (m)	Annual traffic per tunnel m	Tunnels (Road No. and Location)		Context	Daily traffic	Annual traffic	Length (m)	Annual traffic per tunnel m
A2 Eltham		urban		21,900,000	156	140,385	M25 Bell Common	rural COMMON		48,830,000	48,830,000	515	94,816
A12 Green Man		urban		21,900,000	170	128,824	A27 Southwick Hill	rural NAT PARK		17,110,000	17,110,000	510	33,549
M25 Bell Common	rural COMMON			48,830,000	515	94,816	A20 Roundhill	rural AONB		14,600,000	14,600,000	370	39,459
A40 Hangar Lane	urban			21,900,000	240	91,250	A417 Op30	rural AONB	39,000	14,235,000	14,235,000	?	?
A50 Meir Stoke	urban			25,000,000	284	88,028	A3 Hindhead	rural AONB NT	35,000	12,775,000	12,775,000	1,830	6,981
M4 Brynglas	suburb			29,000,000	360	80,556	A40 Gibraltar Hill	rural	27,000	11,000,000	11,000,000	188	58,511
A12 George Green	urban			21,900,000	295	74,237	A505 Baldock	rural	24,000	9,855,000	9,855,000	224	43,996
M25 Holmesdale	suburb			46,830,000	684	68,465	A303 Stonehenge	rural WHS	24,000	8,760,000	8,760,000	2,900	3,021
A13 East India Dock	urban			23,725,000	350	67,786							
A40 Gibraltar Hill	urban			11,000,000	188	58,511							
A505 Baldock	rural			9,855,000	224	43,996							
A20 Roundhill	rural AONB		27,000	14,600,000	370	39,459							
A321 Upper Thames St	urban			10,950,000	320	34,219							
A27 Southwick Hill	rural NAT PARK			17,110,000	510	33,549							
A739 Clyde	estuary			22,000,000	756	29,101							
A38 Queensway	urban		42,000	15,330,000	550	27,873							
A1(M) Hatfield	urban			29,510,000	1,147	25,728							
A289 Medway	estuary			15,300,000	725	21,103							
Dartford	estuary			25,350,000	1,430	17,727							
A102 Linthouse	urban			23,725,000	1,553	15,277							
A3 Hindhead	estuary			18,250,000	1,350	13,519							
(A59) Kingsway Wallasey	rural AONB NT		35,000	12,775,000	1,830	6,981							
A55 Conwy	estuary WHS			15,640,000	2,260	6,920							
(A41) Queensway Birkenhead	estuary WHS			5,500,000	1,089	5,051							
A303 Stonehenge	rural WHS		24,000	11,000,000	3,260	3,374							
				8,760,000	2,900	3,021							