

# SRN INITIAL REPORT CONSULTATION VPA REPRESENTATION

## APPENDIX A

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## 1.1 A36/A46 UNSUITABILITY

### 1.1.1 A36

The A36, within the topographically challenging Limpley Stoke Valley, is geologically unstable and ongoing large-scale movement is prevalent.

These problems, and the formidable engineering challenges and high cost associated with improving the Limpley Stoke Hill, were set out in detail in the 1976 Scott, Wilson, Kirkpatrick & Partners Study commissioned by the DfT. They were subsequently confirmed by the DfT at the 1990 Batheaston Public inquiry into a proposed link road between a new Batheaston Bypass and the A36 at Dry Arch (Refer Appendix B: Figures 1 & 2).

The DfT stated that, in view of the instability of the A36 terrain south of Bathampton, the link road was not part of its long-term plan but simply a temporary solution, or breathing space, while it pursued the 'East of Bath to Beckington' scheme - the preferred long-term plan, but requiring many years to implement.

The Planning Inquiry Inspector suggested that the DfT should accelerate its evaluation of this scheme and another option (South of Bath scheme) and made it clear that, in the event that both were found to be unacceptable, the A350 would have to be looked at properly.

The proposed link road was rejected in 1992 by the then Secretary of State for Transport after having fully accepted the recommendations of the Inspector.

The unsuitability of the A36 was again highlighted in the DfT's justification for the 1994 'East of Bath to Beckington' scheme (Refer Appendix B: Figure 3) -

*"The Bath to Beckington section of the A36 is generally of poor standard" and "The section of the route southwards from Bath, through the Limpley Stoke valley, is narrow with severe bends, poor visibility and steep gradients".*

This scheme, which was considered to offer much wider strategic traffic benefits and remove traffic from Bradford on Avon as well as Bath, was subsequently withdrawn by the DfT in 1996 following a review of the National Roads Programme.

Since 1996 the A36 has suffered terrain instability problems with the consequent need to employ enhanced maintenance to retain the integrity of the route, e.g. to maintain the steep embankments of Limpley Stoke Hill. These problems, which have resulted in extended road closures, are highlighted in the 2014 and 2017 South West Peninsula Route Strategy Reports.

Other problems of existing severance in villages along the A36 (e.g. at Claverton, Limpley Stoke and Freshford) and incident clusters (at Limpley Stoke) are also highlighted in the 2017 South-West Peninsula Route Strategy Report.

### **1.1.2 A46**

The DfT has long recognised that the A46 - location of many recorded incidents (e.g. Hartley Bends), local subsidence, severe congestion (e.g. Cold Ashton junction), village severance (e.g. Pennsylvania) and 'noise important areas' (e.g. Bath near junction with A4 and Swainswick) - is inadequate for present day traffic.

Some of these problems were identified in the justification for the 1993 DfT A46 Trunk Road Improvement Scheme (to create a dual carriageway linking the M4 junction 18 with the Batheaston/Swainswick Bypass) - later shelved - and others are described in the 2017 and 2014 South West Peninsula Route Strategy Reports. The problems of significant topographical constraints (climb from Bath to Cold Ashton) and congestion on this corridor are also identified in the West of England Joint Transport Study.

Both the A36 and A46 are intrinsically unsuitable for the significant increase in traffic, particularly HGV movements, which would result from a link road.

## **1.2 BATH TRAFFIC & AIR QUALITY**

### **1.2.1 Traffic Composition**

In common with most UK towns and cities, Bath suffers from traffic congestion in the morning and evening peak hours. In contrast to popular perceptions, however, traffic volumes in Bath have, if anything, been declining and this is highlighted in the 2014 Bath & North-East Somerset Council (B&NES) 'Getting Around Bath' transport strategy, and demonstrated by DfT traffic data from the principal eastern artery within Bath - London Road (Refer Appendix B: Figure 4).

A36 automatic count survey (1997,2008) and DfT AADF manual count (2016) data indicate that traffic has remained constant at a level of just under 10,000 vehicles/day including ~ 650 HGVs (~6.3%).

The London Road data illustrate that ~95% of total traffic is cars/vans and ~5% is HGVs. These traffic composition data are comparable with data from the 2004 Government commissioned Bristol/Bath to South Coast Study (BB2SCS).

Data from this study also indicate that the bulk of traffic along London Road comprises non-through movements (~88%). Car/van and HGV through-movements contribute ~8% and ~4% respectively, with only part (75%) attributed to the A36 Warminster Road.

The preceding data illustrate two important points –

(i) The vast majority of traffic in Bath is cars/vans undertaking trips over very short distances, i.e. it is 'local' and not dominated by through-traffic.

Local car/van traffic removed from the London Road, as a result of a link road, would have to access/egress Bath via other routes. Any released capacity on London Road would soon be taken up by suppressed demand.

London Road might initially benefit but the Bath area, as a whole, would see little or no improvement (demonstrated by traffic modelling in the BB2SCS).

(ii) Through-HGV movements are less than 4% of total traffic flow along London Road. These, and other HGV movements, can be reduced by measures other than a link road and are discussed in Section 2.

### **1.2.2 Induced Traffic**

New roads, for which traffic growth due to other factors is forecast correctly, will see additional (induced) traffic in the short term, increasing in the long term. This phenomenon was described in "Trunk Roads and the Generation of Traffic" which was published in 1994 by the government's advisory body SACTRA (Standing Advisory Committee on Trunk Road Assessment). The DfT accepted the report's conclusions.

An early indication of the impact of additional traffic is provided by the BB2SCS which predicted that a link road would cause significant increases in traffic (particularly HGV movements) on both the A36 and A46.

A ~30% increase in A36 traffic south of Bathampton, which would include a ~100% increase in current HGV movements, would result in the Brassknocker junction/Limpley Stoke Viaduct section becoming an even more severe bottleneck, with route maintenance requirements, and attendant road closures, likely to increase e.g. with higher frequency of need to repair Limpley Stoke Hill.

A ~10% increase in A46 traffic, which would include a ~40% increase in current HGV movements, together with the A36 traffic increase would, even without the additional impact of unpredicted induced demand, significantly exacerbate all the other route problems described in Section 1.1 and have incremental cost implications for both roads, over and above the high capital cost associated with a link road scheme.

### 1.2.3 Air Quality

B&NES has a comprehensive monitoring network that provides data on air pollution within Bath. The network includes four automatic (continuous) monitoring sites, two of which are located on London Road - the principal eastern artery within Bath which carries both local and through-traffic (Refer Appendix B: Figure 1).

Data from one of the London Road automatic monitoring sites (|Chelsea House) show that levels of particular matter (PM<sub>10</sub>) do not exceed government air quality objectives and that the annual average PM<sub>2.5</sub> concentration of 11 µg/m<sup>3</sup> (measurements started in July 2015) is also below the government annual average objective of 25 µg/m<sup>3</sup>.

Annual average nitrogen dioxide (NO<sub>2</sub>) concentrations have, however, exceeded the objective level of 40 µg/m<sup>3</sup> at a number of locations in Bath and an Air Quality Management Area (AQMA) was declared in 2002 covering an area including London Road and Cleveland Bridge. The AQMA has been varied several times, most recently in 2013.

Data provided in the B&NES 2017 Air Quality Annual Status Report and draft Bath Air Quality Action Plan show that NO<sub>2</sub> concentrations in The Paragon and London Road - A36 Warminster Road corridor have been falling in recent years with The Paragon, London Road, Cleveland Place, Bathwick Street, Beckford Road and Warminster sites now approaching or below the annual average objective (Refer Appendix B: Figure 5).

This encouraging trend is reinforced by predictions in the draft Air Quality Action Plan that the NO<sub>2</sub> annual average objective level will be met at The Paragon and most of the London Road - A36 Warminster Road corridor sites by 2020. These predictions do not allow for any air quality improvement actions and reductions in vehicle emissions are due solely to an improvement in engine and fuel technology.

In this regard it is important to note that, from a source apportionment study presented in the draft B&NES Air Quality Action Plan, diesel cars contribute Given the approximately the same oxides of nitrogen (NO<sub>x</sub>) as HGVs in the London Road area.

Given the foregoing and against a backdrop of continued decline in diesel car sales and implementation of B&NES short/medium term air quality improvement actions it is entirely reasonable to expect that air quality objectives will be met at The Paragon and the vast majority of London Road - A36 Warminster Road corridor locations within the AQMA, without any link road scheme.

## 1.3. ENVIRONMENTAL IMPACT

Any A36/A46 link road option would be located within the Avon & Limpley Stoke Valley, which lies entirely within the Green Belt and forms part of the Cotswolds Area of Outstanding Natural Beauty (AONB) and setting of The City of Bath World Heritage Site (WHS) - Refer Appendix B: Figure 6.

### 1.3.1 City of Bath World Heritage Site Setting

The City of Bath was inscribed as a World Heritage Site by UNESCO in 1987. The protection of the setting of any WHS is inextricably linked to the protection of the Site itself. This is particularly true in the case of Bath where the AONB landscape surroundings of the city have been fundamental to the location, form and special character of the WHS.

Protection of the setting not only has value, in its own right, in protecting the authenticity of the WHS but also contributes directly to the economy, health and welfare of the city and its surrounding communities.

The responsibility to protect the WHS landscape setting is set out in a number of material international, national and local documents, e.g. -

- **2008 City of Bath UNESCO report:** highlights the need for reinforced protection of both the surrounding landscape and of the views to and from the City of Bath.
- **2009 Government Circular on protection of WHSs.**
- **2009 B&NES Public Realm and Movement Strategy:** "Bath's dramatic landscape setting is integral to the beauty of the place and to its identity as a WHS", "Interventions within and around the city will need to protect and enhance the outstanding universal values of the World Heritage Site";
- **2010 WHS Management Plan.**
- **2013 WHS Setting Supplementary Planning Document:** "The objective of protection of the setting not only has value in its own right in protecting the authenticity of the WHS but also contributes directly to the economy, health and welfare of the city and its surrounding villages and its residents".
- **2014 B&NES Core Strategy.**

### 1.3.2 Avon & Limpley Stoke Valley

The Avon & Limpley Stoke Valley area is characterised by a combination of topographical constraints - in the form of steep valley slopes, the Kennet and Avon Canal, River Avon, Great Western Railway and proximity of the A4 Batheaston Bypass to the railway line - and significant environmental assets in the form of a complex mix of archaeological and cultural heritage designations and sensitive landscape (Refer Appendix B: Figures 1/6).

These challenges and the (undisputed) severe adverse environmental impact a link road would have on the Green Belt, WHS landscape setting and Avon & Limpley Stoke Valley have been widely documented, e.g. at the 1990 Batheaston Public Inquiry and in subsequent link road evaluations in the 2004 Government commissioned BB2SCS, 2006 Greater Bristol Strategic Transport Study (GBSTS) and 2017 West of England Joint Transport Study.

## **1.4 LINK ROAD OPTIONS**

Prior to 1985 a **Beckford Spur** was an integral part of the DfT's trunk road proposals to bypass Batheaston and Swainswick. In 1986 the DfT announced the Swainswick-Batheaston Bypass with a link road, the Beckford Spur no longer being considered necessary.

Avon County Council elected, however, to pursue Beckford Spur options and in 1989 published proposals (Refer Appendix B: Figure 7). The Council subsequently failed to get support; Bath City Council, in particular, expressing extreme concern about the environmental damage the spur would cause. Bath City Council noted that the DfT link road would also be very damaging environmentally but would not be seen from the city. The Beckford Spur scheme was dropped by Avon County Council.

Since the dropping of the Beckford Spur, the 1992 DfT rejection of the Dry Arch link road and 1996 abandonment of the 'East of Bath to Beckington' scheme the following link road options have been considered -

### **(a) Routes from A36 Dry Arch Area to A4 Batheaston Bypass**

The BB2SCS recommended consideration of two link road options between the A4 Batheaston Bypass and the A36 Dry Arch area (Refer Appendix B: Figure 8). These options (A & B) are equivalent to the scheme rejected at the 1990 Batheaston Public Inquiry. The 2006 GBSTS considered a link road equivalent to the BB2SCS Options.

### **b) Route traversing Limpley Stoke Valley, linking the A36 to the A363**

A third option (route traversing the Limpley Stoke Valley from the A36 south of Bathampton to the A363 at Bathford) was rejected by the BB2SCS because of engineering constraints, the impact on the Avon Valley flood plain, the difficulty of achieving a satisfactory tie-in to the A363, and adverse feedback on the cross-valley alignment (Refer Appendix B: Figure 9).

It is clear that any of the above options would mean a new, intrusive, road which would have severe adverse impacts on landscape and recreation and blight irreversibly the Avon & Limpley Stoke Valley and WHS landscape setting. They would be particularly disruptive to the many leisure users of the Kennet & Avon Canal.

It is of grave concern, therefore, that the preferred link road options identified in the West of England Joint Transport Study (October 2017) are Option B from the BB2SCS and a scheme “connecting the A36 (south of Bathampton) to the A363 (near Bathford, south of the A4 roundabout)”. The former is effectively the scheme rejected at the 1990 Public Inquiry and the latter is equivalent to the option rejected by the 2004 Government commissioned BB2SCS.

The West of England Joint Transport Study has estimated costs at some £100m but, even with an unlimited budget, it would be impossible to build a structure - particularly one associated with the latter ‘bridge’ option which would straddle the valley - which could mitigate, by design, the severe adverse impacts of large junctions, gantry signs, lighting and noise associated with thousands of vehicle movements daily.

The 1990 Batheaston Public Inquiry conclusion of a link road as “*having intolerable impacts on landscape and being devastating to recreational amenity*” is unambiguous and remains wholly relevant to either of the preferred route options.

A photograph showing the area of the Limpley Stoke Valley Green Belt, AONB and WHS landscape setting which would be blighted, if either of the preferred link road options were built, is provided in Appendix B: Figure 10.

## **1.5 REGIONAL ROAD NETWORK**

The recently published South of England North-South Connectivity Prospectus (October 2017) highlights the lack of suitable north-south connections in the strategic route network (SRN) and outlines the economic case for inclusion of improvements in RIS2.

In that context, and with particular reference to the suitability and function of the A36/A46 as part of the SRN, it is considered that there is a compelling case for making the nearby A350, north of Warminster, part of the SRN.

The A350 is the principal north-south route through Wiltshire. Sections of the Chippenham Bypass have been significantly improved in recent years and further works to improve roundabout junctions and make other sections dual carriageway are underway. In addition, improvement works will be carried out at Junction 17 on the M4 to address safety and congestion issues.

These improvements, and further upgrades (e.g. a Westbury Bypass) would greatly enhance the strategic function of the A350, enable economic growth across Wiltshire and importantly, attract through-traffic, particularly HGVs, away from Bath.

A Westbury Bypass eastern route was rejected in 2009 following a Public Inquiry. However, there is a western route option which the planning inspector judged to be better value. It is understood that Wiltshire Council, Westbury and Bradford on Avon Town Councils and West Wiltshire Parish Councils strongly support this western alternative.

The beneficial characteristics of the A350 are summarised in the schematic below and underline the high potential of the route to be part of the SRN.



- A350 improvements (e.g. Westbury Bypass) would enhance function as strategically important N-S route through Wiltshire.
- A350 improvements would enable economic growth across Wiltshire.
- A350 is more level, more easily navigable and more economical on fuel than A36/A46, resulting in lower emissions.
- Freight industry prefers the A350.
- A46 and A36 (e.g. Limpley Stoke Hill) suffer terrain instability problems.
- An improved A350 would attract through-traffic, in particular HGVs, away from Bath.

South Gloucestershire Council, in partnership with Highways England, is currently in the early stages of developing a scheme for a new M4 Junction 18A and an associated link to the A4174 Ring Road. The West of England Joint Transport Study states that this will enable traffic from the east to instead use the new junction and join the A4174 resulting in reassignment of traffic away from the A46 and minor roads, delivering significant relief to the A46 corridor.

Similarly, it is entirely feasible that M4 traffic, including HGVs, west-bound for Bath and/or key towns or ports in the south, would do the same, thereby further alleviating traffic congestion in eastern Bath.

## 1.6 BATH TRAFFIC MANAGEMENT MEASURES

### 1.6.1 Summary

Measures to support greater use of public transport (bus and rail) in Bath and other transport improvements are set out in the B&NES 2014 'Getting Around Bath' transport strategy and 2017 "Our plan to get Bath moving".

Key traffic management measures with the potential to reduce the impact of local and through-traffic, particularly HGVs, include -

- Clean Air Zone - e.g. Leeds, Birmingham, Nottingham, Derby and Southampton
- HGV access and delivery time restrictions.
- Regional and local HGV signing strategy to direct vehicles away from Bath
- Expanded use of freight consolidation centre(s).
- Increased focus on rail freight - refer West of England Joint Transport Study
- Expanded Park and Ride capacity
- Improved coach parking options, e.g. outside city, using Park and Ride sites.
- Remove traffic signals to improve traffic flow
- Staggering business and school hours
- Promotion of low emission transport, e.g. freight, delivery (home and work), buses, taxis, B&NES fleet and provision of electric car charging points.

### 1.6.2 Cleveland Bridge HGV Ban

If the A350 was further upgraded to form part of the SRN north of Warminster, there should be scope to revisit, if required, the DfT's 2012 rejection of B&NES' request for HGV restrictions on Cleveland Bridge (Refer Appendix B: Figure 1).

## 2. CONCLUSIONS

The VPA concludes that -

(a). An A36/A46 link road, irrespective of route and whether intended as a Bath relief road or a SRN improvement, is not viable. Moreover, it would cause (undisputed) severe environmental damage which could not be mitigated.

(b). There is a compelling case for further improvements to the A350, north of Warminster, and making it part of the SRN.

The upgraded A350 would improve regional north-south connectivity through Wiltshire while alleviating through-traffic, particularly HGVs, in Bath.

This, together with public transport improvements (bus and rail) in Bath and implementation of other measures to reduce the impact of local and through-traffic would provide a sustainable, effective solution to eastern Bath traffic congestion and pollution and make the idea of any link road redundant.

(c). This solution, potentially complemented by Bath traffic congestion relief arising from the proposed new M4 Junction 18A and link road to the A4174 Ring Road, would achieve the overriding objective of protecting the unique status of *both* The City of Bath World Heritage Site and its landscape setting, whilst also affording wider regional benefits.