

Design Review Report

A456 Sections 5 and 6,
Dowlais Top to Hirwaun

DCFW Ref: N99

Meeting of 18th February 2016



Declarations of Interest

Panel members, observers and other relevant parties are required to declare **in advance** any interests they may have in relation to the Design Review Agenda items. Any such declarations are recorded here and in DCFW's central records.

Review Status

PUBLIC

Meeting date	18 th February 2016
Issue date	2 nd March 2016
Scheme location	Dowlais Top to Hirwaun
Scheme description	Highways/road infrastructure
Scheme reference number	N99
Planning status	N/A

Declarations of Interest

None declared

Consultations to Date

Public consultation on the 1997 scheme was completed in December 2015. There is ongoing consultation with Natural Resources Wales (NRW).

The Proposals

The proposed scheme involves online widening of an existing 2-3-lane trunk road between Dowlais Top roundabout in the east and Hirwaun Industrial Estate in the west, approximately 16km. The A465 Heads of the Valleys trunk road links south and west Wales to the English Midlands and was constructed in the 1960s. Currently, the majority of the trunk road consists of a two - three lane carriageway between Dowlais Top and Hirwaun. Surrounding land uses are varied and include residential towns and villages including Hirwaun, Cefn Coed, Gurnos, Pant, and Dowlais Top; the Brecon Beacons National Park; agricultural uses; and industrial estates. Works would include some small off-line sections, grade separated junctions, replacement and new structures, and major earthworks. The scheme is part of a broader dualling of the entire 40km of A465 between Abergavenny and Hirwaun. Previous sections are now completed or under construction. It may be useful to read DCFW's reports on the earlier phases to learn lessons for this section.

Main Points in Detail

The following points summarise key issues from the review, and should inform work ahead of further review of the scheme:

Presentation and Communication

The Design Commission commends the team for their clear presentation which provided an excellent overview of the complex issues involved and the design approach being taken to this scheme. The visual and verbal presentations helped to engender confidence that the design process is considering the right things in the right level of detail at this stage, even though it was not possible to cover all the issues in detail at this review. The design narrative was made especially clear, which is encouraging.

The use of physical working models to demonstrate design options for the A470 junction was helpful. It would be useful to model some of the other particularly sensitive parts of the scheme in this way as the project progresses.

The clear language used in the presentation and discussion is appropriate for communicating the complex issues and in explaining and justifying the design approach to a wide variety of stakeholders.

Design Team Approach

The Design Commission supports the general design approach being taken, which is moving in the right direction, at this stage. Protecting the design narrative, ethos and ultimate quality will be key challenges.

It is good to see members of the design team working together at this early stage to understand and integrate different issues and responses.

Understanding the Landscape

This stretch of road passes through a variety of landscape character types, adding complexity. The Commission believes that it is important to develop and use a good understanding of the landscape and context to inform the design. It is important to understand the different qualities along the route before getting into landscape design drawings.

The presenting team demonstrated that they are investing time in understanding the landscapes and contexts through a variety of studies, including spending time on site, drawing and modelling. The 'narrative of observations' along the route is useful.

The places along the stretch where there is transition, from townscape to landscape for example, will be especially important and much harder to get right. Extending the analysis and design response along the crossing and intersecting routes away from the immediate confines of the A465 alignment will also be crucial, and the evidence of locations where this has already been considered was encouraging.

Balancing & Managing Impacts

As with all schemes of this nature and complexity, balances will need to be struck between meeting technical requirements and design standards, and the impacts made on surrounding landscapes and communities. There are numerous issues to weigh up in making decisions, and it is important that design philosophies and project visions are in place to guide this process, and so that value judgements can be made when there are conflicting demands. Iterative testing processes will be required to balance impacts in different situations. It will also be useful for the team to look at precedent schemes, especially the previous sections of the A465, to learn lessons for this project.

It will be useful to identify key viewpoints and receptors to focus design attention and decision making. Views to and from, and impacts on sensitive landscapes and communities will be important.

Where drainage and attenuation ponds are necessary, these should be integrated through design to maximise benefits.

At the Baverstock and Croes Bychan junctions it will be particularly challenging to get the right balance between managing traffic flows on and off the main road and minimising the scale of the junction in this open area of high ground. It would be useful to model this junction to achieve a better understanding of potential impacts.

It is good that an ecologist will be working closely with the other designers to avoid any potentially negative knock-on effects from compliance with or responses to environmental legislation.

Approach to Bridge and Structure Design

In this case, it may not be appropriate to take a uniform or 'family' approach to the design of the bridges and other structures because of the significant variation in surroundings along the length of the road.

There are a number of existing structures with significant design and heritage value which have been recognised by the team. The best way to approach these structures will need to be carefully debated so that a philosophy can be developed. It will be important that the right level of detail and information relating to working with the existing structures is included in the tender documents.

In general, the simple, elegant and raw approach to new construction which the team described seems appropriate. Reflecting, and sometimes exposing, the underlying geology and expressing the construction method of new structures are valid approaches which would echo the region's industrial heritage.

Community Connections

The scale of this scheme will mean significant impacts on surrounding communities. Wherever possible, opportunities for making those impacts positive rather than negative should be pursued.

It would be useful to map existing community connections which could be improved, as well as opportunities for new connections. All routes and connections should be designed to feel safe to use and encourage active travel.

Through good, integrated design, there are many aspects of the scheme which could improve the amenity for local residents and visitors, and these should be identified and built into the scheme at an early stage.

Some of the opportunities for improvement may sit partly outside the scope of this scheme, so engagement with the local authorities would be beneficial. For example, a public realm strategy for High Street would have many benefits for the community, but

would need to stretch beyond the boundaries of this project. Opportunities for future projects such as these should be identified and mapped with local authorities.

Approach to Detail Design & Procurement

Due to the complexity and variety of conditions to which this scheme will need to respond, the design process will require a significant investment of time and resources in order to get all parts of the project working well as an integrated whole. The value of design investment at these early stages of the scheme should not be underestimated. The same will apply at the detail design stage: this will be important, but it is good that strategic design issues are being well considered first.

The content of the specifications and drawings for tender will need to reflect the project priorities and philosophies so that money is spent in the right places and to benefit from innovation in the right places. The Commission strongly supports an approach that makes essential design requirements mandatory in the construction contract documents. Where there is something that the client and design teams feel is important it should be prescribed in detail and not left to later interpretation by the contractor team.

Further Review

The Design Commission welcomes the opportunity to review this scheme again as design work progresses. At the next review we would expect to see:

- Explanation and examples of how design is being informed by understanding of landscapes and the interfaces with routes across the A465
- How lessons learnt from previous sections of the A465 have been used
- Work in progress on design of structures
- Baverstock Junction options modelled
- Drainage/attenuation pond strategies
- Community connections identified and mapped

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A Welsh language copy of this report is available upon request.

Attendees

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