

Design Review Report

A55 Proposed Third Menai Crossing,
Menai Strait

DCFW Ref: N160

Meeting of 15th March 2018



Review Status

Meeting date

Issue date

Scheme location

Scheme description

Scheme reference number

Planning status

PUBLIC

15th March 2018

27th March 2018

Menai Straits

Proposed third crossing of the Menai Strait from the A55 Trunk Road

N160

Pre-application

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.

Knight Architects is sub-contracted by AECOM to provide specialist structures/architectural advice on this scheme. Martin Knight, Director of Knight Architects, is a member of the DCFW Design Review panel, however was not sitting on the panel for this review.

Ben Sibert, a Design Review panellist, is working with Peris Jones on other Welsh Government projects in his role at Arup.

All present were content to proceed with these declarations.

Consultations to Date

A public consultation has recently concluded which sought views on a range of options within the narrow corridor either side of the Britannia Bridge. The DCFW responded to this consultation. The current proposals have not previously been reviewed by DCFW however research, feasibility and preliminary materials, pre-draft orders, were consulted upon through DCFW Design Review in November 2008.

The Proposals

The current proposal is for a new third road bridge across the Menai Strait, with associated approach roads, connecting to the A55 Trunk Road between Junctions 8 and 9.

The crossing is proposed to be located to the east of the existing listed Britannia Bridge, on an alignment yet to be determined.

Four alignment options, with 2 sub options, and three bridge forms are currently under consideration and were presented at this review meeting.

Main Points

The Commission welcomed further consultation from the team and fully understands the nature of the scheme, its implications, challenges and opportunities. The Commission is also aware of other projects and stakeholders in the locale and that this context may afford wider opportunities. Our focus is, however, on the proposed 3rd crossing and its benefits. The following points summarise key issues arising from the review discussion and should be considered to inform any further work ahead of route alignment selection:

Objectives, Decision Making and Justification

Justification for the scheme as a whole should be fully articulated and used to inform the objectives of the proposed crossing. Project need is currently set out mainly in terms of traffic and transport planning and the alleviation of peak time congestion.

Public benefits and clear objectives contributing to the Well-being of Future Generations Act (Wales), the Active Travel Act, strategic tourism and the design and place-making agenda set out in Planning Policy Wales, along with wider public benefits should be clearly explained. In addition to reflecting the Well-being Act's five ways of working, further engagement with stakeholders will also provide a range of perspectives that could usefully contribute to the scheme objectives.

Project objectives contributing to the goals of the Well-being of Future Generations Act should be explicit in all materials and evident in all analyses including the WELTaG model. In order to identify budgetary capacity, clear objectives must be established from which defined outcomes arise, leading directly to enhancement and public benefit.

Such justification is also necessary to allow the proper weighing of all benefits set against the scale of intervention in a location of such high landscape, historic and tourism value and in one of the most important views in Wales. The existing Stephenson and Telford structures are of national historic importance and represent outstanding engineering innovation of their time. The integrity of Stephenson's Britannia Bridge has, however, been significantly undermined by fire damage and subsequent replacement of the original box girder spans with trussed arches. As listed structures, the existing and future setting of the bridges constitute a key part of the analysis and design process and should condition the design approach and nature of reporting.

Detailed analysis is required to clearly demonstrate the hierarchy of decision making, where route selection/alignments are deemed to be optimum or have been discounted. Evidence of this analysis is absent from the current materials and will need to be provided, not least where route alignments to the west of the Britannia Bridge appear to have been discarded prior to consultation. Comprehensive analysis of evidence and details of decision making processes should be explicit.

Transport Planning Objectives have been developed from the outset of the process which began over 10 years ago. These should be rigorously re-assessed to ensure their relevance today, for the future of transport modes and to account for current legislation and guidance.

It appears at present that the transport benefits of each option are similar. The opportunity is therefore presented to make decisions based on other considerations such as bridge structure, visual, aesthetic and environmental enhancement.

Wider scheme objectives should be determined and communicated, such as environmental impact and potential for enhancement as well as ensuring a high quality visitor and user experience. Establishing such objectives will help identify the opportunities provided by the scheme and avoid an approach solely based on the mitigation of negative constraints and impact.

Overall in respect of Objectives, Decision Making and Justification, the Commission is not satisfied, from the presentation received, that an adequate framework of decision making criteria has been established for this scheme and the site of national importance.

Site analysis, views and visual analysis

Further site analysis is required to determine the impact of various bridge forms on the sensitive context of the Menai Straits, with special consideration given to the proximity to the existing listed bridges. Various key viewpoints do not appear to have been considered and tested, including views from the existing bridges and dedicated public view points on the A5 between Menai Bridge and Llanfairpwll. This design analysis is fundamental and should comprise graphical representation of options as well as written appraisal.

There appears to be a focus on determining alignment prior to bridge form and without a thorough analysis of landscape and visual impacts. The converse approach to design analysis that explores and tests the impact of different bridge forms within the sensitive landscape setting is required to help inform decision making for a preferred route alignment. In order to adequately justify both alignment and selection of the bridge, more thorough site analysis is required to explain the design decisions. The site analysis can then be used to inform key principles to be pursued in the design process related to the choice of alignment and the form of bridge.

Although this may seem to represent analysis above and beyond the requirements of the current WelTAG stage, it is imperative to ensure that changes to this highly sensitive and important environment are fully justified and delivered to the highest possible quality.

If the analysis required has been carried out, it is not evident in the material presented, neither is there evidence of the specialist input of Knight Architects who we understand have been retained to date. The Commission will seek tangible evidence of the contribution of such specialist structure design advice to complement the engineering approaches at the next meeting.

In respect of site analysis, the Commission is not satisfied, from the presentation received, that adequate analysis and appraisal of options has yet been undertaken to arrive at a preferred solution decision.

Programme

The national significance of this site requires that the Welsh Government gives adequate time for development of the preferred solution to ensure the third bridge is of the highest quality and that landscape and visual impacts are considered acceptable by key

stakeholders. DCFW would encourage the Welsh Government to review the current programme to allow sufficient time to undertake site analysis, design work and consultation with stakeholders to determine the most appropriate preferred solution.

We would recommend a collaborative design workshop with DCFW in the very near future, prior to determination of the bridge alignment, along with continued engagement throughout the design process.

We would like to understand further the involvement and views of stakeholders and engagement to contribute to and inform this stage of the scheme.

Procurement

The success of delivering a high quality crossing will rely on a strong design concept being settled and limits of flexibility determined prior to the start of the ECI contract. *IABSE Guidelines for Design Competitions for Bridges* provides guidance for many scenarios to achieve successful outcomes for bridge procurement.

http://www.iabse.org/IABSE/Publications/IABSE_Bulletins/Guidelines/IABSE/publications/Bulletins/Case_Studies/Guidelines.aspx?hkey=46fe7007-3d8c-4cc1-bb34-5511e2b221ab

https://issuu.com/iabse.secretariat/docs/guidelines_design_competitions

The Commission recommends that a direct contract between the client and a design consultant is most effective in ensuring continued control over design quality through to delivery. Recent examples of successful, well designed river crossings, such as the Mersey Gateway and Queensferry Crossing, have taken this approach and secured continuous client-side design advice outside of the design and construction contract, to ensure high quality design is maintained for maximum public value.

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

Attendees

Agent/Client/Developer: Peris Jones, Gareth Lloyd Wright - WG

Architect/Consultants: Ted Evans, Craig Bell, Kandiah Kuhendran – AECOM
Stephen Blunt – RML

Local Planning Authority: N/A Welsh Government

Design Review Panel:
Chair Jamie Brewster
Lead Panellist Ben Sibert
Jamie Yeoman
Simon Power
Matt Thomas
Carole-Anne Davies, Chief Executive, DCFW
Amanda Spence, Design Advisor, DCFW
Wendy Maden, Design Research Assistant, DCFW

Observers: James Stroud – Loyn & Co.