



Schedule 17 stage designs for Saltley Viaduct, HS2 Ltd

Saltley Viaduct

In May, the panel met to discuss the Schedule 17 stage designs for Saltley Viaduct – an overbridge structure over HS2 and existing rail infrastructure, the Birmingham and Warwick Junction Canal and the River Rea.

The meeting took place in advance of a Plans and Specifications Schedule 17 submission being made to Birmingham City Council.

Overall, the panel strongly supports the Schedule 17 stage designs for the viaduct. The creative response to technical requirements and site constraints has helped give Saltley Viaduct a distinctive character and has the potential to make

an important contribution to the regeneration of the surrounding area.

The panel supports key choices, including the adjustments to the abutments, the efforts to ensure at least one bridge is kept open during construction, and the integration of a wider pedestrian and cycle route on both sides of the viaduct.

Careful consideration has been given to the wider context. While the delivery of the opportunities identified to date will primarily be the responsibility of others, the panel highlights that these will be important to the success of HS2 and landscape will be an integral component of this. It is also essential that the design quality presented is maintained throughout detailed design and construction.

Design Panel activities April to June 2023

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Phase One meetings

- Electric vehicle charging at HS2 stations
- HS2 Learning Legacy Paper - Common Design Elements
- Colne Valley Viaduct site visit

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Phase Two meetings

- Phase Two bridge optimisation tool

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Schedule 17 stage meetings

- Schedule 17 designs for Saltley Viaduct

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Governance meetings

- May team meeting attended by the Design Panel chair, vice chair, secretariat and HS2 Ltd
- Department for Transport (DfT) Design Leadership meeting, attended by the DfT, the Design Panel, and HS2 Ltd
- Governance Advisory Panel meeting attended by the Design Panel chair, vice chair, deputy chairs and secretariat

Bridge optimisation tool

Since its inception in 2015, the Design Panel has advocated for the value of learning lessons from other projects and from within HS2, including the sharing of best practice.

In May, the panel met to discuss a parametric bridge optimisation tool developed by HS2 Ltd to help optimise viaduct structural design process.

The panel applauds HS2 Ltd decision to develop the tool, in particular its potential to improve decision making across HS2 and other infrastructure projects. For example, helping HS2 Ltd to ask better questions at an early stage, to make comparisons and to provide transparency on decision making.

While not part of its current scope, the tool has tremendous potential to be expanded to include different areas of design work (e.g. abutments), to incorporate additional considerations (e.g. construction methodologies) and provide invaluable insight as part of the other decision-making processes (e.g. as part of the Hybrid Bill process and during pre-application discussions with local planning authorities).

Critical to the success of the bridge optimisation tool will be its application. Therefore, the panel highlighted the importance of establishing robust mechanisms to ensure that the HS2 supply chain uses the tool in a way that can support good quality design decision making.



People's stories

Stephen is a Chartered Civil Engineer with 16 years' experience, predominantly in the road and rail sectors, and is currently working within HS2's Civil Engineering team. Prior to HS2, he has worked across a variety of design and site based roles, including Crossrail Pudding Mill Lane and the Waterloo International Terminal Upgrade.

"The optimisation tool will provide HS2 with the ability to objectively evaluate viaduct designs and the impact of further changes as designs progress.

The Design Panel provided valuable and wide-reaching feedback enabling exploration of applications beyond the pure structural and across a broader range of disciplines. We are excited to see where the capability of the tool combined with the panel's advice could take us."

Colne Valley Viaduct visit

In May, the panel visited the Colne Valley Viaduct and Western Valley Slopes construction site to gain insight into the progress by Align - Phase One Main Works Civils Contractor. At the Schedule 17 stage Design Panel meeting in July 2019 to discuss the designs for the viaduct, the panel were impressed by the attention which had been given to the design of aspects such as the piers. It was therefore pleased to see that this quality was still evident in the piers constructed on site. While there is a long way to go, the panel is excited to see the compelling viaduct and landscape proposals come together in this sensitive landscape context.



Frame Projects
Secretariat to the
HS2 Independent
Design Panel

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