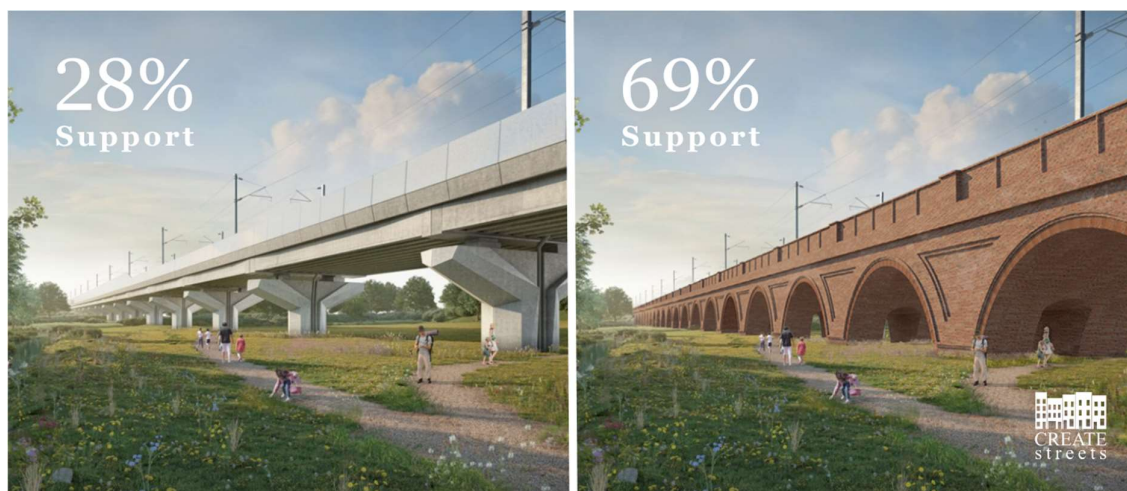


Creating viaducts: does 'big infrastructure' have to be ugly?

The results of Create Streets's latest visual preference survey. March 2024

1. Key points

- *High Speed 2 are using Visual Preference Surveys (VPSs) for the first time* giving the public a final say on the appearance of a viaduct design on Balsall Common near Solihull. This is commendable.
- *However, all is not as good as it seems.* The actual choice being offered (parapet design) is fairly secondary and reporting in the local media implies that most locally regard the viaduct's overall design as very ugly and careless of the landscape.
- *Would a different approach have been more popular?* Create Streets therefore followed the idea of the local MP, Saqib Bhatti, and worked up an alternative design of red brick arches. We then inserted a CGI of our design into one of the visualisations for Balsall Common Viaduct and used our refined visual preference survey techniques, working with Deltapoll, to survey public preferences.



- *A very clear public preference for the red brick design.* The British public overwhelmingly preferred the red brick arch design by 69 per cent to 28 per cent.
- *A particularly emphatic result in the Midlands...* 72 per cent of those in the Midlands preferred the red brick arch design with only 26 per cent disagreeing.
- *...a preference that transcends politics...* Voters for all three main British parties strongly preferred the more traditional design with Conservative voters being closest to the national average (69 vs 26 per cent for Conservative voters; 72 vs 26 per cent for Labour voters and 67 versus 30 per cent for Lib Dem voters).
- *A more attractive and popular viaduct would cost more but only a bit compared to the billions being spent fighting public resistance.* Although brick cladding over a concrete frame is probably the right approach, brick arches would undoubtedly add cost, in the millions for materials and

construction. However, this is small compared to the overall budget for a deeply disputed and contested project of around £100 billion.

2. Context: the little loved Balsall Common viaduct

The Balsall Common Viaduct will take the HS2 line as it passes Balsall Common (near Solihull) on the north-eastern side of the existing Network Rail line. It will be 425m long and ten metres above ground level. It will cross over Station Road, Bayleys Brook, the Heart of England Way Walk and the nearby floodplain. It will cross an area of native species grassland, trees, wetland and fishing lakes.

On 12 January 2024, the *Architects' Journal* reported that Weston Williamson + Partners, together with HS2, would be 'giving the public a final say on the appearance of a viaduct' being built as part of High Speed 2 on Balsall Common near Solihull. The *Architects' Journal* reported that:

'locals will be able to vote on the options such as bolder colours – including red or green – or less prominent finishes such as polished concrete “to reflect the sky and surrounding”, said Weston Williamson. There are also four options for parapet patterns, which the practice says reference the history of local textile production, the nearby Forest of Arden, brickmaking and livestock farming.’¹

To the best of our knowledge (and we would gladly be corrected on this point), this is the first time that a recent public commission has trusted even part of their design to a public vote. They are to be warmly commended for this. Unfortunately, the actual choices being offered were pretty 'second order' issues of fairly minor significance to the overall aesthetic appearance of the viaduct. All our experience polling the public (for example using our globally deployed [Create Communities platform](#)) and researching the underpinning reasons for public preferences also led us to a confident hypothesis that most members of the public would regard the design being offered as fairly unappealing.² Frankly, to us it looked like a generic motorway viaduct.

On further research this turned out to be true. The look and feel of the viaduct had been predictably unpopular with local residents. *Birmingham Live* had reported in September 2023 that while HS2's architects and engineers regarded the design as 'elegant', local residents felt it to be 'hideous' and 'monstrous.' Richard Lloyd told *Birmingham Live*:

'London gets nice things. Birmingham gets nice things. So why do we get palmed off with a horror show? They just don't care about Balsall Common. Starting again would be lovely, but fiddling with the colour of the concrete really won't solve the problem. Something in between would go some way to gaining community acceptance.'

Local MP Saqib Bhatti's written statement to the planning committee was reported as saying:

'As I previously commented, the design of this viaduct needs to better reflect the unique characteristics of Balsall Common and Berkswell, and the local natural environment. I understand there is a body of opinion held by residents of Balsall Common who believe that brick finishing would be acceptable. Alternatively, creating a green living wall on the external

¹ *Architects' Journal*, 'Weston Williamson puts HS2 viaduct design to public vote', 12 January 2024. For screen shot of full text appendix.

² Create Communities is available at: [Create Communities – Create Streets](#). Not all our work with clints or online findings from our Create Communities platform have yet been systematised or written up. However, a good summary of our and other's wider research into what places are popular and why is Iovene, Boys Smith, Seresinhe (2017) *Of Streets and Squares* available at: https://issuu.com/cadoganlondon/docs/of_streets_and_squares_26_march_wit?e=32457850/68741701

facing of this concrete viaduct would also be a huge aesthetic improvement on the existing design.³

3. A visual preference survey into fundamentals: what we did

Green walls are notoriously slow, fickle and hard to grow, particularly in our climate.⁴ To explore our hypothesis, Create Streets therefore decided to respond to the first of the ideas suggested by the local MP, Saqib Bhatti. We worked up an alternative design of red brick arches for the Balsall Common Viaduct, inspired by the design of the Ouse Valley Viaduct with details borrowed from the Bourne Valley Viaducts. Red brick will blend in time with the browns and greens of the surrounding landscape. Brick cladding over a concrete frame is probably the right approach.

This approach would undoubtedly add cost to the project, in the millions for both materials and construction, however this is a rounding error compared to the overall budget for a deeply disputed and contested project of around £100 billion (a figure that has already risen from £55 billion in part due to the endless local, legal and political challenges that it has faced).

We then inserted a CGI of our design into one of the visualisations for Balsall Common Viaduct.



Weston Williamson + Partners Balsall Common Viaduct. Credit: HS2

³ All quotes from [HS2 'horror show' viaduct approved despite ongoing objections - Birmingham Live](https://www.birminghammail.co.uk/news/hs2-horror-show-viaduct-approved-despite-ongoing-objections-12345678) ([birminghammail.co.uk](https://www.birminghammail.co.uk))

⁴ For example see, [Growing pains: why some green walls die](https://www.architectsjournal.co.uk/growing-pains-why-some-green-walls-die) ([architectsjournal.co.uk](https://www.architectsjournal.co.uk))



Create Streets's alternative indicative design for the Balsall Common Viaduct. Note how all other elements of the image (sky, trees, grass, people) etc are identical. We propose a brick cladding over a concrete frame.

In February 2024, we commissioned Deltapoll to run a visual preference comparison between the two images.

- Deltapoll surveyed a controlled and representative sample of 1,977 British adults.⁵
- The question asked was:

Here are two alternative design proposals for a viaduct for a new railway. All other things being equal, if you had to choose, which one of the following designs would you prefer is built?

- The choice of images was as shown above with a 'don't know' option also provided. Images were described purely as 'Image A' or 'Image B'. In other words no further verbal description was provided which might have influenced the result.
- The choice of images and the question's wording was selected using Create Streets Visual Preference principles to ensure a fair comparison of views. These principles state that:
 - **Images.** 'Visual preference surveys should aim to use images which are as similar as possible. Ideally, only the elements which are compared should be different. Often images will need to be edited to align extraneous aspects such as sky colour or level of greenery which might influence the result.'
 - **Questions.** 'Wherever possible, ask as tangible, specific and 'real' a question as possible. Sometimes it is right to ask "which of these do you prefer?" But normally you should relate questions to real life or to actual changes to a place: "Which of these buildings

⁵ I.e. not including Northern Ireland.

would you rather live next to?" "Where would you rather sit?" "Where would you rather walk?" "Which of these would you rather see built near your home?"

3. Results: what the British public think

- *A very clear public preference for the red brick design.* The British public overwhelmingly preferred the red brick arch design by 69 per cent to 28 per cent.
- *A particularly emphatic result in the Midlands...* 72 per cent of those in the Midlands preferred the red brick arch design with only 26 per cent disagreeing.
- *...a preference that transcends politics...* Voters for all three main British parties strongly preferred the more traditional design with Conservative voters being closest to the national average (69 vs 26 per cent for Conservative voters; 72 vs 26 per cent for Labour voters and 67 versus 30 per cent for Lib Dem voters).
- *.. a preference that transcends views on Europe...* Views on the design from "remain" and "leave" voters were almost identical. (69 vs 29 per cent for "remain" voters and 68 vs 27 per cent for "leave" voters).
- *... a preference that is shared by rich and poor...* Those of ABC1 social status and of C2DE social status have similar views on the design. (71 vs. 26 per cent for ABC1 and 66 vs. 30 per cent for C2DE).
- *... a preference that is shared everywhere...* With the partial exception of Welsh residents (who preferred the traditional design even more strongly than others), respondents in every British region had nearly identical levels of preference for the more traditional design.
- *.. and by old and young.* Clear majorities of all age groups preferred the more traditional design with the red brick design even more popular with the young than the elderly. (70 vs 30 per cent for those aged 18-24 and 64 vs. 28 per cent for those aged over 65).
- *A confident decision.* Finally, only 3 per cent of the public selected 'don't know.' Nearly everyone had a clear point of view. This is consistent with the confident and quick views that most people form visually of what they like – and don't like.
- The full results from Deltapoll are available [here](#).

4. Comment

Commenting on the results, Create Streets Chairman, Nicholas Boys Smith, said:

'We need to fall back in love with the future. The Victorians created most of our railway infrastructure in less than a generation. It was an historic achievement and one we should seek to emulate. They self-consciously sought to forge railway stations, viaducts and bridges of beauty and grandeur so that the passenger should be not just transported but dignified.

St Pancras Station, Newcastle Station and York Station are not just place to scuttle through *en route* from A to B but buildings that can touch the soul. The Glenfinnan and Ouse Valley Viaducts do not scar their precious landscapes but enrich them.

The architects, engineers and managers who are spanning our route to our future need to be liberated from a cloying and unclear planning system which heaps cost and uncertainty upon their efforts. But they also need liberating from their own "mind-forged manacles." They

should seek again to create stations, viaducts and bridges which are as beautiful and popular as they are necessary and optimistic.

Asking and caring about what the public like must become second nature to our architects and engineers if we are to create the bold future we deserve.'

Create Streets Senior Architectural Designer, Robert Kwolek, who designed the alternative viaduct vision said:

'When we first saw the proposals for the new viaduct, as a team we immediately thought it unlikely that it was an appropriate design for the area. We felt we could do better. It therefore came as little surprise that a local newspaper reported local concerns with the design, with one resident stating preference for a brick viaduct. We entirely agree.

There is a great tradition of brick viaducts throughout the country and I leaned on these in my design. The Ouse Valley Viaduct was an obvious reference, a beautiful structure I've had the privilege to visit, and railway aficionados will note details borrowed from the Bourne Valley Viaducts as well.

Brick is not only the right choice because of its great tradition in railway use, but it's also the gentlest material aesthetically. A red brick will blend with the browns and greens of the surrounding landscape, an effect which will only strengthen with the patina of age. We don't propose that the viaduct be built from load-bearing masonry - that would hardly be efficient or affordable. Brick or brick cladding over a concrete frame would probably be the right choice.'

4. Does history rhyme? Some Victorian warnings and inspiration

It is a truism among many in the built design professions that 'people always hate change' and that 'the Victorians were NIMBYs too in their time.'

This is partly true. There certainly was some concern about the unparalleled expansion of Victorian cities and of railways into and through the countryside. George Cruikshank's much cited 1829 engraving, 'London Going out of town', does much service in this context. Most famously, William Wordsworth and later John Ruskin opposed the construction of railway lines in the Lake District. Cambridge still does not have a central train station because attempts to build on the Botanical Gardens or near Peterhouse or Emmanuel College were all blocked by the University.⁶

However, it is very far indeed from being the whole truth. Far more typical of the Victorian approach to infrastructure was an emphatic desire to build and do so as elegantly as money allowed. The future, for all its flaws, was to be embraced. Industrial Victorian Manchester was created with an ambition and Italianate elegance that is still visible in surviving warehouses and counting houses. Engels and Dickens may have disliked Manchester but many other Victorians did not, consistently impressed by the tone and elegance of its new streets and buildings. Victorian engineers and architects also self-consciously set out to create elegant and colourful viaducts, bridges and stations, beautifying, where they could, the soot and stains of the coal-fired age with Venetian-gothic town halls and renaissance counting houses. *The Builder* in 1845 was ecstatic about the state of modern Manchester

⁶ See [Journal-101-Mar-1976.pdf \(rchs.org.uk\)](https://rchs.org.uk/journal-101-Mar-1976.pdf) on Cambridge Station. There is a good summary of Victorian concerns with development in F. Reynolds (2016), *The Fight for Beauty*.

representing, '... the type of one grand and new industrial idea, machinery ... which belongs to our age exclusively.'⁷ An operative spinner, John Jones, agreed, writing in his poem 'The Cotton Mill':

'Now see the cotton from the town convey'd
To Manchester, that glorious mart of trade:
Hail splendid scene! The Nurse of every Art,
That glads the widow's and the orphan's heart!
Thy mills, like gorgeous palaces arise,
And lift their useful turrets to the skies.'⁸

Thank heavens the Victorians built so much of our infrastructure. It is a confidence and ambition we should rediscover.

5. Other visual preference surveys

This poll is consistent with many polls carried out in domestic and urban contexts in the UK and abroad which show a consistent, and strong preference for streets and buildings with a strong sense of place, coherent complexity and human scale enclosure.

- A summary of some of this research can be read in chapter six of the book *Of Streets and Squares* available [here](#).
- A study of some of the reasons underpinning these preferences is available in chapter seven of *Of Streets and Squares*.

Appendix: Architects' Journal Article, 12 January 2024



COMPETITIONS	BUILDINGS	SPECIFICATION	ARCHITECTS	PRACTICE	MAGAZINES	LIBRARY	EVENTS	JOBS
Opinion↓	Podcasts	Competition wins	RetroFirst	Climate change	Scotland	RIBA	Grenfell Tower	NEOM

Weston Williamson puts HS2 viaduct design to public vote

12 JANUARY 2024 • BY GINO SPOCCHIA

Weston Williamson + Partners and HS2 are giving the public a final say on the appearance of a viaduct for the high speed rail link in the West Midlands

Later this month, the practice will present five different options for its Balsall Common viaduct, which Solihull Council approved in September.

Locals will be able to vote on the options such as bolder colours – including red or green – or less prominent finishes such as polish concrete 'to reflect the sky and surroundings', said Weston Williamson.

There are also four options for parapet patterns, which the practice says reference the history of local textile production, the nearby Forest of Arden, brickmaking and livestock farming.

⁷ Cited in J. Archer (1986), *Art and Architecture in Victorian Manchester*, p.4.

⁸ Cited in A. Briggs (1979), *Iron Bridge to Crystal Palace*. P. 67.

It comes after Weston Williamson and HS2 entered into further discussions with Solihull Council over the look of the 425m-long structure for a site around 13 miles south-east of Birmingham city centre.

The project team says designs for the viaduct were focused on the landscape setting, with plans including wet woodland planting using species native to the local area as well as hedgerows. Revised options could offer more water and taller trees.

When in operation, the Balsall Common viaduct will carry HS2 trains running between the Birmingham Curzon Street terminus, which is under construction, and Grimshaw's London Euston terminus. The Euston station is under review and already smaller than first planned.

Weston Williamson director and project lead Nick McGough said: 'We've responded to the feedback from the local planning committee and developed new design options which create either a bolder, more prominent viaduct in the landscape, or reduce its prominence, effectively making it more subdued. This is achieved with different treatments to the acoustic parapets which can significantly change the character of the structure.

'We now look forward to hearing people's feedback on the colour, finish and patterning of the viaduct's parapets, along with options about different types of planting in the areas around the structure.'

The structure is being built by HS2's main works contractor, Balfour Beatty VINCI (BBV), supported by Weston Williamson, Mott MacDonald and SYSTRA.

HS2's London-to-Birmingham leg could begin serving passengers sometime between 2029 and 2033. Last October, prime minister Rishi Sunak cancelled the project's northern leg, which would have run to Manchester.

COMMENT AND SHARE



TAGS

HS2 VIADUCT WEST MIDLANDS WESTON WILLIAMSON