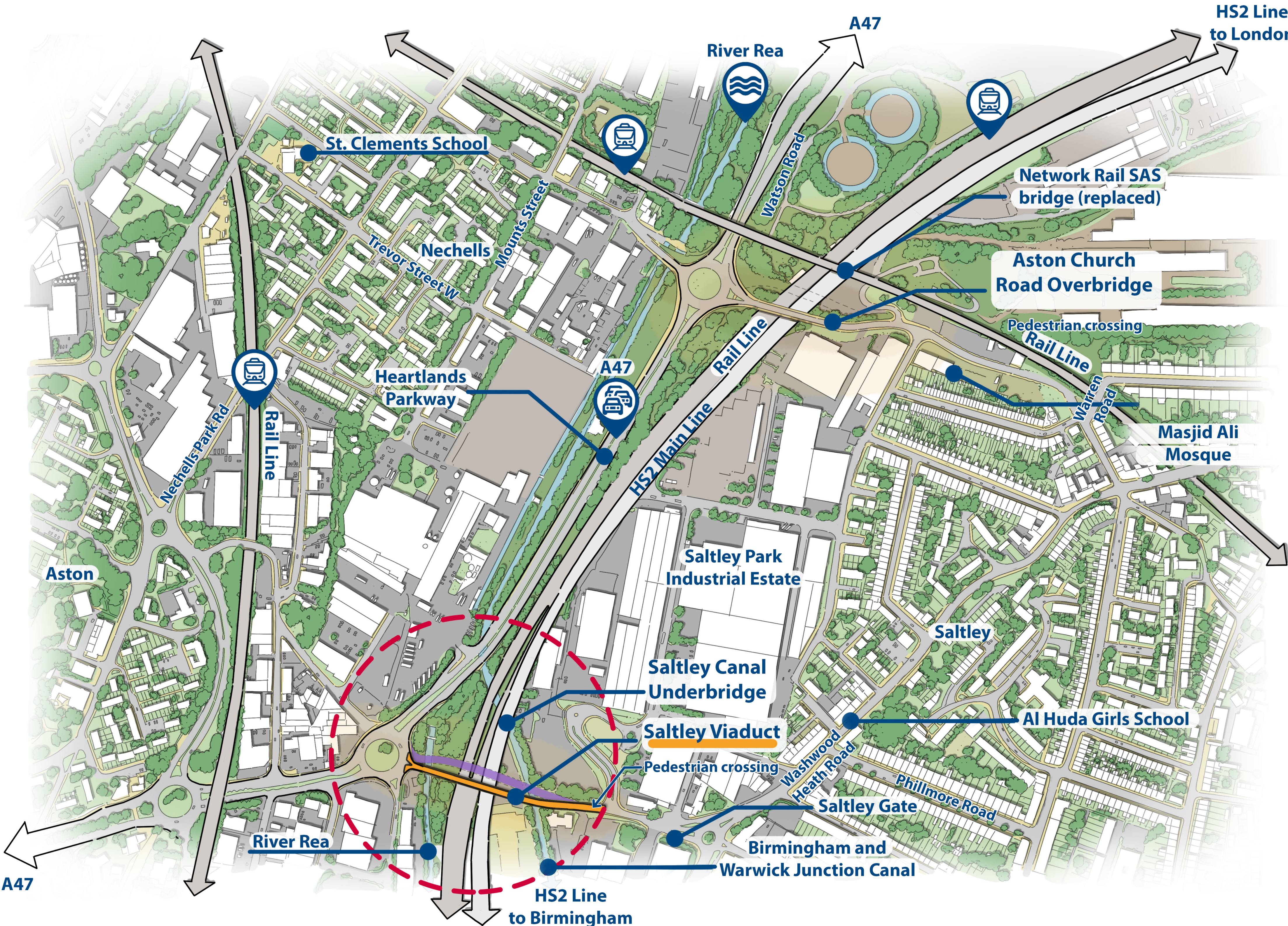


Location

B4114 Saltley Viaduct location

The new Saltley Viaduct, which will replace the current one known as B4114, will be located 2.5km northeast of Moor Street Queensway (Birmingham city centre) and will go over the Grand Union Canal (Birmingham and Warwick Junction Canal), HS2 line, Birmingham and Derby rail line, and the River Rea. The new structure will be placed in an offset position to minimize the period of closure and will be higher and longer than the existing one.

The new Saltley Viaduct can be easily identified in orange on the map, while the current structure is shown in purple.



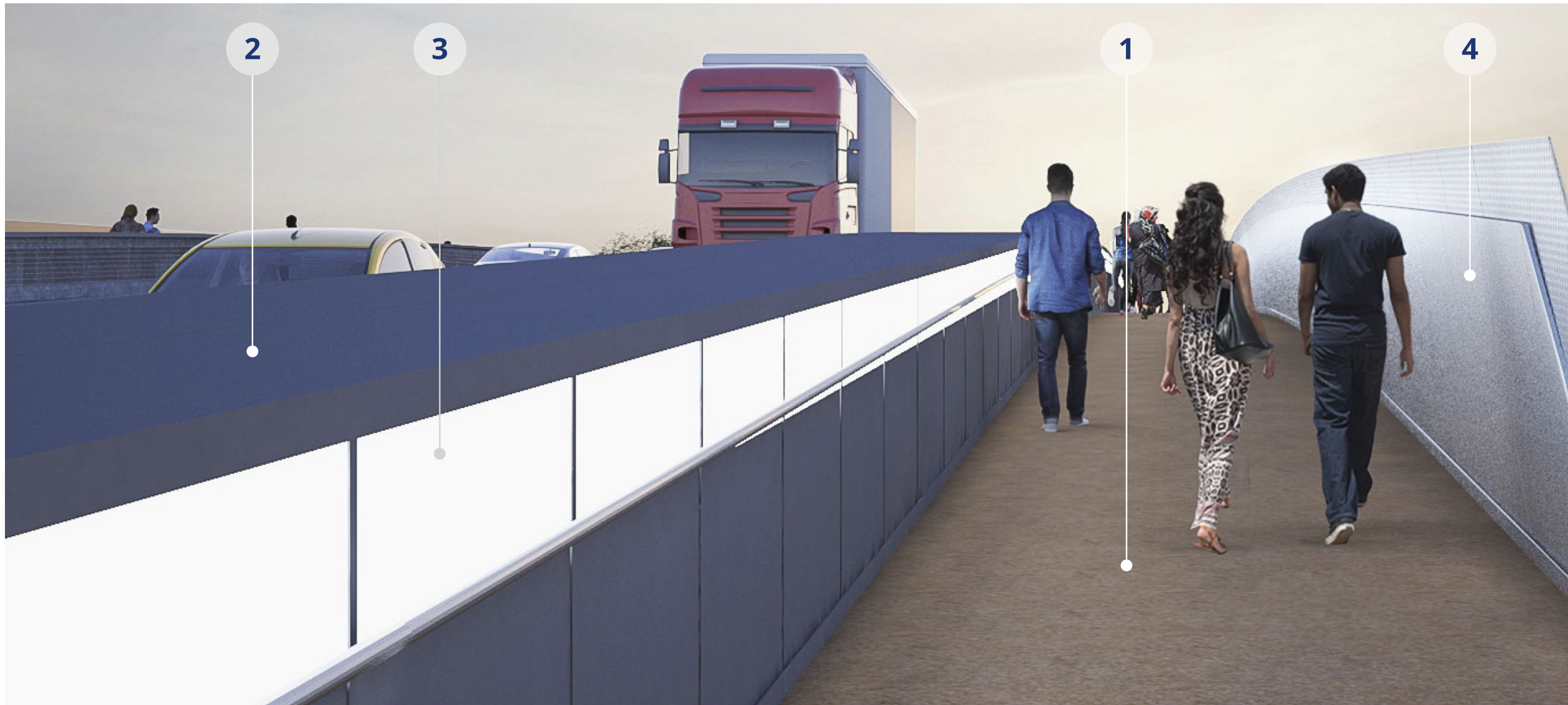
HS2 route map

Saltley Viaduct context plan

Saltley Viaduct

Design development

Initial design for public feedback (February 2021):
2.5m wide footways with stainless steel panels



Initial design: Walkway view illustrating the design intent of the stainless steel parapet

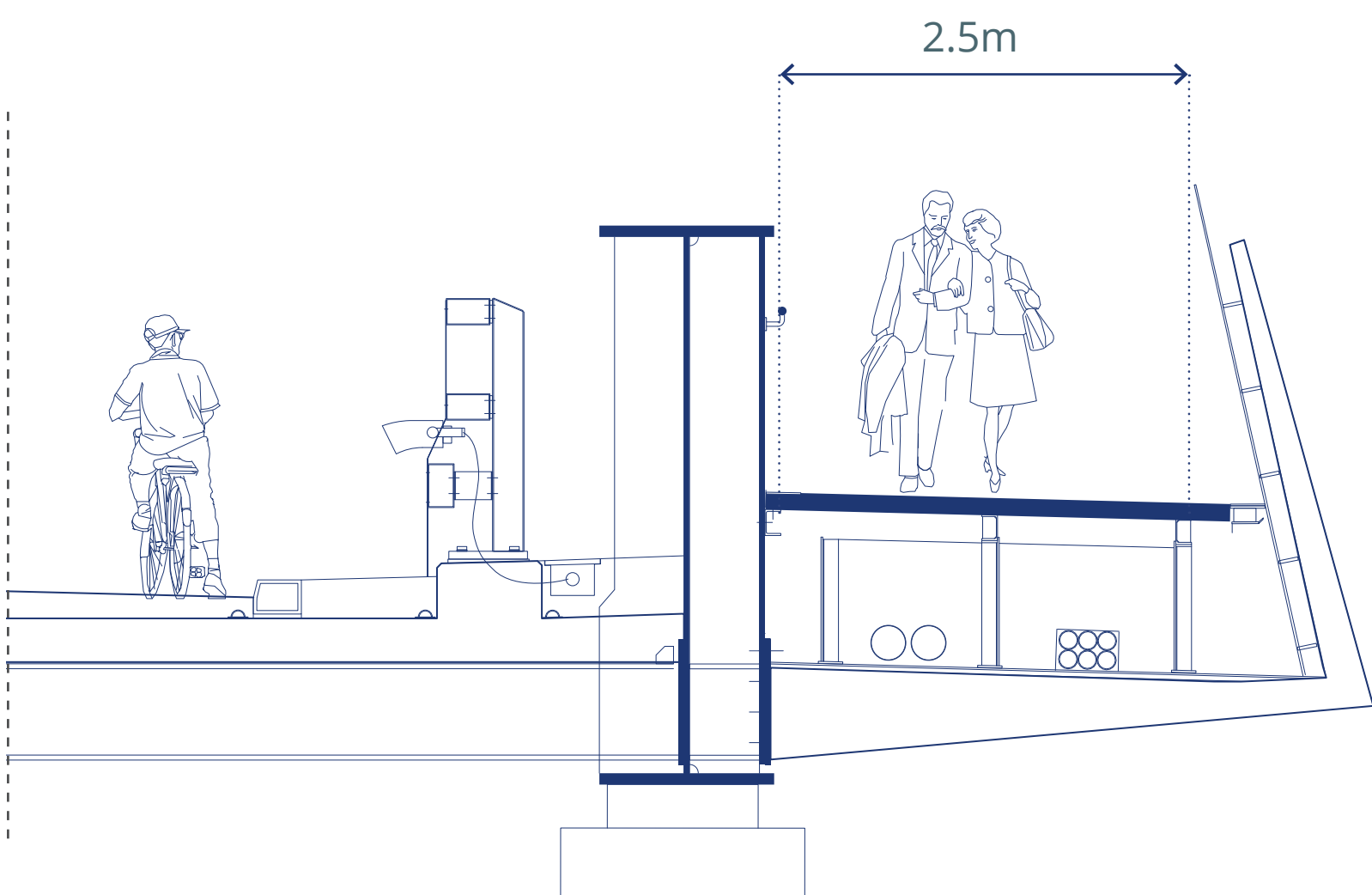
Final design:
4m wide footway and cycleway with warmer materials



Final design: Saltley Viaduct walkway view showing warmer weathering steel balustrade

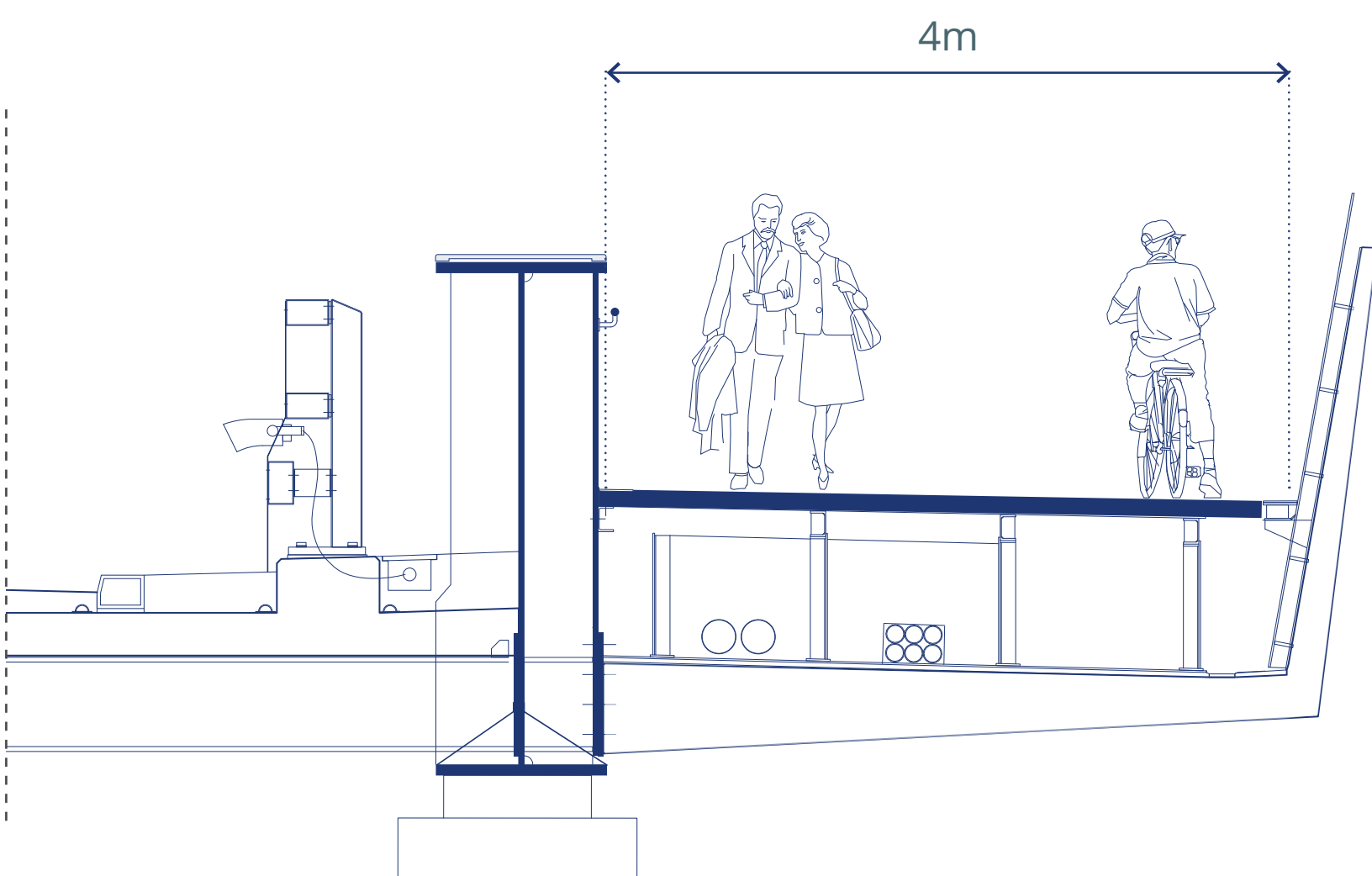
Design overview

1. Footway width: **2.5m**
2. Stainless steel **structural elements** are used on both sides of the structure **separating the highway** from the pedestrian walkways
3. To illuminate the walkway along the pedestrian route during night time, a linear **lighting box** is integrated on girder cladding
4. The parapet along the edge of the walkways is made of perforated **stainless steel panels** designed to allow visibility beyond the viaduct



Design overview

1. Improved user experience with pedestrian and cycleway **4m** wide
2. We replaced the stainless steel panels with **weathering steel panels** and designed a perforation pattern, making the bridge warmer and improving pedestrian experience
3. Using your feedback we further developed our lighting strategy of the structure. The proposal includes **low level lighting** to mitigate against any light spill affecting the train lines below (see board "Integrated lighting")
4. We amended the **parapet to be angled outwards** and extended the walkway to 4 metre creating enough space to allow for cycle provision
5. The **height of the structure separating the road and the footway** has been lowered to enhance the visual experience of walking and cycling and to improve safety

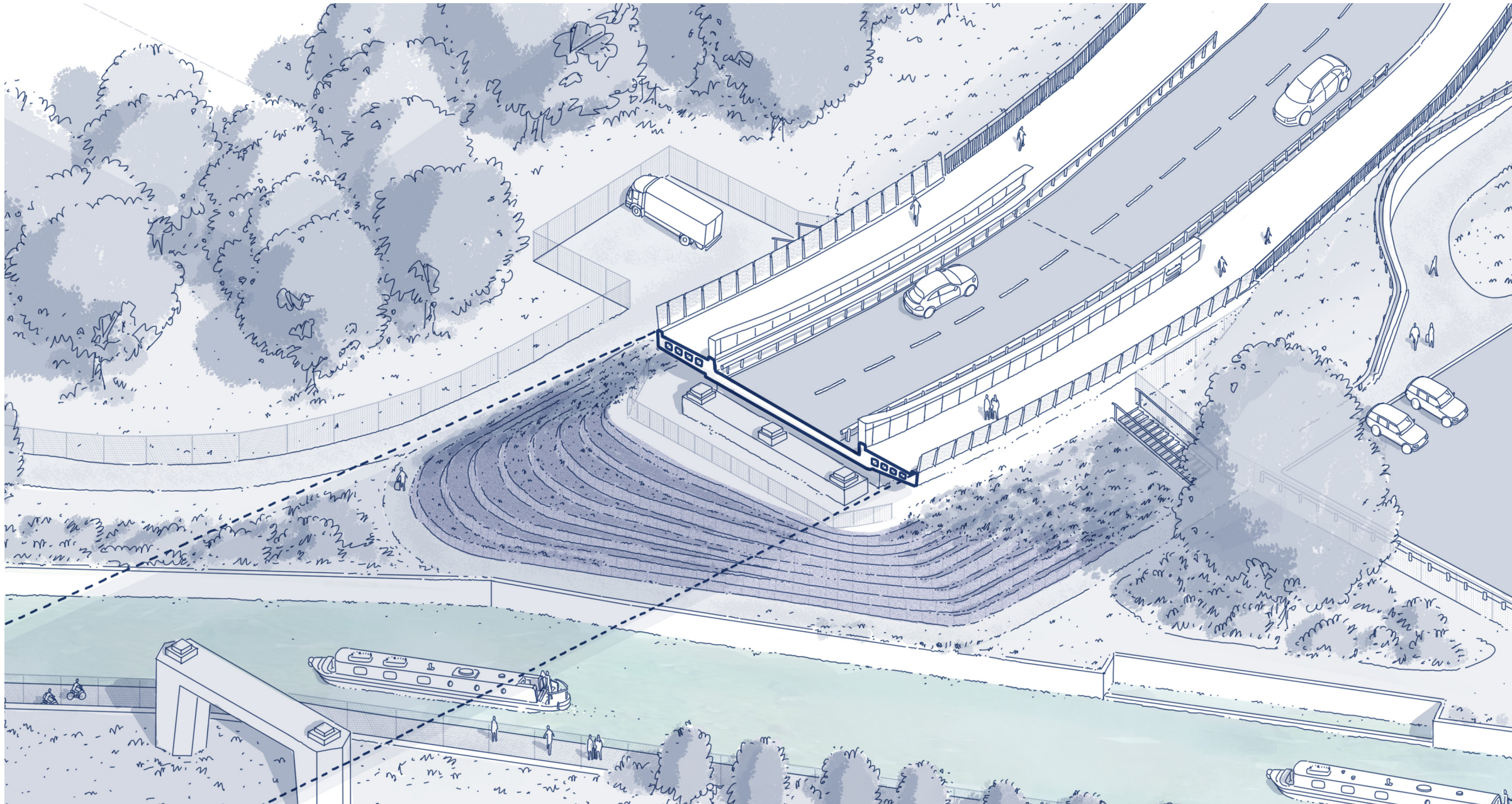


Saltley Viaduct

Key views



View from HS2 main line looking south east



Sketch view of east approach



Canal boat view from south side of the bridge

Saltley Viaduct

Key views



View from canal towpath looking north



1.8 metre parapet with 0.3 metre high level perforations when over railway line



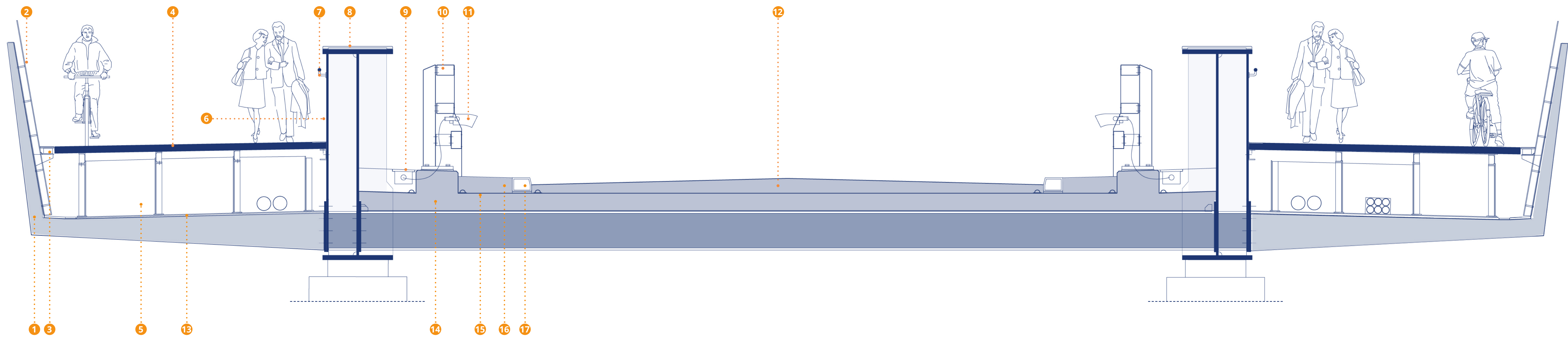
Lower level parapet over Birmingham and Warwick Junction Canal

Saltley Viaduct

Components

The design of the bridge has been informed by a series of discussions with the public. We developed each component of our design to respond to your feedback.

- Wider pedestrian walkway that also accomodates a cycle route.
- Weathering steel panels will be perforated, at least, at the top to add visual interest.
- Lightitng will be incorporated on handrail and parapet to enahance the user experience.
- Low level road lighting will be installed on the sides of the carriageway to reduce its environmental impact.



Cross section of Saltley Viaduct

Key

- | | | |
|-----------------------------------|--|-------------------------------|
| 1 Weathering steel rib | 6 Weathering steel infill panels | 11 Low level road lighting |
| 2 Weathering steel parapet panels | 7 Integrated handrail lighting | 12 Carriageway |
| 3 Drainage channel | 8 Half through girder with walking deterrent | 13 Secondary steelworks |
| 4 Cantilevered walkway/cycleway | 9 Maintenance walkway | 14 Concrete slab |
| 5 Utilities | 10 Vehicle Restriction Safety barrier | 15 Deck waterproofing |
| | | 16 Verge infill and services |
| | | 17 Combined kerb and drainage |

Saltley Viaduct

Integrated lighting

You said...

- **77%** of respondents expressed a preference for the introduction of **LED lighting** in addition to the street lighting.
- Ensure **lighting is bat friendly**. Bats were extensively using the underside of the old viaduct by the canal for foraging.
- Please consider **female safety** when designing - otherwise go wild! Our city benefits from a great mix of tradition and modernity - it's what makes Brum fabulous.

We did...

- We have designed an **LED lighting system** that will seamlessly integrate with the design elements of the structure on each side of the pedestrian walkway to **ensure the safety** of the pedestrians at all times.
- Positioning part of the lighting system underneath the handrail avoids glare and mitigates light spill, **reducing the bridge's environmental impact**. This also ensures visual comfort for pedestrians, cyclist and road users.
- We have **widened the pedestrian** walkway and included additional lighting to the parapet to create **better visibility at night** time.



View of Saltley Viaduct walkway at night

Saltley Viaduct

Cycleway provision

You said...

- Why is there no dedicated cycle way on this overbridge? - **integrating dedicated cycleways** should be a key priority for all such works from now on.
- The bridge should either include **segregated cycle lanes** or be designed with **enough space** that they can be added in later as the council expands the network, so as to not act as a blocker to new routes.
- A current 'pop up' cycle lane extends down the nearby A47, there should be scope for this to be extended eastwards if made permanent. Currently it looks like the **width of the road would not leave enough room** for this.
- **Cycle Routes.** Suggest one side is for walkers the second for cycles.


We did...

- We've created a **more spacious area** for both cyclists and pedestrians on both sides of the road.
- The **parapet has been angled outward** to make the most of the space and provide the best possible crossing experience on the viaduct.
- Cyclists can now safely cross the viaduct without having to get off their bikes.



View of Saltley Viaduct cycleway at daytime

Saltley Viaduct

Balfour Beatty VINCI  Working in partnership with **HS2**

Landscape infrastructure

You said...

“It is important to include green spaces in the area”

We did...

We have conducted thorough research on which spaces surrounding the structure would be optimal for planting and what types of vegetation would be most appropriate. We have identified areas where we will plant woodland trees and shrubs species, part of larger National Vegetation Classification (NVC) palettes which contain a range of plant species present in this part of England.

The eastern approach embankment of the Saltley Viaduct provides the opportunity to give more space to vegetation in this area. Both the north and south-facing sides of the eastern approach embankment will provide sufficient space for woodland.

In other locations, where there are localised constraints on the soil depth or where visibility lines are required, lower growing plants will be used.

Typical woodland shrubs



Cornus sanguinea
(Common dogwood)



Corylus avellana
(Hazel)



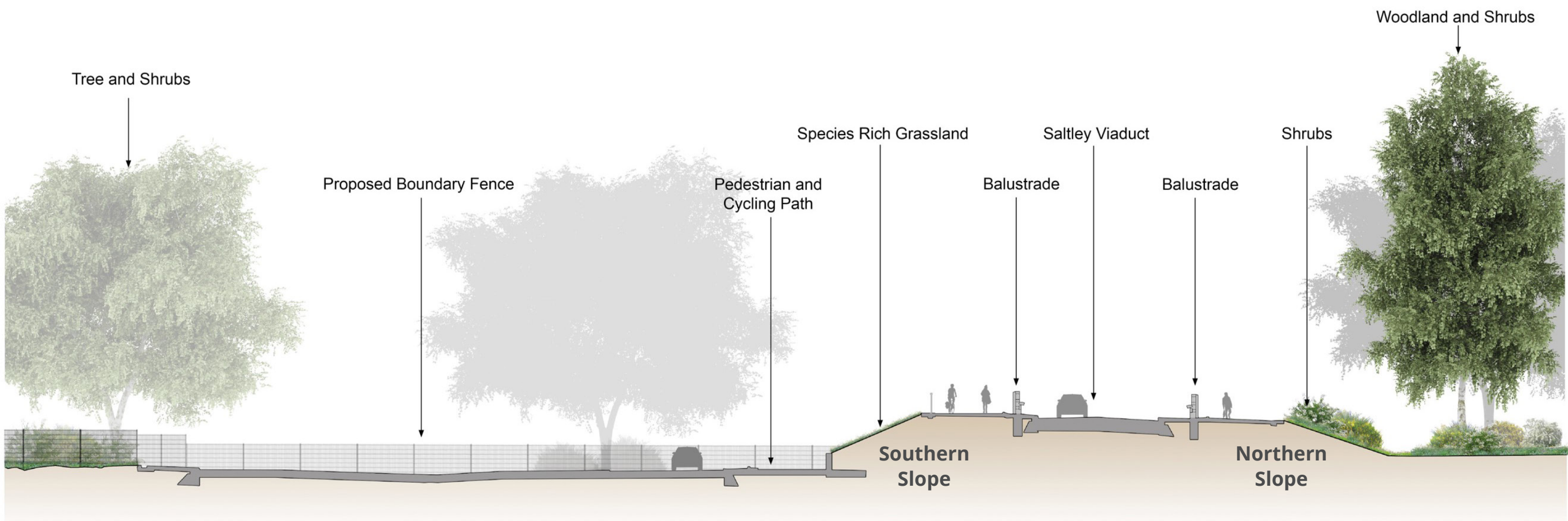
Prunus spinosa
(Blackthorn)



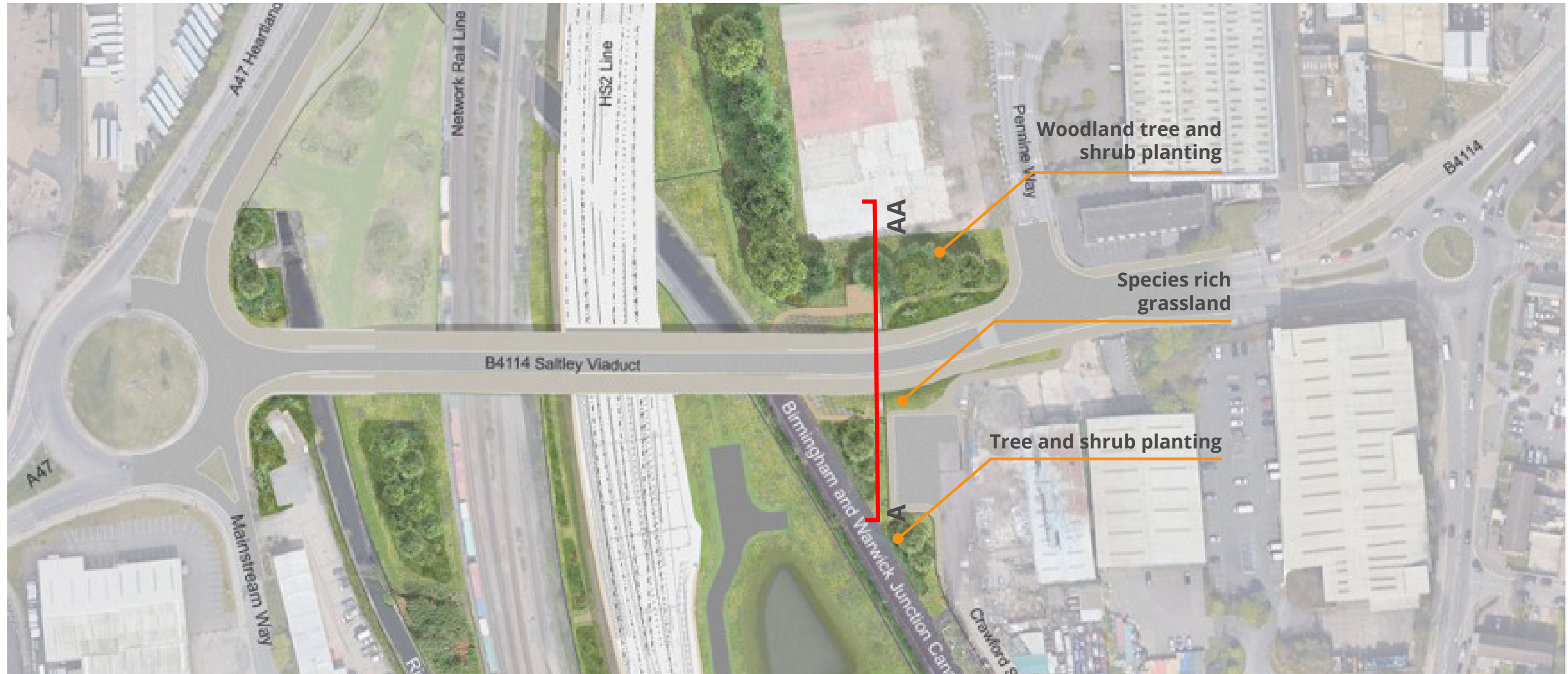
Euonymus europaeus
(Spindle)



View of bridge showing the rich vegetation that will surround the area



Section A-AA: Saltley Viaduct landscaping plan - East Abutment



Saltley Viaduct landscaping plan

Saltley Viaduct

Construction activity and timeline

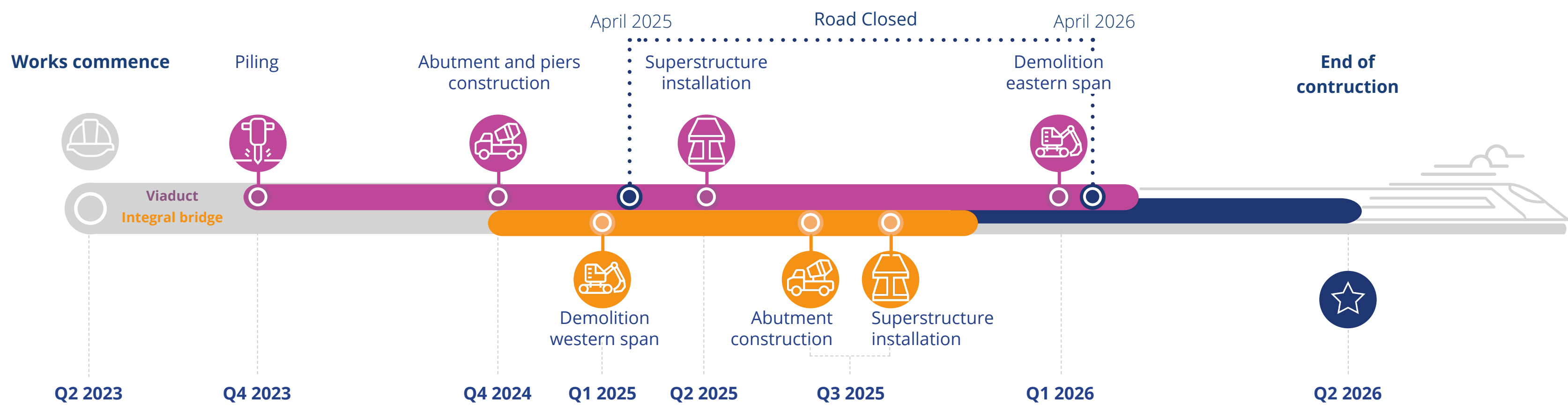
Saltley Viaduct construction overview and timeline

The new structure will be constructed offline, to the south of the existing bridge, with the bridge superstructure fabricated on-site and then driven into its final position.

The new viaduct will be constructed whilst the existing structure is maintained. However, Saltley Viaduct will be closed to traffic to allow the approach embankments to the new overbridge and utility diversions to be constructed and new highway alignment to be completed.

Once construction is complete, traffic will be diverted on to the new structure. The remaining section of the existing bridge will then be demolished.

The expected duration for the traffic closure of the Saltley Viaduct will be 12 months and during this period a diversion will be operated for all vehicles via Aston Church Road, utilising the new overbridge with minimal impact of pedestrian and cyclist.



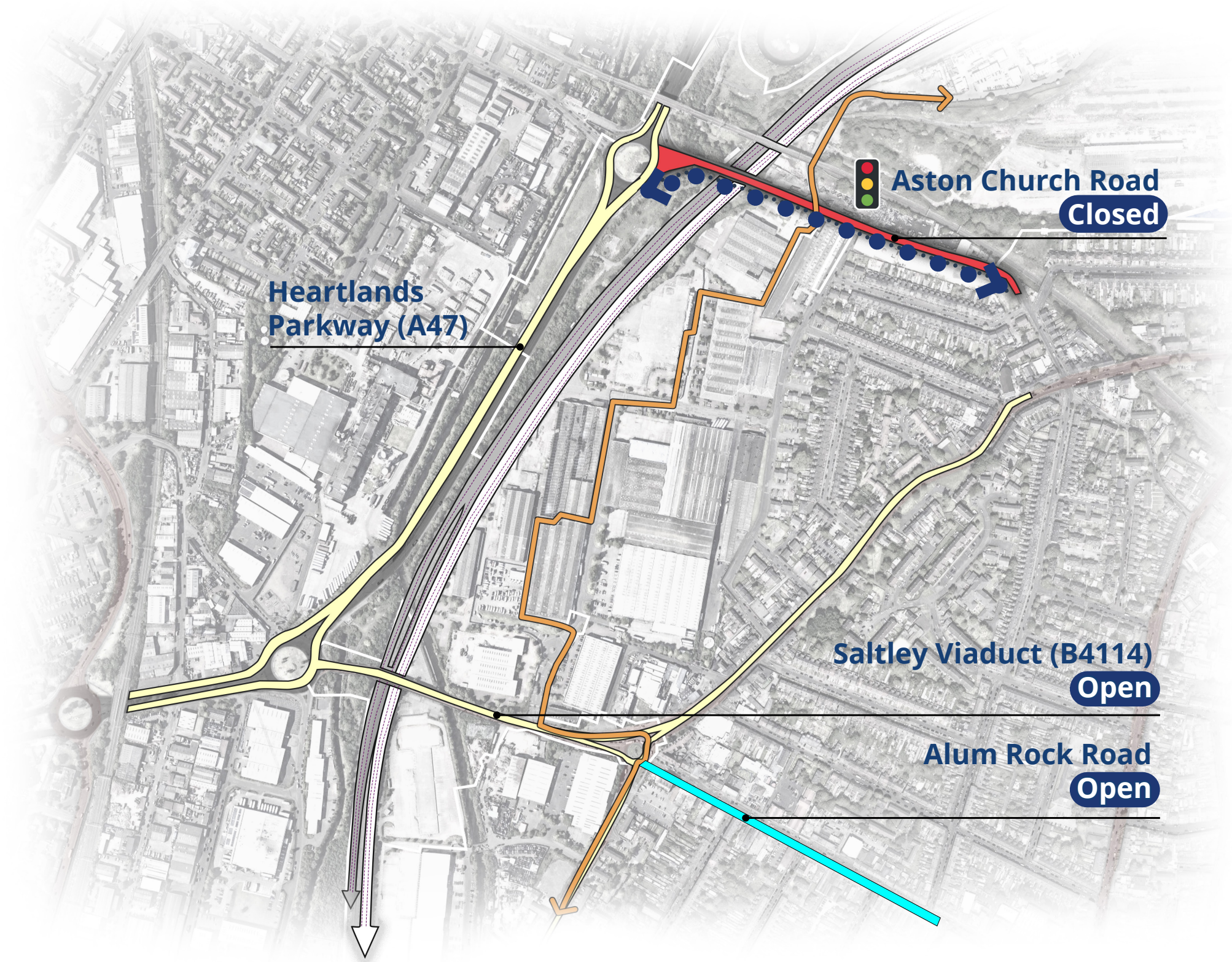
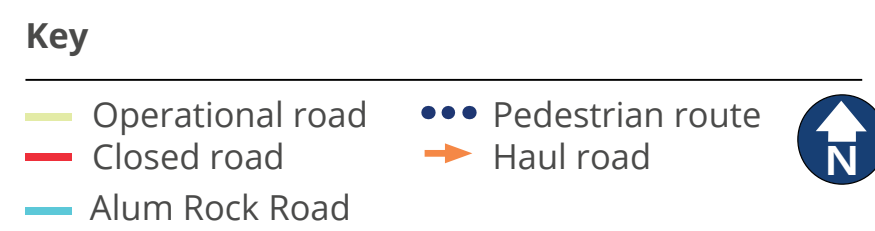
Anticipated timeline for Saltley Viaduct

Our approach

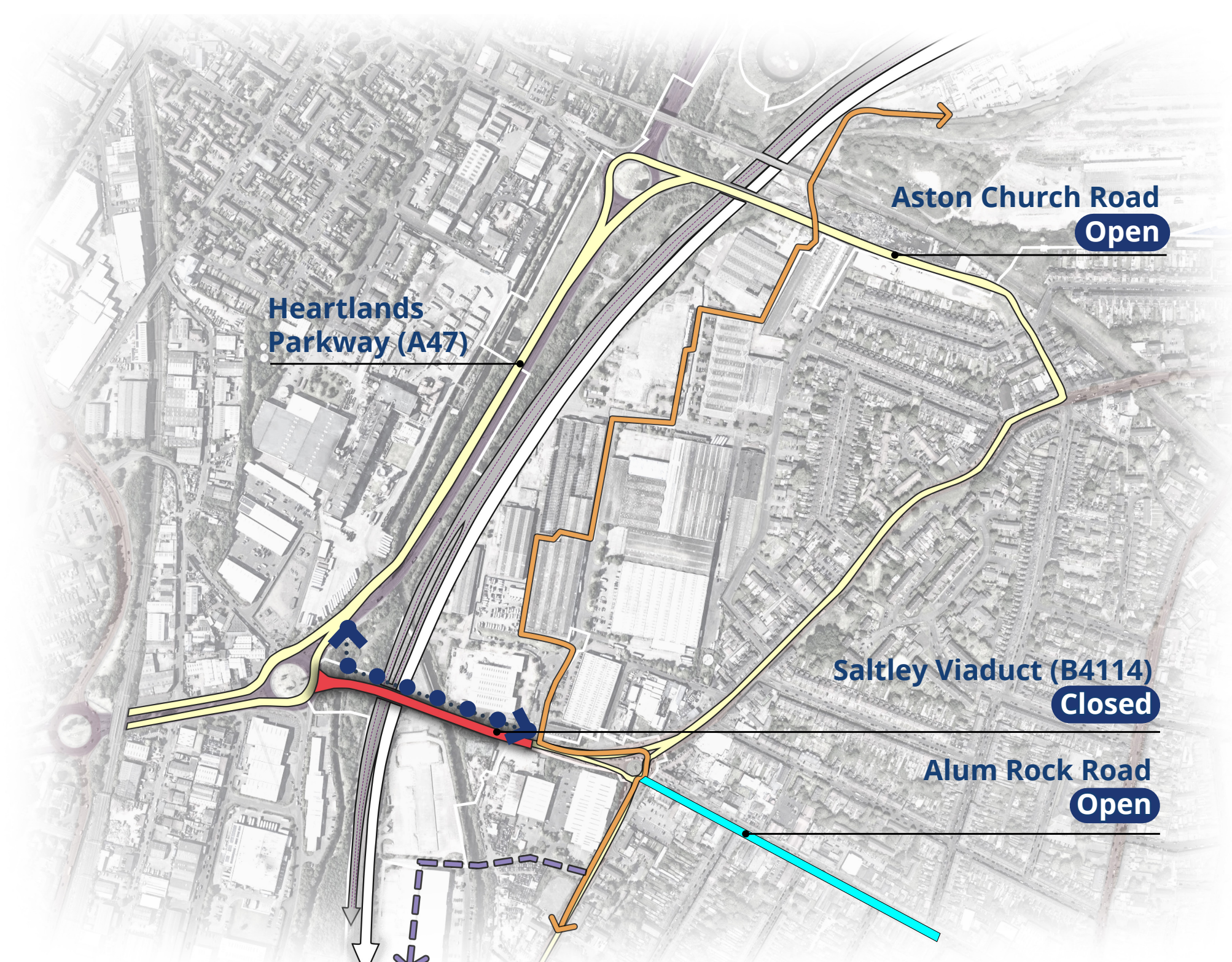
Our approach to rebuilding both Saltley Viaduct and Aston Church Road Overbridge will help to keep the community moving during construction.

We will do this by:

- Creating our own private haul roads that we will use wherever possible, to cut down our use of public roads
- Creating pre-assembled steel deck segments away from the structure to make best use of the space
- Piers are created first and then the steel deck will be transported and lifted into position
- This method of construction will reduce the time taken for the works
- A pedestrian route will be provided.
- Alum Rock Road remains open throughout the construction of both Aston Church Road Overbridge and Saltley Viaduct
- Ongoing engagement with communities and impacted stakeholders to help them prepare for the closures of Saltley Viaduct and Aston Church Road



Traffic management during construction of Aston Church Road Overbridge



Traffic management during construction of Saltley Viaduct

Saltley Viaduct