APPENDIX 14A

The Kings Road Active Travel Bridge, Haslemere

Feasibility Study

Haslemere Town Council

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EIDOS.

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April '26

Executive Summary

This feasibility study assesses the potential to deliver a new accessible pedestrian and cycle crossing over the mainline railway in Haslemere, reconnecting the Wey Hill commercial centre with Kings Road, Camelsdale, and surrounding residential areas.

The Need

Existing connections across the railway are inadequate. The Sturt Road underpass is constrained, traffic-dominated, and perceived as unsafe, while the current Kings Road footbridge is stepped and inaccessible to many users, including wheelchair users, cyclists, families with pushchairs, and those with limited mobility. This creates a significant barrier to movement and disproportionately affects vulnerable groups, including school children and residents accessing key local amenities.

Opportunity

A new bridge would provide a direct, step-free connection, reducing journey distances by up to 70% and significantly improving accessibility. This would support a shift toward walking and cycling for short local trips, reduce reliance on cars, and strengthen links between residential areas, the town centre, and leisure facilities.

Options Considered

- The study considered:
- Replacing the existing arched bridge
  Tunnelled and off the shelf options
- New bridge and bridge approach options at the Herons site

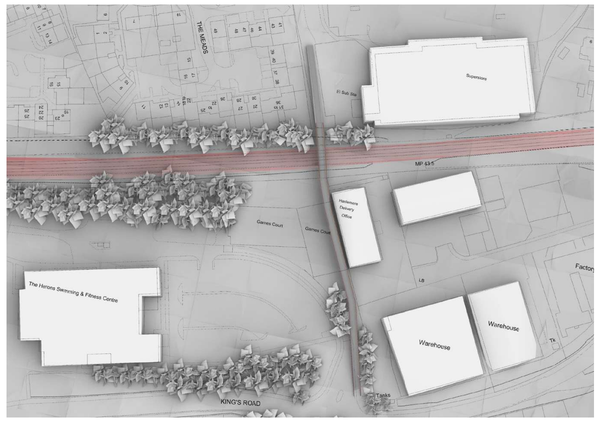
Replacing the existing bridge was found to be impractical due to spatial constraints, significant structural interventions, and the requirement for lifts. A tunnel solution was discounted due to high cost, construction risk, and complexity associated with working beneath a live railway.

Four new bridge scenarios (A–D) were developed and assessed. Options A and C were selected for further design development due to their relative feasibility and reduced impact on surrounding land uses.

Preferred Approach

The study concludes that a new single-span bridge of approximately 25–30 metres, combined with ramped access, represents the most practical and deliverable solution. A steel plated U-girder structure is identified as the preferred bridge typology due to its structural efficiency, suitability for prefabrication, and ability to minimise disruption to railway operations through installation during a single possession.

Option A, the straight ramp, offers a simpler and more direct alignment with reduced construction complexity,



while Option C, with a spiral ramp to the south, provides opportunities for place making and integration with wider site improvements, albeit with a larger footprint.

Key Constraints and Risks

The project must address several key constraints including limited land availability and proximity to residential properties, Network Rail clearance, safety, and other approval requirements. Consideration needs to be given to the impact on existing trees, ecology, and local amenities and construction access and staging in a constrained urban environment

Risks include cost escalation due to railway possessions, potential community concerns regarding overlooking and anti-social behaviour, and ground conditions affecting foundation design. These can be mitigated through early engagement, careful design, and appropriate surveys.

Benefits

The proposed bridge would deliver step-free, inclusive access across the railway, improve safety and user experience and encourage active travel and reduce short car journeys. It would also support local economic activity by increasing footfall and could unlock opportunities for wider site enhancement and community uses.

Delivery and Next Steps

The project is considered feasible subject to further design development, surveys, and stakeholder engagement. A combination of funding sources, including Community Infrastructure Levy (CIL), grants, and developer contributions, is likely to be required.

Next steps include:
1 - Detailed topographical and ground investigations
2 - Development of a preferred option
3 - Engagement with Network Rail and key stakeholders
4 - Cost planning and funding strategy development

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Part 1

1.0 The Brief

1.1 Project Overview & Historical Context

The Haslemere Active Travel Gateway is the missing link in the town's urban fabric. Reconnecting the Wey Hill commercial hub with the Kings Road, Camelsdale and other residential areas across the mainline railway is a strategic imperative for pedestrian and cycle mobility. The project's history is rooted in the 1990s development of the Tesco superstore and the Herons Leisure Centre. Waverley Borough Council, acting as trustees for the land, sanctioned the sale of the site on the explicit condition that proceeds funded recreation facilities within a one mile radius of the old centre. A bridge was a central promise of the original plan but was stalled by shifting rail requirements, mounting costs, and local objections from residents of The Meads who expressed concerns that the bridge would facilitate criminal activity.

1.2 Existing Infrastructure

The current routes between the northern commercial core of Weyhill and the southern residential and recreational areas are inconvenient and are hostile to pedestrians and cyclists.

The Sturt Road Underpass
This route provides a narrow and unwelcoming environment Visibility is severely restricted beneath the railway bridge, creating significant safety concerns. Pedestrians and cyclists face a heightened risk due to traffic queuing on a steep incline, combined with narrow and inadequate pavements.

The Kings Road Footbridge
Defined by steep steps, this route is unsuitable for older people, those with limited mobility, and individuals with physical disabilities. It also represents an accessibility barrier for parents with pushchairs and is unusable for cyclists.

These hostile conditions disproportionately affect some of the town's most vulnerable residents. Children travelling to Shottermill Schools from the Sickle Road and Camelsdale areas are forced to pass through the hazardous Sturt Road underpass. Residents of the new Sturt Farm development face similar obstacles, cutting them off from the shops and community facilities at Wey Hill. This persistent lack of safe, accessible connectivity highlights the urgent need for a direct and inclusive alternative.

Potential bridge position

1.3 Connectivity Transformation

Affective urban design gives priority to desire line routes between key destinations. The current infrastructure around the railway forces pedestrians and cyclists into indirect detours. A new bridge would significantly shorten these journeys and create a clear and intuitive route.

Accessibility gap analysis:
Lion Green → Leisure Centre
Current route: ~830m via the road network
Direct route via bridge: ~250m pedestrian connection

Kings Road side → Wey Hill commercial area
Current route: ~750m detour
Direct route via bridge: ~250m link

Behavioural impact:
Reduces typical journeys from 10–15 minutes to around 3 minutes. Removes the friction of movement that discourages walking and cycling. Direct routes encourage habitual use, supporting a shift away from short car journeys for local trips.

1.4 Operational Benefits

Modern civic infrastructure must deliver step-free, inclusive access as a baseline requirement. The proposed bridge will be designed to be safe, visible, and accessible to the widest range of users.

Inclusive design features:
Step-free access with gradients of approximately 5%, enabling use by:
- wheelchair users
- mobility scooter users
- families with pushchairs
- elderly or mobility-impaired residents

3m wide shared deck supporting multiple forms of active travel:
- pedestrians
- bicycles and e-bikes
- cargo bikes
- scooters and mobility aids
- Rail safety and wider transport benefits:

Linkages like this encourage trip chaining by linking multiple destinations within a single walking or cycling journey, reducing short car movements and easing pressure on local roads.

1.5 Strategic, Regulatory & Land Considerations

The scheme must meet strict Network Rail requirements for safety, clearance, and long-term performance, while remaining deliverable within a constrained urban site, alongside delivering broader economic and environmental benefits for the town.

Network Rail engineering constraints:
- 1.8m solid parapets required above railway tracks.
- Bridge supports must be at least 4.5m from running rails.
- Vertical clearance must accommodate future electrification of the line, Network Rail confirmed clearance requirement in this case is 5.1 m
- Construction must minimise disruption to railway operations.
- Infrastructure should be designed for a minimum 120-year lifespan with low maintenance requirements.

Strategic and economic benefits:
Strengthens connections between residential areas and the Wey Hill town centre, benefiting local shops, supermarkets, the library, and community facilities.
Restores affective access between housing areas and the Leisure Centre, addressing historical planning expectations regarding proximity to recreational facilities.

Supports wider environmental and transport objectives, including:
- reducing short-distance car trips
- encouraging active travel
- aligning with local and county cycling strategies.

Land and delivery advantages:
The Leisure Centre side is already in public ownership (Waverley Borough Council). The Tesco side integrates with existing access routes, simplifying construction. No private land acquisition requirements improve overall project feasibility.

1.6 The Requirements of this Feasibility Study

1 - To establish the scope for the replacement of existing footbridge (Kings Road to St Christophers Road) with a wheel accessible bridge

2 - Analysis of the alternative site's characteristics, including topography, soil / ground conditions, and existing infrastructure.

3 - Establish high level options for an accessible pedestrian and cycle bridge that spans the railway and provides a public link between the Herons Leisure Centre site and the Tesco access road.
4 - Consider the practicality of the project, identify site constraints, building regulations issues, legal requirements, and relevant codes and standards for bridge design such as CD 353 - Design criteria for footbridges and information required for Network Rail licences.

5 - Identification of key technical risks and opportunities , including adding value through potential development sites, related to the site, the bridge design and construction.

6 - Identify opportunities for sustainable design, low embodied carbon materials, biodiversity net gain and minimising harm to the existing site and minimising the impact on existing trees.

7 -Develop a preliminary project risk assessment to identify potential challenges and risks, such as overlooking and anti-social behaviour, and develop strategies for mitigation including listing the surveys etc. that will be required at the next stage.

8 - Provide an assessment of the economic costs associated with the project and potential financial risks.

1.7 The Reporting Process

The initial draft of this report was presented to representatives of Haslemere Town Council on the morning of 18th March. Background research and Options A- D as laid out in this report were discussed at that meeting. The conclusion was that Option A and C were to be developed in more detail and outline costs produced. This report documents the initial stage of the feasibility study up to section 7, then the later part of the report investigates options A and C in more detail.

2.0 The Scope for Replacement of the Existing Footbridge

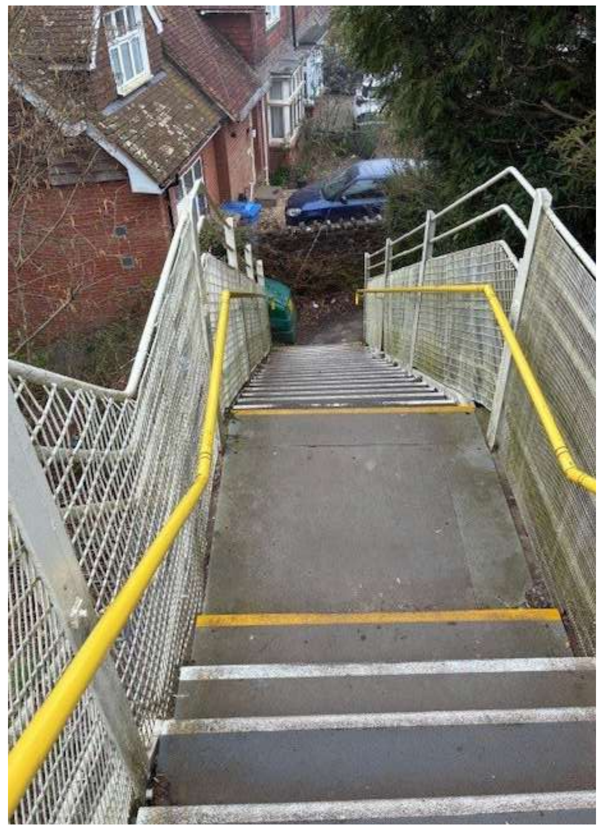
2.1 The Existing Footbridge

The existing stepped arch footbridge spanning the mainline railway between Kings Road and St. Christopher's Road is a challenge to cross and unsuitable for cyclists, people with pushchairs, buggies or prams, and young children, the elderly, disabled or infirm.

Existing Bridge from Kings Road facing East

2.2 Design Standards for a Replacement

The design of an accessible replacement footbridge must comply with a range of established engineering, accessibility, and safety standards. Key structural design requirements are defined by CD 353 – Design Criteria for Footbridges, alongside the Eurocodes (BS EN 1990–1999 with UK National Annexes) which govern structural loading and material design. Relevant standards include:



Existing steps down to St Christopher's Road

BS EN 1991-2 – traffic loads on bridges (including pedestrian and cycle loading)
BS EN 1993 / 1994 / 1992 – steel, composite, and concrete structural design
BS 7818 – pedestrian restraint systems and parapet design
BS 5400 – legacy bridge standard sometimes referenced in existing infrastructure

Accessibility and inclusive design must comply with Inclusive Mobility guidance, BS 8300-1 and BS 8300-2, and the Equality Act 2010, which establishes a duty to provide reasonable adjustments for disabled users. The design must also satisfy Building Regulations 2010, particularly:
Part M – access to and use of buildings
Part K – protection from falling
Part A – structural safety

For active travel integration, Cycle Infrastructure Design (LTN 1/20) sets requirements for gradients, widths, and cyclist comfort. Where the structure crosses a railway, compliance with Network Rail standards (for example NR/L2/CIV/003 and NR/GN/CIV/025) and an Asset Protection Agreement (APA) will also be required.

2.3 Design Scope and Key Infrastructure Requirements

A replacement fully accessible crossing suitable for pedestrians, wheelchair users, cyclists, and parents with pushchairs would need to meet the following design parameters:
- Minimum affective bridge width typically 3.0 m
- Ramp gradients compliant with BS 8300 (1:20 preferred, 1:15 for short sections, 1:12 absolute maximum)
- Minimum 5.7 m clearance above electrified railway infrastructure (subject to Network Rail confirmation)
- Cycle-safe parapet height of at least 1.4 m in accordance with CD 353
- Anti-throw screens above the railway to meet Network Rail safety requirements (1.8m)
- Lighting compliant with BS 5489-1 for public realm and transport infrastructure

The design must also integrate with the surrounding pedestrian and cycle network, ensuring safe approach routes and connections to existing streets and paths.

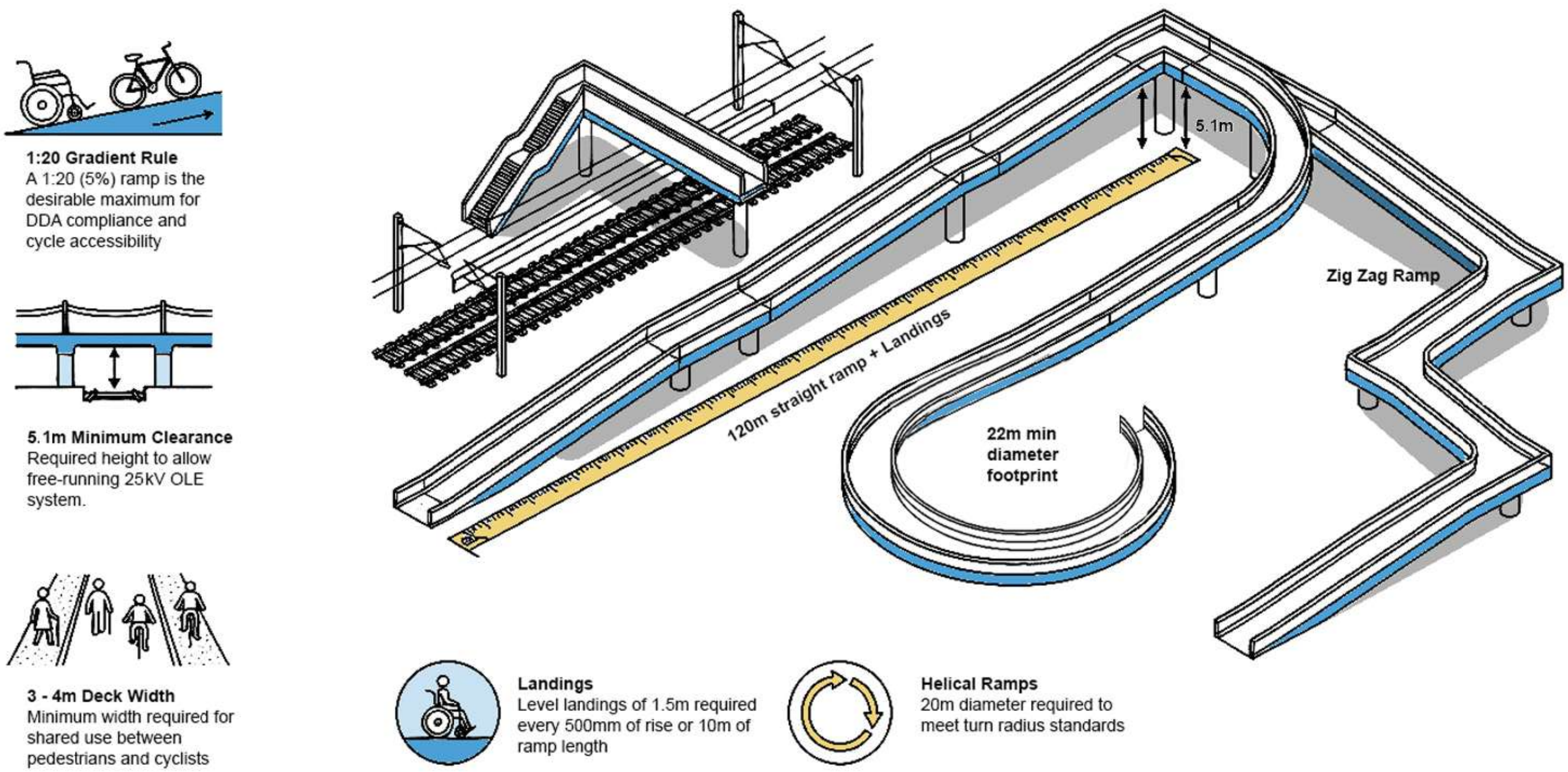
2.4 Engineering Constraints and Ramp Geometry

The principal engineering constraint is the height difference between ground level and the bridge deck, which is approximately 6 metres. Achieving this vertical rise while maintaining full accessibility standards creates significant spatial requirements. Under LTN 1/20 and Approved Document M, the preferred gradient for accessible ramps is 1:20 (5%), with landings required every 10 metres of ramp length or 500 mm of vertical rise.

For a 6m elevation change this produces a minimum horizontal ramp length of approximately 120 metres, plus additional space for more than ten intermediate landings. A straight ramp configuration would therefore extend deep into the surrounding area and require substantial land take.

A circular or helical ramp can reduce the linear footprint, but it still requires significant space. CD 353 recommends a minimum 5.5 m inside radius for curved bridge ramps, measured for gradient compliance 900 mm from the inner edge. Even at this minimum radius:

Around three full rotations are required to achieve the necessary 6 m rise The ramp footprint would typically be 18–22 m in diameter for a 3m wide shared-use path. Larger radii improve cyclist comfort but substantially increase the footprint, potentially exceeding 35 m in diameter, which is often impractical in constrained residential locations. Alternatively cyclists can be encouraged to dismount, or significantly slow down and this will enable the use of smaller radius ramps.

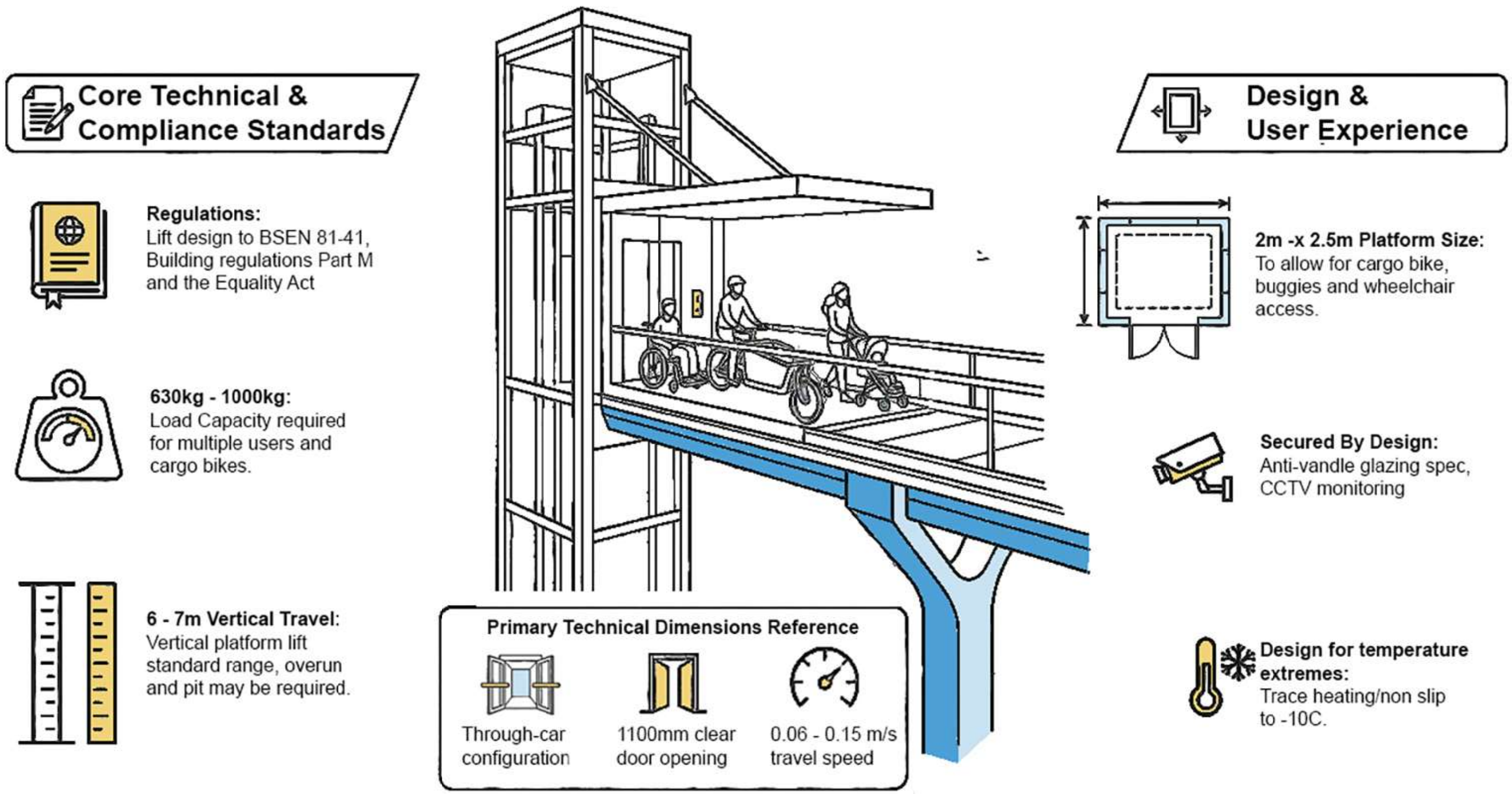


2.5 Lift-Based Accessibility Solutions

Because compliant ramps require very large footprints, many UK railway footbridge upgrades use lifts combined with a short stair structure rather than long continuous ramps. For a bridge with a 6 m rise, the typical solution is an enclosed vertical platform lift or small passenger lift designed for public infrastructure environments.

Typical engineering specifications include:
- Travel height: approximately 6 m
- Car size: typically 1600–2000 mm wide by 2000–2500 mm deep to - accommodate wheelchairs, pushchairs, and cycles
- Clear door width: 1100–1200 mm
- Capacity: typically 630–1000 kg for public transport infrastructure
- Through-car configuration allowing users to enter at ground level and exit directly onto the bridge deck

Modern installations also incorporate robust safety and operational features such as CCTV monitoring, emergency lowering systems, remote monitoring, vandal-resistant enclosures, and battery backup. Lift towers are usually constructed as steel structures, integrated into the bridge deck with weather-protected entrances and level approach areas on both sides of the railway. In constrained urban environments, this approach often provides the most practical balance between accessibility, land requirements, and construction cost.



2.6 Implications, Conclusions & Alternatives

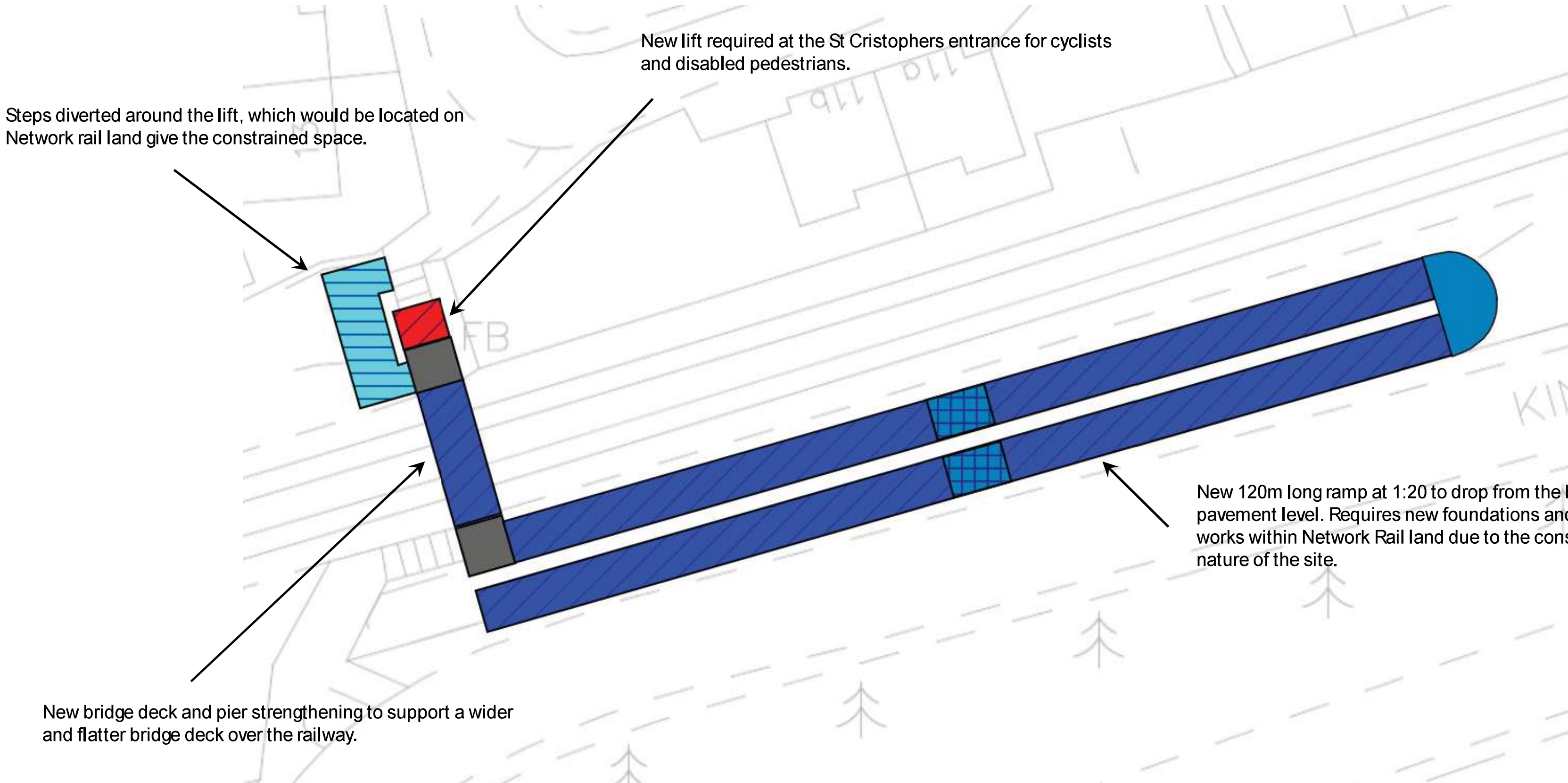
As shown in the plan below, replacing the existing footbridge with an active travel bridge at this location would have a substantial and adverse impact on its surroundings. A ramped approach could potentially be accommodated on the southern side; however, at approximately 120 m in length (excluding landings), it would form a large structure with considerable land requirements. A spiral ramp would not be viable here without encroaching on the existing road, nearby trees, or residential access, and would also be highly prominent from surrounding properties.

A zig-zag ramp arrangement would necessitate the removal of several mature trees and would need to cross the roadway at an appropriate clearance height, increasing the overall bridge length significantly.

On the northern side, spatial constraints—including private land ownership and the need to maintain vehicular access—prevent the installation of ramps. While a lift could be introduced, this option raises concerns around long-term maintenance, security, and noise, particularly given the proximity of properties at nos. 11b, 13, and 14 St Christopher's Road, making it a less desirable solution.

Redevelopment of the existing bridge is not recommended for several reasons. The bridge deck would require replacement, and the supporting piers would need strengthening to accommodate a wider, more accessible crossing.

At the St Christopher's Road entrance, step-free access would necessitate a lift, introducing ongoing operational and maintenance requirements, as well as a continuous power supply. Additional stairs within Network Rail land would also be needed to provide an alternative route.

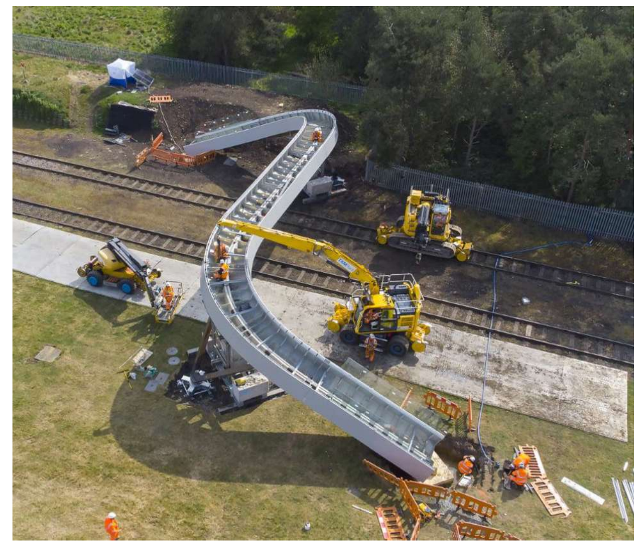


At the Kings Road entrance, a ramp of approximately 120m would be required. Although technically feasible, its length would mean it must be accommodated within Network Rail land.

Taken together, the complexity of retrofitting the structure, combined with the need for new foundations and construction within Network Rail land, renders redevelopment of the existing bridge impractical.

In the event that an alternative site and a fully accessible active travel bridge is not required, and instead an improved stepped access bridge with a shallower gradient would provide sufficient betterment then the Network Rail modular pedestrian bridge option could be considered - see image on page below. The FLOW system includes a stepped-only solution. It comes in C, U, S or Z plan configurations.

It has a 6m vertical distance between the soffit and the bottom of the first step, which would achieve a minimum track clearance of approximately 5.3m assuming flat-ground. The maximum span is 26 m, adjustable in 0.5m increments down to 15m . The prototype, which is now in use over live rail, cost approximately £1.2m, but there are costs savings due to the economies of scale of the 'MKII' production version.

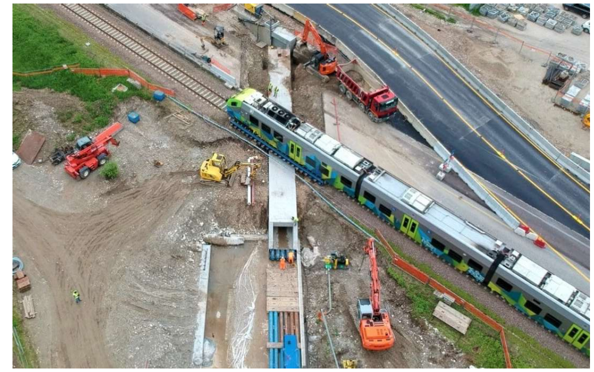


As part of the feasibility study, we have assessed an alternative option of installing a pedestrian tunnel underneath the railway. There are a number of installation options for this, however these come with a number of risks that would need to be assessed. We have outlined the key ones below.

Challenges & Risks:

- Tunnelling would need to be undertaken underneath a live railway, as it Is impractical to consider shutting the railway line for an extended period of time to complete the works.
- The installation of the tunnel under a live railway can be done in a number of ways, including jack-boxing, needling or traditional mining techniques. Each option has significant movements and construction level loading which would need to be monitored and controlled during installation.
- A tunnelling procedure underneath the railway would require extensive engagement with Network Rail, including detailed ground movement analysis, both in the short-term during construction and long term during the tunnels design life. This process would incur significant cost without guarantee of a final approval and would prolong the design and construction programme considerably.
- Jack boxing involves pushing a precast box structure through underneath the railway line. While it has been successfully delivered on a number of projects, it has some drawbacks which would make it impractical for use in Haslemere. These include:
  - The lateral movement on the railway lines can cause significant distortion of the tracks and so needs consistent monitoring during the jacking operations. If the tracks are distorted, it can require remedial works prior to trains being able to run again.
  - Significant space is required either side of the tunnel to construct the counterweight and the box. This space is not available in Haslemere without severe disruption, making this an impractical technique.
- Needling involved piling sideways under the railway with a rotate bore and installing precast beams through the bore holes. The bores would be at a certain centre spacing to support the tracks above and to serve as temporary works while a concrete tunnel is installed beneath. Again, this has similar risks to jack boxing.
- The lateral bores can encounter obstructions which could distort the tracks above, in a similar fashion to the jack boxing technique.
- As with jack boxing, significant space is required to undertake the bores from, which is impractical given the constrained nature of the railway line as it passes through Haslemere.
- More traditional techniques would include excavation and propping to the soil above as the tunnel progresses. This type of tunnel construction is well known and can be achieved in constrained sizes.
- Risks include vertical deformation of the tracks as the excavation and propping advances and requires careful monitoring throughout.
- This would be a costly form of bridge construction due to the prolonged nature of the installation.

Based on the above, we would therefore not recommend the installation of a tunnel underneath the railway, due to the risks of distortion of the tracks, leading to closure of the railway line while remediation is carried out. Tunnelling operations would need extensive space to support construction, which would be impractical given the constrained railway route through Haslemere. In addition, the extensive approvals process and installation costs would make a tunnel option impractical



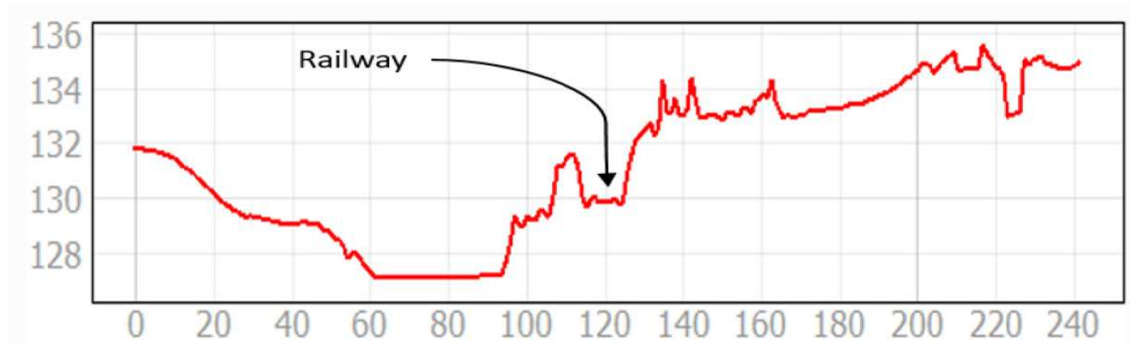
3.0 Analysis of Alternative Site Characteristics

3.1 Topography
The site for the proposed footbridge is constrained by level changes, embankments, dense foliage and existing access roads and buildings on the southern side of the railway, which influence both the alignment of ramps and the structural form of the bridge. The available footprint for construction is limited, requiring careful planning of ramp gradients, switchbacks, or spiral configurations to achieve step-free access while remaining within accessible slopes. The topography also affects drainage management, requiring integrated SuDS solutions to capture runoff from ramps and the bridge deck without impacting the railway or surrounding properties.

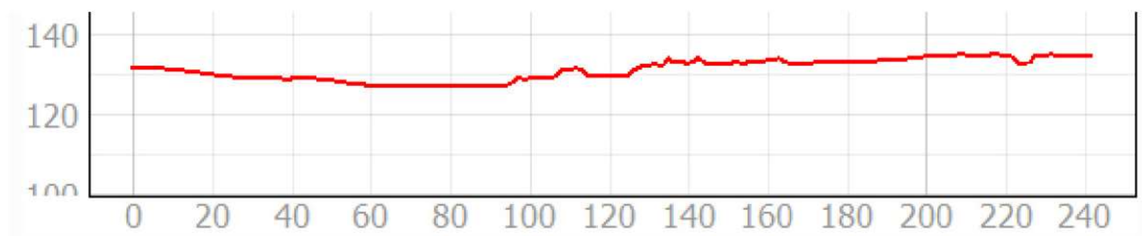
3.2 Geotechnical Consideration
A search of the British Geological Survey publicly available records provide borehole information from a site investigation undertaken in 1979 on the site of the leisure centre and skate park. These records indicate that the subsoil geology is broadly made ground and topsoil of varied depth, between 1m and 2.7m below ground level. Made ground overlays firm-stiff fissured clay deposits. Below this, very stiff clay extend down, with some pockets of silt and fine sand. It should be highlighted that some of the boreholes detected buried asbestos within the made ground, which should be carried forward as a CDM risk, and mitigation measures discussed with the contractor as necessary. Shrink-swell behaviour of clay must be assessed to prevent long-term movement that could compromise abutments or approach ramps. The bearing capacity of the soil will dictate foundation type and depth, while groundwater levels may affect excavation and piling methods. Proximity to the railway embankments adds an additional layer of complexity, as Network Rail approval is required to ensure that construction does not destabilise the tracks or existing earthworks. Referring to the historic map overleaf, the river that passes through the site has been diverted into a culverts. The route of the river now is not clear and its position needs to be established to ensure that any foundations avoid it.

3.3 Existing Services
Existing infrastructure imposes further practical constraints. The bridge must cross active railway lines under Network Rail jurisdiction, taking into account potential future overhead line equipment, signalling systems, and any other operational restrictions. Utility positions must be carefully mapped using C2/C3 records, with any diversions being accounted for in the cost modelling and risks. The nearby Tesco access road requires consideration of vehicle swept paths when considering pavement widening to maintain traffic flow during construction and permanently.

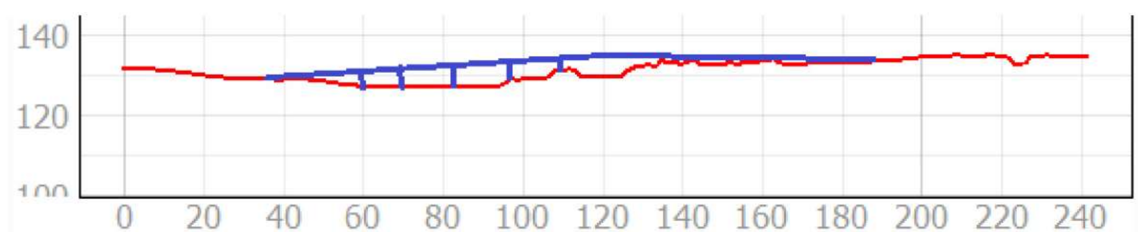
Exaggerated profile



True



With bridge line allowing 4.5m clearance above tracks.



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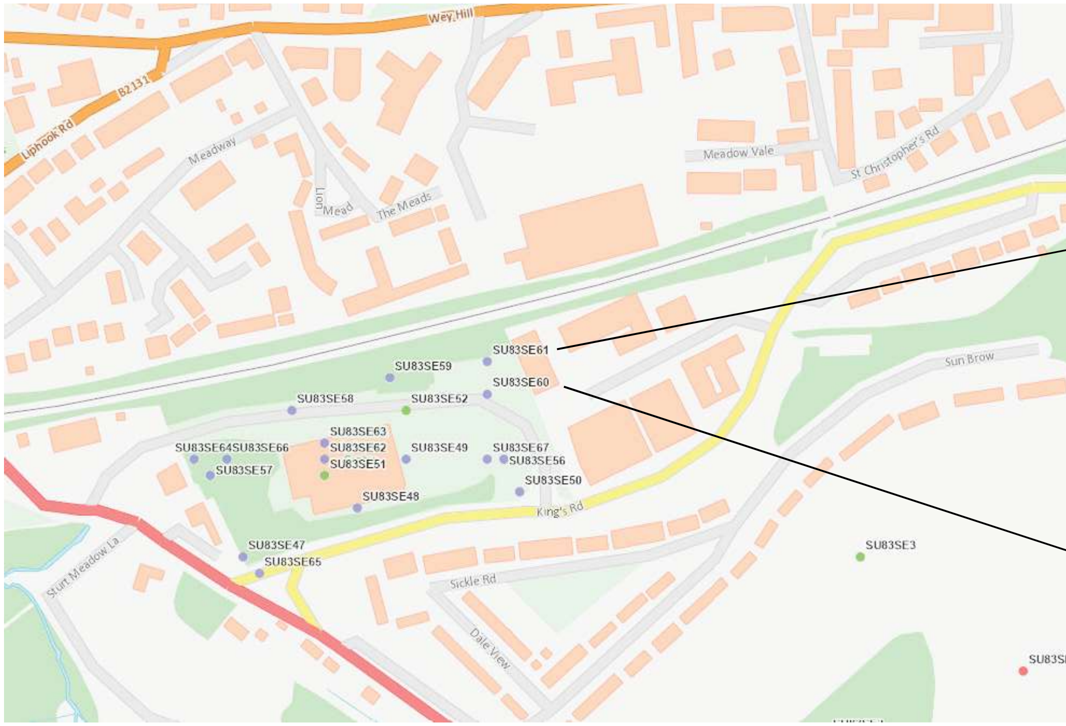
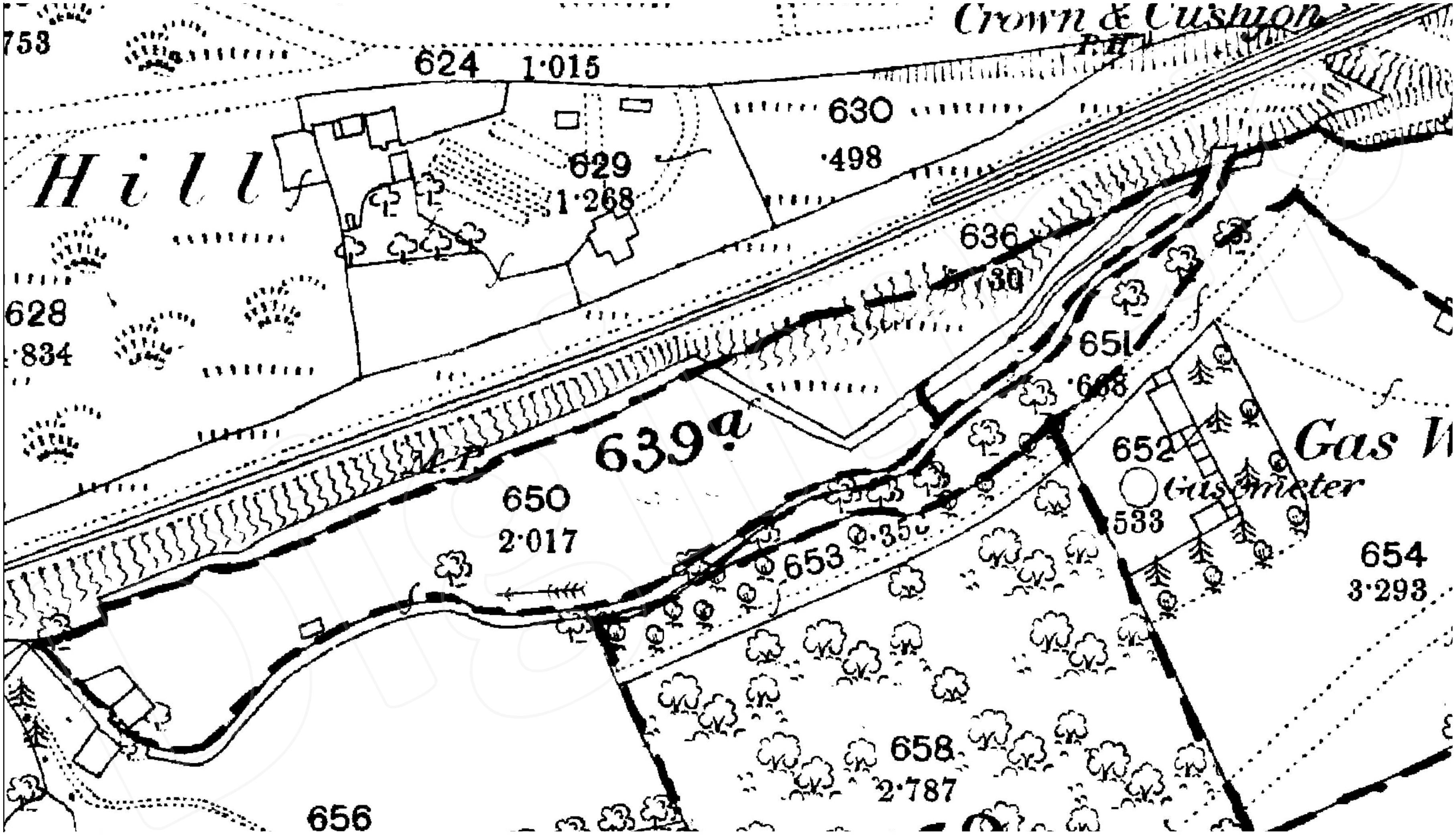
British Geological Survey - GeoIndex Onshore Map *© Crown Copyright and database right 2020*



SAMPLES Depth	Type	No.	STRATA Legend	Depth	Thickness	DESCRIPTION OF STRATA
				G.L.	0.70	Loamy TOPSOIL (Drillers description)
0.80 - 1.20	U	1		0.70	3.05	Very stiff and hard becoming firm with depth grey brown mottled fissured silty CLAY becoming very silty with rootlets towards the top.
1.50	D	2				
2.00 - 2.40	U	3				
2.75	D	4				
3.50 - 3.90	U	5		3.75	2.00 +	Stiff becoming very stiff with depth grey fissured very silty CLAY with occasional small pockets of light grey silt.
4.25	D	6				
5.25 - 5.65	U	7				
5.75	D	8	E.o.B.	5.75		

SAMPLES Depth	Type	No.	STRATA Legend	Depth	Thickness	DESCRIPTION OF STRATA
				G.L.	2.70	MADE GROUND Loose brick, glass asbestos, sandy silt
0.75	D	1				
1.50 - 1.95 (N = 5)	B	2				
2.75 - 3.10	U	3		2.70	2.90	Firm to stiff becoming very stiff with depth brown grey mottled fissured silty CLAY
3.40	D	4				
4.00 - 4.40	U	5				
4.75	D	6				
5.40 - 5.80	U	7		5.60	0.40 +	Very stiff grey silty CLAY with small pockets of light grey fine sand or silt
6.00	D	8		6.00		



Scale 1:1250

0 10 20 30 40 50 60 70 80 90 100 m

Projection: British National Grid
17 March 2026 12:14

4.0 Practicality, Constraints, Regulations, Legal Requirements & Codes

4.1 Site Constraints

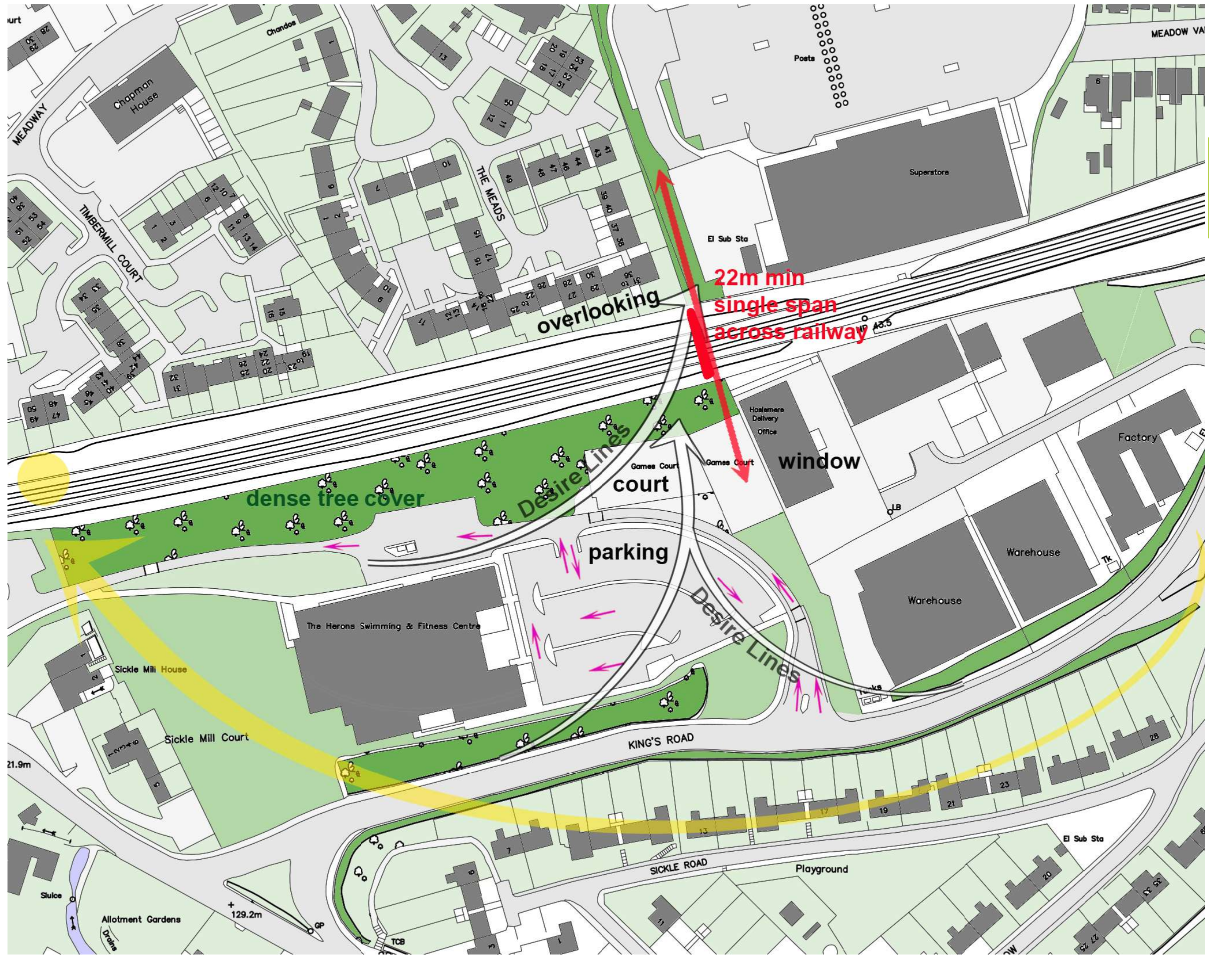
Constructing a footbridge over an operational railway in a densely used urban environment presents a range of practical constraints that must be carefully addressed. Working adjacent to train tracks significantly restricts construction methods and site access, requiring close coordination with Network Rail and carefully planned interventions to minimise disruption. The available compound space is limited on the norther side of the tracks. There is more space available to the south but a balance will need to be struck between the affect on the sports provision and the constrains on the storage of materials, staging of plant, and movement of construction personnel. These limitations also impact the sequencing of ramp installation, deck placement, and temporary works, demanding a highly coordinated and, possibly, modular approach.

The site is heavily vegetated, with mature trees. This necessitates sensitive design to avoid root damage, maintain ecological value, and comply with BS 5837 arboricultural standards. Ramp alignments may need to curve or adjust around trees, which can increase structural complexity and lengthen the footprint of the access routes. A number of trees will need to be removed. Retaining greenery where possible also provides shading and amenity benefits for the bridge, but requires careful no-dig construction techniques and potentially specialised foundations, such as piling.

The bridge is adjacent to the public leisure centre, skate park, and basketball court, near a culvert, with parking, drop-off zones, and recreational space impacted by construction compounds or ramp approaches. Safe pedestrian access must be maintained and the works must minimise temporary loss of amenity, and coordinate with the local authority and facility operators to manage disruption. Overlooking concerns for nearby residential properties also influence ramp and deck heights, parapet design, and landscaping buffers, adding additional design complexity.

Finally, a range of legal, regulatory, and planning constraints governs the project. Planning permission must be obtained under the Town and Country Planning Act 1990, while Network Rail approval through the Basic Asset Protection Agreement (BAPA) is mandatory for any work over the tracks. Compliance with the Party Wall Act, land ownership agreements, and potential easements is required, alongside environmental legislation such as the Wildlife and Countryside Act 1981.

Construction must adhere to CDM Regulations 2015, Building Regulations (Parts A, K, and M), and fire safety requirements if the bridge is enclosed. An Environmental Impact Assessment (screening likely) may also be required, ensuring that ecological, visual, and noise impacts are appropriately addressed before the project can proceed.



The Proposed Site, Link shown as red arrow

North access route – adjacent to the tesco service yard. Access to the yard will need to be maintained throughout construction. Access to the railway via a 4-5m wide strip of land which would constrain working area for piling of the buttress.

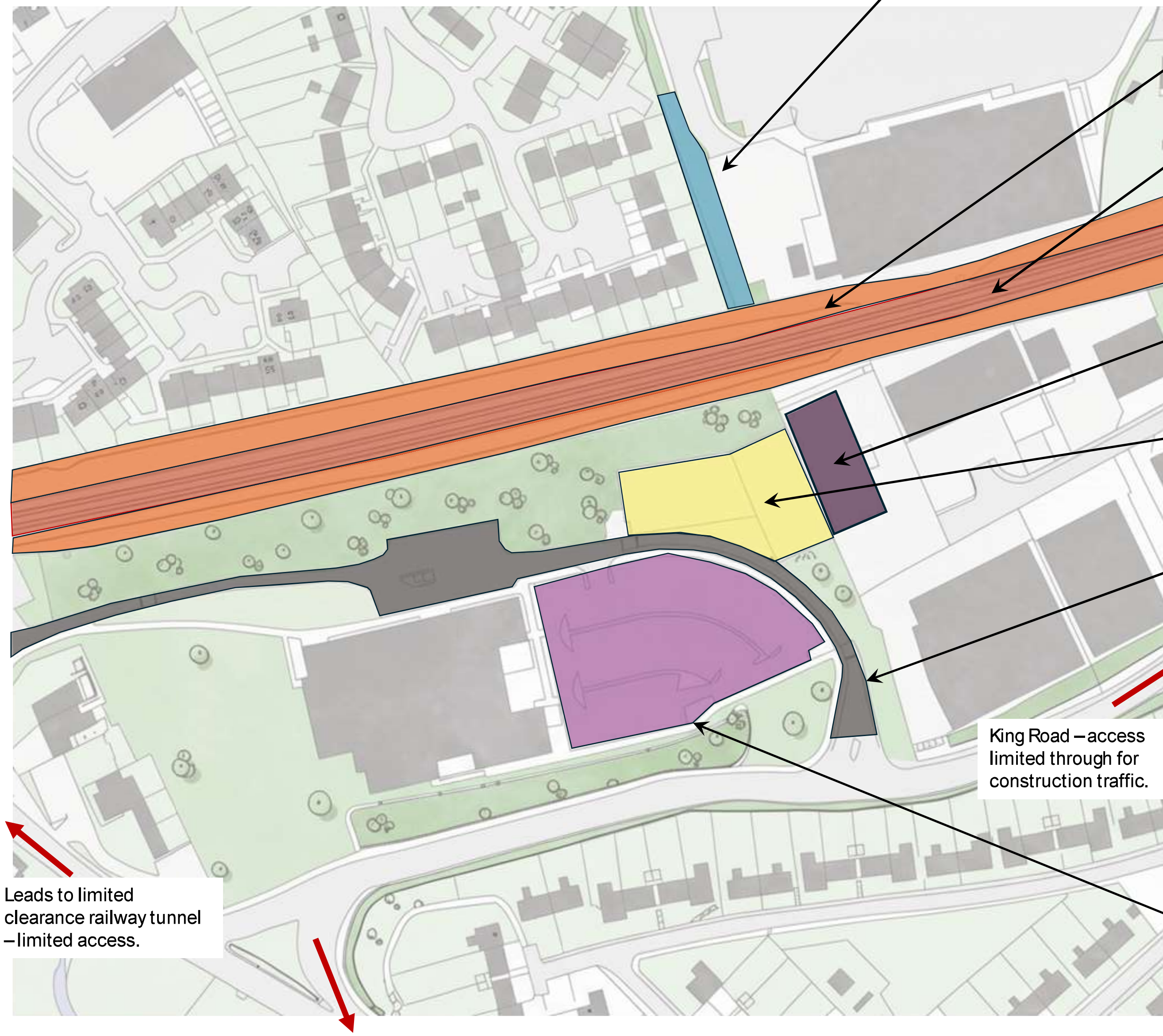
Railway land adjacent to the tracks. Likely significant services running through this area, including high-voltage and comms lines which would need to be safeguarded.

Railway lines – minimum 5m clearance and limited oversailing without approvals.

Adjacent office building – required standoff and rights of light to existing windows to be assessed as part of concept development.

Skatepark & courts – may be required for construction yard and laydown area. Alternative provision may be required.

Leisure centre access road – to be maintained throughout construction and clear, safe separation of the site from the public to be in place at all times.



Leisure centre carpark – to be maintained, or a portion to be maintained throughout construction. Phasing may be required for access during the works.

Access to Midhurst road – likely primary access in and out of site for construction traffic. .

5.1 Sustainable Civic Infrastructure

A modern pedestrian and cycle bridge should be conceived not simply as a transport link, but as a piece of sustainable civic infrastructure that enhances the environmental performance of the surrounding urban landscape. From the earliest feasibility stage, the design should align with the UK Net Zero Strategy, embedding carbon reduction, resource efficiency, and ecological enhancement into the core engineering approach.

Standards such as PAS 2080 – Carbon Management in Infrastructure guide the systematic reduction of whole-life carbon through material choice, efficient structural forms, and construction methods. Environmental product transparency can also be supported through the use of materials verified under BS EN 15804 Environmental Product Declarations, enabling designers and clients to make informed decisions about embodied carbon.

5.2 Materials Selection

Material selection plays a major role in delivering sustainable outcomes. Bridges can be designed using recycled structural steel, which significantly reduces embodied carbon compared with primary steel production. In many contexts, weathering steel is particularly attractive because it forms a stable oxide layer that eliminates the need for repeated repainting, reducing both maintenance costs and environmental impact over the structure's life.

Where concrete is required for foundations or substructures, low-carbon mixes with high Ground Granulated Blast Furnace Slag (GGBS) content can dramatically reduce embodied CO_2. In appropriate settings, the feasibility study may also consider a timber superstructure or deck using FSC-certified timber, which stores carbon and provides a warm, natural aesthetic that integrates well with parkland or green corridors within the town centre.

5.3 Biodiversity Net Gain

Beyond materials, the bridge can actively support urban biodiversity and ecological connectivity. Under the Environment Act 2021, infrastructure projects are expected to deliver at least 10% Biodiversity Net Gain, meaning the bridge should contribute measurable ecological improvements rather than simply mitigating damage. This can be achieved through design measures such as wildflower planting on ramp embankments, habitat-friendly landscaping beneath the structure, bird and bat boxes, and the integration of green screens or planted trellis systems within parapets. These elements can soften the visual impact of the bridge, support pollinators, and create green corridors linking fragmented habitats across transport infrastructure.

5.4 Water Management

Water management and urban climate resilience are also critical components of sustainable bridge design. Drainage systems should follow best practice set out in the CIRIA SuDS Manual (C753), ensuring that runoff from the bridge deck and approach ramps is treated and attenuated before entering the local drainage network. Sustainable Drainage Systems (SuDS), such as swales, rain gardens, and permeable surfaces at ramp bases, can reduce flood risk while creating additional ecological value.

5.5 Energy

Energy consumption can be minimized through LED lighting with motion sensors, reducing operational carbon and light pollution while maintaining safe visibility for users. Consideration for the installation of renewable energy systems should be given, such as a PV system, particularly if a lift is being operated, to reduce the lifetime in use CO_2 emmissions.

5.6 Arboricultural Impact

Finally, careful integration with the existing urban landscape is essential to preserve and enhance local ecology. A comprehensive Arboricultural Impact Assessment in accordance with BS 5837 should identify important trees and define Root Protection Areas that must be respected during construction. Where feasible, no-dig construction techniques and lightweight structural solutions can minimize disturbance to root systems. Lighting should be designed with bat sensitive specifications, avoiding excessive blue light and directing illumination only where required. By combining sensitive landscape design, low-carbon materials, and biodiversity enhancement, a town centre pedestrian bridge can evolve from a simple crossing into a green piece of infrastructure that strengthens both environmental resilience and community wellbeing