

Proposed Enhancement 4 - Additional landscaping

Additional landscaping

- 3.39 Opportunities for more planting are constrained by underground electricity cables. A SSE electricity cable will need to be located south of the structure, requires a 4.2m clear route for access.
- 3.40 The MRT viaduct also requires a 10m easement (which will contain the piers/piles/pile caps of the structure) that further restricts planting opportunities.
- 3.41 Only low level shrubs/planting can be planted directly over the cables. Any significant planting needs to be at least 2m away from the cable trench.
- 3.42 There is therefore limited opportunity for substantial planting, but further low level planting and/or public art sculptures could be provided.

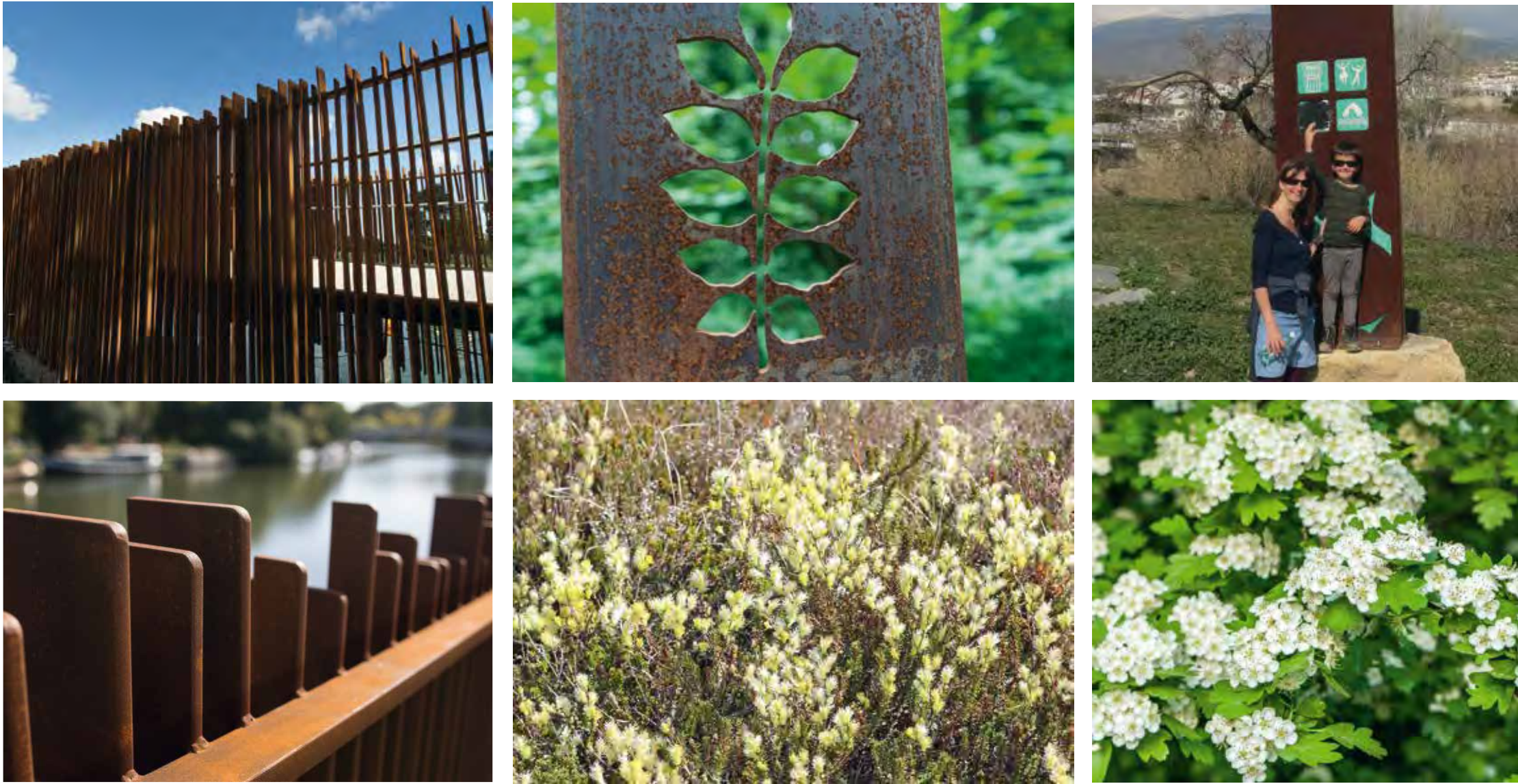


Figure 22. Landscape enhancements



Signage and Wayfinding

Enhanced planting

Local history and habitat Interpretation boards

Figure 23. Landscape enhancements

Assessment



	Planters at high level.	Gabions on the columns with re-designed columns.		Coloured pigment and/or textured concrete finishes.
3.43	The planting will be applied to the tallest and therefore the most prominent part of the structure. It will screen and soften the appearance of the structure and introduce natural tones, patterns and shadows that are more likely to blend into the surrounding landscape.	3.47 The stone filling will provide rich, natural tones interspersed with deep shadows that will create a richly textured appearance.	3.52	Health & safety concerns have been raised in relation to this option with stones potentially used as missiles. Local Planning Authority officers opposed column cladding on these grounds.
3.44	Provided the planting is successfully established and maintained, this option will have the greatest effect in reducing the overall prominence of the structure in short, medium and long distance views.	3.48 Carefully selecting the type, shape, size, roughness and tone of stone will help to blend the structure into the surroundings.	3.53	It is possible to limit or prevent stones being prised out of the gabion cages by selecting a finer metal grid and larger stones. Carefully filling the gabion cages, selecting rougher-edged stones that lock together and interspersing with grit should prevent stones from being prised out of the cages.
3.45	The high level planting is in line with the proposed green wall approach at the Park and Ride and a common management approach can be adopted.	3.49 The gabion can be replicated on the retaining wall at the west end is proposed on the western abutment of the bridge. This will mean a more limited materials palette and create a more unified structural appearance.	3.54	Colouring the concrete with natural hues will help to blend the structure into the surrounding landscape setting. It will not reduce the prominence where the structure is viewed against the sky.
3.46	Of those who expressed an opinion at the public exhibition and in questionnaire responses, this option attracted the greatest support.	3.50 The gabion cages are likely to be bulkier and squarer than the proposed curving single columns. There may be some scope to refine the detailed design.	3.55	The effect of the colour will be subtle, not bold. The effect is likely to be more positive in close views.
		3.51 It may not be visually appropriate and may be technically problematic to apply gabions to the taller columns closest to the east bank of the Kennet. A possible solution would be to apply gabions to the columns supporting the viaduct and retain the concrete-faced columns to support the bridge.	3.56	The impact of the colour will be enhanced where sunlight falls on the structure. However, the structure is most visible from the riverside path, which will be in shadow for large parts of the day.
			3.57	Textured concrete finishes will create a richer, textured appearance of light and shadow that will be most effective in shorter distance views. The effect is likely to be much less in longer distance views.
			3.58	There is scope to further develop the detailed design of the textured concrete finish with a range of options including random or geometric patterns and abstract representations of local flora and fauna.



Additional (ground level) landscaping

- 3.59 Taller and wider shrubs and trees are more likely to screen views of the structure. However, there is limited opportunity for substantial planting due to underground electricity cables.
- 3.60 Further low level planting would provide additional visual interest, but would potentially appear more like a designed landscape, rather than a semi-natural setting.
- 3.61 Public art, sculptures etc, will enhance the setting and provide amenity, but will not diminish the visual impact of the MRT. The location and scale of any art installation is also constrained by the underground electricity cables.

Selected option

- 3.62 Based upon this assessment, the selected option one - planters at high level, have been selected. These would correspond with the proposed approach of a 'living green wall' at the TVP P&R development and would provide 'greening' of the upper level of the viaduct for local views from the Thames Path and river. Maintenance will be required, however automatic irrigation, a planting replacement programme and CCTV could keep this to a minimum. Provided the planting is successfully established and maintained, this option would have the greatest effect on softening and greening the appearance of the viaduct.
- 3.63 Full details may be secured by planning condition.

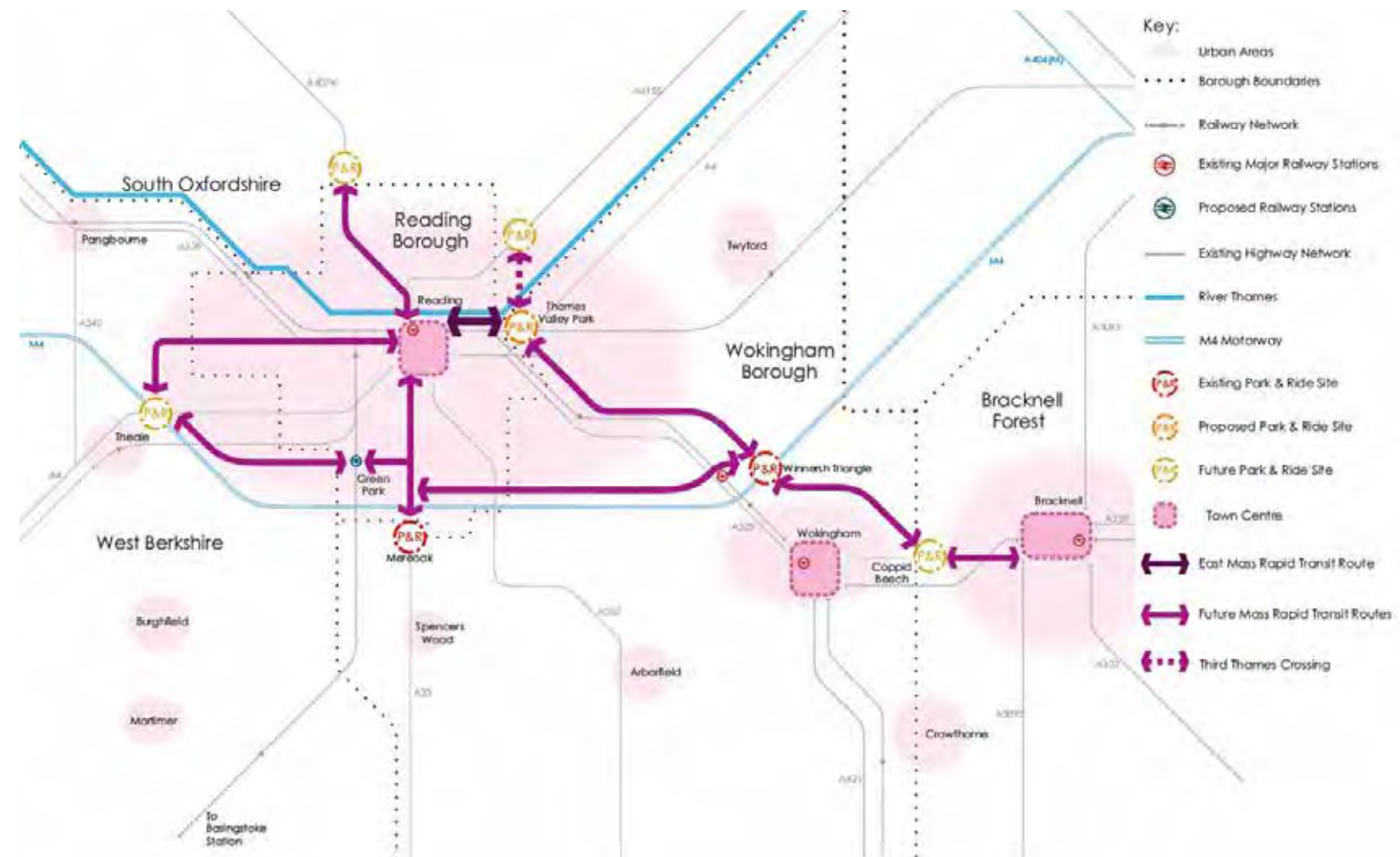


Figure 24. Transport strategy diagram

4 Transport context

Planned future growth

- 4.1 Reading is the fastest growing urban area in the UK. It is also the most congested urban area outside London.
- 4.2 Significant growth is planned in both Reading and Wokingham Boroughs that will increase travel demand into and out of Reading town centre for work and for other journeys.
- 4.3 Most vehicle journeys into and out of Reading town centre are channelled along the four main corridors to the north, south, east and west.
- 4.4 Observations demonstrate that the eastern corridor has reached capacity. This will seriously restrict economic growth.
- 4.5 Future economic growth is therefore highly dependent upon enhanced connectivity, transport capacity upgrades and the development of more sustainable travel patterns.

The London Road Corridor

- 4.6 The A4 London Road is the main strategic route for vehicles travelling to and from Reading Town Centre to the east and the link to M4 junction 10. The corridor supports approximately 75,000 people movements per day between key destinations including Thames Valley Park and Reading town centre.
- 4.7 The road comprises two narrow lanes for traffic travelling towards central Reading and a single narrow lane exiting towards the A3290. The A4/A329 Cemetery Junction is a particular pinch point along the route. The road is heavily constrained and suffers with significant congestion, particularly during the peak periods. The queues can reach 300 – 550 vehicles exiting Reading in the peak periods and between 60 – 200 vehicles entering Reading in the peak periods. Journey times range from 7 to 24 minutes east bound, depending upon the time of day.
- 4.8 For West bound, the journey times range from 9 to 24 minutes. This shows there are currently significant variations in journey time due to congestion, which will severely limit the potential for future growth on the corridor.

Public transport

- 4.9 Public transport services are well used in east Reading and the commuter shuttle bus services are full in the peak periods.
- 4.10 There is existing bus priority between Watlington Street gyratory and Cemetery Junction, however services suffer delays in the town centre and between Cemetery Junction and the A3290.

Mass rapid transit

- 4.11 The East Reading Mass Rapid Transit Scheme will form part of a longer term MRT network for the Thames Valley and well as being capable of operating as a standalone MRT route.
- 4.12 The scheme will also link to a planned Third Thames Crossing and a Park and Ride facility north of the River Thames.

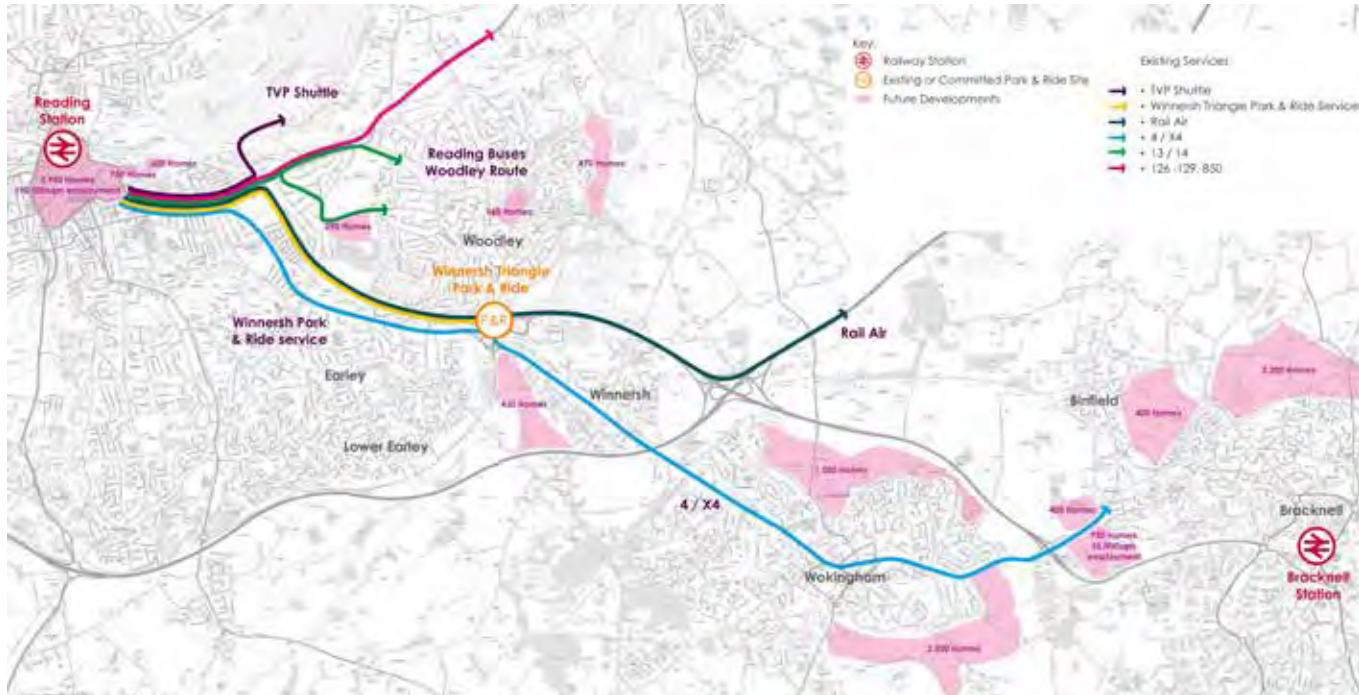


Figure 26. Eastern Corridor diagram



Figure 25. Traffic congestion at Cemetery Junction

Park and Ride

4.13 The proposed Thames Valley Park Park & Ride (TVP P&R) scheme (Wokingham planning ref: 161596) was approved on 10th November 2016 and includes provision of 277 car parking spaces. A Section 73 Application (application ref. 182496) has since been submitted on 7th September 2018 and approved on 10th October 2018 with provision for 260 parking spaces. The proposed TVP P&R is planned to be served by the TVP commuter bus service only. The proposed hours of operation are expected to be between 7am and 7pm Monday to Friday only, no services will operate at the TVP P&R at the weekend. The TVP P&R will be served by ten buses per hour during peak periods and four buses per hour during off peak periods.

Strategic networks

- 4.14 Reading is planned to benefit from significant investment in the following strategic networks:
- Elizabeth Line (Crossrail) is planned to operate from Reading Station in 2019 providing direct services to central London. This line is reported to be generating the most homes of all the new rail lines.
 - The Western Rail Link to Heathrow will provide direct access to Heathrow Airport from Reading and is planned to be completed in 2021.
 - HS2, which should be completed in the next decade, will reduce journey times from London to Birmingham to 49 minutes, making it easier to commute from Britain's second city to the capital. London's rail commuter network will then encompass Brighton, in the south, Southend, in the east, Reading, in the west, and Birmingham, to the north.
 - M4 Junctions 3-12: Smart Motorway.

Cycling and walking

- 4.15 The A4 London Road does not provide adequate pedestrian and cycle facilities between and on the boundary of Reading and Wokingham Boroughs. The towpath along the south bank of the River Thames provides a cycling route however; there are stretches where cyclists are required to dismount, as access rights are on foot only.
- 4.16 The natural surveillance and surfacing on the towpath are poor, it is narrow in places with a stepped bridge, and is shared by pedestrians.

Reading Borough Council, Transportation & Streetcare
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Figure 27. The Design Review Panel meeting in June, 2017.

6 Design review

Design South-East

6.1	An independent review of the design of the proposed development was undertaken by a panel of architects at Design South-East (DSE).	The design exercise undertaken should be fully explained.			Use of sustainable materials should be maximised
6.2	Following submission of the project for design review on 4th May 2017, a review was held with DSE on 6th June 2017. The review was attended by members of the project team and planning officers of RBC and WBC, and comprised a site visit, presentation and discussions with panel members.	6.7 A detailed design rationale is set out in this document along with the various options considered that led to proposed scheme.		6.11 Chapter 10, Parameters, sets out the various determinants and influences on bridge height, whilst Chapter 13, Bridge form options, details the various options considered.	6.15 Please see chapter 18, Colours, Materials and Finishes, and also the Sustainability Statement.
6.3	A formal response from DSE, summarising the feedback provided at the review meeting, was received on 16th June 2017.	A utilitarian design approach is acceptable however the appearance of the structure needs to be more attractive and elegant.		Queried whether the land beneath the viaduct could be activated or closed-off	Landscape strategy should take a proactive approach
6.4	The overall principle of the scheme was accepted by the Panel and their comments therefore related to further design development and providing further details of the design processes involved.	6.8 The scheme has been further developed and refined in order to incorporate the twin goals of creating a simple but elegant structure. See particularly chapters 13 through to 18 of this document on the form of the bridge and viaduct, abutments, columns and materials.		6.12 The land beneath the viaduct includes the creation of areas of marshy wetland and grasses in order to allow people to see beneath the viaduct and discourage public access to deter antisocial behaviour. See Chapter 19, Public Realm and Landscape.	6.16 Chapter 19, Public Realm and Landscape, details the approach to landscape design. This outlines the parallel approaches of mitigating the impact of the structure overall, so that it partly receded into the riverside landscape, whilst also celebrating the new bridge structure.
6.5	The Panel's comments are summarised below, followed by the project team's response.	The river mouth is a gateway to the town and should be celebrated		6.13 The proposed approach does not prevent the future activation of the land beneath the viaduct for riverside leisure use.	Recommend further ongoing engagement with key stakeholder groups and statutory consultees.
	Proposals should consider incorporating leisure and tourism improvements.	6.9 Chapter 11, Bridges and Crossings, demonstrates how the approach to the new bridge has been developed in the context of the six crossings of the lower reaches of the Kennet.		Design should fully consider the interfaces with adjacent land uses	6.17 Details of community and stakeholder engagement are summarised in the Planning Statement and Consultation Statement submitted with the application. Further engagement will be undertaken during the planning application process.
6.6	The scheme incorporates improvements and enhancements to the towpath set out in chapter 10 of this document, Public Realm and Landscape.	Proposals should consider impacts on the listed railway bridge as well as the horseshoe bridge		6.14 The interfaces between the proposed Park and Ride, the Dreadnought, Tesco have been carefully considered, with Further details outlined in Chapter 19, Public Realm and Landscape.	
		6.10 The new bridge has been designed to both complement and open views to and through the railway bridge.			



Figure 28. View from the River Thames looking south towards the site with the railway beyond



Figure 29. Urban Context (Google Earth)

7 Site description

Site		Route corridor		Character		Dreadnought Public House	
7.1	Land between Thames Valley Business Park and Napier Road, Reading, to the south of the River Thames and north of the Great Western Main Line Railway.	7.2	The route of the East MRT scheme is proposed to link the A3290 at Thames Valley Park, from a proposed new Park & Ride facility, to Napier Road, Reading town centre and the railway station	7.8	The area is characterised by contrasting urban forms. It is both an area of dense, semi-natural planting and waterside open spaces alongside an industrial landscape of railways, industrial sheds, electricity pylons and gas works.	7.10	The Dreadnought is a two storey 18th century brick built former public house with slate roof. It was formerly a clubhouse and boat storage facilities for the University boat club.
		7.3	The route extends from the A3290 and A4 along the southern bank of the River Thames north of the Great Western Railway Line, across the mouth of the River Kennet connecting to central Reading via Napier Road.	7.9	The thick vegetation within and surrounding the Site helps to create a sense of relative isolation with only limited views into, across and out from the area. Views are typically disrupted to the south by railway infrastructure, large electricity pylons and glimpses beyond the railway to an infrastructure of the large gas cylinders.	7.11	Permission to create tearooms , toilet blocks and accommodation including demolition of some out buildings and sheds and conversion of some to guest accommodation has now lapsed.
		7.4	To the east of the application site lies Thames Valley Park. The Wokingham Waterside Canoe & Kayak Centre and former Dreadnought public house and boat sheds lie to the north and east. Gas works and a gas holders and Sutton Business Park estates fill the land between branches of the railway to the south.			Levels	
		7.5	The Thames and Kennet Marina lies beyond the north banks of the Thames.			7.12	The land is generally low-lying and close to the level of the river. It it rises slightly to the west. The ground and river banks west of the Kennet are generally higher than the east.
		7.6	To the east, is a Tesco store and extensive car park with petrol filling station. There is a wide woodland strip between the store and car park and the riverbank.			7.13	The Site is surrounded to the north by the flat landscape of Reading Marina and the River Thames.
		7.7	To the south west, are redeveloped areas along Kenavon Drive.				

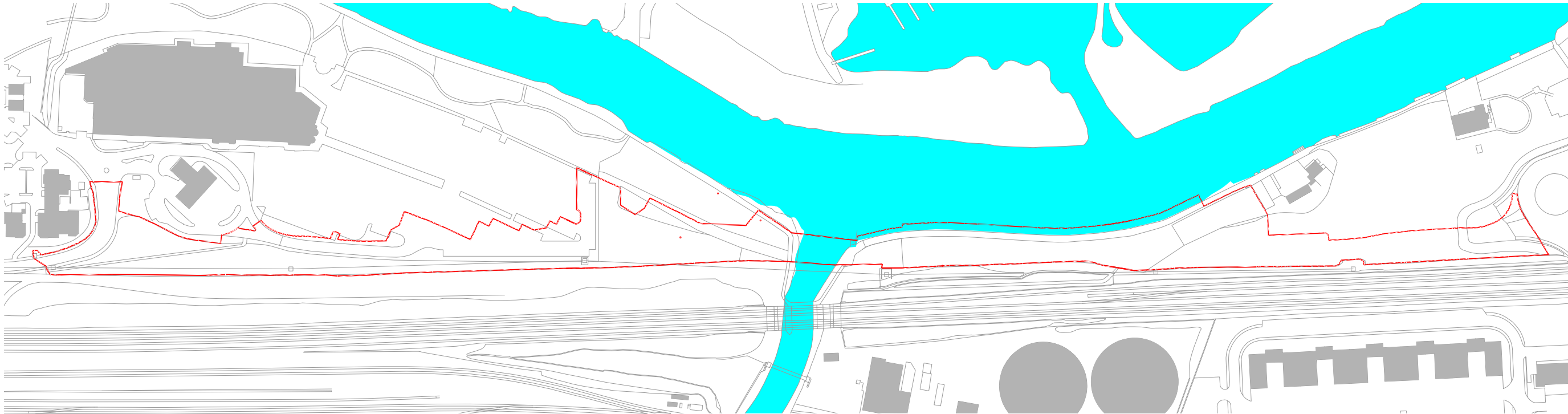


Figure 30. Application site boundary (red line plan')

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Park and Ride

7.14 The Park and Ride site is a 1.35 ha parcel of land accessed from the A3290 roundabout at Broken Brow. It adjoins the roundabout to the east, the Great Western mainline railway embankment to the south, Wokingham Waterside Centre to the east and the former Dreadnought public house and the Thames Path and River Thames beyond to the north.

7.15 The TVP P&R development was granted full planning permission (application ref: 161596) by WBC in November 2016 for: "Development of a Park & Ride facility providing approximately 277 vehicular spaces, motorcycle parking and associated vehicular access and landscaping." It is understood that site clearance is complete.

7.16 A Section 73 Application (application ref: 182496) was subsequently submitted for the TVP P&R on the 7th September 2018 to vary aspects of the planning permission. The proposed amended TVP P&R development incorporates the following:

- Vegetation and arboriculture clearance;
- Provision of 260 car parking spaces, to include six disabled spaces;

- Two bus stop bays on the north and south sides of the access road connecting to the roundabout;
- Provision for motorcycle, and cycle parking;
- Two bus shelters;
- Incorporation of a living wall;
- Access onto the roundabout that connects the A329(M), and Thames Valley Park Drive;
- 2m wide maintenance strip along the site boundary.
- Provision of a zebra crossing across the access road to link the proposed north and south bus stop bays; and
- Provision of a turning loop at the end of the access road to the west.

7.17 The application was approved on 10th October 2018.

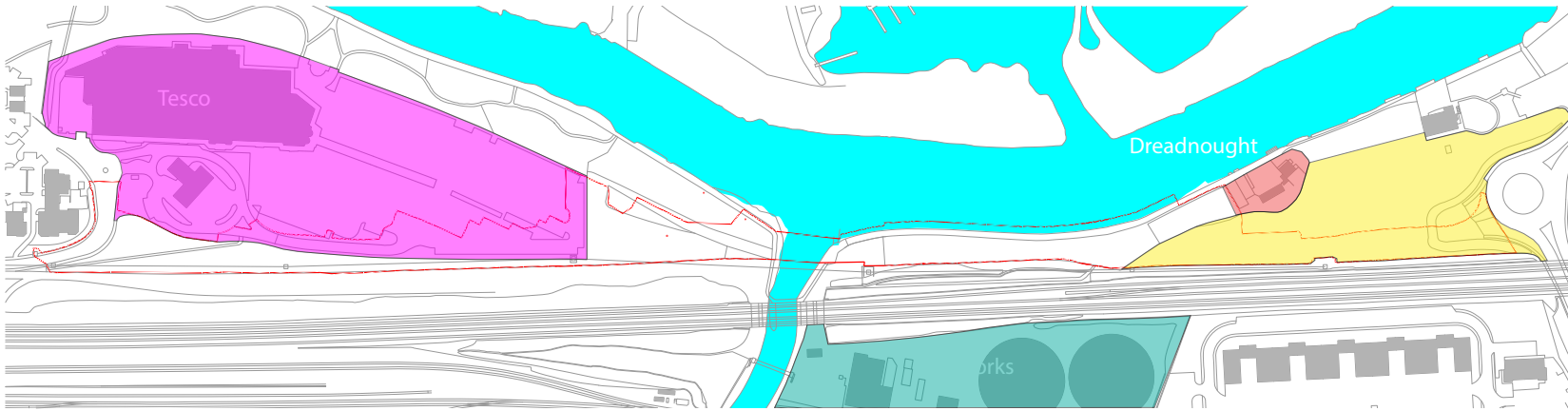


Figure 31. Adjacent planning units

7.18 The TVP P&R development is proposed to be accessed via a new access road running west off the existing TVP roundabout junction, adjacent to the south of the TVP P&R parking area. The route of the East MRT scheme is proposed to connect with the permitted TVP P&R access road, running up to the TVP P&R roundabout junction.

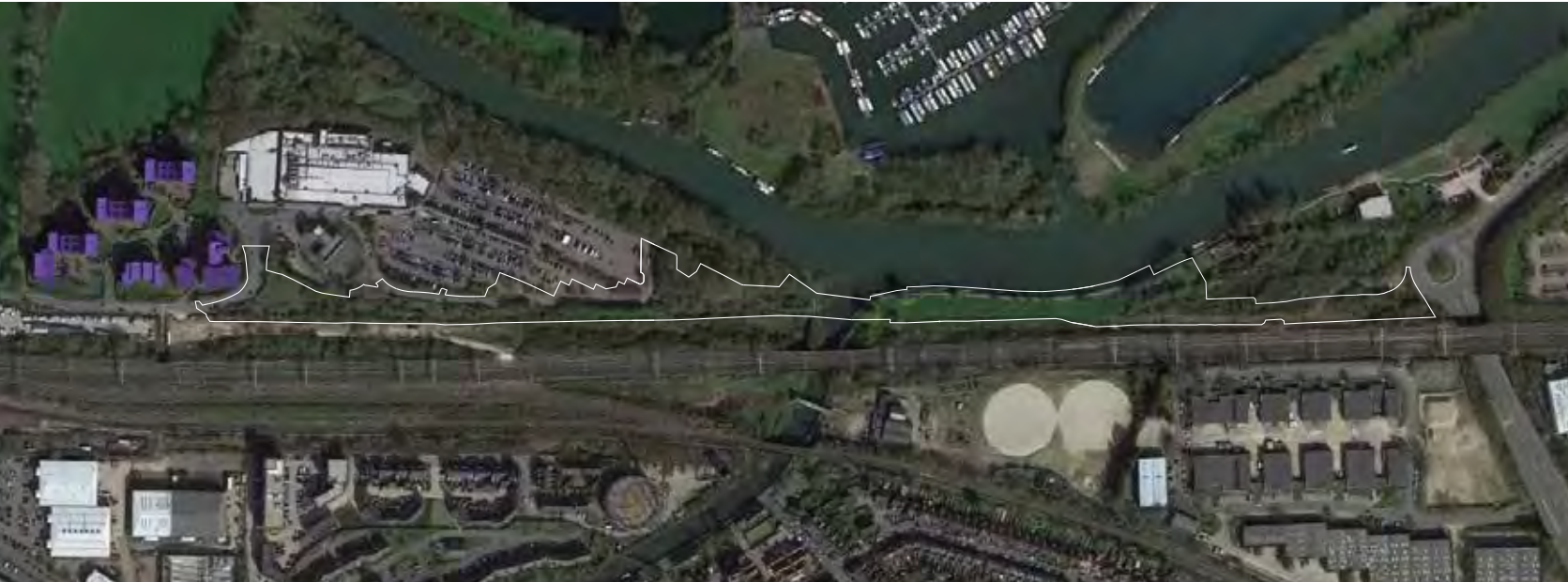


Figure 32. Application site boundary overlaid (approximately) on aerial photograph (Google Earth).

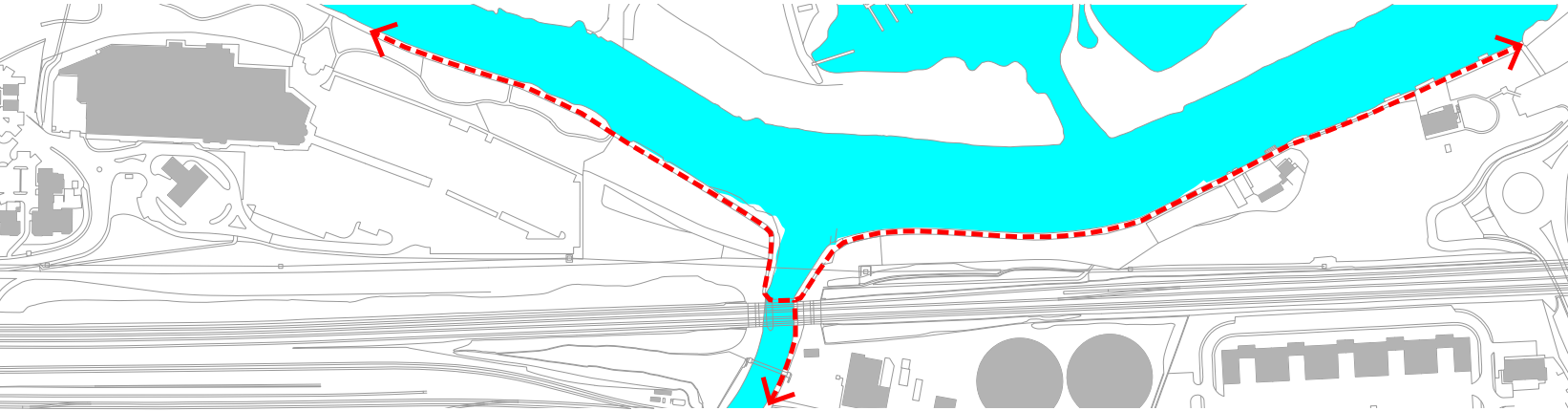


Figure 33. Strategic cycle routes (Sustrans).

Tesco

7.19 The Tesco store is a single storey, high-bay building with tiled roof. There is an extensive surface car park with petrol filling station. Access is solely from the west, via Napier Road.

Pylons

7.20 Medium and high voltage power lines and posts/pylons traverse the area from east to west. The high voltage overhead power lines have reached the end of their design life and are due to be replaced and re-routed underground this year. The alignment of the underground route has been determined following discussion and agreements between SSE and RBC (and other land owners on its route).

River edge

7.21 The river edge typically comprise brick or concrete retaining walls that are broken down in parts. The adjacent footpath is close in level to the water-mark. The banks are lined with a number of stairs and landing stages for boats to launch with temporary mooring generally permitted.

Existing footpaths and cycleways

7.22 A towpath runs east-west along the southern side of the River Thames National Trail. This is designated as part of the Thames Path, although cycling is prohibited along some sections of the route.

7.23 The path is made, with a basic asphalt surfacing over most of its length.

Strategic cycle routes

7.24 Reading stands at the hub of the National Cycle Network (NCN) in the Thames Valley, with direct links via Routes 4 and 5 to London Oxford and Bristol.

7.25 Sustrans Route 4 travels east-west along the above towpath (Thames Path National trail). Route 23m travels along the Kennet and meets Route 4 adjacent to the proposed new bridge.

Railway

7.26 The Great Western Railway traverses from east to west rising above the level of adjacent land and supported on a mix of embankments and brick retaining structures.

7.27 The embankment forms a significant visual barrier.

River Crossings

7.28 There are three river crossings of the Kennet in the immediate area comprising two rail bridges and a footbridge.

7.29 The adjacent railway bridge and attached accommodation bridge over the River Kennet is listed Grade II.

7.30 Isambard Kingdom Brunel for The Great Western Railway originally constructed the bridge in 1839-1840. The bridge was widened to the north, probably in 1892, with the accommodation bridge also probably attached (or rebuilt) at the same time.

7.31 The railway bridge is of red brick widened in engineering brick with ashlar dressings. The accommodation bridge is of steel and timber.

7.32 The railway bridge is built on a skew with a central elliptical arch flanked by pilasters and pairs of round flood arches to either side.

7.33 A gas pipe line in truss frame traverses the river located between the main railway bridges.

Riverside strip

7.34 The site is located on low lying landform, adjacent to the southern bank of the River Thames, that runs to the north of the site. The confluence between the River Kennet and the River Thames, falls roughly within the middle of the site. To the south, the Great Western Main Line Railway is raised on an embankment. Overall, the site has a sense of enclosure and a sense of being part of the River Thames corridor through the urban area, with few views out to adjacent areas. Its character is of urban open space and river-edge. There are strong influences from the railway and infrastructure corridor to the south of the site boundary, with views of the railway, moving trains, gantries and overhead cables; which counteracts the calmer and more attractive River Thames to the north of the tow path.

Trees

7.35 Broad-leaved woodland is present in the western section of the site, which lies within a Local Wildlife Site (LWS). There are also scattered trees, and some areas of dense scattered scrub, throughout the site. A number of individual and group Tree Preservation Orders (TPOs) and a woodland TPO cover trees within the western part of the site, along the River Thames, within the LWS and within the Tesco carpark. There are no TPOs upon the eastern part of site within the Borough of Wokingham.

7.36 In total, 128 individual trees and 65 tree groups were surveyed in the application site (4 are category A, 88 are category B, 98 are category C, and 3 are category U).



1. Railway bridge and Accommodation Bridge.
2. Mature planting along the river front.
3. Wokingham Waterside Centre.
4. Route corridor.
5. Railway bridge and accommodation bridge.
6. Trees within The Coal Local Wildlife Site.
7. Reading bridge across the Thames.
8. High Bridge across the Kennet in Reading.
9. Railway electricity gantrys.

Figure 34. Photographs of context

8 Aims and objectives

Over arching objectives		Objectives			
8.1	The following over arching objectives have been established for the scheme as a whole:	Transport	Sustainability, health and wellbeing	Walking and Cycling Objectives	Construction and Maintenance
		- Promote sustainable transport alternatives to cars and encourage a modal shift to public transport. - Improve access to and from Reading eastwards for buses, pedestrians and cyclists. - Complement the proposed Park and Ride facility at Thames Valley Park by offering a modal interchange from cars to sustainable transport modes. - Provide quicker, reliable journey times to central Reading. - Ease forecast traffic congestion, particularly along the heavily congested A4 corridor in east Reading.	- Promote sustainable transport alternatives to cars - Reduce carbon emissions by bringing about an increase in the volume and proportion of journeys made by lower carbon, more sustainable means of travel, including walking and cycling. - Help to deliver wider social and economic benefits, including accessibility and social inclusion for the community. - Bring about improvements to air quality and increased compliance with air quality standards, and wider environmental benefits such as noise reduction. - Actively promote increased levels of physical activity such as walking, cycling and exercise. - Contributing to improving Reading’s air quality through reducing the use of the private car. - Promote healthy living, well-being and active lifestyles by providing opportunities for walking and	- Improve pedestrian and cyclist safety through the provision of a fast track and dedicated cycle and pedestrian routes directly into the centre of Reading. - Connect the cycle hire schemes at Thames Valley Park to the central areas of Reading. - Provide a recreational route to encourage interest within the River Corridor and wider locality. - Provide a safe, and direct route option for pedestrians and cyclists to and from the town centre east Reading and Wokingham, which seeks to minimise associated journey times. - Connect with existing and planned cycle routes and pedestrian paths. - Help facilitate greater pedestrian and cycle permeability across the network, particularly on the key movement corridors. - Improve connections to strategic pedestrian and cycle routes such as Thames Path and ‘Sustrans’ NCN routes. - Meet current anticipated future growth in pedestrian and cycle journeys, particularly to and from the station, town centre and future town centre development areas. - Provide a route of sufficient width and capacity to provide an alternative pedestrian and cycle route between east and central Reading a that is both attractive and direct.	- Determine which areas of available land will be needed on a temporary basis for assembly of the bridge sections. - Minimise any detrimental effect upon the existing riverbank and other structures. - Ensure elements requiring maintenance are easily accessible from the deck surface or ground in order to allow inspection, adjustment and maintenance throughout the life of the structure. - Consider ease of maintenance and the long term management of the bridge throughout the design process to ensure that the quality of the bridge can be maintained; including measures such as low energy, low carbon and low maintenance lighting. - Consider through the design stage the most suitable off-site fabrication, transport and on-site assembly options and the wider management of any construction impacts. - Determine the most cost-effective structural form for the length of crossing and context. - Where appropriate, select standard and propriety products. - Consider the most cost-effective construction methods.

Lighting, Detailing and Materials

- The scheme design should provide for general amenity lighting..

Navigation

- Limit development within and encroachment upon water spaces.
- Limit impacts upon navigation, moorings and other river transport related activity; including ferries.
- Determine and safeguard the ‘navigation envelope’ of the Kennet.
- If needed, consider ways to protect the bridge and its support structures from impacts.

Landscape and ecology

- Protect native flora and fauna: sustain, improve and, where possible, create new species rich habitats.
- Protect, as far as practicable, individual trees, groups of trees and woodland from damage and limit the need for removal.
- Retain good quality and native waterside vegetation, recognising its contributions to ecology and landscape character.
- Strengthen the role of the Thames and adjacent open spaces as important landscape features and wildlife corridor.
- Install riverside, native, marginal planting at the marginal shelf along the edge of the River Thames.

Setting

- Respond to the practicalities and constraints of the site.
- Respond positively to the local context, and improve the interface of the site with the River Thames.
- Contribute towards a high quality public realm and the distinct character, appearance, landscape and amenity of the river and open space.
- Develop a design that is appropriate and attractive and enhances the relationship between buildings, spaces and routes.

Access

- Improve access to green space, such as safe off-road routes to parks especially in areas under-served by green space, such as Central Reading.
- Maximise waterside areas as a destination for leisure and recreation, balancing access and openness with protecting and enhancing wildlife habitats.
- Offer a safe and accessible environment for all.

Heritage

- Protect and enhance the historic environment; protect features with local or national designation including sites and features of archaeological importance.

Flooding

- Minimise effects upon the capacity of the flood plain to store floodwater and floodwater flow,
- Do not increase flood risk.

Aesthetics

Consideration should be given to a range of potential design qualities which may help to determine the final design through an option appraisal process. These may include the following:

- Structure;
- Functional;
- Elegantly engineered;
- Lightweight appearance;
- Visual energy and life; expressing the structural forces which flow through it;
- A structure that is easily understood and enjoyed by a wide audience;
- A distinctive identity, unique and memorable;
- A visible landmark with presence in the landscape;
- Framing limited vistas to and from the bridge and the approaches;

User experience

- Consider the experience of the bridge user; maximising opportunities to connect with the structure above and the water below;
- A dynamic civic space above the water to encourage people to appreciate the views.
- A night time appearance that offers safety for pedestrians and cyclists.

Deck

- Aim to create the appearance of slenderness with a thin and lightweight structure
- A simple structure free of obstructions or complex engineering.

Balustrade

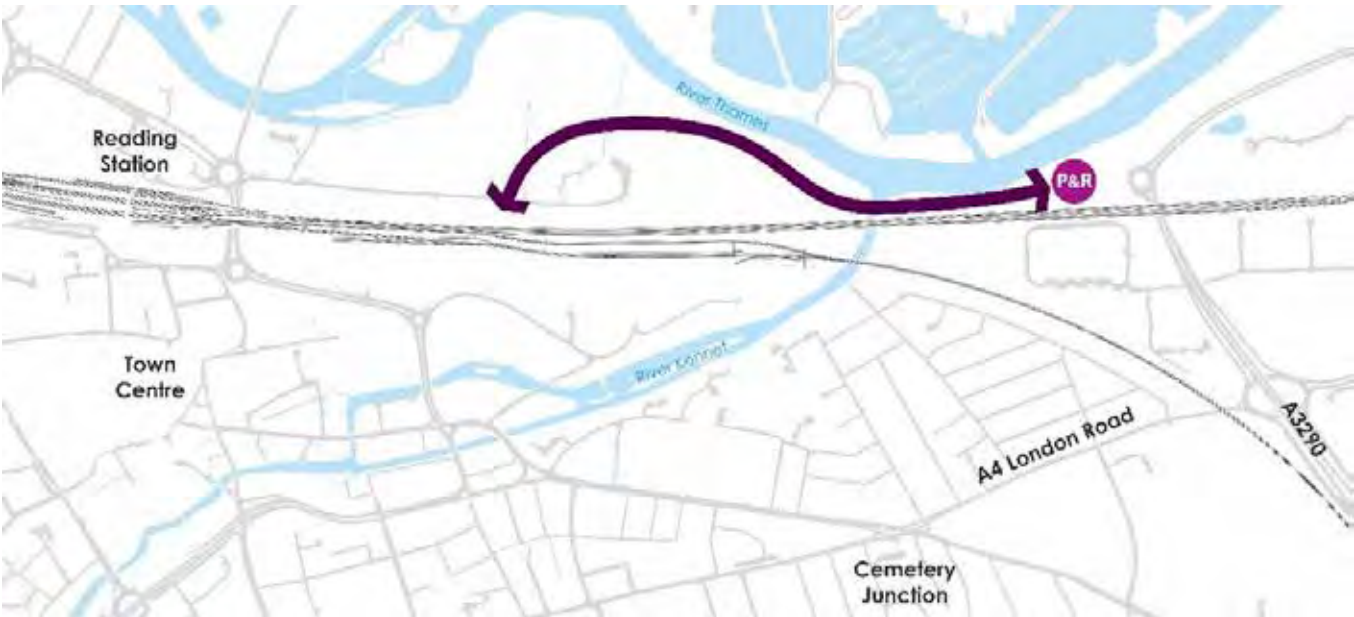
- Maximum transparency in long views to the bridge.
- Provide a feeling of safe enclosure for the bridge user.
- Continuous top rail with an additional handrail provided at lower level for pedestrians as appropriate.

Approaches

- Gentle and shallow gradient approaches (balanced against excessive ramp length and in line with appropriate standards and guidance) with sweeping/sinuous alignments in line with main flows.
- As far as possible create a sense of connection with the river bank, rather than sweeping over and past.

9 Higher level option appraisal

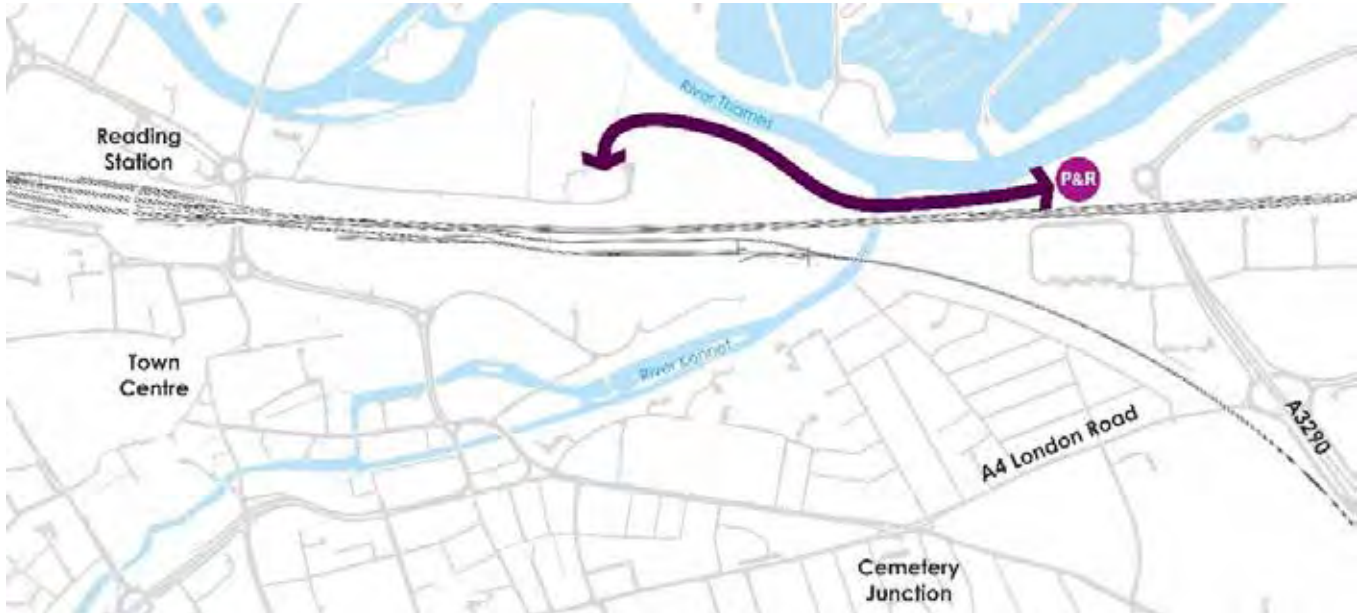
Study	Option development and appraisal
9.1 An evaluation of route options has been undertaken to inform a bid to secure the allocated funding. The route options study led to the identification of a preferred scheme.	9.4 The two-stage option appraisal process involved the assessment of ten options in stage one that were reduced to four options for more detailed appraisal in stage two, leading to the identification of two hybrid preferred options.
9.2 The study clarified the need and justification for a transport intervention and the process of option identification, development and selection undertaken.	9.5 The first stage options examined both wider transport options within Reading and the Thames Valley as well as specifically looking at the eastern route into Reading town centre from A4 and A3290 at Thames Valley Park.
9.3 Options were compared with a ‘do nothing’ option where the following outcomes were identified: • Ever increasing congestion and worsening transport conditions will act as an inhibitor to growth with private sector investment attracted to other areas with better accessibility; • Air Quality issues will be exacerbated without the mitigation afforded by intervention; and • The resident population will be disadvantaged by restricted accessibility to jobs services.	9.6 The first stage options were subject to robust assessment using the Department for Transport’s Early Assessment and Sifting Tool (EAST). The tool is designed to compare and refine options; highlight adverse impacts and unanticipated consequences; identify trade-off between competing objectives; filter and discount ‘non runner’ options at an early stage; and highlight uncertainties that should be the focus of further analysis.



Option 1 – Segregated MRT route between Napier Road and the A3290 roundabout.

This route option passes through RBC land over the meadows. The route bridges the River Kennet mouth and connects to the proposed TVP Park & Ride.

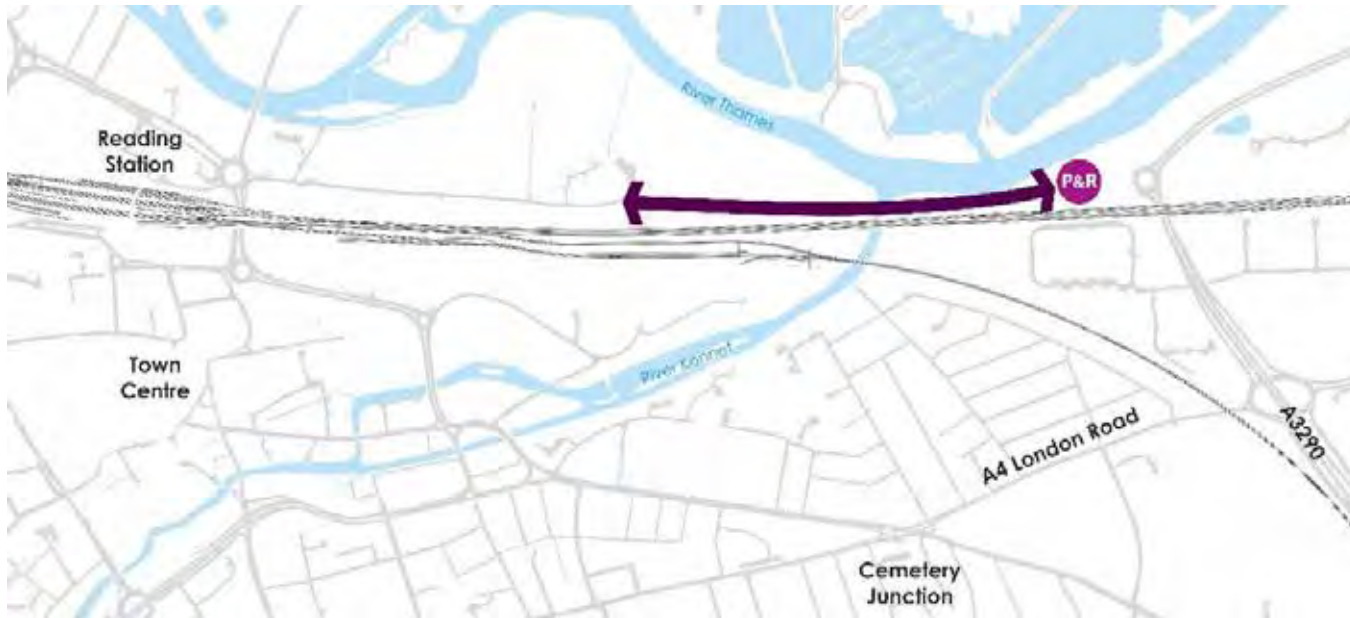
This option was selected for further appraisal in stage 2.



Option 2 - Segregated MRT route between Napier Road and the A3290 roundabout.

This route option passes through RBC land over the meadows and adjoins the public highway at Tesco access roundabout. The route bridges the River Kennet mouth and connects to the proposed TVP Park & Ride.

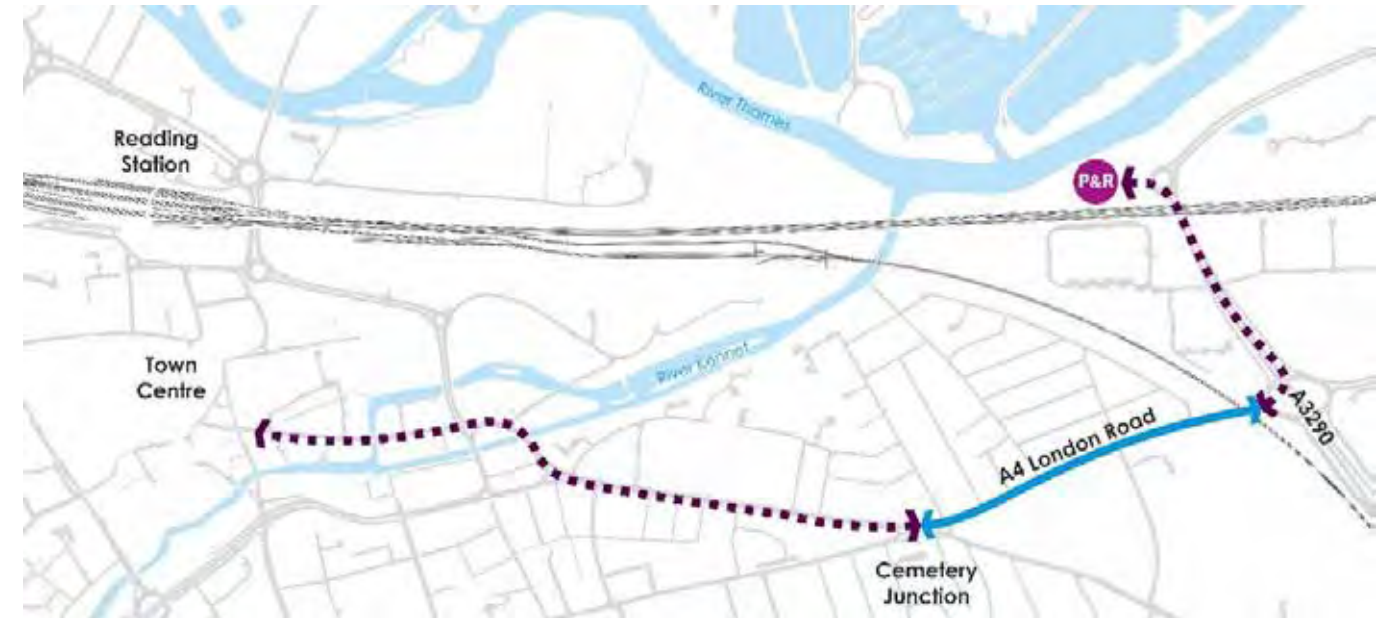
This option was selected for further appraisal in stage 2.



Option 3 - Segregated MRT route between Napier Road and the A3290 roundabout.

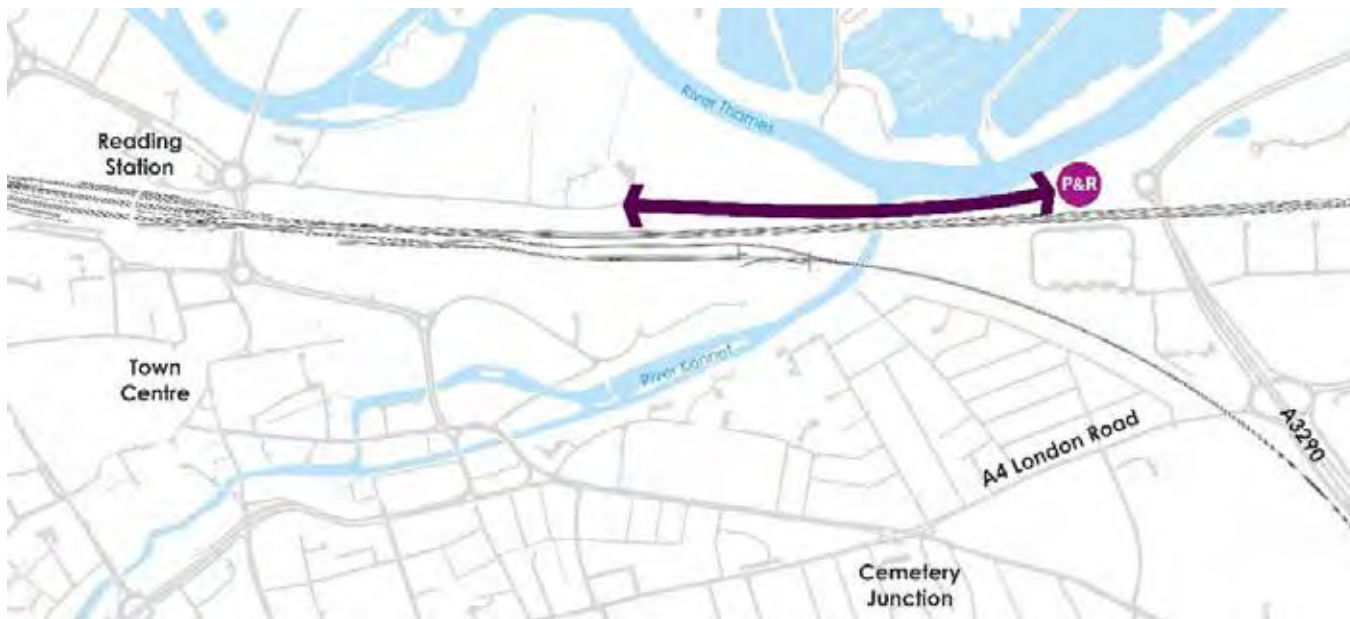
This route option passes through the edge of the superstore car park and land owned by Tesco. The route bridges the River Kennet mouth and connects to the proposed TVP Park & Ride.

This option was selected for further appraisal in stage 2.



Option 5 – A tidal flow scheme on the A4 London Road.

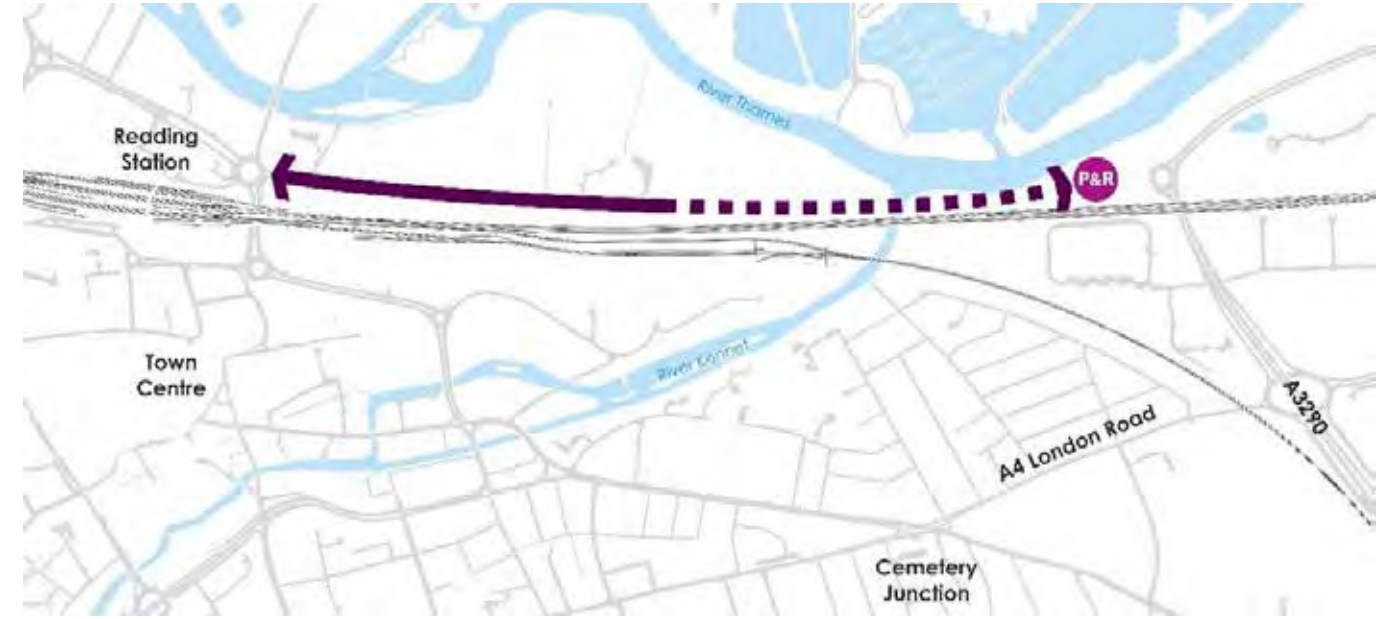
This option provided insufficient economic benefits and did not offer significant environmental benefits such as reducing carbon emissions, when compared to the alternative options. It brings about safety and capacity issues. The option was therefore discounted.



Option 4 - Segregated MRT route between Napier Road and the A3290 roundabout.

This route option runs adjacent to the railway line on Network Rail land and through a small parcel of land owned by Tesco. The route bridges the River Kennet mouth and connects to the proposed TVP Park & Ride.

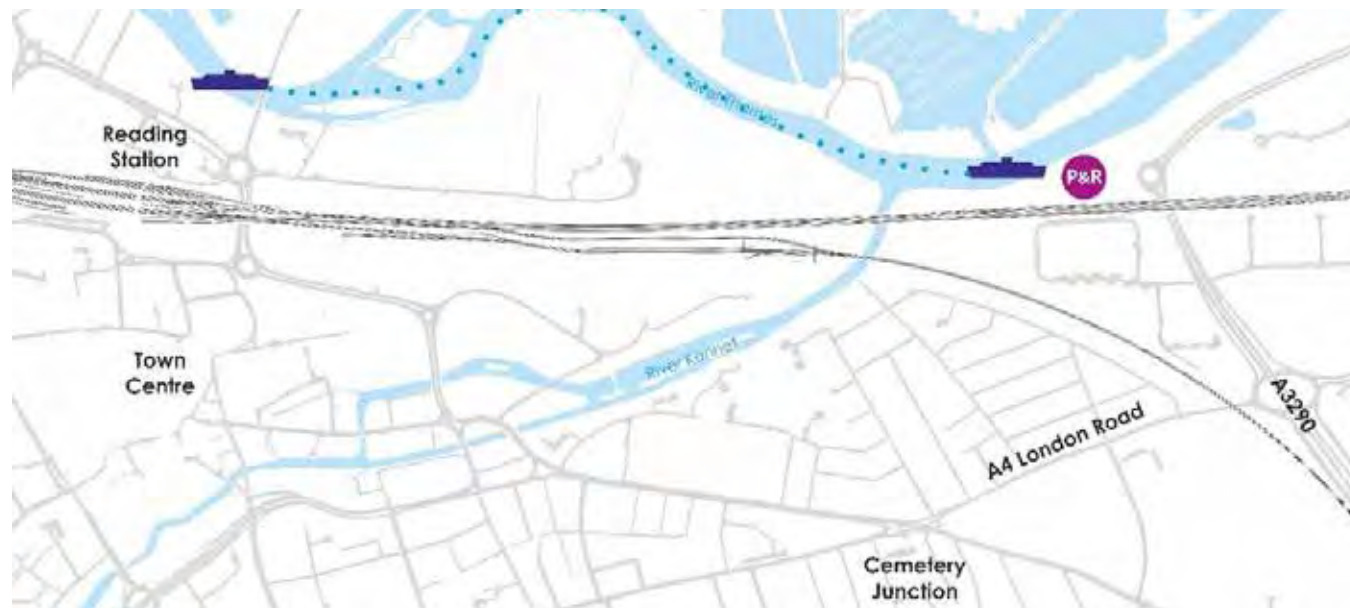
The construction costs of option 3 and 4 are the lowest of the four options and result in the lowest impact on the environment compared to remaining options, particularly in relation to ecology, flood risk, visual impact, landscape impact. This would improve public acceptability over the other remaining options. Option 3 avoids Network Rail operational land compared to option 4, and is therefore considered more deliverable in terms of technical feasibility, programme and cost.



Option 6 - Segregated MRT route between Napier Road and the A3290 roundabout.

This route option passes through the edge of the superstore car park, land owned by Tesco. The route is via a tunnel under the River Kennet mouth and connects to the proposed TVP Park & Ride.

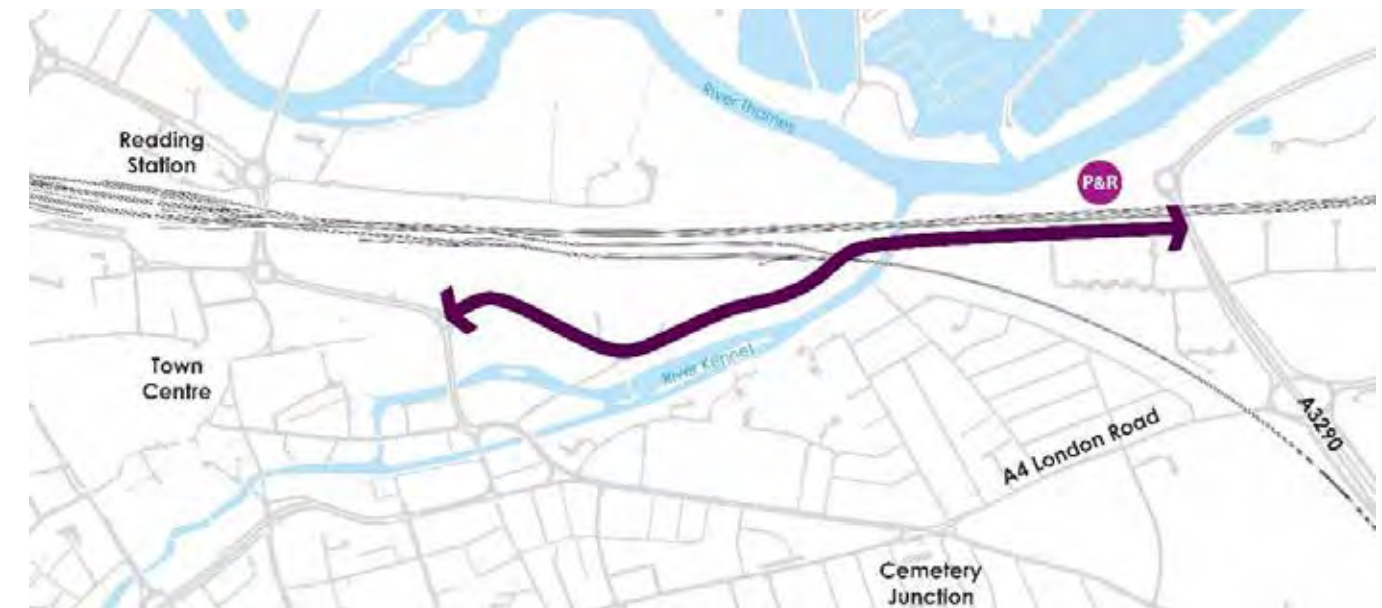
This option offered high delivery costs when compared with the potential benefits. The option was therefore discounted.



Option 7 – Park and Ferry. A new ferry route to be created between Reading Station, and the proposed TVP Park & Ride.

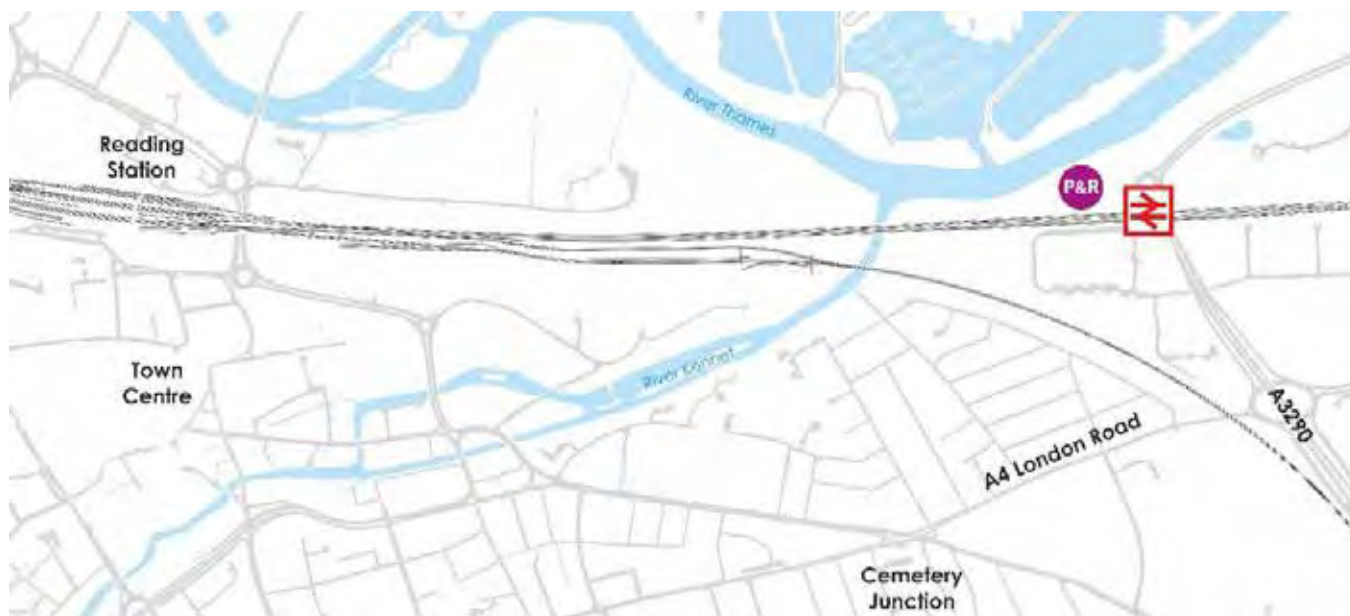
It is proposed that this route will follow the River Thames to a new jetty provided adjacent to Christchurch Bridge.

This option provided insufficient economic benefits and did not offer significant environmental benefits such as reducing carbon emissions, when compared to the alternative options. The option was therefore discounted.



Option 9 – Segregated MRT route between Sutton Park Avenue and Alexander Turner Close, across the River Kennet and beneath the Reading to Waterloo railway line.

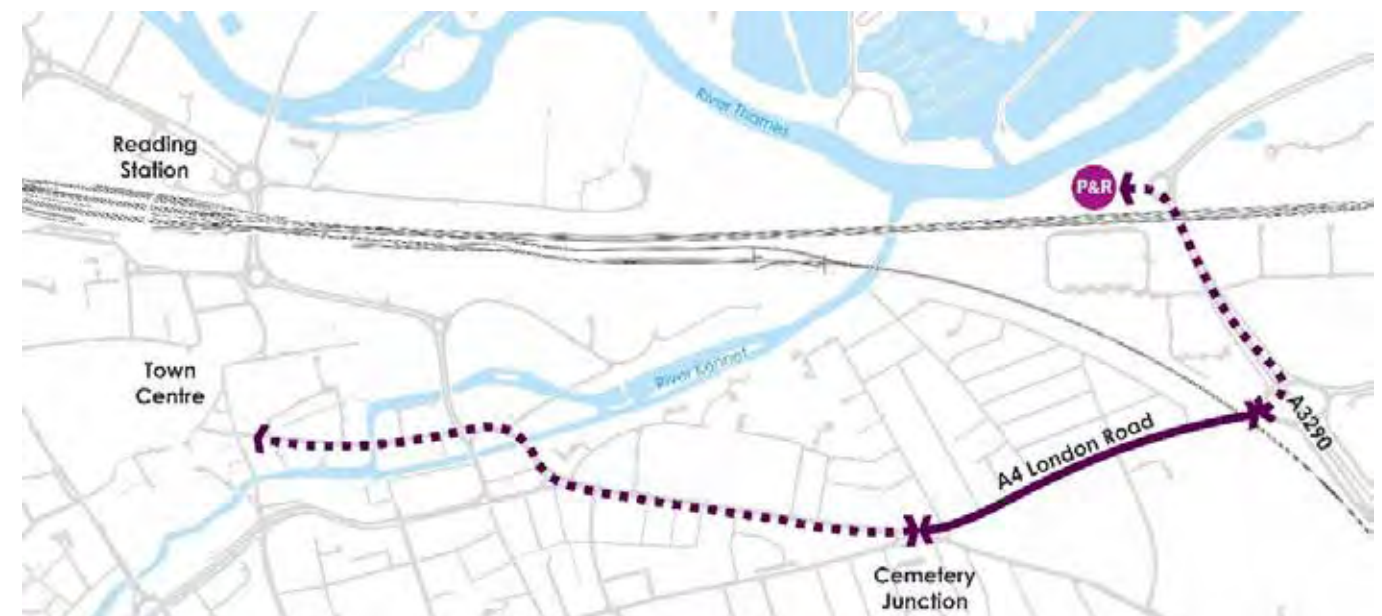
This option offered high delivery costs when compared with the potential benefits. The option was therefore discounted.



Option 8 – Park and Rail.

A new rail station to be provided at Thames Valley Park to serve both the business park, and provide a direct rail connection between the proposed TVP Park & Ride and Reading Railway Station.

This option offered high delivery costs when compared with the potential benefits and is not supported by Network Rail. The option was therefore discounted.



Option 10 - A tidal flow bus lane scheme on the A4 London Road.

This option was selected for further appraisal in stage 2.

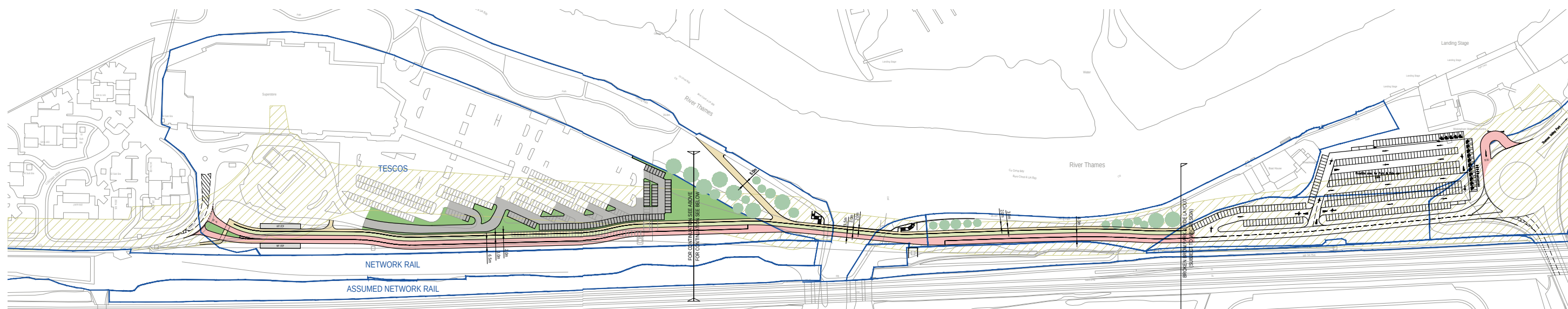


Figure 35. Preferred scheme following option appraisal (to note that the current application scheme has been substantially refined)

Stage 2

- 9.7 The construction costs of option 3 and 4 were found to be the lowest of the four short-listed options. These options also resulted in the lowest impact on the environment compared to four remaining options, particularly in relation to ecology, flood risk, visual impact, landscape impact; which would improve public acceptability over the other remaining options.
- 9.8 The stage 2 assessment incorporated alternative approaches to bus priority as follows:
- Bus priority Option 1 – Nearside bus lane on approach to Vastern Road Roundabout along with a fully segregated cycle route and landscape enhancements.
 - Bus priority Option 2 - Segregated MRT route between Napier Road and the A329(M) roundabout along with fully segregated cycle route and landscape enhancements. This option uses land owned by Tesco's and Network Rail).
- 9.9 Bus priority Option 2 was found to be most complementary. It improved the journey times for bus services, other vehicles and cyclists, and improved the visual impacts and deliverability.

Further Studies and Liaison

- 9.10 Further studies and liaison since the initial option appraisal have concluded:
- A park and ferry is estimated to take approximately 20 minutes in one direction and would therefore not provide a significant journey time saving to encourage a modal shift. Any passengers would have to interchange between modes from Woodley, Winnersh, and Bracknell, which would further discourage its use.
 - The tidal flow schemes, either for traffic or for buses only, would cause safety risks and additional congestion, with residents living along the northern side of the A4 London Road needing to turn right into/ out of their property will having to cross two lanes of oncoming traffic in the PM peak hour.
 - Network Rail has advised that their land to the west of the Kennet is unavailable as they wish to retain this as an asset
 - The use of Network Rail land or oversail to the east of the River Kennet has been ruled out due to risks associated with technical feasibility, costs, timescales, stability monitoring, safety issues/requirements of working on or over an operational rail embankment, as well as Network Rail's maintenance access requirements.

- Network Rail has confirmed that they have no plans to deliver a railway station at Thames Valley Business Park. This would be extremely difficult to deliver and does not align with industry strategy.
- Network has confirmed that in December 2018 the number of trains going through the Winnersh Triangle station between Reading and London Waterloo will increase from 3-4 per hour in the peak hour and 2 per hour throughout the day to 4 trains per hour all day, however the number of train services stopping at Winnersh Triangle is not currently identified. It is expected that the current number of services stopping at the station would be maintained, which is 3 or 4 trains per hour in the peaks (depending on direction) and 2 trains per hour all day, therefore not additional capacity for further park and rail.

Preferred option

- 9.11 Option 3 (combined with Bus Priority Option 2) was identified as the preferred option on the basis of its quantitative and qualitative scores on strategic, economic, managerial, financial and commercial aspects.
- 9.12 The preferred route runs adjacent to the existing railway line, to the south of the River Thames.
- 9.13 The preferred option includes:
- a new route for public transport only, including cycle path and footway between Napier Road and the proposed Park & Ride at Thames Valley Park;
 - the erection of a new bridge over the River Kennet and route avoiding the food plain, with associated improvement works to the towpath;
 - creation of a recreational route with public open space and ecological habitats;
 - formation of a new T-junction with Napier Road; and
 - formation of a new three-arm roundabout junction between Thames Valley Park Drive and A3290 (also forms part of the Park & Ride facility).