

York Central Partnership

York Central

Access Options Review

Issue 1 August 2017

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1 Introduction

1.1 Overview of York Central

York Central represents a unique opportunity to create a vibrant new part of the city, with a new business district and a major housing development in the heart of York. This will enable the City of York to grow and deliver economic benefits for both the City and the wider City Region.

The York Central site encompasses all of the land to the west of York Railway Station, located between the East Coast Main Line, York Railway station and the Freight Avoiding Lines ('FAL'). Owing to the alignment of the East Coast Main Line and the FAL, the site is commonly referred to as the "Teardrop".



Figure 1: Aerial Image of the York Central Site

1.2 Context for this Report

This report has been prepared by Ove Arup and Partners ('Arup') on behalf of the York Central Partnership ('YCP'). YCP is a collaboration between Network Rail

(NR), the National Railway Museum (NRM), the Homes and Communities Agency (HCA) and City of York Council (CYC).

To develop this large site, an additional vehicular access is required into the site. This report provides information about the assessment process undertaken so far to consider alternative access options. This report provides a comparative review of the various access options.

The review has been undertaken via a two stage process:

- Consideration of five potential points of access, and a shortlisting exercise to identify those options which are deliverable; and
- An environmental overview of each of the shortlisted options.

1.3 Status of the Access Options Report

It is important to note that this report uses information available between April and June 2017. The purpose of this report is to provide a balanced view on the various access options for decision making purposes and no other inference should be drawn from this report, or information contained therein.

This report provides a comparative review of the various access options assessed in relation to the redevelopment of the York Central site. This has been based on an assumed scale of development to undertake the review. The quantum used does not represent the final scheme for York Central which is currently under development, but has been used solely for the purposes of comparing the impacts associated with the shortlisted access options.

A public consultation in August/September 2017 will inform the consideration of community impact of the shortlisted access options. Following the consultation, YCP will look at all impacts and take a considered view on the preferred access option to be taken forward. This will then be developed as part of the masterplan for the overall site. Further public consultation on the masterplan will be undertaken by YCP, later in 2017, in advance of a future planning application, anticipated in 2018.

This initial comparison of options will be used only to inform selection of a preferred access option by YCP. The information set out does not constitute a Transport Assessment or an Environmental Impact Assessment (both of which will be prepared and tested through the statutory process of the Local Planning Authority as part of considering a subsequent York Central planning application).

1.4 Options Considered

This report considers the potential vehicular access options for accessing the site, set out in Table 1 below.

Table 1: Summary of Access Options

Access Option	Overview of Option
Option A (Western Options 01 and 02)	A new road bridge into the site from Water End crossing the Leeman Road Millennium Green. This may include alterations to the existing railway bridge at Water End to provide a new cycleway and footway.
Option B	A new road bridge over the Freight Avoidance Lines (FAL), from Holgate Park Drive/A59 Poppleton Road at the western end of the site. This would also include a further link to connect with the western end of Leeman Road.
Option C	<p>A new road bridge over the FAL, originating from the existing roundabout on Holgate Park Drive, and further links to connect to York Station and to the western end of Leeman Road.</p> <p>A new road through the York Central site to link the bridge over the FAL to the western entrance to York Station and on to Leeman Road.</p>
Option D	<p>A new bridge over the FAL, originating from the eastern side of Holgate Park Drive, to the west of Network Rail's Holgate Works, and further links to connect to York Station and to the western end of Leeman Road</p> <p>A new road through the York Central site to link the bridge over the FAL to the western entrance to York Station and on to Leeman Road.</p>
Option E (Southern Option)	<p>A new bridge over the FAL, originating from Holgate Road, running broadly parallel to the northern section of Wilton Rise, and further links to connect to York Station and to the western end of Leeman Road</p> <p>A new road through the York Central site to link the bridge over the FAL to the western entrance to York Station and on to Leeman Road.</p>

Figure 2 identifies the broad location of each access option considered in this study.

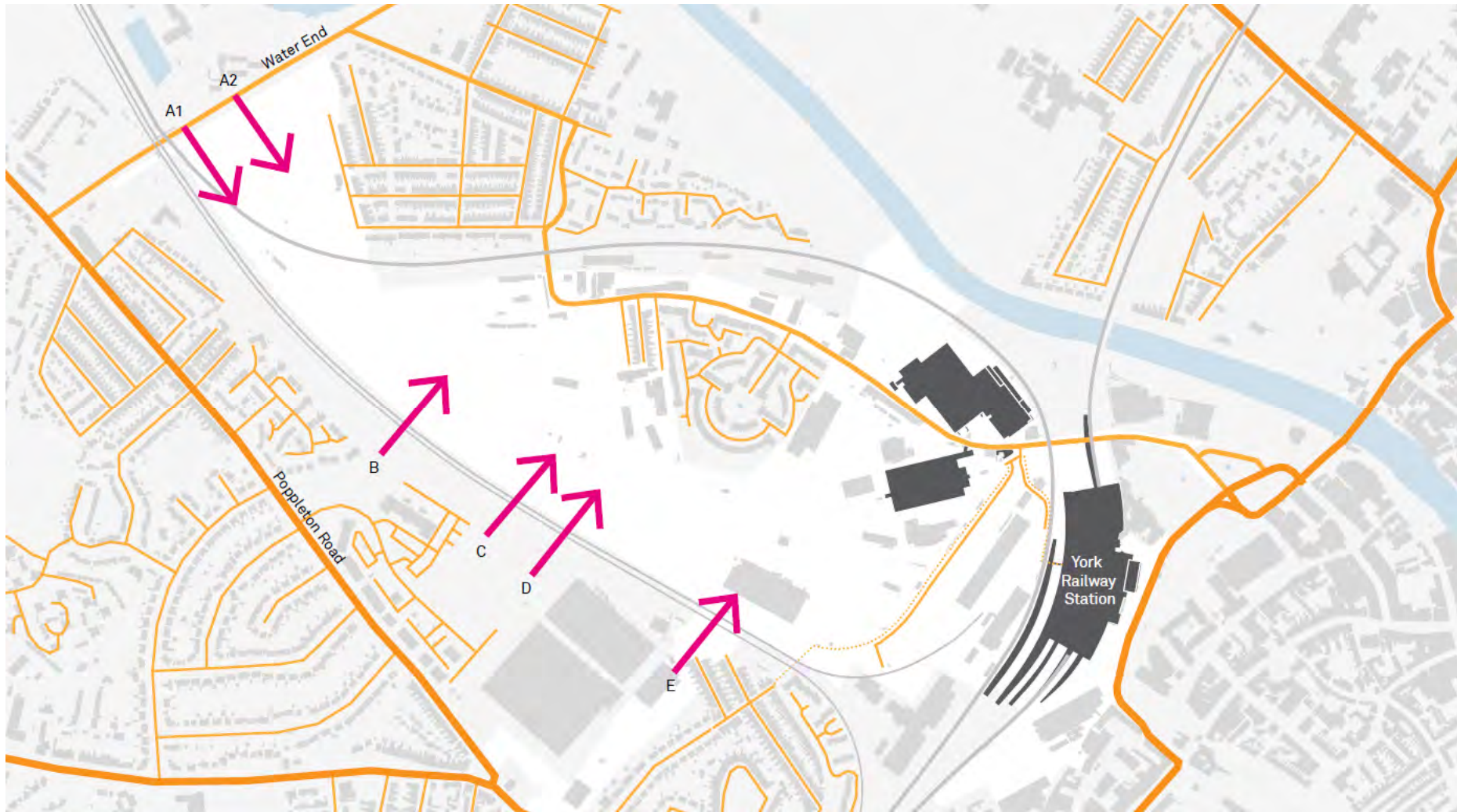


Figure 2: Broad location of access options considered

2 Description of Access Options

Option A: Water End to York Central

Option A comprises the creation of a new access from Water End to the west of the site. The access would connect to Water End, adjacent to the existing Water End road bridge over the East Coast Main Line. To the east of the access point lies open green space (part of Leeman Road Millennium Green), to the north lies an RSPCA Rescue Centre, with residential properties to the east accessed via Salisbury Road and Bismarck Street.

There are **two** alternative designs for Option A. These are shown in the diagrams below (the diagrams for all access options are included at Appendix A in large scale):

Option 1 would include alterations to the existing rail bridge on Water End and would require a tied-arch bridge (of approximately 80m span) to be constructed within the site to meet the required clearances over the rail lines and Holgate Beck.

Option 2 is sited further north within the Millennium Green, and would require a new bridge with a shorter span to maintain the required clearance over the rail lines. It would not include any alterations to the existing rail bridge on Water End.

These options are shown on the consultation boards as Western Option 01 and Western Option 02.

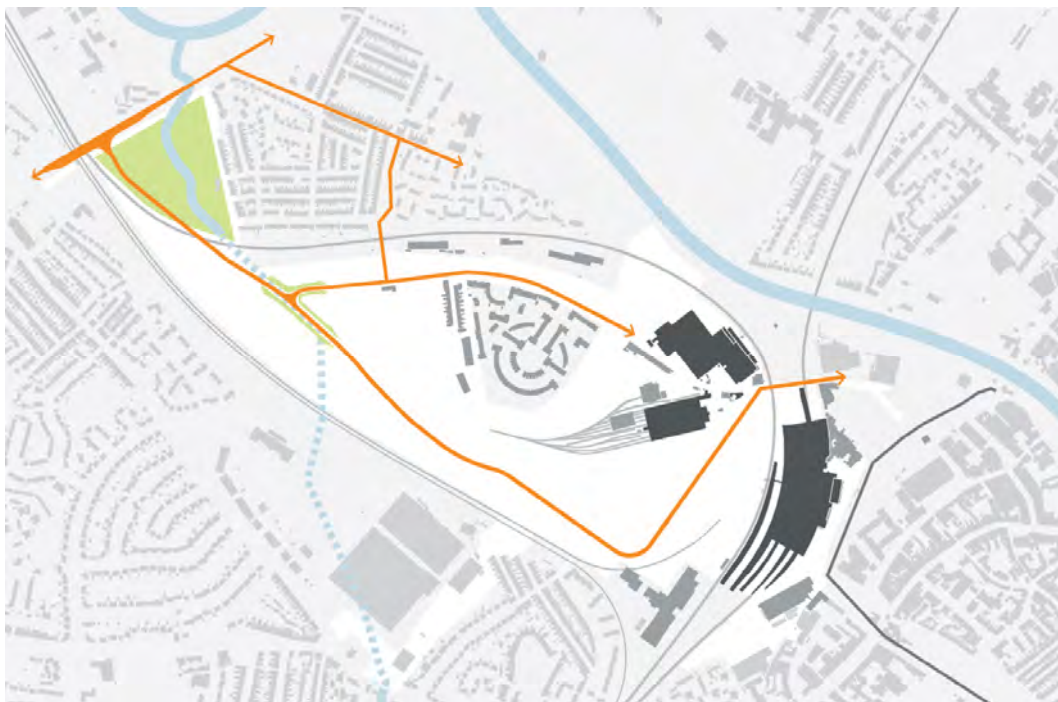


Figure 3: Access Option A1

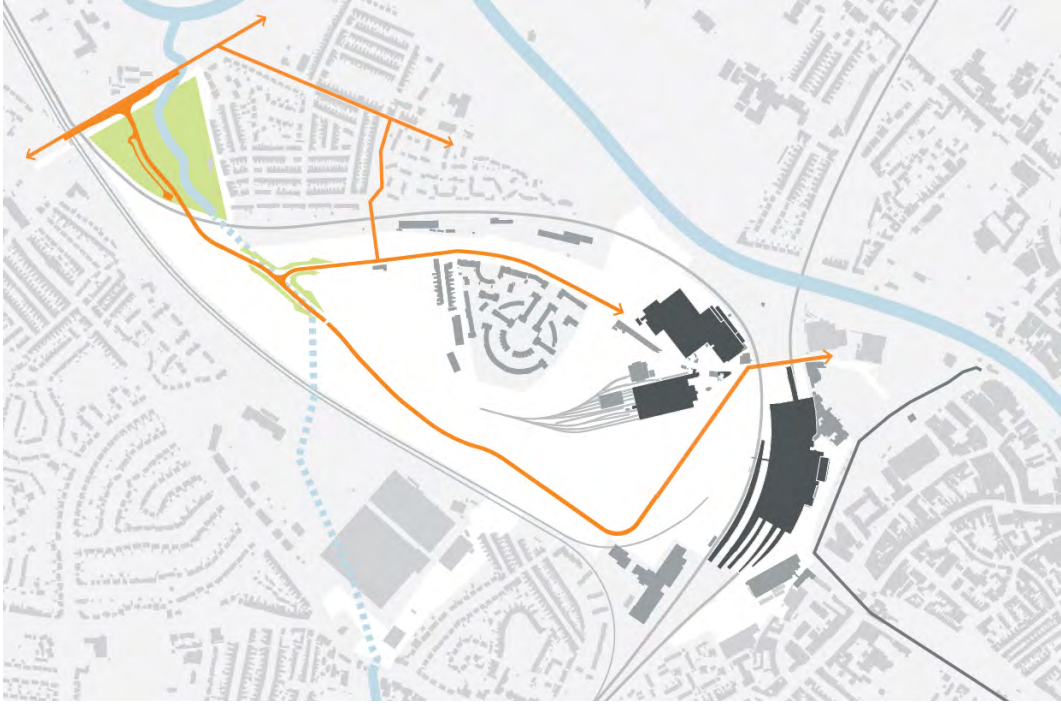


Figure 4: Access Option A2

Option B: Poppleton Road (West) to York Central

Option B would connect into the site by passing over a large span of rail infrastructure comprising the Klondyke Sidings, FAL and York Yard South on the southern edge of the site and connecting to the A59 Poppleton Road. The connection to the A59 is via an area of open space (grassland) between residential properties on Damson Close/Hillary Garth and the existing Business Park accessed from Holgate Park Drive.

A pedestrian connection currently runs across the area of open space to the adjacent residential area. On the frontage of the open space lies a commemorative arch, which also includes a section of metal railway track under the arch. This was constructed as part of a 'Planning for Real' exercise associated with the development of the adjacent Business Park.

On the south side of the A59 lies an existing residential area, with accesses onto Grantham Drive (north-west of Option B) and Tisbury Road (directly opposite Option B).

An overview of Option B is shown below (the diagrams for all access options are included at Appendix A in large scale).

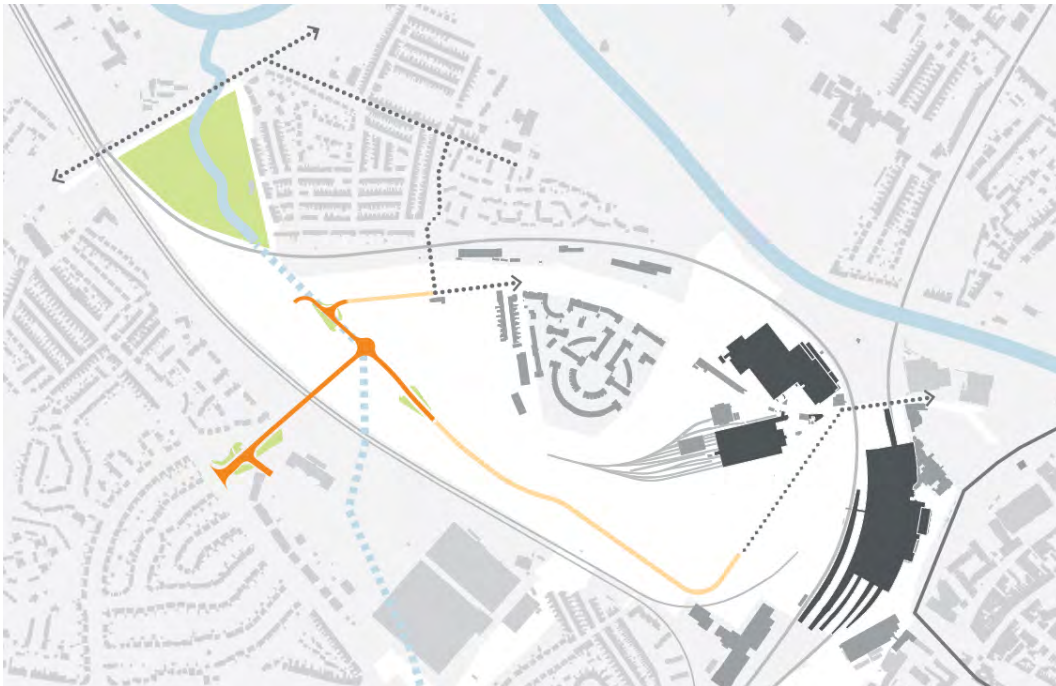


Figure 5: Access Option B

Option C: Holgate Business Park (Central) to York Central

Option C would include a new access taken directly from the existing Business Park access road at Holgate Park Drive. This option would require the creation of a new road connecting to the central roundabout on Holgate Park Drive and crossing the area to the west of Holgate Works.

The area to the west of Holgate Works is required by Network Rail to provide new railway infrastructure for access to the Holgate Works, and to house their relocated Maintenance Delivery Unit (MDU).

An overview of Option C is shown below (the diagrams for all access options are included at Appendix A in large scale).

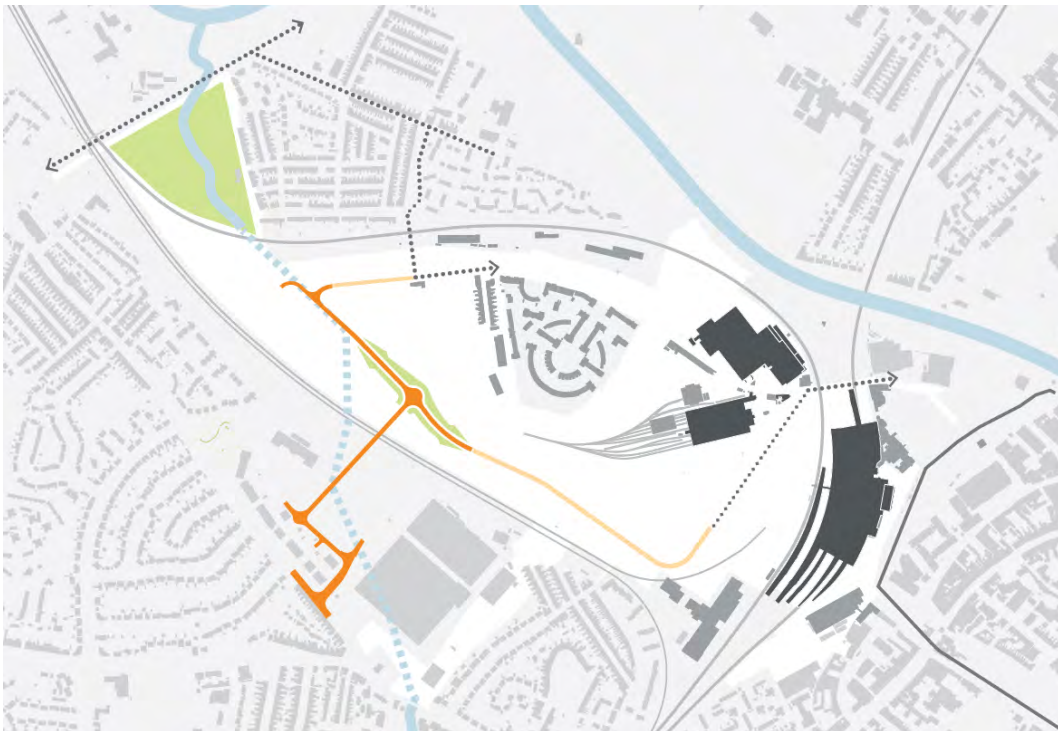


Figure 6: Access Option C

Option D: Holgate Business Park (East) to York Central

Option D would require the provision of an access on the eastern edge of Holgate Park Drive alongside the Holgate Works, and the provision of a new access (extending the existing spur at the end of Holgate Park Drive) onto the A59 Poppleton Road. This option would require a new access across the front of the existing Holgate Works.

South of the new access, and on the opposite side of the A59, lies an existing residential area.

An overview of Option D is shown below (the diagrams for all access options are included at Appendix A in large scale).

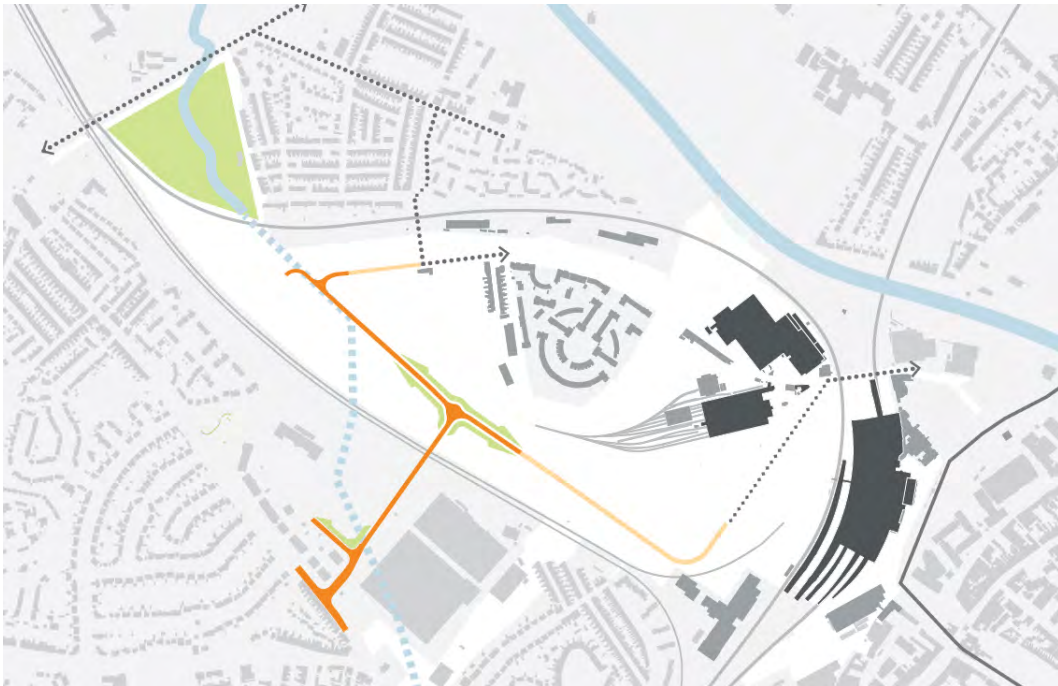


Figure 7: Access Option D

Option E: Poppleton Road (East) to York Central

Option E would create a new access from the A59 Poppleton Road, and run to the east of the Holgate Works. To the east of the new access lies an existing residential area, and a playground which would be lost in the provision of this option. York Bridge Club is located at the junction of Poppleton Road and Wilton Rise.

Residential areas exist on the southern edge of Poppleton Road, which also include the southern section off Chancery Rise where a residential care home, language school and hotel take access from the A59.

An overview of Option E is shown below (the diagrams for all access options are included at Appendix A in large scale).

This option is shown on the consultation boards as Southern Option.

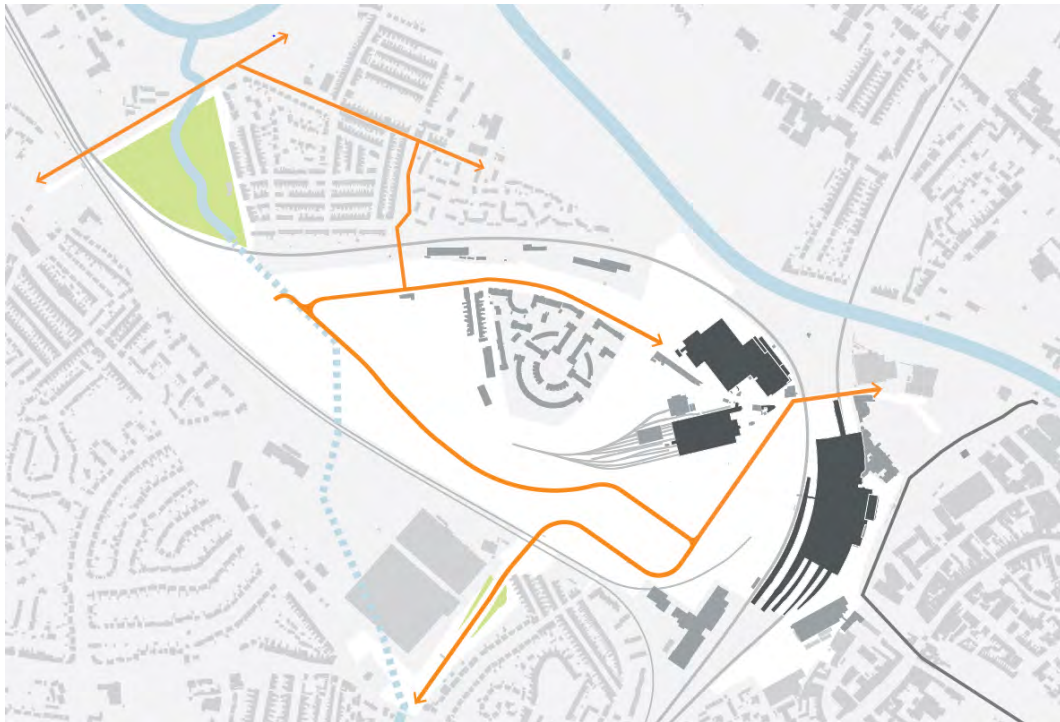


Figure 8: Access Option E

2.1 Shortlisting Process

Access into the York Central site needs to be achievable to deliver the re-development of the site. Managing this with ongoing operational rail requirements means that some of the access options are not achievable. In particular, York Yard South and the Holgate Works are key parts of the regional operational rail network. Holgate Works is to be expanded, to facilitate this new rail lines will be installed to the west of the existing building. The site will also accommodate a modern Maintenance Delivery Unit for Network Rail which will migrate from York Central. York Yard South is required for continued operational rail use until 2023 at the earliest, due to existing commitments to Rail Operating Companies.

The following access options are therefore not achievable for the following reasons:

Option B would require construction of a new bridge over York Yard South. It would result in significant complexity for construction and maintenance of the new Bridge and would constrain existing operational rail uses.

Option C entails a significant degree of complexity in relation to existing and proposed operational rail uses, and is constrained by Network Rail's proposed MDU facility.

Option D would entail the construction of a new bridge over the new rail infrastructure planned to access the Holgate Works. This would constrain the existing and planned operational rail uses and the future plans for improvements to Holgate Works.

3 Options Review

A further review has been undertaken for shortlisted options along a number of technical and environmental themes, and provides a factual account of the localised effects of the options. It is important to note that this further review is not based on the final development proposals for York Central (which are still under development).

Each shortlisted option has been considered in terms of constructability to provide the baseline information to inform the environmental review. A consistent quantum and delivery rate of development has been assumed to inform the options review. The final quantum and delivery rate will be confirmation in any future planning application.

The following section provides a **comparison** of the access options by constructability and by each environmental topic. It describes the differences between the shortlisted options in order to assist YCP in future decisions regarding the choice of access.

Due to the shortlisting process, the shortlisted options have been renamed on the consultation boards, as set out below.

- Option A1 has been named Western Option 01
- Option A2 has been named Western Option 02.
- Option E has been named Southern Option.

For the purposes of clarity in this report, subsequent chapters of this report use the same terminology as the consultation boards.

3.1 Constructability

In order to assess the constructability of each option, an initial design concept has been developed for each of the bridge options.

Option A1 (Western Option 01)

The preliminary design for Western Option 01 is described as follows:

- A new junction would be formed at Water End, at the existing Water End bridge.
- On the south western arm of the junction, to accommodate a right turn lane on the existing bridge, the cycleway and footway would need to be converted to carriageway. A new bridge over the East Coast Main Line, parallel to the existing, is therefore required to replace the cycleway and footway.
- On the north eastern arm of the junction, widening of the existing embankment adjacent to Millennium Green is proposed to accommodate a left turn lane.
- The access road would be constructed on a reinforced earth embankment to tie the road in with the Water End embankment, and to provide sufficient height to clear the East Coast Main Line tracks.
- A tied arch bridge (an example tie arch bridge is shown at figure 9 below) would be supported by a reinforced concrete abutment on the north side of the East Coast Main Line, and a reinforced concrete leaf pier on the south side. The approximate span of this bridge would be 80m, at a skew over the railway lines. The bridge deck will be approximately 8m in height.



Figure 9: Example Tied Arch Bridge

Option A2 (Western Option 02)

The preliminary design for Western Option 02 is described as follows main changes from the outline design from Western Option 01 are as follows:

- A new junction would be formed at Water End northeast away from the existing Water End Bridge and using an existing access point into Millennium Green. This is intended to avoid the need to widen the existing road bridge over the East Coast Main Line .
- A short (circa 40m) single span bridge would cross the East Coast Main Line at a reduced skew angle. This would be of composite multi-girder or ladder deck construction and could be pre-assembled and lifted in to place with a mobile crane.
- A second bridge span is assumed to be required across the culverted Holgate Beck.

Option E (Southern Option)

The preliminary design for the Southern Option is described as follows:

- A new junction would be formed at Holgate Road, adjacent to the current junction with Wilton Rise (The existing unadopted access to carriageworks facility would be stopped up).A bus priority lane would operate in an inbound direction to improve public transport access to the site and York Railway Station. This would be routed from Holgate Road past the rear of the Fox Inn, before joining the site access road.
- The southern section of the site access road (referred to here as ‘Wilton Rise’) would be constructed at grade and would be landscaped up to the land ownership boundary on either side of the road.
- Adjacent to the Holgate Works, a boundary fence or wall would be required to demarcate Network Rail’s boundary. An access junction is also proposed for occasional use by Network Rail.
- On the eastern side of the road, an earthwork embankment is proposed to increase road levels on the approach to the bridge. This continues across the end of Cleveland Street. A safety barrier would be required on this side of the road.
- Reinforced concrete bridge abutments would support a single 45m span bridge of composite multi-girder or ladder deck construction (an example single span bridge is shown in figure 10 below), complete with solid infill concrete parapets.



Figure 10: Example Single Span Bridge

3.1.1 Technical Complexity

In technical terms, Western Option 01 is the most complex of the options.

Construction access to widen the existing Water End bridge over the East Coast Main Line is constrained, both to the south alongside the existing primary school, and to install a central bridge pier between operational railway lines.

The proposed embankment is located in Flood Zone 2. The span and skew of the proposed tied arch bridge complicates both design and construction, requiring extensive temporary works within a constrained site area. Additional phases will be introduced into the construction process to allow the bridge to be slid into place from the northern embankment.

Western Option 02 is technically less complex than Western Option 01 given the reduced bridge span over the East Coast Main Line and the avoidance of works to the existing Water End bridge. The road alignment passes across Flood Zone 2 and Flood Zone 3, and mitigation measures and/or compensatory flood storage would be required to address flood risk issues.

Technically, the Southern Option is the least complex of the options to build, with a single span girder bridge envisaged that can be lifted in to place by crane. There is a reduced risk of experiencing poor ground conditions, and flood risk issues that can be readily mitigated. It will require the relocation of an electricity substation through a standard process with Northern Powergrid.

3.1.2 Impact on Operational Railways & Highway Network

Western Option 01 will require work above and adjacent to the East Coast Main Line, installation of a bridge pier between existing lines and works to re-align lines for the National Railway Museum (NRM)/.

Western Option 02 will require work above the East Coast Main Line, reconfiguration of existing sidings in York Yard South and works to re-align lines for the NRM.

The Southern Option does not require work above or in the vicinity of the East Coast Main Line or extended line possessions. Impacts on existing rail sidings, installation of piers between existing lines, and realignment of the NRM rail lines are not required to facilitate this option.

3.2 Transport and Highways Considerations

In order to assess the transport considerations arising from each of the access options, the strategic transport model developed by City of York Council has been used. To review the access impacts, an indicative quantum of development associated with the York Central development has been added to the model, and two scenarios have been modelled as follows:

- One scenario with an access from Water End, in the approximate position of Western Option 01, as this would provide sufficient information to assess both Western Option 01 and Western Option 02.
- One scenario with an access from Holgate Road, in the location of The Southern Option

In order to undertake this review, it has been assumed that there will be re-routing of a number of bus services to run through the York Central site, to provide a realistic scenario of traffic utilising the new access route to York Rail Station and the City Centre. This review has also considered what cycle and pedestrian connections could be provided as part of both accesses.

Modelling has been undertaken based on an interim development year and full build out to understand how the choice of access affects the strategic network functions when York Central is partially built (2021) and fully built out (2031).

3.2.1 Network Wide Modelling Results

The models were run utilising the indicative access points as set out above. It should be noted that the modelling did not introduce any highway mitigation (such as changes to signal timing and junction improvements) to reduce the impact of introducing new access points. Such mitigation would be introduced on an iterative basis as part of preparing a Transport Assessment to support a planning application.

The Western Option 01/02 scenario had a slightly higher impact on network wide delays in the AM and PM peak hours for both 2021 and 2031, compared to the Southern Option. Both scenarios had the same impact on total network travel distances in the AM and PM peak hours for both 2021 and 2031.

3.2.2 Pedestrian / Cycle Accessibility

The creation of a new access to the west of York Central (Western Option 01/02) will provide an additional pedestrian and cycle route adjacent to the new highway to the north west, connecting with Water End. The existing bridge over the railway at Wilton Rise will provide the only access between the York Central site and residential / commercial areas to the south of the rail lines. This existing bridge is stepped and therefore provides restricted pedestrian and cycle connectivity.

The Southern Option will provide a new route adjacent to the new highway to the south of the rail lines linking with Wilton Rise and A59 Holgate. This will provide

an improved pedestrian / cycle access from the existing stepped bridge to Wilton Rise and improve connectivity to all users. Pedestrian and cycle users travelling to the north of YC will use the existing Leeman Road underpass to Salisbury Terrace.

Overall, pedestrian and cycle connectivity will be improved irrespective of option choice.

3.3 Air Quality Considerations

3.3.1 Methodology

Based on the outcomes of the strategic transport modelling, the air quality impacts associated with the choice of access option have been modelled. This modelling has considered the main pollutants of concern from vehicle exhaust emissions, which are NO₂ (Nitrogen dioxide) and PM₁₀¹. This review was informed by the following approach:

- A review of the existing air quality conditions at, and in the vicinity of, the proposed development site; and
- An assessment of the potential changes in air quality arising from the operation of the proposed development and the different access options.

The study has looked at the difference between Western Options 01/02 and the Southern Option given the baseline transport data and predicted indicative pollutant concentrations (Access Western Option 01 was used as a representative indicator for both options A1 and Western Option 02). A number of receptors were identified at locations surrounding the site, to identify where effects of the proposed road options on air quality are potentially the greatest. The location of these receptors is shown in green on the figure below:

¹ PM10 particles are made up of a complex mixture of many different species including soot (carbon), sulphate particles, metals and inorganic salts such as sea salt. The particles vary in size and shape, up to 10 microns diameter.



Figure 11: Location of Receptors modelled for Air Quality Considerations

The air quality review has considered the impact of access options on air quality. The review is independent of the results of the wider York Central development, which would assess the impact of the whole development and any required air quality mitigation as part of the Environmental Impact Assessment which will accompany any subsequent planning application.

3.3.2 Considerations

The NO₂ indicative results show that access the Southern Option would result in higher concentrations at 35 (of 50) of the discrete receptors compared to the concentrations predicted in Option A. At 15 receptors, higher concentrations were predicted with Western Option 01/02. Therefore, the Southern Option predicts higher concentrations at a greater number of assessed receptors.

The PM₁₀ results show a similar trend to the NO₂ results, however overall a very limited impact for PM₁₀ was predicted at all receptors. Only receptors at the junction of Boroughbridge Road and Water End were predicted to have a slight adverse impact with Western Option 01/02 and only receptors at Vine Street was predicted to have a slight adverse impact with the Southern Option. All other receptors were predicted to have a negligible or slight beneficial impact for both options.

Overall, the comparative study found that Western Option 01 is considered the better option with regards to air quality impact.

3.4 Heritage Considerations

In considering the heritage aspects associated with the choice of access, there has been a focus on impacts on designated heritage assets and also the potential for buried heritage features. Many of these aspects will be influenced and considered as part of the overall planning application for the York Central site. The review has also been undertaken based on an indicative design and intended road layout, which will be subject to further design development prior to the submission of the application.

Therefore, this review purely considers the difference between the access options in terms of known heritage assets at this stage. It does not represent a full assessment of the York Central site and the meaning and significance which should be ascribed to relevant heritage features and the York Central site.

The baseline data used for this exercise has been drawn from a review of the available Historic Environment Record entries, retrieved in March 2017. This, together with the Audit of Heritage Assets² (which identifies both listed buildings, locally listed buildings and the sites of now demolished railway buildings that have been subject to excavation) and data retrieved from the National Heritage List England forms the basis for this review³.

This review considers impacts on those assets either directly in the route of the access options or in the immediate vicinity.

3.4.1 Archaeological Context

Western Option 01 and Western Option 02 run from the north-west of the site through an area associated with prehistoric activity as it lies on a causeway linking the Western Pennine foothills with the Eastern Chalk Uplands of the Yorkshire Wolds (a historic trade route). It is noted that the majority of archaeological finds come from the area on the south-west bank of the River Ouse, particularly the Holgate Beck which is a tributary that runs adjacent to Western Options 01/02. The low lying nature of this area and the presence of the Holgate Beck indicates that there is at least a moderate potential for sealed waterlogged deposits to be preserved in anoxic (oxygen free) conditions. These can preserve organic materials (such as wood and leather) and also potentially preserve deposits of peat which can be analysed to retrieve important pollen sequences which reveal climatic changes over long periods of time.

Western Option 01 and Western Option 02 run through the area where a Neolithic hoard find spot is recorded on the York City HER (MYO3890) immediately to the east of the location proposed bridge. This record relates to the discovery of an important cache of Neolithic implements known as ‘the York Hoard’. It is described in the HER thus:

“A group of Neolithic flint tools and weapons was found in York in 1868. The group was discovered during the construction of the North East

² York Central: Audit of Heritage Assets (Fawcett et al 2013)

³ <https://historicengland.org.uk/listing/the-list/>

Railway gasworks in 1868.

The assemblage consists of axes, one of which is a polished Greenstone and at least six more are polished flint. With these axes were found three arrowheads, nine ovoid spearheads, three scrapers, eleven blades and flakes and two worked points, all of flint. RCHME report that "at least forty-three implements were found in a compact group deep in the gravel terrace near the junction of Holgate Beck and the Ouse. The regular, sharp flakes and blades, and unused appearance of the finished blades suggests a merchant's hoard, whilst the inclusion of a barb and tang arrowhead could imply a late Neolithic-early Bronze Age context".⁴

Within the site, where the new bridge for the Southern Option crosses the existing rail lines, and anywhere along the line of the new roads within the site there is an unknown potential for Roman era burials to be preserved. There are three known Roman cemeteries which have been identified across the eastern side of the site. There is therefore an unknown but moderately high possibility that ground disturbing work associated with the construction of a new access road in this area could uncover Roman burials or cremations.

3.4.2 Designated and Un-designated Heritage Assets

None of the Access Options Western Options 01/02 nor the Southern Option are considered to have a large adverse impact on existing designated heritage assets in their own right, with impacts (predominantly slight adverse in nature) being capable of being satisfactorily mitigated.

It should be noted that the heritage overview of the access options has been prepared without consideration of the associated impact of the York Central development on the setting and value associated with those assets. Without the wider consideration of the full development, the mitigation which could be used to reduce any adverse impacts is difficult to quantify. Therefore the review focuses on the unmitigated impacts which could arise on designated and un-designated heritage assets.

⁴ Monograph: 1972. RCHME City of York Volume III South-west of the Ouse. Pp xxxvii-xxxix.

3.5 Townscape Considerations

In order to assess the impact of the access option on existing townscape features and views, a number of views and locations have been considered on the edge of the York Central site. At this stage, in order to assess the differences between the two access locations, this review has been undertaken independent of the wider York Central development; which would be likely to create change in terms of immediate views but also generate new views through the opening up of the York Central site. The townscape considerations have therefore included both the immediate visual appearance of the new bridge structure and also the wider townscape views surrounding the site.

3.5.1 Visual Considerations

The proposed new access bridge in Western Option 01 would result in the introduction of a large new feature that would not be uncharacteristic of the adjoining Water End road bridge. The arch of the proposed bridge would change the character of the skyline locally though it is not anticipated to be a prominent feature within the wider townscape. A large arch bridge would be required for Western Option 01 as compared to Western Option 02 (which is a single span bridge with parapets) due to the required span over the East Coast Main Line.

The access road may result in a localised impact upon levels of tranquillity due to movement of traffic along this new road, particularly at the Millennium Green. However, the Millennium Green and the surrounding area already experience existing moderate levels of disturbance due to the railway and traffic on the A59 Poppleton Road and Water End.

The Southern Option involves a new signalised junction access from the A59 Poppleton Road to the west of Wilton Rise. In addition, it is proposed that a new bus lane and an existing cycle path will be upgraded that will pass behind the Fox Inn public house. The proposed new junction will result in the loss of mature trees to the west within the open space. The proposed new access road would pass to the north of Cleveland Street and Upper St Paul's Terrace across the existing play area from east to west. There would be an earth retaining wall to the north of Cleveland Street, transitioning to an embankment through the existing play area. Due to the undulating nature of the existing play area, the height of the proposed new road fluctuates in relation to existing ground levels. The play area and community garden would be lost for the construction of the Southern Option.

3.5.2 Viewpoint Considerations

A series of viewpoints have been identified to represent views towards the proposed access routes. These views are shown in the figure below.

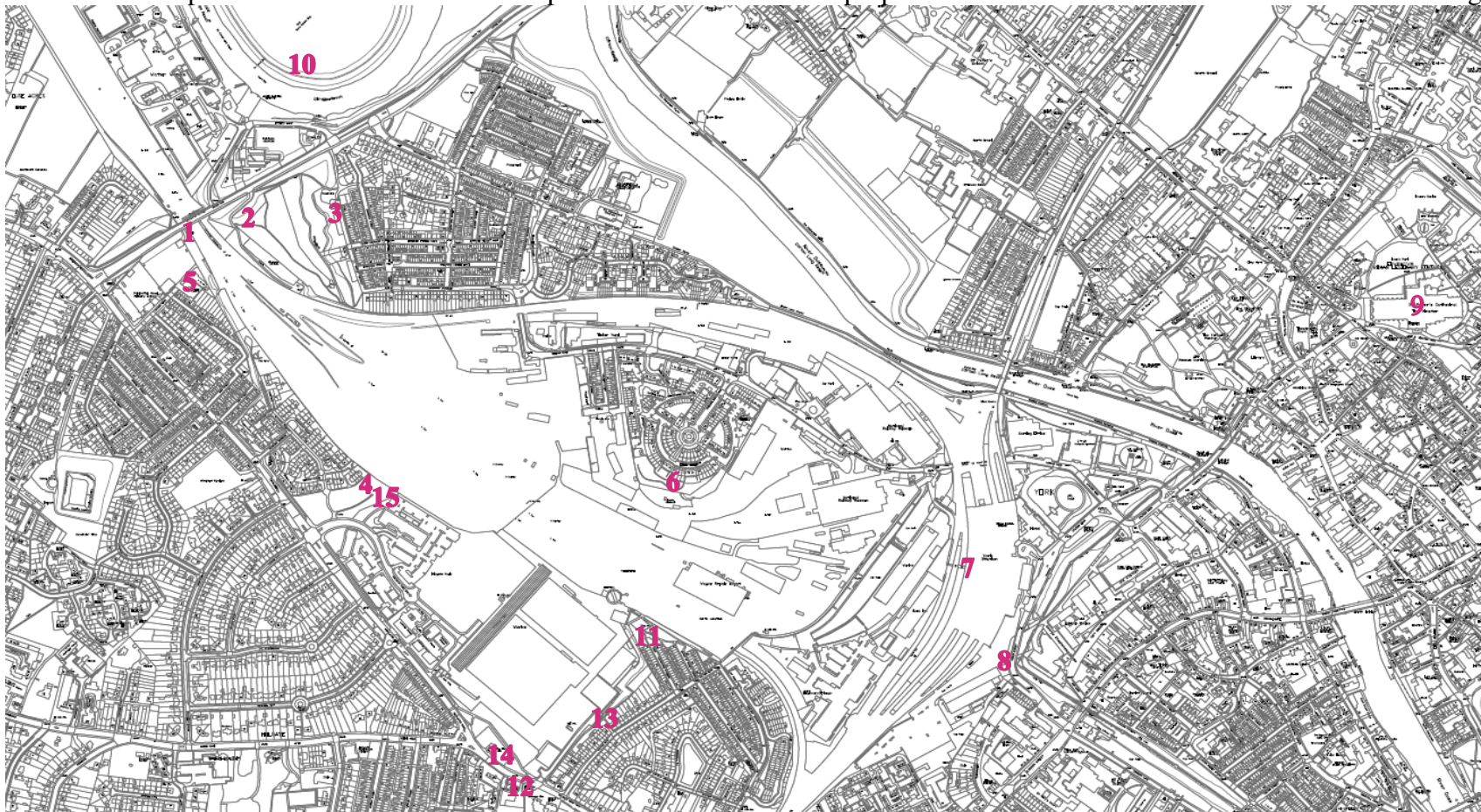


Figure 12: Viewpoint Locations

Viewpoint 1: Water End Bridge



This viewpoint has been taken to represent views from road users on Water End road. It is also representative of Key View 10 in the York Central Historic Core Conservation Area Appraisal as a key view of York Minster. The appraisal states:

*'This is an elevated panorama focused on the Minster, from a road bridge over the railway to the north west of the cathedral. A combination of the low bridge parapet and the lightweight fences either side, together with the extensive clearing and levelling the foreground for the railway, means that this is one of the most expansive panoramas of the historic core from within the city. It demonstrates the unrivalled pre-eminence of the Minster in the city centre townscape. However, the extent of railway tracks and sidings limits the quality of the foreground.'*⁵

The proposed new junction on Water End road (Western Option 01/02) would be visible in the foreground of the view, including a signalised junction and new cycle lanes. The access route would run perpendicular to Water End, comprising a viaduct that would be at grade to the road and would cross in front of Millennium Green.

The Southern Option, along with the loss of boundary trees within the play area would be visible in the background of the view. However, the change to the view would be minor in nature due to the distance and the extent of railway infrastructure that intervenes within the view. The proposed bridge would not interfere with views of the Minster from Key View 10.

⁵York Central Historic Core Conservation Area Appraisal Part One,

Viewpoint 2: Millennium Green



The Millennium Green is at a similar elevation to the railway lines that bound the western edge of the park, as such views of the railway are predominantly screened by intervening vegetation. The photograph represents a rare glimpsed view of the railway, in proximity to the Water End bridge.

It is anticipated that views of the proposed access route (Western Option 01/02) would be mostly screened from within the Millennium Green, due to large areas of trees on the western boundary of the space and those lining the Holgate Beck. The arch of the bridge would be visible from some locations through and above intervening vegetation, particularly from the elevated locations on the eastern edge of the Millennium Green.

The construction of the proposed embankments and retaining walls may require the removal of trees on the western boundary of the site, resulting in views from within the Green extending further and increasing the extent of visual change.

This viewpoint would not be affected by the Southern Option.

Viewpoint 3: Views to the west from Garnet Terrace/ Bismark Street



The viewpoint represents views from residents of Garnet Terrace. The photograph was taken in front of properties to the north of Garnet Terrace who are located at a slightly elevated location within the Leeman Road area. This viewpoint is relevant for Western Option 01 and Western Option 02.

The trees and scrub within the Millennium Green, will mostly screen views of the proposed access viaduct and bridge, though the arch of the bridge will be partially visible above the canopy line. Views from upper floor windows, particularly from the more elevated residences to the north of Garnet Terrace, will extend further and will experience a greater degree of visual change.

This viewpoint would not be affected by the Southern Option.

Viewpoint 4: Holgate Park



This viewpoint represents views of users of the Holgate Park and also of nearby residences to the north with views towards Water End road. Western Option 01 and Western Option 02 would be visible from this elevated location, from the new junction at Water End road in the background of the view to the section of the road that comes to grade with the site.

This viewpoint would not be affected by the Southern Option.

Viewpoint 5: Seldon Road/ Poplar Street



This viewpoint represents views from residences within the Seldon Road/Poplar Street residential area, located to the east of the A59 Poppleton Road and the west of the railway lines. Western Option 01 and Western Option 02 would be visible in the mid-ground of the view from the upper storey of residences; however vegetation would screen views from lower levels. Views from the school would be of a similar orientation though the proposed new access would be visible across the view to the east, due to more open views, particularly from the play area to the west of the school.

This viewpoint would not be affected by the Southern Option.

Viewpoint 6: Bishopsfield Drive



This viewpoint represents views from residences within the Bishopfields Drive housing development within the centre of the York Central site. The development is generally inward facing and residences front on to internal roads. The photograph has been taken from the Green to the south of the development, views are completely screened by boundary planting. There would be no change to this viewpoint as a result of Western Option 01, Western Option 02 or the Southern Option.

Viewpoint 7: Railway station



This viewpoint represents views experienced by people at York Railway Station. The photograph has been taken from an elevated location at the top of the stairs which provides access from the back of the station to the National Railway Museum and Leeman Road. There would be no perceptible change to this viewpoint as a result of Western Option 01 or Western Option 02.

The Southern Option would be predominantly screened by the intervening building to the back of the station. Views from the car park and from platforms to the south would be screened by intervening buildings.

Viewpoint 8: City Walls



This viewpoint represents views from people walking along the historic city walls, near York Railway Station. Western Option 01 or Western Option 02 would be barely perceptible within the background of the view, partially screened by trees. The arch of the bridge would be visible and may partially extend above the horizon of the view, but would not be incongruous within this longer distance view that is predominantly focused on the railway station within the foreground and mid-ground.

This viewpoint would not be affected by the Southern Option.

Viewpoint 9: Views to the south-west from The Minster

This viewpoint is taken from the central tower of York Minster and represents views from tourists whose attention is focussed on the landscape. Access Western Option 01 or Western Option 02 road would be barely perceptible within this long distance and elevated view. It would be mostly screened by trees within the Museum Gardens in the mid-ground and intervening buildings such as built form within the Leeman Road area. The arch of the bridge would be perceptible but would form a small feature within a wide and open panoramic view.

This viewpoint would not be affected by the Southern Option.

Viewpoint 10: Clifton Ings



This viewpoint represents views from walkers and recreational users of Clifton Ings. The photograph is taken from a footpath located on the elevated bank of the River Ouse, the trees that line the River Ouse screen the majority of views to the opposite river side, towards the city.

Western Option 01 or Western Option 02 would be predominantly screened by trees and vegetation that line the River Ouse, there may be glimpsed views of the deck and parapet and the movement of traffic through winter trees from the elevated bank of the river, though this would be viewed in combination with the frequent passing of traffic along Water End.

This viewpoint would not be affected by the Southern Option.

Viewpoint 11: Cleveland Street and Upper St Paul's Terrace



This viewpoint represent views from residents located on Cleveland Street and Upper St Pauls Terrace. The terraced streets are orientated in a north west to south east alignment, windows of properties on the streets face towards the road. As such, the views from these properties are of properties on the opposite side of the street. However oblique views from windows of properties located to the northern end of the streets will extend to the Upper St Paul Terrace play area and to the trees and boundary fencing and walls that define its boundary. The northern gable end of the buildings on these street do not have windows (aside from a small window on the end dwelling of Cleveland Street) as such there are limited direct views across the play area from these properties. There are however, views along the roads and from the parking areas at the northern end of each street.

This viewpoint would not be affected by Western Option 01 or Western Option 02.

From Cleveland Street, oblique views from windows and views north- west along the street of the existing play area will be replaced by views of the Southern Option on a reinforced retaining wall up to 3 metres in height. From Upper St Paul's Terrace, oblique views from windows and views north- west along the street of the existing play area will be replaced by a grass embankment of up to 6-8 metres in height.

Viewpoint 12: A59 Holgate Road



This viewpoint represents views from properties on the southern side of the A59 Poppleton Road/ Holgate Road within the St Paul Square/ Holgate Road Conservation Area. The properties to the south of the A59 are generally well set back from the road, with driveways and gardens facing the road.

This viewpoint would not be affected by Western Option 01 or Western Option 02.

The Southern Option relates to this viewpoint. Views of the proposed junction from the residences would be partially screened by trees within front gardens. However, it is assumed that views would extend to the proposed signalised junction, and that the demolition of the Carriage Works Mess House and the removal of trees within the open space will be noticeable.

The addition of the junction into the view would not be uncharacteristic of views of the A59, though the removal of trees and the demolition of the Mess House would result in the loss of existing features that are key characteristics within views from these properties.

Viewpoint 13: Back of Wilton Rise



This viewpoint represents views from the backs of properties on Wilton Rise. The photograph is taken from a small road that provides access to the back of approximately eight properties. The backs of these houses on Wilton Rise have views to the north east, across the route of the proposed access road. A high brick wall and wooden fencing defines the transition from the road to the Carriage Works site.

This viewpoint would not be affected by Western Option 01 or Western Option 02.

Views of the Southern Option road from ground floor windows would be screened by the wall and fencing that defines the boundary between the access road and the Carriage Works site. However, due to the slight elevation of the houses in this location, views from upper floor windows will extend to the proposed access road.

Viewpoint 14: The Fox Inn



This viewpoint represents views from the Grade II Listed Fox Inn, located on the A59 Poppleton Road/ Holgate Road. The photographs are taken from the A59 in proximity to the frontage of the Fox Inn, looking towards the proposed site of the junction and the second is taken from the open space to the east beyond the boundary of the pub.

The frontage of the pub looks out across the A59 and views from the remaining aspects tend to be predominantly screened by trees on the boundary of the pub.

Some glimpsed views of the open space and cycle lane that wrap around the back of the pub will be available within views from the beer garden and car park.

This viewpoint would not be affected by Western Option 01 or Western Option 02.

Due to these boundary trees, views of the Southern Option and junction will mostly be screened from the pub. However, the proposed bus lane and loss of mature trees within the open space would be a noticeable change to the view from the external areas of the pub.

Viewpoint 15: Holgate Park



This view represents views of users of Holgate Park and of nearby residences to the north of the park.

This viewpoint would not be affected by Western Option 01 or Western Option 02.

Views from the elevated park would extend to the Southern Option. Vegetation within the foreground of the view partially screens views, even from this moderately open and elevated location, along with the railway infrastructure that dominates the mid-ground the proposed access road and bridge would be barely perceptible.

3.6 Noise Considerations

3.6.1 Overview

The noise review undertaken has considered the potential noise impacts associated with the shortlisted access options. Road traffic noise from the access option has been predicted and existing baseline noise has been measured. The existing noise environment has been surveyed close to the Water Lane End access points (Western Option 01 and Western Option 02) and Holgate Road access (the Southern Option). The figure below identifies the location of background noise measurements to inform the review:



Figure 13: Noise survey measurement locations

The noise review has considered the impact of access options on air quality. The review is independent of the results of the wider York Central development, which would assess the impact of the whole development and any required noise mitigation as part of the Environmental Impact Assessment which will accompany any subsequent planning application.

The potential noise impacts associated with each access road option have been considered in relation to the:

- Alignment relative to surrounding noise sensitive receivers (NSRs);
- Proximity of the NSRs;
- Number of NSRs potentially affected;
- Likely existing noise levels in relation to the introduced noise (i.e. impact); and
- Likely proportionate traffic change on existing, connecting roads.

3.6.2 Noise Considerations

The relative performance of the three options has been considered quantitatively. Both locations exhibit a similar density of housing albeit at differing distances from the proposed new access road.

In relation to Western Option 01/02 the review indicates the proposed new access option has a negligible noise impact upon existing nearby noise sensitive receivers. Option 02 would move the new access route further north and significantly closer to existing residential properties, such that acoustic treatment may be required on the northern side of the bridge. This would be confirmed through detailed modelling and mitigation design to accompany the Environmental Impact Assessment for any future scheme.

The Southern Option results in the greatest noise impact at nearby receptors because of the proximity of the access road to the residential properties and partially because of the elevation of it above ground.

3.7 Ecology

3.7.1 Methodology

A Preliminary Ecological Appraisal of the locations of the shortlisted access options has been undertaken. The review at this stage, purely considers ecological designations, habitats and species which are likely to be directly affected by the construction of the access options. It does not consider mitigation which may be required to mitigate any impacts on these ecological features, as this will form part of the Ecological Impact Appraisal in the EIA for the planning application.

3.7.2 Ecological Considerations

Designations

Western Option 01/02 is likely to have a direct effect on the non-statutory site Millennium Green Site of Interest for Nature Conservation (SINC) which lies adjacent to the proposed access route. There is also the potential that the access route will require land take within the designated site for storing construction equipment during the construction phase. Western Option 01/02 also has the potential to indirectly affect Clifton Ings and Rawcliffe Meadows Site of Special Scientific Interest and the River Ouse SINC through increased visual, noise and light disturbance during the construction phase.

It is not anticipated that the Southern Option would have any direct or indirect effects on designated sites.

Habitats

Both Western Options 01/02 and the Southern Option may affect similar habitat compositions; hardstanding, ephemeral vegetation, broadleaf woodland plus areas of semi-improved grassland within Western Option 01/02.

Invasive Plant Species & Species

Three species of invasive plant species were identified within the proximity of Western Option 01/02. One species of invasive plant species was identified within the proximity of the Southern Option.

Bats: Five buildings and one bridge were identified to have bat roost suitability within close proximity of Western Option 01/02. Seven buildings were identified to have bat roost suitability within close proximity of the Southern Option.

Badger: Western Option 01/02 runs directly adjacent to a disused mammal burrow. The nearest identified mammal burrow to the Southern Option is approximately 200m.

Water vole: Holgate Beck runs within Millennium Green which may be affected by Western Option 01/02. There are no water courses with water vole potential that will be affected by the Southern Option.

Black redstart and breeding birds: Both Western Option 01/02 and the Southern Option will require removal of suitable foraging, song post and nesting habitat for

black redstart. Additionally, suitable habitat for common nesting birds is likely to be removed.

Invertebrates: Both Western Option 01/02 and the Southern Option will require removal of suitable habitat for invertebrates.

3.8 Flood Risk Considerations

3.8.1 Methodology

In order to understand flood risk considerations associated with the shortlisted access options, the Environment Agency Flood Risk Zones have been consulted to inform the level of flood risk which applies to the access options from Water End (Western Options 01 and 02) and Holgate Road (the Southern Option). This background information has therefore been assessed in terms of how this would affect the final design of the access options.

An review of the flood risk associated with the development (including the access) and any necessary mitigation would be considered as part of the planning application for the overall development. Therefore, this access options summary, principally considers the flood risk zone in which the access options are located.

3.8.2 Flood Risk Considerations

An extract from the Environment Agency Flood Risk Map is shown below:

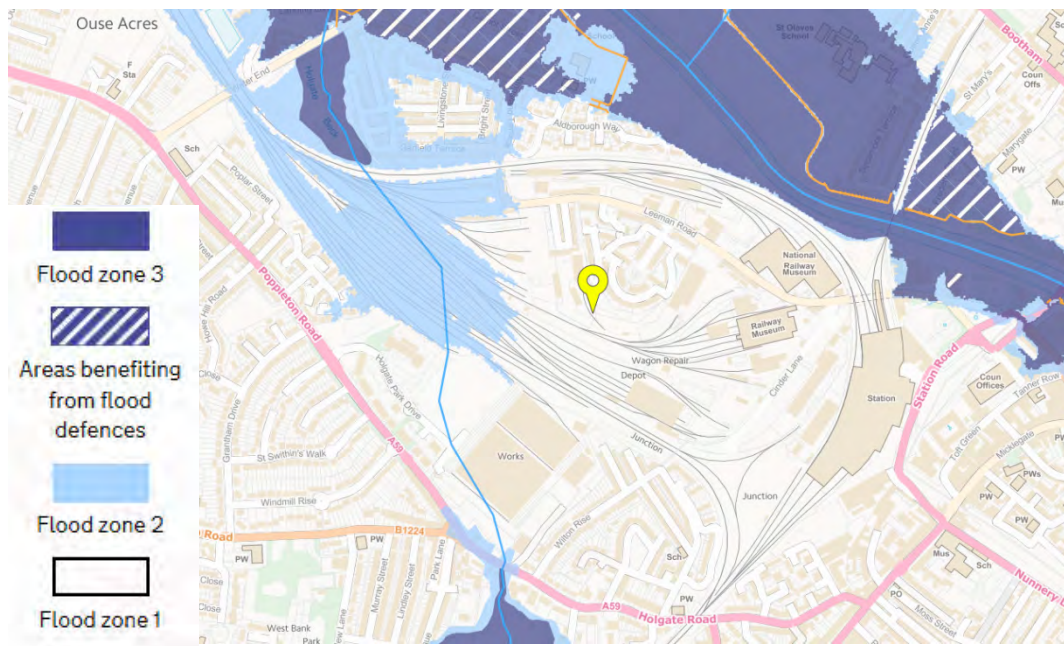


Figure 14: Extract from Environment Agency Flood Risk Map

Of the shortlisted options, the Southern Option has least impact on flood risk as it is principally located within Flood Risk Zone 1.

Proposed surface level changes resulting from the provision of a new road junction are likely to be minimal and as such have negligible impact on flood risk. The remainder of the road corridor for the Southern Option is located in Flood Risk Zone 1.

4 Summary

4.1 Summary

This report has provided a comparative review of the various access options assessed in relation to the redevelopment of the York Central site. This has included an environmental review of the potential impacts at all of the shortlisted options. This review has only assessed the issues associated with the access options and has not identified mitigation to reduce the impacts. Once an access route is chosen, the design of the access will be developed, including any necessary mitigation. This will be reported in the Environmental Impact Assessment which will accompany a future planning application.

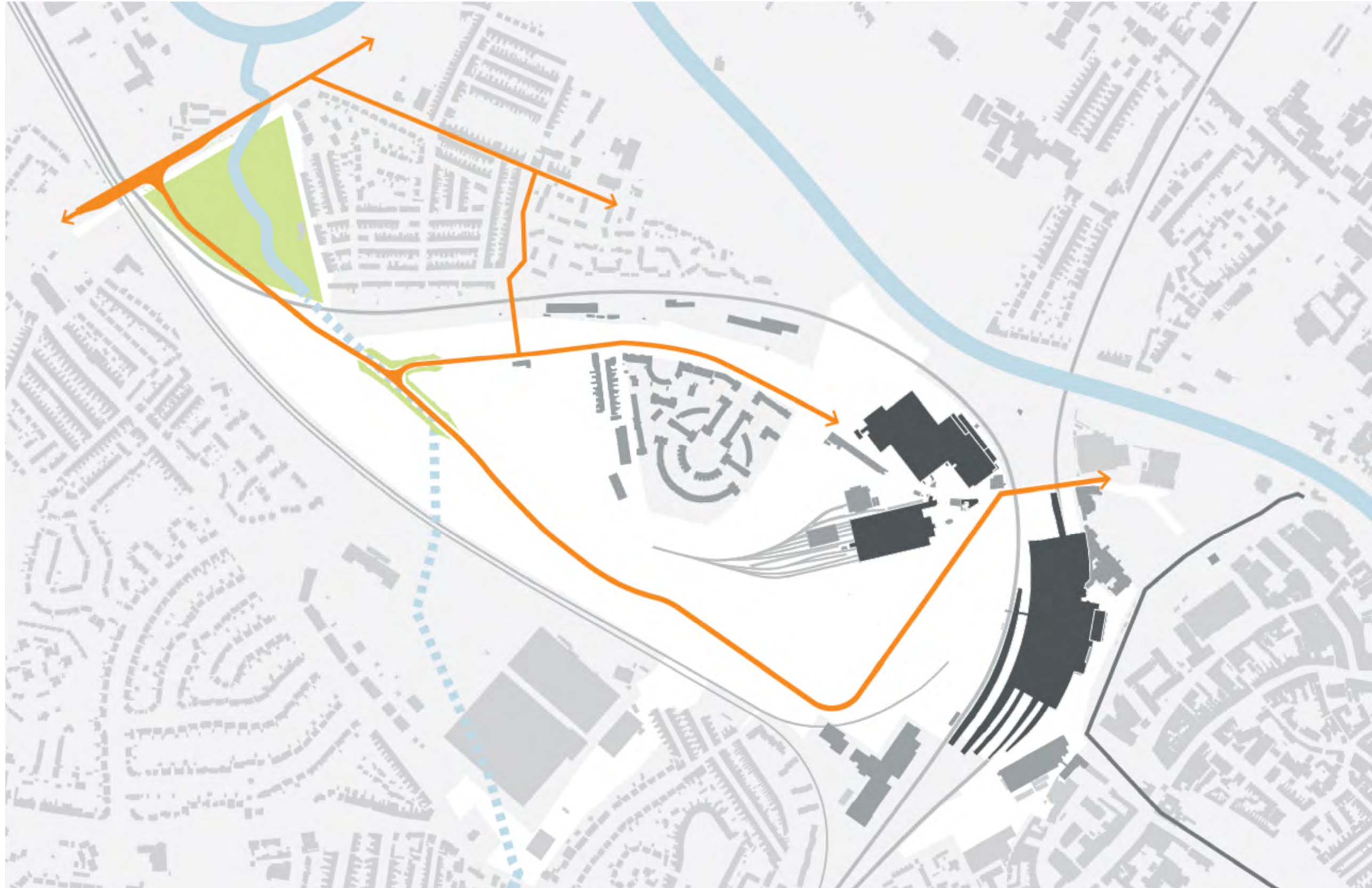
4.2 Next Steps

Public consultation on the access options will be undertaken in August/September 2017 to inform the choice of access. After the consultation, YCP will look at all impacts and make a decision on the choice of access to progress. Further consultation on the masterplan is planned to take place later in 2017. It is envisaged a planning application will then follow in Spring 2018.

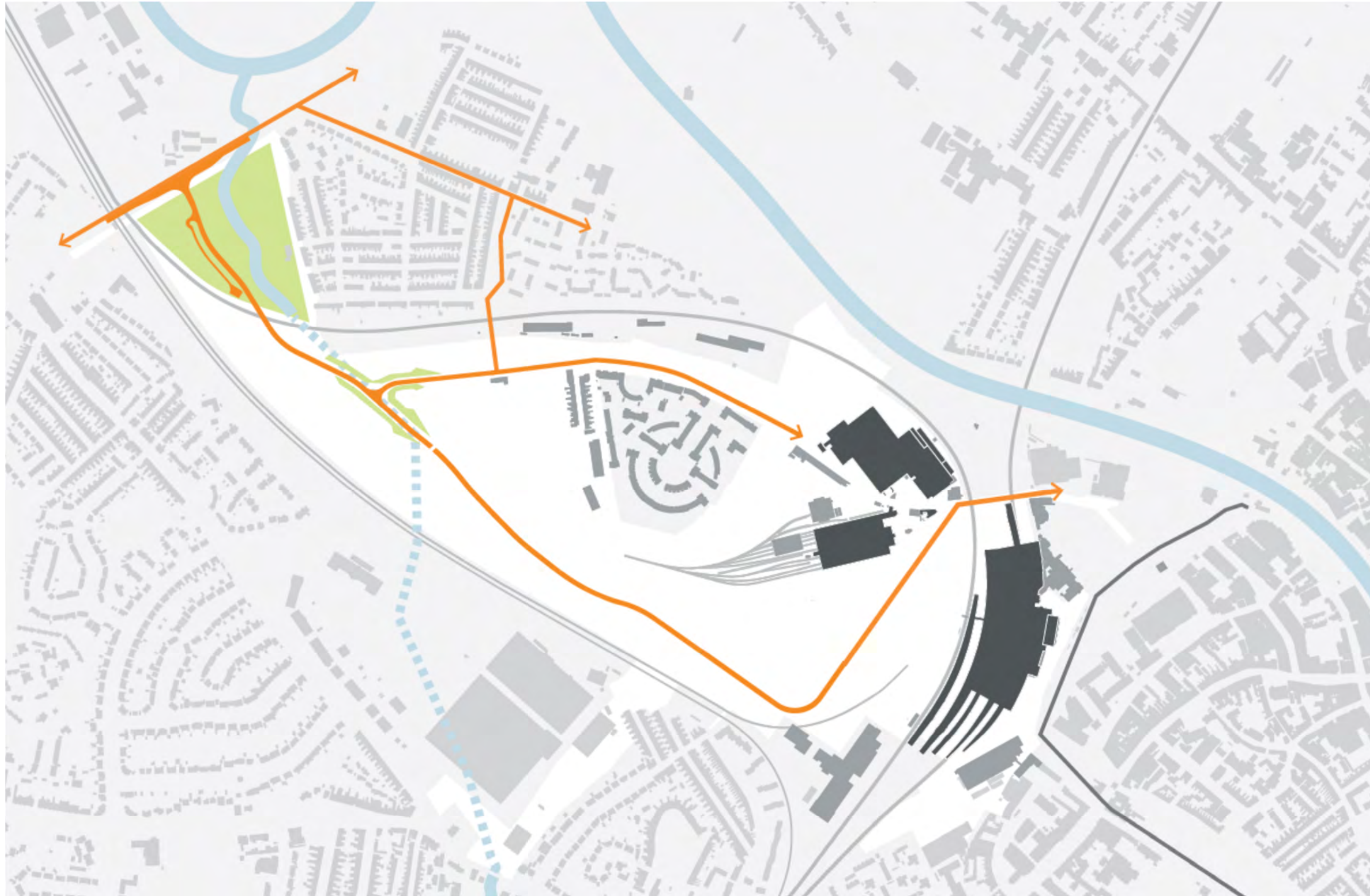
Appendix A

Access Option Diagrams

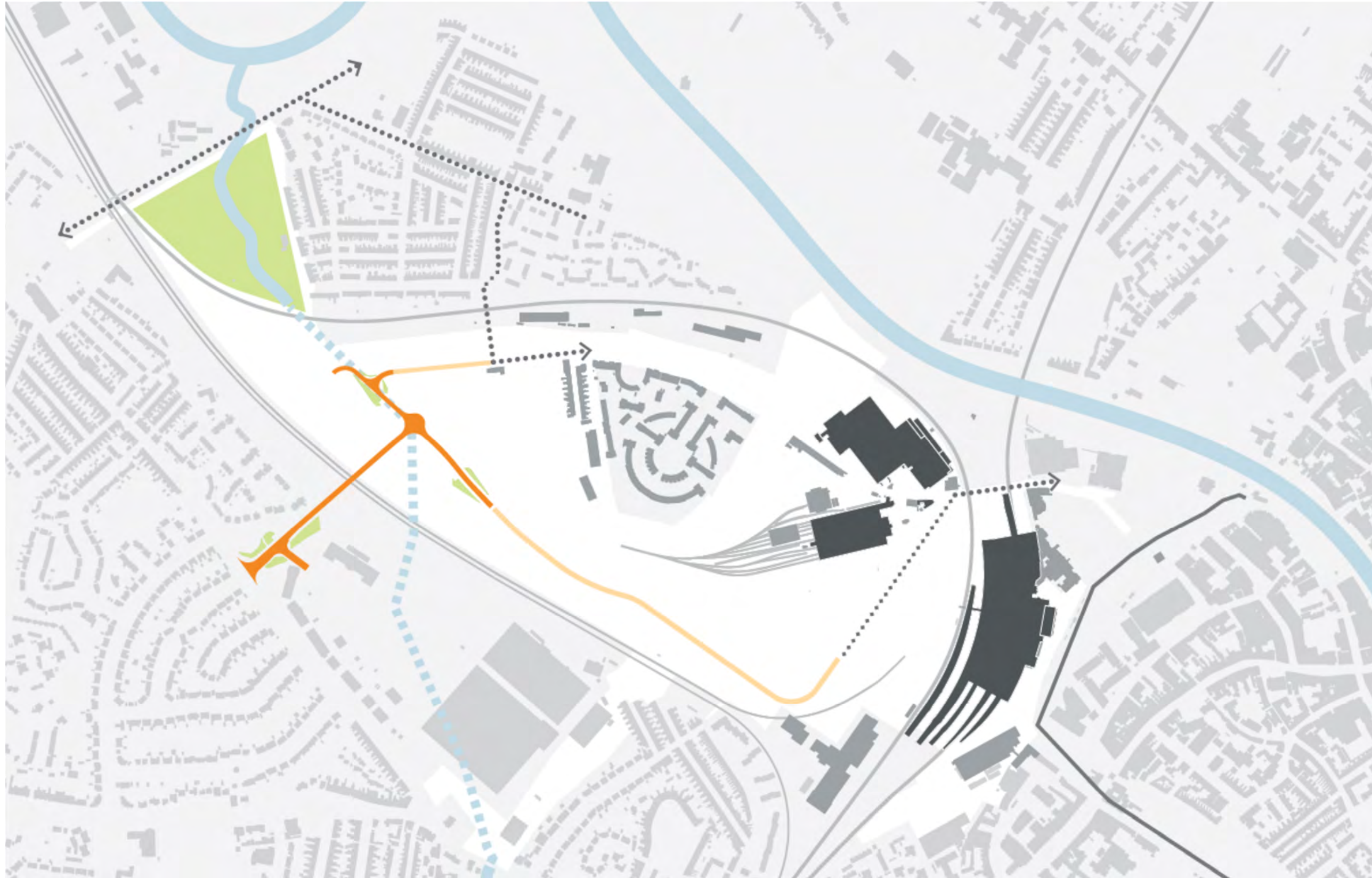
Access Option A1 (Western Option 01)



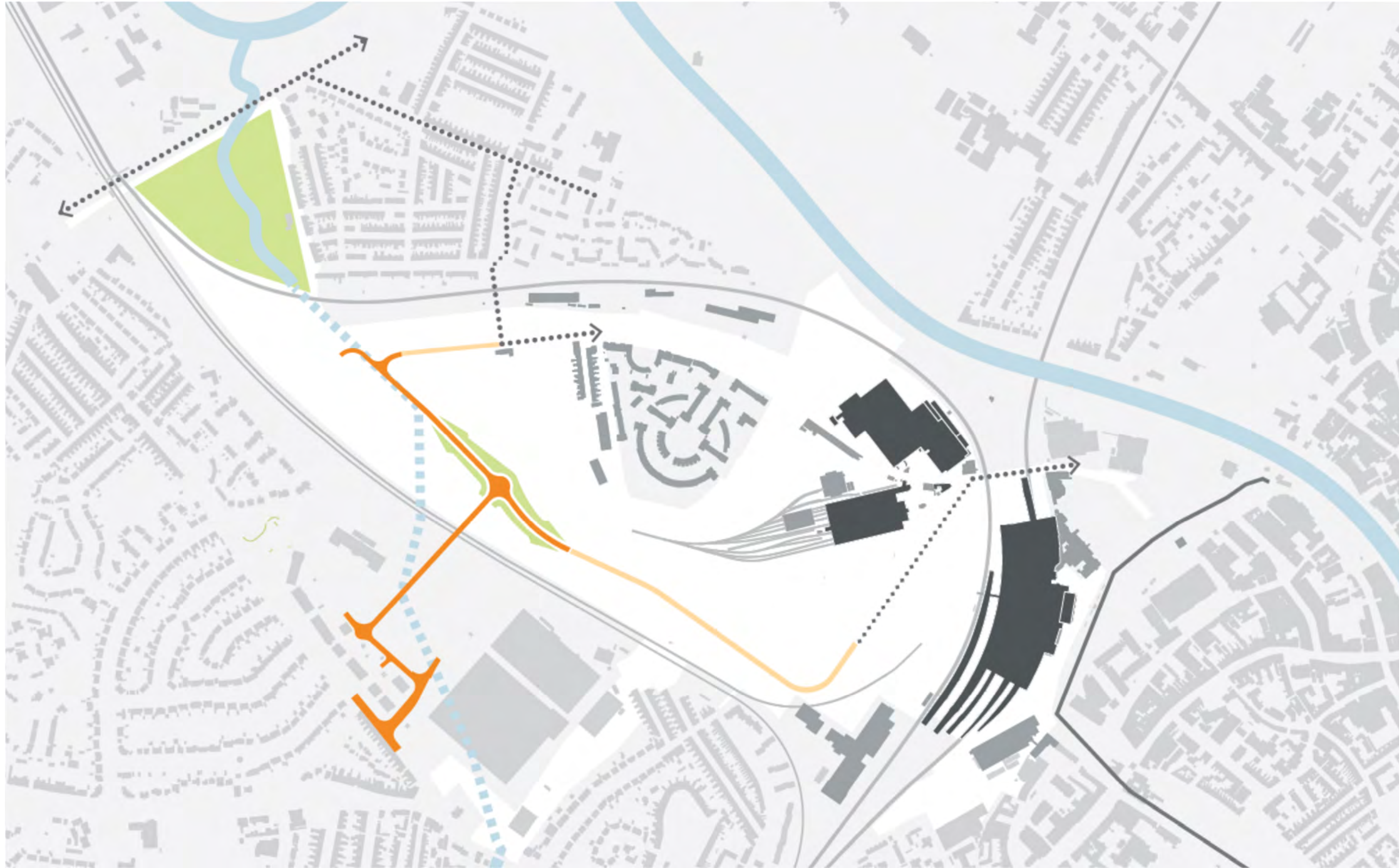
Access Option A2 (Western Option 02)



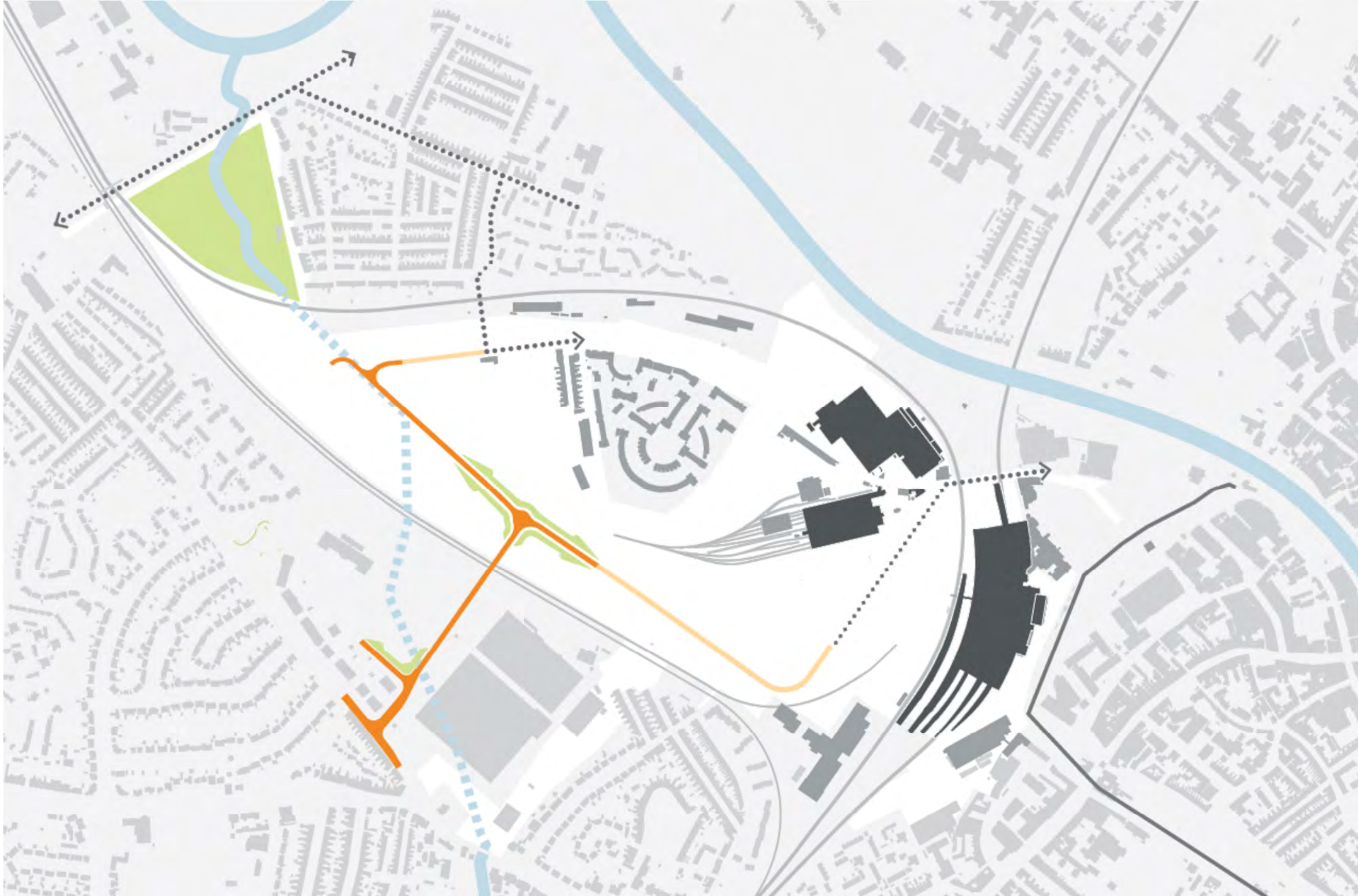
Access Option B



Access Option C



Access Option D



Access Option E (Southern Option)

