

**London Borough of Enfield
(Meridian Water Strategic
Infrastructure Works)
Compulsory Purchase Order
Proof of Evidence Mike Savage**

PINS Ref: PCU/CPOP/Q5300/3258664

Final | 26 March 2021

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 Experience

1.1 Mike Savage

- 1.1.1 I am a Chartered Member of the Institute of Logistics and Transport. I hold an Honours Degree in Civil Engineering; a Master of Science in Transport Planning and Management and I am also a Member of the Chartered Institution of Highways and Transportation.
- 1.1.2 I am a Director at Arup working in the transport team based in the London office. I have 30 years' professional experience providing transport planning advice to clients in relation to development proposals and transport strategies.
- 1.1.3 I provide transport planning advice to developers and local authorities throughout all stages of the planning process. This includes pre-application and post-application discussions with planning and highways authorities and preparation of Transport Assessments to support planning applications.
- 1.1.4 I am instructed by London Borough of Enfield Regeneration Team to act as an expert witness in matters relating to transport and highways.
- 1.1.5 I led the transport planning workstream since early 2018 and have contributed to the development of the Compulsory Purchase Order plans and scheme prior to the request to provide expert witness evidence for this Inquiry.

1.2 Declaration of Truth

- 1.2.1 I confirm that the evidence which I have prepared and provide for this application in this proof of evidence is true and has been prepared and is given in accordance with the guidance of my professional institute. I understand that my duty is to provide my untrammelled professional opinion to the inquiry, irrespective of by whom I am instructed. Accordingly, I confirm that the opinions expressed within this proof are my true and professional opinions.

2 Scope of Evidence

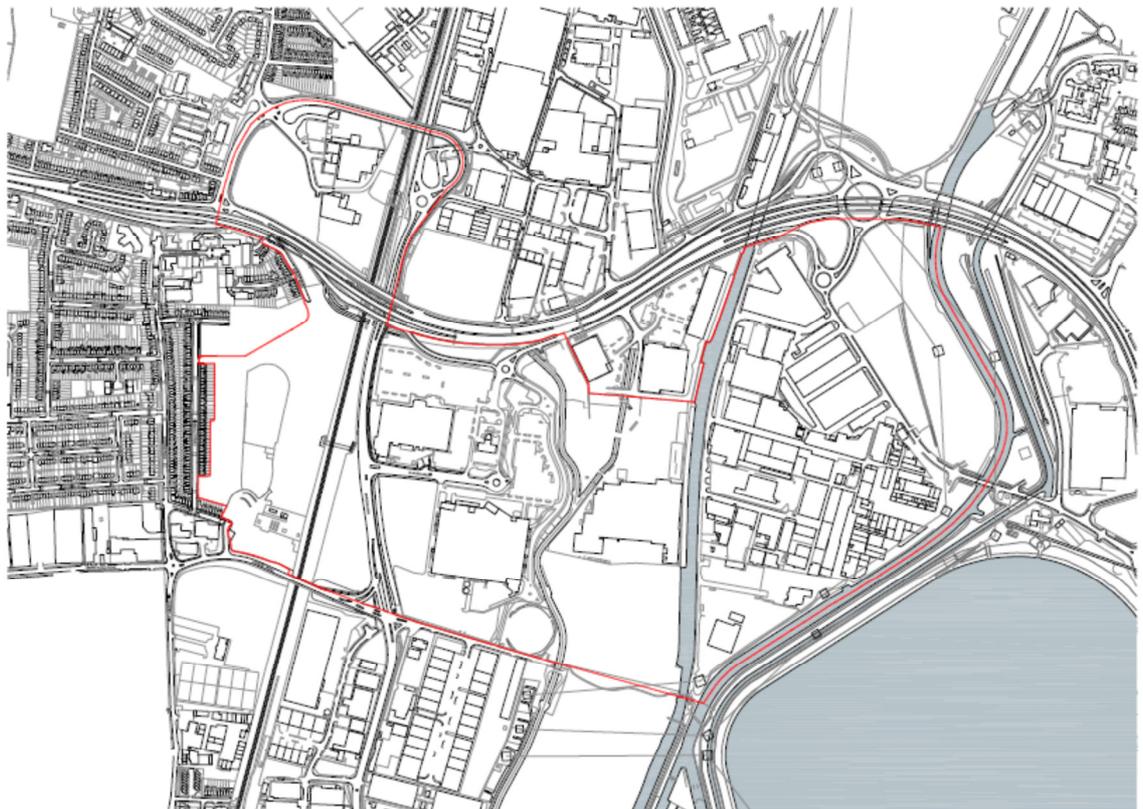
- 2.1.1 My evidence covers transport issues relating to the proposal by the London Borough of Enfield (the ‘Council’) for making a compulsory purchase order (‘CPO’) entitled the London Borough of Enfield (Meridian Water Strategic Infrastructure Works) Compulsory Purchase Order 2020 (the ‘Order’, Core Document 1) which has been submitted to the Secretary of State for Housing Communities and Local Government (the ‘Secretary of State’) for confirmation. The land included within the Order is referred to as the Order Land which is shown on the plan at Appendix 1 to the Statement of Case (the ‘Order Map’, Core Document 2).
- 2.1.2 I will explain the existing transport conditions in the area subject to the Order and the transport related components of the Strategic Infrastructure Works (‘SIW’). The Order Land relates to the land required to implement the SIW that will in turn facilitate the development of new residential and employment uses in accordance with the Edmonton Leaside Area Action Plan (‘ELAAP’, Core Document 17) adopted January 2020.
- 2.1.3 The structure of my evidence is as follows:
- In Section 3 I set out relevant background to the case for the Order including the transport context and accessibility limitations that exist in the Meridian Water Regeneration Area.
 - In section 4 I set out the location and description of the transport related components of the SIW.
 - In section 5 I highlight the transport benefits that the SIW will bring to the Meridian Water Regeneration Area.
 - In Section 6 I respond to outstanding objections to the Order where these relate to transport matters.

3 Relevant Background

3.1 Meridian Water

3.1.1 Meridian Water is one of London's most significant regeneration opportunity areas and offers an important opportunity to deliver a new urban neighbourhood in north-east London. It comprises approximately 85 hectares and is one of the largest areas of underused and brownfield regeneration land in London, with large areas of derelict land alongside industrial accommodation of varying age and quality. The full extent of Meridian Water is identified on Core Document 6 and is reproduced in Figure 1.

Figure 1: Extent of Meridian Water Regeneration Area (Statement of Reasons)



3.1.2 The Council aims to regenerate Meridian Water comprehensively over a period of approximately 20-30 years. The Council's current adopted planning policy supports the delivery of approximately 5,000 new homes, 1,500 new full-time jobs, schools, community facilities, health services and open spaces, within a new character area. Over the lifetime of the development there is an aspiration to deliver up to approximately 10,000 new homes including thousands of affordable

homes together with associated development which would be supported through future planning policy. However, the justification for the Order is based on facilitating the 5,000 new homes which are supported by existing planning policy and referred to in my evidence as the ‘Scheme’.

3.1.3 Further details of the Scheme are provided in the evidence of Peter George in section 3 of his evidence.

3.1.4 With specific reference to transport and highways matters, the Council's Core Strategy (November 2010) which forms part of the Council's statutory development plan (‘Core Strategy’ or ‘CS’, Core Document 16) Policy 37 refers to Central Leaside and Meridian Water and explains the approach summarised above. The policy states

‘Central to the wider transformation of the area is improved accessibility, through public transport provision and greater ease of vehicular movements along the existing road networks, including greater access for pedestrians and cyclists, with better routes and connections to surrounding areas (see Core Policies 24 and 25).’

3.1.5 The Core Strategy Policy 38 refers to the provision of *‘high quality public realm and development of an exemplar quality and a new spine running through the area connecting all parts of Meridian Water linking new and existing communities the station and Lee Valley Regional Park.’* It also seeks *‘improved connectivity north - south and east - west together with integration with immediately adjacent employment areas in particular Harbet Road Industrial Estate.’*

3.1.6 The ELAAP adopted in January 2020 sets key sustainability and connectivity objectives and sets out the requirements to create a mixed-use community that will help to minimise the need to travel and create sustainable healthy lifestyles.

3.1.7 Policy EL6 The Central Spine and Central Spine Corridor set out the key attributes and function of the central spine that will be located in the corridor shown in Figure 5.1 of Core Document 17 and reproduced as Figure 2.

Figure 2: ELAAP figure 5.1 Spine Corridor (Figure 5.1 of Core Document 17)



3.1.8 Policy EL6 states that development proposals that include land within the corridor shown in Figure 5.1 must:

- *Support the delivery of a continuous link route across Meridian Water and beyond;*
- *Incorporate the Central Spine in the design;*
- *Actively contribute to enable the delivery of the Central Spine, through design, layout, orientation and facilitation;*
- *Prioritise the route as the primary route for orientation, navigation and connectivity at Meridian Water;*
- *Show how other routes provide connectivity to the Central Spine and enable connectivity within and beyond Meridian Water;*
- *Demonstrate how safe and convenient access to the station across the A1055/ Meridian Way can be improved in line with the growth proposed;*
- *Be led by a public realm and landscaping approach to ensure a sufficient quality of development;*
- *Allow for the accommodation of meanwhile uses and temporary activities;*
- *Prioritise pedestrian and cycle users, wherever practical and feasible; and*

- *Provide clear and consistent signage along the entire route, including on-street markings.*

3.1.9 In addition to the central spine the ELAAP highlights the need to develop a sustainable transport strategy, connecting to Meridian Water Station (the Meridian Water railway station constructed as part of Phase One), providing interchange facilities with and between bus routes, and encouraging walking and cycling.

3.2 Strategic Infrastructure Works Application

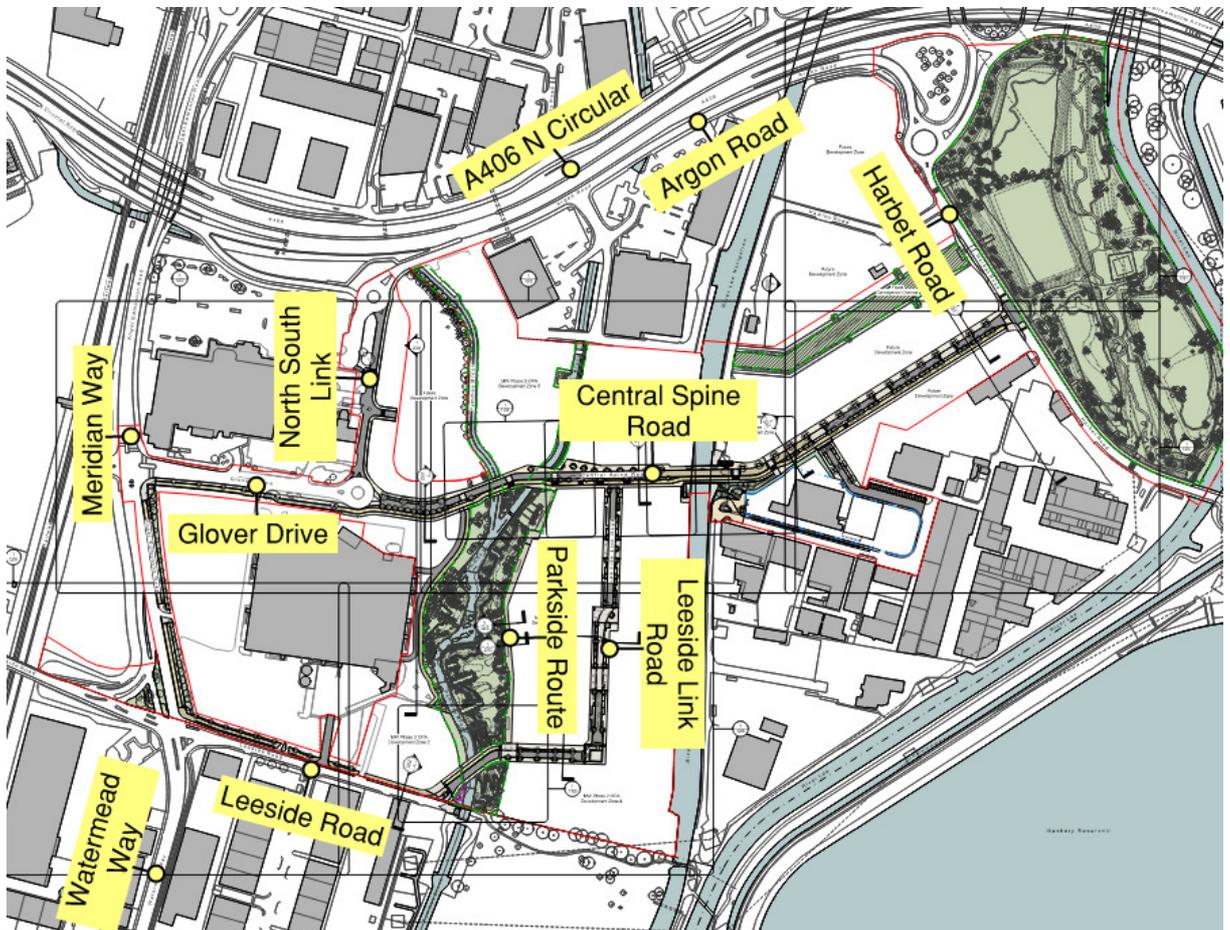
3.2.1 My evidence references the Transport Assessment dated June 2019 (Core Document 36) that supported the two applications for planning permission:

- Application 1: The SIW, including new pedestrian, cycle and highway links to overcome the existing severance issues.
- Application 2: The Meridian Water Phase Two development ('Phase Two') of Meridian Water which will be mixed-use including up to 2,300 new homes.

- 3.2.2 The Transport Assessment explains that Meridian Water is characterised by relatively poor public transport access, severance caused by the existing watercourses and land ownerships, and car dominated big box retailers and industrial uses. Public transport access is limited by these barriers to movement, and there are limited facilities for safe walking and cycling.
- 3.2.3 The aspiration is to deliver transformational infrastructure supporting a residential-led development which will fundamentally shift the modal share in the area by delivering Healthy Streets¹ and supporting the use of sustainable and active modes. The SIW are fundamental to altering the nature of the area, to enable it to become more focused around people and place. This is an important theme in terms of delivering Transport for London's ('TfL') objectives such as Vision Zero and Healthy Streets and supporting the Mayors Transport Strategy, Core Document 21.
- 3.2.4 The SIW secured full planning permission with the following description of development (Core Document 30):
- “Full application for redevelopment of the site to provide infrastructure works for the delivery of a mixed-use development comprising: Construction of an east-west link road between Glover Drive and Harbet Road ('the Central Spine'); alteration of access road between Argon Road and Glover Drive, construction of a link road between Leaside Road and the Central Spine, pedestrian and cycleway improvements to Glover Drive and Leaside Road, the construction of 4 no. bridges across the Pymmes and Salmon Brooks and River Lee Navigation; alteration to the Pymmes Brook channel and associated landscaping. Enabling works, comprising earthworks; remediation; flood conveyance channel, storage and outfall works; utilities infrastructure; demolition of existing buildings and associated works.”*
- 3.2.5 The SIW are illustrated on approved plan '382 KCA P1 00 DR A 1002 P 3 – Site layout plan' an extract of which is shown in Figure 3 and Core Document 9. This plan is contained within MWSIW APP1 01 – Rev02 Site Wide GA Plans 1 of 3.

¹ 5.7.3 The Healthy Streets Approach is a long-term plan for improving Londoners' and visitors' experiences of our streets adopted by TfL, helping everyone to be more active and enjoy the health benefits of using our streets on a daily basis.

Figure 3: SIW Site Layout Plan (382 KCA P1 00 DR A 1002 P 3 - Site layout plan Core Document 9)



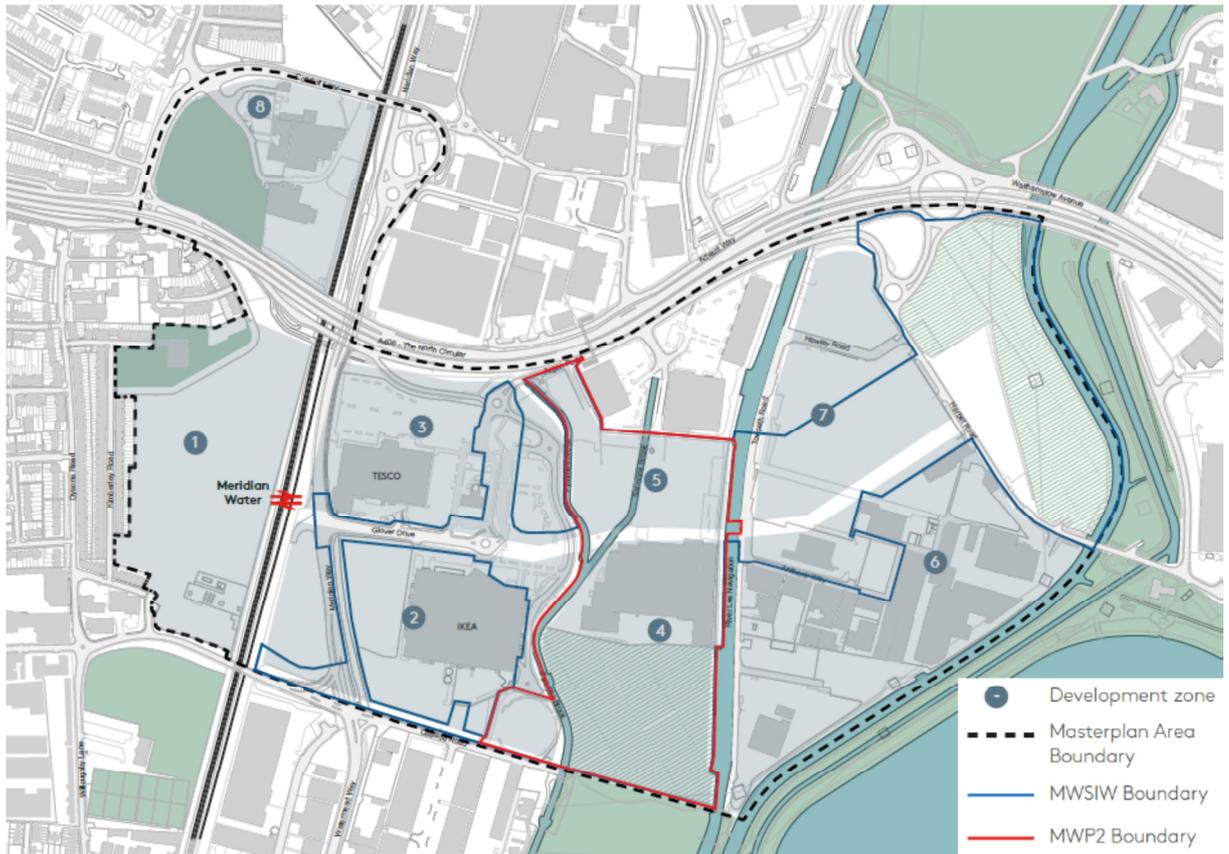
3.2.6 In summary, the SIW comprises the following elements:

- The Central Spine Road - a new tree-lined east-west boulevard connecting to Glover Drive and new Meridian Water Station in the west, crossing the Pymmes and Salmons Brook and River Lee Navigation to Harbet Road in the east;
- Leeside Link Road – the road forming part of the SIW connecting the Central Spine Road to the existing Leeside Road, providing access for cars, pedestrians and cyclists from Leeside Road through to the Central Spine Road;
- Bridges (x4) – erection of bridges and associated works to enable the Central Spine Road and Leeside Link Road to span the Pymme's and Salmon's Brook and River Lee Navigation (the 'Canal');
- Brooks Park and River Naturalisation – naturalising the channelised Pymmes Brook to introduce an ecological river landscape, as well as providing riverside parkland;

- Edmonton Marshes and Flood Alleviation Works – re-levelling and remediation of land to the east of Harbet Road, providing comprehensive flood alleviation works and a new high quality public open space within the Lee Valley Regional Park (‘LVRP’);
- Access Works – third party access works to provide new and altered accesses to the IKEA Store, a new north-south link between Argon Road and Glover Drive, the creation of a link between the Central Spine Road and Anthony Way and other improvements to maintain access, along with other ancillary highway works to Glover Drive, Leaside Road and Meridian Way; and
- Earthworks, Remediation, Utilities, and other ancillary works – earthworks, retaining structures and remediation within Development Zones 4 and 5, installation of main utility networks and ancillary works including the demolition of existing buildings and structures.

- 3.2.7 I describe the transport and highways aspects of the SIW further in section 4 of my evidence.
- 3.2.8 The Phase Two application is the subject of a resolution to grant planning permission, with the following description of development:
- “Outline planning application for comprehensive mixed use redevelopment at Meridian Water, comprising up to 2,300 residential units (Class C3), Purpose Built Student Accommodation and/or Large-Scale Purpose-Built Shared Living (Sui Generis); a hotel (Class C1), commercial development (Class B1a,b,c); retail (Class A1 and/or A2 and/or A3 and/or A4), social infrastructure (Class D1 and/or D2), a primary school up to three forms of entry, hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access (all matters reserved).”*
- 3.2.9 The proposal entails the comprehensive redevelopment of Meridian Water Development Zones 4 and 5 and a part of Zone 2 for up to 284,600 sqm (‘GEA’) of residential led mixed-use development. The Meridian Water Development Zones are illustrated with the Phase Two boundary in Figure 4.

Figure 4: Plan Showing the Meridian Water Development Zones and Phase Two boundary



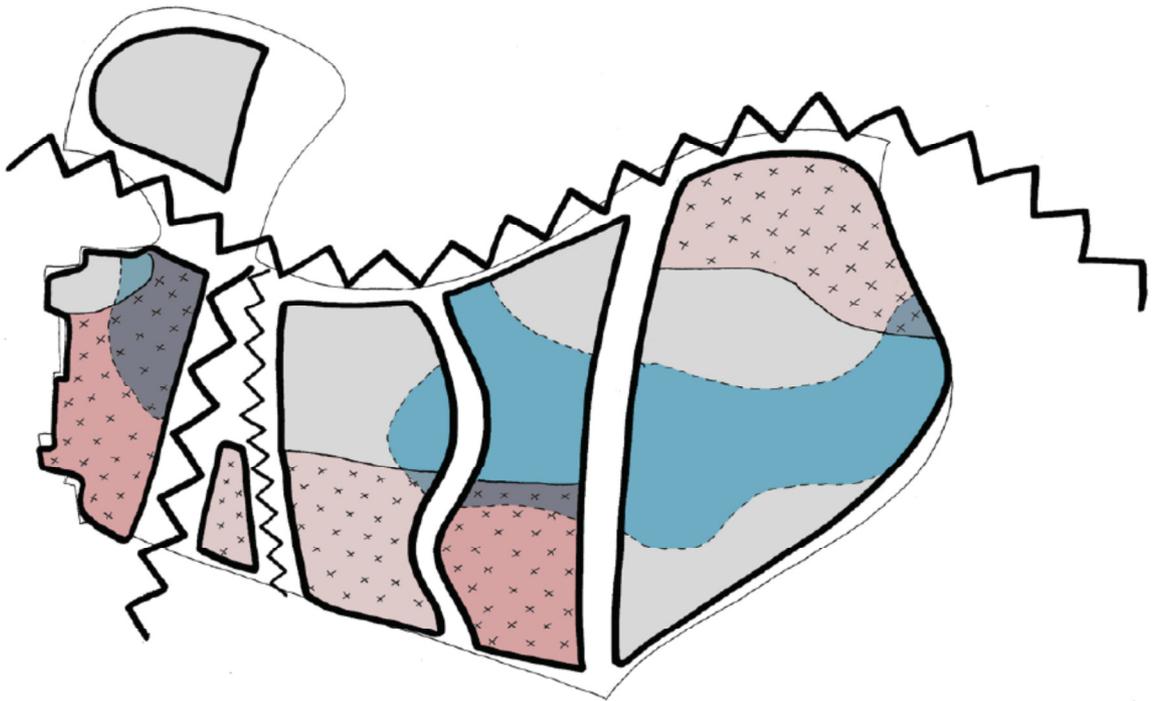
3.2.10 In summary, the Phase Two development comprises the following elements:

- Up to 2,300 new homes (Use Class C3);
- Option to provide a Hotel (Use Class C1) circa 250 rooms with up to 16,000 sqm GEA (allowing for a range of specification from budget to luxury);
- Option to provide Purpose Built Student Accommodation ('PBSA') and/or Large-Scale Purpose-Built Shared Living ('LSPBSL') (Sui Generis) with up to 18,000 sqm GEA in total;
- Up to 26,500 sqm GEA of commercial workspace development (Use Class B1a,b,c);
- Up to 2,000 sqm GEA of retail (Use Class A1 and/or A2 and/or A3 and/or A4);
- Up to 5,500 sqm GEA of social infrastructure (Use Class D1 and/or D2);
- A three-form entry primary school; and
- The associated works to create hard and soft landscaping, new public open spaces including equipped areas for play, sustainable drainage systems, car parking provision, and formation of new pedestrian and vehicular access.

3.3 Access to the Meridian Water

- 3.3.1 Meridian Water is severed by rail, road and waterways that run north-south through the area, currently severing the development zones referenced in Figure 4. This is illustrated diagrammatically in Figure 65 of the Design and Access Statement for the SIW application and reproduced as Figure 5.

Figure 5: Severed sections of Meridian Water

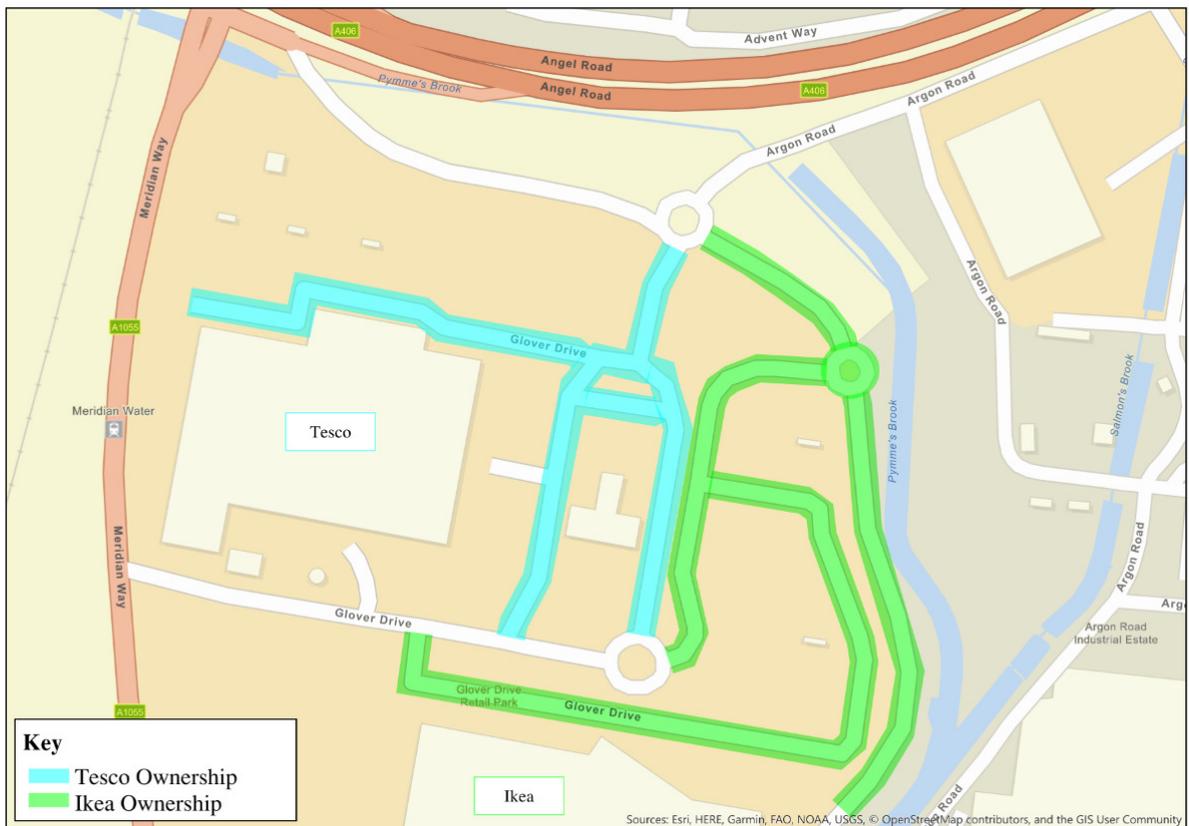


- 3.3.2 Phase One (Zone 1 on Figure 4) which lies to the west of the West Anglia Main Line ('WAML') is segregated by the railway from the remainder of the site. The new Meridian Water Station provides access over the railway for pedestrians and Leaside Road to the south provides alternative access east west for all vehicles.
- 3.3.3 Development Zone 2 south of Glover Drive is occupied by the IKEA Store, and the land comprises a large box retail store with surface level car parking and servicing space. This is private land and therefore impermeable in its current status except for customers.
- 3.3.4 Zone 3 lies north of Glover Drive and the majority of the western part of this zone is occupied by a Tesco Extra 24 hour superstore with car parking, servicing and petrol filling station (the 'Tesco Store'). The far

eastern part of Zone 3 is the IKEA Store’s existing car park and service access road from Argon Road.

3.3.5 Zone 3 is therefore all private land, as shown in Figure 6, and whilst there are vehicular and pedestrian access routes within both the Tesco Store and IKEA Store land between the Argon Road roundabout to the north and Glover Drive to the south that enables a high level of rat running through the site, these routes can be closed preventing access.

Figure 6: Private access routes (Tesco Store/IKEA Store) in Zone 3

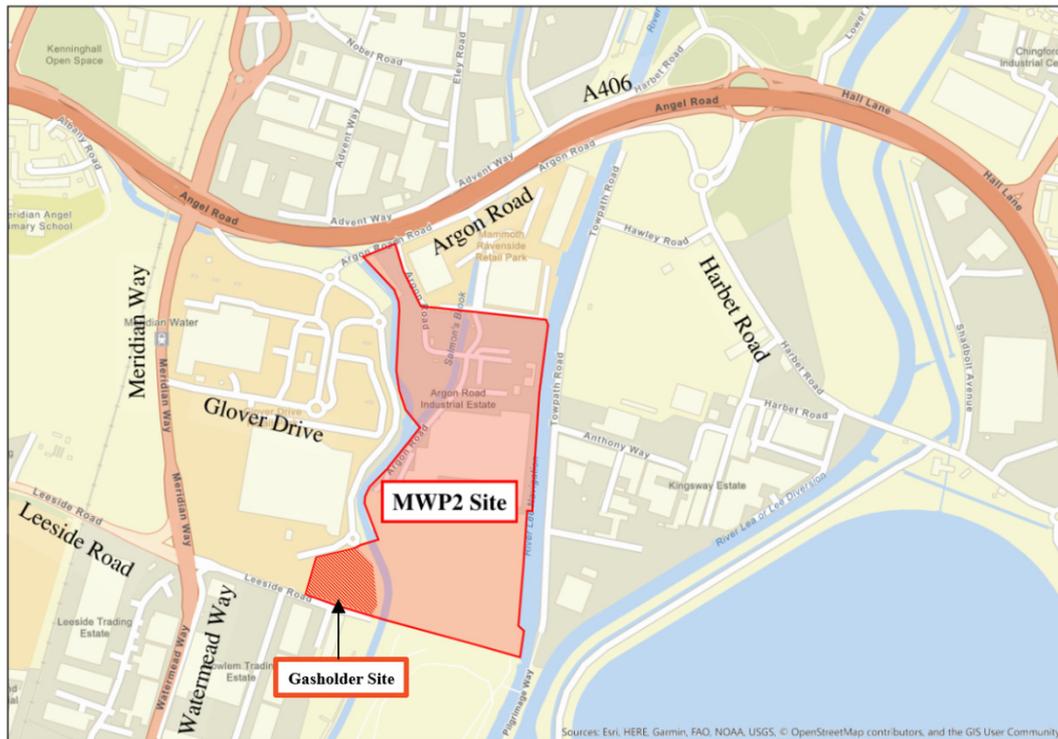


3.3.6 Whilst the Tesco and IKEA Stores do have bus access on Glover Drive and access to the new Meridian Water Station, the land ownership and lack of public connections eastwards mean that existing public transport access is very poor in the central and eastern areas of Meridian Water. This lack of connectivity also prevents meaningful improvements to bus access on Glover Drive.

3.3.7 The Phase Two site comprises the Zones 4 and 5 and a small portion of the Zone 2 development Zone. Part of the Phase Two site is currently occupied by the Orbital Business Park (a business park comprising large buildings and open storage uses within Zones 4 and

5, owned by the Council and proposed for redevelopment as part of Phase Two), with vehicular and pedestrian access taken from Argon Road. Other occupiers include scaffolding yards, warehouse storage for removals companies, open vehicle storage for a vehicle auctioneer, a vehicle pound operator and indoor vehicle and food storage units. These existing uses occupy Zone 5 and the north part of Zone 4. A plan showing the Phase Two site is provided in Figure 7.

Figure 7: Phase Two site



3.3.8 The southern part of the Phase Two site (southern part of Zone 4) is known as the 'IKEA clear site' and consists of unkept scrubland, which was historically used as the Leaside Chemical Works but has largely been vacant since its demolition in the 1970s. Private access is provided via the Orbital Business Park or a bailey² pedestrian bridge which crosses the Pymme's Brook off Leaside Road.

3.3.9 The Phase Two site includes the former gasholder site on Leaside Road (a small part of Zone 2), adjacent to the IKEA Store and Pymmes Brook. This was previously occupied by a gasholder, which has since been demolished and its foundations infilled. The site is currently used for open vehicle storage by a vehicle pound operator

² A prefabricated truss bridge

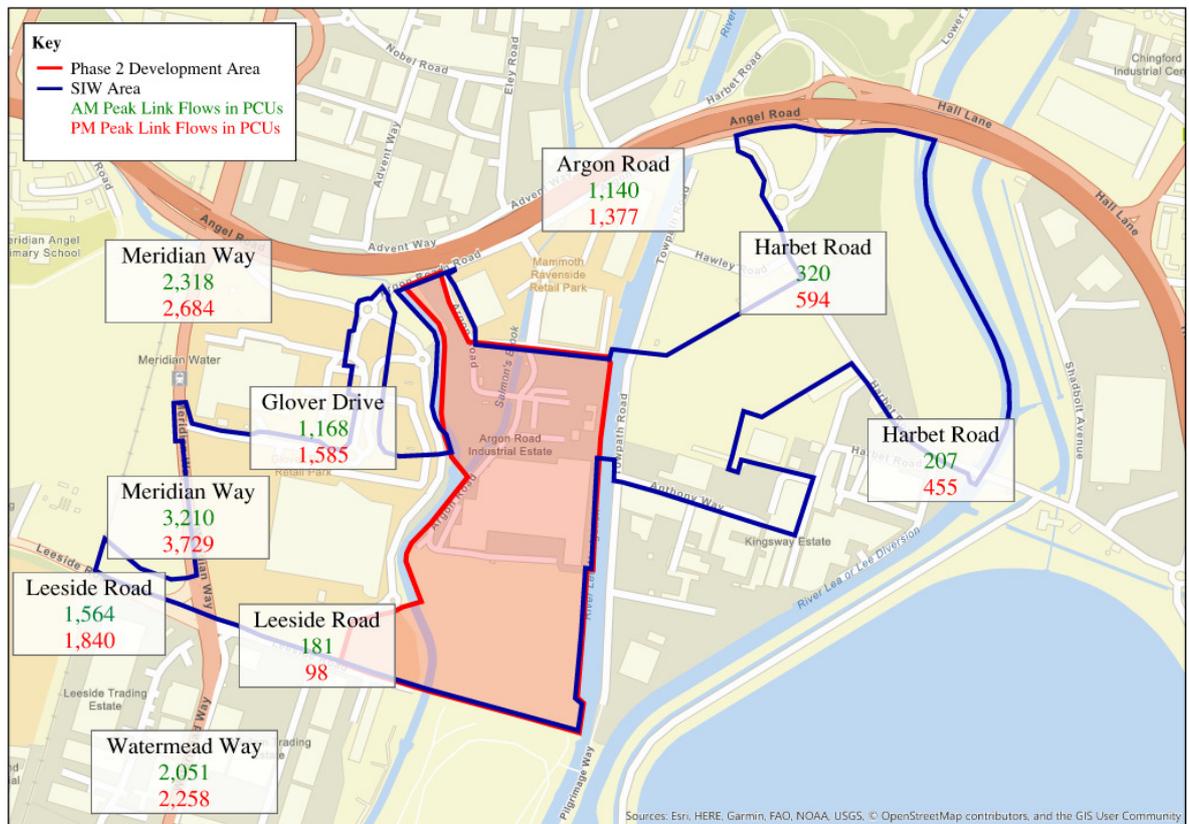
and takes access from Leaside Road which currently provides access to industrial areas to the south. The northern boundary of Leaside Road is the rear of the IKEA Store and service yard.

- 3.3.10 Zones 6 and 7 lie east of the Canal and are currently designated as a Strategic Industrial Location. Some existing businesses remain but many have closed down and the industrial buildings have been demolished. Peter George describes a number of meanwhile uses that have been secured on this land in section 7.5 of his evidence including a drive-in cinema and film studios. Access for these sites is gained from Harbet Road to the east.
- 3.3.11 The existing character of the Meridian Water is largely industrial and car dominated with poor access by public transport. There are limited walking and cycling links, and the local roads have a high proportion of HGV movements. These major severance issues in the area are caused by watercourses, roads and railway lines.
- 3.3.12 The severance issues also mean that the Phase Two site and the wider masterplan area are relatively self-contained and isolated. The SIW provide the infrastructure needed to resolve a number of these issues and to facilitate delivery of a high-quality neighbourhood which focuses on people and place. I have considered the specific access issues for each mode in more detail in the following sections.

3.4 Access by walking

- 3.4.1 The roads in Meridian Water are heavily trafficked with a relatively high proportion of HGV movements (12% of the average daily traffic on Meridian Way is HGVs). Whilst there are also some traffic-free walking routes provided along the Canal Towpath and through the LVRP. These routes are not overlooked and do not have street lighting; as such they do not provide safe access at all times of the day or year, and lead to fears of personal safety. This can restrict the attractiveness of walking in the area if utilising just the existing roads.
- 3.4.2 Traffic flows on the roads around the site are illustrated in Figure 8 based upon surveys undertaken on neutral traffic days in June 2018, (referred to in Core Document 36).

Figure 8: Existing traffic flows (June 2018 surveys)



- 3.4.3 Although there are pedestrian crossing facilities available within Meridian Water, they do not currently serve many of the key desire lines in the pedestrian network due to existing severance issues. In conjunction with the opening of the Meridian Water Station, a new staggered controlled pedestrian crossing has been introduced across Meridian Way on the northern arm of the Glover Drive /Meridian Way signalised junction.
- 3.4.4 As I have noted above the existing site has high pedestrian severance due to the existing water courses and heavy traffic flow on some of the surrounding roads. The main body of the Phase Two site in particular (Zones 4 and 5) is isolated, being separated from Glover Drive and Leeside Road by Pymmes Brook and third party land ownership, and by the Canal to the east.
- 3.4.5 Existing pedestrian access into the main Phase Two site is only readily available from Argon Road to the north. A footway is provided along Argon Road which then provides access into the IKEA and Tesco Store's access roundabout to the west.

700m from the edge of the site, beyond the distance considered by TfL for Public Transport Accessibility Level ('PTAL') (640m).

- 3.4.8 There is a footbridge access over the A406 North Circular Road to the north of the site which provides access to bus stops on the A406 and the Eley Industrial Estate.
- 3.4.9 Access to the east to the existing employment area on Harbet Road and beyond can be gained by walking eastwards along Argon Road to Harbet Road. The severance cause by the Canal prevents a shorter more convenient access.
- 3.4.10 Whilst I have focussed on the limited accessibility of the Phase Two site in the centre of Meridian Water it follows that the sites east and west also have similar constraints. Moving from Zones 2 and 3 (west of Phase Two) to Zones 6 and 7 (east of Phase Two), these also suffer from the same severance with the only all-day all-weather connection via Argon Road running alongside and south of the busy A406 North Circular Road.
- 3.4.11 There is also a recreational footpath south of Meridian Water site linking the eastern end of Leaside Road with the east side of the Canal; this is however a path with limited street lighting and surveillance and would not readily be utilised by pedestrians in hours of darkness.
- 3.4.12 As noted above, there is an existing Bailey bridge across the Pymmes Brook that has more recently been utilised for the Drumsheds access and for the Field Day Festival. This is of narrow width but could serve as a pedestrian and cycle access. However north of Leaside Road is the IKEA Store and access to bus stops on Glover Drive would require walking along Leaside Road, north alongside the busy Meridian Way and east along Glover Drive as indicated on Figure 10. This is a distance of 700m from the edge of the site and beyond the distance considered by TfL for PTAL (640m).

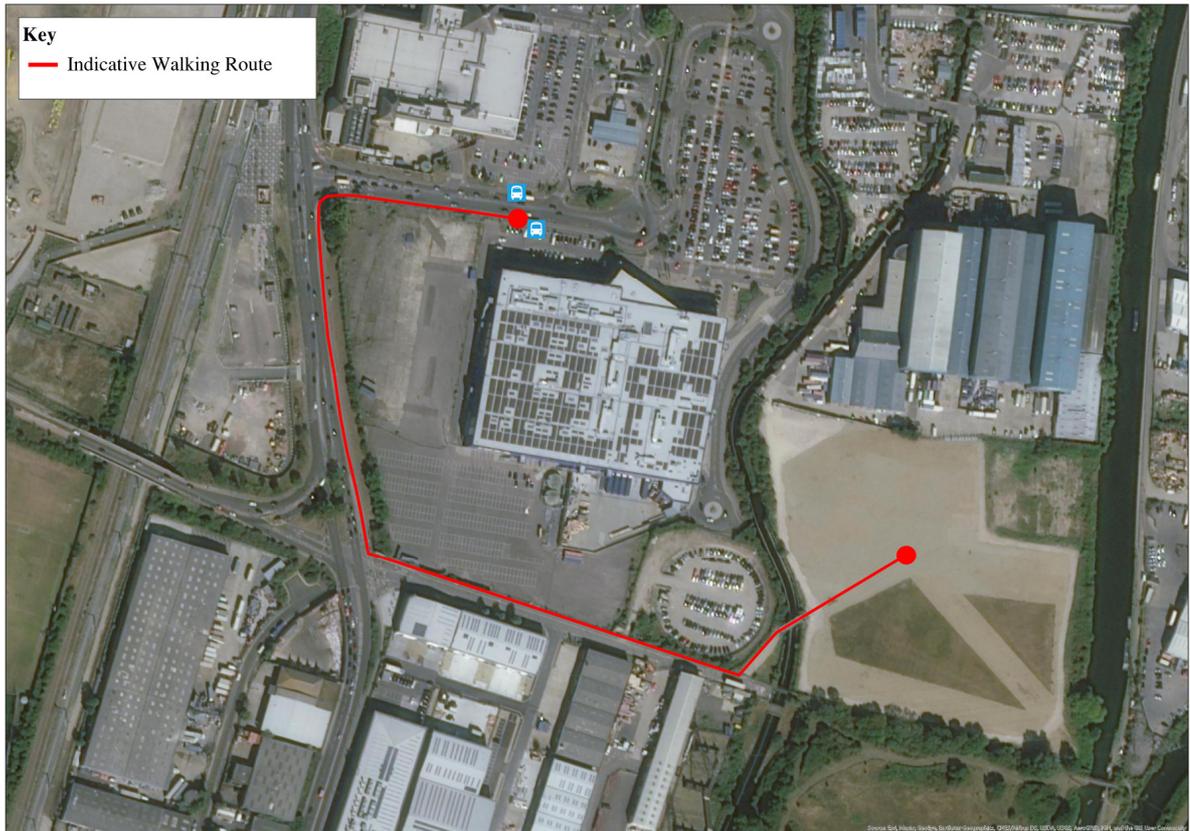


Figure 10: Walking route to Glover Drive bus stops from IKEA clear site

3.5 Access by cycling

3.5.1 As shown in Figure 11, the site has various existing cycle routes in its vicinity, however these are disparate and do not currently form a legible network. Further, some are comprised of streets that are ‘recommended’ rather than more formally designated and/or signed.

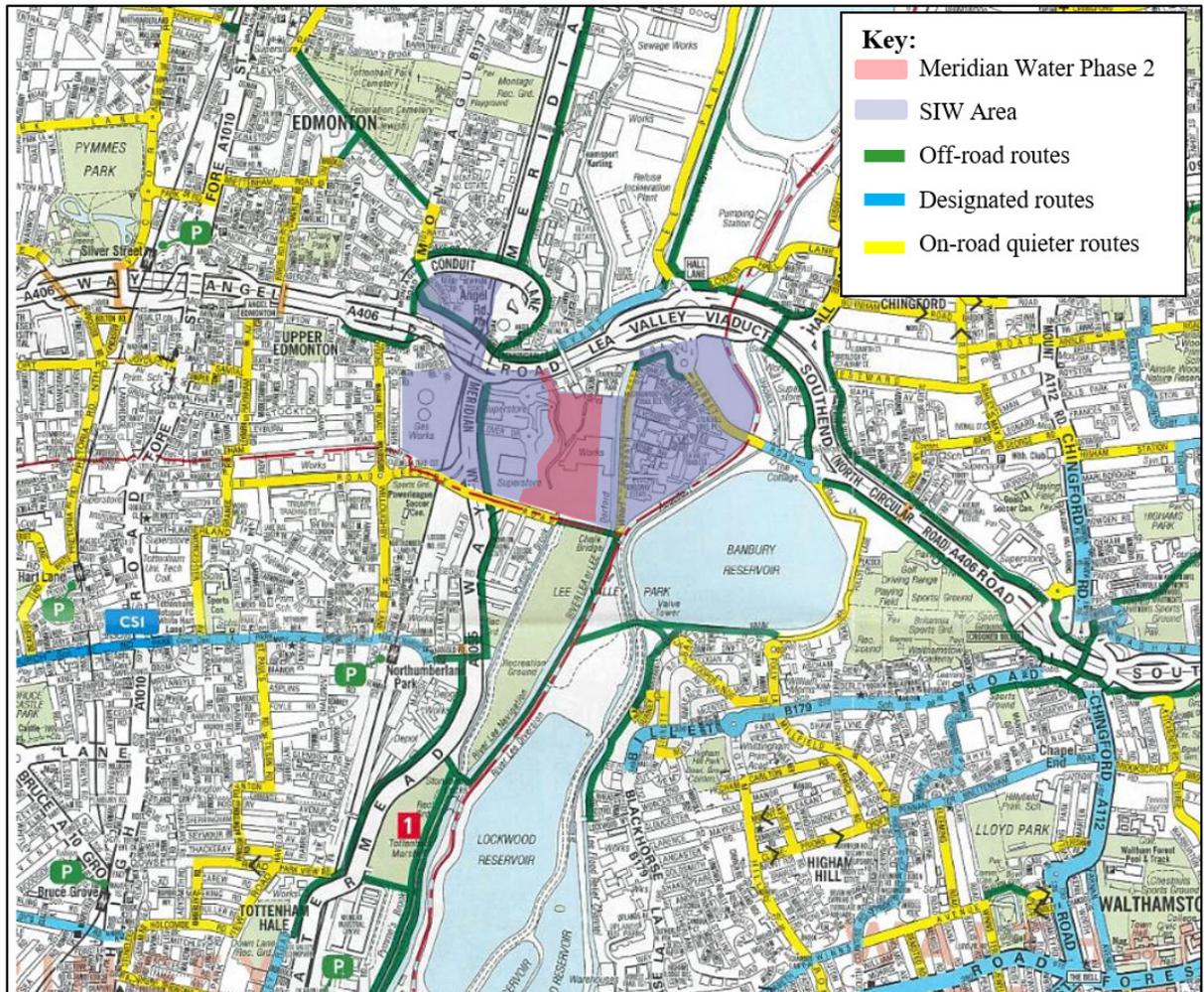


Figure 11: Existing cycle network (TfL cycle route plan)

3.5.2 The main cycle routes in the vicinity of the site are:

- The Canal towpath, that runs immediately adjacent to Towpath Road to the east of the site and forms part of National Cycle Network Route 1 ('NCR1'). It passes under the A406 to the north and is an off-road route along the William Girling Reservoir. This also provides connections to recommended routes towards Chingford Mount, with sections of the segregated route having street lighting. To the south, it continues off-road along the Canal, connecting to the signed cycle route on Forest Road towards Walthamstow.
- An off-road two-way cycle track along the eastern side of the Meridian Way. This is part of a wider north-south off-road route between Ponders End and Tottenham Hale.
- Cycle Superhighway 1 ('CS1') which is a direct route between Tottenham and Liverpool Street Station in the City of London and can be accessed via the off-road route on Meridian Way onto Leaside Road.

- Harbet Road to the east of the site and Leaside Road to the south of the site are recommended cycling routes on TfL cycling route plans.
- There are off-road cycle routes available alongside Conduit Lane which provides connections to Edmonton and Walthamstow Avenue which runs parallel to the A406 to the west of the site.

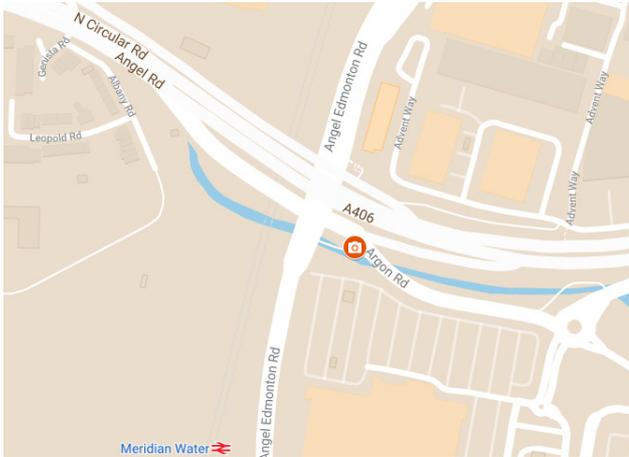
3.5.3 An additional Quietway cycle route is being developed by the Council through the Cycle Enfield programme between Enfield Town and Meridian Water via Edmonton Green. Parts of this route are still under construction, including the extension from Towpath Road running through to Leaside Road.

3.5.4 Given the character of the area with the A406 and Meridian Way being heavily trafficked and rail and waterways causing severance, cycle routes tend either to be next to busy roads or unappealing in character without consistent street lighting or natural overlooking and surveillance. This means that in hours of darkness, more prevalent in winter months, these routes are unlikely to be used by many cyclists.

3.5.5 The key existing cycle routes and connections are illustrated in Figure 12, and this shows that there are limited east west connections to serve either future residents of Meridian Water or to serve the wider area beyond.

Figure 13: Access from Phase Two site to the west via Argon Road

Location Plan:



View west along Argon Road.



Steps and path connection to Meridian Way.



Steps connection to Meridian Way.

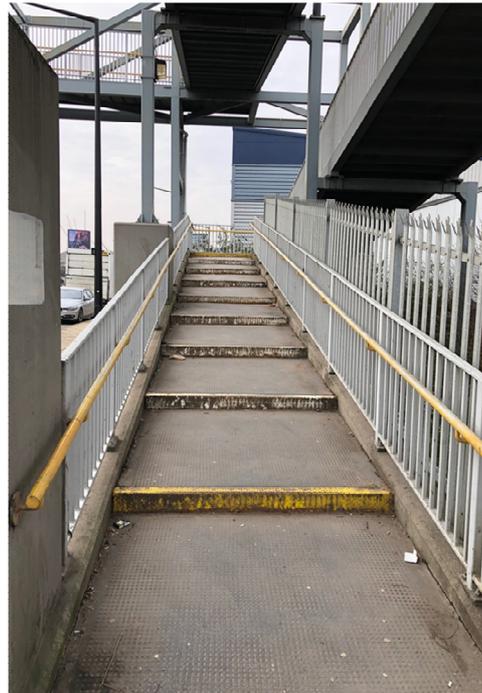
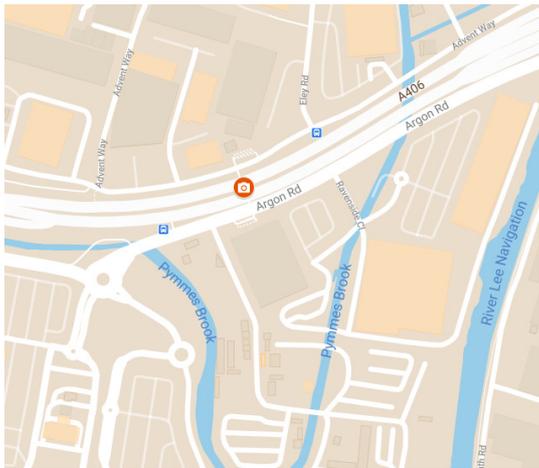


Cycle rail on steps.

3.5.7 Alternatively, cyclists could carry their bike over the A406 footbridge (stepped access) to connect with Advent Way an industrial road running parallel to the A406, as shown in Figure 14. Heading east requires cyclists to utilise Argon Road cycling on street after which they can connect with National Cycle Network Route 1 alongside the Canal.

Figure 14: A406 footbridge (stepped access)

Location Plan:



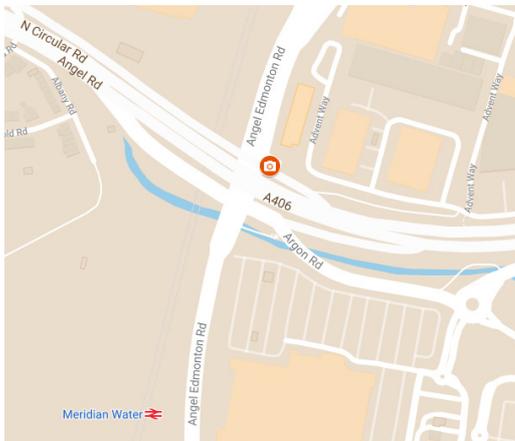
Steps on footbridge across A406.

3.5.8 Existing cycle access is therefore not convenient and unlikely to be utilised by less confident riders, those who would find carrying a bike difficult, or children.

3.5.9 Whilst I have again focussed on the limited accessibility of the Phase Two site in the centre it follows that the sites east and west also have similar constraints. Moving from Zones 2 and 3 (west of Phase Two) to Zones 6 and 7 east of Phase Two, these also suffer from the same severance. Access is possible through the Tesco and IKEA Stores and along Argon Road albeit this is already busy with traffic. To avoid this route the only all-weather recommended route connection would be via Advent Way, an industrial road running alongside and north of the busy A406 North Circular Road. Advent Way serves the Eley Industrial Estate and as such has a higher proportion of goods vehicles movements sharing the carriageway with cyclists, the western end is a dog legged pedestrian and cycle connection shown on Figure 15.

Figure 15: North Advent Way route

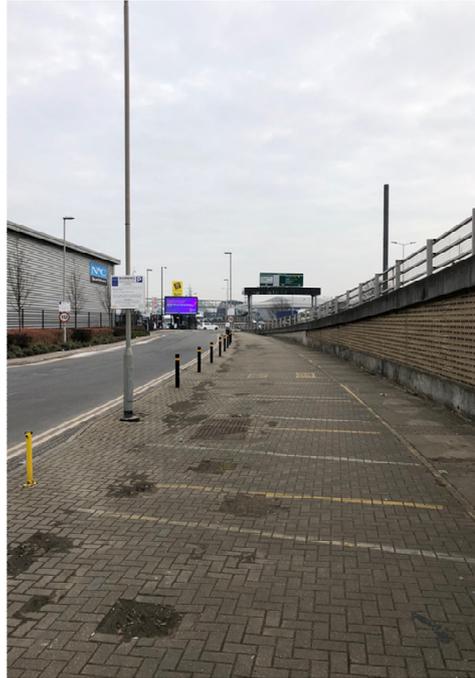
Location Plan:



Looking east from Meridian Way along dogleg path connection to Advent Way.



Looking west along dog leg connection to Meridian Way from Advent Way.



Looking east along Advent Way with busy A406 to right.

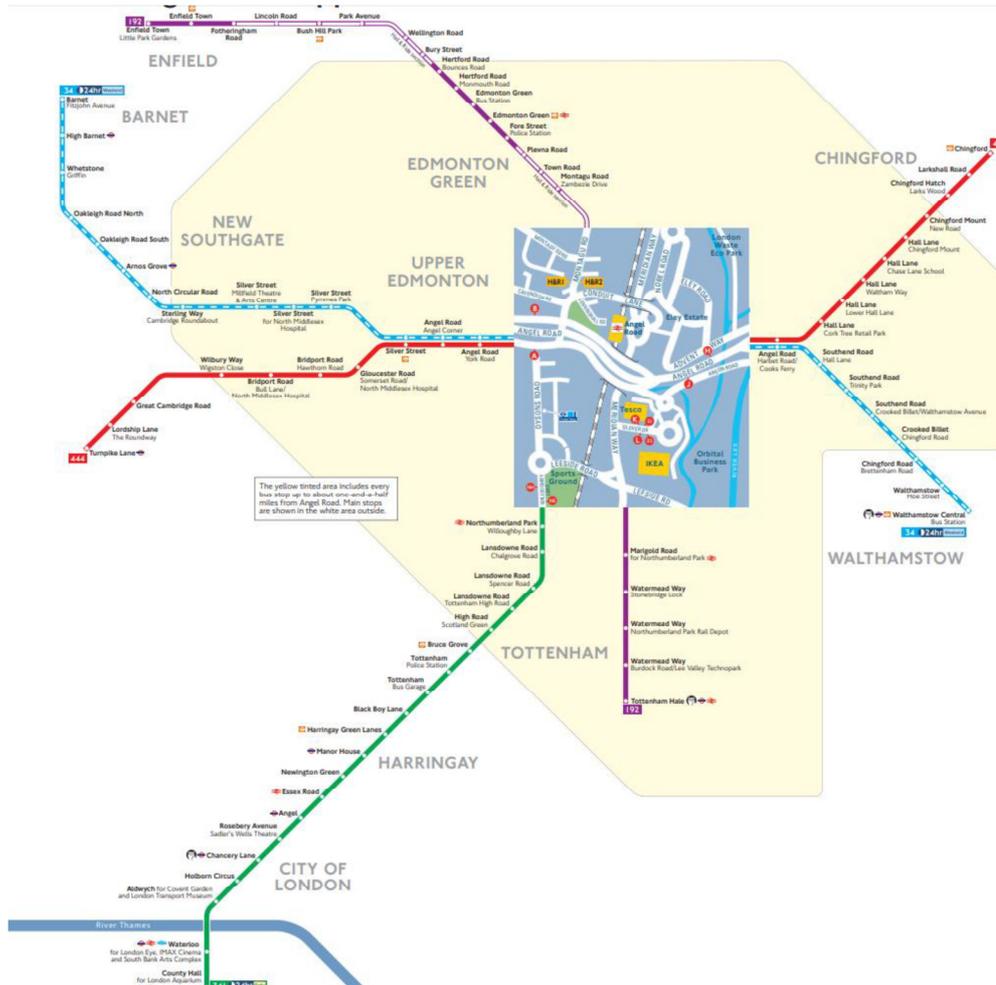
- 3.5.10 Cyclists accessing this route must join via Meridian Way to the west or National Cycle Network Route 1 on the eastern side of the, in both cases traveling under the A406 bridges to access the route.
- 3.5.11 Again, south of Meridian Water site there is an off-road route from the end of Leaside Road that connects with National Cycle Network Route 1 on the east side of the Canal. This can be accessed from parts of Phase Two and Meridian Water development Zone 2, but again is only really likely to be used in daylight hours as this route is not well overlooked and only has intermittent streetlighting.
- 3.5.12 There are therefore limited all day all weather east west routes available for cyclists in the local area, within or surrounding Meridian Water. Although some cycle routes are provided, the Phase Two site only has a single all mode access directly to Argon Road and the existing environment is dominated in some areas by vehicular traffic and the environment does not promote cycling (in line with the Mayor's Transport Strategy). The eastern and western development zones similarly suffer from the lack of facilities and severance within Meridian Water.

3.6 Accessing the public transport network

- 3.6.1 There are two existing bus routes that run along the A406 north circular (services 34 and 344) served by stop J on the southern side and stop H on the northern side. There is a footbridge across the A406 to the north of Meridian Water which provides access to the eastbound bus stop and the A406 bus services 34 and 344.
- 3.6.2 Route 34 operates between Barnet and Walthamstow and route 44 operates between Chingford and Turnpike Lane. 34 is a 24-hour route on weekends.
- 3.6.3 There are two other bus services (service 192 and 341) that serve Glover Drive (stops K and L) (located between Development Zone 2 and 3). These bus stops lie south of the Tesco Store and north west of the IKEA Store. Route 192 operates between Enfield and Tottenham Hale, and bus route 341 operates between Glover Drive and Waterloo. 341 is a 24-hour route.
- 3.6.4 A bus spider plan representing the existing bus services can be found in Core Document 36 and is included as Figure 16 (this relates to the

Angel Road station which has now been closed so this map has not been updated, and there is no spider map yet for the new Meridian Water Station that replaced it on TfL's website).

Figure 16: Bus Route Spider Map

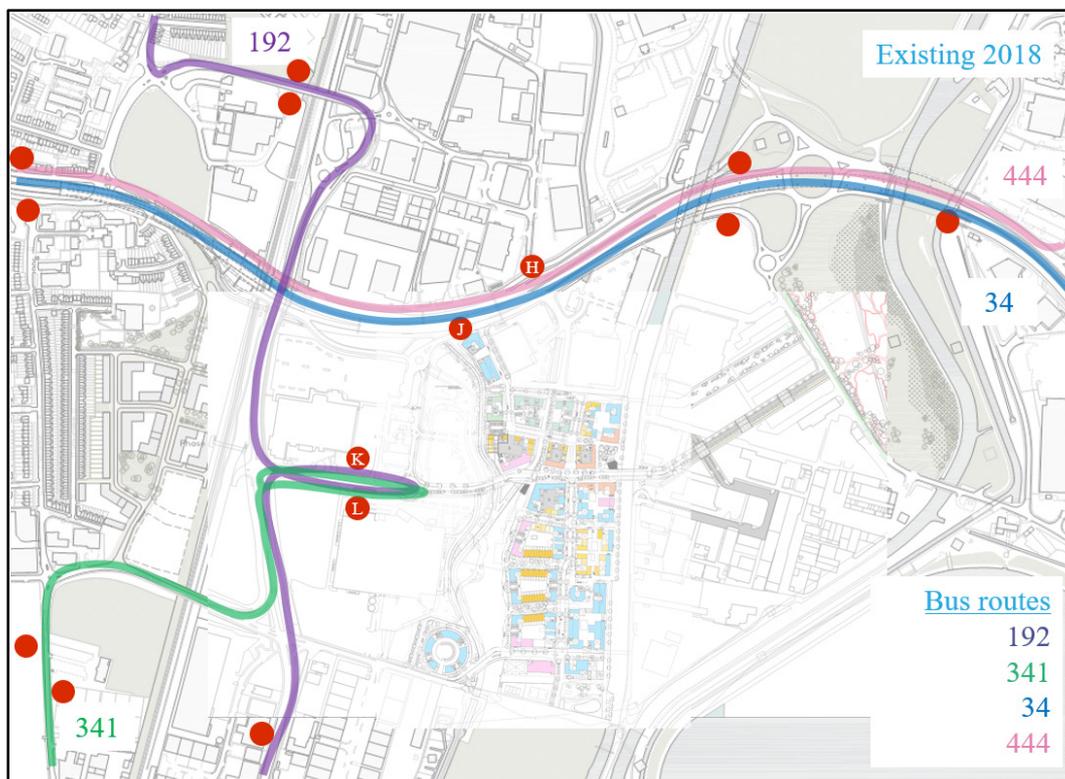


3.6.5 Table 1 sets out the existing routes and existing peak frequencies (which provide a total of 31 buses per hour) and the routes through the site are illustrated in Figure 17.

Table 1: Existing bus routes

Bus Route	Existing bus stops	Description	Peak frequency (buses per hour per direction)
192	Glover Drive	Enfield – Edmonton Green – Glover Drive – Tottenham Hale	8
341	Glover Drive	Glover Drive – Northumberland Park – Tottenham – Manor House – Angel – Holborn Circus – Waterloo – County Hall	6
34	A406	Barnet – Arnos Grove – Silver Street – A406 - Walthamstow	10
444	A406	Chingford – A406 – Silver Street – Turnpike Lane	7

Figure 17: Existing bus routes



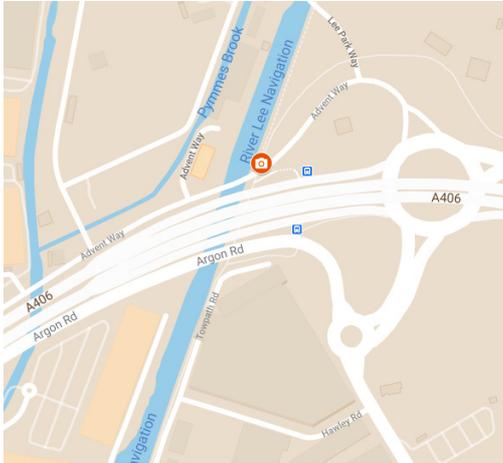
3.6.6 I have illustrated that the shortest existing walking routes from the Phase Two site to the Glover Drive bus stops would be northwards out of the Phase Two site, west along Argon Road passing through third party land (IKEA or Tesco) to reach Glover Drive (stops K and L). To avoid IKEA and Tesco land pedestrians would need to continue to walk westwards along Argon Road, via a stepped pedestrian access to the busy Meridian Way then south to connect back to Glover Drive.

This walk distance is 700m from the edge of the site, and some 930m from the centre of the site which is a 12 minute walk.

- 3.6.7 In order to encourage use of public transport a walk distance of up to 400m is generally adopted, but shorter distances are encouraged. TfL only take into account bus services where the walk distance is less than 640m in their PTAL calculations. Therefore, avoiding Tesco and IKEA land means the existing route 192 and 341 services on Glover Drive would not be taken into account by TfL in assessing the suitability for the site for residential uses.
- 3.6.8 Zones 2 and 3 sit either side of the Glover Drive bus stops served by routes 192 and 341. However, to access service 444 and 34 requires passengers to walk across the stepped footbridge and wait by the busy A406, which is not likely to encourage bus use for anything but absolutely essential trips.
- 3.6.9 Access to development Zones 6 and 7 is along Harbet Road and the eastern end of Argon Road to connect with the westbound services. However to access eastbound services (or to return back from the west) passengers would have to use the unlit National Cycle Network Route 1 under the A406 overbridge (see Figure 18 showing route and overgrown access). If passengers try to walk around the Cooks Ferry Roundabout to access the bus stops there is no continuous footway and passengers would need to walk on the road or climb over existing safety barriers.

Figure 18: National Cycle Network Route 1 under the A406 overbridge

Location Plan:



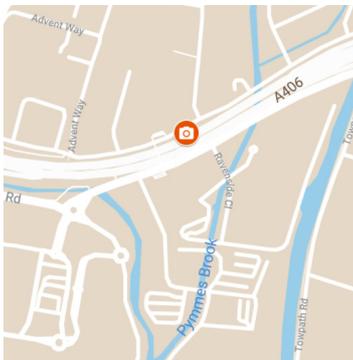
A406 underpass.



3.6.10 The wider bus catchment is shown in Figure 20, and is a real world version of the diagrammatic spider plan shown in Figure 16. This shows that the existing bus routes in or immediately adjacent to the Meridian Water do have good balanced catchment within the wider area. However at present only the western portion of the site (Zones 1, 2 and 3) has access to two of these services (192 and 341 on Glover Drive) and access to the North Circular services (44 and 34) requires passengers to walk over a stepped footbridge and wait next to the busy A406.

Figure 19: A406 Bus Stops

Location Plan:

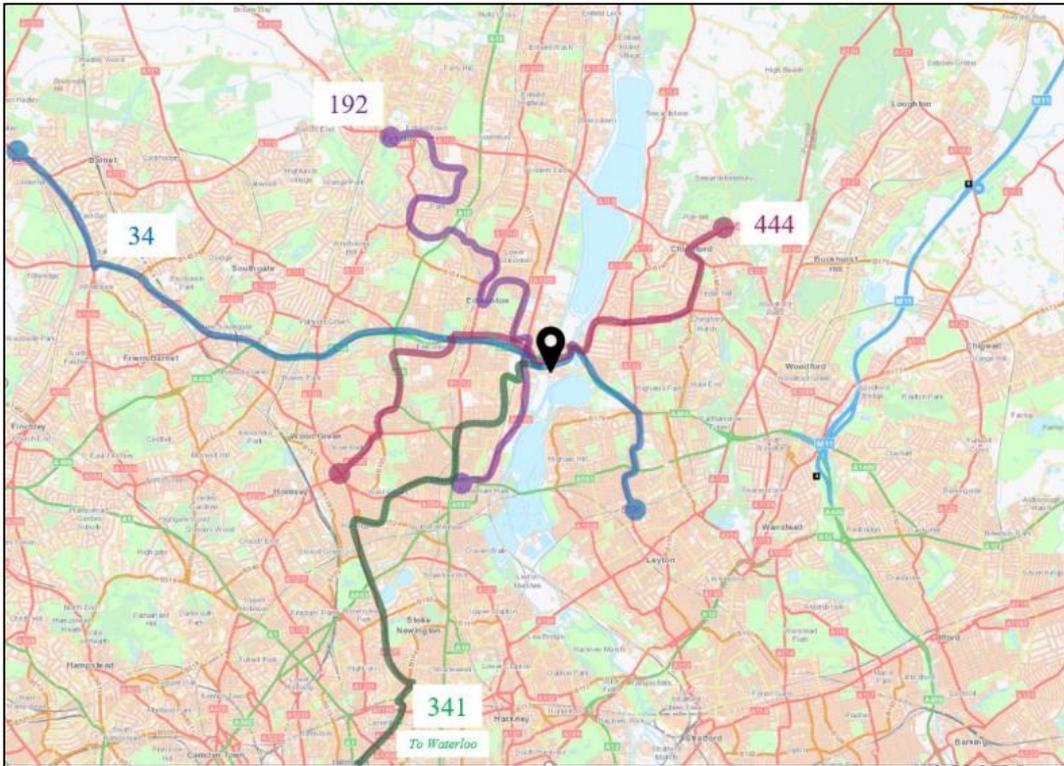


A406 Bus Stops



A406 Bus Stops

Figure 20: Wider Bus catchment



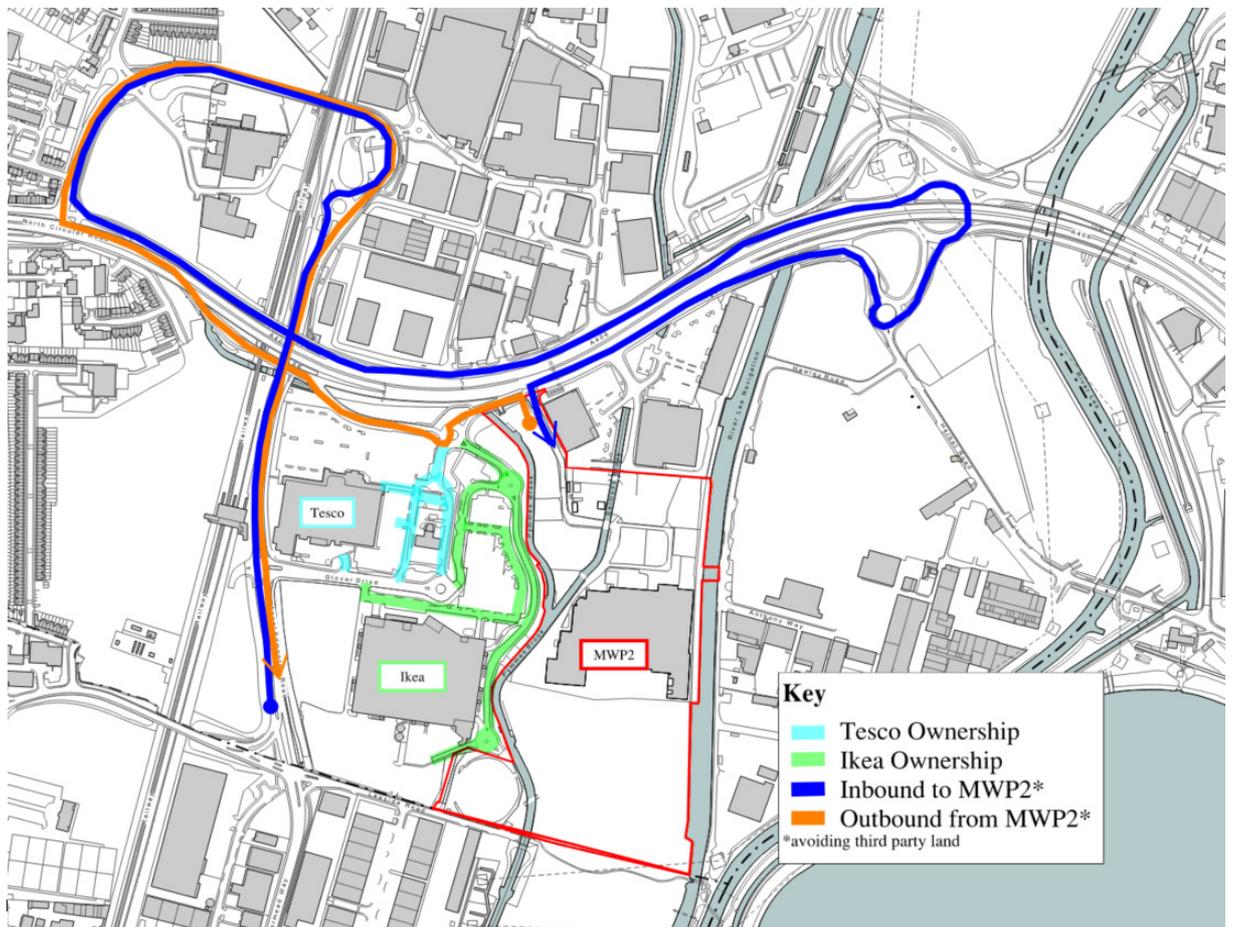
3.6.11 Improvements to the range of services on Glover Drive are not presently possible as the road is currently a dead end bounded by private Tesco and IKEA land ownerships.

3.7 Vehicle Access

3.7.1 The wider highway network illustrated in Figure 21 shows that the Lee Valley acts as a key constraint to east west movement for vehicles including buses, as emphasised above.

- 3.7.2 I again refer to the somewhat isolated Phase Two site in the first instance and then consider the entirety of Meridian Water.
- 3.7.3 Leaside Road runs along the southern boundary of Meridian Water and provides access to the small gasholder site within Phase Two, west of Pymme’s Brook (SE portion of Meridian Water Zone 2). Leaside Road also provides access to industrial units located to the south.
- 3.7.4 The main Phase Two site (Zones 4 and 5) occupied by the Orbital Business Park is accessed off Argon Road from the north. Argon Road provides access to the A406 to the east via Cook’s Ferry roundabout, and to the west via a slip road adjacent to the Tesco Store to the A406.
- 3.7.5 Access to Angel Edmonton Way/Meridian Way southwards towards Tottenham can be gained by passing through third party Tesco or IKEA land. However, to avoid third party land requires a very convoluted route via Montagu Road and Conduit Road as illustrated in Figure 22. Core Document 36 (Section 7.6.2) identifies that the junctions of Montagu Road and North Circular, and Montagu Road with Conduit Lane already suffer from peak hour traffic congestion.

Figure 22: Vehicles routes from Phase Two avoiding Tesco and IKEA Land



- 3.7.6 Zones 2 and 3 can access Meridian Way via Glover Drive and the A406 via Argon Road. Zones 6 and 7 can access the A406 but suffer from the same challenges accessing Meridian Way to travel south, avoiding the private Tesco and IKEA land illustrated in Figure 22.
- 3.7.7 Existing east west vehicular access utilising adopted public highway is therefore heavily constrained with the main two-way access provided by the A406 north circular.

4 Description of the Strategic Infrastructure Works and Order Land

4.1.1 The SIW are an essential element of the Scheme as defined in the Statement of Reasons and explained in the evidence of Mr Peter George and Mr John Reid. The works are required to enable the delivery of Phase Two and the subsequent phases of development at Meridian Water. In summary, they comprise the construction of new roads, footpaths, cycleways and bridges, rail improvements, land remediation, new utilities and the diversion of existing utilities and flood alleviation works. The SIW are shown diagrammatically and illustratively on the drawings at Core Document 8. This plan has been updated and I have reproduced an extract of this plan as Figure 23. I will describe the transport elements of the SIW shown in green.

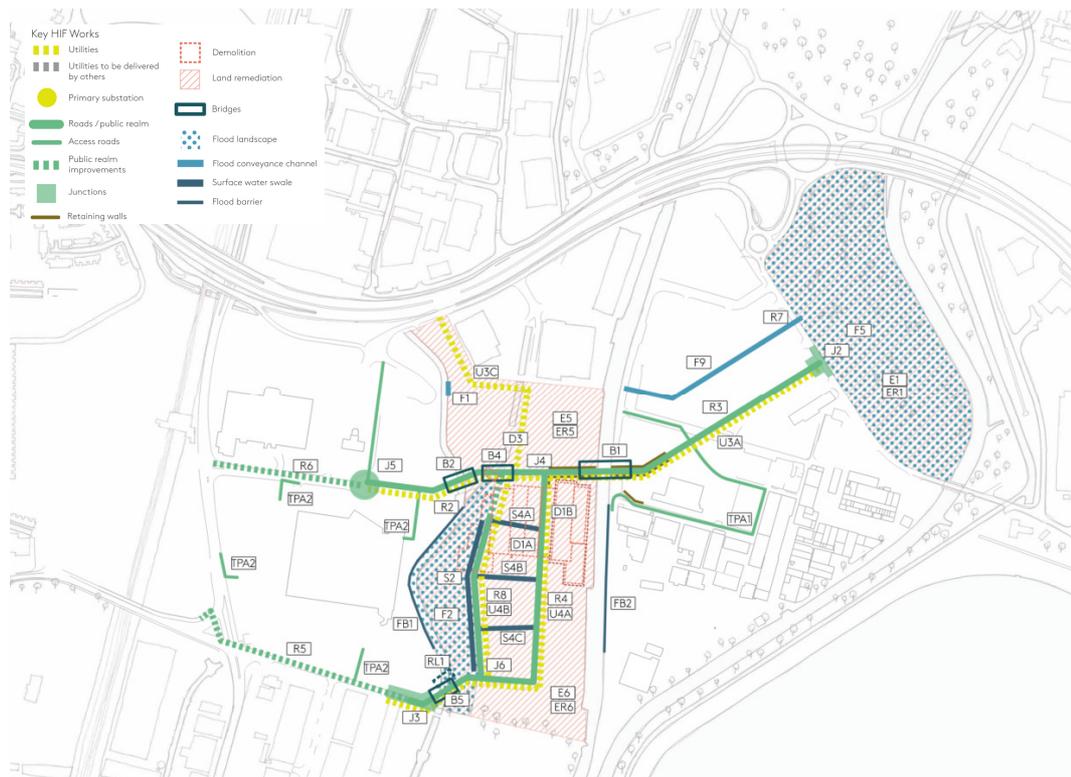


Figure 23: Strategic Infrastructure Works

4.1.2 Full planning permission (Ref: 19/02717/RE3) for the SIW was granted on 22 July 2020 (Core Document 30). A separate linked planning application for a low-level flood restraint barrier adjacent to the Canal Towpath was granted on 23 July 2020 (Ref: 20/00112/RE4, Core Document 31).

- 4.1.3 The highways elements of the SIW are described below (references in brackets refer to the labelling on the drawing at Core Document 8 and Figure 33):

4.2 The Central Spine Road

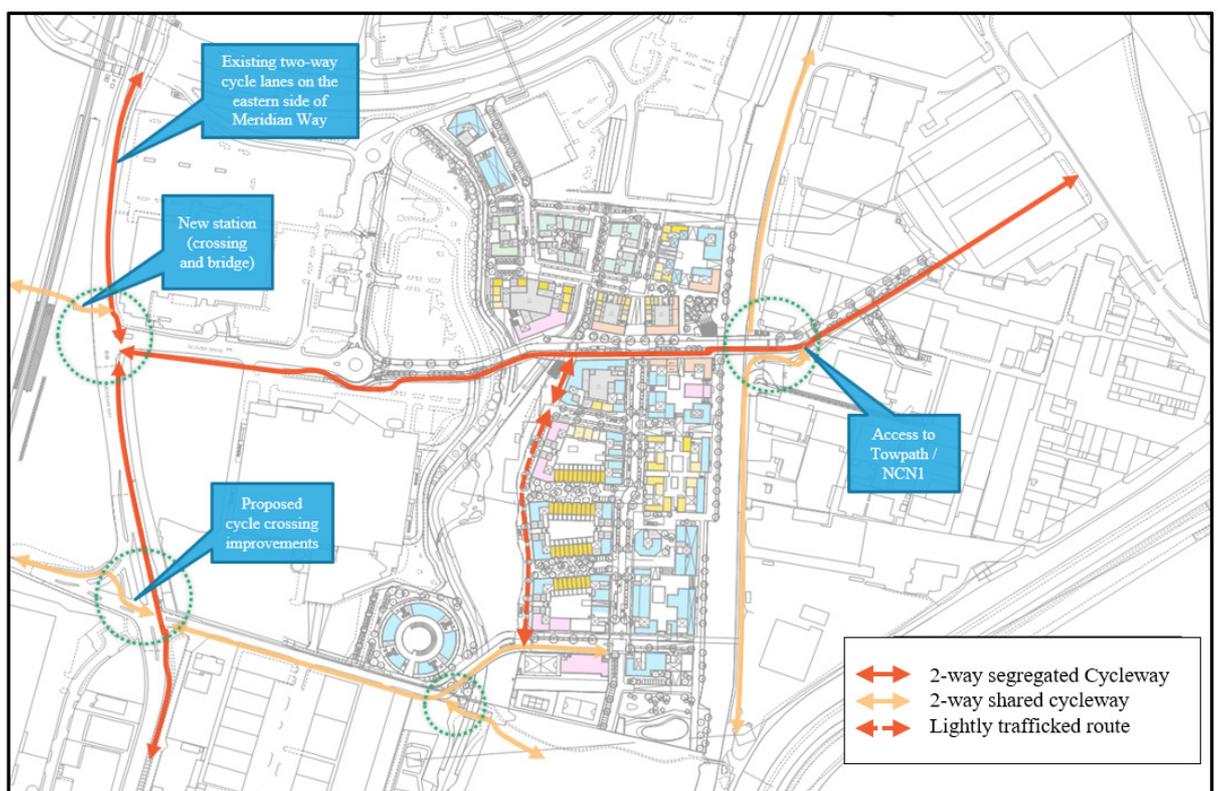
- 4.2.1 **The Central Spine Road** (R2, R3 and R6) – is a new tree-lined east-west boulevard connecting to Glover Drive and new the Meridian Water Station in the west, crossing the Pymmes Brook and Salmon’s Brook and Canal to Harbet Road in the east that sits within the Central Spine Corridor that is identified in Core Document 17.
- 4.2.2 The erection of bridges and associated works are required to enable the Central Spine Road, comprising the Lee Navigation Bridge, the Pymmes Brook North Bridge and the Salmons Brook Bridge (shown as B1, B2, and B4 respectively).
- 4.2.3 The Central Spine Road is required in the proposed form and location for the reasons I set out below and will deliver significant improvements to east-west connectivity across the site for buses, pedestrians and cyclists (as I explain further in Section 5 of this evidence).
- 4.2.4 The principle of the proposed Central Spine Road is well established in the Council's adopted planning policy as previously referred to in paragraph 3.1.8, which specifically identifies the need to provide a new spine running through Meridian Water, linking new and existing communities to employment and social infrastructure, the Meridian Water Station and the LVRP. By connecting the new rail station to other parts of Meridian Water, public transport accessibility throughout the Meridian Water will be improved.
- 4.2.5 The alignment of the Central Spine Road has been designed in accordance with the ELAAP policy EL6 (illustrated on Figure 5.1 of Core Document 17) to maximise the accessibility of Phase Two and future development to Meridian Water Station by minimising walking distances from future development north and south of the Central Spine Road. The lower the walk distance the more attractive utilising buses will be for future residents or employees. This will also create efficient plots to maximise the delivery of homes.

- 4.2.6 The Central Spine Road will provide direct and visual connection to Meridian Water Station and also through the centre of the site to the new Edmonton Marshes Park. Bridges B2 and B4 will span the brooks and provide an east-west connection whilst retaining the industrial heritages of the confluence point of the brooks where a viewing point will be provided as part of Phase Two.
- 4.2.7 The River Lee Navigation Bridge (B1) will extend this connection further to the east, providing resilience of access for emergency vehicles and buses and will connect Phase Two with the Strategic Industrial Location ('SIL', the part of the designated Central Leaside Strategic Industrial Location within Meridian Water located in Zones 6 and 7) on Harbet Road, the green space to the east and the wider LVRP. The width of the Central Spine Road has been designed to accommodate buses, pedestrians, cycle facilities and landscaping appropriate on the scale proposed by the Scheme and to encourage use of sustainable modes of transport.
- 4.2.8 Meridian Water currently has poor permeability for vehicles, pedestrians and cyclists due to severance caused by existing water courses, the high proportion of goods vehicles on local industrial estate roads and heavy traffic flows on the North Circular (A406) to the north of the site. The Central Spine Road is intended to address this.
- 4.2.9 The proposed alignment of the Central Spine Road will enable efficient bus routing through the Meridian Water area and bus-rail interchange at Meridian Water Station. In order to prevent additional east west highway capacity generating greater car trips through the site, a bus gate will be provided at the Canal crossing bridge (Bridge B1).
- 4.2.10 In Section 5 of my evidence I have set out more detail regarding the expected bus route diversions that are enabled by the provision of the Central Spine Road. The width of the road would be 6.4m to allow two way bus operation (that width being acceptable for TfL Buses). The alignment of the Central Spine Road would also be able to accommodate further enhancements to the bus network to serve Phase Two and future phases of development³.

³ As envisaged within the Bus Strategy Appendix L to the Transport Assessment accompanying the Phase Two and SIW planning applications.

- 4.2.11 A dedicated, segregated two-way cycle track (4m in width narrowing to 3.5m in places) will be provided along the southern side of the Central Spine Road to form direct routes across the Meridian Water area, linking the existing cycle route on Meridian Way with the Phase Two development, public transport services along the route, and the existing strategic cycle routes to the east, National Cycle Network Route 1 and Harbet Road to overcome the current lack of permeability for active modes. Figure 24 shows the Central Spine Road cycle route and connection with National Cycle Network Route 1.

Figure 24: Cycle Route connections



- 4.2.12 In order to follow the alignment corridor set out in Core Document 17 and connect Glover Drive with the rest of the site, Section R2 of the Central Spine Road has to pass through IKEA land that stretches from Leaside Road all the way to Argon Road. Plots 9 and 38 of the Order Land are required to deliver the alignment.
- 4.2.13 To ensure that the quality of pedestrian and cycle facilities are maintained additional land on the south side of Glover Drive (Plot 4) is required to enable a separate adequate footway (2.5m) and

cycleway (4m) with 0.5m safety margin and narrow 0.5m planting strip at the back of the footway to be provided.

- 4.2.14 Rights to implement these works and amended access works for the IKEA Store require Plots 5, 10, 11, 18, 19, 35. In addition works to amend the car park egress to the east of the existing store require access to Plots 73, and 74.
- 4.2.15 Due to the phasing of the Scheme, the Central Spine Road has been designed to maintain access to existing occupiers such as Tesco and IKEA prior to development of Zones 2 and 3. These works will involve new access arrangements for IKEA and Tesco Stores, which I describe further below. In addition, revisions to the Arriva Bus Depot and other industrial uses between Harbet Road and Canal are described below.
- 4.2.16 The Central Spine Road is identified in the Local Plan (Core Document 17) and the ELAAP as a key policy requirement and therefore is in accordance with Local Plan and Area Plan policy. The Central Spine Road provides important walking, cycling and public transport connections that enable the delivery of new residential and employment uses on the site. The development creates economic benefits, through the activity of creating the development, the prosperity of businesses that will be accommodated and the ability for residents to live locally and access employment within the area and central London.
- 4.2.17 The development will promote Active Travel through the provision of new cycling and walking routes, which will ensure the well-being and health of residents, employees, not only within the site but in the surrounding areas who will benefit from the strategic safe connections through the site. This social benefit is amplified by better access to waterways and open spaces delivered through the developments.
- 4.2.18 The provision of sustainable transport choices (bus, walk cycle) facilitated by the Central Spine Road ensures an environmentally acceptable solution that improves the opportunities for sustainable living and working in the Borough. This supports NPPF, London Plan, Local Plan, Mayors Transport Strategy and ELAAP objectives as explained further in Paul Jarvis's planning evidence.

4.3 Leaside Link Road

- 4.3.1 **Leeside Link Road (R4).** This link will include the erection of a new bridge (to be known as the Pymmes Brook South Bridge (B5)) and associated works to span Pymmes Brook and will provide improved north-south connectivity for vehicles, pedestrians and cyclists, accommodating facilities for buses to enter/exit the site using Leeside Road.
- 4.3.2 The Leeside Link Road will connect with the Central Spine Road to provide an attractive walking and cycling route to the Meridian Water Station for the plots of land in the southern part of Phase Two (Zone 5). A new bridge (B5) will provide connectivity from Leeside Road into the centre of Meridian Water. This is a natural extension of the existing road network and will turn Leeside Road from an industrial dead-end road into an urban street suitable for all modes of transport and thereby increase permeability of Meridian Water to the south and west.
- 4.3.3 There is an existing bridge in the location of the proposed crossing of the Pymmes Brook South Bridge (B5), but it is not a highway bridge, so having regard to its age and condition, it is not suitable for use as part of the Leeside Link Road.
- 4.3.4 The proposed width of the Leeside Link Road will be sufficient to accommodate walking and cycling facilities, infrastructure for buses and private vehicles and landscaping appropriate for a development of the scale proposed in Phase Two and Meridian Water.
- 4.3.5 The proposed alignment of the Leeside Link Road will provide direct access to Leeside Road from Phase Two and forms an appropriate bridge crossing of Pymmes Brook to connect with Leeside Road. The proposed alignment also maintains sufficient land within the gasholder site (part of Zone 2) to deliver viable new housing. The bridge will be on Council owned land and will not affect Tottenham Marshes which is an important public open space owned by the Lee Valley Regional Park Authority ('LVRPA').
- 4.3.6 The Leeside Link Road will connect with the shared pedestrian and cycle route along the north side of Leeside Road which provides much improved access to developments south of Leeside Road and a more direct connection to Leeside Road west of Meridian Way. Without this improved link pedestrians and cyclists would need to use the proposed cycle route on the Central Spine Road and Glover Drive and

then use the cycle route along the eastern side of Meridian Way. As I have explained in section 3.4.1 , Meridian Way is a very busy road (c. 3500veh/hr two-way in peak periods) and a less suitable cycling and walking environment.

- 4.3.7 The Leaside Link Road therefore significantly increases the east-west and north-south permeability of Phase Two and wider Meridian Water for pedestrians and cyclists. The cycle facilities extend along the Leaside Link in an east west alignment to its turn northwards. In the Scheme a school is envisaged in the southern plot and this provision would enable segregated access for cycles to the school. It may also allow a future east west connection to serve future connections or development in Zones 6 and 7.
- 4.3.8 Cyclists would be able to utilise Leaside Road on carriageway or utilise the Parkside Link (R8) described in section 4.4 below.
- 4.3.9 The Leaside Link Road provides the opportunity for efficient bus routing through Phase Two and Meridian Water and allows for greater flexibility for route options. Service 192 that runs along Meridian Way currently takes a short diversion into Glover Drive to serve the existing bus stops. TfL (and bus operators generally) would not support a longer dead end diversion because existing passengers become frustrated by doubling back from a dead end and this reduces patronage. By providing a through route it allows buses to enter from Glover Drive and exit via Leaside Road with less frustration to existing passengers whilst allowing new passengers to be served.
- 4.3.10 The Leaside Link would also allow flexibility for additional east west bus services to be routed along the Central Spine Road and Leaside Road in the future as envisaged within the Bus Strategy appended to Core Document 36.
- 4.3.11 The Leaside Link Road allows for the efficient siting of bus stops, maximising bus stop catchments within Phase Two site and thereby minimising walking distances to bus stops. Comfortable walking distances and proposed high quality pedestrian environments will help to make bus use more attractive and help support lower car parking levels across Phase Two and the wider Scheme in accordance with the Mayor's Transport Strategy.

- 4.3.12 Without the Leaside Link Road therefore there is a risk that the diversion of bus service 192 along the Central Spine Road would not be possible, and future improvements would also not be delivered. This would result in a lower level of public transport accessibility for the Phase Two site.
- 4.3.13 Allowing for vehicular movements along the Leaside Link Road into Phase Two and the wider Scheme will provide an additional point of access. This will provide greater resilience of access for emergency vehicles and buses. It will also balance access for private vehicles to facilitate route choice, thereby increasing the performance resilience of junctions with Meridian Way. The existing Meridian Way junction at Glover Drive currently operates at or close to capacity and the additional vehicular access at the Leaside Link Road will help to balance traffic flows between the access junctions utilising what capacity is available for the future.
- 4.3.14 The Leaside Link Road will provide direct access to some retail and residential cores along its length and for buildings fronting the Central Spine Road.
- 4.3.15 The main sections of the Leaside Link Road (R4, J6 Bridge B5 and J3) require Plots 72, 73, 89, 91, 90, and 92. Additional land plots 79, 81 and 82 are required to enable the Bridge B5 to be constructed.
- 4.3.16 In addition, the provision of the improved cycle pedestrian facilities comprising a shared cycle pedestrian route along the northside of Leaside Road also requires plots 94 and 99 that comprise the south edge of the IKEA site.

4.4 Parkside Link

- 4.4.1 The **Parkside Link** (R8) provides pedestrian access to the Brooks Park (a new public park to be created through part of the SIW) and Riverside Naturalisation and a more direct pedestrian and cycle access between Leaside Link Road and the Central Spine Road. The southern section of the Parkside Link would serve some development access included in the Phase Two part of the Scheme. The northern section would provide a segregated traffic free route between this street and the Central Spine Road, and a crossing on the Central Spine Road to connect to the northern part of Phase Two site.

4.5 Access Works and North South Link

- 4.5.1 In addition to the Central Spine Road and the Leaside Link Road there are other Access Works to provide new and altered accesses to the IKEA Store (TPA2 on Figure 23), a new north-south link between Argon Road and Glover Drive (J5), the creation of a link between the Central Spine Road and Anthony Way (TPA1 on Figure 23) and other improvements to maintain access, along with other ancillary highway works to Glover Drive, Leaside Road and Meridian Way.
- 4.5.2 The Central Spine Road will provide a connection between Glover Drive and Harbet Road and in accordance with the ELAAP would run through the IKEA Store (for example Plots 9 and 38). The Central Spine Road will therefore affect access between the existing IKEA Store and its northern surface level car park and internal access road. There will be minimal impact on Tesco's access routes as a result of the Central Spine Road because the Tesco Store sits between Glover Drive and Argon Road with accesses onto both roads.
- 4.5.3 A new north-south link road (the **North South Link Road**) will be provided incorporating part of the existing Tesco southbound exit carriageway and part of IKEA's northern car park. The design of the route had been discussed and agreed with Tesco and IKEA prior to submission of the SIW Planning Application. The North South link will provide an adoptable public highway connecting Glover Drive to Argon Road.
- 4.5.4 The North South Link Road will enable a public adopted highway connection between Argon Road and Glover Drive, significantly simplifying access for the northern section of Phase Two and between Zones 6 and 7 and Meridian Way/Leaside Road.
- 4.5.5 The connection of the North South Link Road to the Argon Road roundabout maintains the existing main Tesco Store access from the roundabout to the Tesco Store car park. The North South Link comprises Plots 9 (IKEA) and 12 (Tesco), and 16, to make the connection with the Argon Road roundabout, whilst access to Plot 6 is required to provide a northbound connection into the Tesco Store car park for customers who have utilised the Tesco petrol filling station prior to arriving at the store. Access onto the North South Link Road from the car park and petrol filling station is also provided and

facilitated through Plot 6. Access onto Plot 13 is required to facilitate associated landscape works.

- 4.5.6 Access for a tanker to serve the Tesco petrol filling station is currently right turn exit only and onto the Glover Drive roundabout. This will be amended to left-turn exit only onto the new North South Link Road. This provides a more direct route to the strategic highway network from the Argon Road roundabout.
- 4.5.7 There will also be a minor amendment to the northern kerbline on Glover Drive west of the bus stop to help shorten the crossing distance for pedestrians. These amendments ensure safe and efficient operation of the highway network and these arrangements have been shared and discussed with IKEA, Tesco and the local planning authority's transport officers and are in principle agreed.
- 4.5.8 The Argon Road roundabout Plot 14 is required to ensure that a continuous adopted highway connection can be provided between Argon Road and the North South Link Road and to enable any re-profiling and resurfacing works required to facilitate the connection.
- 4.5.9 The North South Link Road will continue to enable IKEA customers to access the Store (south of Glover Drive) from the Cooks Ferry Roundabout and in turn the A406, and also continues to provide access to Argon Road west to the A406. As a result of the introduction of this route, a number of changes are required to the existing arrangements to both the Tesco Store and IKEA Store to maintain access for customers or for future development purposes.
- 4.5.10 The Central Spine Road has been designed to accommodate the needs of IKEA and Tesco. The access designs have been developed to maintain access, retain store visibility and quality of the customer journey, and the continuation of servicing and delivery arrangements for adjacent occupiers.
- 4.5.11 The **Access Works** will provide alternative access points into the IKEA Store at Leaside Road, Meridian Water and Glover Drive. This will minimise the IKEA Store customer and servicing circulation route (and the subsequent diversion route as the result of the Central Spine Road) from the local highway network into the store. This provides IKEA with the opportunity to create a new car park south of Glover Drive ('IKEA West Car Park'), the proposed IKEA Store car

park consisting of 393 parking spaces relocated from the existing northern car park and store front to the existing hard standing areas to the west and south of the IKEA Store which was granted planning permission dated 18 July 2020 with reference 20/000111/RE4 (Core Document 34).

4.5.12 The Access Works related to IKEA comprise

- Amendments to a currently unused access to the car park from Glover Drive to enable left in and left out access. This would allow IKEA customers travelling from the North South Link Road to access the car park Plots 8, 9, 4, 2 and 1.
- To allow customers to egress the site and return back via the North South link Road the existing access to the east of the store is amended and a left out only junction formed with the Central Spine Road. This requires plots 73 and 74 which also enables an alternative pedestrian connection alongside the access route to the gasholder part of the Phase Two area.
- A left in access from Meridian Way that requires amendments to the existing highway and access to Plot 100 to ensure a ramped access to tie in with existing site levels.
- A two-way access from Leaside Road into the new car park (Plots 99 and 98), together with the widening of the Leaside Road approach to the Meridian Water junction to provide additional capacity for customer flows.
- A new service yard access from Leaside Road (Plots 99 to facilitate the access road amendments and 96 and 97 to construct the ramped access and works to the service yard itself). The existing vehicular service yard access would be closed from Plot 73, although the existing ramp would remain.

4.5.13 Where the Central Spine Road crosses the Canal, the permanent closure of Towpath Road to vehicular traffic will be necessary due to the reduced headroom clearance beneath the bridge and the bridge landing requirements.

4.5.14 Most of the existing industrial uses in the SIL can be accessed directly from Harbet Road using private roads. However, access to the Arriva Bus Depot (the depot serving Arriva, a London bus operator located at the south of the SIL currently accessed via Towpath Road) and to some other occupiers along Anthony Way would be affected. The SIW therefore also includes a highway arrangement to maintain access for the Arriva Bus Depot and other industrial uses which may currently be using Towpath Road. The existing roads are narrow and

widening works are proposed, together with a ‘jug handle’ turn to provide for visibility before entering the existing single track access road alongside the towpath. The location of the Arriva garage is shown in Figure 25.

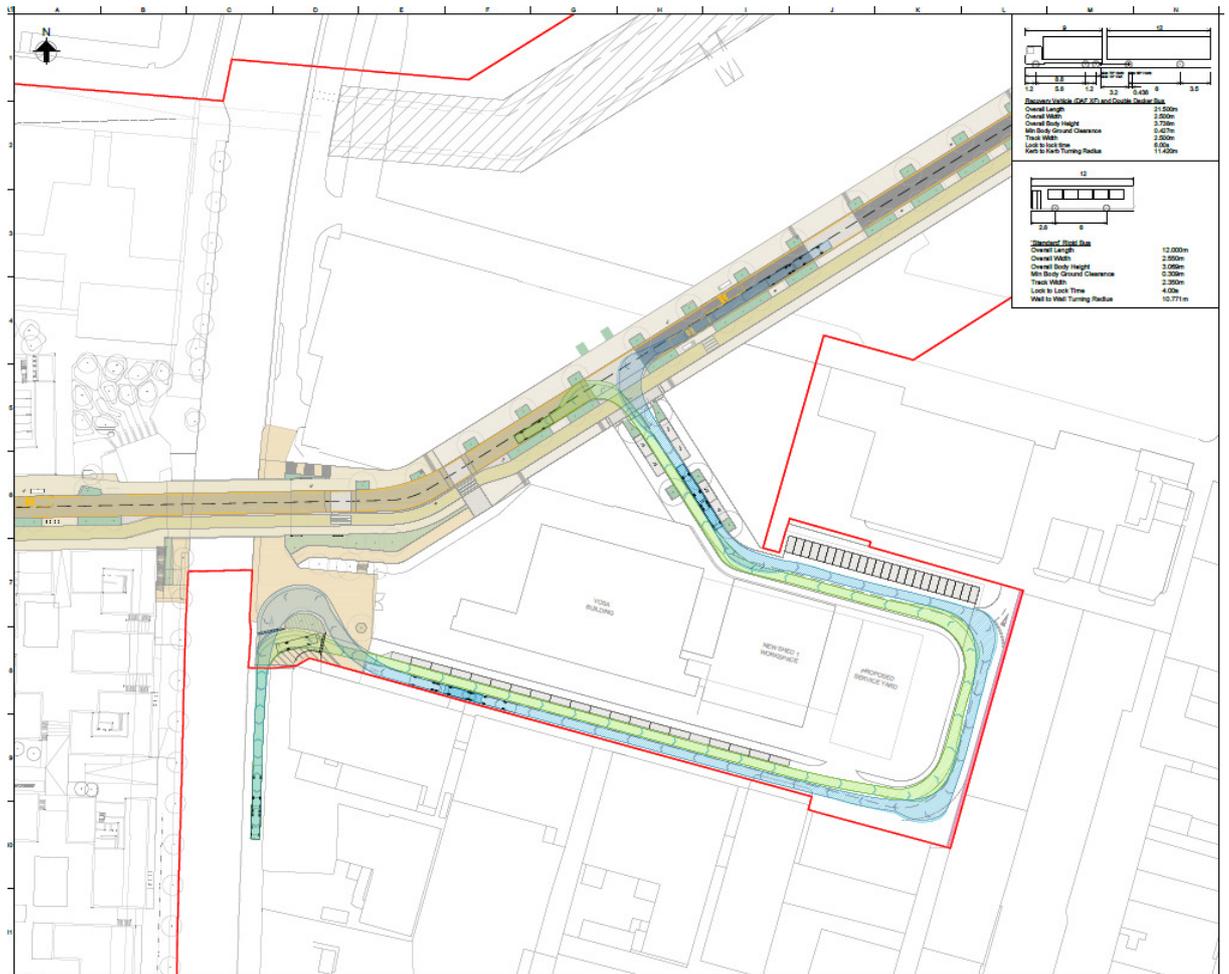


Figure 25: Existing Arriva Bus Depot Location

4.5.15 The arrangement shown in Figure 26 has been developed in discussions with Arriva and other landowners and swept path analysis was undertaken for a low-loader towing a bus, as there are instances where this manoeuvre may conceivably be required⁴.

⁴ Swept path analysis covering this movement is shown in more detail in the Transport Assessment Appendix C

Figure 26: Proposed access to Arriva Bus depot



4.5.16 The improvements to enable Anthony Way to be utilised as a new route for buses include the re-provision of formal parking spaces, widening of the road to allow two-way bus movements and the introduction of a new pedestrian footway on one side of the road where space allows. This will provide an improved pedestrian and vehicular access route to existing industrial occupiers along Anthony Way and an alternative access to the Arriva Bus Depot.

5 Benefits of Strategic Infrastructure Works

5.1 Introduction

5.1.1 The SIW will deliver the strategic connections that help to resolve the existing access issues and constraints and enable the delivery of a sustainable development in accordance with policy. An overview highway design drawing of the SIW, as shown in Core Document 9, shows the form of the new and amended highway junctions to provide vehicular access to the site.

5.1.2 Key transport features of the works have been described in Section 4 above that identify the purpose and benefits of the SIW. I have reiterated some of those in the following paragraphs, so the benefits are in one section. I have summarised again as follows (it is anticipated that all SIW highways would be adopted and provide public access)

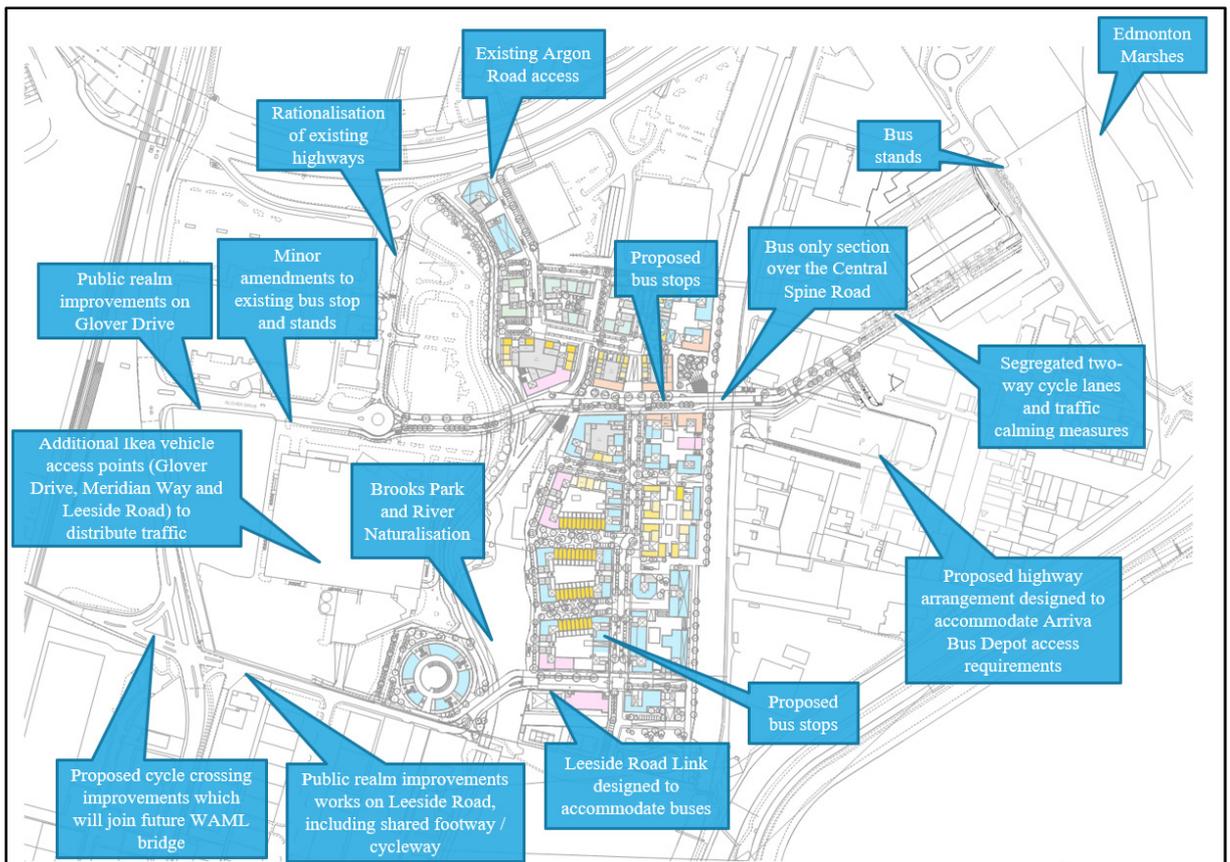
- The Central Spine Road - a new tree-lined east-west boulevard connecting to Glover Drive and new Meridian Water Station in the west, crossing the Pymmes and Salmons Brook and Canal to Harbet Road in the east. This link provides improved connectivity for buses, cycles and pedestrians as well as direct access to development along its length;
- Leaside Link Road – a new link road providing access for cars, pedestrians and cyclists from Leaside Road through to the Central Spine Road. This is a general access corridor that connects the central Phase Two site by all modes to Leaside Road and is essential to enable the 192 bus service to serve the site;
- Leaside Pedestrian and Cycle connection – this provides a low traffic access route and cycle and pedestrian connections between Leaside Road and the Central Spine Road
- Bridges (x4) – erection of bridges and associated works to enable the Central Spine Road and Leaside Link Road to span the Pymmes and Salmons Brook and Canal;
- Access Works – third party access works which include
 - New and altered accesses to the IKEA Store to enable re-provision of car parking west of the existing store (IKEA West Car Park), and better customer access from south and west, new service access from Leaside Road direct to the service yard,
 - A new north-south public highway link between Argon Road and Glover Drive,
 - The creation of a link between the Central Spine Road and Anthony Way and other improvements to maintain access,

- Other ancillary highway works to Glover Drive, Leaside Road and Meridian Way.

5.1.3 The SIW are illustrated in Core Document 9, an extract of which is shown in Figure 3.

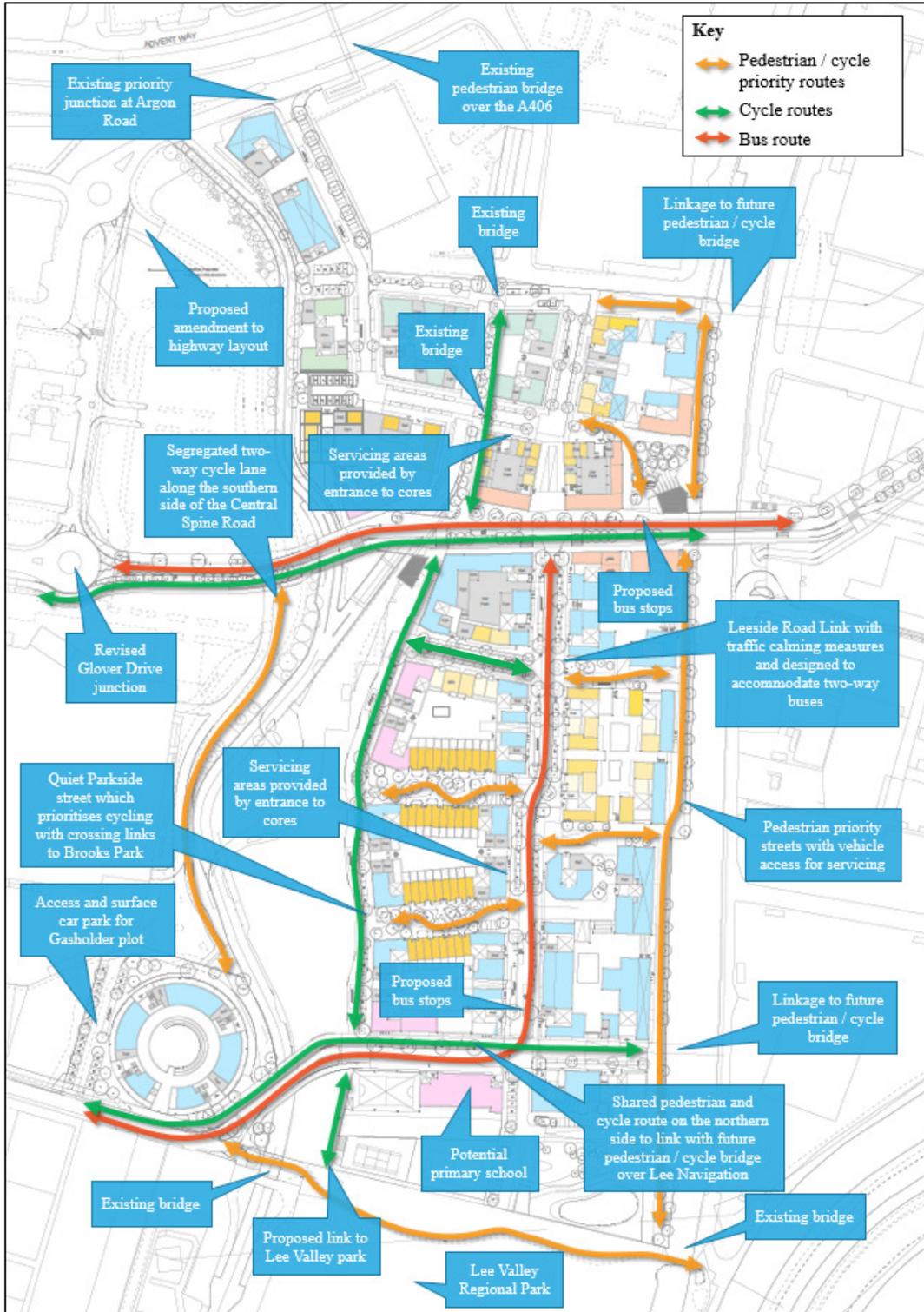
5.1.4 Figure 27 highlights some of the key design elements of the SIW showing how this links with Phase Two development.

Figure 27: Key elements of Phase Two and MWSIW



5.1.5 Figure 28 then shows how the SIW features enable a sustainable and quality environment to be developed within the Phase Two development. An example is the Parkside Link which facilitates connection north connecting across the Central Spine Road into the northern part of Phase Two. Also, the east west permeability through the Phase Two development connects the Parkside, Leaside Link Road and new towpath routes along the Canal.

Figure 28: Principles of the Phase Two masterplan



5.1.6 Below I focus on benefits associated with the various modes and following that consider road safety and the quality of the streets in

terms of their Healthy Streets score and assessment using TfL’s methodology.

5.2 Public Transport

- 5.2.1 The Transport Assessment accompanying the SIW and Phase Two planning applications sets out that the aspiration for the Scheme to deliver a highly sustainable neighbourhood with very low car parking and an emphasis on walking, cycling and public transport. The streets are designed to Healthy Streets principles (which prioritises Active Travel – walking and cycling) and the aspiration will need to be supported by a strong public transport strategy.
- 5.2.2 This approach accords with national planning policy and is in line with London Plan, Mayor’s Transport Strategy and local policy objectives. Paul Jarvis’ evidence highlights the key policies relevant to this inquiry.
- 5.2.3 The Central Spine Road will minimise walking distances to bus stops, allow for the efficient siting of bus stops and maximise bus stop catchments within Meridian Water. Comfortable walking distances and proposed high quality pedestrian environments will help to make bus use more attractive and help support the Council’s proposed lower car parking standards across Phase Two and the wider Scheme.
- 5.2.4 The alignment of the Central Spine Road will improve public transport accessibility which will facilitate higher density development in Phase Two than would otherwise have been appropriate.
- 5.2.5 The Central Spine Road will connect the new residential development to employment uses including the SIL, Harbet Road Business Parks and meanwhile uses in accordance with the Mayor’s Transport Strategy (2018) Proposal 91, Core Document 21 which states that *“The Mayor, through TfL and the boroughs, will explore the role for demand responsive bus services to enable Good Growth, particularly in otherwise difficult-to-serve areas of outer London”*.

- 5.2.6 The Bus Strategy⁵ identifies that accessibility at the Phase Two site and wider masterplan area is poor due to poor connections to existing public transport provision. As the area undergoes regeneration the current bus network will need to be reconfigured to connect the site to both the new Meridian Water Station and the surrounding communities and urban centres.
- 5.2.7 As Meridian Water becomes a local trip attractor for employment and retail, it is expected that demand for more local east-west bus links will increase to accommodate demand for local connectivity in terms of access to new jobs, leisure and rail stations that support north-south public transport access provided by improved rail services.
- 5.2.8 The Bus Strategy report has undertaken a preliminary assessment of bus demand and capacity for Phase Two of the Meridian Water Regeneration Area and set out proposals to reconfigure local bus routes to better serve Meridian Water, improve the attractiveness of travel by bus and significantly increase bus patronage.
- 5.2.9 It is proposed that a number of existing bus routes will be diverted or extended to improve the accessibility of the area and enable the scale and density of development envisaged for Phase Two. These would be added to as future phases of the Scheme progress.
- 5.2.10 The bus amendments proposed for Phase Two are described below and I have included again the existing bus routes (Figure 29) as well as a proposed bus route figure (Figure 30) for convenience.
- 5.2.11 Bus routes 192 and 341 currently serve the Glover Drive bus stops. It is proposed that route 192 will be diverted into the site via the Leaside Link Road and the Central Spine Road. Both of these connections are required to enable service 192 to penetrate the site and serve the Phase Two development. Route 341 is proposed to be extended through the Central Spine Road and terminate at Harbet Road which will benefit the existing SIL existing and future uses on Harbet Road.
- 5.2.12 There are further opportunities to divert routes 34 and 444 into the site via the Central Spine Road to serve east-west destinations. The bus stops on the A406 (stops H and J) are currently within walking

⁵ Provided in Appendix L to the TA

distance but the diversion of these will make the bus services more accessible and bus stop waiting environment far more attractive.

Figure 29: Existing bus routes in area (repeat of Figure 17 earlier in my evidence added to allow comparison between existing and future arrangements)

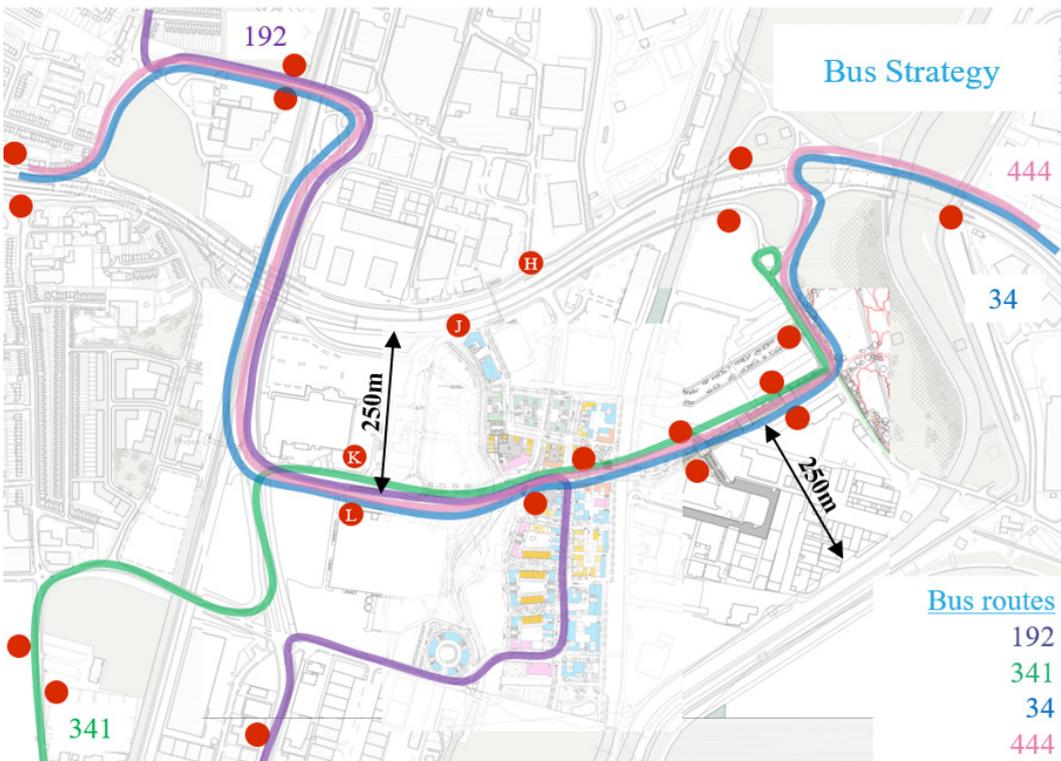
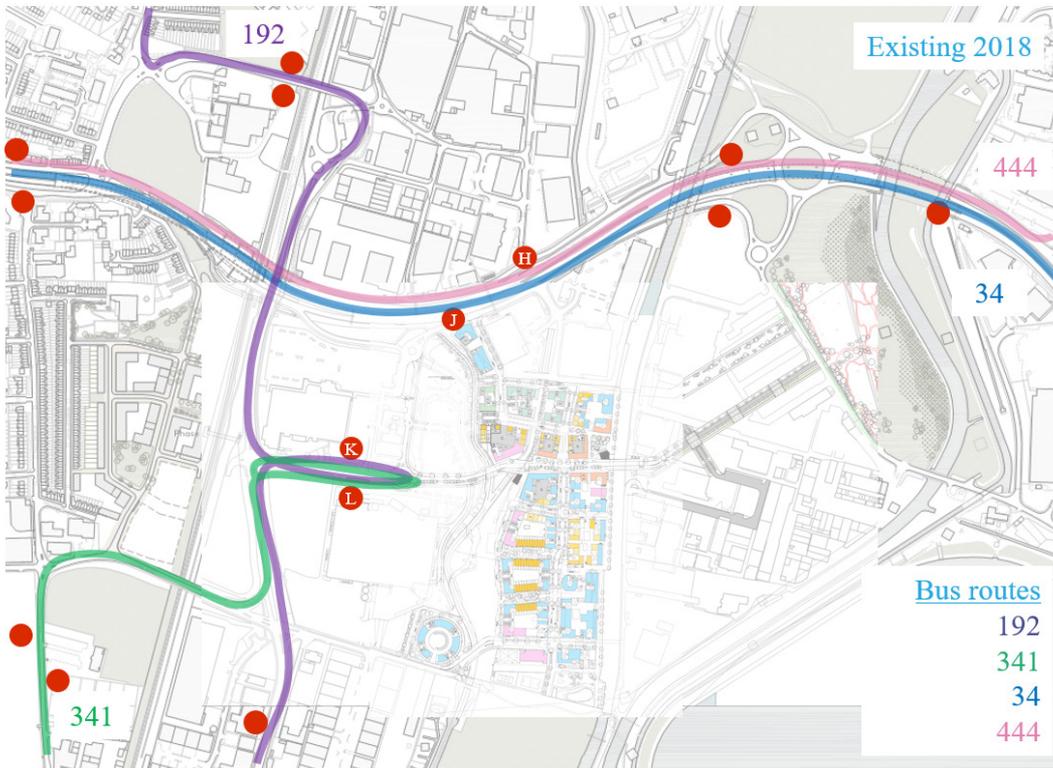


Figure 30: Proposed extensions to Glover Drive and A406 bus routes

- 5.2.13 As noted in section 3 the catchment of the four bus routes taken together serves a range of destinations for Phase Two. The aim is to deliver more diverse and more frequent bus services as the future phases of Meridian Water are built out as described in the Bus Strategy.
- 5.2.14 TfL have indicated that they are in principle supportive of these proposals, with the only exception being the timing of the service 34 diversion into the site. At this stage it is expected that the service 34 will be retained for the time being on the A406 North Circular with Phase Two, and then when future phases of development come forward this service will be diverted to facilitate the development of a greater number of dwellings and employment uses.
- 5.2.15 The Phase Two bus strategy that has been agreed with TfL is indicated on Figure 31.

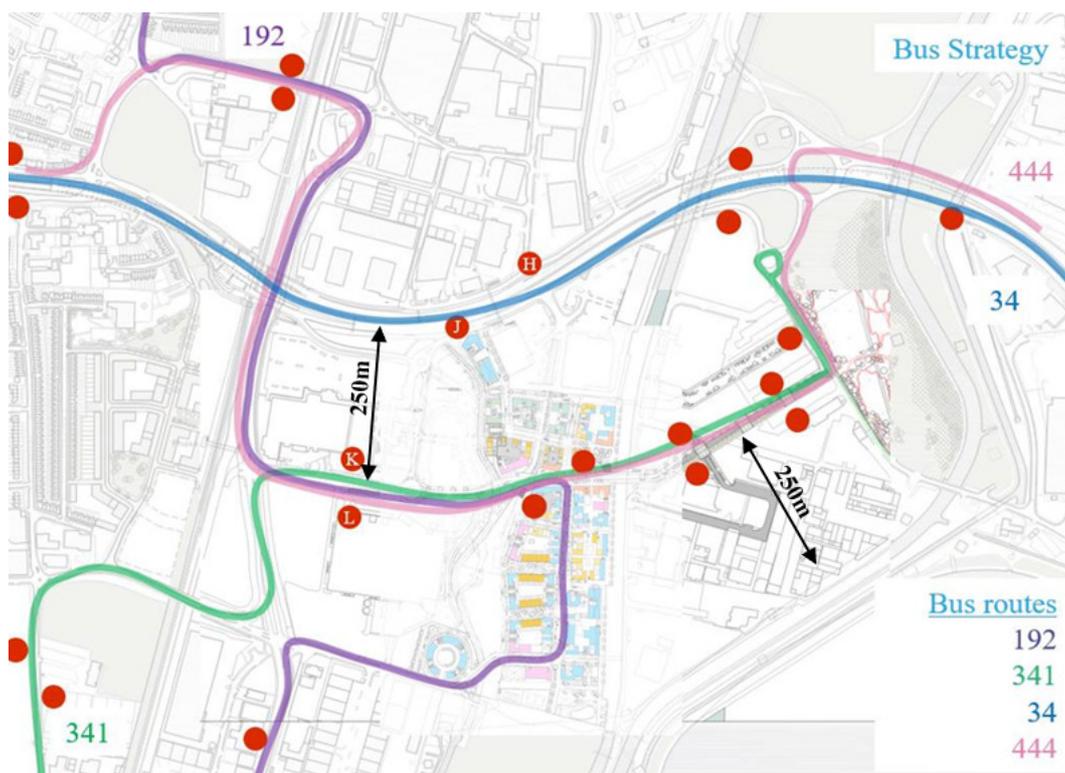


Figure 31: Bus strategy agreed with TfL

- 5.2.16 In addition, some uplift in bus frequencies were also agreed to accommodate increases in passenger numbers, and the Phase Two bus frequencies are indicated in Table 2.

Table 2: Existing and proposed bus routes and frequencies

Bus Route	Existing bus stops	Description	Peak frequency (buses per hour per direction)	Proposed Peak frequency (buses per hour per direction)
192	Glover Drive	Enfield – Edmonton Green – Glover Drive – Tottenham Hale	8	10
341	Glover Drive	Glover Drive – Northumberland Park – Tottenham – Manor House – Angel – Holborn Circus – Waterloo – County Hall	6	7
34	A406	Barnet – Arnos Grove – Silver Street – A406 - Walthamstow	10	10
444	A406	Chingford – A406 – Silver Street – Turnpike Lane	7	9

- 5.2.17 The bus strategy will develop over time from the arrangements set out above in an iterative manner as a 'live' document as the SIW and Phase Two proposals are delivered, and future masterplan phases come forward. The works undertaken as part of the SIW will enable this to happen.
- 5.2.18 Figure 31 shows that with buses running through the centre of Meridian Water walk distances are shortened considerably to around 250m. The proposed Central Spine Road therefore overcomes the key accessibility constraints for Phase Two and Meridian Water as I have highlighted in section 3.6 of my evidence. Access to bus services is significantly improved together with the ability for bus services to be extended and frequencies increased.
- 5.2.19 The nearest rail station to the site is the new Meridian Water Station (which opened June 2019) located to the west of the Meridian Way / Glover Drive junction. The new station results in a significantly shorter walking route to access rail services from the site compared to the previous location of Angel Road station. A new pedestrian crossing is in place on Meridian Way as part of the station works. The station also provides an overbridge which improves pedestrian permeability across the rail lines in this location.
- 5.2.20 Meridian Water Station currently has a service frequency of 2-3 tph (trains per hour), provided mainly via "STAR" services operating between Stratford and Angel Road.
- 5.2.21 A planning pre-condition for Phase One of the masterplan new development (Core Document 29) requires an increase in train service frequencies during the evening peak. The Council are progressing business case appraisal to deliver up to six trains per hour in both directions throughout the day. As well as serving future Meridian Water residents, this will increase the access to rail services for residents across Enfield, Waltham Forest and Haringey boroughs who are connected to Meridian Water via the local bus network.
- 5.2.22 The most recent outline business case considers a scheme to deliver new track capacity at Ponders End (north of Meridian Water) enabling the existing West Anglia Main Line timetable to be revised so that extra Meridian Water stops can be added. This option has the buy-in and support of industry stakeholders engaged in the project's Steering Group (including the Council, DfT, MHCLG, Network Rail, Greater

Anglia, Crossrail 2, TfL and the GLA). Technical designs have progressed to the equivalent level of GRIP Stage 2, and a detailed timetable solution has been developed.

- 5.2.23 The routing of buses along the Central Spine Road improves access to Meridian Water Station for both the Phase Two development and existing industrial uses on Harbet Road. The SIW therefore help to embed Meridian Water Station and public transport connectivity to benefit not only new residents and employees within Meridian Water but also residents and employees in the surrounding area.
- 5.2.24 The nearest London Underground station is Tottenham Hale, which is served by the Victoria line. It is located 2.7km south of the site. Local buses and rail services serve Tottenham Hale Station. The rail journey time from Meridian Water is 5 mins, whilst bus journey time is approximately 11 minutes from Glover Drive. Tottenham Hale Station is also within a cycling distance and on average would take 15 minutes to cycle there via the Meridian Way / Watermead Way segregated cycle lane or via the LVRP traffic-free routes.

5.3 Public Transport Accessibility Level (PTAL)

- 5.3.1 According to TfL's Web-based Connectivity Assessment Toolkit (WebCAT), the site has a low Public Transport Accessibility Level (PTAL) of 0 to 2, as shown in Figure 32. Although the WebCAT map shows the new Meridian Water Station, the calculations have not yet been updated to reflect its new location and the assessment is still based on the previous location of Angel Road Station to the north of the A406 North Circular. More detailed manual calculations have been undertaken to show the following scenarios:

- Baseline 2019 PTAL (including Meridian Water Station)
- PTAL with Phase Two (including improved rail services funded by HIF referred to above and Phase Two bus improvements only)

Figure 32: Baseline 2019 PTAL from WebCAT (TfL)

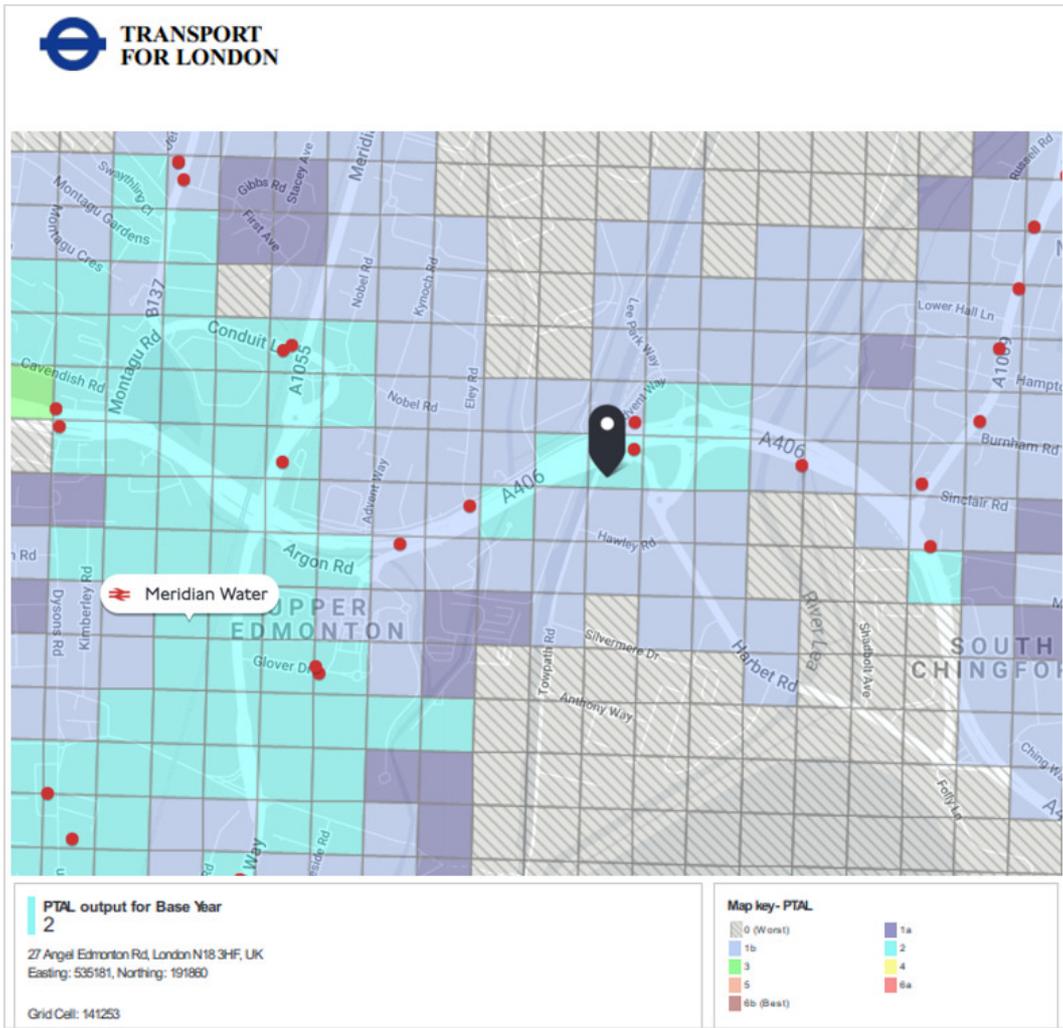


Figure 33: 2019 and 2026 Manual PTAL Assessments with Meridian Water Station and Phase Two Bus Strategy



5.3.2 The above shows that the baseline PTAL, even with the new Meridian Water Station but without the link to Glover Drive from Phase Two, as per WebCAT, varies between 0 to 2 (very poor to poor). The provision of the Central Spine Road and connecting with Leaside Link Road is expected to increase PTAL to 3 (moderate) for the majority of the site by providing direct pedestrian routes to Meridian Water Station and rerouted bus services as discussed in previous sections.

5.3.3 The improvements in public transport accessibility were crucial for TfL and LBE to accept that the Phase Two proposals were acceptable in planning terms. The 24 March 2020 Officer's report to the Phase Two scheme paragraph 8.48 refers to in principle agreement to the Bus Strategy and paragraph 6.4 of the report refers to TfL bus funding requirements to be funded through s106 agreement. Improvements to east west accessibility are highlighted in the ELAAP (Core Document 1, P18, P39 para 5.3.5, Policy EL1 Part B para 3).

5.3.4 The Bus Strategy identifies further bus routes that could divert into the site and these options have been discussed with TfL. The specific options and routes to be diverted to serve future phases have not been confirmed pending development of future phases, although TfL have been supportive in terms of direction of travel and approach. This is

not untypical, as bus routings can be dynamic to meet changing demand, so TfL are continually looking at ways of optimising their bus network to meet the Mayor’s Transport Strategy objectives.

5.3.5 It is important however to understand that for the full development of Meridian Water further bus services will be diverted through the site and increases in service frequency will be funded by future phases of development. These changes will strengthen and increase the PTAL beyond the figures quoted above, and from work to support the rail service outline business case I have calculated that this would drive accessibility up to PTAL4 in the northern and central parts of Phase Two.

5.4 Highway Network

5.4.1 The SIW enable Phase Two to connect directly to Glover Drive by public highway without crossing third party land (Tesco or IKEA) and provide direct connection (for the majority of Phase Two) to Leaside Road. This enables vehicles to better distribute across the highway network and reduces pressure on Montagu Road and Conduit Lane that would otherwise suffer from peak period congestion. Figure 34 shows the existing and Figure 35 and Figure 36 shows the proposed simplified access arrangements.

Figure 34: Vehicles routes from Phase Two avoiding Tesco and IKEA Land (repeat of Figure 22 earlier in my evidence added to allow comparison between existing and future arrangements)

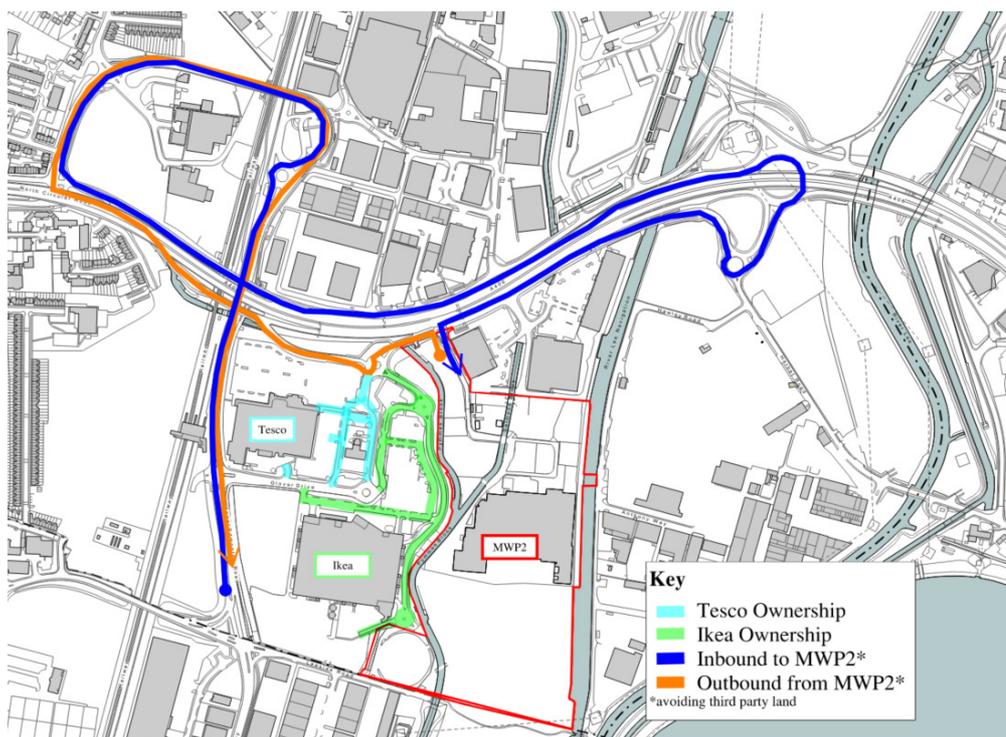


Figure 35: Proposed vehicles routes from Phase Two (North)

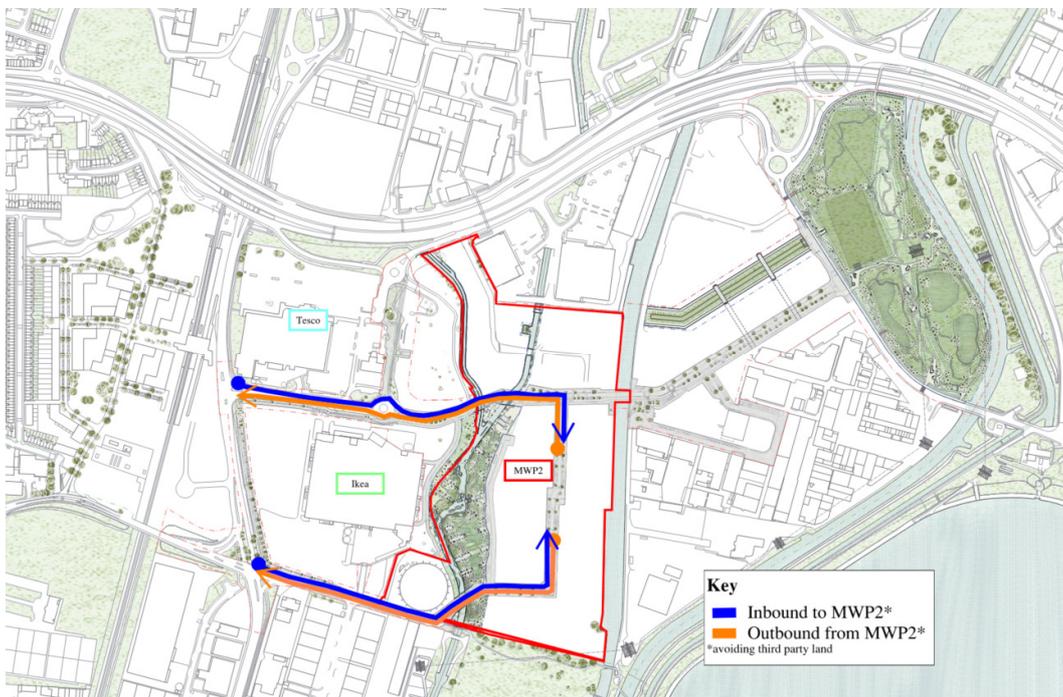
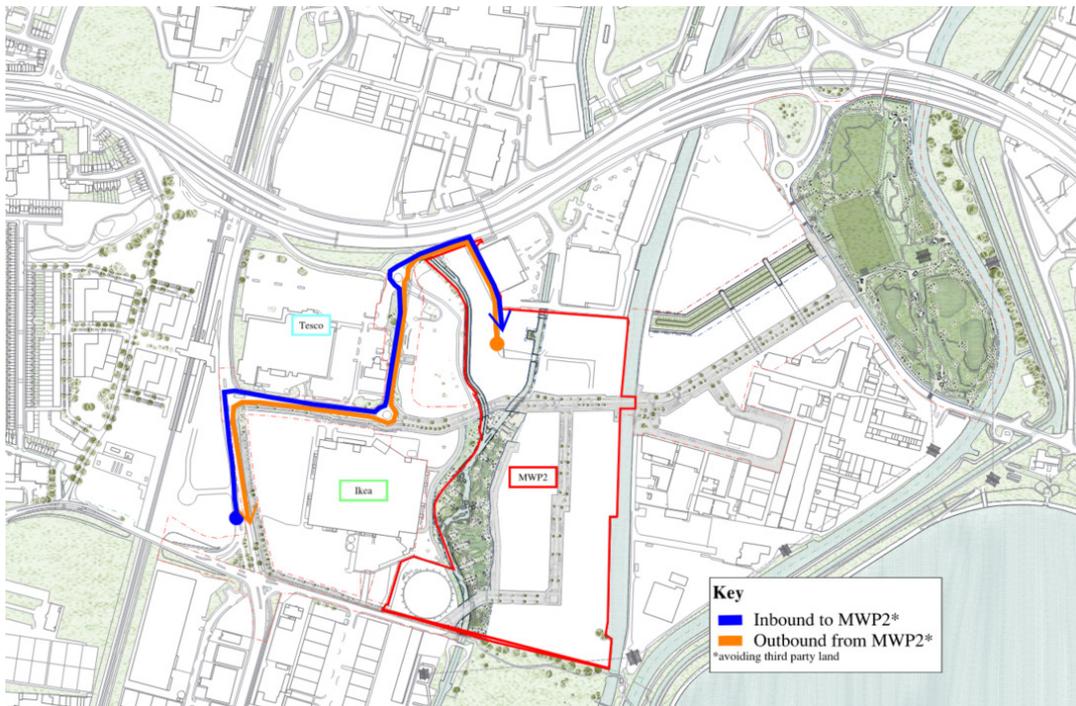


Figure 36: Proposed vehicles routes from Phase Two (South)

5.4.2 General vehicular traffic to the east will continue to utilise Argon Road, as the section of the Central Spine Road immediately east of the Leaside Link Road and over the Canal will be for buses only to avoid increasing rat running through the site.

- 5.4.3 The SIW ensure that the site is well located in relation to the strategic highway network. Argon Road provides access to the A406 North Circular to the east via Cook's Ferry roundabout, and to the west via a slip road adjacent to the Tesco Store to the A406 North Circular.
- 5.4.4 Glover Drive and Leaside Road meet the A1055 Meridian Way to the west. Meridian Way provides a key north-south route, with access to industrial estates and the M25 to the north, and Tottenham Hale and the A10 to the south. Leaside Road to the west provides access to Tottenham.
- 5.4.5 The A406 North Circular Road, a strategic orbital route, can be accessed via Meridian Way and Conduit Lane, or Cook's Ferry roundabout. There is also a northbound A406 off-slip and on-slip to the southeast of Harbet Road. The A406 provides access to the wider strategic highway network, including the A10, A1, M1 and A40 to the west, and M11, A12 and A13 to the east.
- 5.4.6 The Central Spine Road and Leaside Road will provide additional points of access into Phase Two and the wider Scheme. This will provide greater resilience of access for emergency vehicles and buses. It will also balance access for private vehicles to facilitate route choice, thereby increasing the performance resilience of access junctions onto Meridian Way. These alternative routes are shown on Figure 35 and Figure 36.

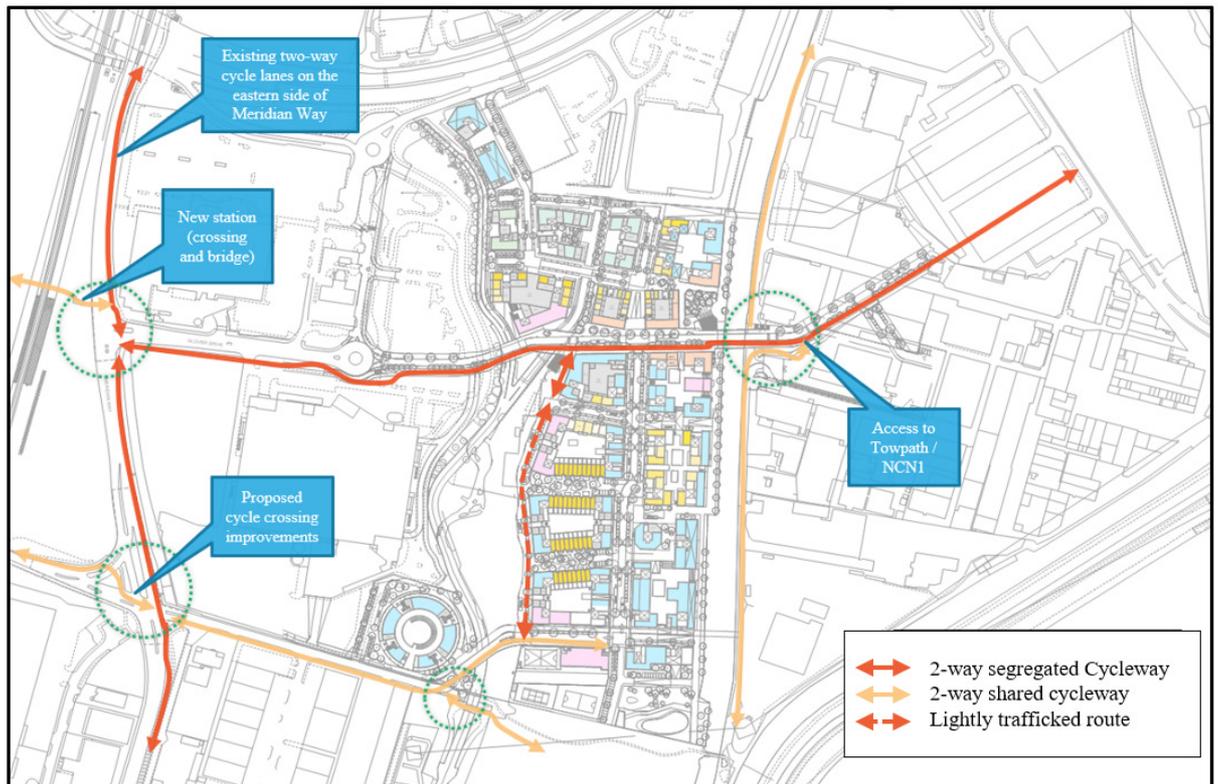
5.5 Improved Pedestrian and Cycle Access

- 5.5.1 The Central Spine Road is expected to be the main east west pedestrian route serving the site and will generally have 3.0m footways on both sides (though these narrow to 2.5m on bridges in places). Leaside Link Road will have footways between 2.35m and 3.0m wide on both sides of the road. These will link into public realm improvement works along Glover Drive and Leaside Road. These routes will be complemented with landscaping buffers to provide segregation between vehicular traffic and walking routes.
- 5.5.2 Dedicated, segregated two-way cycle tracks, between 3.3m and 4.0m in width, will be provided along the Central Spine Road and Glover Drive to provide a direct route across the masterplan area, linking areas of activity with public transport nodes, areas of employment and link into wider residential communities to the east and west, providing

a significant improvement to east-west connectivity, resolving some key severance issues in the local area that I highlighted in Section 3 of my evidence.

- 5.5.3 A 4.0m wide shared footway / cycleway is also proposed along the length of Leaside Road on the northern side. The dedicated off-road cycle routes are detailed in Figure 37.

Figure 37: Proposed dedicated off-road cycle routes



- 5.5.4 In addition, the Parkside Route provides additional pedestrian and cycle connection between Leaside Road and the Central Spine Road running parallel with the north south section of the Leaside Link. The connection with Leaside Road will provide a high quality cycle connection to Meridian Way and Leaside Road West.

- 5.5.5 A new pedestrian and cycle bridge is proposed to the north of Leaside Road, over the West Anglia Main Line ('WAML'). This will be subject to a separate planning application. There is currently limited width on Leaside Road over the railway lines and the proposed bridge will provide a safer and more generous pedestrian and cycling connection to destinations and communities to the west of the railway lines, including Edmonton Green and White Hart Lane, and help to

support Active Travel. The delivery of the WAML bridge will further improve east west connections and benefit Meridian Water.

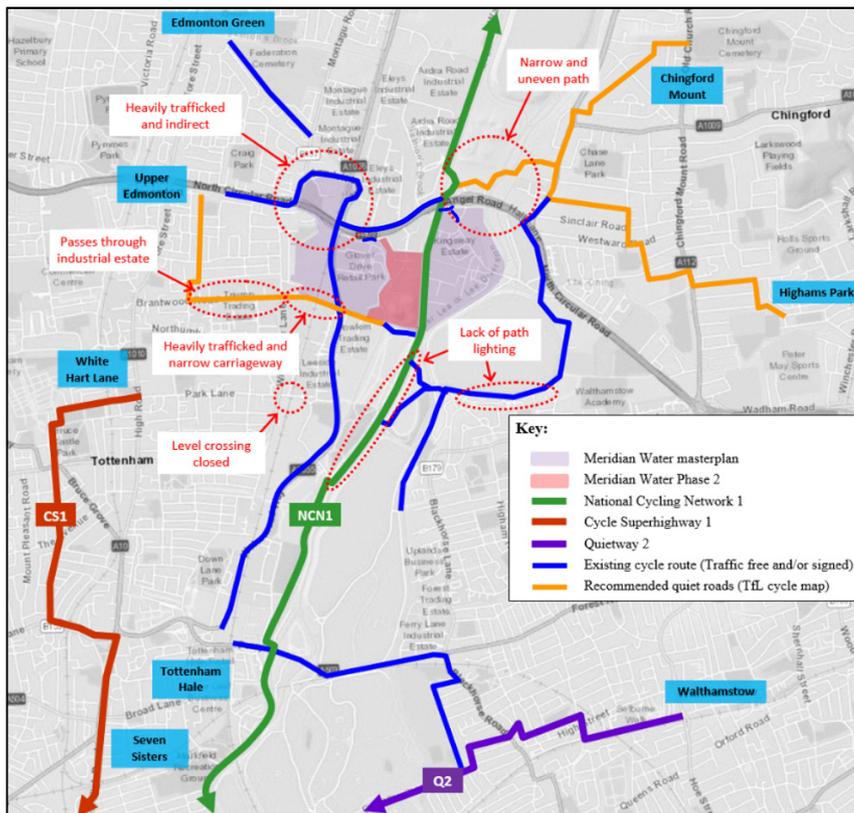
- 5.5.6 The aspiration for Meridian Water is to fundamentally redefine the local transport network with a shift away from private car dominance to public transport (through delivery of the new Meridian Water Station, more frequent and improved trains and buses), cycling and walking. This will support delivery against borough-level targets which support delivery of the Mayor’s Transport Strategy.
- 5.5.7 The Transport Assessment for the SIW and Phase Two Planning Applications considered a wider Active Travel Zone (‘ATZ’), defined as a 20-minute cycle distance from a site, representing a comfortable and realistic time people might be willing to travel to a destination outside of the site without use of a motor vehicle.
- 5.5.8 The ATZ review⁶ outlines a series of observations and recommendations as to how conditions for active travel can be improved, and on which routes these improvements are best focused. The objective of this task is to ensure that required works can be prioritised and appropriately implemented in line with the development of the masterplan and in conjunction with the local authority and other stakeholders.
- 5.5.9 The ATZ analysis helps to highlight the wider connectivity benefits of the Central Spine and Leaside Road link to accord with paragraphs 1.1.5 and 1.1.6 of Core Document 17 and Objective 3 Connectivity. Paragraph 5.8.18 of Core Document 17 highlights that the Central Spine is a key route through the area for walking and cycling and is in accordance with Policy EL22 which specifically highlights the Central Spine to provide pedestrian and cycle route connectivity, and Policy EL6 which requires the Spine Road to prioritise walking and cycling.
- 5.5.10 It should be noted that the recommendations identified in the Transport Assessment were opportunities for the local authorities and future developments to deliver. They are not specifically linked to the Phase Two or the SIW and not required to mitigate the impacts of either development but could assist in improving the conditions for active travel.

⁶ An Active Travel Strategy (ATS) which provides greater details on the proposals for the pedestrian and cycle network was prepared and included in Appendix E of the TA.

5.5.11 Meridian Water, when completed, will comprise a broad range of land uses, destinations, transport facilities and recreational uses. For the most part it could be expected that the vast majority of active travel trips occur between origins and destinations within the masterplan itself utilising the SIW. However, there is recognition that some trips will occur with an origin or destination outside of the wider masterplan area, and thus these should be facilitated and encouraged. The SIW provide the walking and cycling connections across and through the site to facilitate wider east west movement and overcome the limitations of the existing site I highlighted in Section 3 of my evidence.

5.5.12 Figure 39 shows how the Central Spine Road stitches together the cycle routes in the area and overcomes the existing watercourse and land ownership barriers that frustrate east west movement highlighted in Section 3.

Figure 38: ATZ destinations and existing cycle routes (repeat of Figure 12 earlier in my



evidence added to allow comparison between existing and future arrangements)

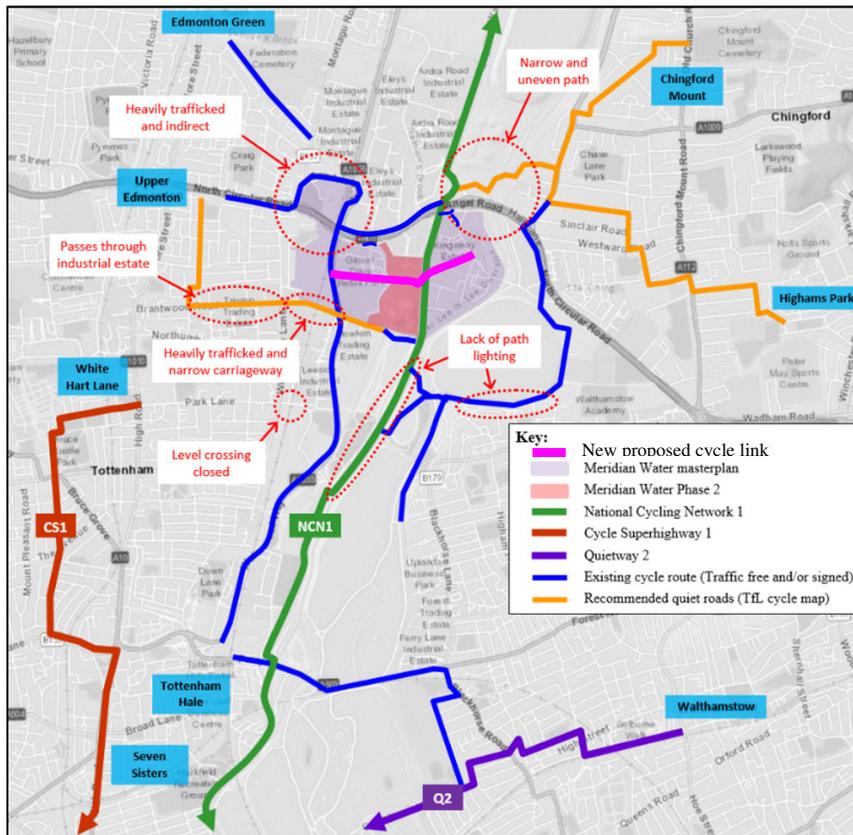


Figure 39: ATZ destinations and proposed cycle routes

5.6 Access for adjacent occupiers and users

- 5.6.1 Discussions and meetings with IKEA and Tesco have informed the highway arrangement contained in Appendix F of the TA.
- 5.6.2 The access to the existing Tesco Store is successfully integrated into the SIW and the Phase Two development to ensure that prior to the redevelopment of Meridian Water Zone 2 Tesco can maintain their existing successful operation with minimal changes.
- 5.6.3 The SIW include alternative access points into the IKEA Store at Leaside Road, Meridian Way and Glover Drive. These additional accesses minimise the IKEA customer and servicing circulation route (and the subsequent diversion route as the result of the Central Spine Road) from the local highway network into the store. For example, traffic arriving from Leaside Road or Watermead Way can access the store from Leaside Road via a much shorter journey than is currently possible. This benefits customers by making the journey more convenient and also helps to reduce traffic within the vicinity of

Glover Drive and the Central Spine Road, in keeping with the aspiration to deliver Healthy Streets.

- 5.6.4 The amendments to St Anthony’s Way create a separate footway, widen the road to allow two way traffic whilst still allowing parking in designated areas, and therefore improve the quality of the access to the industrial businesses along St Anthony’s Way. Arriva Buses have been consulted to ensure that the largest operational vehicles can safely access the existing depot with the Central Spine Road in place.

5.7 Overarching review of SIW design

- 5.7.1 I now consider the SIW in terms of road safety and Healthy Streets, with the analysis provided below.
- 5.7.2 A Stage 1 Road Safety Audit has been undertaken for the Strategic Infrastructure Works and the designs have been amended to reflect the comments received⁷.
- 5.7.3 The Healthy Streets Approach is a long-term plan for improving Londoners' and visitors' experiences of our streets adopted by TfL, helping everyone to be more active and enjoy the health benefits of using our streets on a daily basis. A number of useful tools have been developed as part of TfL’s Healthy Streets toolkit⁸ (Core Document 22), one of which is the “Healthy Streets Check for Designers” (‘HSCD’, Core Document 23).
- 5.7.4 The Healthy Streets approach is not an idealised vision for a model street, but recognises that each street is different, and different elements can contribute to the look, feel and functionality of the street. The ‘Healthy Streets Indicators’ are ten evidence-based indicators which define the important elements that makes streets appealing, healthy and inclusive places. The ten healthy streets indicator are shown in Figure 40.

⁷ The Road Safety Audit and the Designers Response is enclosed at Appendix I to the TA.

⁸ <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/healthy-streets>

Figure 40: The Healthy Streets Indicators



- 5.7.5 HSCD is based on the scoring of a number of metrics that each, individually or combined, contribute to the ten Healthy Streets indicators. There are a total of 31 different metrics which relate to various elements such as vehicle traffic characteristics (e.g. volume, speed, noise etc), design for pedestrians (e.g. crossing points, footpath width, lighting, surveillance etc), design for cycling (e.g. type and width of facility, priority at junctions, cycle parking etc), down to more detailed items such as street trees and planting, spacing of benches, location of public transport stops etc.
- 5.7.6 To test the quality of the infrastructure that the SIW will deliver, the Transport Assessment utilised the HSCD to test four example streets highlighted in Figure 41, and the results of the assessment are presented in Table 3. All these sections form part of the SIW.

Figure 41: Streets Appraised in Core Document 23

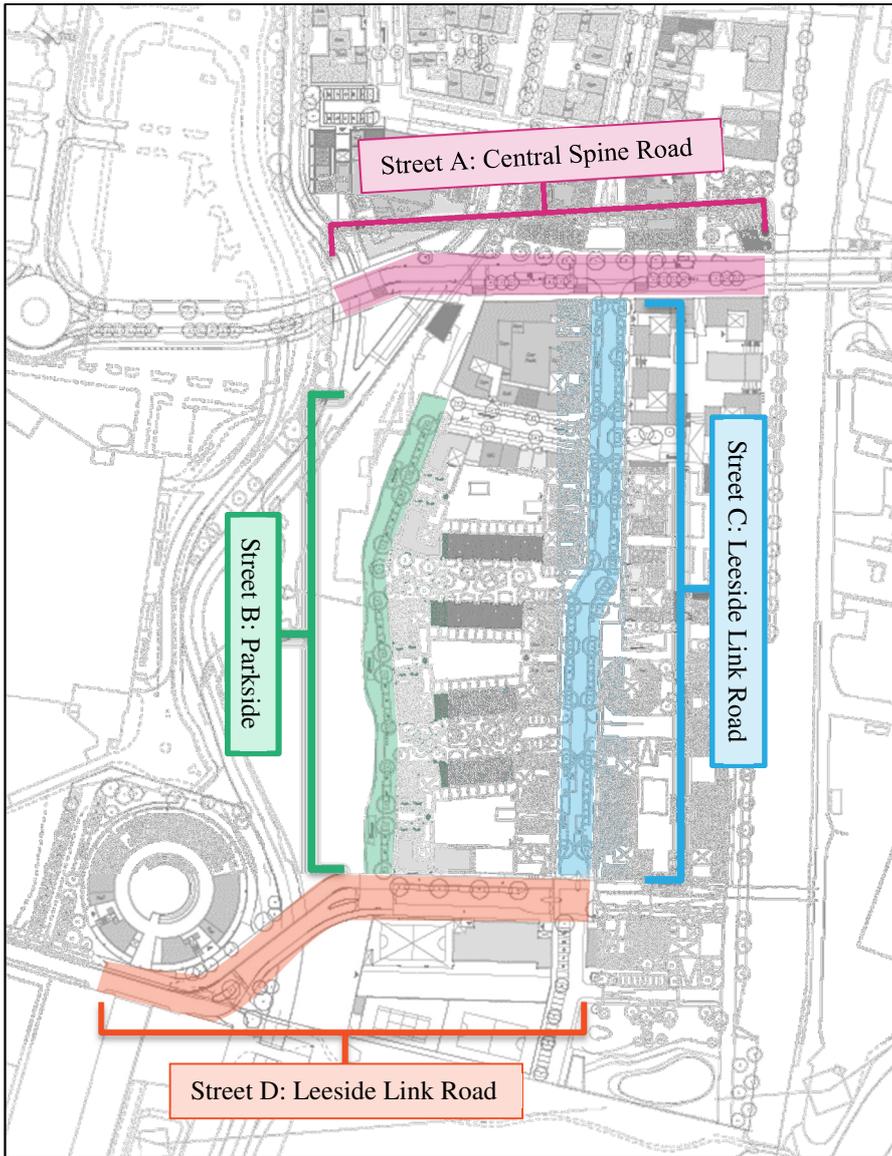


Table 3: Healthy Streets Check for Designers - scoring outputs

Healthy Streets Indicators' scores (%)	Street A	Street B	Street C	Street D
Pedestrians from all walks of life	90	92	85	89
Easy to cross	97	100	97	93
Shade and shelter	100	100	83	100
Places to stop and rest	93	93	87	93
Not too noisy	87	100	80	87
People choose to walk, cycle, and use public transport	90	92	85	89
People feel safe	95	92	88	94
Things to see and do	92	92	83	92
People feel relaxed	91	92	85	90
Clean Air	92	100	83	92
Overall Healthy Streets Check score	92	95	86	91
Number of 'zero' scores	0	1	1	0

5.7.7 Table 3 shows that all of the new streets appraised score highly (out of 100) against the Healthy Streets indicators. A commentary on the outcomes this assessment is presented below:

- **Central Spine Road (Street A)** – scores highly due to the provision of wide footways, a separated two-way cycle path, and active frontages providing surveillance and shelter. It scores lower in some metrics due to its unavoidable vehicle-carrying role with a proportion of those being large vehicles including buses.
- **Parkside (Street B)** – receives the top score against a number of indicators, though not a perfect score due to the sharing of space between vehicles, cycles and on-street activity (e.g. parking and side roads). It received a '0' score in the metric of effective width for cycling, due to the width of the shared traffic lane. However, this has been designed in the style of a 'Cycle Street' with cyclists given priority over other modes, with low vehicle activity and speeds, and as such in reality is likely to be the most attractive route for people cycling, however the assessment criteria employed in the HSCD mean that the benefits of this are not recognised as they deserve to be in this regard.
- **Leeside Link Road – Central (Street C)** – Scores slightly lower than the other appraised streets, mostly due to its sharing of space between cyclists and buses. Similar to the above, it received a '0' score in the metric of effective width for cycling, due to the width of the shared traffic lane. However, the low-speed environment is unlikely to deter people from cycling (alternate north-south routes are also available). Also, the strategy specifically includes the

Parkside link to provide the alternative parallel route for cyclists as part of the wider strategy.

- **Leaside Link Road - Southern (Street D)** – scores similarly to the Central Spine Road (Street A). The key difference being this section of the Leaside Link Road features a shared user path where people walking and cycling mix, rather than each having a dedicated facility.

5.7.8 The HSCD confirms that the internal street network of the Proposed Development has been designed with the Healthy Street indicators in mind and responds to the active travel framework as set out in the ATS. It provides a high level of amenity and quality to facilitate and encourage active travel for future residents and visitors.

5.8 Summary

5.8.1 Meridian Water itself will be designed as an active and healthy neighbourhood; with a mixture of land uses and services, public transport including rail and buses, a network of high-quality streets, off road paths and green spaces.

5.8.2 For the most part, the site is anticipated to be largely self-sufficient and in doing so support future residents to lead a car free lifestyle or undertake fewer trips by car. The quality of the SIW providing for walk, cycling, public transport and essential vehicle movements is key to achieving this outcome.

5.8.3 The combination of the within site proposals delivered through the SIW and recommendations for the key active travel routes within the site's ATZ will form a comprehensive package of interventions to promote Active Travel:

- The Central Spine Road and Leaside Link Road which will reduce walking and cycling distances to Meridian Water Station and other key destinations.
- Provision of high quality and generous walking and cycling routes, with off-road segregated cycle routes provided along the Central Spine Road and shared off-road routes provided along the Leaside Link Road.
- Public realm improvements along Glover Drive and Leaside Road.
- Cycle crossing improvements at the Meridian Way / Leaside Road junction.

- Bus only section on the Central Spine Road to limit traffic flows and prevent additional through traffic.
- SIW strategy supports low car parking provision (up to 0.25 spaces per residential unit).

5.8.4 The provision of the SIW enables changes in bus routings to provide good quality access to buses and improved direct access to Meridian Water Station and connections with the London Underground network. The changes in PTAL are essential to enable delivery of residential and commercial development within Meridian Water at the density to ensure sustainable travel patterns. Without these changes in accessibility and provision for Active Travel supporting the Mayors Transport Strategy the Phase Two development would not have been supported with a resolution to grant planning consent.

6 Response to Objections

6.1.1 In this section I have considered those objections where transport related issues have been raised and set out my responses accordingly (Core Document 45, 46 and 49).

6.2 IKEA

6.2.1 **Issue:** IKEA customer parking is currently in the Northern Car Park which is contiguous with the store and the Central Spine Road will sever this connection. IKEA have raised concerns over the linking of the re-provision of the car parking and timing of the works to enable IKEA to maintain operation of the store.

6.2.2 IKEA Objection part 1 last para states:

The proposed land acquisition will sever the IKEA northern car park from the store and there is no obligation through the Council's planning application (reference 19/02717/RE3) for a replacement car park to be provided in advance of the northern car park being severed, and consequently becoming impractical for use by IKEA. The Council have failed to address this fundamental issue in their proposals or provide our clients with clarification as to how this disconnect in car parking provision is to be overcome.

6.2.3 IKEA Objection part 3 states:

Despite the Council's assertion it has "engaged" with landowners, very limited information has been made available to our clients or Savills about the proposed scheme, when their land would be needed and particularly at what point the main impacts to the car parking would be felt. More could be done to further alleviate the concerns of major and local business in the area, particularly due to the level of proposed disruption to arterial routes.

6.2.4 **Response:** It is acknowledged that IKEA Store customer parking is currently in the northern car park which is contiguous with the store and that the Central Spine Road will sever this connection.

6.2.5 The delivery of the revised accesses and protection of IKEA's interests have been considered in the conditions relating to the SIW

planning permission (Ref: 19/02717/RE3). Condition 18 'IKEA Access' states

The existing access to the IKEA northern car park shall not be altered until such time as the new points of access to the IKEA site shown on drawing number 382 KCA P1 00 DR A 1002 P, have been constructed in accordance with the details approved pursuant to condition 19.

Reason: To ensure that the IKEA Store can continue to operate with access to the quantum of parking that it currently benefits from by ensuring the new points of access are provided to IKEA land which is capable of accommodating the quantum of parking spaces necessary as a replacement for those in the northern car park and impacted through the construction of the central spine road. This is in accordance with policy 6.3 of the London Plan (2016), policy CP24 of the Enfield Core Strategy (2010), DMD47 of the Development Management Document (2014) and EL6 of the Edmonton Leaside Area Action Plan (2020)

- 6.2.6 In addition to the protection afforded by the above condition the Council has agreed to compensate IKEA for the cost of relocating the customer car park on to other land owned by IKEA adjoining the store to the south of the Central Spine Road and to the south-west of the existing store. Planning permission for the IKEA West Car Park was granted on 18 June 2020 (Ref: 20/00111/RE4). The new IKEA West Car Park and associated works are to be constructed by IKEA, but the Council has agreed to pay the costs. IKEA has appointed Mace to project manage the IKEA works. The Central Spine Road and the relocation of the car park will require alterations to the access to the IKEA Store for both customer vehicles and service vehicles and these access revisions are included in the SIW Planning Permission.
- 6.2.7 The Council is committed to working closely with IKEA to ensure that IKEA are aware of the timing of the IKEA access works so that the car park works can be completed in a timely manner to ensure the IKEA Store remains operational at all times.
- 6.2.8 If necessary, the Council is prepared to enter into a Unilateral Undertaking to provide IKEA with reasonable notice prior to completing the access works to enable IKEA to complete the car park works.
- 6.2.9 The combination of the existing Condition 18 together with the above commitment to continue to 'engage' with IKEA over the timing of the

works will ensure their delivery prior to the existing access to the IKEA northern car park being adversely affected. This demonstrates that the Council is providing certainty in the continuing operation of the IKEA Store whilst works are being undertaken so that car parking is available for customers and in this regard no impact would be felt.

6.2.10 **Issue:** IKEA objection contends that alternative options have not been considered. It states:

The Council has failed to demonstrate what alternatives (if any) have been considered and/or already discounted. Until justification is provided it is difficult to ascertain whether there are suitable alternatives to compulsory acquisition, whether the land is actually needed or whether a lesser area could be acquired to achieve the same effect. As an example, the proposals include the considerable acquisition of rights to deliver the improvements to the Pymmes Brook which are excessive and do not deliver an uninterrupted route along the river or further access across the river corridor.

- 6.2.11 Response: The Meridian Water Masterplan and Central Spine Road alignment has evolved over a number of years. More recently the Council has worked collaboratively with IKEA to identify a suitable solution.
- 6.2.12 The ELAAP (Core Document 17) was adopted in January 2020 and has been subject to consultation and Examination in Public. A number of different alignment options for the Central Spine Road (also referred to as the Causeway in some documents) had been explored prior to fixing the alignment in the ELAAP.
- 6.2.13 The ELAAP sets out a framework for development in the area, which includes the Meridian Water development area. The Central Spine will consist of a strategic east-west link and community focused route running through Meridian Water. It will be located within the Central Spine Corridor shown on Figure 5.1 (see below) and will connect with the surrounding areas.
- 6.2.14 Paragraph 5.8.2 of Core Document 16 notes that that the concept of the east west connection was introduced as a development principle in the Core Strategy (Policy 37).
- 6.2.15 The adopted ELAAP January 2020 responded to consultation and the Inspector's report following the ELAAP Examination in Public (EIP) and identifies the route of the Central Spine Road within a corridor shown in Figure 5.1 of that document and Figure 42.

Figure 42: ELAAP figure 5.1 Spine Corridor (Figure 5.1 of Core Document 17)



Figure 5.1: The Central Spine Corridor

- 6.2.16 The matters raised by IKEA have therefore previously been addressed and considered in detail as part of the ELAAP EIP in 2018. Indeed, the approach indicated in Figure 42 was referred to by the Inspector in paragraph 44 of her final report as follows:

This approach responds to concerns from landowners, that a fixed route, which utilised land outside the Council's control, could be difficult to implement, and could potentially have an adverse effect on existing occupiers and so would not be effective.

- 6.2.17 In paragraph 44 of the Inspector's report she states:

The safeguarded corridor in figure 5.1 within MM6 aligns with the principle set out in Core Policy 38 of the CS that a new spine be provided within the site connecting all areas of Meridian Water. I am also satisfied that in the context of the modifications in MM1 and MM2 the submitted highways modelling [EXD-44] is sufficient to indicate that subject to detailed design and mitigation works, the route would not lead to a severe impact on the surrounding network consistent with NPPF Para 32. The safeguarded corridor approach

also allows the exact route of the Central Spine, which will be subject to a separate planning application, and will take account of the interests of existing businesses as far as possible, to be informed by the development work for the proposed Meridian Water Masterplan.

- 6.2.18 Prior to the ELAAP EIP in 2018 the Council had commissioned Arup to produce a more detailed assessment report **IKEA and Tesco Access Study Report dated 26 July 2018** (enclosed at Appendix A) that set out the junction performance and more detailed access and alignment options as background material to help inform and address ELAAP consultation responses from these parties. This included more detailed access and alignment configurations for retaining access to the existing northern IKEA car park.
- 6.2.19 Following the EIP the Council and their team sought to engage further with IKEA regarding the technical and practical implications of the long-standing policy objective of delivering the Central Spine Road. Building on the work undertaken in summer of 2018 and following meetings with IKEA a Technical Note was produced by Arup (**IKEA and Central Spine Road Access dated 30/11/2018** enclosed at Appendix B) and issued by the Council to IKEA on 2nd December 2018.
- 6.2.20 The technical note was described by Paul Gardner on behalf of the Council in his email as a *'brief report of some sketch options following an alternative Central Spine alignment tracking further to the north to address the concerns raised at our last workshop. KCA and ARUP have worked up the drawings that we overlaid on the plan at that workshop with you, showing how that diagonal alignment could look and work. They have shown three sub-options that have different access and traffic arrangements in terms of how the linking part of the new Central Spine road is used to access the car parks. In summary there is a trade-off between net car parking loss and vehicular movement on that section of the Central Spine. However, the option work does demonstrate that the alternative Central Spine alignment can work and can achieve the outcomes of preserving a strong front entrance to the IKEA Store and protecting a significant bulk of car parking spaces with unimpeded pedestrian access to IKEA.*
- 6.2.21 Paul Gardner also committed to *'also look at options that involve Tesco land, and plan to send you these by 19th December.'* A subsequent document (dated 20/12/2018 enclosed as Appendix C) was

issued to IKEA by Paul Gardner on behalf of the Council on 21st December 2018.

- 6.2.22 Meetings were held with IKEA throughout this period to discuss the technical work being progressed by the Council's team and address concerns expressed by IKEA. On 25th January 2019 a plan from IKEA's Transport Consultants (Pell Frischmann) was received that identified the works IKEA required to address the northern car park site and allow that parking to be re-provided to the west and south of the existing store within IKEA land. This positive action on the part of IKEA and their team facilitated a subsequent discussion around a practical solution to enable IKEA to continue to trade and improve aspects of the access to their store from the south and west.
- 6.2.23 An updated **IKEA and Tesco Access Study report dated 27th February 2019** (Appendix D) was sent to IKEA by my colleague Rob Goodall of Arup on 27th February that incorporated the basis of the IKEA access proposal and suggested amendments. The note calculated the changes in distribution for the IKEA customer traffic flows and assessed the implications on junction capacity. Thereafter the Council's team worked with IKEA to develop an access strategy, that incorporated many aspects of the Pell Frischmann/IKEA proposals, particularly agreeing the route through the IKEA car park land. The results of this discussion formed the basis of the SIW planning application which in turn resulted in the definition of plots such as Plot 9 and 11 subject of the Order.
- 6.2.24 The Transport Assessment Report that accompanied the SIW Planning Application described the changes in traffic flows and proposed alignment and strategy for all modes of travel. The SIW now have planning permission.
- 6.2.25 Text from the EIA that supported the SIW Planning Application considered the issue of alternatives. This text is set out below:

The Central Spine Road

3.9.4 The Central Spine Road (CSR) is one of the key infrastructure elements forming part of the Strategic Infrastructure Works detailed application. A number of alignment options of the main east-west connection through the Meridian Water site have been considered and evaluated. These alignments were all

variations of a similar approach which is a central connection east-west from Glover Drive to Harbet Road. Variations in the alignment east of the River Lee Navigation were tested to identify the optimum location.

3.9.5 *In summary, the CSR provides a strong spine through Meridian Water, allowing new access and connecting an existing fractured site. New associated bridges and linkages will open up this part of the Borough and increase access to the Lee Valley Regional Park.*

3.9.6 *As part of the optioneering undertaken for the alignment of the CSR, its final location has been determined by the primary objectives of improving east-west connections for people and services, optimising public transport access (PTAL), navigating the site's waterways and topography and dealing with the site's existing uses within the context of the long- term regeneration objectives.*

3.9.7 *The CSR's design locational parameters are reflected in the proposed modifications to the Edmonton Leaside Area Action Plan's (ELAAP) which now provides a 'Central Spine Corridor' within which the route and its detailed design should sit.*

3.9.8 *The proposed alignment (forming part of the detailed planning application) sits within the ELAAP CSR corridor and has incorporated alignment revisions so that it now:*

- Creates a more direct visual connection from the station to the heart of the site, where a central square can be located;*
- Provides simpler crossings of the Brooks;*
- Avoids impact on existing buildings to be retained – such as the VOSA building;*
- Further avoids third party land interests; and*
- Enhances the public realm provision and ease of 'way finding'.*

- 6.2.26 A number of different alignment options were therefore considered and consulted upon prior to the preparation of the ELAAP. The ELAAP EIP addressed the same objections now raised by IKEA in respect of this Compulsory Purchase Order. The ELAAP was amended in light of the Inspector's report, adopted as policy and following further detailed discussions around alignment and access strategy with IKEA's team a planning application was made for the SIW which has since been approved in the SIW Planning Permission. The Council is therefore confident that alternative alignments for the Central Spine Road have been considered and consulted upon and an acceptable solution has been granted planning permission, which forms the basis of the Order.
- 6.2.27 The IKEA Store will benefit from a revised access arrangement that enables customers to access the store more conveniently from the south and west, and the IKEA West Car Park will re-provide the car parking spaces and therefore maintain the customer facilities. Additional bus services along the Central Spine Road together with new walking and cycling routes will also make the store more attractive.
- 6.2.28 Whilst the impact of the Order will be to create a change in the location of parking and a net loss of land area, the store operation is not adversely affected in transport terms and land is capable of being released to deliver additional development in line with the aspirations of the ELAAP.

6.3 Tesco and BSPF Objections

- 6.3.1 The Tesco objection is set out in a letter dated 24 September 2020 from Bryan Cave Leighton Paisner ('BCLP'). It is understood that British Steel Pension Fund ('BPSF') has aligned itself with the Tesco objections as set out in a letter dated 30 September 2020 from Montagu Evans on behalf of BSPF.
- 6.3.2 Section 4 of the BCLP letter highlights that Tesco have been engaging with the Council as Acquiring Authority to agree terms and in paragraph 3.3 Tesco acknowledge they have redevelopment aspirations for the site in line with the Core Strategy and ELAAP.

6.3.3 Tesco's objection to the Order is explained in Section 5 of the letter and sets out how Tesco would be adversely affected by the Order (so far as relevant to my evidence) as follows:

5.1 It is clear from the CPO Map that the CPO interferes with every pedestrian and vehicular access to the Tesco Site, amongst other reasons because the proposed new Central Spine Road involves new access arrangements for Tesco as well as IKEA, the Arriva bus depot and for other industrial uses between Harbet Road and the River Lee Navigation:

5.1.1 Traffic from the North Circular Road (A406) approaches via the off slips and then turns onto Argon Road via the Cooks Ferry and Harbert Road roundabouts, which both fall within the CPO (see Plot 14 acquiring the land and 18 including rights to reconstruct vehicular access and egress);

5.1.2 Glover Drive and its roundabout, from which traffic from Angel Edmonton Road/A1055 accesses the Tesco Site, fall within the acquisition of all interests in Plots 1 and 8.

5.1.3 Part of the Tesco Site's own car park, private internal roads and accessways are being compulsorily acquired in Plots 7 and 12, whilst Plot 6 includes rights to completely alter the route of pedestrian and vehicular access.

6.3.4 The evidence of Joe Nunan deals with the construction and engineering aspects of these objections. In transport terms my response to these comments is as follows:

- Securing rights for plot 14 and 16 at the roundabout will enable the Council to undertake works to construct the North South Link between Argon Road and Glover Drive and to ensure that the connections form adopted highway land securing rights for access for all users. This change in ownership will not adversely affect the ability of Tesco's customers to access the site.
- Securing the ownership of plots 1 and 8 on Glover Drive will enable the Council to secure the street and dedicate the street as public highway, securing rights of access for all users. This change in ownership will not adversely affect the ability for Tesco's customers to access the site.
- The changes to the car park affecting plots 7, 12 and rights of access on plot 6 will alter pedestrian and vehicular access and these changes have been agreed and secured as part of the consented

SIW Planning Application. The details of the configuration were discussed with Tesco prior to submission of the planning application (Matthew Bodley's evidence ref 5.151-5.159 refers to negotiations regarding Heads of Terms) and were subsequently granted planning consent by the planning authority.

7 Summary and Conclusions

- 7.1.1 My evidence covers transport issues relating to the proposal by the London Borough of Enfield (the ‘Council’) for a compulsory purchase order (‘CPO’) entitled the London Borough of Enfield (Meridian Water Strategic Infrastructure Works) Compulsory Purchase Order 2020 (the ‘Order’, Core Document 1) which has been submitted to the Secretary of State for Housing Communities and Local Government (the ‘Secretary of State’) for confirmation. The land included within the Order is referred to as the Order Land which is shown on the plan at Core Document 2 (the ‘Order Map’, Core Document 2).
- 7.1.2 The Order Land relates to the land required to implement the SIW that will in turn facilitate the development of new residential and employment uses in accordance with the London Borough of Enfield Core Strategy November 2010 (Core Document 16) and in turn the Edmonton Leaside Area Action Plan (‘ELAAP’, Core Document 17) adopted January 2020.
- 7.1.3 Core Document 16 defines a corridor within which the Central Spine Road should lie, and a subsequent planning application has been approved for the SIW that aligns the Central Spine Road within that corridor.
- 7.1.4 I have explained that Meridian Water is one of London’s most significant regeneration opportunity areas and comprises approximately 85 hectares and is one of the largest areas of underused and brownfield regeneration land in London, with large areas of derelict land alongside industrial accommodation of varying age and quality. The full extent of Meridian Water is identified on the plan at Core Document 6.
- 7.1.5 In section 3 of my evidence I explain that Meridian Water is fragmented, and suffers from severance caused by a railway, three watercourses and third party ownerships. I have used the central section of Meridian Water (Zones 4 and 5, the main body of the Phase Two site) to illustrate the effect of this severance on different modes of travel.
- 7.1.6 National, Regional and local policy is focussed on a hierarchy of modes placing minimising travel and active modes (walking and cycling) at the top, followed by access to public transport, then

powered two wheelers and cars. Demonstrating that development can deliver sustainable travel patterns is important to realise the full potential of the site in terms of the density of development it can sustain.

- 7.1.7 At present the Public Transport Accessibility Level ('PTAL') of the Phase Two site is very low. This is because access to existing bus stops on Glover Drive cannot be achieved within an acceptable walking distance. Only buses running along the A406 are included yet access to these bus stops on the A406 requires passengers to use a stepped footbridge and wait next to this busy dual carriageway. Even these stops are beyond an acceptable walking distance from the southern part of the Phase Two site.
- 7.1.8 I have highlighted specific constraints to access buses in both the eastern and western development areas of Meridian Water.
- 7.1.9 Walking or cycling access to Meridian Way from Phase Two involves walking along elevated slip roads, and down a stepped access route. Traffic flows are high on the A406, Meridian Way and other streets in the area surrounding Meridian Water. East west cycle routes south of Meridian Water are off road and unlit, and not suitable for all year all day access. A cycle routes exist to the north of the A406 along Advent Way, an industrial access road, however access to this route and the interaction with goods vehicles along it is not conducive to encouraging less confident cyclists to use this form of transport.
- 7.1.10 Even vehicular access to and from Phase Two is heavily constrained avoiding Tesco and IKEA access roads, requiring a convoluted route along Montagu Road and Conduit Lane through junctions that already suffer peak period congestion.
- 7.1.11 The existing character of Meridian Water is largely industrial and car dominated with poor access by public transport. There are limited walking and cycling links, and the local roads have a high proportion of HGV movements. These major severance issues in the area are caused by watercourses, roads and railway lines.
- 7.1.12 The severance issues also mean that the Phase Two site and the wider masterplan area are relatively self-contained and isolated. The SIW provide the infrastructure needed to resolve a number of these issues

and to deliver a high-quality neighbourhood which focuses on people and place.

- 7.1.13 I have described in detail in my evidence the transport features of the SIW which are the subject of the Order. I have then described the benefits of the SIW.
- 7.1.14 The alignment of the Central Spine Road has been designed to accommodate extended and diverted bus services through the site which will maximise the accessibility of Meridian Water development in terms of PTAL and access to Meridian Water Station (by minimising walking distances). The Central Spine Road will provide direct and visual connection to Meridian Water Railway Station and also through the centre of the site to the new Edmonton Marshes park.
- 7.1.15 I have explained that with the bus service diversions associated with Phase Two the PTAL rises from 0 to PTAL 3 in the Phase Two site. As further development within Meridian Water is developed additional bus services and frequency will be required and this accessibility will increase further.
- 7.1.16 The waiting facilities for passengers would be dramatically improved, providing safe and secure bus stop waiting facilities and pedestrian routes to the bus stops.
- 7.1.17 The Leaside Road connection provides a resilience in terms of bus access (enabling the diversion of the 192 service through the site further improving accessibility); vehicle access (by helping to balance traffic flows on the Meridian Way junctions) and emergency access to the Phase Two site.
- 7.1.18 The North South Link Road provides an adopted highway connection to Argon Road ensuring that efficient highway access can be achieved and securing access for other development plots within Meridian Water.
- 7.1.19 New cycle and pedestrian routes along the Central Spine Road, Leaside Link Road and the Parkside Link, that extend along Glover Drive and Leaside Road to meet existing routes on Meridian Way all increase safe cycling facilities within Meridian Water and provide attractive strategic connections for active modes away from busy trafficked highways.

- 7.1.20 The combination of bus, improved access to rail, walking and cycling facilities will not only ensure that sustainable modes of travel will be utilised by residents and employees within Meridian Water in the future, but the strategic connections will help change travel patterns and modes of existing residents and employees and work towards the mode share targets in the Mayor's Transport Strategy for London (Core Document 21).
- 7.1.21 I have reviewed the objections to the Order where these relate to transport issues and have specifically addressed the objections from Tesco, BSPF and IKEA (Core Document 45, 46, and 49).
- 7.1.22 In conclusion the implementation of the SIW is fundamental to the success of Meridian Water and will enable a dramatic change in accessibility delivering sustainable travel patterns which are at the heart of national, regional and local policy. Confirmation of the Order is essential to enable the SIW to proceed, regeneration to be enabled and new homes and jobs to be delivered.