



London Borough of Richmond upon Thames

TWICKENHAM RIVERSIDE

Transport Assessment



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WSP

WSP House
70 Chancery Lane
London
WC2A 1AF

Phone: +44 20 7314 5000

Fax: +44 20 7314 5111

WSP.com



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Prepared by	Ryan Cogan	Ryan Cogan	Thomas Edwards	
Signature				
Checked by	Rea Turohan	Rea Turohan	Tim Gabbitas	
Signature				
Authorised by	Tim Gabbitas	Tim Gabbitas	Tim Gabbitas	
Signature				
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1 SITE CONTEXT

1.1 INTRODUCTION

1.1.1. This Transport Assessment (TA) has been prepared by WSP UK Ltd on behalf of London Borough of Richmond upon Thames (LBRuT or LPA), hereafter referred to as 'the Applicant', to provide transport planning evidence supporting the planning application for the following description of development, hereafter referred to as the 'Proposed Development':

"Demolition of existing buildings and structures and redevelopment of the site comprising residential (Use Class C3), ground floor commercial/retail/cafe (Use Class E), and public house (Sui Generis), boathouse locker storage and floating pontoon with associated landscaping, restoration of Diamond Jubilee Gardens and other relevant works."

1.1.2. The Proposed Development is located at 1, 1A, 1B and 1C King Street; 2-4 Water Lane; the site of the former swimming pool and associated buildings, The Embankment; the Diamond Jubilee Gardens, Twickenham ('the Site'). The Site lies within the administrative boundary of the London Borough of Richmond upon Thames.

1.2 BACKGROUND

1.2.1. Hopkins Architects are the preferred bidder of a design competition managed by the Royal Institute of British Architects (RIBA) on behalf of the LPA. The LPA recognises that Twickenham Riverside is critical to the success of Twickenham Town Centre as a destination and have identified the site which lies between Water Lane and Wharf Lane, including the site of the former swimming pool and associated buildings, the Embankment and the Diamond Jubilee Gardens, as an opportunity area for redevelopment.

1.2.2. The site location is shown below in Figure 1-1.

Figure 1-1 - Site Location



1.3 EXISTING SITE

1.3.1. The Site is currently occupied by a mixture of uses including:

- Retail (A1/A2) 1,193 sqm
- Office (B1a) 245 sqm
- Café (A3) 46 sqm

1.3.2. The Site is bound by:

- King Street and 3-31 King Street properties to the north;
- Water Lane to the east;
- The Embankment and the river Thames to the south; and
- Wharf Lane to the west.

1.3.3. The Site currently accommodates 116 parking spaces, including a mix of resident permit, business permit, shared permit, Pay & Display and short-stay loading. This also includes an off-street car park (no longer in use) comprising approximately 26 parking spaces, plus 1 space for a street trader and 1 space for motorcycle parking.

1.3.4. The Site is accessed from Water Lane and Wharf Lane via King Street and via the Embankment from the riverside. Water Lane is a one-way southbound street which runs between King Street and the Embankment. Vehicles then egress back onto King Street via Wharf Lane, a one-way northbound street.

1.4 PLANNING HISTORY

1.4.1. The Site had previously been subject to a planning application in 2017, the planning application (Ref 17/4213/FUL) was seeking permission for:

“Full planning application for the demolition and removal of all existing buildings and structures and redevelopment with a mixed use development of the site at 1, 1A, 1B and 1C King Street and 2/4 Water Lane; the site of the remaining former swimming pool buildings at the corner of Water Lane and The Embankment; and the river facing parcel of land on The Embankment in front of Diamond Jubilee Gardens. The development proposals comprise: Two 3-4 storey buildings with a partial lower ground floor and a raised walkway to link the two buildings; three seasonal units (201m²) at Lower Ground Floor level; 505m² A3 floor space, 250m² B1 floor space, 244m² A1 floor space and 62m² flexible commercial at ground floor level (either A1/A3/D1); 39 residential apartments at first, second and third floors (18 no. 1 bedroom, 19 no. 2 bedroom and 2 no. 3 bedroom, including six no. affordable homes) and raised roof terrace; new public square / areas of public realm throughout the site; a Lower Ground Floor car park with new vehicular access from The Embankment consisting of 23 car parking spaces and cycle storage; reconfiguration of street parking in the roads immediately adjacent to the Site and associated highway / footway works; amended pedestrian access and landscaping to the South of Diamond Jubilee Gardens; and amendment of service vehicle access to the service road at the rear of Diamond Jubilee Gardens.”

1.4.2. This application was then withdrawn by the applicant in 2018 citing consultation with the Environmental Agency (EA) as the reason, the EA advised against the Proposed Development due to unsatisfactory flood risk management measures.

1.5 STAKEHOLDER ENGAGEMENT

1.5.1. The Site is currently serving a number of local stakeholders as well as the general public. Public consultations as well as a set of targeted stakeholder engagement sessions have been carried with the people and organisations affected by changes introduced by the Proposed Development. The consultations were attended

by the Applicant, Design Team and by WSP in regard to transport matters specifically. The local stakeholders are identified as follows:

- Twickenham River Trust
- Eel Pie Island residents and businesses
- 1-21 Water Lane
- 5-33 King Street
- 35-59 King Street

1.5.2. A summary of stakeholders' requirements and changes introduced by the Proposed Development are presented in **Table 1-1**.

Table 1-1 – Stakeholder engagement summary

Stakeholder	Requirements	Change	Consultation
Twickenham Riverside Trust	Access and use of the Jubilee Diamond Gardens.	New design proposals for both the gardens and the Embankment.	Ad-hoc sessions led by the Applicant and focused on landscape.
Eel Pie Island	Access and use of the Embankment and Water Lane area in proximity of the pedestrian bridge providing access to the island.	New design proposals for highway access and circulation, restricted use of the Embankment by vehicles.	Ad-hoc sessions led by the Applicant and WSP focused on vehicle access for servicing and deliveries and general access of the public.
1-21 Water Lane	Access via Water Lane.	Water Lane becomes two-way.	General consultation.
5-33 King's Street (Essential Living)	Access to service road and loading via Embankment and Wharf Lane.	Restricted access to Embankment and via Wharf Lane changes to service road and Wharf Lane layout.	Ad-hoc sessions led by the Applicant and focused on access and circulation.
35-59 King Street	Access to private car park from Wharf Lane.	New routing in/out of Wharf Lane.	General consultation.
Church Street Traders	Access to Church Street and deliveries	Vehicle access and circulation, parking suspension	LBRuT led consultation
Port of London Authority	Access to riverfront	Vehicle access and circulation	Joined session with EPI and LBRuT follow up
Environmental Agency	N/A	Vehicle access and circulation	LBRuT consulted without WSP transport

1.6 LPA ENGAGEMENT

- 1.6.1. A formal pre-application meeting was held with the LPA on 16/03/2021. A Transport Assessment Scoping Note and presentation have been tabled and discussed on that occasion.
- 1.6.2. A set of comments had been received from the LPA in response to the Scoping Note and a follow set of clarifications was issued via planning consultant Savills on 24/03/2021.
- 1.6.3. The scoping note and pre-application engagement documents are included in **Appendix A** to the rear of this report.

1.6.4. Following initial submission of the Transport Assessment in August 2021, the LPA has raised points of clarification and comments regarding transport matters, which have duly been addressed by WSP as transport consultants alongside the client and wider design team. At the request of the LPA, this revised Transport Assessment has been produced to expand on key transport items to provide clarity and ensure the latest Stage 3 design drawings, layout plans and transport solutions are available to the LPA for further review.

1.7 DEVELOPMENT PROPOSALS

1.7.1. The Proposed Development is seeking permission for:

“Demolition of existing buildings and structures and redevelopment of the site comprising residential (Use Class C3), ground floor commercial/retail/cafe (Use Class E), and public house (Sui Generis), boathouse locker storage and floating pontoon with associated landscaping, restoration of Diamond Jubilee Gardens and other relevant works.”

1.7.2. The proposed residential development quantum and commercial development quantum are outlined in Table 1-2 below and Table 1-3, respectively:

Table 1-2 – Proposed Residential Development Quantum

Land Use	Development Quantum
Residential	45 (Units)

Table 1-3 – Proposed Commercial Development Quantum

Land Use	Development Quantum
Workspace	320 sqm (GIA)
Café	255 sqm (GIA)
Pub	444 sqm (GIA)
Retail	368 sqm (GIA)
Total	1,387 sqm (GIA)

1.7.3. The Proposed Development will take the form of two buildings, one along Water Lane and one along Wharf Lane, together with a new garden and public space with pedestrian priority between the buildings and the riverfront.

1.7.4. The residential element of the Proposed Development will consist of apartments of varying typologies which will be provided on the upper floors, the ground floors will be dedicated to commercial space, community and retail spaces and a pub.

1.7.5. A pedestrian priority space type public realm and high-quality landscape will link the buildings and the public highways providing access to the site.

1.7.6. A service road, currently a ‘cul-de-sac’ accessed via Wharf Lane, will be retained and will continue to serve King Streets units from the rear and will also serve the new development.

1.7.7. Cycle parking will be provided with reference to the London Plan (2021) standards and London Cycle Design Standards (LCDS) best practice. The Proposed Development will be car-free with the exception of blue badge parking provision.

1.8 REPORT PURPOSE

- 1.8.1. This Transport Assessment has been prepared in order to set out the principles, methodology and assessment of the Proposed Development impacts on the transport networks.
- 1.8.2. The remainder of the report is structured as follows:
- Chapter 2 – Policy Review
 - Chapter 3 – Baseline Conditions
 - Chapter 4 – Development Proposals
 - Chapter 5 – Active Travel Zone
 - Chapter 5 – Trip Generation
 - Chapter 6 – Impacts Assessment
 - Chapter 7 – Summary and Conclusions

2 POLICY REVIEW

2.1 OVERVIEW

- 2.1.1. This policy review is provided to demonstrate the Proposed Development compliance with the national, regional and local transport policies relevant to the Proposed Development. The policy review section following on seeks to summarise the key themes in the relevant national and local policies and, where relevant, highlight policies which relate directly to the Proposed Development and how these have been addressed by the Proposed Development.

2.2 NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK (2019)

- 2.2.1. The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.
- 2.2.2. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):
- An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
 - A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
 - An environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
- 2.2.3. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
- The potential impacts of development on transport networks can be addressed;
 - Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
 - Opportunities to promote walking, cycling and public transport use are identified and pursued;
 - The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
 - Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of

transport modes. This can help to reduce congestion and emissions and improve air quality and public health.

2.2.4. Applications for development should:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- Allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

NATIONAL PLANNING PRACTICE GUIDANCE (2019)

- 2.2.5. The National Planning Practice Guidance was published in 2012 and revised in 2019, offering updated and revised guidance on planning practice where necessary.
- 2.2.6. The NPPG provides additional guidance to supplement the planning policies contained in the NPPF.
- 2.2.7. The NPPG provides clarity on the role, function and structure of the Transport Assessments and Travel Plans: *Transport Assessments and Statements are ways of assessing the potential transport impacts of developments and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans.*
- 2.2.8. The NPPG states that Travel Plans, Transport Assessments and Statements can positively contribute to:
- encouraging sustainable travel;
 - lessening traffic generation and its detrimental impacts;
 - reducing carbon emissions and climate impacts;
 - creating accessible, connected, inclusive communities;
 - improving health outcomes and quality of life;
 - improving road safety; and
 - reducing the need for new development to increase existing road capacity or provide new roads.
- 2.2.9. They support national planning policy which sets out that planning should actively manage patterns of growth in order to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.

2.3 REGIONAL POLICY

LONDON PLAN (MARCH 2021)

Overview

- 2.3.1. The London Plan is part of the statutory development plan and aims to make London's transport easy, safe and convenient for everyone, and actively encourages walking, cycling and making better use of the Thames.

- 2.3.2. The London Plan recognises that transport plays a fundamental role in addressing the whole range of spatial planning, environmental, economic and social policy priorities. It is critical to the efficient functioning and quality of life of London and its inhabitants, having major effects on places, especially around interchanges and in town centres and on the environment, both within the city itself and more widely.
- 2.3.3. This new London Plan marks a break with previous London Plans, representing a step change in the approach and serves as a blueprint for the future development and sustainable, inclusive growth of London. The 2021 London Plan replaces all previous versions.

Relevance to Twickenham Riverside

- 2.3.4. Transport for London has advised that transport matters concerning new developments should be compliant with the London Plan and related best practice. This includes Healthy Streets policies and ambitions regarding the sustainable mode of travel which are relevant to the Proposed Development site.

Transport Considerations

- 2.3.5. The document reports the Greater London Authority (GLA) strategic vision into objectives such as to ensure that London's transport is easy, safe and convenient for everyone, and encourages the use of cycling, walking and public transport.
- 2.3.6. The Mayor's key target, as set out in Policy T1 is that:
- 80% of all trips in London are to be made by foot, cycle or public transport by 2041.
- 2.3.7. Policy T1(B) also states that:
- "All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London's transport networks and supporting infrastructure are mitigated."*
- 2.3.8. The London Plan recognises that London's challenges of guaranteeing its status as an efficient, well-functioning globally competitive city are intertwined with the obstacles and opportunities that transport brings. It states that the integration of land use and transport is essential in realising and maximising growth and ensuring that different parts of the city are connected in a sustainable and efficient way.
- 2.3.9. In order to achieve this, the London Plan acknowledges that a strategic shift is needed to reduce Londoners' dependency on the car, creating a healthy, pleasant and sustainable street environment in which people can walk, cycle and use public transport.
- 2.3.10. 'Policy T2 Healthy Streets' outlines that development proposals should:
- Demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London Guidance.
 - Reduce the dominance of vehicles on London's streets whether stationary or moving.
 - Be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport.
- 2.3.11. The Healthy Streets indicators are shown in Figure 2-1.

Figure 2-1 - Healthy Streets indicators (source: TfL.gov.uk)



Source: Lucy Saunders

- 2.3.12. 'Policy T4 Assessing and mitigating transport impacts' states that development proposals should reflect and be integrated with current and planned transport access, capacity and connectivity. It is acknowledged that transport assessments should be submitted with development proposals where appropriate and 'focus on embedding the Healthy Streets Approach within, and in the vicinity of, new development.'
- 2.3.13. Where parking is provided, electric vehicle charging infrastructure should be implemented. In total, 20% of all car parking spaces should have active charging facilities, with passive provision for all remaining spaces.
- 2.3.14. The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.
- 2.3.15. Policy T4 identifies that development proposals should reflect and be integrated with current and planned transport access, capacity and connectivity. Transport Assessments are required to support development proposals assessing any impacts on the capacity of the transport network and should focus on embedding the Healthy Streets approach within, and the in the vicinity of, new development.
- 2.3.16. Policy T5 sets out that developments should encourage cycling and provide cycle parking at least to the minimum standards set in the London Plan. Cycle parking and cycle parking areas should allow easy access

and provide facilities for disabled cyclists. The London Plan requires that cycle parking is provided in accordance with LCDS. In places of employment, supporting facilities are recommended, including changing rooms, maintenance facilities, lockers and shower facilities (at least one shower per ten long-stay spaces is recommended).

2.3.17. Policy T6 states that:

[...] Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide disabled persons parking in line with Part E of this policy [...]

2.3.18. The London Plan Policy T6.1 states that new residential development should not exceed the maximum parking standards set out in **Table 2-1**, it should be noted that the Proposed Development site is located in an area of Public Transport Accessibility Level (PTAL) of 5, meaning it is very well served by public transport.

Table 2-1 - London Plan Maximum Car Parking Standards – Residential

Location	Maximum Parking Provision
All areas of PTAL 5 – 6	Car free

Note: Disabled persons parking should be provided to ensure that as a minimum, 3% of dwellings have a designated Blue Badge parking bay. Evidence should be provided to demonstrate how an additional 7% of dwellings could be provided.

Note: 20% of all spaces must be for electric vehicles, with the remaining bays having passive capability for electric vehicles in the future.

2.3.19. Policy T7 states that:

“Development proposals should facilitate sustainable freight and servicing, including through the provision of adequate space for servicing and deliveries off-street. Construction Logistics Plans and Delivery and Servicing Plans will be required and should be developed in accordance with Transport for London guidance and in a way which reflects the scale and complexities of developments.

Developments should be designed and managed so that deliveries can be received outside of peak hours and in the evening or night time...”

2.3.20. For retail uses including Opportunity Areas and Outer London units of up to 500 sqm the policy suggests up to 1 space per 75 sqm (GIA); however, it is encouraged that where the context is relevant on-site provision is limited to operational needs, parking for disabled people and that required for taxis, coaches and deliveries/servicing.

2.3.21. Policy T6.5 (Non-residential disabled persons parking) states disabled persons parking will be provided in accordance with Table 10.6 outlined below in Table 2-2.

Table 2-2 - London Plan Non-residential disabled persons parking standards

Land Use	Designated bays (Per cent of total parking provision)	Enlarged bays (Per cent of total parking provision)
Workplace	5%	5%
Retail, recreation, hotels and leisure	6%	4%

2.3.22. The London Plan cycle parking standards for the relevant land uses are summarised in Table 2-3.

Table 2-3 – London Plan Cycle Parking Standards

Land Use	Long Stay	Short Stay
C3 – C4 Residential Dwellings	1 space per studio or 1 person 1 bedroom dwelling 1.5 spaces per 2 person 1 bedroom dwelling 2 spaces per all other dwellings	5 to 40 dwellings: 2 spaces Thereafter: 1 space per 40 dwellings
A1 Food Retail	1 space per 175sqm	Areas with higher cycle parking standards First 750sqm: 1 space per 20sqm Thereafter: 1 space per 150sqm
A1 Non-Food Retail	First 1,000sqm: 1 space per 250sqm Thereafter: 1 space per 1,000sqm	Areas with higher cycle parking standards First 1,000sqm: 1 space per 60sqm Thereafter: 1 space per 500sqm
A2-A5 F&B	1 space per 175sqm	Areas with higher cycle parking standards 1 space per 20sqm
B1 Office	Areas with higher cycle parking standards: 1 space per 75sqm	First 5000sqm: 1 space per 500sqm Thereafter: 1 space per 5000sqm

Note: Where the size threshold has been met, a minimum of 2 short-stay and 2 long-stay spaces must be provided for all land uses in all locations

Note: Cycle parking areas should allow easy access and cater for cyclists who use adapted cycles.

MAYOR'S TRANSPORT STRATEGY (2018)

- 2.3.23. The Mayor's Transport Strategy is the document that sets out the policies and proposals of the Mayor of London to reshape transport in London over the next 25 years. It builds on the vision for a better London that the Mayor outlined in 'A City for All Londoners' and takes forward the approach set out in 'Healthy Streets for London'.
- 2.3.24. The strategy puts people's health and quality of life at the very heart of planning the city's transport. Along with the London Plan and the Mayor's other strategies, it provides the blueprint for making London a city that is not only home to more people, but is a better place for all of those people to live in.
- 2.3.25. Three key themes are at the heart of the strategy:
- **1. Healthy Streets and healthy people**
Creating streets and street networks that encourage walking, cycling and public transport use will reduce car dependency and the health problems it creates.
 - **2. A good public transport experience**
Public transport is the most efficient way for people to travel over distances that are too long to walk or cycle, and a shift from private car to public transport could dramatically reduce the number of vehicles on London's streets.
 - **3. New homes and jobs**
More people than ever want to live and work in London. Planning the city around walking, cycling and public transport use will unlock growth in new areas and ensure that London grows in a way that benefits everyone.

2.4 LOCAL POLICY

- 2.4.1. The LPA adopted their current Local Plan in July 2018 and revisions in March 2020, which replaced the previous policies within the Core Strategy and Development Management Plan. The Plan sets out policies and guidance for the development of the borough until July 2033 or until superseded.
- 2.4.2. Two legal challenges were made regarding the adoption of the Local Plan in 2018, and on 3rd March 2020 the Council adopted the two matters related to the legal challenges within the Local Plan. As such, the Council is now in the process of preparing a new Local Plan for Richmond, which will also take into account policy changes at a regional level since the current Local Plan was adopted. However, we note the new Local Plan is not scheduled to be adopted until 2024.
- 2.4.3. At the time of writing, the Richmond Local Plan (2018 and 2020) remains the prevailing policy guidance for the borough and has been considered through the guidance provided within this document.

LOCAL PLAN

- 2.4.4. Chapter 11 of the adopted Local Plan pertains to “Transport”. **Policy LP44** relates to “Sustainable Travel Choices”, with Section B outlining the following outlined with regards to walking and cycling:

Policy LP 44

Sustainable Travel Choices

The Council will work in partnership to promote safe, sustainable and accessible transport solutions, which minimise the impacts of development including in relation to congestion, air pollution and carbon dioxide emissions, and maximise opportunities including for health benefits and providing access to services, facilities and employment. The Council will:

A. Location of development - Encourage high trip generating development to be located in areas with good public transport with sufficient capacity, or which are capable of supporting improvements to provide good public transport accessibility and capacity, taking account of local character and context.

B. Walking and cycling - Ensure that new development is designed to maximise permeability within and to the immediate vicinity of the development site through the provision of safe and convenient walking and cycling routes, and to provide opportunities for walking and cycling, including through the provision of links and enhancements to existing networks.

- 2.4.5. The following guidance for “Walking, Cycling & Public Transport” provides further guidance for development:

Walking, Cycling & Public Transport

Developments should encourage the use of modes other than the car by making it as easy as possible through provision of good pedestrian facilities, clear layout and signage, provision of cycling facilities and improving access to public transport interchanges. Civic spaces and public realm should be accessible and inclusive. A good walking environment has been shown to be not only beneficial to an individual’s health and social life, but also to bring economic benefits to the borough’s centres.

Cycling and walking contributes significantly towards creating an attractive and pleasant environment. New development should include all the facilities needed to encourage a safe walking and cycling environment from first occupation. The minimum cycle parking standards are set out in policy LP 45 in ‘Parking Standards and Servicing’

Developments should be integrated into the surrounding community and existing local routes and provide for improvements to accessibility for all. There are many footpaths, Public Rights of Way and cycle routes in the borough that new development should not compromise, and opportunities to improve them should be taken wherever possible. For this reason, in line with policy LP 1 in 4.1 ‘Local Character and Design Quality’, gated developments will not be permitted.

The Council promotes the creation of a safe network for pedestrians and cyclists. Management of other users including speed restrictions, sufficient widths, segregation where appropriate and well designed and positioned crossing facilities can reduce conflict between users. Well-designed paths, natural surveillance, appropriate levels of lighting and other security measures and good levels of maintenance can improve actual and perceived security. The Council's Public Space Design Guide includes advice with respect to the amenity of the pedestrian environment. The London Cycle Design Standards sets out requirements and advice for cycle network planning and for the design of dedicated cycle infrastructure, cycle-friendly streets and cycle parking.

The Council will ensure that there is signage and way marking of the three strategic walking routes identified in the London Plan, which run through the borough – the Thames Path National Trail, the Capital G.

Taxis and private hire vehicles Ensure that taxis and private hire vehicles are adequately catered for in appropriate locations. 134 Ring and the London Loop, and other promoted route, such as the River Crane Walk and Beverley Brook Walk, which together form a network of leisure routes which most residents can reach.

Proposals that improve transport links within or between the borough and other areas will be encouraged. This could refer to physical proposals and improvements such as a new bridge or path; improving existing links such as creating a new gate into a park; or increasing the use of an existing link such as the promotion of a route as a travel option.

2.4.6. **Policy LP44** relates to “Sustainable Travel Choices”, with Section B outlining the following outlined with regards to walking and cycling:

2.4.7. *Ensure that new development is designed to maximise permeability within and to the immediate vicinity of the development site through the provision of safe and convenient walking and cycling routes, and to provide opportunities for walking and cycling, including through the provision of links and enhancements to existing networks.*

LBRUT CYCLING STRATEGY 2016-2026 (2017)

2.4.8. The LPA Cycling Strategy outlines that the borough has the highest proportion of people cycling in London (7% of journeys). This is “because many of the borough’s residents and visitors have quickly recognised that cycling can be a healthy, low cost, quick, enjoyable and environmentally friendly way to travel”. This coupled with the borough’s natural assets such as its parkland and rivers mean it is an attractive place to cycle.

2.4.9. The Council is keen to support this growth given the benefits that more people cycling can deliver to the wider community, through reduced congestion on the roads and public transport, better local air quality, less noise and improved health and wellbeing. This is supported by the policies set out in the national and regional policies and strategies.

2.4.10. The LPA sets three objectives within its cycling strategy to achieve Richmond’s Cycling Vision, which is: “To get more people cycling more often by making cycling easier, safer and more integrated”

2.4.11. The three core objectives are:

- (A) Making cycling journeys safer and easier.
- (B) Developing cycling locally as an everyday option.
- (C) Promote cycling as a safe, fun and healthy way to get around.

2.4.12. To achieve core Objective A the strategy seeks:

- Cycle network improvements.
- Better junctions and links.
- Better bridges.
- Integrating cycling into new schemes.
- Well maintained roads and routes.

- More cycle training.
- Safer HGVs.
- Enforcement against poor road user behaviour.
- Speed limits and traffic calming.

- 2.4.13. In order to achieve Objective B, the strategy states that people need secure and convenient places to store their bikes at both ends of the journey. This needs to be done in such a way that cycling can be more attractive than other modes.
- 2.4.14. Objective B also highlights the challenges associated with cycling, outlining the need for improving provision of cycling for all users. Considering all users means that those who are unable to store or own a bike must be considered and access to associated facilities and cycle maintenance is available for all users. To achieve core Objective B the strategy seeks:
- Improved cycle parking (for residents, workplaces, schools, stations, new development, visitors).
 - Better cycle security.
 - Encouraging improved cycle maintenance.
 - Facilitating bike ownership.
 - Improving cycle hire options.
 - Removing abandoned bikes.
- 2.4.15. Objective C states that the council has a significant supporting role to play in encouraging people to cycle:
“Delivering Objectives A and B will go a long way to encouraging more people to cycle. However there is even more the Council can do to raise awareness of the support available to help get more people cycling.”
- 2.4.16. To achieve core objective C the strategy seeks:
- Providing an information resource for all.
 - Better local community engagement.
 - Ongoing schools’ engagement.
 - More effective business engagement.
 - Working with Public Health Partners.
- 2.4.17. The Council has set out a monitoring plan to keep a track of the delivery of actions in this strategy and their contribution towards achieving its overall vision and objectives, with annual reports to be compiled.
- 2.4.18. The Council has already achieved the previous Mayor’s Target of a 5% modal share for cycling by 2026, for trips originating in the Borough. It is recognised that the Mayor’s target is a pan London target and in Richmond there is greater potential to exceed this. The Council has therefore set a series of realistic but ambitious targets to achieve by 2020 and 2026.

TWICKENHAM AREA ACTION PLAN (2013)

- 2.4.19. The Twickenham Area Action Plan (AAP) was adopted in 2013 and sets out the framework for developing the centre, including site specific proposals. The AAP is based on five key themes:
- Revitalising the high street, including improvements to the retail, food and beverage offer of the centre, making the most of the presence of the rugby spectator.
 - Enhancing the leisure, entertainment and cultural offer, including improving the range and quality of attractions, to attract people into the centre.
 - Making the centre a more inviting place at all times of the day and evening for people of all ages;
 - Improving the public realm, reducing the impact of traffic and creating an attractive and safe place to visit and enjoy.
 - Protecting, enhancing and making the most of the character of the centre’s built and open environment, including the riverside and working waterfront.

RICHMOND ACTIVE TRAVEL STRATEGY

- 2.4.20. In July 2019, Richmond Council declared a climate emergency. As part of this declaration, the Council resolves to be recognised as the greenest London borough and to become carbon neutral by 2030.
- 2.4.21. The aim of the Richmond Active Travel Strategy is for more trips to be undertaken to, from and within the Borough by walking and cycling, as both standalone trips and as part of longer trips involving public transport.
- 2.4.22. The aim is supported by the following objectives:
- Support local walking and cycling trips through pavement improvements, the introduction of low-traffic neighbourhoods, improved crossings, contra-flow cycling, cycle parking and public realm improvements, using the Healthy Streets Approach
 - Create a high-quality core cycle network connecting popular destinations
 - Make improvements to clean-air walking and cycling routes away from roads, including paths through parks, towpaths and other public rights of way
 - Improve awareness of local walking, cycling and running routes through maps and branding

3 BASELINE CONDITIONS

3.1 OVERVIEW

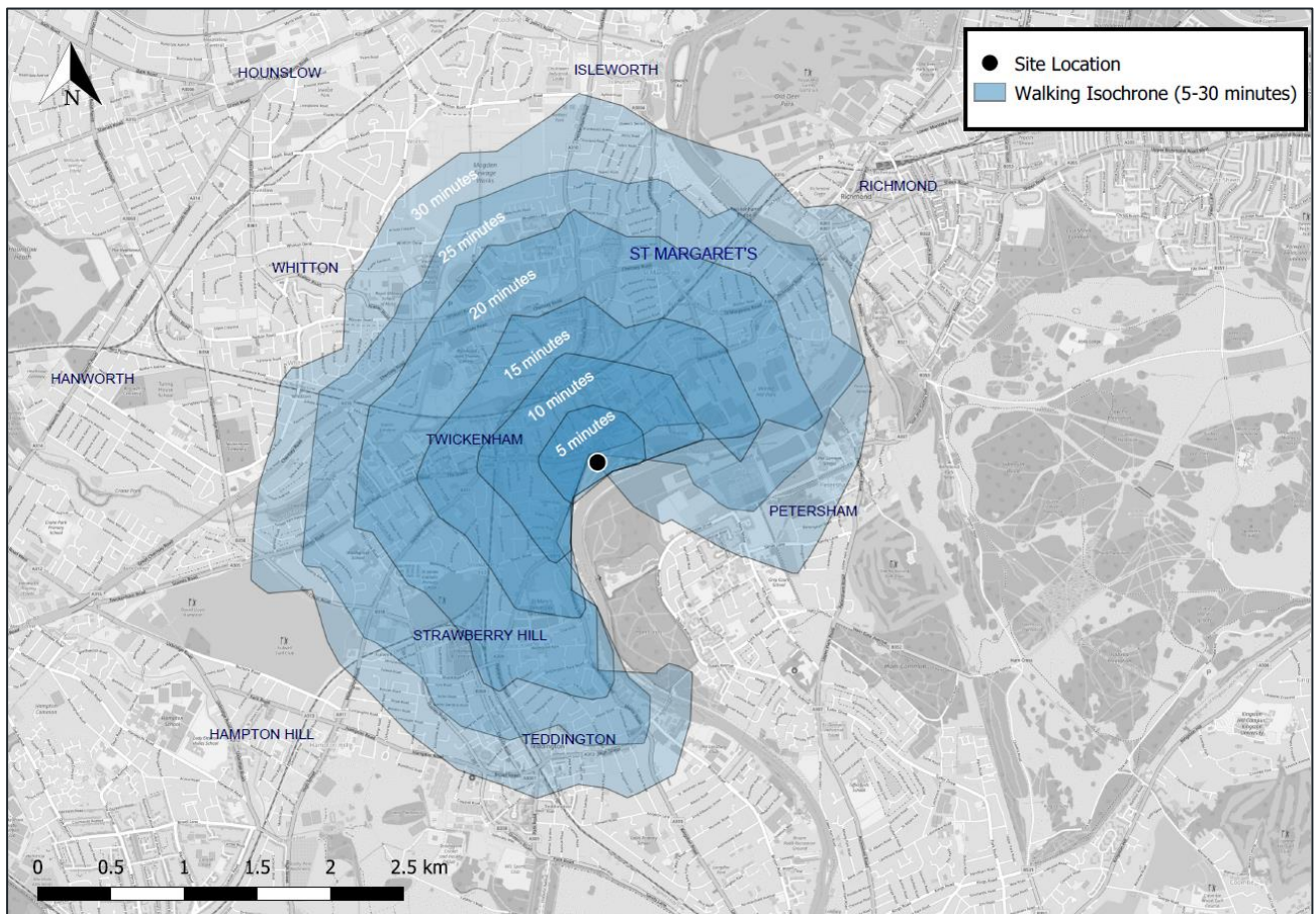
- 3.1.1. This chapter sets out the current and future baseline transport networks in the local area. In particular, it will address walking and cycling as per the Healthy Streets criteria, considering access to key amenities and services in the local area.

3.2 WALKING AND CYCLING

WALKING

- 3.2.1. There is an extensive network of footways within immediate proximity of the Site offering connection to the wider network and town centre facilities.
- 3.2.2. Pedestrian access to the site can be made via Wharf Lane and Water Lane from King Street and the riverside.
- 3.2.3. A 30-minute walking isochrone is shown in Figure 3-1, demonstrating the potential reach on foot to/from the site.

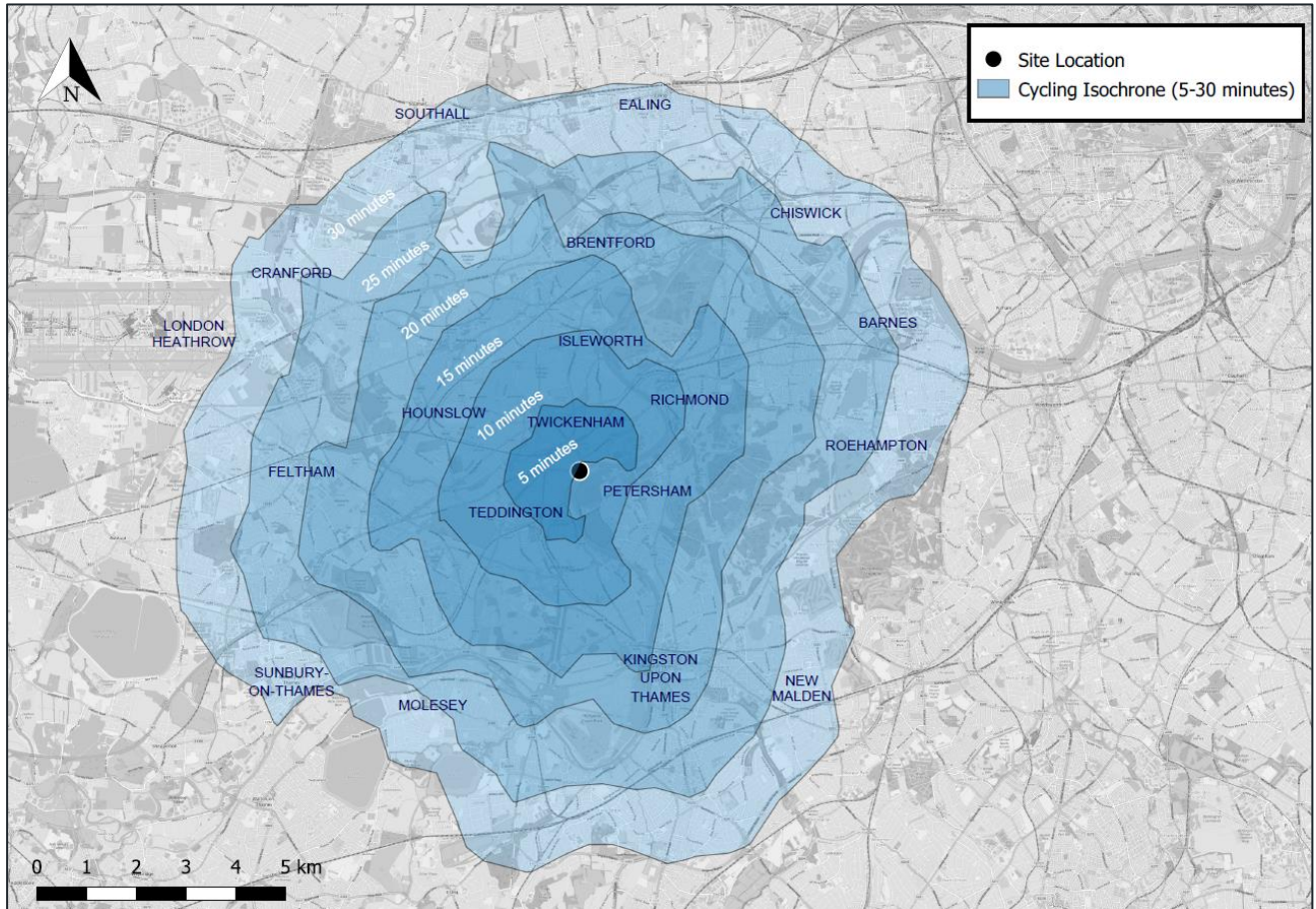
Figure 3-1 - Walking Isochrone



CYCLING

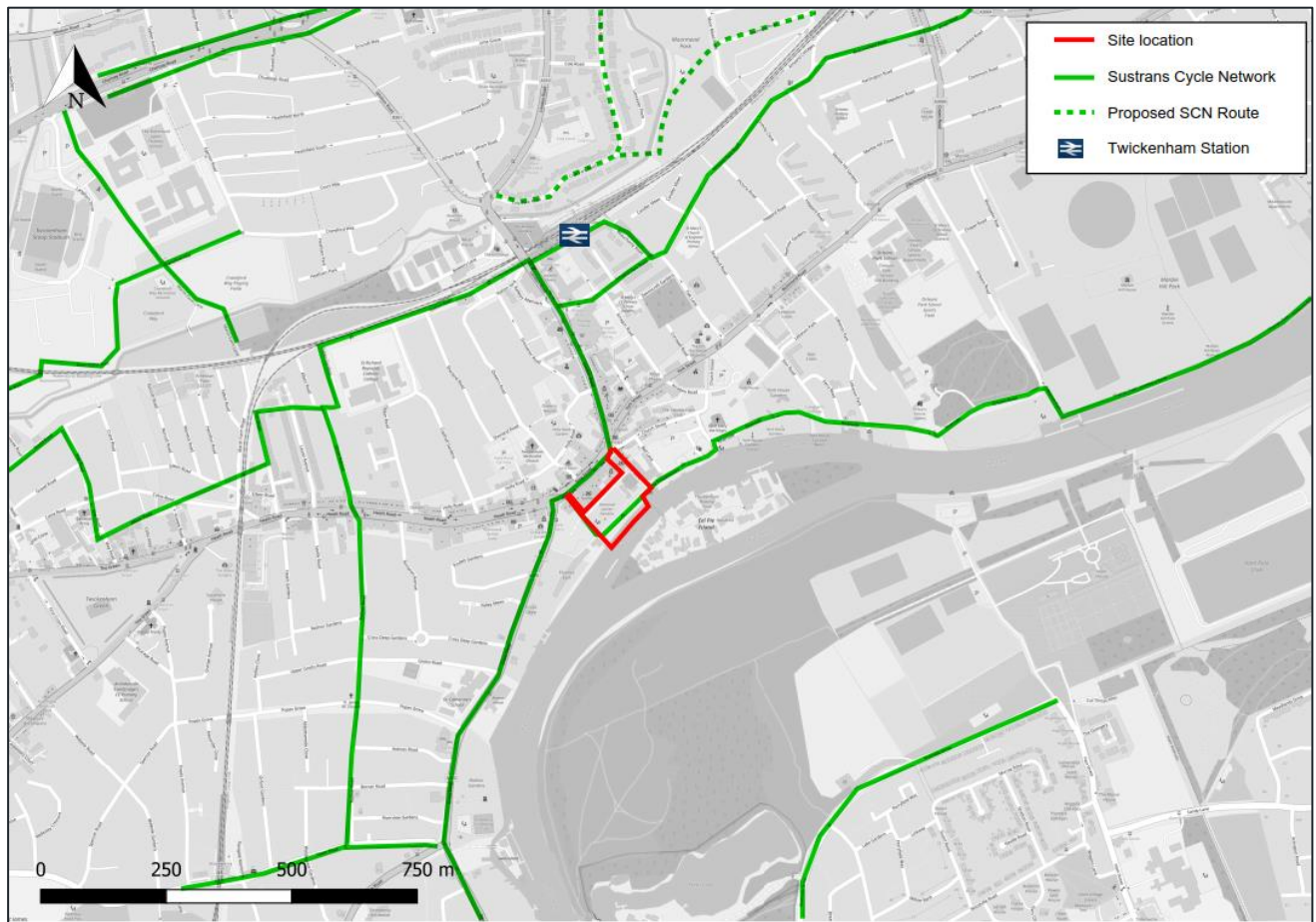
- 3.2.4. Cyclists are able to access the Site and surrounding locations, facilities and amenities via the local cycle network. An advisory signed cycle route runs through the Site alongside the riverside, Wharf Lane and King Street.
- 3.2.5. A cycling isochrones map is shown in Figure 3-2 and illustrates the locations that people can travel to/from within a 30-minute cycle ride.

Figure 3-2 - Cycling Isochrones



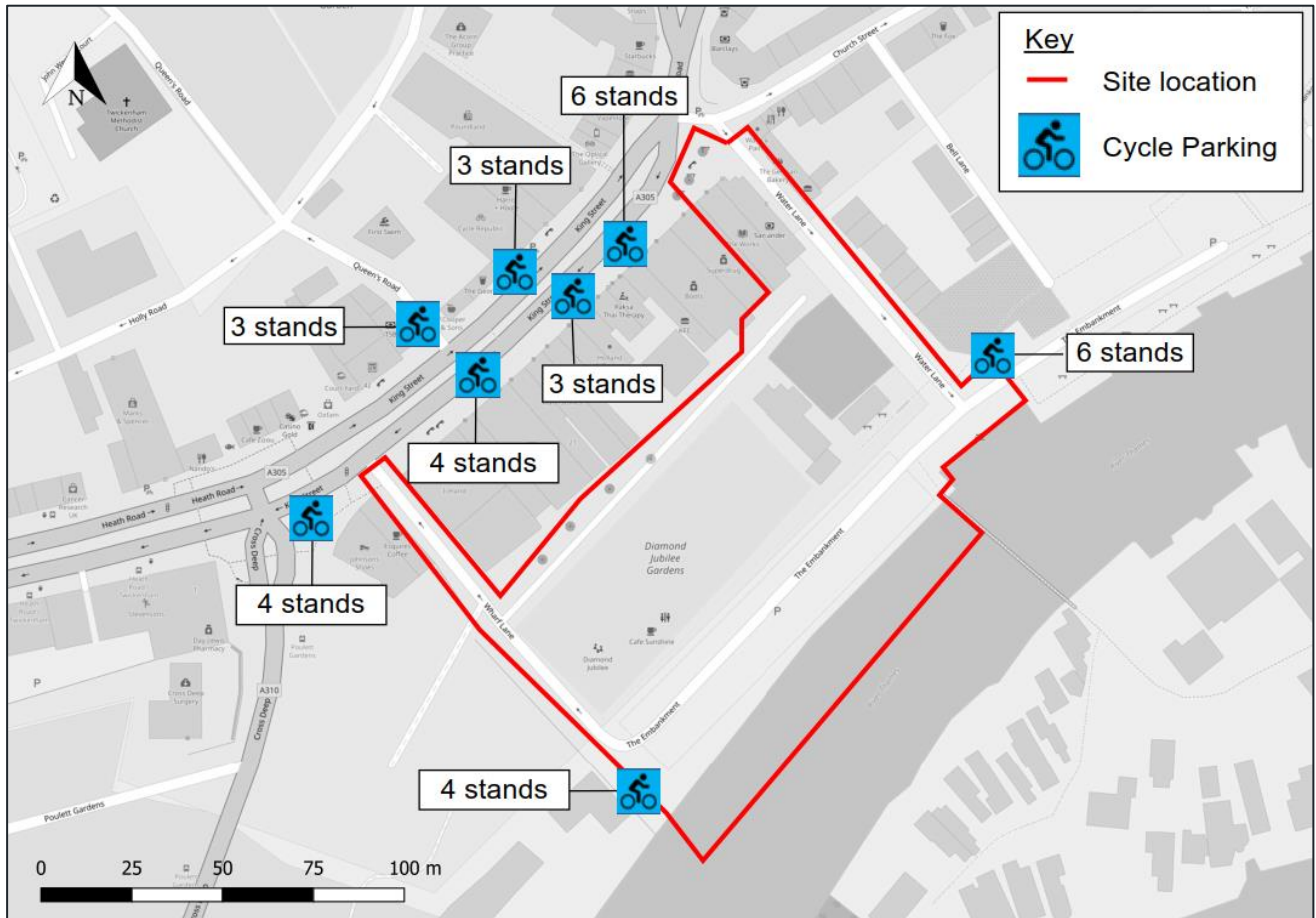
- 3.2.6. The Mayor's Transport Strategy and Healthy Streets for Londoners documents suggest that cycling has the potential to substitute short-medium car trips, particularly those less than five kilometres in length, and cycling has the potential to form part of a longer journey by public transport.
- 3.2.7. The local cycle network is made up of main road cycle routes, off-road and quiet cycle routes, cycle paths and National Cycle Network Routes. A more detailed local context map of the Twickenham Area is shown in Figure 3-3.

Figure 3-3 - Local Cycling Network



- 3.2.8. Currently cycle parking is provided on both sides of King Street in the form of 21 no. unsheltered Sheffield stands. The Embankment also offers 6 no. Sheffield stands by the south-eastern corner and 4no. spaces on the south western corner of the site.
- 3.2.9. The location of these Sheffield stands is shown in Figure 3-4 below. There is a total of 31no. Sheffield stands within close proximity to the site.

Figure 3-4 - Location of Local Cycle Parking Facilities



3.3 HEALTHY STREETS ASSESSMENT

CONNECTIONS TO LOCAL FACILITIES

- 3.3.1. The Site is located in proximity to a number of public transport services, as well as a variety of a local facilities such as a King Street's retail, tennis courts, local parks, and other shops, schools, medical practices and amenities within Twickenham's high street centres.
- 3.3.2. A Healthy Streets Assessment has been carried out, and is presented in the next Chapter, comparing the existing and proposed pedestrian and cycle conditions to/ from the Site.

3.4 PUBLIC TRANSPORT

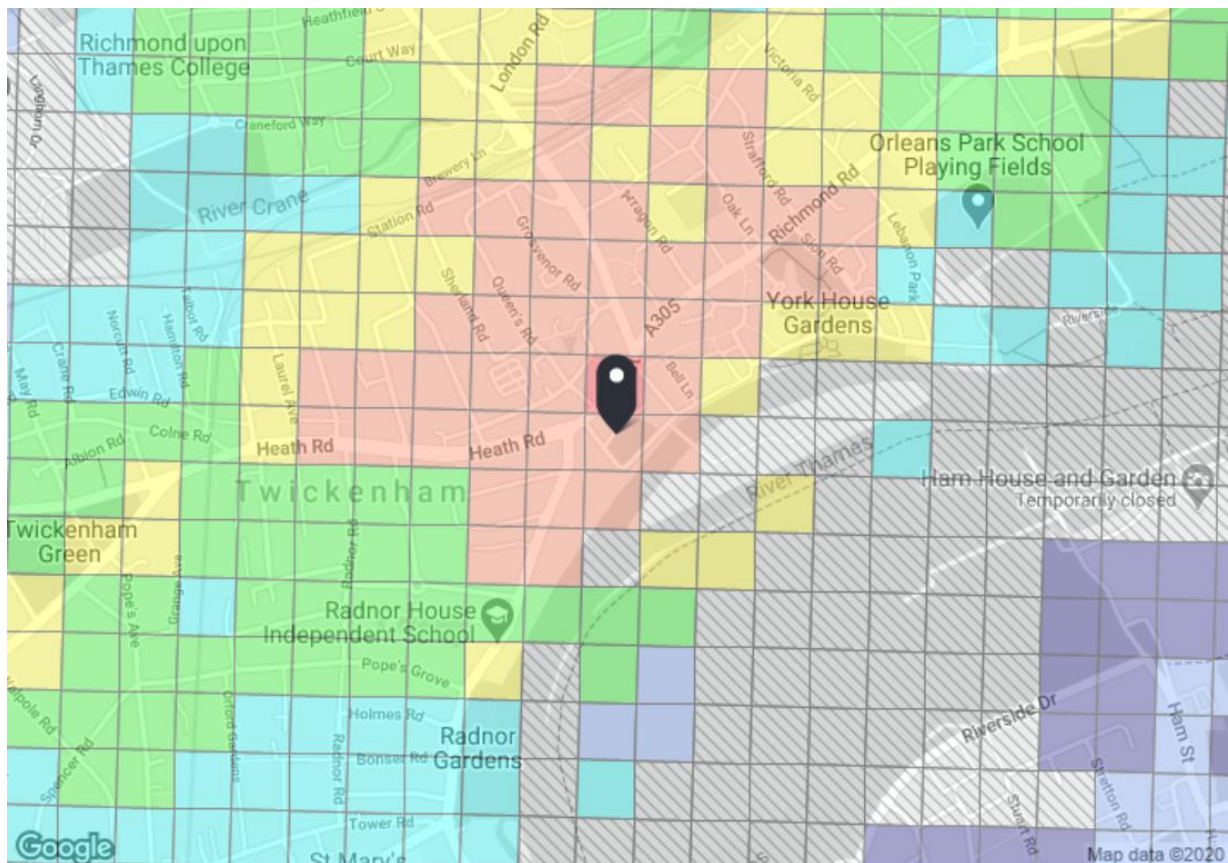
- 3.4.1. The site currently has a PTAL of 5, suggesting it has very good levels of public transport accessibility.

PUBLIC TRANSPORT ACCESS LEVEL (PTAL)

- 3.4.2. The PTAL methodology has been adopted by TfL as a means by which to quantify and compare accessibility to public transport services for given sites in London. It takes into account the time taken to access the public transport network, including:
 - The walk time to various public transport services
 - The average waiting time for each service
 - The reliability of each service

- 3.4.3. The methodology is based on a walk speed of 4.8kph and considers railway and underground stations within a 12-minute walk (960m) of a site and bus stops within an 8-minute walk (640m). The PTAL assessment is undertaken using the morning peak hour operating patterns of existing services.
- 3.4.4. TfL's web-based calculator has been utilised to determine the Site's existing PTAL. The PTAL methodology has been adopted by the GLA and TfL and gives the site a rating of 5. This demonstrates that the Site has a very good level of public transport accessibility due to its location within the immediate vicinity of Twickenham railway station, together with numerous bus services.
- 3.4.5. Figure 3-5 shows the site PTAL.

Figure 3-5 - Site PTAL Map



PTAL output for Base Year

5

Easting: **516254**, Northing: **173151**

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

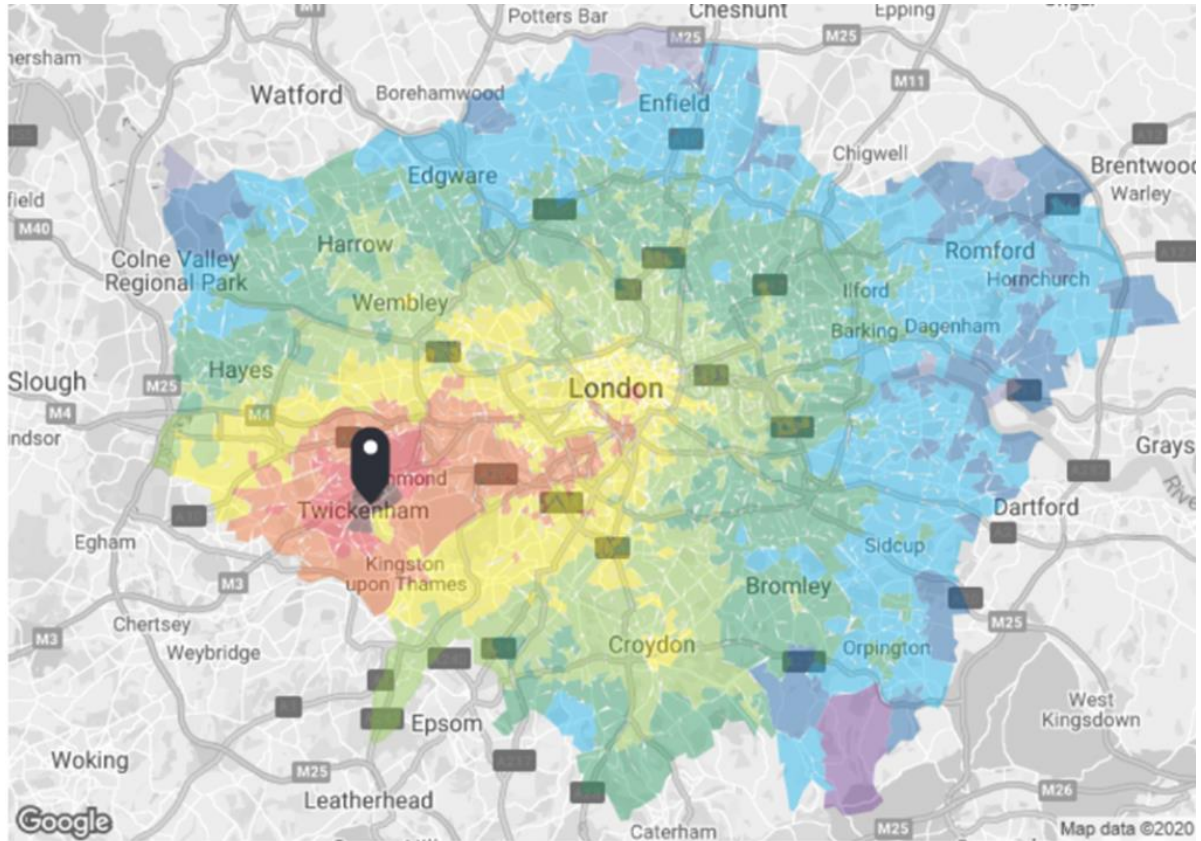
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TRAVEL TIME MAPPING (TIM)

- 3.4.6. TIM is a complementary measure of connectivity to PTALs in WebCAT. Travel times in TIM use travel time data derived from TfL's transport models.
- 3.4.7. A TIM is provided below for the Site in Figure 3-6.

Figure 3-6 - TIM Map



TIM output for Base Year

Scenario: Base Year Mode: All public transport modes, Time of day: AM peak, Direction: From location

Diamond Jubilee Gardens, 3 The Embankment, Twickenham TW1 3SU, UK
Easting: 516271, Northing: 173161

Code: NT085A05A

Map key - Travel Time

< 15 mins	15 - 30 mins
30 - 45 mins	45 - 60 mins
60 - 75 mins	75 - 90 mins
90 - 105 mins	105 - 120 mins
120 - 135 mins	135 - 150 mins

Map layers

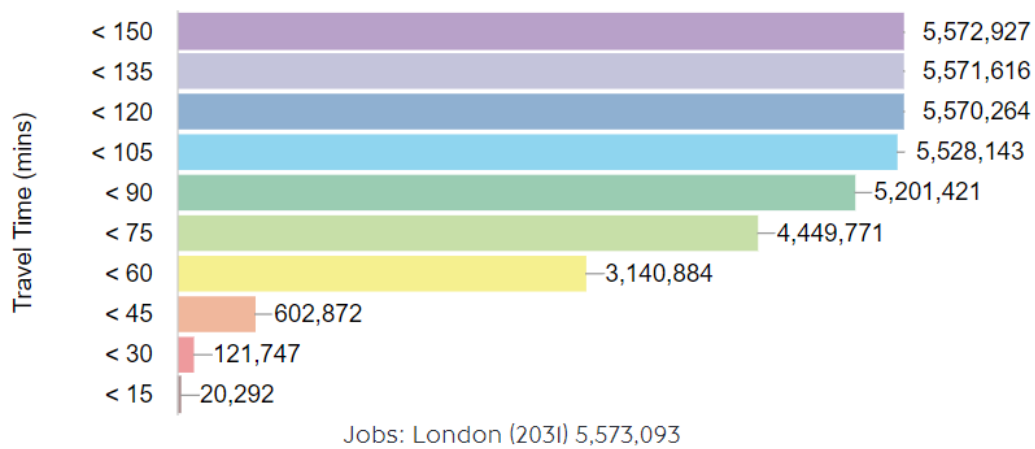
Travel Times

Copyright 2020, TfL



- 3.4.8. TIM has been used in greater detail to provide a catchment analysis for both employment and educational establishment scenarios for the Site's location. The above map illustrates the time it would take to reach different areas of London from the Site using public transportation.

Figure 3-7 - Employment Catchment Analysis



- 3.4.9. Figure 3-7 above shows the 2031 forecast for employment opportunities. The graph provides the public transport travel times it would take to reach these employment opportunities from the Site.
- 3.4.10. Figure 3-8 and Figure 3-9 below provide the same travel time information for primary school catchment and secondary school catchment from the Site.

Figure 3-8 - Primary School Catchments Analysis

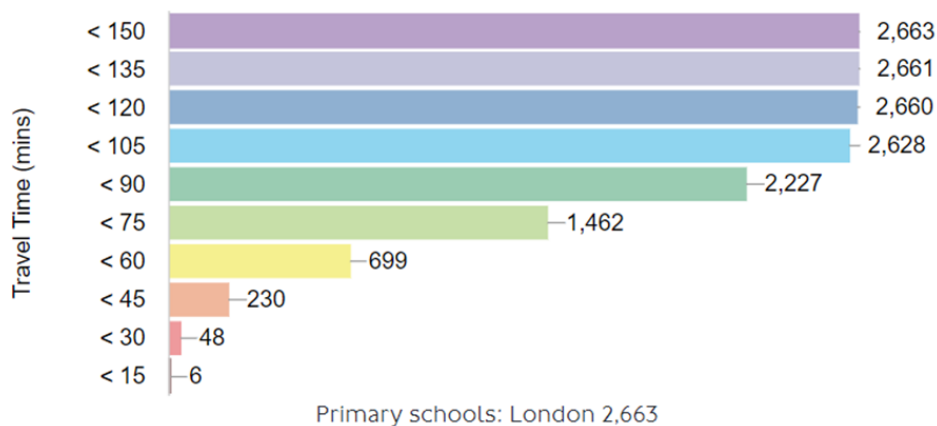
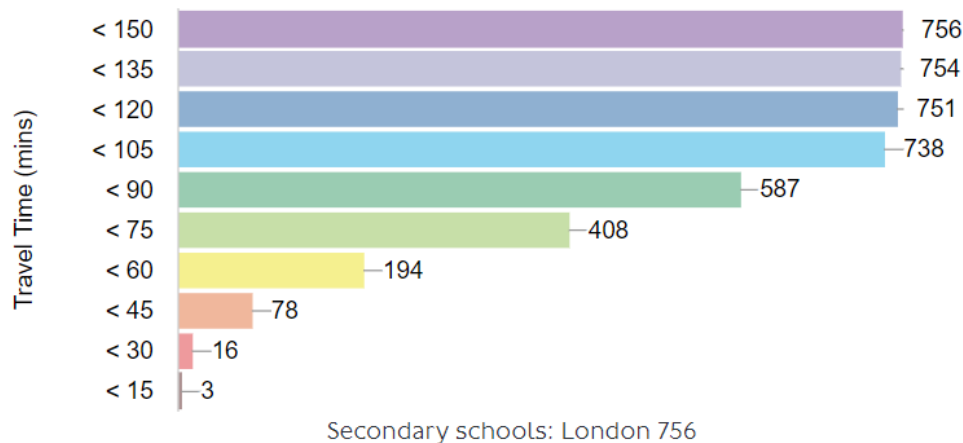


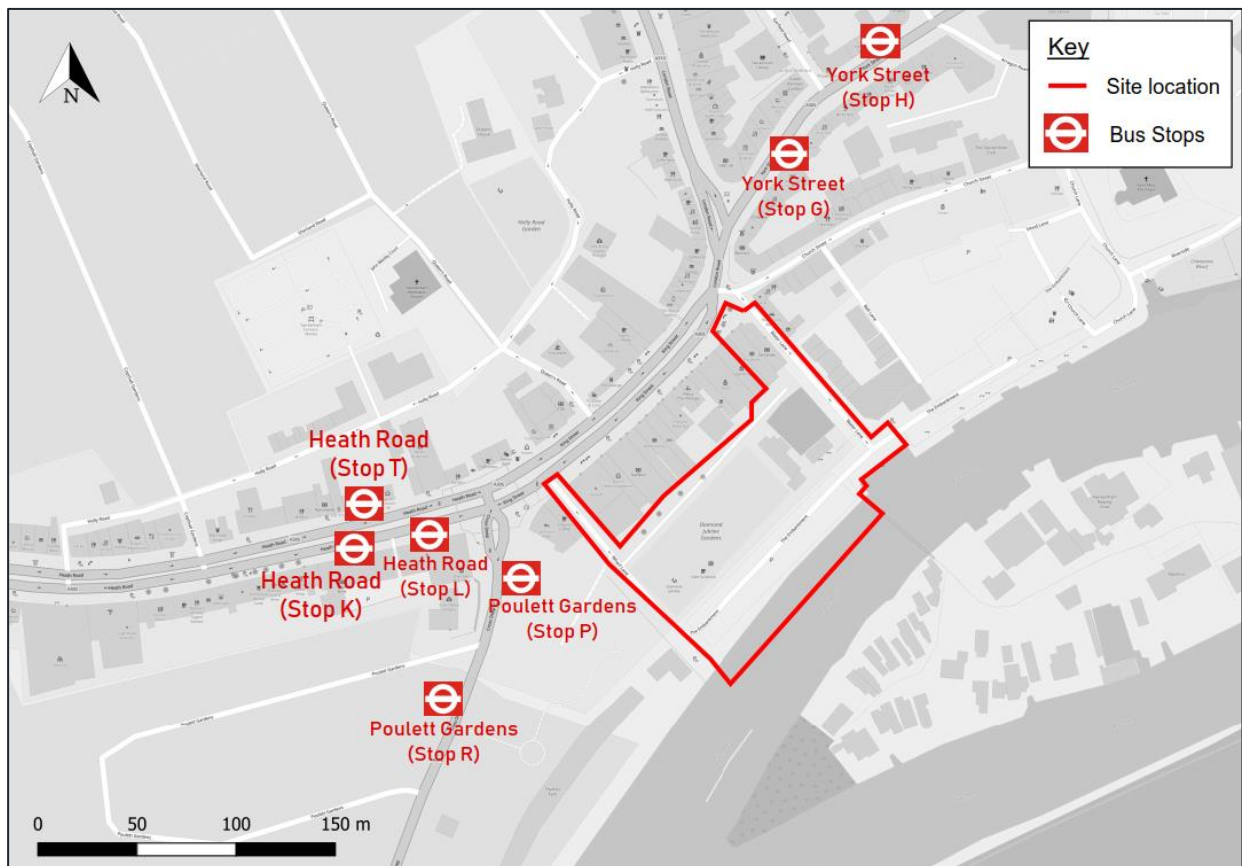
Figure 3-9 - Secondary Schools Catchment Analysis



BUS SERVICES

- 3.4.11. The nearest bus stops to the Site are located on York Street (A305) circa 100m (1-minute walk) to the north of the Site. There are also bus stops located along Cross Deep (A310) and Heath Road (A311). These stops provide access to a good range of services with many also providing night services. The location of these local bus stops is shown in Figure 3-10.

Figure 3-10 - Local Bus Stop Locations



- 3.4.12. Information on local bus services including route destination and frequency is provided in Table 3-1.

Table 3-1 – Summary of Local Bus Services

Route	Stop name	Route Summary	Peak Frequency (per hour)
33 (N33 - 24 hour service)	York Road Twickenham Stop G / Stop H Poulett Gardens Stop P / Stop R	Fullwell Station – Lonsdale Road	4
290	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Staines Bus Station – Arragon Road	3
490	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Pools on The Park – Heathrow Terminal 5	6
H22 (N22 – 24 hour service)	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	The Bell – Manor Road	5
R68	York Road Twickenham Stop G / Stop H Poulett Gardens Stop P / Stop R	Kew Retail Park – Hampton Court Station	4
R70	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Nurserylands Shopping Centre – Richmond / Manor Road	6
110	Heath Road Twickenham Stop T / Stop L / Stop K	School Road – West Middlesex Hospital	2
267	Heath Road Twickenham Stop T / Stop L / Stop K	Hammersmith Bus Station – South Road / Fullwell	5
281	Heath Road Twickenham Stop T / Stop L / Stop K	Hounslow Bus Station – Tolworth Tower	5

RAIL SERVICES

- 3.4.13. Twickenham station is located circa 10-minutes walking distance of the Site, and provides Southwestern Railway services to London Waterloo and destinations including Reading, Kingston, and Wimbledon. Twickenham station provides links to the London Underground and London Overground network with Richmond the closest station, serving the District line. These are shown in Table 3-2 below.

Table 3-2 – Summary of Rail Services

From Station	Stop name	AM Peak Frequency	PM Peak Frequency
		0800-0900	1700-1800
Twickenham	Reading	2	2
	Chiswick	4	3
	London Waterloo	15	13
	Wimbledon	2	2
	Kingston	2	2
	Windsor and Eton Riverside	2	2

PARKING CONDITIONS

- 3.4.14. Whilst parking is not permitted along the A305 King Street to the north of the Site, car parking is currently provided as on-street parking on Water Lane, The Embankment and Water Lane.
- 3.4.15. On-street parking is available along the majority of Water Lane and The Embankment for resident permit holders or as pay and display, with the hours of operation Monday to Saturday 0800-1830, with a max stay of four hours.
- 3.4.16. Parking on Wharf Lane is also pay and display with spaces provided for permit holders and business permit holders where it is leased to businesses.
- 3.4.17. A total of 26no. private parking spaces were previously provided within a car park to the rear of King Street, accessible via the service road. The car park has since been closed awaiting redevelopment.
- 3.4.18. Overall, a total of 82no. on-street car parking spaces will be removed as part of the Council CPZ review scheme (81 of which are within the redline plan of the scheme). The following existing spaces will be retained:
- Six bays (total to be confirmed) along the Embankment which will remain dedicated to EPI servicing
 - Two bays which are re-provided along Wharf Lane for the use of EPI residents and visitors
 - One bay for disabled badge holders along the Service Road
 - Two disabled badge holders bays along Water Lane
 - Two on-street parking spaces which can be allocated by the LPA in any way they see fit, we anticipate the bays may be retained as P&D for general visitors of the area
 - One motorcycle bay re-provided along Water Lane
- 3.4.19. In addition, three spaces will be retained to the south east of Water Lane.
- 3.4.20. The removal of parking from the Embankment forms part of the Council's initiative following extensive survey work. The vision for the Embankment is to create a place for people, facilitating an area of activity and event

space which draws people to the riverside. The reduction of car parking provision along the Embankment will in turn reduce associated vehicle trips to the Embankment and along Wharf Lane and Water Lane.

- 3.4.21. In order to assess the existing parking utilisation and inform the Controlled Parking Zone (CPZ) review including the Site, the Council has commissioned Systra to carry out a specific study. Data was collected and analysed for the area covered by CPZ zone D encompassing Water Lane, The Embankment and Wharf Lane using the Richmond Parking Methodology.
- 3.4.22. The highway network surrounding the Site was considered, with Manually Classified Turning Counts surveys undertaken at key junctions to inform the baseline understanding of the highway network operation and level of business. The surveys were commissioned by the LPA via Systra and were carried out pre-Covid in a neutral traffic condition.

Review of the CPZ Parking Proposals

- 3.4.23. In December 2020, the Council commissioned its parking consultant for the Proposed Development, Systra, to carry out the review of the town centre car parks. The primary aim of this review was to ascertain if any improvements could be made to their operation with considerable focus placed on safety and accessibility to/from these sites for all. Systra was also asked to investigate the feasibility into the creation of a sub-zone in the CPZ as suggested by the Eel Pie Association.
- 3.4.24. The Council notes that introducing a CPZ sub-zone can create parking difficulties for residents that would be situated immediately outside its boundary in the CPZ. It is felt appropriate to implement the parking proposals allowing these to settle into operation and not to consider a sub-zone at this time in both the Riverside area and Station areas. Any further consideration of a sub-zone or sub-zones would involve further reassessment of the parking demand across the CPZ and consultation with all properties in the CPZ.
- 3.4.25. In summary, the parking proposals developed to date seek to address the displacement of the **removal of 81 parking spaces around The Embankment area, totalling 82 within the CPZ including a space in Lebanon Park.** The true impact of the removal of the spaces is not known at this time as the Council works towards a resolution in this matter. The finalised proposals will be implemented by way of Experimental Traffic Orders which provide a period of operational experience and a statutory consultation period of six months along with an option to make early modifications if required. It may be necessary through future reviews over time to make further changes as the CPZ and car parks fully adapt to the removal of the spaces on The Embankment.

4 DEVELOPMENT PROPOSALS

4.1 INTRODUCTION

- 4.1.1. This section provides an overview of the scheme design for the Proposed Development relating to transport matters such as access, servicing and parking.

4.2 QUANTUM AND TYPE OF LAND USE

- 4.2.1. Table 4-1 and Table 4-2 detail the proposed mix of uses and associated areas at the development.

Table 4-1 - Proposed Residential Development Land Use Schedule

Land Use	Development Quantum
Residential Units	45 (Units)

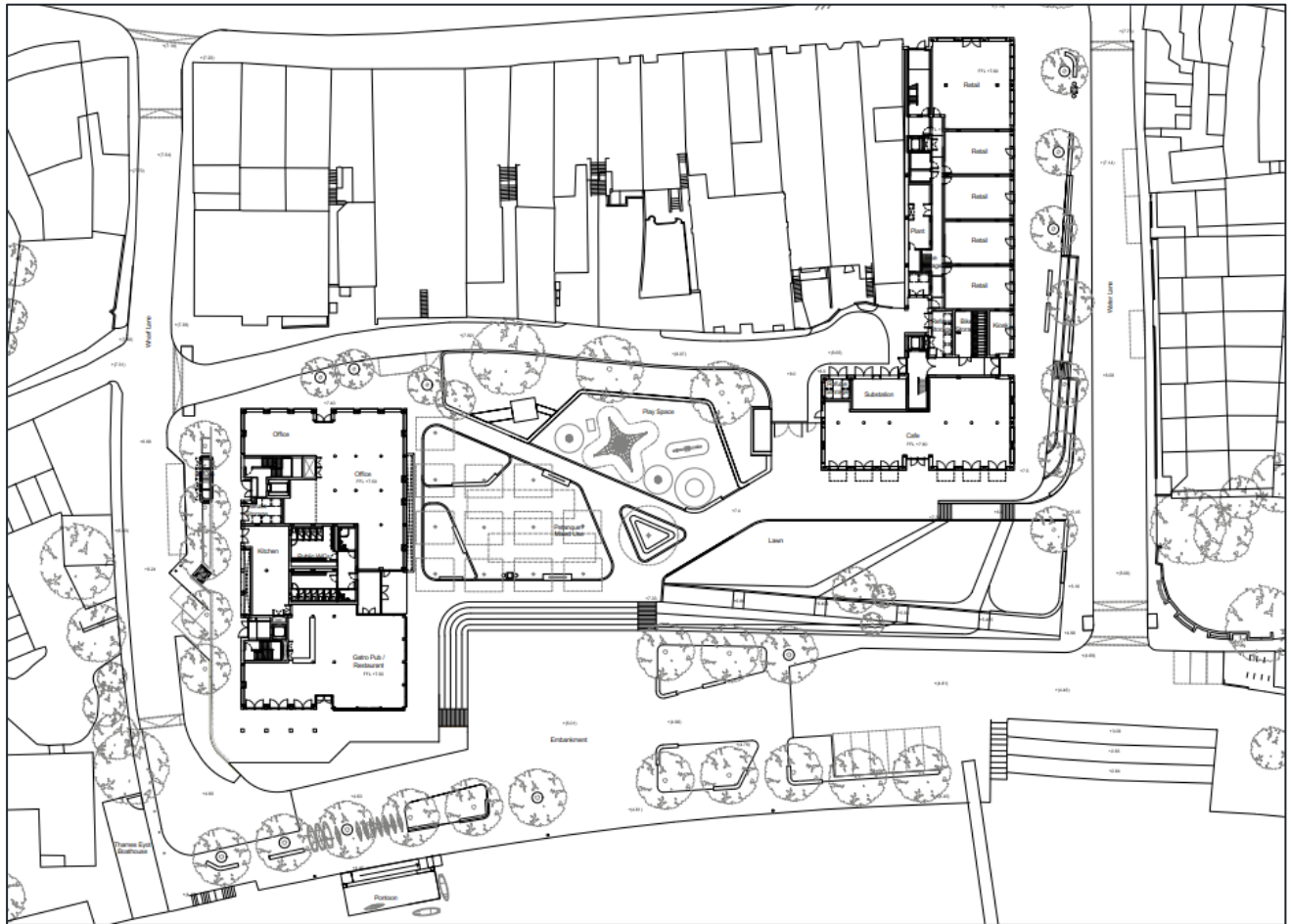
Table 4-2 – Proposed Commercial Development Land Use Schedule

Land Use	Development Quantum
Workspace	320 (GIA)
Café	255 (GIA)
Pub	444 (GIA)
Retail	368 (GIA)
Total	1,387 (GIA)

- 4.2.2. The proposed development artistic render and ground floor layout are shown following on in Figure 4-1.



Figure 4-1 – Site Ground Floor Layout



4.3 PROPOSED ACCESS ARRANGEMENT

- 4.3.1. Movement and access through the Site is described in the RIBA competition report as an ecosystem that will enable *“better pedestrian and cycle amenity at the Waterfront, whilst maintaining excellent access to [Eel Pie] Island”*.
- 4.3.2. To this end part of the Embankment between Wharf Lane and some 15-20m west of the Eel Pie Island bridge landing will be limited to vehicles access for most part of the day, effectively creating a pedestrian and cycle priority area.

VEHICLE ACCESS

- 4.3.3. To maintain vehicular access for the nearby residents and businesses, Wharf Lane and Water Lane will operate as two-way vehicle routes.

Water Lane & Water Lane / King Street Junction

- 4.3.4. Water Lane will operate as a left-turn only junction for vehicle traffic egressing from Water Lane onto King Street. With regards to inbound access, the existing junction arrangement allows vehicles approaching in a westbound or eastbound direction along King Street to turn into Water Lane. This arrangement is maintained in the proposed layout.
- 4.3.5. Vehicle tracking has been produced to support the proposed junction design, and demonstrates that 2 large cars, large vans or 7.5tonne box vans can pass each other when travelling in opposing directions without any

conflict. Similarly, a refuse collection truck or large rigid truck can pass a large car or van without conflict. In the unlikely event of 2 large trucks or a large truck and a 7.5t box van passing one another at the junction bell mouth, one vehicle would be required to give way to let the other vehicle pass. This is considered acceptable based on the low likelihood of this happening regularly, the adequate visibility at the junction and the desire to minimise the size of the bellmouth for the benefit of pedestrians and other road users.

4.3.6. It should also be noted that vehicle flows are forecast to be low on the northbound approach to the Water Lane / King Street junction following the proposed removal of parking on the Embankment, and the subsequent net reduction in trips.

4.3.7. The proposals also include a reconfiguration of the existing parking layout along Water Lane, which will benefit future traffic flow. The removal of some existing on-street parking will facilitate two-way traffic movements along Water Lane. In the unlikely event that two larger vehicles (e.g. Refuse Truck and Rigid Truck) travelling in opposite directions meet on Water Lane, there are regular passing places between on-street parking to allow vehicles to pull-in and allow traffic to pass.

4.3.8. Ultimately, traffic flows along Water Lane will be significantly reduced when compared with existing levels due to the removal of significant parking along the Embankment, as evidenced through the trip-generation assessment in Chapter 6 of this Transport Assessment; notwithstanding this, the proposed layout for two-way traffic working along Water Lane has been developed to ensure that there is sufficient space for vehicle travelling in opposite directions to pass one another through the introduction of regular passing place between on-street parking bays. Extensive vehicle tracking for a variety of vehicle types has been undertaken to illustrate that two-way movements can be accommodated along Water Lane, and that service and other vehicles can manoeuvre between Water Lane and the Embankment, even when refuse vehicles are occasionally parked at the top of the slip way. The suite of tracking drawings can be seen in Appendix D of this Transport Assessment.

The Embankment

4.3.9. Vehicle access along the Embankment will be managed with use of physical barriers. The Council will be responsible for operating the barriers each day, as they do for the existing barrier that is installed at the western end of Church Street. Whilst the hours of operation will be subject to final confirmation and review, it is anticipated that vehicular access will be permitted from 7am – 10am daily.

4.3.10. Any servicing activity along the Embankment will be required to abide by any new Traffic Management Order (TMO) that specifies when the gate can and cannot be opened. Restrictions will be clearly stipulated through signage and the LBRUT Council website and enforced by the Council.

4.3.11. Information will also be made available to stakeholders with regards to a TMO once this has been validated and approved with the LBRUT.

Wharf Lane & Wharf Lane / King Street Junction

4.3.12. Wharf Lane will operate as a two-way vehicle route following implementation of the development proposals. Future traffic flows along Wharf Lane are forecast to be extremely low following the removal of parking and introduction of access restrictions on the Embankment. Vehicles larger than 7.5t box vans would be banned from turning left into Wharf Lane from King Street for safety reasons.

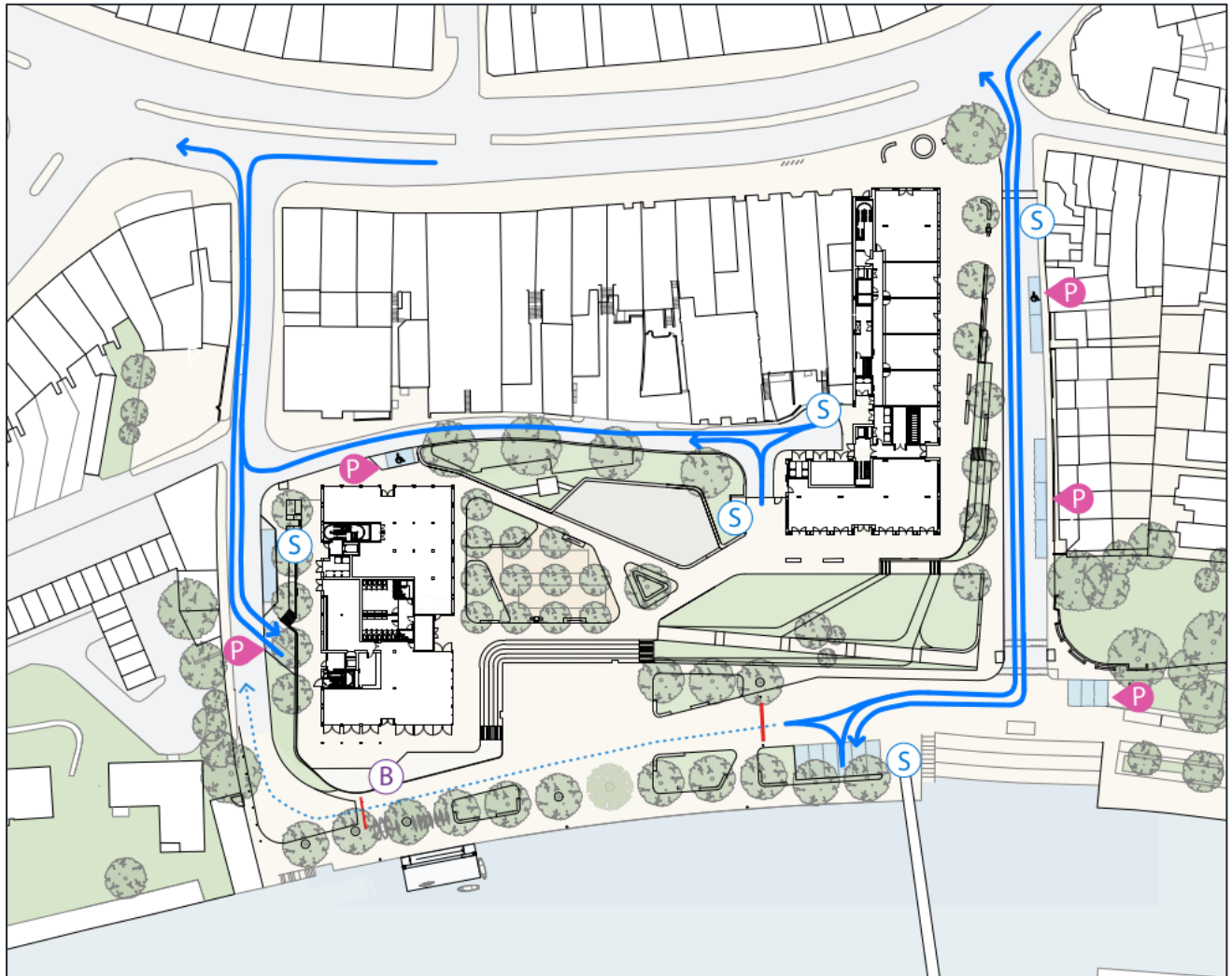
4.3.13. A small number of private parking bays (c.20) are located to the west, accessed via Wharf Lane, and some servicing activity associated with the King Street retail units (noticeably the Iceland store) is also accessed via Wharf Lane. This will continue to be the case following redevelopment of the site. The development proposals provide a further 3 parking bays (including 1 Blue Badge bay), together with a loading bay on Wharf Lane and a servicing area behind the Water Lane building accessed via the service road off Wharf Lane. The traffic flows associated with this activity are anticipated to be very low (c.10-15 total peak hour vehicle movements generated by the proposed development).

- 4.3.14. Vehicle speeds and flows accessing and egressing Wharf Lane from/to King Street are both expected to be low. While visibility is restricted on the Wharf Lane approach to the junction due to the narrow width of the street and proximity of buildings to the junction, good visibility is provided in both east and westbound directions once a vehicle has reached the junction stop line. Low traffic flows will largely mitigate against the likelihood of vehicle conflicts, with the low vehicle flows confirmed by existing servicing data and forecast future servicing and other activity generated by the proposed development.
- 4.3.15. Vehicle tracking showing the left-turn from Wharf Lane onto King Street demonstrates that the majority of vehicles making this movement (cars, vans and small 7.5t trucks) can do so without encroaching into the offside (ahead) lane on King Street. Tracking drawing SK-69_P01 illustrates this movement for a large car and a 7.5t box van.
- 4.3.16. Some vehicles larger than a 7.5t box van, including a refuse collection vehicle and 10m rigid, would encroach into the offside cycle lane (but not traffic lane) when turning from Wharf Lane into King Street, and would therefore need to wait for oncoming cycles in the offside lane to give way to allow for this movement to be made. Only larger articulated lorries (16.5m) would need to encroach into the offside traffic lane when turning left into the nearside lane on King Street. This movement is anticipated to be generated very infrequently (c.1 movement per day associated with the Iceland store) and would require drivers to wait for oncoming traffic to give way before proceeding to make the turn.
- 4.3.17. It should be noted that this is no different to the existing situation, and that future traffic flows making this movement will be significantly lower than at present following the closure of the Embankment and removal of existing parking.
- 4.3.18. On the rare occasions two larger vehicles, such as two 7.5t box vans, are travelling in opposing directions through the junction, adequate visibility of vehicles at the junction stop line will ensure oncoming vehicles travelling westbound along King Street will clearly see the intent of the vehicles egressing Wharf Lane and will therefore have adequate time to slow down and give way at the junction as required.

Service Road

- 4.3.19. It should be noted that the vast majority of service vehicles forecast to use the service road will be smaller vans and 7.5t box vans. These vehicle types will be able to turn around at the eastern end of the service road using the turning head provided and without the gates on the southern arm of the turning head having to be opened. The vehicle tracking for this turning movement shows that the body of the front of the 7.5t box van would very slightly overhang the footway on the north side of the carriageway as it turns. The vehicle wheels would remain on the carriageway at all times. Visibility for the driver whilst turning will be good along the service road in both directions, and the driver would have clear sight of any pedestrians or other road users whilst making the turning manoeuvre, thereby ensuring they would wait until the footway is clear before proceeding with the turn.
- 4.3.20. The larger refuse collection vehicle would also be required to overhang the footway on the north side of the carriageway whilst turning, including when reversing into the turning head and when travelling in forward gear to turn to face west along the service road. In order to undertake this manoeuvre safely, it will be recommended that banksmen are used to ensure the footway is clear of any pedestrians before the vehicle turns around.
- 4.3.21. It should also be noted that, whilst some pedestrian flows are forecast along the service road, including those generated by the flats at 1-33 King Street, these flows are anticipated to be very low and this route would not be a key desire line for general pedestrians travelling through the area; notwithstanding this, the safety of all pedestrians and other road users is paramount, and alternative solutions will be considered, including considering the use of smaller refuse collection vehicles along this road.
- 4.3.22. A concept of the proposed movement and access routing through the Site is shown in Figure 4-2.

Figure 4-2 – Vehicle movement and access concept through the site (source: Hopkins)



- 4.3.23. The access and servicing proposals developed to date seek to accommodate the needs of the area once the development is in place with the section of The Embankment, between Water Lane and Wharf Lane, closed to all vehicular traffic. The proposals have taken into account various comments and suggestions made in meetings with stakeholders and the consultation undertaken last year. In respect of these measures, a road safety audit will be undertaken to assess the implications to include consideration of any road safety concerns that have been raised to date.
- 4.3.24. The remainder of the time the space will be closed to traffic, details of the enforcement will be further considered and defined via Traffic Road Order. This could be enforced via cameras, or physical measures such as via bollard or barrier which will be unlocked through universal padlock for which the London Fire Brigade would hold a key, therefore allowing access onto the Embankment for emergency vehicles as needed.
- 4.3.25. A similar pedestrian priority arrangement has recently been implemented successfully on Church Street, north-east of the Proposed Development Site.

PEDESTRIAN ACCESS

- 4.3.26. Proposed pedestrian access to the Site will continue to be from Water Lane and Wharf Lane via King Street and the Embankment. The pedestrian route along the Embankment will be enhanced to provide pedestrian

only access, while the Site will provide pedestrian routes throughout to enable a more natural pedestrian flow following key desire lines across the Site.

Water Lane

- 4.3.27. Water Lane is considered to be the primary pedestrian access route into the site given its relationship to Twickenham town centre and railway station, and a generous new pedestrian route will be provided in this location adjacent to Water Lane.
- 4.3.28. Minimising the size of the junction bellmouth at the Water Lane junction and providing enhanced crossing facilities between Water Lane and Church Street result in improved pedestrian accessibility and connectivity to the masterplan site when considering the existing situation.

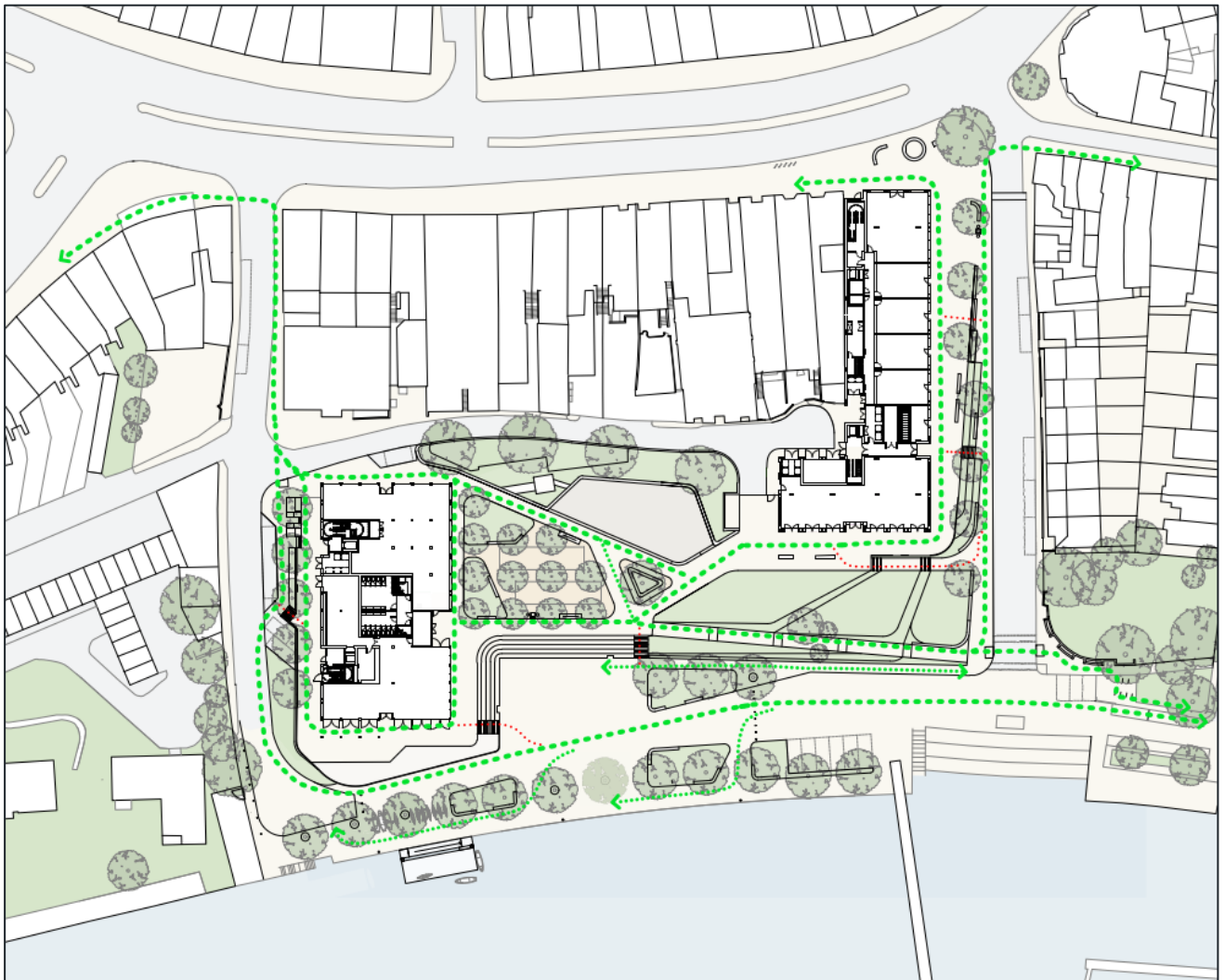
Wharf Lane

- 4.3.29. The proposals for Wharf lane would see the existing footway width along the east side of the carriageway maintained following the introduction of two-way traffic movements.
- 4.3.30. The western footway width would reduce slightly, from c.1.7m to c.1.4m, but it should be noted that the existing on-street parking on this side of the carriageway would be removed in future, facilitating the implementation of two-way vehicle access at the Wharf Lane / King Street junction as part of the masterplan redevelopment. It should also be noted that the proposed design would see the introduction of a larger raised table, which would extend significantly further south along Wharf Lane when compared with the current arrangement. This will ensure lower traffic speeds and facilitate improved pedestrian crossing of the road.
- 4.3.31. The lower traffic flows on Wharf Lane in the future will also create an enhanced environment for pedestrians, despite the slight narrowing of the footway on the west side of the road.

Embankment Riverside

- 4.3.32. The removal of existing parking and part-closure of the Embankment to vehicular traffic will significantly improve conditions for pedestrians when compared with the current situation, with vehicle flows along Wharf Lane and the Embankment forecast to be significantly lower than they are at present.

Figure 4-3 - Pedestrian movement and access concept through the site (source:Hopkins)



CYCLE ACCESS

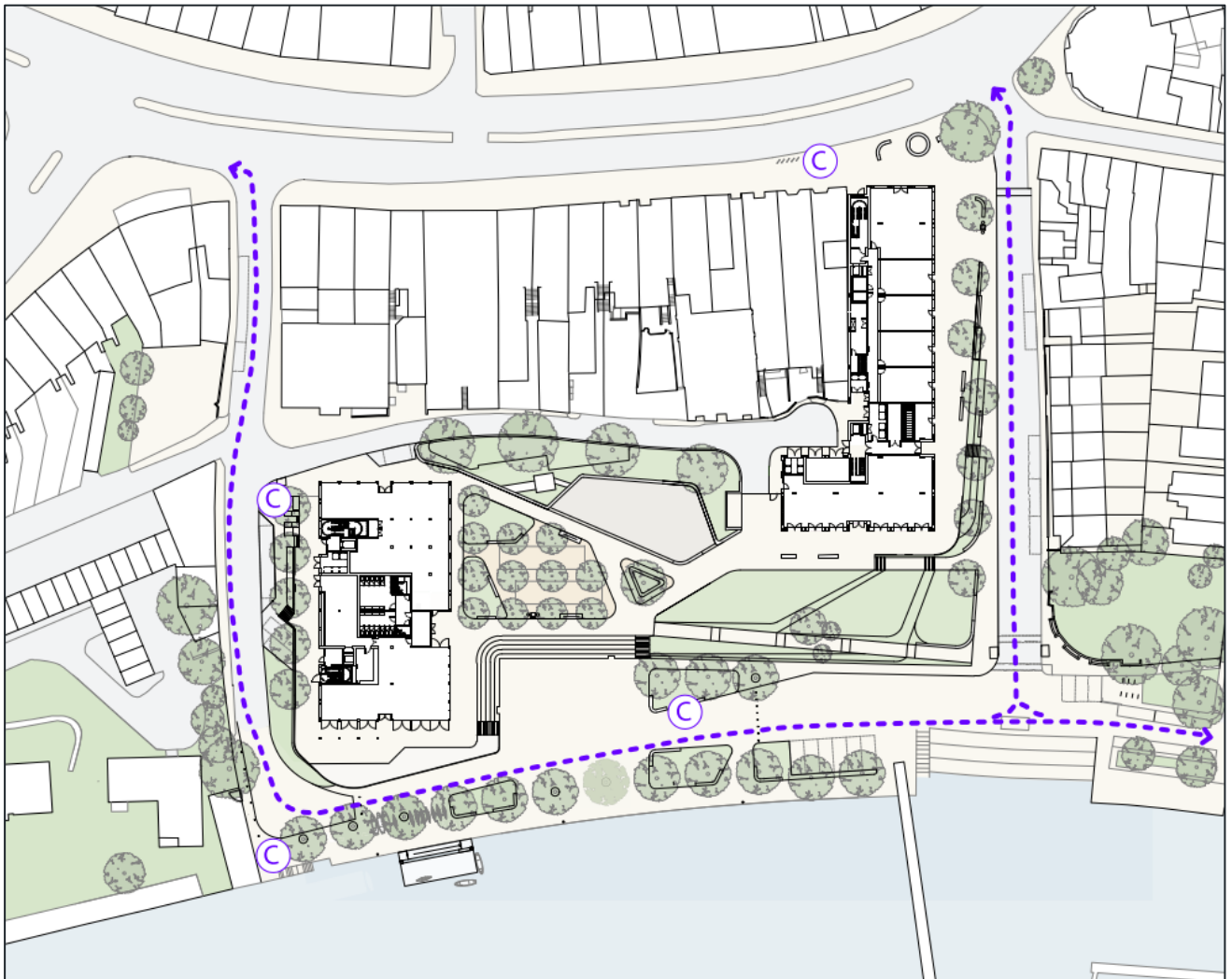
- 4.4.1. The Embankment and Wharf Lane currently form part of a signed advisory cycle route. The intention is to retain the same route, which will be suitable for cycling.
- 4.4.2. In consideration of the LPA proposed removal of the large public car park in the area, cycling should become significantly safer as well. Additionally, the removal of existing parking and part-closure of the Embankment to vehicular traffic will significantly improve conditions for cyclists when compared with the current situation, with vehicle flows along Wharf Lane and the Embankment forecast to be significantly lower than they are at present.
- 4.4.3. Two-way access will be achievable for cycles within the new design with the two-lane arrangement allowing cyclists to access and egress Wharf Lane in the same direction of travel as vehicle traffic, thereby reducing conflicts. Removal of parking to the northern section of Wharf Lane will effectively widen the available road width, facilitate a two-way traffic arrangement, and fundamentally improve the route for cyclists. The enhanced traffic calming at the junction and along Wharf Lane (with implementation of an extended raised table) combined with significantly reduced vehicular traffic will improve safety for cyclists travelling in both directions.
- 4.4.4. A preliminary Road Safety Audit was carried out on the proposed design to convert the Water Lane and Wharf Lane links to two-way traffic (including cycling). The projected low traffic flows are key to ensure cycle safety

along the new Water Lane and Wharf Lane arrangement. This has been further considered in the Active Travel Zone Assessment section and via use of the TfL Cycle Route Quality Audit toolkit.

New Cycle Route Quality Criteria Tool

- 4.4.5. The Quality Criteria are based on London Cycling Design Standard best practice guidance, focussing on whether conditions are appropriate for routes to be designed to mix people cycling with motor traffic as well as recommending an appropriate level of provision for route with dedicated space for cycling.
- 4.4.6. The tool features two tabs: one for an assessment of existing conditions; the other for proposed design approaches. The type of criteria the assessment is based on covers the expected vehicle flows, measures to reduce speeds, turning risks and features of any existing or proposed cycle facilities. The routes assessed were as follows:
- Water Lane
 - Wharf Lane
 - The Embankment
 - Service Road
- 4.4.7. A full audit can be found in **Appendix B**.
- 4.4.8. The audit found that for the existing conditions, Wharf Lane was able to provide a good level of provision for cycling, with the existing width of cycle lane, track or shared use facility currently provided at a good level. All 3 of the other routes were not applicable for the assessment.
- 4.4.9. For the proposed design approaches, the audit found that Water Lane, Wharf Lane and The Embankment all provided conditions that were suitable for people cycling to be mixed with traffic, with no additional design considerations required. Service Road was not applicable for assessment.

Figure 4-4 - Cycle movement and access concept through the site (source: Hopkins)



4.5 PARKING

CAR PARKING

- 4.5.1. Car parking will be provided in accordance with the London Plan (2021), which states:

Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide appropriate disabled persons parking for Blue Badge holders as set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking.

- 4.5.2. The Proposed Development will be car-free with the exception of spaces provided for Blue Badge holders, and spaces re-provided for the use of tradespeople and visitors associated with local stakeholder's needs.
- 4.5.3. In addition to the parking identified, the Proposed Development has the potential to provide two further parking spaces on Water Lane, subject to further discussions and to be assigned by the LPA as appropriate. We anticipate that these spaces could provide general parking for blue badge holder visitors to the development.

- 4.5.4. In summary, the proposed parking spaces associated with the Proposed Development would comprise a minimum of 8 (maximum of 10) car parking spaces, plus 1 space for motorcycles, as set out below:
- Two parking bays on Wharf Lane designated for use by Eel Pie Island tradespeople only
 - One disabled parking bay at the western end of the Service Road for Blue Badge holder residents only
 - Two further disabled parking bays on Water Lane for Blue Badge holder residents only
 - Three Pay & Display bays retained on the Embankment to the immediate east of the junction with Water Lane
 - The potential for two further disabled bays on Water Lane for Blue Badge holder visitors
 - One space for motorcycle parking on Water Lane
- 4.5.5. In addition to the car and motorcycle parking bays, a total of 7 loading bays and 1 servicing area are proposed, as set out below:
- Six loading bays on the Embankment adjacent to the footbridge and dedicated for the use of Eel Pie Island tradespeople and businesses
 - One loading bay on Wharf Lane to serve the western part of the Proposed Development
 - A servicing area at the eastern end of the Service Road to serve the eastern part of the Proposed Development
- 4.5.6. Through correspondence with, and at the requirement/request from the Council during Stage 3 consultation, the design team have revised the masterplan layout to implement an additional loading bay facility at the northern end of Water Lane. Once operational, this loading bay facility will help to offset loading and servicing activity on Church Street given the road itself has now been largely pedestrianised.
- 4.5.7. A revised suite of vehicle tracking and swept-path analysis has been produced to illustrate this amendment to the highway design, which demonstrates the feasibility of vehicle manoeuvres for the range of vehicles accessing and egressing the masterplan through Water Lane. The revised suite of drawings, inclusive of a general arrangement plan detailing the prospective highway and internal road layout is illustrated in Appendix D.
- 4.5.8. Further review of the loading bay will be undertaken through the Stage 2 Road Safety Audit, undertaken post-planning.
- 4.5.9. **Table 4-3** provides a summary of the existing and proposed parking facilities in the area encompassing Water Lane, Wharf Lane and the Embankment along with the net change associated with the Proposed Development. The total number of existing parking / loading bays (including motorcycle and street trader) is 116. The total number of proposed parking / loading bays (including motorcycle and street trader) is **14**.

Table 4-3 – Net Change in Parking Provision

	Off-street Car Park	Disabled	Resident Permit/ P&D*	P&D*	Resident/ Business Permit*	Street Trader Permit*	Business Permit*	Loading Bay	M/C	Total
Existing	26	-	50	11	17	1	7	3	1	116
Proposed	-	3	-	2	-	1	-	7	1	14
Net	-26	+3	-50	-9	-17	-	-7	+4	-	-102

**changes to these parking allocations are carried out under the council CPZ revision*

4.5.10. In summary, the total number of spaces to be removed is 81 from the site, with a total of 82 within the CPZ.

4.5.11. The total proposed figure of “14 spaces” in Table 4-3 above is summarised as follows:

- 3 proposed Blue Badge parking spaces (one on the service road, two on Water Lane)
- 2 designated parking bays for Eel Pie Island on Wharf Lane
- 1 motorcycle space
- 1 street trader permit space
- 7 loading bay spaces (six designated in the Eel Pie Island servicing area and one on Wharf Lane)

4.5.12. These “14 spaces” would not be part of the Zone D removal and reallocation, which forms part of a separate transport and parking study owned by the Council.

4.5.13. The three pay and display parking spaces to the southeast of Water Lane are understood to be retained and proposed to be operated as per the existing situation. There is also space along Water Lane to be future proofed for 2x additional car parking spaces, likely to be utilised as Pay & Display spaces if required.

4.5.14. The below figure illustrates the vehicle parking / servicing layout within the context of the proposed masterplan, showing the location of accessible bays (blue), space for two future proofed bays (blue dots), servicing bays (orange), motorcycle bays (pink), Eel Pie Island Long-Stay bays (green) and retained parking east of the masterplan (purple).

Figure 4-5 – Car Parking proposals



CPZ REVIEW

- 4.5.15. The LPA has undertaken a review of the CPZs within Twickenham Town centre. The work was carried out by Systra on behalf of the Council, which recommended the removal of large parts of pay and display car parking along The Embankment and replacing these spaces with resident permit bays. An extract of the report is provided below for context. A full copy of the report can be found in **Appendix C**.
- 4.5.16. Following this, in June 2021, the LBRuT Transport and Air Quality Committee provided updated parking proposals after a further review and describes proposals developed to date for facilitating servicing and access in the area. The finalisation of these proposals will take into account the outcome of the forthcoming planning application for the Twickenham Official Riverside Development and once the development is fully constructed and operational.
- 4.5.17. In summary, the approved parking proposals comprised the creation of 29 new parking spaces and the change in designation of 81 parking spaces in the Central Twickenham Controlled Parking Zone (CPZ, Zone D). As of March 2021, this has since been amended to create 28 new parking spaces and the change in designation of 80 spaces. The approved proposals also included a review of the town centre car parks with a view to improving their accessibility and overall operation.

- 4.5.18. As part of the review of the CPZ the analysis has also been used to consider the feasibility of implementing a sub-zone in roads adjacent to the Riverside development site and adjacent to Twickenham Railway Station. The sub-zone analysis reviewed the number of permits issued within a defined inner zone, comprising The Embankment, Eel Pie Island, Water Lane, Wharf Lane, Church Street, Bell Lane and Riverside.
- 4.5.19. The overnight parking survey reported a parking stress of 57% on average across the defined inner zone, therefore whilst creation of a sub-zone would be feasible in the existing scenario, the removal of 82 parking spaces (of which 81 are within the inner zone) would result in the parking demand exceeding supply. It had been suggested that properties within the sub-zone should be permitted to park elsewhere in the CPZ if no spaces were available in the sub-zone, however, this is likely to have implications for roads immediately outside the area and this would need to be taken into account.

The Embankment Parking Proposals

- 4.5.20. In summary, the parking proposals developed to date seek to address the displacement of the removal of 82 parking spaces around The Embankment area. The true impact of the removal of the spaces is not known at this time as the Council works towards a resolution in this matter. The finalised proposals will be implemented by way of Experimental Traffic Orders which provide a period of operational experience and a statutory consultation period of six months along with an option to make early modifications if required. It may be necessary through future reviews over time to make further changes as the CPZ and car parks fully adapt to the removal of the spaces on The Embankment.

Proposed Additional Parking Bays

- 4.5.21. In summary, the approved parking proposals as described previously comprised the creation of 29 new parking spaces and the change in designation of 81 parking spaces in the Central Twickenham Controlled Parking Zone (CPZ, Zone D). As of March 2021 this has since been amended to create 28 new parking spaces and the change in designation of 80 spaces.

Town Centre Car Parks – Review of Operation

- 4.5.22. In December 2020, the Council commissioned its parking consultant for this scheme, Systra, to carry out the review of the town centre car parks. The primary aim of this review was to ascertain if any improvements could be made to their operation with considerable focus placed on safety and accessibility to/from these sites for all. Systra was also asked to investigate the feasibility into the creation of a sub-zone in the CPZ as suggested by the Eel Pie Association. The aim of the sub-zone is to provide parking priority to properties adjacent to the site in light of the removal of parking spaces in The Embankment/Water Lane/Wharf Lane area. This work involved an overall review of the parking stress across the whole of the CPZ.
- 4.5.23. Across the zone, there are 553 more residents permits issued than spaces provided and 69 fewer business permits than spaces provided. This calculation assumes an even split between uses for Shared-use spaces for robustness. For example, 190 Shared-use Resident and Visitor (Pay and Display and/or Pay by Phone) spaces is split evenly with a third counted for Residents, a third for Business and a third for Visitors. The actual proportion for each use will vary during the day or night and given the high permit demand it is likely that a greater proportion of residents are using these bays. Added to this is the existing provision for resident permit holders to park in the Holly Road car park (160 spaces) for free and without time limit.
- 4.5.24. Whilst there are more resident permits on issue in the zone than spaces provided, overnight parking beat surveys carried out in the area in March 2021 shows that there is some spare capacity across the CPZ. This applies to both the existing CPZ layout and if/when the planned removal of the spaces around the development site is implemented. Based on the parking beat surveys undertaken alone, the total average parking stress across all parking space permit designation types was 76%, proving that the whole of Zone D is just over three quarters occupied during the hours of 1am to 5am. This figure rises to 79% with removal of the 82 spaces in the Twickenham Riverside area.

ELECTRIC VEHICLE CHARGING

- 4.5.25. To encourage sustainable travel, electric vehicle charging points should be provided in line with the London Plan, whereby Policy T6.1 Residential Parking, paragraph C states:

“All residential car parking spaces must provide infrastructure for electric or Ultra-Low Emission vehicles. At least 20 per cent of spaces should have active charging facilities, with passive provision for all remaining spaces.”

- 4.5.26. The London Plan demands that 20% of residential parking spaces across the development have ‘active’ electric vehicle charging points, with the remaining bays featuring passive provision for future conversion into electric charging bays. It is proposed as part of this development that 20% of bays have electric vehicle charging points, and the remaining 80% have capability for future conversion.

- 4.5.27. The Proposed Development ensures that:

- Opportunities to deliver Electric Vehicle Charging Points (EVCP) in line with national guidance and London Plan are identified within the Proposed Development plans.

- 4.5.28. During pre app consultation with the LPA, the Applicant was advised that the Council will continue undertaking a wider review of EVCP of Twickenham Town centre and therefore the final iteration of the Applicant proposals should be indicatively only. The Council will take ownership of delivering EVCP within the Proposed Development, in accordance with their ongoing review.

CYCLE PARKING

- 4.5.29. The cycle parking on Site will provide the appropriate amount of cycle parking for the residents and visitors in accordance with London Plan and LCDS standards. Cycle parking will therefore be in a location that people feel safe using at all times of the day and is visible, accessible, well-overlooked and well lit.

- 4.5.30. For the commercial land uses and park space the visitor cycle parking will be provided where it is under active surveillance and easy to reach.

- 4.5.31. The long-stay residential cycle parking provision has been increased from 75 spaces to 83 spaces following submission of the original Transport Assessment in 2021 and additional work undertaken by the design team to optimise available cycle parking, with the latest numbers set out in Table 4-4 below.

Table 4-4 – Proposed Residential Cycle Parking Provision

Block	Unit	Unit Mix	Long Stay	Short Stay
Water Lane Building	Total Residential Units	21	37	3
Wharf Lane Building	Total Residential Units	24	46	
Total		45	83	3

- 4.5.32. The commercial cycle parking provision based on London Plan guidance is set out in Table 4-5 below.

Table 4-5 – Proposed Commercial Cycle Parking Provision

Land Use	Development Quantum	Long Stay	Short Stay
B1 Workspace	320 sqm (GIA)	14	1
A2-A5 Cafe'/Restaurants/Pub	699 sqm (GIA)		18
A1 Food Retail	368 sqm (GIA)		10
Total	1,387 sqm (GIA)	14	29

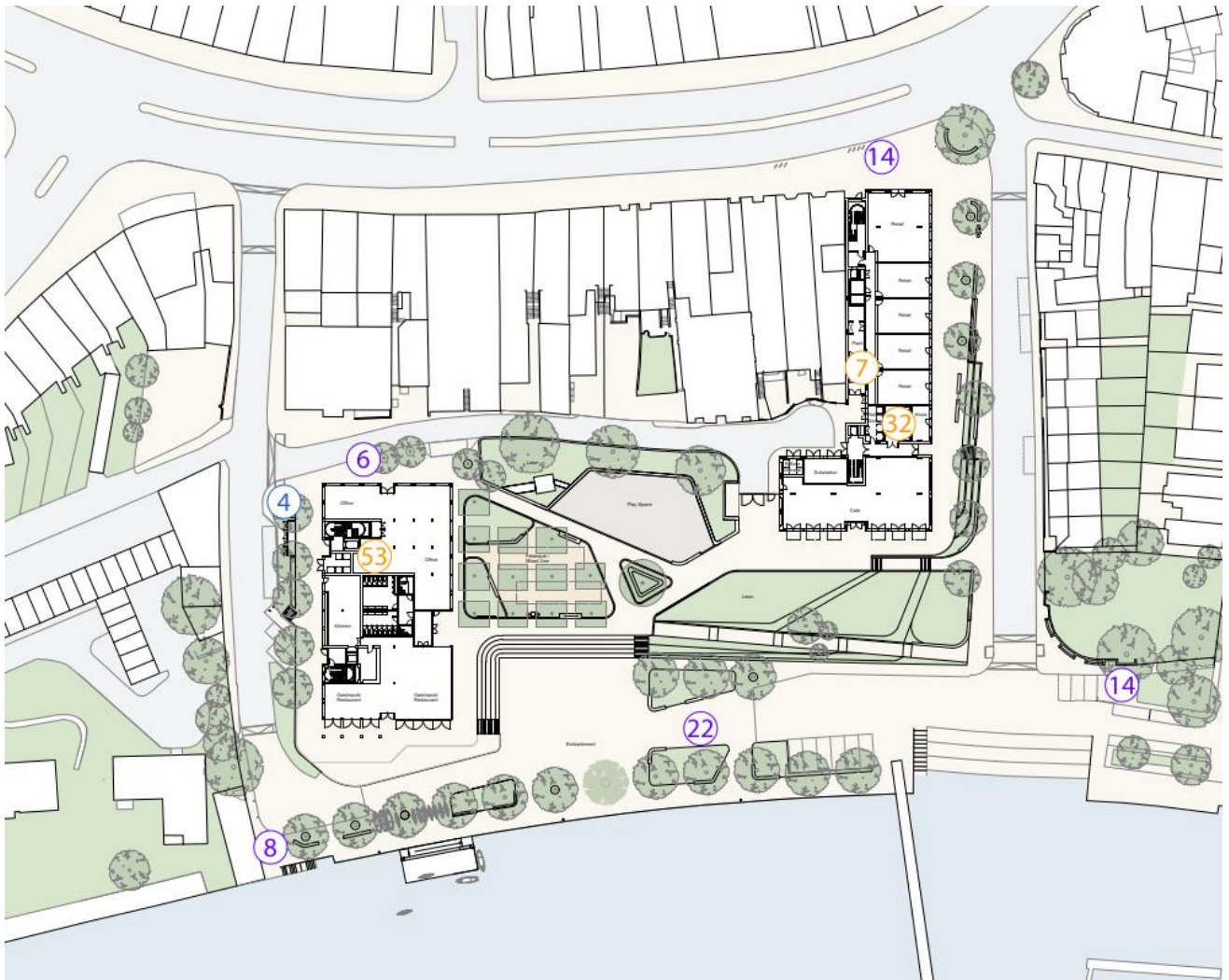
- 4.5.33. It is anticipated that there will be 97 long-stay cycle parking spaces provided across the site for all uses, whilst short-stay spaces will be provided in excess of the total 32 short-stay spaces required visitors. In addition, there are four existing Sheffield Stands for visitors within the Site which will be re-provided (See figure below).

Figure 4-6 - Existing visitor cycle parking along the Embankment



- 4.5.34. Cycle parking will be provided with reference to the London Plan (2021) standards and London Cycle Design Standards (LCDS) best practice.
- 4.5.35. Short-stay cycle parking spaces will be provided within the public realm in the form of Sheffield stands, each providing parking for two bicycles.
- 4.5.36. Cycle parking location is indicated in the Landscape Documents and Design and Access Statement, an extract of the layouts is provided following on.
- 4.5.37. The below figure illustrates the location of cycle parking within the context of the proposed masterplan, with long-stay and short-stay differentiated in purple/blue and orange respectively.

Figure 4-7 - Cycle Parking around the Site (source: Hopkins, Design and Access Statement)



4.6 SERVICING AND DELIVERIES

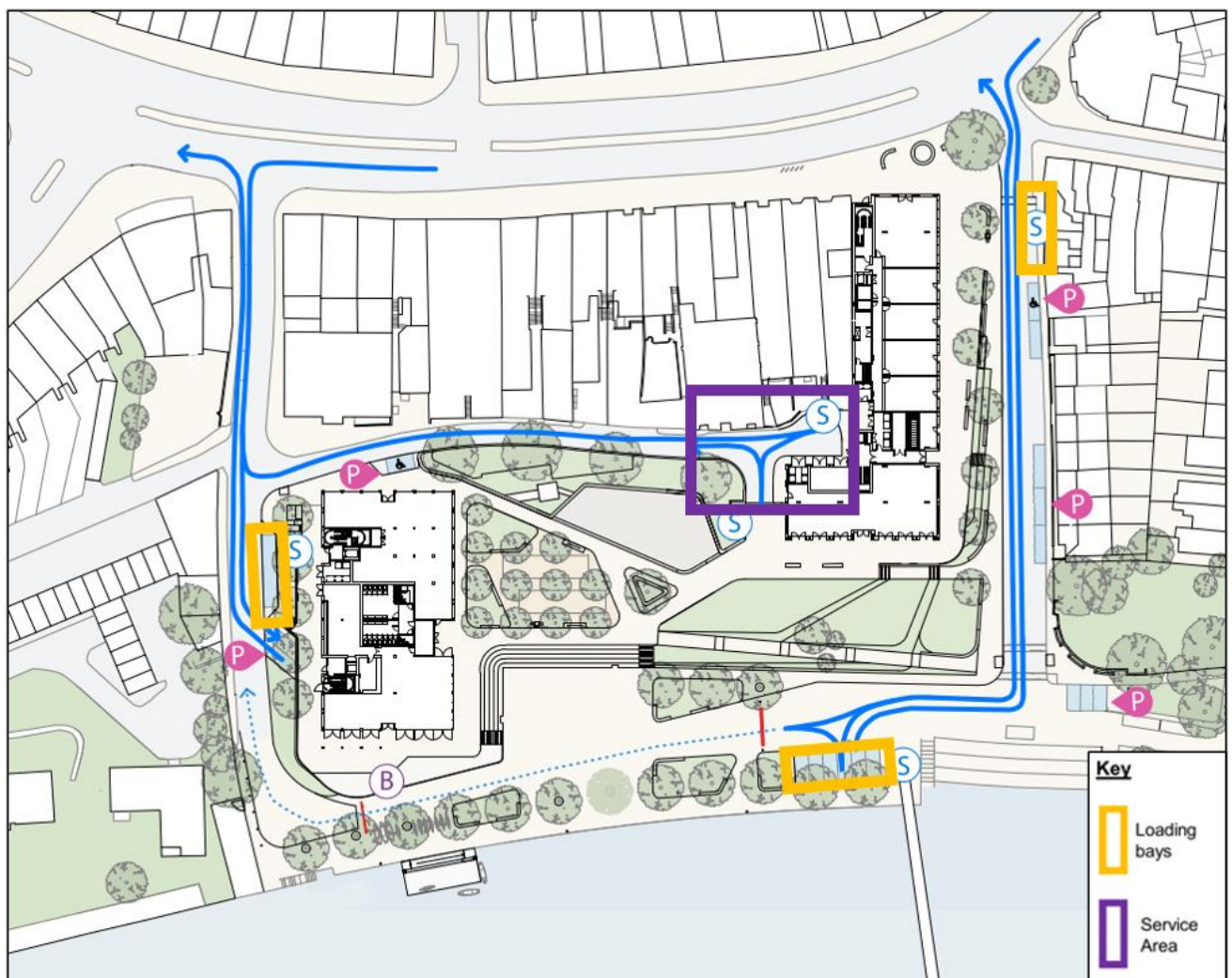
- 4.6.1. The servicing and deliveries will be carried out from on-street loading bay facilities. Distances will follow Manual for Streets and Design for Deliveries best practice guidelines as closely as practicable.
- 4.6.2. The Wharf Lane building will be serviced from a delivery bay located on its eastern side, whilst the Water Lane building will be served from a service area located at the eastern end of the Service Road.
- 4.6.3. The service road will feature landscaping and a secure perimeter to manage footfall within the proposed gardens and ensure no general public access conflicts with the deliveries and servicing vehicle manoeuvring.
- 4.6.4. A gate to the west of the café will provide access to the gardens for servicing and maintenance and will be opened to allow vehicles larger than 7.5t box van to reverse.
- 4.6.5. A small-medium delivery van (up to 7.5t box van) can service the Proposed Development and reverse whilst the gates are closed.
- 4.6.6. As stated above, six loading bays will be provided adjacent to the footbridge on the Embankment and dedicated for use by Eel Pie Island tradespeople and businesses.
- 4.6.7. Extensive vehicle tracking for a variety of vehicle types has been undertaken to illustrate that two-way movements can be accommodated along Water Lane, and that service and other vehicle can manoeuvre

between Water Lane and the Embankment, even when refuse vehicles are occasionally parked at the top of the slip way.

4.6.8. As outlined earlier in this chapter, subsequent to discussion with the LPA, the design team have revised the masterplan layout to implement an additional loading bay facility at the northern end of Water Lane. Once operational, this loading bay facility will help to offset loading and servicing on Church Street, given the road itself has now been largely pedestrianised. A revised suite of vehicle tracking and swept-path analysis has been produced to illustrate this amendment to the highway design, demonstrating the feasibility of vehicle manoeuvres for the range of vehicles accessing and egressing the masterplan through Water Lane.

4.6.9. The loading bay will not only provide additional opportunity for servicing to the north of the masterplan, it will also provide a clear community benefit for the wider local area, and will enhance the existing servicing strategy for commercial premises along Church Street.

Figure 4-8 - Servicing and Delivery Locations



4.6.10. For more details on servicing and deliveries including likely trip generation and swept path analysis please refer to the Delivery and Servicing Plan submitted under a separate cover.

4.7 REFUSE

4.7.1. As per the deliveries, refuse collection is proposed to take place from the two loading bays located within 20meters circa of the Proposed Development refuse stores.

4.7.2. The current LPA refuse collection vehicle fleet uses a 10.8m long vehicle which therefore will be required to pick up waste during the Embankment opening hours for vehicles (early morning Monday-Friday) and will require the gates to the west of the proposed café' to be open to allow for turning manoeuvre.

4.7.3. The developer and property managing agents will be responsible for residential waste collection for both Wharf Lane and Water Lane, whilst commercial tenants will be responsible for arranging their own management procedure and waste collection.

4.7.4. Should the contractors move to a smaller vehicle fleet in future it would be possible to:

- Reverse west of the café' without opening the gates
- Access the Proposed Development servicing loading bays from King Street via Wharf Lane

4.7.5. At the moment however this is aspirational only.

4.8 EMERGENCY ACCESS

4.8.1. Emergency vehicles can access the area along Water Lane, Wharf Lane and the Embankment via lock pad. Fire tenders are able to access areas within 18m of the Proposed Development risers.

4.8.2. Please refer to **Appendix D** for swept path analysis.

4.9 EEL PIE ISLAND

4.9.1. Eel Pie Island is a unique entity in terms of its access and operational needs and requirements. The island can be access via footbridge only (See Figures below) and it currently hosts a small active community of residents and businesses. Having liaised closely with representatives from the island with the aim to understand their needs and agree a suitable solution for servicing and deliveries, a provision of 6 spaces in the proximity of the bridge has been proposed as demonstrated in Proposed Development layout.

4.9.2. It is understood that the Eel Pie Island requirements in terms of access currently require highway access to the area in proximity of the pedestrian bridge from where goods are moved on foot or trolley to the bridge. The occasional larger goods deliveries are transferred to a barge and moved via river. Photographic evidence and anecdotal description of deliveries and servicing has been provided by the Eel Pie Island association which can be summarised as follows:

- Regular and frequent deliveries and visitor with car and or light goods vehicles (van)
- Occasional deliveries with medium sized and rigid lorry vehicles
- Infrequent deliveries to boatyards with articulated vehicles
- Fire tenders
- Two waste collection vehicles

4.9.3. It is acknowledged that the current servicing operations for Eel Pie Island take place at the southern end of Water Lane, with three parking spaces are dedicated for the use of the Island loading/unloading activities. In addition, larger vehicles have been observed to park and carry out loading and unloading operations along the stretch of the Embankment between the pedestrian bridge and Water Lane at the top of the slip way.

4.9.4. As part of the Proposed Development, the vehicular access along the Embankment will be controlled and therefore vehicles will be required to reverse and head northbound along Water Lane when departing from the area.

4.9.5. A formal footway will be provided at the northern end of the Embankment leading into the pedestrian priority area to ensure that deliveries facilities for the Eel Pie Island do not affect the vulnerable road user's safety.

4.9.6. For further details please refer to the Deliveries and Servicing Plan submitted under standalone cover.

Eel Pie Island footbridge access from the Embankment



Map of Eel Pie Island

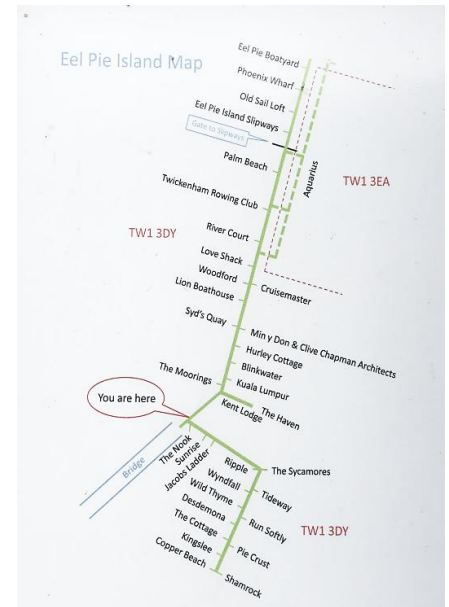


Figure 4-9 - Eel Pie Island access

4.10 5-33 KING STREET

- 4.11 The Proposed Development is seeking to formalise the area behind Iceland, along the Service Road and the stretch of Wharf Lane alongside the Iceland store.
- 4.12 The ability for businesses located here to operate under business as usual circumstances has been retained in the proposals and will be retained during construction. Once the Proposed Development highway changes are operational the rear end of properties 5-33 of King Street will be accessible for entry and exit via Wharf Lane.

4.13 35-59 KING STREET

- 4.13.1 The businesses along 35-39 King Street will remain accessible throughout the construction process and once the Proposed Development is operational, they will access and exit via Wharf Lane/King Street.

5 ACTIVE TRAVEL ZONE

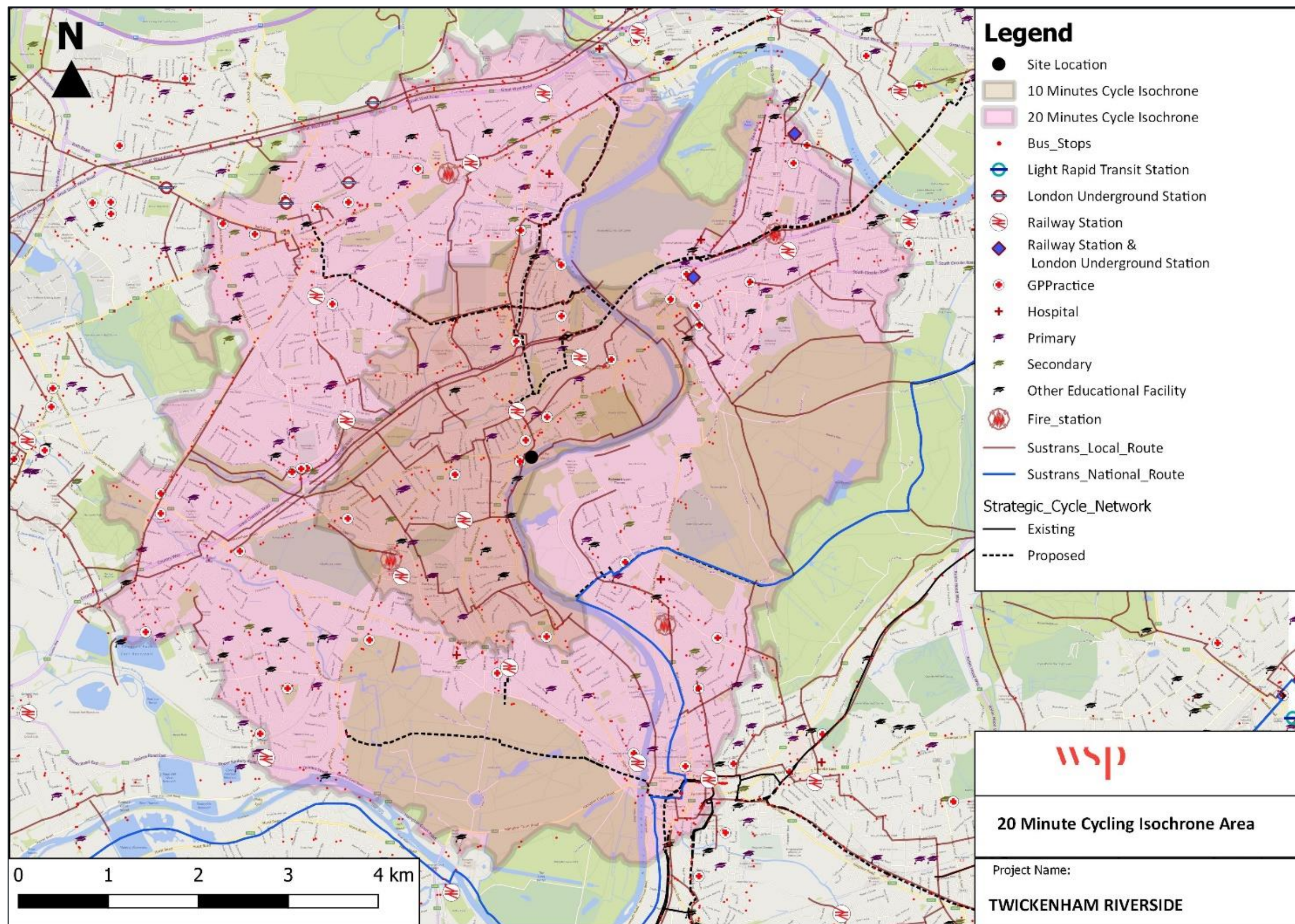
5.1 INTRODUCTION

- 5.1.1. The Active Travel Zone (ATZ) assessment is a qualitative analysis of the cycle and walking network surrounding the Proposed Development's. The methodology has been developed by TfL to support the new London Plan objectives, Healthy Streets and Vision Zero approach. The ATZ assessment is carried out to assist the understanding of the Proposed Development potential to contribute in promoting sustainable travel.
- 5.1.2. The ATZ Assessment consists of a review of walking and cycling routes, a site visit¹ during which Point of View (PoV) is recorded of the key routes are taken at circa 150m intervals. The photographic survey of the routes is later than benchmarked against Healthy Streets indicators² 3-10 as follows:
- Easy to cross;
 - People feel safe;
 - Things to see and do;
 - Places to stop and rest;
 - People feel relaxed;
 - Not too noisy;
 - Clean air; and
 - Shade and shelter.
- 5.1.3. The ATZ is defined as the area that stretches around the Proposed Development encompassing a zone within a 20-minute cycle journey. The ATZ extent for the Proposed Development is illustrated in Figure 5-1.

¹ During Covid-19 outbreak TfL accepts remote desktop review.

² The Healthy Streets indicator parameters are described in the TfL Guide to Healthy Streets Indicators 2017 (<https://content.tfl.gov.uk/guide-to-the-healthy-streets-indicators.pdf> - accessed May 2021)

Figure 5-1 - Active Travel Zone



5.2 MOST IMPORTANT JOURNEYS

Neighbourhood Scale

- 5.2.1. It is acknowledged in the TfL guidance that the ATZ extends for a distance equivalent to 20-minutes cycling from the Site; within London, however, most people will rely on a smaller area for access to key destinations by active travel.
- 5.2.2. The BREAAAM 2016 standard recognises the proximity of amenities as an index of sustainability, and the amenities benchmark distance is 500m to 1,000m depending on the type of development. Another indication of the ATZ neighbourhood extent in London could be the willingness to walk to a public transport station which according to TfL is 960m or up to 12 minutes walking. As similar approach could be taken for cycling (e.g. 10 minutes cycling).
- 5.2.3. Nevertheless, the extent of each ATZ neighbourhood varies depending on the context (central, suburban, etc.), the proposed land uses and the density of amenities. The TfL guidance refers to this area as the ATZ 'neighbourhood' area.
- 5.2.4. Within this neighbourhood area the key destinations should include transport hubs and transport facilities, town centres and amenities and access to a cycle network.

Key destinations within the ATZ

- 5.2.5. The key destinations have been prioritised, as shown in Table 5-1, based on the expected main users of the site and their most common journeys. The selection of the routes has been presented and discussed with LBRuT.

Public Transport Services and Stops

- 5.2.6. Key public transport hubs and bus stops within the ATZ and National Rail stations are as follows:
 - Twickenham station – with services that run to Central London and Reading
 - Bus stops including:
 - York Road Twickenham
 - Heath Road Twickenham
 - Poulett Gardens

Town Centres and Amenities

- 5.2.7. Key local amenities within the ATZ include parks, schools / education institutions, hospitals / medical practices, town centres and street retail.

Destination Priority

- 5.2.8. The key trip attractor associated with the Proposed Development is the residential use and park/riverside visitors, when determining the relevance of key destinations, those linked to the residential and leisure use have been prioritised as follows:
 - Public transport services – high priority
 - Strategic cycle network – high priority
 - Town centres – high priority
 - Amenities – high priority
- 5.2.9. As the Proposed Development is mixed in its land-use classes in nature, each of the above destination types is of high priority and will be well utilised by different users of the Proposed Development. Each trip type will be made by users of the Twickenham Riverside development on a day-to-day basis.

- 5.2.10. The key destinations have been prioritised, as shown in Table 5-1 below, based on the expected main users of the Site and their most common journeys.

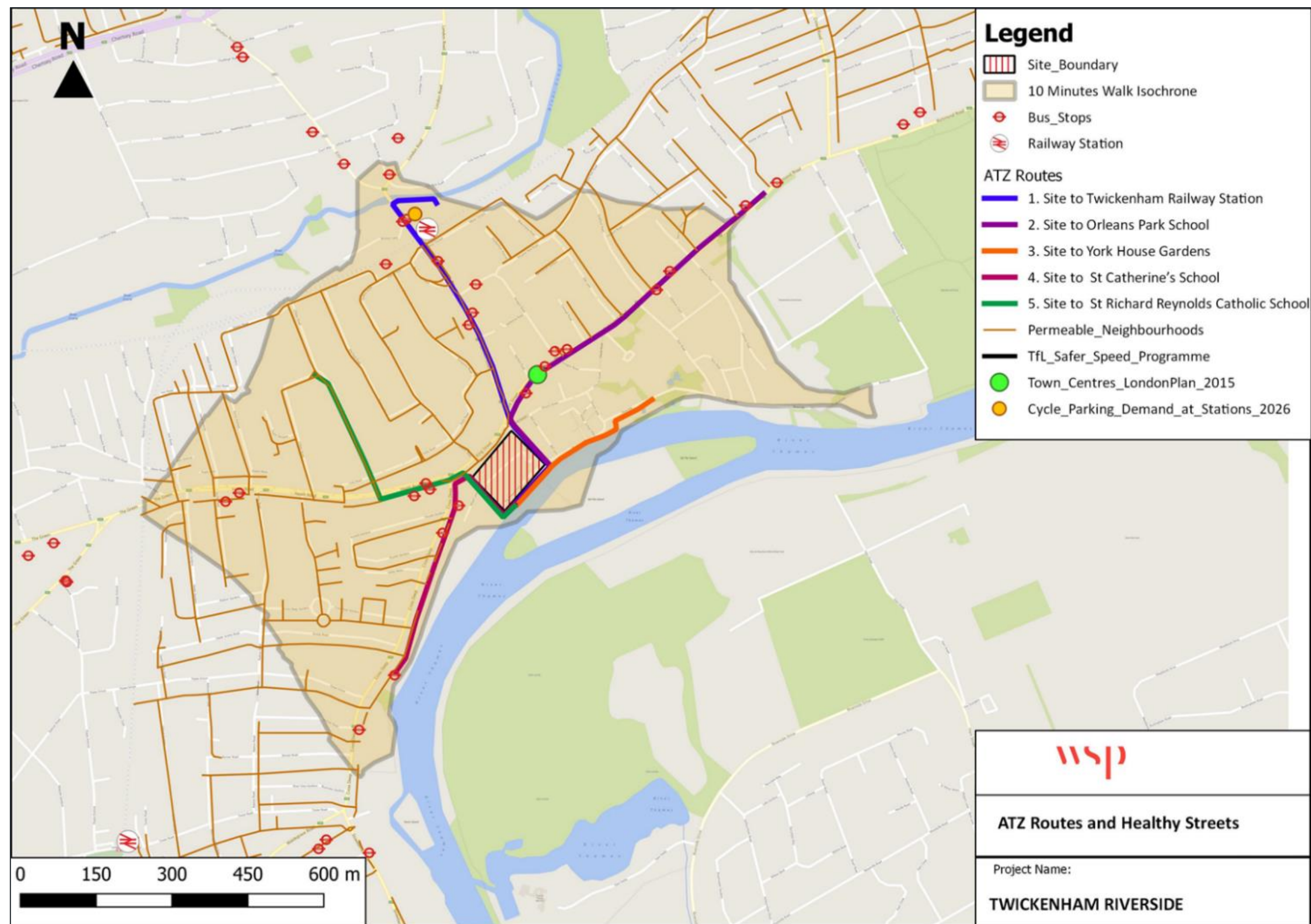
Table 5-1 – Key ATZ Destinations

	Destination	Priority	Included in ATZ
Public transport stops	Bus stops including: York Street Twickenham, Heath Road Twickenham, and Poulett Gardens	High	Yes
Public transport stations	Twickenham Station	High	Yes
Current and future strategic cycle network	King Street/Embankment	High	Yes
Town centres	Twickenham Town Centre	High	Yes
Parks	York House Gardens / Champions Wharf Play Beach	High	Yes
Schools/colleges	Orleans Park School, St Catherines School, St Richards Reynolds Catholic School	Medium/Low	No
Hospitals/doctors	Cross Deep Surgery / The Acorn Group Practice	Medium/Low	No
Places of worship	St Mary's Church, Twickenham Methodist Church	Medium/Low	No

Active Travel Zone Routes

- 5.2.11. The scope of the ATZ refers to the routes that will most likely be undertaken frequently by the Proposed Development occupiers and visitors, these routes will be further considered for assessment. These routes will incorporate the key ATZ destinations as outlined in Table 5-1. The routes that will be undertaken for assessment are:
- Route 1 – To/From Twickenham Railway station
 - Route 2 – To/From Orleans Park School
 - Route 3 – To/From York House Gardens
 - Route 4 – To/From St Catherine's School
 - Route 5 – To/From St Richard Reynold's Catholic School
- 5.2.12. The routes for assessment are illustrated in Figure 5-2 below.

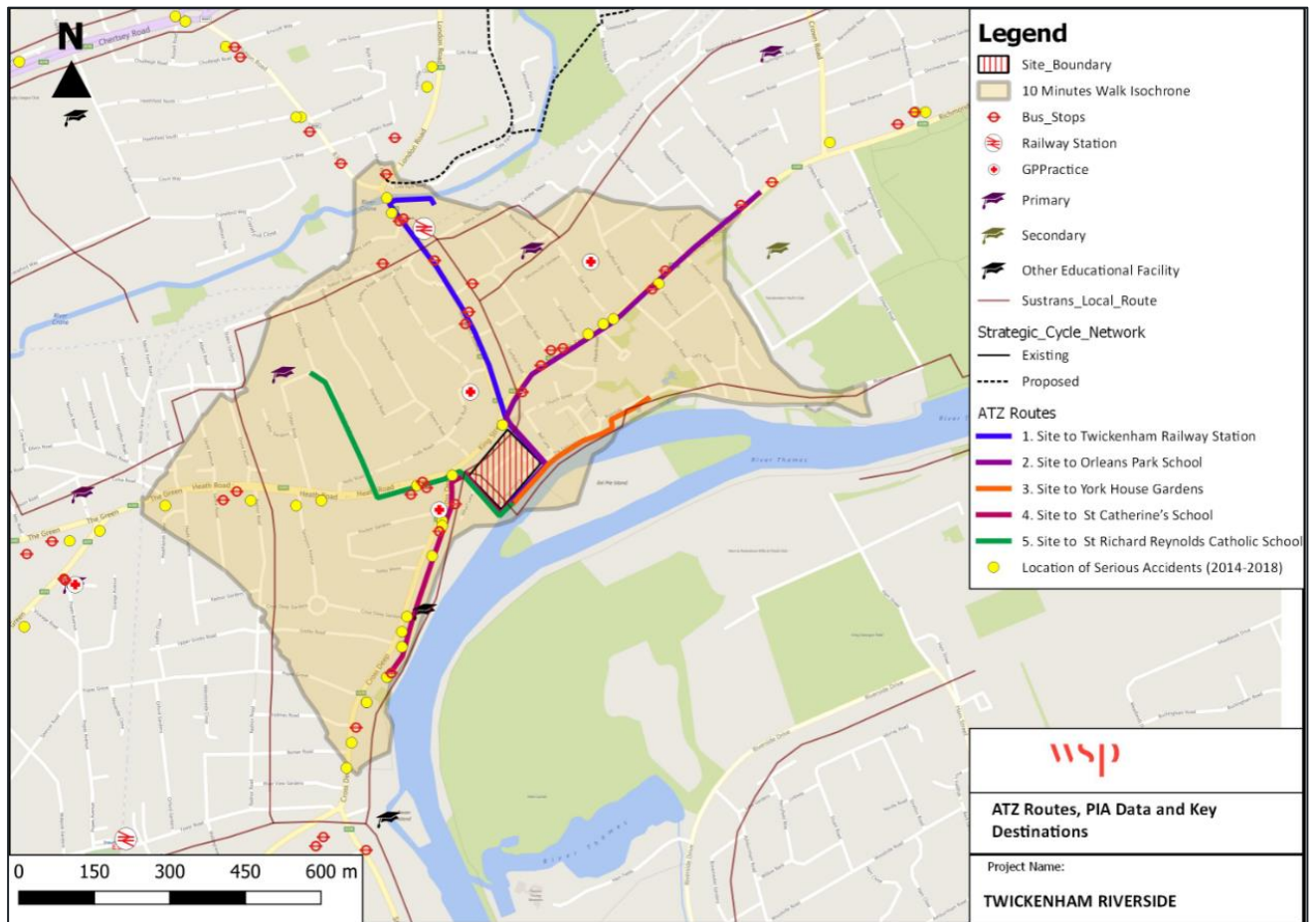
Figure 5-2 - ATZ Routes for Assessment



5.3 VISION ZERO REVIEW

- 5.3.1. This section identifies the location of accidents along the routes highlighted in the ATZ assessment. The location of accident clusters will be reviewed in order to determine whether there is a need for improvements or mitigation solutions.
- 5.3.2. To understand the location of accident clusters along the ATZ routes Personal Injury Accident (PIA) data has been obtained from the TfL website for the entire ATZ area for the latest available 60-month period, from July 2014 to July 2019. Accidents are categorised into 3 types:
- Slight
 - Serious
 - Fatal
- 5.3.3. Clusters of serious or fatal accidents will be explored in much greater depth as these are the highest priority areas for potential mitigation solutions. As part of the Mayor's Transport Strategy, Vision Zero sets out the goal that, by 2041, all deaths and serious injuries will be eliminated from London's transport network. The Proposed Development will contribute towards a safer environment for pedestrians and cyclists due to the removal of traffic associated with the public car park and thanks to the pedestrian priority area created along the Embankment and new junction treatments along Water Lane, Wharf Lane and their junctions.
- 5.3.4. The Figure below outlines the location of all serious accidents that have occurred along the route between 2014 – 2019. The Figure 5-3 also highlights that several clusters of serious accidents have occurred along some of the routes identified for the ATZ assessment. These serious clusters are located at:
- Route 1 – Close to Twickenham Railway station
 - Route 2 – At the pedestrian crossing close to the Oak Lane / A305 Richmond Road junction
 - Route 4 – Close to the A310 Cross Deep / Cross Deep Gardens junction
 - Route 4 – Close to the A310 Cross Deep / Poulett Gardens junction
- 5.3.5. As no detailed description of the accidents is provided it is difficult to speculate on the nature of the accidents and the likely causes. However, analysis of the locations of the aforementioned clusters has found that these incidents occurred mainly at junctions, pedestrian crossings and bus stops, along the routes that have relatively high levels of traffic.
- 5.3.6. Therefore, a summary of general safety improvements is provided that could help reduce the likelihood of accidents occurring at these locations:
- Raised tables at junctions
 - Resurfacing road and pavements at and around junctions
 - Formalised crossings
 - Traffic calming measures such as buildouts and road markings / signage

Figure 5-3 - PIA Data along Key Routes



5.4 ATZ ASSESSMENT SUMMARY AND IDENTIFIED IMPROVEMENTS

5.4.1. As part of the ATZ Assessments, on-site studies are typically taken for the route to each key active travel destination. Due to the current COVID-19 situation, on-site studies were not plausible as per TfL guidelines. Therefore, a desk-based approach using Google Street view was employed to undertake the ATZ assessment.

5.4.2. The associated route photos are included in **Appendix E**.

ROUTE 1 – TO TWICKENHAM RAILWAY STATION

5.4.3. The pedestrian and cycle route to Twickenham station is approximately 450m in length (6 minutes' walk and 4 minutes cycle). The route is well maintained throughout, passing through Twickenham town centre, with commercial and retail outlets comprising most of the route. The POV photographic record of the route is illustrated in Figure 5-4.

5.4.4. The photo shows an intersection along the route where traffic levels appeared to be relatively high.

5.4.5. The route has been assessed towards the Healthy Street indicators in Table 5-2.

Figure 5-4 - POV Route 1



Table 5-2 – Route 1 – To/From Twickenham Railway station

Healthy Streets indicator	Observations	Areas for improvement
Clean air	The majority of the route runs along A310 London Road, which is trafficked. The route comprises bus stops and junctions where traffic is able to stop and idle. There are some trees and bushes along the route, but they are infrequent.	The route could benefit from more bushes and planters, whilst public transport and active modes could be further promoted.
People feel safe	Streetlights are located at all points on the pedestrian and cycle route. The area is mainly commercial and retail intensive in nature and the surrounding blocks of flats offer high levels of natural surveillance. The road provides unobstructed views of the route ahead.	There is no area for improvement.
Not too noisy	N/A as desk-based assessment	N/A as desk-based assessment.
Easy to cross	Signalised crossings are located at multiple points along the route, as part of larger intersections. All crossings feature clear road markings, dropped kerbs, tactile paving and refuge islands where needed.	There is no area for improvement.
Places to stop and rest	The section of the route closest to Twickenham Station features street furniture that also acts as a place to stop and rest. There are plenty of cafes and retail outlets on the route where people can stop and also sheltered bus stops.	There is no area for improvement.
Shade and shelter	Twickenham Station at the end of the route is covered and provides somewhere for people to find shade and shelter. There are sheltered bus stops along the route and the tall surrounding buildings provide both protection from the sun and some areas of overhang to protect people from inclement weather.	There is no area for improvement.
People feel relaxed	The route is trafficked however, and this could be intimidating for cyclists where the route narrows in places and is not segregated.	The route could benefit from segregation or partial segregation for cyclists.
Things to see and do	Along the route there are plenty of retail and commercial outlets for people to visit.	There is no area for improvement.

ROUTE 2 – TO/FROM ORLEANS PARK SCHOOL

- 5.4.6. The pedestrian and cycle route to Orleans Park School is approximately 650m in length (8 minutes' walk and 2 minutes cycle). The route is well maintained throughout, starting in Twickenham town centre, with residential dwellings comprising most of the route. The POV photographic record of the route is illustrated in Figure 5-5. The photo shows the junction between A305 Richmond Road and Seymour Gardens.
- 5.4.7. The route has been assessed towards the Healthy Street indicators in Table 5-3.

Figure 5-5 - POV Route 2



Table 5-3 – Route 2 – To/From Orleans Park School

Healthy Streets indicator	Observations	Areas for improvement
Clean air	The majority of the route runs along A3505 Richmond Road, which has York House Gardens present on its southern side. The park is a large green space which will act as a carbon sink and mitigate some emissions from nearby traffic. The route also contains many trees, shrubs and planters.	There is no area for improvement.
People feel safe	Streetlights are located at all points on the pedestrian and cycle route. The area is mainly residential in nature and offers high levels of natural surveillance. The road provides unobstructed views of the route ahead.	There is no area for improvement.
Not too noisy	N/A as desk-based assessment	N/A as desk-based assessment.
Easy to cross	Signalised crossings are located at multiple points along the route. Crossings are provided close to the school to meet pedestrian desire lines to reach public transport stops. All signalled crossings feature clear road markings, dropped kerbs, tactile paving and refuge islands where needed. Uncontrolled crossings do not provide tactile paving and level surfaces.	Uncontrolled crossings, particularly in proximity of the school could be provided as continued footway / raised table.
Places to stop and rest	There are sheltered bus stops along the route that provide places to stop and rest and some cafes. The route has plenty of low walls that can act as informal areas to stop and rest.	There is no area for improvement.
Shade and shelter	There are large trees located consistently along A305 Richmond Road that provide shade and shelter. Other than the natural coverage offered by these, there are also sheltered bus stops and cafes.	There is no area for improvement.
People feel relaxed	The area has a pleasant feel due to the wide road and pavements, and the large amount of green space present along the route.	There is no area for improvement.
Things to see and do	The route has some local cafes and shops and also passes parallel to York House Gardens, with its unique landscaping and local architecture.	There is no area for improvement.

ROUTE 3 – TO YORK HOUSE GARDENS

- 5.4.8. The pedestrian and cycle route to York House Gardens is approximately 300m in length (4 minutes' walk and 1 minute cycle). The route is well maintained throughout, running parallel to the River Thames for the majority of the route along The Embankment and Riverside. The POV photographic record of the route is illustrated in Figure 5-6. The photo shows a section of the pedestrian route that runs parallel to the River Thames, to the east of Champions Wharf.

The route has been assessed towards the Healthy Street indicators in Table 5-4.

Figure 5-6 - POV Route 3

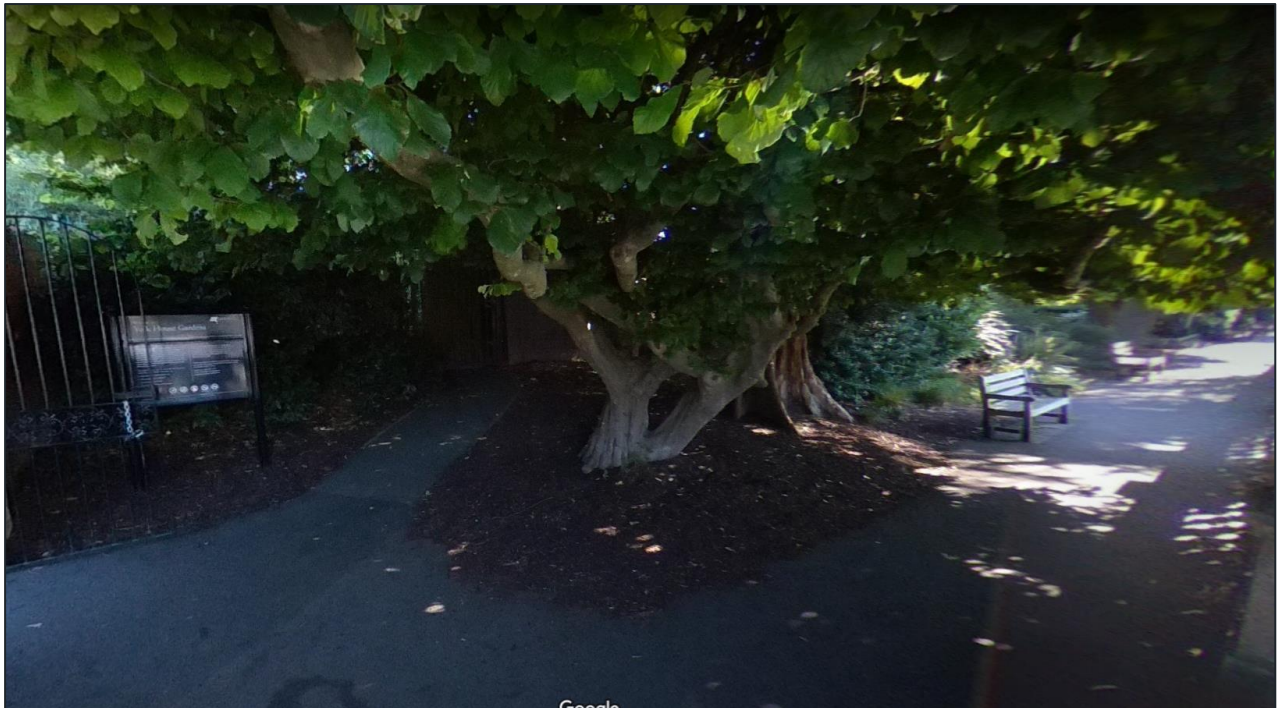


Table 5-4 – Route 3 – To/From York House Gardens

Healthy Streets indicator	Observations	Areas for improvement
Clean air	The majority of the route runs through Champions Wharf and York House Gardens, which is a pedestrian route with an abundance of trees and natural wildlife. There are very low levels of traffic along nearby Riverside and Church Lane.	There is no area for improvement.
People feel safe	The section of the route shown in the POV image highlights the pedestrian route east of Champions Wharf where there is a lack of lighting, a lack of surveillance and ambush points that may make people feel unsafe when travelling through here at night or alone.	This section of the route could benefit from increased surveillance, lighting and even mirrors that help mitigate potential ambush points.
Not too noisy	N/A as desk-based assessment	N/A as desk-based assessment
Easy to cross	Traffic volumes appear to be very low and the route is highly pedestrianised, so it is easy to cross along the majority of the route.	There is no area for improvement.
Places to stop and rest	The route runs through The Embankment, Champions Wharf and York House Gardens where there is an abundance of seating with park benches, picnic tables and low walls where people can stop and rest.	There is no area for improvement.
Shade and shelter	There are plenty of large trees located along the route that provide shade and shelter.	There is no area for improvement.
People feel relaxed	The area has a pleasant feel due to the fact that the route is highly pedestrianised and appears clean and well maintained. A section of the route at the western end of Riverside doesn't meet pedestrian desire lines very clearly and the pavement ends, causing vehicles and active modes to compete for the same space.	Riverside could benefit from pavement or resurfacing that is designed in a way that helps improve pedestrian desire lines.
Things to see and do	There is plenty to see and do along this scenic route, pedestrians are able to visit Champions Wharf and the associated Play Beach, York House Gardens and the local pubs and The Twickenham Museum.	There is no area for improvement.

ROUTE 4 – TO/FROM ST CATHERINE’S SCHOOL

- 5.4.9. The pedestrian and cycle route to St Catherine’s School is approximately 500m in length (7 minutes’ walk and 2 minutes’ cycle). The route is well maintained throughout, starting at Twickenham town centre, with residential dwellings comprising most of the route. The POV photographic record of the route is illustrated in Figure 5-7. The photo shows the junction between A310 Cross Deep and Valley Mews.
- 5.4.10. The route has been assessed towards the Healthy Street indicators in **Table 5-5**.

Figure 5-7 - POV Route 4



Table 5-5 – Route 4 – To/From St Catherine’s School

Healthy Streets indicator	Observations	Areas for improvement
Clean air	The route runs along A310 Cross Deep for the majority, where traffic levels are moderate. There are cycle lanes and bus lanes to promote alternatives to private car travel and plenty of trees and shrubs along the route that provide a natural carbon sink.	There is no area for improvement.
People feel safe	Streetlights are located at all points on the pedestrian and cycle route. The area is mainly residential in nature and the houses provide natural surveillance.	There is no area for improvement.
Not too noisy	N/A as desk-based assessment	N/A as desk-based assessment
Easy to cross	There are two signalised crossings located along the route. These are relatively far apart but located at key areas that meet pedestrian desire lines. All crossings feature clear road markings, dropped kerbs, tactile paving and refuge islands where needed.	There is no area for improvement.
Places to stop and rest	There are some sheltered bus stops located along the route where people can stop and rest and low walls that provide informal seating.	There is no area for improvement.
Shade and shelter	There are large trees located consistently along A310 Cross Deep that provide natural coverage. There are also sheltered bus stops along the route.	There is no area for improvement.
People feel relaxed	The majority of the route is well maintained with wide pavements that are offset from the road, especially on the southern side of A310 Cross Deep where there is a cycle lane. The section of the route shown in the POV image highlights the A310 Cross Deep and Valley Mews junction where the road surface is in a poor condition. This could cause a trip hazard or make it difficult for people with disabilities or pushchairs to cross safely.	The A310 Cross Deep / Valley Mews junction could benefit from resurfacing and if possible, tightening of the kerb radii.
Things to see and do	At the route terminus there is Radnor Gardens which provides people with something to visit. There is plenty of historical architecture as well that people can look at.	There is no area for improvement.

ROUTE 5 – TO/FROM ST RICHARD REYNOLDS CATHOLIC SCHOOL

- 5.4.11. The pedestrian and cycle route to St Richard Reynolds School is approximately 500m in length (6 minutes' walk and 2 minutes' cycle). The route is well maintained throughout, starting at Twickenham town centre, with residential dwellings comprising most of the route. The POV photographic record of the route is illustrated in Figure 5-8. The photo shows the Copthall Gardens / Holly Road junction.
- 5.4.12. The route has been assessed towards the Healthy Street indicators in Table 5-6.

Figure 5-8 - POV Route 5



Table 5-6 – Route 5 – To/From St Richard Reynolds Catholic School

Healthy Streets indicator	Observations	Areas for improvement
Clean air	The route is split across Twickenham town centre and residential routes but has trees and planters frequently placed along it. Traffic levels are moderately high but there is plenty of bus activity along the A305 Heath Road.	There is no area for improvement.
People feel safe	Streetlights are located at all points on the route and there is plenty of natural surveillance from shops and residential dwellings.	There is no area for improvement.
Not too noisy	N/A as desk-based assessment	N/A as desk-based assessment.
Easy to cross	Signalised crossings are located at multiple points along A305 Heath Road. The section of the route shown in the POV image is at the Copthall Gardens / Holly Road junction where there is no tactile paving, the pavement is uneven and very narrow along the northern side of Holly Road. Walls obstruct the view of pedestrians and vehicles making it harder to cross.	This section of the route would benefit from resurfaced paving, road markings that make it easier for people to cross, narrower junctions and traffic calming measures that slow vehicles down as they approach the junction.
Places to stop and rest	There are sheltered bus stops and cafes along A305 Heath Road where people can stop and rest. At the route terminus there is a lack of seating and the low walls are part of private property.	The large paved area at the Clifton Road / Coptham Gardens junction next to St Richard Reynolds Catholic School could benefit from formal seating.
Shade and shelter	There are trees and planters located along the route and sheltered bus stops on A305 Heath Road where people can find shade and shelter.	There is no area for improvement.
People feel relaxed	The route is generally well maintained, traffic levels appear relatively moderate along Coptham Gardens and the pavement is offset from the road by resident permit bays.	There is no area for improvement.
Things to see and do	There are commercial and retail outlets that people can visit close to Twickenham town centre, on A305 Heath Road.	There is no area for improvement.

5.6 ATZ SUMMARY AND IDENTIFIED IMPROVEMENTS

Potential Improvements

- 5.6.1. As part of the Active Travel Zones Assessment, a desktop review was carried out for the following routes:
- Route 1 – To Twickenham Railway station
 - Route 2 – To Orleans Park School
 - Route 3 – To York House Gardens
 - Route 4 – To St Catherine's School
 - Route 5 – To St Richard Reynold's Catholic School
- 5.6.2. Three key areas of improvement were identified:
- There is potential to plant more shrubs and planters along the A310 London Road to contribute to cleaner air;
 - To review street lighting to improve the safety of pedestrians at Riverside; and
 - Resurface and improve the safety of junctions for pedestrians crossing.
- 5.6.3. In response to comments received from the planners, LBRUT have confirmed that a CAVAT contribution of £64,900.90 will be made as part of this planning application.

Improvements vs Mitigation

- 5.6.4. It is essential that any financial contributions sought towards mitigation of the Proposed Development are sought in accordance with the National Planning Policy Framework (2019). Paragraph 55 of the NPPF states that “*planning obligations must only be sought where they meet all of the following tests:*”
- *necessary to make the development acceptable in planning terms.*
 - *directly related to the development.*
 - *fairly and reasonably related in scale and kind.”*

6 TRIP GENERATION

6.1 INTRODUCTION

- 6.1.1. This chapter presents the methodologies used to examine the number of multi-modal trips generated by the Site. This section will detail the net change in trips between the consented and proposed uses at the Site during peak times for travel on the local transport network, namely the weekday AM peak hour (08:00-09:00) and weekday PM peak hour (17:00 – 18:00).
- 6.1.2. It should be noted that land use classes A and B1 have been revoked in September 2020. The new land use class E has replaced these land uses however the technical standards, databases and London Plan still make reference to land use classes A and B1. These will therefore be represented as such in this document for the purpose of facilitating the technical assessment.
- 6.1.3. A summary of the net change in floor areas is outlined in Table 6-1.

Table 6-1 - Land Use Net Change

Land Use	Existing	Proposed	Net Change
A1 Retail	1,193 sqm	368 sqm	-825 sqm
A2-5 Restaurant / Café/ Pub	46 sqm	699 sqm	+653 sqm
B1 Office	245 sqm	320 sqm	+75 sqm
C3 Residential	0	45 Units	+45 Units

6.2 EXTANT/EXISTING TRIP GENERATION POTENTIAL

- 6.2.1. The existing site comprises permission to operate a mix of A1 retail, A2 retail and B1 office space. A detailed breakdown of the existing site and what it is currently occupied by (and has planning consent for) is detailed below:
- Public garden (Jubilee Gardens);
 - Retail (King Street)
 - A1 Retail – 1,193 sqm
 - A2-5 Retail – 46 sqm
 - B1 Office – 245 sqm
 - Leisure centre
 - Car parking – 26 spaces
 - Public car parking (Embankment).
- 6.2.2. It should be noted that there are occasional market/festival events associated with the Site as well.
- 6.2.3. For the purposes of assessment, the net impact of the Proposed Development will be assessed against the Sites existing uses (assuming the Site is fully occupied and operational). This approach is considered appropriate as the site could operate within the parameters of its existing uses.
- 6.2.4. Table 6-2 outlines the travel demand generation associated with the existing site. The majority of the travel associated to retail uses can be attributed to trips already on the network as part of the King Street and Twickenham Town centre retail activity, therefore the forecast below shows only the trip generation related to the existing B1 office and associated private parking facilities.
- 6.2.5. For consistency of assessment, the methodology outlined below in section 5.4 for the proposed B1 workspace was used to forecast the baseline office trips in Table 6-2.

Table 6-2 – Existing Office Land Use Trips

Mode	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	4	4	8	4	0	4
Bus	3	3	6	3	0	3
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	6	8	14	8	0	8
Car Passenger	0	0	1	0	0	0
Bicycle	1	1	3	1	0	1
On Foot	2	2	4	2	0	2
Total	16	19	36	19	0	19

6.3 PROPOSED TRIP GENERATION

6.3.1. The trip generation methodology at the Proposed Development assumes that there will be a total of 45 residential units, as well as office, café, pub and retail.

6.3.2. The methodology used to assess each land use is provided in turn below.

Residential

6.3.3. The trip generation associated with the proposed residential units has been forecast using surveys from the TRICS database, the survey site selection was based on the following criteria:

- Land use – Residential – Private Flats;
- Weekday surveys – All;
- Location – London;
- Units – 25 +;
- PTAL 5+; and
- Location – Town Centre

6.3.4. The selected sites are summarised in Table 6-3 below. It should be noted that the TRICS sites selected have been used to determine total person trips only with local data (ONS Census) used to determine trips by travel mode.

Table 6-3 – Residential TRICS site selection

Reference	Description	Town/City	Area	Location	Units
BM-03-C-01	blocks of flats	bromley	bromley	Town Centre	160
HM-03-C-01	block of flats	fulham	hammersmith and fulham	Town Centre	42
HM-03-C-02	blocks of flats	hammersmith	hammersmith and fulham	Town Centre	194

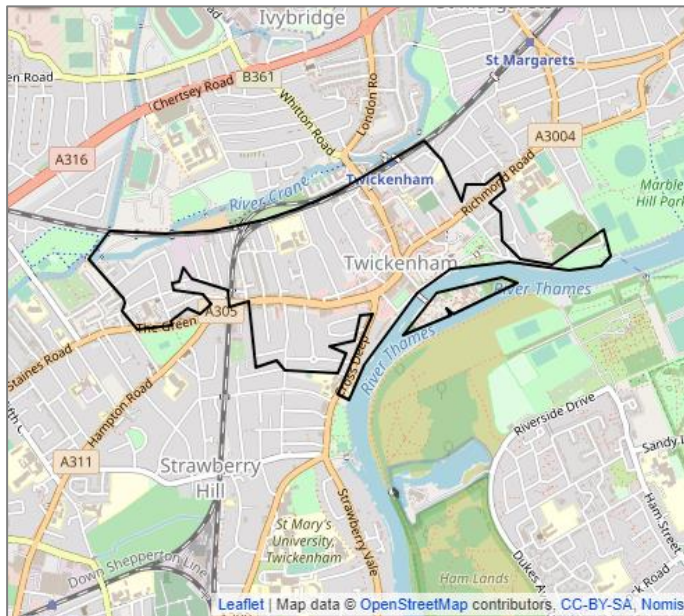
- 6.3.5. The total proposed residential person trip generation is then shown in Table 6-4 below. The table summarises the AM peak 0800-0900 and PM peak 1700-1800 total person trip rates and total person trip generation based on 45 residential units.

Table 6-4 – Total Proposed Residential Trip Generation

TRICS	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Total Person Trip Rate (per unit)	0.085	0.49	0.575	0.266	0.131	0.397
Proposed Total Person Trips (45 units)	4	23	26	12	6	18

- 6.3.6. As outlined above, the proposed residential units would typically generate 26 two-way total person trips in the AM peak hour and 18 during the PM peak hour.
- 6.3.7. The 2011 residential population Census data has been extracted for the middle super output area (MSOA) Richmond upon Thames 014 shown in Figure 6-1 below to inform the current local mode share.

Figure 6-1 – Richmond upon Thames 014 MSOA



- 6.3.8. The census mode share has been adjusted to represent the car free nature of the Proposed Development. Car driver trips have been proportionally split across sustainable travel modes, following the principles of the

Mayor Transport Strategy (GLA, 2018) therefore reallocating vehicular trips to public transport, walking and cycle transport modes.

- 6.3.9. The resulting modal split and multi-modal trip generation for the proposed residential element of the Proposed Development is shown in Table 6-5 and Table 6-6 respectively below.

Table 6-5 - Mode share (Resident population)

Mode	Rail	Bus	Taxi	M/C	Car	Car Pass.	Bicycle	On Foot	Total
2011 Census	43%	9%	0%	1%	29%	1%	6%	10%	100%
Adjusted	54%	13%	0%	1%	3%	1%	9%	20%	100%

Table 6-6 - Forecast Residential Multi-Modal Trip Generation (45 units)

Mode	Adjusted Mode Share	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	54%	2	12	14	6	3	10
Bus	13%	0	3	3	2	1	2
Taxi	0%	0	0	0	0	0	0
Motorcycle	1%	0	0	0	0	0	0
Car Driver	3%	0	1	1	0	0	1
Car Passenger	1%	0	0	0	0	0	0
Bicycle	9%	0	2	2	1	1	2
On Foot	20%	1	4	5	2	1	4
Total	100%	4	22	26	12	6	18

B1 Commercial Use

- 6.3.10. In order to robustly assess the proposed B1 commercial space, a first principles trip generation approach has been undertaken. This approach focusses on the 'typical' number of staff that will be occupying the workspace based on the proposed floorspace.
- 6.3.11. The total 'maximum' number of employees is based upon the proposed land use NIA floorspace and the Full Time Employee (FTE) capacity. The number of FTE employees has been calculated as 1 FTE per 12sqm of NIA floorspace, as detailed in the Employment Density Guide 3rd Edition (Homes & Communities Agency, 2015).
- 6.3.12. The study Reporting on desk sharing in office environment the Occupier Density Study (British Council for Office, 2013) reported that *'mean utilisation rates of 60–70% are commonly observed: utilisation rates of 80% are typically a target rather than a reality in most instances.'* Therefore, it can be assumed that it is very uncommon for a workplace that all the office facilities are occupied at once, which indicates that not all employees will be attending the office at the same time.
- 6.3.13. For the purposes of this assessment it is assumed that 85% of staff will occupy the building on any given day. Underutilisation of an office may be caused by absence from work (leave and sickness), working from home

(or another location), attendance at external meetings as well as longer term absences such as work secondments and part-time working.

- 6.3.14. Based on the above methodology, a summary of average employment densities is provided in Table 6-7 which also provides an indication of the proposed staff numbers.

Table 6-7 - Average Employment Densities and Additional Employees

Land Use	Proposed Floor Area (NIA m2)	Area Per FTE (NIA m2)	Forecast New Employees (Assumes 85% Occupancy)
Office	304*	12	22

*assuming a GIA to NIA ratio of 0.95

- 6.3.15. The mode split for the total employee trips to and from the proposed office floorspace has been determined through the application of the 2011 Census Travel to Work data for Richmond Upon Thames 014 as above.
- 6.3.16. On the basis that the Proposed Development does not include any car parking for the office use the adjusted mode shares have been applied. The resultant Travel to Work modal split is summarised in Table 6-8.

Table 6-8 - Forecast Office Multi-Modal Trip Generation – First Principles

Mode	2011 Census	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	43%	9	0	9	9	0	9
Bus	31%	7	0	7	7	0	7
Taxi	0%	0	0	0	0	0	0
Motorcycle	0%	0	0	0	0	0	0
Car Driver	0%	0	0	0	0	0	0
Car Passenger	2%	0	0	0	0	0	0
Bicycle	13%	3	0	3	3	0	3
On Foot	11%	2	0	2	2	0	2
Total	100%	22	0	22	22	0	22

- 6.3.17. As outlined above the first principles approach generates a total of 22 two-way trips during the AM peak and 22 during the PM peak period.

A3 Restaurant / Café

6.3.18. The TRICS database has been interrogated to derive forecast trips associated with the A3 and retail offering proposed on Site for a robust assessment. The TRICS surveys have been selected based on the following criteria:

- Land use – Hotel, Food and Drink – Restaurants;
- Weekday surveys – All;
- Location – London;
- Floor Area – All;
- PTAL All; and
- Location – All.

6.3.19. The selected sites are summarised in Table 6-9 below. It should be noted that the TRICS sites selected have been used to determine total person trips only with localised data used to determine trips by mode.

Table 6-9 - A3 Restaurant / Café TRICS Site Selection

Reference	Description	Town/City	Area	Location	Units
BT-06-B-01	Coffee shop & restaurant	Wembley	Brent	Suburban Area	150
LB-06-B-01	Portuguese restaurant	Stockwell	Lambeth	Edge of Town Centre	194

6.3.20. Table 6-10 summarises the AM peak 0800-0900 and PM peak 1700-1800 total person trip rates and total person trip generation based on a land use area of 255 café plus 368 retail, to give a total of 623 sqm.

Table 6-10 - Proposed Restaurant / Café Total Person Trip Generation

TRICS	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Total Person Trip Rate (per 100sqm)	3.093	1.031	4.124	6.977	6.105	13.082
Proposed Total Person Trips (607 sqm)	19	6	26	43	38	82

6.3.21. With regards to the modal split associated with the ground floor unit, it is considered that the majority, if not all of trips will be generated in the form of pass-by trips either associated with the Proposed Development itself or drawn from pedestrians already present on the existing network.

6.3.22. Therefore, it has been assumed that the majority of trips associated with the A3 offering will be on foot with the exception of a number of cycles. The Richmond Upon Thames 014 census workplace model split for cycle has been assumed with the remaining trips comprising of pedestrians. **Table 6-11** below outlines the multi-modal trip generation.

Table 6-11 - Forecast A3 Restaurant / Cafe Multi-Modal Trip Generation

Mode	2011 Census	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	0%	0	0	0	0	0	0
Bus	0%	0	0	0	0	0	0
Taxi	0%	0	0	0	0	0	0
Motorcycle	0%	0	0	0	0	0	0
Car Driver	0%	0	0	0	0	0	0
Car Passenger	0%	0	0	0	0	0	0
Bicycle	13%	3	1	3	6	5	11
On Foot	87%	17	6	22	38	33	71
Total	100%	19	6	26	43	38	82

- 6.3.23. As outlined above the A3 offering is forecast to generate up to 26 two-way trips during the AM peak hour and 82 during the PM peak hour.
- 6.3.24. For assessment purposes, it is reasonable to assume the restaurant / cafe use will not generate material increase in new trips to the Site and will likely comprise pass-by, diverted trips with no additional impact to the existing highway or public transport network.

A4 Pub Use

- 6.3.25. Trip generation associated with the pub has been forecast using surveys from the TRICS database on the following:
- Land use – Hotel, Food and Drink – Pub / Restaurant;
 - Weekday surveys – All;
 - Location – London;
 - Floor Area – All;
 - PTAL 5+, and
 - Location – All,
- 6.3.26. The selected sites are summarised in Table 6-12 below.

Table 6-12 - Pub TRICS Site Selection

Reference	Description	Area	Location	GFA
ci-06-c-01	pub/restaurant	city of london	Town Centre	700
hg-06-c-01	wetherspoon	wood green	Town Centre	1,000
lb-06-c-01	pub/restaurant	waterloo	Town Centre	220
wh-06-c-01	pub/restaurant	wandsworth	Town Centre	400

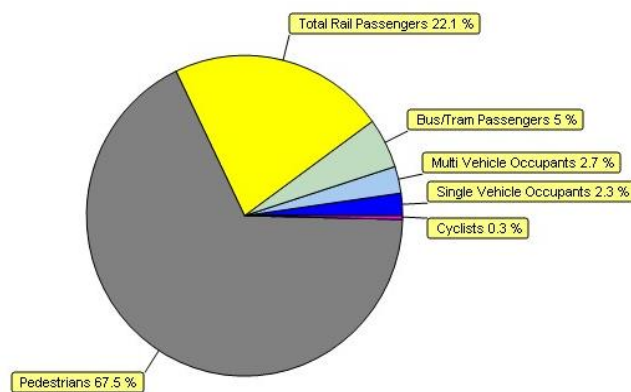
- 6.3.27. Table 6-13 summarises the AM peak 0800-0900 and PM Peak 1700-1800 total person trip rates and total person trip generation based on a 444sqm A4 Pub.

Table 6-13 - Proposed A4 Pub Total Person Trip Generation

TRICS	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Total Person Trip Rate (per 100sqm)	0	0	0	17.241	14.224	31.465
Proposed Total Person Trips (444sqm)	0	0	0	77	63	140

6.3.28. In order to derive trips by mode, the modal split derived from TRICS has been used as a basis for the assessment as it is considered that travel characteristics associated with town centre pubs would be a comparable proxy to the Proposed Development. Figure 6-2 below outlines the modal split percentages derived from TRICS.

Figure 6-2 - Pub modal split percentages (source: TRICS)



6.3.29. It should be noted that the car driver (single vehicle occupants) modal split percentage has been adjusted so no visitors travel by car. The car driver trips have been shifted to the walking mode as this is a good alternative in consideration of the car-free nature of the Site. The resulting multi-modal analysis is outlined below in Table 6-14 below.

Table 6-14 - Forecast A4 Pub Multi-Modal Trip Generation

Mode	2011 Census	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Train	18%	0	0	0	17	14	31
Bus	5%	0	0	0	4	3	7
Taxi	0%	0	0	0	0	0	0
Motorcycle	0%	0	0	0	0	0	0
Car Driver	0%	0	0	0	0	0	0
Car Passenger	3%	0	0	0	2	2	4
Bicycle	0%	0	0	0	0	0	0
On Foot	70%	0	0	0	53	44	98
Total	100%	0	0	0	76	63	140

- 6.3.30. As expected, the forecast trip generation for the A4 Pub does not generate any visitor AM peak hour trips with a two-way total of 140 trips in the PM peak period with the majority of trips made on foot.

6.4 TRIP GENERATION SUMMARY

- 6.4.1. Based on the preferred trip generation approaches outlined above, Table 6-15 provides a summary of the forecast trip generation associated with the Proposed Development.

Table 6-15 – Proposed Trip Generation

Mode	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	11	12	23	33	17	50
Bus	7	3	10	12	4	16
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	0	1	1	0	0	1
Car Passenger	0	0	1	3	2	4
Bicycle	6	3	9	10	6	16
On Foot	20	10	30	96	78	174
Total	45	29	73	153	107	261

- 6.4.2. As outlined above, the Proposed Development is forecast to generate up to 73 two-way total person trips in the AM peak hour and 261 during the PM peak period. This equates to approximately 4no. trips per minute during the busier PM peak period.
- 6.4.3. This level of movements is not considered to have a significant impact on the local highway network however as only one trip is anticipated to be by car with the majority of trips undertaken on sustainable transport modes such as public transport and walking.

6.5 NET IMPACT ASSESSMENT

- 6.5.1. As outlined above, as the majority of the existing site is associated with retail uses which can be attributed to trips already on the network, therefore the net impact assessment focusses on trips associated with the existing office. In the interest of a robust assessment the forecast trips associated with the proposed pub and café have not been attributed to trips already on the network and have been included in the net impact assessment below. In reality the majority of these trips would be linked or pass by as a result of the Site's town centre location. The net impact assessment is shown in Table 6-16 below.

Table 6-16 - Net Impact Assessment

Mode	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	7	7	15	28	17	45
Bus	4	0	4	9	4	13
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	-6	-7	-13	-7	0	-7
Car Passenger	0	0	0	2	2	4
Bicycle	5	2	6	8	6	14
On Foot	18	8	26	94	78	172
Total	28	9	37	134	107	241

- 6.5.2. In addition to the table above, the Proposed Development will result in the removal of up to 97 parking spaces from a total of 113 currently available, on this basis, the Proposed Development will result in a significant net reduction in vehicle trips.
- 6.5.3. To note, appropriate loading facilities will be maintained for Eel Pie Island to accommodate the delivery trips recorded servicing the island which comprised of an average of 19 trips across two survey days.
- 6.5.4. Based on the net impact assessment above, the Proposed Development is forecast to generate up to 37 total person trips during the AM peak hour (0800-0900) and 241 during the PM peak hour (1700-1800).
- 6.5.5. This net impact assessment is considered to be highlight robust as a significant number of these trips will already be on the network due to the Site's town centre location. This equates to 4 additional trips per minute during the peak hour across the various sustainable transport modes.
- 6.5.6. This level of trips is not considered to have significant impact on the local highway network and is considered acceptable in highway terms.

6.6 DELIVERY AND SERVICING TRIP GENERATION

Residential Servicing

- 6.6.1. Delivery and servicing trips have been forecast using TRICS sites including more recent surveys. The following sites have been identified from the TRICS database:

- Kew, Block of flats, 170 dwellings, survey 2019
- Barking, Block of flats, 40 dwellings, 2020 survey (COVID)
- Barnet, mixed private/affordable housing, 271 dwellings, 2019
- Richmond, mixed private/affordable housing, 76 dwellings, 2016

6.6.2. The residential delivery/servicing trip rates are set out in Table 6-17 below.

Table 6-17 – Residential Servicing Trip Rates (Per dwelling)

Time Period	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)			Daily (0700-1900)		
	In	Out	Total	In	Out	Total	In	Out	Total
LGV	0.014	0.015	0.029	0.015	0.009	0.024	0.199	0.200	0.399
HGV	0.001	0.001	0.002	0.002	0.002	0.003	0.016	0.016	0.033

6.6.3. The forecast servicing demand associated with the Proposed Development (45 dwellings) is outlined below in Table 6-18.

Table 6-18 – Servicing Demand: 45 Units

Time Period	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)			Daily (0700-1900)		
	In	Out	Total	In	Out	Total	In	Out	Total
LGV	1	1	1	1	0	1	9	9	18
HGV*	0	0	0	0	0	0	1	1	2

*HGV can only service the site on limited hours due to Embankment pedestrian priority scheme

6.6.4. Applying the above servicing trips to the proposed 45 units, this generates a total of 20 servicing trips over the course of a day. This level of servicing is expected to generate maximum of one residential servicing trip in any one hour across a typical day.

B1 Office Servicing

6.6.5. Delivery and servicing trips have been forecast using TRICS sites in order to include more recent surveys. The following sites have been identified from the TRICS database:

- Hammersmith, Regus Offices, survey 2018
- Kensal Green, Fruit Drinks Company, survey 2019
- Vauxhall, Start-up Offices and Studios, survey 2019
- Streatham, Music Company, survey 2020 (COVID)

6.6.6. On this basis, the Proposed Development is forecast to have a typical servicing demand of up to 2no. servicing vehicles arrivals per day. Based on typical servicing arrival profiles for commercial developments, the peak hour of servicing activity would be forecast to generate up to 2no. service vehicle. A forecast for the B1 office servicing arrivals is shown in Table 6-19 below.

Table 6-19 – B1 Office Forecast Servicing Arrivals

Time Period	AM Peak (0800-0900)	PM Peak (1700-1800)	Daily (0700-1900)
Light Goods Vehicle	0	0	3
Heavy Goods Vehicle*	0	0	0
Total	0	0	4

*HGV can only service the site on limited hours due to Embankment pedestrian priority scheme

A3 Restaurant / Café Servicing

- 6.6.7. Delivery and servicing trips associated with the A3 Restaurant / Café proposed on Site have been forecast using the TRICS sites selected above in previously in Table 6-9. The resulting servicing rates and trips are outlined in Table 6-20 below.

Table 6-20 – Restaurant / Café Servicing Trip Rates

Time Period	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)			Daily (0700-1900)		
	In	Out	Total	In	Out	Total	In	Out	Total
Service Vehicles	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.667	1.334

- 6.6.8. For the purposes of assessment and due to the size of the restaurant / café offering it has been assumed that all deliveries will be undertaken via LGV's. The proposed servicing arrivals for the pub is shown in Table 6-21 below.

Table 6-21 – Restaurant / Café Forecast Servicing Arrivals

Time Period	AM Peak (0800-0900)	PM Peak (1700-1800)	Daily (0700-1900)
Light Goods Vehicle	0	0	3
Heavy Goods Vehicle*	0	0	1
Total	0	0	4
*HGV can only service the site on limited hours due to Embankment pedestrian priority scheme			

Note: LGV / HGV split based on a typical 80% 20% split

A4 Pub Servicing

- 6.6.9. Delivery and servicing trips associated with the A4 Pub proposed on Site have been based on the TRICS selection above in Table 6-12. To note, only one of the four sites HG-06-C-01 provided delivery and servicing survey data. The resulting servicing rates and trips are outlined in Table 6-22 below.

Table 6-22 – Restaurant / Café Servicing Trip Rates

Time Period	Weekday AM Peak (0800-0900)			Weekday PM Peak (1700-1800)			Daily (0700-1900)		
	In	Out	Total	In	Out	Total	In	Out	Total
Service Vehicles	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.100	0.200

- 6.6.10. For the purposes of assessment and due to the size of the restaurant / café offering it has been assumed that all deliveries will be undertaken via LGV's. The proposed servicing arrivals for the pub is shown in Table 6-23 below.

Table 6-23 – Pub Proposed Servicing Arrivals

Time Period	AM Peak (0800-0900)	PM Peak (1700-1800)	Daily (0700-1900)
Light Goods Vehicle	0	0	1
Heavy Goods Vehicle*	0	0	0
Total	0	0	1

*HGV can only service the site on limited hours due to Embankment pedestrian priority scheme

Servicing Summary

- 6.6.11. Table 6-24 outlines the sitewide servicing trips forecast for the Proposed Development. The results outline up to one delivery and servicing trip during each of the AM and PM peak hours with a total of 22 trips across a typical day. Based on a typical 12 hour day the Proposed Development will typically generate one servicing and delivery trip across each hour with the occasional hour generating two trips. It is considered that this level of delivery and servicing trips will be accommodated within the two delivery bays proposed to serve the Site.

Table 6-24 – Proposed Servicing Trips

Time Period	Daily (0700-1900)
Light Goods Vehicle	21
Heavy Goods Vehicle*	2
Total	22

*HGV can only service the site on limited hours due to Embankment pedestrian priority scheme

6.7 KEY JUNCTION COMPARATIVE VEHICLE TRIP-GENERATION REVIEW

- 6.7.1. Following the implementation of the Twickenham Riverside masterplan proposals, which include closing the Embankment to general traffic between Water Lane and Wharf Lane, traffic flows on Wharf Lane and Water Lane are expected to reduce significantly.
- 6.7.2. To demonstrate the impact at the key site access junctions of Water Lane and Wharf Lane, the two-way peak hour trip-generation traffic flow data has been considered. WSP has reviewed the Systra traffic flow data (which was instructed by and on behalf of the LPA) and retained all existing trips that could continue to occur as part of the proposed development once fully operational.
- 6.7.3. For Water Lane, the approach has then applied the proposed development principles (retaining trips relevant to the operational scheme), whilst allowing for prospective Eel Pie Island peak hour servicing activity.
- 6.7.4. The percentage change between existing and proposed trips has then been calculated, illustrating a significant reduction in vehicle trips associated with the proposed scheme, as outlined in Table 6-25 below.

Table 6-25 - Water Lane & Wharf Lane Peak-Hour Trip-Generation Comparison (Weekday)

Junction	Existing AM peak (weekday)	Proposed AM peak (weekday)	Difference	Existing PM peak (weekday)	Proposed PM peak (weekday)	
Wharf Lane	27	9	18 (-67%)	55	10	45 (-82%)
	(inc. 8 accessing or egressing service road)		Equivalent to 1 trip every c.7 mins	(inc. 9 accessing or egressing service road)		Equivalent to 1 trip every c.6 mins
Water Lane	41	13	28 (-68%)	67	22	45 (-67%)
			Equivalent to 1 trip every c. 5 mins			Equivalent to 1 trip every c. 3 mins

Table 6-26 - Water Lane & Wharf Lane Peak-Hour Trip-Generation Comparison (Weekend)

Junction	Existing AM peak (weekday)	Proposed AM peak (weekday)	Difference	Existing PM peak (weekday)	Proposed PM peak (weekday)	
Wharf Lane	40	13	27 (-67%)	63	10	53 (-84%)
	(inc. 12 accessing or egressing service road)		Equivalent to 1 trip every c.5 mins	inc. 9 accessing or egressing service road)		Equivalent to 1 trip every c.6 mins
Water Lane	58	10	48 (-83%)	63	24	39 (-62%)
			Equivalent to 1 trip every c.6 mins			Equivalent to 1 trip every c.3 mins

NB: Minor errors subject to roundings

Water Lane

- 6.7.5. Taking into account existing business/residents as raised in the comment, there are understood to be an average of 19 vehicle trips associated with Eel Pie Island over a two-day period, thereby up to 9 trips per day. The Systra data illustrates that during the Weekday AM peak and Weekday a total of 1 vehicle and 4 vehicles travels westbound along the Embankment from Bell Lane and the east of the masterplan site which would therefore need to be accommodated on the new Water Lane junction, with the rest of the existing eastbound trips already associated with egress along Bell Lane and Church Street.
- 6.7.6. Based on these assumptions, and assuming an unlikely “worst case” scenario that ALL daily Eel Pie Island servicing takes place in either the AM or PM peak, the likely total number of trips travelling north towards the Water Lane junction with King Street in the AM peak would be 9-10 (9 EPI + 1 east Embankment) and in the PM would be 13 (9 EPI + 4 east Embankment).

Wharf Lane

- 6.7.7. The development proposals are anticipated to generate 1 additional service vehicle trip during both the AM and PM peak hour based on a consolidated and managed servicing strategy. Removing the ‘through traffic’ movements from the above figures (i.e. traffic not accessing or egressing the service road) and allowing for the additional service vehicle trips generated by the development would result in significantly reduced future traffic flows on Wharf Lane as outlined in Table 6-25 and 6-26.
- 6.7.8. It should be noted that some of the existing vehicular traffic accessing the service road may be removed in the future following additional management of the King Street retail units servicing activity (subject to discussions with M3).
- 6.7.9. It is also noted that spaces for approximately 30 cars to park are provided within existing development to the west of Wharf Lane, accessed via a private access road. Continued access to these spaces will be retained along Wharf Lane following the redevelopment of the riverside site. Again, this small number of private parking spaces would not generate a significant number of peak hour trips.
- 6.7.10. Based on the above, vehicle flows using the proposed two-way Wharf Lane arrangement would be significantly lower than existing flows, thereby offsetting any negative impacts for pedestrians and cyclists following the introduction of two-way traffic flows and the widening of the bell mouth junction with King Street.

7 IMPACT ASSESSMENT

7.1 PUBLIC TRANSPORT NETWORK ASSESSMENT

- 7.1.1. The Site is within walking distance of Twickenham Railway station (circa 10-minute walk) as well as six bus stops as highlighted previously in Chapter 3.
- 7.1.2. The assessment of the Proposed Development effects on the public transport network included identifying the net change in trips per mode and identify the additional number of passengers per service attributable to the Proposed Development.

Bus Impact

- 7.1.3. It is estimated that the Proposed Development would generate 4 bus trips in the AM peak and 13 in the PM peak. There are 41 buses across 9 different services running in the peak hours, which if split evenly across these would represent 1 or less extra passengers per peak hour per services. This would be a negligible impact.

Rail Impact

- 7.1.4. It is estimated that the Proposed Development would generate 15 rail trips in the AM peak and 45 in the PM peak. There are 27 trains in the AM peak and 24 in the PM peak across 6 different rail services. If spread evenly this would represent 1 extra passenger per service in the AM Peak and 2 extra passengers per service in the PM peak. This would be a negligible impact.

7.2 HIGHWAY NETWORK ASSESSMENT

- 7.2.1. As the Proposed Development is car free and a significant number of car parking spaces will be removed as a result of the Proposed Development, we are not anticipating detrimental impacts on highway capacities and a requirement to undertake junction traffic modelling at this stage has not been raised by the LPA.
- 7.2.2. Compared to baseline traffic data collected by Systra for the parking review, we understand that the removal of public and on-site car parking spaces could result in a significant reduction of traffic through the area. The surveys have been analysed to produce a traffic flow diagram reporting the Manually Classified Turning Counts undertaken at key junctions and representing the likely trip generation resulting from the Proposed Development. This can be found in **Appendix F**.
- 7.2.3. The Proposed Development will be car free with exception for blue badge holders parking bays. The Proposed Development will therefore only generate traffic related to delivery and servicing, which is anticipated to generate up to 21 LGV trips and day and 2 HGV / large lorry trips a day.
- 7.2.4. The existing level of servicing and visitors associated with Eel Pie Island will be accommodated on Site to guarantee business continuity for the Island. Through surveys and conversations with Eel Pie Island residents and business association it has been estimated that 6 parking / loading spaces along The Embankment and two parking spaces along Wharf Lane should be sufficient to accommodate the existing needs of businesses and residents that require parking spaces in close proximity of the Eel Pie Island pedestrian bridge.

7.3 ROAD SAFETY ASSESSMENT

- 7.3.1. An independent Stage 1 Road Safety Assessment (RSA) was carried out by Project Centre on behalf of the Applicant in September 2020. At the request of the Council, the scope of this original Stage 1 RSA was to focus on the proposed new junction arrangements at the north end of Water Lane and Wharf Lane given the design proposals to accommodate two-way traffic movements at both junctions respectively.
- 7.3.2. Following comments received from the Case Officer, the Council and design team extended the scope to produce a revised Stage 1 RSA to include the both the northern junctions of Water Lane and Wharf Lane with

King Street, and additionally the southern sections of Water Lane and Wharf Lane, the service road and the Embankment, thereby capturing the masterplan site in entirety within a revised Stage 1 RSA undertaken in 2022 reflective of the latest design arrangement, superseding the original Stage 1 RSA undertaken in 2020.

7.3.3. This scope was duly agreed between the Council, WSP and Project Centre, and a revised audit undertaken in February 2022 to which the remainder of this section pertains.

7.3.4. The Road Safety Audit report can be found in **Appendix G** at the rear of this document and a designer's response technical note is provided in **Appendix H**. A summary of the issues identified, and the designer's responses are provided in the Table 7-1 below.

Table 7-1 – Stage 1 Road Safety Audit Summary

Problem	Location	Summary	Recommendation
General	N/a	No issues have been identified	N/a
Local Alignment	N/a	No issues have been identified	N/a
Junctions	Junction of Wharf Lane with King Street.	Wharf Lane exit close to signal stop line, risk of side-swipe collisions for vehicles moving into the offside lane to continue straight ahead.	Adjust the alignment of the Wharf Lane junction to minimise the risk of side-swipe collisions.
	Junction of Water Lane with King Street.	Restricted visibility at the junction may increase the risk of collisions between road users pulling out of Water Lane and those on King Street.	The carriageway at King Street is approximately 5 metres wide. Realign the junction mouth and move the give-way line forward to improve the visibility at this junction.
Walking, Cyclists and Horse Riding	Junction mouths of Wharf Lane and Water Lane.	Pedestrians with sight impairments may enter the road without realising, resulting in conflict with passing traffic leading to injury.	Provide suitable high-contrast tactile paving on the footway at the pedestrian crossing points, to warn pedestrians with sight impairments that they are entering a traffic environment.
Traffic Signs, Carriageway Marking and Street Lighting	N/a	No issues have been identified	N/a

7.3.5. A Stage 2 Road Safety Assessment will be carried out once details define the assessment that will be required.

7.4 MANAGEMENT PLANS

7.4.1. We will describe the management plans strategies recommended to support the Proposed Developments; at this stage we anticipate these will be:

- Delivery and Servicing Strategy (Submitted under separate cover).
- Travel Plans (Submitted under separate cover).
- Waste Management Strategy (To be secured via condition).
- Framework Construction Management Plan (Provided by Arcadis).

FRAMEWORK TRAVEL PLAN

- 7.4.2. The NPPF highlights that a key tool for facilitating the promotion of sustainable travel choices will be the provision of a Travel Plan:

“All developments which generate significant amounts of movement should be required to provide a Travel Plan.”

- 7.4.3. A Framework Travel Plan (FTP) for residents, staff and visitors of the Proposed Development has been submitted as a standalone document. The objective of the Framework Travel Plan will be to reduce car trips made to and from the site as far as practicable and encourage active travel modes.
- 7.4.4. The Framework Travel Plan will set out the site wide management structure and outline the sustainable travel principles and measures to be incorporated within the Proposed Development.
- 7.4.5. The implementation of pre-occupation measures to be included within the Framework Travel Plan will be the responsibility of the Travel Plan Co-ordinator (TPC). The TPC role will be undertaken by either a nominated employee of the site management company or an appointed consultant. The success of the Framework Travel Plan will be regularly monitored and reviewed to ensure that the Framework Travel Plan continually develops during its lifetime.
- 7.4.6. The FTP will be prepared in accordance with TfL Travel Planning Guidance as well as ‘Travel Planning for New Development in London: Incorporating Deliveries and Services’ and DfT’s ‘Good Practice Guidelines: Delivering Travel Plans through the Planning Process’.

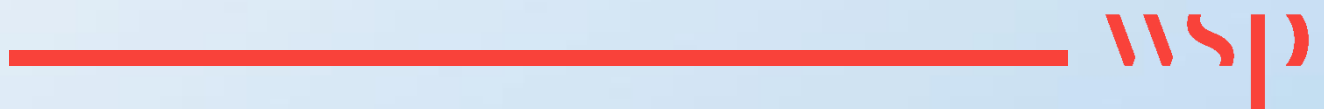
8 SUMMARY AND CONCLUSIONS

8.1 SUMMARY

- 8.1.1. As outlined in Chapter 1, following initial submission of the Transport Assessment in August 2021, the LPA has raised points of clarification and comments regarding transport matters, which have duly been addressed by WSP as transport consultants alongside the client and wider design team.
- 8.1.2. At the request of the LPA, this revised Transport Assessment has been produced to expand on key transport items to provide clarity and ensure the latest Stage 3 design drawings, layout plans and transport solutions are available to the LPA for further review.
- 8.1.3. This Transport Assessment demonstrates the following:
- The Site currently has a PTAL score of 5, showing very good connectivity to the public transport network
 - The Proposed Development will provide significant improvements to the local area with new pedestrian and cycle routes through the site and towards local bus services
 - Cycle parking will be provided on-site in accordance with London Plan policy standards
 - The Proposed Development is intended to be car-free albeit providing a small amount of Blue Badge parking, a small number of retained Pay & Display bays, and bays for loading activity
 - Appropriate deliveries and servicing provision will be provided on site for the Proposed Development and nearby stakeholders
- 8.1.4. Analysis of the existing and forecast multi-modal travel demand found that there will be a small net increase in in total person trips across the Site. This equated to 4no. additional trips per minute during the peak hour across the various sustainable transport modes available within the town centre. The Proposed Development is forecast to generate a net reduction in vehicle trips through the removal of the existing private parking and a number of on-street bays.
- 8.1.5. When considering delivery and servicing trips, the results outline up to one vehicle during each of the AM and PM peak hours with a total of 22 trips across a typical day. Based on a typical 12 hours day the Proposed Development will typically generate one servicing and delivery trip each hour with the occasional hour generating two trips. It is considered that this level of delivery and servicing trips will be accommodated within the delivery and servicing strategy for the Site.
- 8.1.6. The initial assessment is considered to demonstrate that the Proposed Development would not be expected to have a material impact on the operation on the surrounding of the local highway network and instead seek to provide a sustainable design improving the local area.

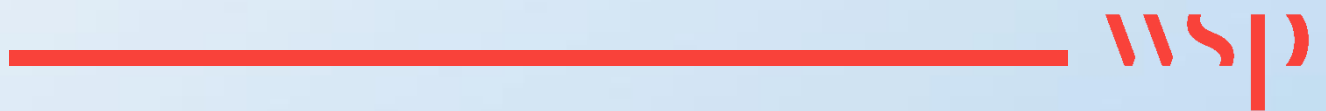
Appendix A

SCOPING NOTE & PRE-APPLICATION ENGAGEMENT



Appendix B

CYCLE QUALITY AUDIT



Appendix C

LBRUT CPZ REVIEW



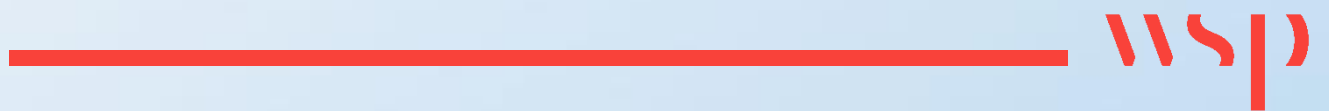
Appendix D

VEHICLE SWEEP PATHS



Appendix E

ATZ PHOTOS



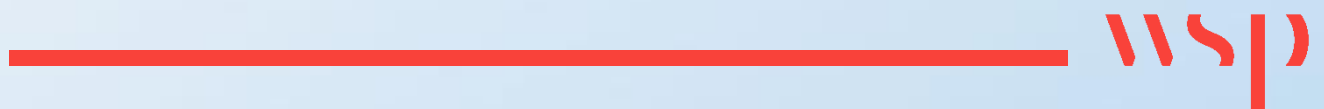
Appendix F

MCC ANALYSIS



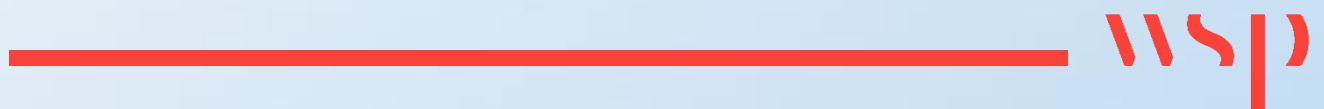
Appendix G

ROAD SAFETY AUDIT STAGE 1



Appendix H

RSA1 DESIGNERS RESPONSE





WSP House
70 Chancery Lane
London
WC2A 1AF

wsp.com

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