HAMMERSMITH BRIDGE TEMPORARY FERRY CROSSING

TRANSPORT ASSESSMENT

PROJECT NO. 2820 / 2001 DOC NO. D002

DATE: MAY 2021

VERSION: 2.0

CLIENT: UBER BOATS BY THAMES CLIPPERS

Velocity Transport Planning Ltd

www.velocity-tp.com

VELOCITY
Transport Planning

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1 INTRODUCTION

1.1 APPOINTMENT

1.1.1 Velocity Transport Planning has been appointed by *Uber Boat by Thames Clippers* on behalf of Transport for London (TfL) to prepare a Transport Assessment (TA) in respect of a full planning application for a temporary ferry service spanning the River Thames between Hammersmith in the London Borough of Hammersmith and Fulham (LBHF) to the north, and Barnes in the London Borough of Richmond upon Thames (LBRT) to the south.

1.1.2 The TA assesses the potential impacts of the proposals on the local and strategic pedestrian, cycle, public transport and vehicular transport networks and how these impacts can be appropriately accommodated through acceptance, management or mitigation.

1.2 BACKGROUND

1.2.1 The Grade II* listed Hammersmith Bridge carried 22,000 motor vehicles per day until 10 April 2019, when it was closed to motorised traffic indefinitely, as it was found to have critical faults which required an immediate reduction in its live loading to prevent a catastrophic collapse.

1.2.2 The bridge was fully closed on 13 August 2020 for safety reasons, before which it carried 16,000 pedestrian and cyclists per day and hundreds of boats passed beneath it.

KEY ISSUES

1.2.3 Hammersmith Bridge provided a major link between Richmond and Hammersmith and beyond. For people living south of the River Thames, it provided access to London Underground services at Hammersmith station. Until its closure, four bus routes provided regular services across the bridge.

1.2.4 The bridge's closure has resulted in significant severance of movement between the boroughs, causing diversion of trips to other routes (via Putney Bridge and Chiswick Bridge, approximately 4km to the east and west, respectively) and great inconvenience for cross-river connectivity between Hammersmith and Barnes.

1.2.5 More than 1,000 school children from several London boroughs must now make a longer journey every day. The problem is especially acute for students and teachers as well as other commuters living in the borough of Richmond, but it also impacts students from across West and Southwest London who attend schools on both sides of the Thames.

1.3 WHY IS THE PROJECT PROPOSED?

1.3.1 The project has the strategic objective to reintroduce connectivity across the River Thames near Hammersmith Bridge for pedestrians and cyclists until the restoration of the main bridge is complete.

1.3.2 TfL commissioned studies for a temporary bridge crossing between Queen Caroline Street and Castlenau. Since this option was not progressed, TfL has contracted Uber Boats by Thames Clippers (UBTC) to introduce a ferry service between temporary piers connecting Queen Caroline Street to Castelnau.

1.4 WHEN IS THE PROJECT PROPOSED?

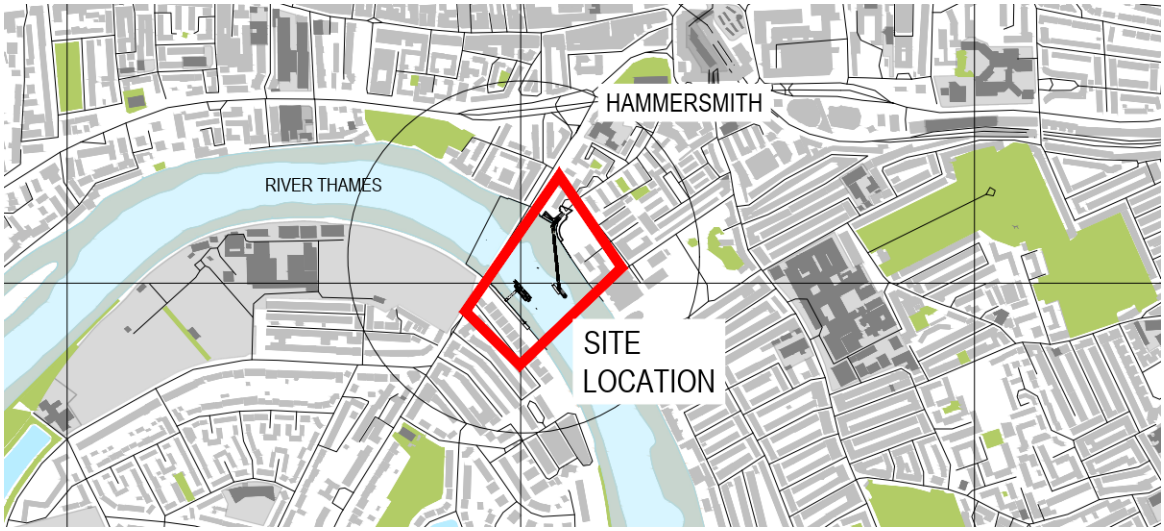
1.4.1 The initial contract is for one year with an option to extend it to three years to allow for the refurbishment and re-opening of Hammersmith Bridge during this time. Planning permission is being sought for a temporary period of three years. The temporary piers, which have a life span of five years, would be removed once the bridge is re-opened.

1.4.2 Given the extremely short project mobilisation, it would not be practical to mobilise new vessels for the operation. In the event that the contract is extended from 12 months up to three years, UBTC would welcome the opportunity to develop a fully electric cross-river ferry in partnership with TfL. It is anticipated that a vessel could be procured within 12-15 months. The electric ferry could then be repurposed at other cross river sites along the Thames post-contract. This would save vessel fuel burn, fuel deliveries, and oil use. It would also meet the cross-river objectives within the Mayor's Transport Strategy.

1.5 SITE LOCATION

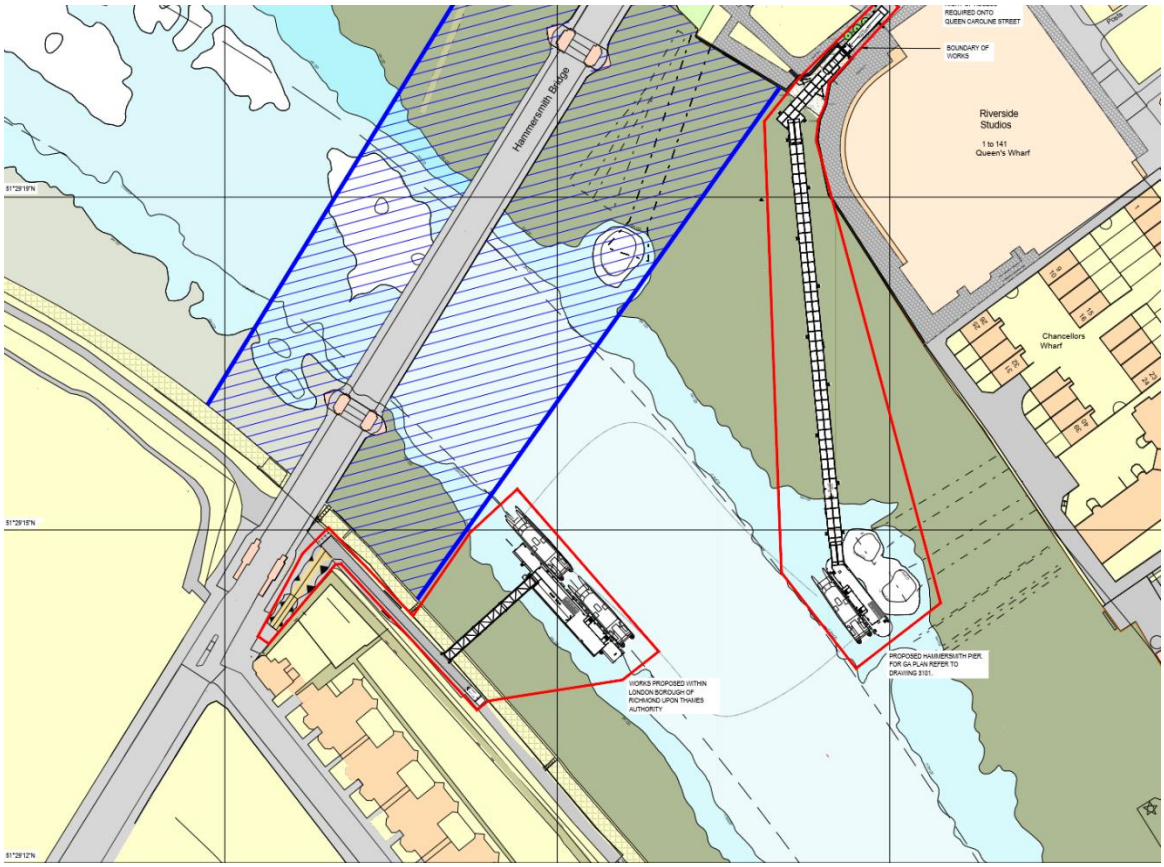
1.5.1 The ferry service will connect Queen Caroline Street in Hammersmith with Castelnau in Barnes, with the site location shown in its local context in **Figure 1-1**.

Figure 1-1: Site location and local context



1.5.2 The full extent of the Sites in both LB Hammersmith and Fulham and LB Richmond is shown in **Figure 1-2**.

Figure 1-2: Red line boundaries and extent of sites



1.6 WHY IS THE PROJECT PROPOSED IN THIS LOCATION

1.6.1 Several landing sites were considered for the temporary ferry piers. Landing sites upstream of Hammersmith bridge were discounted due to the current closure of the bridge to navigation. The closure to navigation would make constructing the piers difficult since most of the materials for the piers and the construction plant will all be delivered by river from sites downstream. Furthermore, the vessels themselves will arrive from downstream with one of the three vessels being on standby at Plantation Wharf Pier; any major maintenance and repair work will be done at boatyards downstream. During the ferry operation supply vessels arriving from downstream will need to regularly access the piers. If the ferry was located upstream of the bridge all this traffic could be severely constrained which, in turn, would adversely affect the reliability of the ferry service. For this reason, sites upstream of the bridge were not considered further.

1.6.2 Sites further downstream of Fulham Reach Boat Club (FRBC) were not considered due to the distance away from the desire line of the bridge crossing. Additionally, there is a great deal of small boat activity in the area from FRBC pier downstream which would increase the navigational risk of operating the ferry. Therefore, the area for sites considered reaches from Hammersmith Bridge eastwards along to FRBC.

1.6.3 FRBC were approached to explore the possibility of adding an extension to their pier to provide an all-tide berth for a ferry. However, FRBC felt that such a solution would prevent them from being able to use their pier for their normal activities which ruled out this option.

1.6.4 Chancellor's Wharf was another site that was given serious consideration for the northern ferry terminal, however it was discounted for technical and legal reaons.

1.6.5 Using the Queen Caroline slipway as a landing point enables an access over the flood defence boards to a floating walkway that involves no large bankseat structure and no increased loading on the flood defences; consequently, obtaining EA consent ought to be straightforward. The slipway is not directly overlooked by residents and access is good via the road and footpath.

1.6.6 As the slipway is in public ownership obtaining consent from the local authority for its use is a much more feasible process than negotiating a private land access. The slipway was consequently chosen as the landing point for Hammersmith Pier.

1.6.7 Locating Barnes Pier's landing is simpler with the main requirement being to keep clear of the Thames Tideway Tunnel zone where there are restrictions on installing piles.The towpath downstream of Hammersmith Bridge is owned by the Port of London Authority (PLA) who also own the riverbed. The Barnes Pier landing is located as close to Hammersmith Bridge as the navigational exclusion zone and the requirement not to damage any trees allows. This provides the shortest possible walking route to Castlenau.

1.6.8 The two piers are close to each other but slightly staggered which allows an efficient circular path to be followed by the two vessels which will operate during peak times. The close proximity of the piers means that the vessels can side slip across the river only turning to face the opposite direction when the tide turns. This mode of operation provides the quickest crossing time, the least engine power, the least noise and emissions.

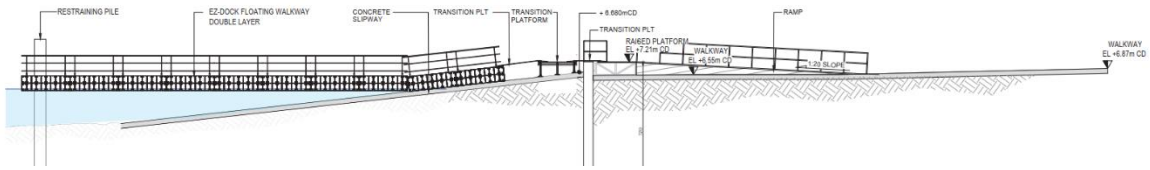
1.7 PROPOSED DESIGN

1.7.1 The proposed pier structures would be floating pontoons secured in their location within the river by temporary piles.

NORTHERN SITE

1.7.2 On the northern side, a 1:20 sloped ramp up to transition platforms over the river wall would lead on to a 150m long floating walkway, as shown in **Figure 1-3** (full-scale drawings provided in **Appendix A**).

Figure 1-3: North Site Section Drawing Extract

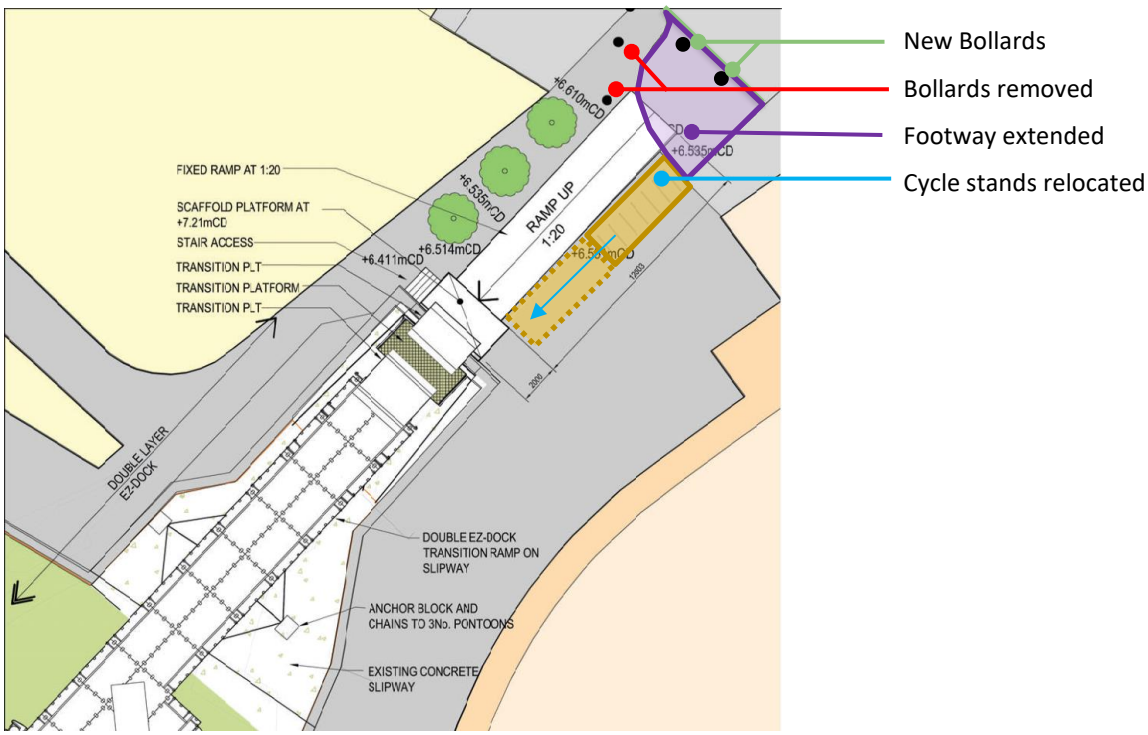


1.7.3 The floating walkway would be 4.0m wide, as illustrated in **Figure 1-4**, allowing ample room for two mobility scooters or two double buggies to pass one another if necessary. The gradient of the walkway would vary depending on the tide and could exceed a slope of 1:20, which remains DDA compliant for riverboat access. Consequently, mobility assistance would be provided by staff on the walkway for passengers who require it.

Figure 1-4: Sketch of view along Hammersmith walkway

1.7.4 A plan of the North Site is shown in **Figure 1-5**. It is proposed that off-site highway improvement works would be undertaken to extend the footway around the end of the ramp to enable safe passage of pedestrians along the river path and to and from the pier. To maximise pedestrian comfort levels around the pier landing, the existing bollards would be relocated to the revised edge of the footway and a revised dropped kerb arrangement introduced for cyclists. The cycle parking stands would be relocated southwards towards the river.

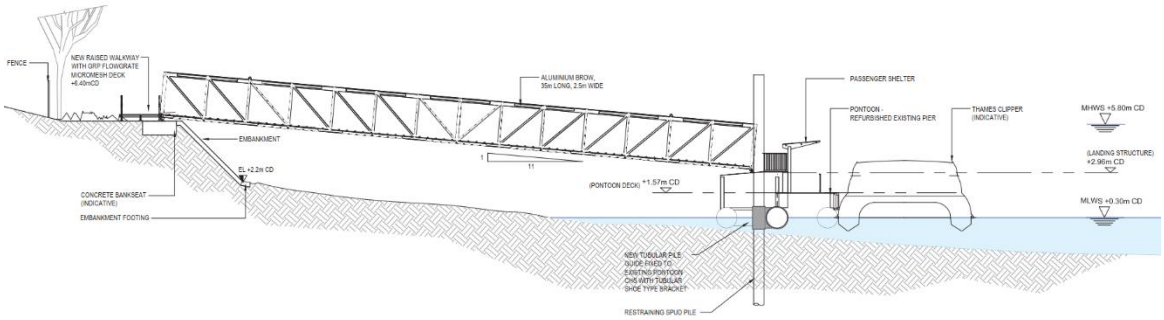
Figure 1-5: North Site Plan Extract and proposed highways improvements



SOUTHERN SITE

1.7.5 On the southern side, a new raised walkway is proposed across the full width of the Thames Path to provide a suitable connection point for the proposed aluminium brow. The brow is 35m long and 2.5m wide to allow for two mobility scooters or two double buggies to pass one another if required. The brow would slope at up 1:11 downwards at low tide and 1:14 upwards at high tide, with mobility assistance to be provided by staff for passengers who require it. An extract of the low tide section is shown in **Figure 1-6**.

Figure 1-6: South Site Section Drawing Extract



1.7.6 The South Site connects to the Thames Path east of Hammersmith Bridge, as shown in **Figure 1-7,** with improvements to the River Walk access as shown in **Figure 1-8**. The raised walkway will allow access to the pontoon even at high tide when the walkway could otherwise be flooded.

Figure 1-7: South Site Plan Extract

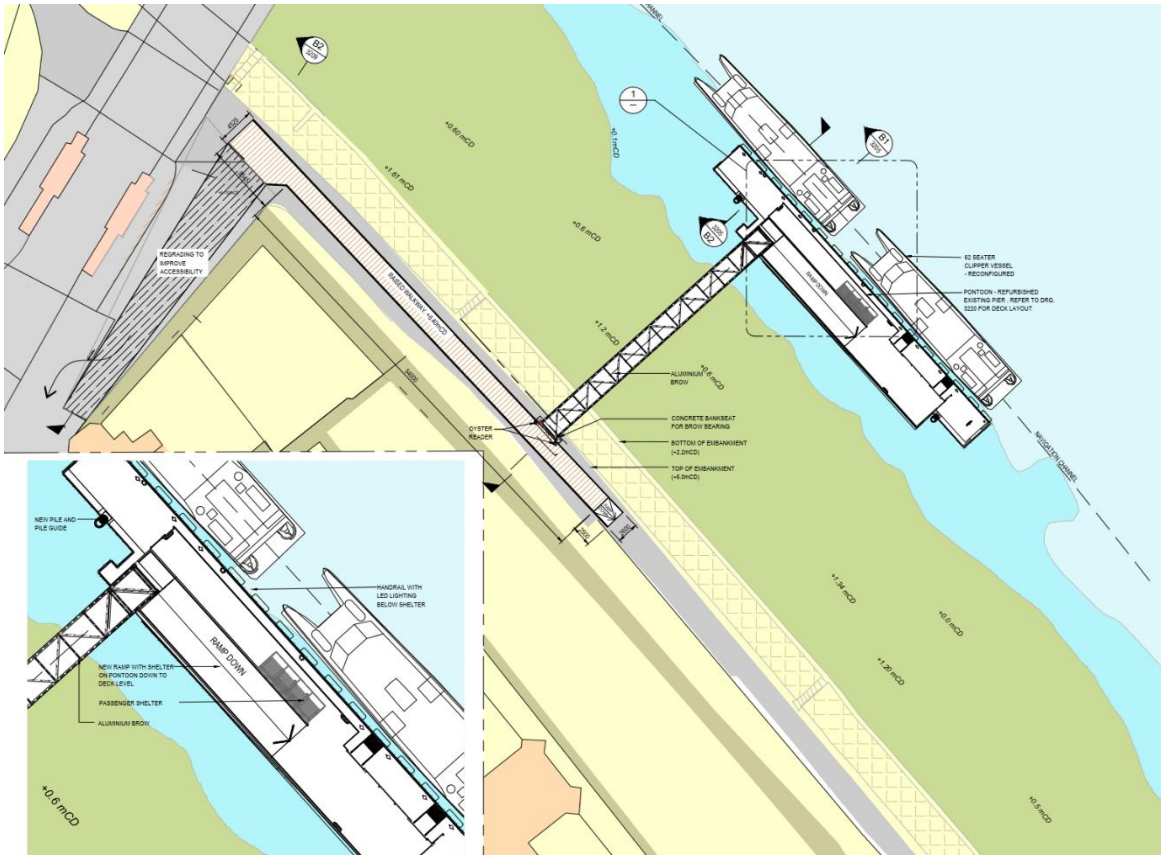
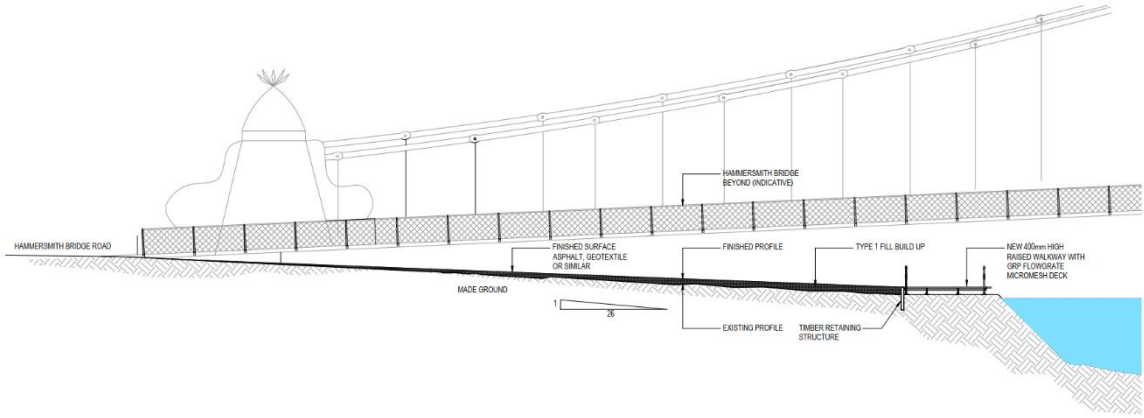


Figure 1-8: Barnes Pier, Highway Access Section Extract



1.8 PROPOSED OPERATION

SERVICE OUTLINE AND VESSEL UTILISATION

1.8.1 A fleet of three FBM Hydrocat 'Thames Class' catamarans will be available to deliver the service. Two vessels will be deployed on-site at Hammersmith at all times. The third will be stationed at Plantation Wharf Pier (25-minute transit from Hammersmith), a pier that is owned and operated by Uber Boat by Thames Clippers (UBTC) to provide resilience and supplementary maintenance support. During peak times (weekdays 06:00 – 10:00 and 15:00 – 19:00), the service will be delivered by two vessels operating a 5-7 minute frequency in both directions. During off-peak (weekdays 10:00 – 15:00 and 19:00 – 22:00), a single vessel will deliver a 10-12 minute frequency in both directions.

CONTINGENCY PLANNING

1.8.2 In the event a vessel becomes unserviceable during peak times, the service will continue to operate with one vessel at the off-peak capacity whilst the third vessel is mobilised and brought to the site at Hammersmith. To expedite this process, a workboat will be stationed on-site at Hammersmith at all times, allowing the crew to transit between Hammersmith and Plantation Wharf without being reliant on road or rail transport. The single vessel service would deliver a capacity of 744 passenger journeys/hour (93% of the peak service requirement), returning to full capacity of over 800 passenger journeys/hour during the second hour. If this occurs during off-peak times, the second vessel stationed on-site at Hammersmith will be brought into service within 20 minutes and will continue to provide capacity for up to 744 passengers per hour. During such periods of disruption, Customer Service Assistants (CSAs) stationed at both piers during all periods of operation will be on hand and provide service updates.

LOW AND HIGH WATER OPERATIONS

1.8.3 The proposed vessels were designed specifically to navigate the shallow, fast-flowing waters and low bridges of the tidal Thames. The vessels have a static draft of 0.8m and a dynamic draft of 0.96m (dynamic draft is the depth of water required for the fully loaded vessel to float, +20%), and a low air draft of 4.5m (the height of the vessel above the waterline). The vessels utilise two totally independent waterjet propulsion systems, affording high-manoeuvrability, shallow-water operating and increased redundancy. Navigational trials suggest there is sufficient depth of water along the proposed route, including at both pier locations, when the tidal height is above chart datum. In the event the tide falls below chart datum, there may be insufficient water depth at either berth, which could lead to service disruption. Port of London 2021 published tidal tables predict that low water events in the region of chart datum will occur approximately every two months. At Hammersmith Bridge, these extreme low waters occur at 11:00 and 01:00, depending on the time of year. Low water depths are further affected by the volume of rain (land drainage) water in the Thames and regional atmospheric pressure. A prolonged period of dry weather during summer may lead to tidal levels going below chart datum with the possibility that services may be suspended for up to 45 minutes from the time at which the tide goes below chart datum, whilst tidal levels rise. It is believed that this very much represents a worst-case and water levels are only predicted twice to go below chart datum within the first 12 months of operation. To mitigate this further, the proposed river bed levelling as part of Stage 2 construction works will create a more consistent water depth and is likely to allow access at all states of the tide. Customer communication would be sent in advance (email / tweet / service alert) to provide advance warning of such disruption.

1.8.4 During spring high tides, the pedestrian walkway on the South shore is susceptible to flooding and may prevent passengers from accessing the pier. To prevent passenger disruptions during such instances, an elevated boardwalk will be permanently constructed and positioned from the bridge slip way entrance of the Thames Path to the brow of the pier, allowing customer access whilst continuing to provide access to the Thames Path.

OPERATING IN POOR WEATHER CONDITIONS AND REDUCED VISIBILITY

1.8.5 UBTC's marine specialist department uses various sources of information to predict weather conditions which could affect the reliability of services and impact customers, e.g. fog. Systems used by the aviation sector such as METAR (Meteorological Aerodrome Report) and TAF (Terminal Aerodrome Forecast) are used to report prevailing weather conditions within the operating area and surrounding areas, accompanied by local shipping forecast and Met Office reports. Due to the restricted visibility during dense fog, operating limitations are imposed on all classes of vessel, which at times may prevent the vessel from operating. To overcome the imposed restrictions and prevent service disruptions, without compromising the safety of the passengers and crew. Coupled with the onboard radar and automatic identification system (AIS), the high-intensity lights will provide a clear navigational line of sight and path for vessels to operate safely. To reduce the likelihood of slip, trips, and falls when snow or ice has formed on pier/brow surfaces, crews will be issued with salt and tasked with gritting vessel decks, piers/brows and pedestrian paths providing access to the piers.

STAFF AND CREWING

ON SHORE

1.8.6 Two Customer Service Assistants (CSAs) will staff each pier during all periods plus the operational manager as follows: One CSA on the pontoon facilitates the disembarkation and embarkation processes, assisting with the lazy line to secure the vessel. One CSA at the street level will direct customers, manage queues, monitor and assist with Oyster touch-ins, manage capacity, and assist customers with reduced mobility. A minimum of two CSAs operate on each pier at a time (one on the pontoon, one at street level). The CSA team will have a 15-minute daily brief, allocated time for handover and a 15-minute debrief at the end of service.

1.8.7 CSAs will be pier inducted, trained to use life-saving devices and to administer first aid. Responsible for the safety, security and comfort of passengers on the shore, they support, assist, inform and recommend with an aim to delight. They upkeep the pier and immediate environment to a high standard of cleanliness and presentation. They will ensure passengers have a valid ticket for travel and are using the shoreside infrastructure safely to ensure the most efficient mooring and berthing. In the event of an emergency, they will lead passengers to a point of safety.

ON BOARD:

1.8.8 One Master is stationed in the wheelhouse navigating the vessel. One Mate is stationed on deck during boarding and in the passenger cabin during transit, when they will be available to assist with customer enquiries. If required, the Master can make themselves available to assist passengers once the vessel is moored up.

1.8.9 UBTC masters' are experienced marine professionals, either developed in-house or recruited from the Maritime industry. All Masters hold an MCA Boatmasters' Licence with the relevant endorsements for operating passenger vessels on the Thames. The Master is responsible for ensuring their vessel is, at all times, operating in compliance with UBTC's Safety Management System (SMS), ensuring the safety of the vessel, passengers, crew and environmental compliance.

1.8.10 The Mate reports to the Master and is responsible for the safety of customers and the operation at deck level, overseeing the primary mooring and loading of the vessel, performing daily checks on the condition of equipment and Life-Saving Appliances (LSA) and performing lookout duties when underway. The Mate assists passengers in a polite and friendly manner and ensures the vessel is kept clean and tidy, ensuring that all waste is placed in the allocated bins.

1.8.11 Each crew member undertakes monthly drills in emergency scenarios, including; Man overboard, fire, first aid, evacuation, grounding, propulsion failure, anchoring, security and Failure Mode Effect Analysis (FMEA). Finally, all operational crew undergo training for Operational Boatman, which includes visual profiling of customers and UBTC's planned response to a terror threat in partnership with the PLA and the Marine Police.

MANAGEMENT

1.8.12 The Operations Manager will have access to shoreside office facilities adjacent to the pier on the North shore, which will also have the desk facilities required for the appropriate TfL manager when required. Despite this facility, they will be in operation supporting the team and engaging with customers. They will prioritise working on the frontline during peak hours on a rotational basis as required.

1.8.13 The Operations Manager will provide a constant on-site management presence, liaising with London River Services Limited (LRSL) and other key stakeholders to ensure full contract compliance from a safety, customer and operational perspective. Experienced in Marine transportation, they will be responsible for the daily operation of the service, usually working Monday to Friday, with the flexibility to respond to operational needs. This will also include a Duty Manager from the core UBTC business to provide cover at the weekends and during periods of leave.

WORKING PATTERNS

1.8.14 Two crews will be present to deliver peak time services. During off-peak services utilising a single vessel, two crews will alternate to facilitate rest breaks. A rotating shift pattern forming eight crews shall be assigned to the Hammersmith cross-river service. The shift pattern will include relief shifts to support vessel maintenance and crew training requirements. Staff absence, attrition assumptions and annual leave cover have all been factored into these headcount requirements. In addition to the proposed operational crew, UBTC has a large pool of trained crew able to provide added staffing cover if needed. As part of UBTC's strategic workforce plan, 10% of lower ranks have already been trained to 'act-up' to the rank above, providing succession planning and additional reliance if attrition and/or sickness is higher than forecast. UBTC policy requires staff calling in sick to do so no later than two hours before their shift is due to start, allowing sufficient time for cover to be arranged. If due notice is not given, the UBTC's on-site Operations Manager will be able to provide short notice cover for both Master and Mate roles within the hour. Should a CSA be unable to attend work, a customer service team member will be redeployed from elsewhere on the river from our large pool of flexible workers. This cover will be available within 90 minutes.

FRONTLINE WELFARE FACILITIES

1.8.15 Restrooms will be provided on each vessel for staff use; this includes hand washing facilities. UBTC has leased a land-based office on the North shore at /riverside Studios with additional toilets, kitchen/break out area and office space. Further staff welfare facilities will be provided on the South shore pier in a screened prefabricated building located on the pier. Each location will have fresh drinking water and facilities for making hot drinks and re heating food. All welfare facilities will be adequately ventilated, lit, cleaned nightly, including the sanitising of all contact points, replenishing hand sanitiser (located on the pontoons) and electrostatic spraying regime. All vessels and work areas ashore will have an adequate heating source so that the work area will maintain a comfortable working environment.

EQUIPMENT / ASSET FAILURE MITIGATION

1.8.16 UBTC's Engineering Department propose to dedicate one dual skilled engineer/electrician to be a constant presence on-site 24/7, Monday to Sunday. They will work split 12 hours shifts of 06:00-18:00 and 18:00-06:00, mirroring those worked by engineers at UBTC's base, Trinity Buoy Wharf, ensuring sufficient time for a technical handover to their colleague and also providing the overnight surveillance and security at the piers (alongside the security gates at the top of each pier). These engineers undertake pre-service start-up vessel checks one hour prior to the crew's arrival to ensure sufficient time to mobilise a backup vessel should it be necessary. They also provide technical support during service operation and throughout the night to carry out essential routine maintenance on-site. Engineers will work on a 4 day on 4 day off rota. Redundancy will be provided within the team of four and mirror the shift pattern of the core UBTC engineering operation to provide additional resilience and absence cover.

1.8.17 An operational base at Hammersmith will include a workshop, spare equipment / parts, bonded stores for lube oil, fresh water and operational waste, enabling continued maintenance of the vessels in accordance with the company's computer-based planned maintenance system, CENTRIK. Everything from routine calendar and hourly based maintenance tasks to Life Saving Appliance scheduled servicing is monitored via this system, ensuring the Original Equipment Manufacturer (OEM) service regime and statutory requirements are met. A secondary engineering hub will be located at Plantation Wharf for any key parts which are unable to be stored on-site at Hammersmith. Should a fault occur with Oyster devices, handheld PDQ machines could be available to continue charging passengers. The Customer Systems team will have the ability to review most issues remotely but will visit the site if required within two hours. UBTC will require TfL's / Cubic support in resolving Oyster and Contactless device faults swiftly as per our current agreement on UBTC's existing routes.

TIMETABLE

1.8.18 The proposed timetable has been designed to deliver a reliable and punctual service:

- 06:00 – 22:00 on weekdays
- 08:00 – 22:00 at weekends.

1.8.19 It is expected that the permanent presence of official members of staff on the piers during these hours would discourage occurrences of anti-social behaviour than might otherwise occur with less active surveillance by perceived authority figures.

FARES

1.8.20 The service fare is proposed equivalent to a bus fare at £1.50 per direction. Because the ferry will be a paid-for service, demand will be significantly lower than for a free at the point of use bridge.

1.9 CUSTOMER JOURNEY

JOURNEY PLANNER

1.9.1 UBTC will provide live service updates to TfL to provide alerts online and on the App. This will include the quieter periods to travel after the first period of operation. In line with our mobility scheme, approval for mobility scooters will be provided by the safety team within 24 working hours of the request.

PRE-ARRIVAL

1.9.2 Wayfinding routes would be agreed upon with LBHF, LBRT, and TfL through a wayfinding strategy. The wayfinding routes will be published online and, subject to consent, will include physical wayfinding measures (e.g. non-slip floor markers/posters/signage) from bus, tube, and cycle connections.

1.9.3 TfL is consulting with local residents in relation to an appropriate strategy for taxis. This will determine whether drop-off is controlled or prevented.

ARRIVAL AT PIER

1.9.4 Customers would be greeted by CSAs in service branded uniform. CSAs will check Oyster credit and direct customers / assist if needed with Oyster/contactless touch in. They will inform of any wait times and direct customers to the pontoon. For comfort and safety, separate sheltered waiting areas will be set up for cyclists and pedestrians with social distancing demarcation in place if required. If the number of passengers on the pontoon reaches the vessel capacity of the next sailing, passengers will continue to queue at street level to minimise congestion on the walkway and floating pontoon. Cyclists will dismount upon arrival at the pier and until they exit the pier on the other side. All waiting areas will be designated by the use of tensator barriers and signage. The CSAs will facilitate priority boarding for any customers less able to stand.

BOARDING

1.9.5 CSAs will direct passengers to board once it is safe, specifically after the vessel is securely moored, embarkation is complete, and walkways are clear. There will be two embarkation points to the vessel: cyclists will board to the rear of the vessel and pedestrians to the front. CSAs will bid the customers farewell as the crew welcome them aboard.

ON BOARD

1.9.6 The customer will be greeted by the Mate, who will also provide assistance to the customer if required and direct them to the relevant points of the vessel, e.g. wheelchair users. In transit, the Mate will monitor the comfort and wellbeing of all passengers. Cabin temperature will be maintained at a comfortable level, and passenger safety announcements prior to each departure.

DISEMBARKATION

1.9.7 The crew will bid farewell to the customers as they disembark, and the CSA welcomes them onto the pier. Similarly to embarkation, cyclists and pedestrians disembark from opposite ends of the vessel. Disembarking passengers will be directed to street level where CSAs can help with on-ward directions and/or local knowledge.

POST-DEPARTURE

1.9.8 UBTC can facilitate enquiries/feedback from customers to the dedicated Customer Communications Centre (email/telephone). UBTC has a lost property system in place, which can be extended to cover Hammersmith separately. UBTC will measure customer satisfaction via face-to-face NPS surveys driving continual improvement or via a TfL approved method to drive continual improvement.

COVID SAFETY

1.9.9 The UBTC team are well versed in COVID compliance and reminding passengers of the safety measures in place. Face masks are always worn on the front line, setting the right example to our passengers, and passengers would be expected to comply with the prevailing government guidance at the time of their trip.

1.9.10 During service operation, the crew on each vessel will have the appropriate COVID secure cleaning products to ensure that touch points are cleaned regularly, e.g. hand rails, arm rests, lap trays. Electrostatic cleaners will also be used during vessel layover periods to fully sanitise the cabin to provide protection for up to 72 hours.

1.10 TRANSPORT DESIGN AND PLANNING PROCESS

GOVERNANCE

1.10.1 The Local Planning Authority (and Local Highway Authority) is the London Borough of Hammersmith and Fulham (LB Hammersmith and Fulham) for the north side of the River Thames and the London Borough of Richmond upon Thames (LB Richmond) for the south side. These are referred to as the 'North Site' and the 'South Site' respectively, and collectively, the 'Sites'. The Strategic Planning Authority for both Sites is the Greater London Authority (GLA) on behalf of the Mayor, and the Strategic Transport Authority is TfL.

1.10.2 There will need to be construction works on both sides of the River Thames and in two different boroughs: LB Hammersmith and Fulham and LB Richmond. Two separate planning applications are therefore required, one to each borough. As the temporary ferry crosses the River Thames, the supporting planning applications must also be referred to the Mayor of London. The two applications will be reviewed together by the Mayor.

1.10.3 The proposals support sustainable transport policies set out in the National Planning Policy Framework (2019), the Mayor's Transport Strategy (2018) and London Plan (2021), and at a local level, the LB Hammersmith and Fulham and LB Richmond connectivity and movement policies by reducing severance and encouraging active cross-river travel while the main bridge is closed and repaired.

1.10.4 The proposals support the healthy streets approach by providing a safe, quiet, separated route for pedestrians and cyclists that is easy to use and designed with the needs of all users in mind.

1.10.5 This TA has been prepared in accordance with the requirements of National Planning Practice Guidance and TfL's Healthy Streets Transport Assessment Guidance and is supported by a draft staff Travel Plan, draft Delivery & Servicing Plan and Outline Construction Logistics Plan.

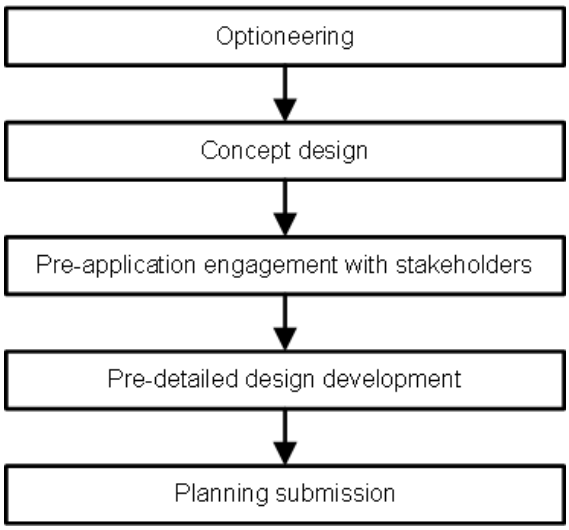
1.10.6 An Active Travel Zone (ATZ) Assessment has been undertaken. The assessment identifies key routes within the active travel zone surrounding the site for pedestrians and cyclists and assesses each route against eight of the ten Healthy Street criteria.

1.10.7 TfL was in the process of preparing planning application for a temporary and cyclist bridge at this location in 2020. In late 2020, however, the Department for Transport's Hammersmith Bridge Taskforce determined that a temporary ferry service would be the best means of restoring a river crossing for pedestrians and cyclists at this location in the short term. TfL's plans for a temporary bridge were therefore put on hold. The plans had reached an advanced stage and so a significant amount of that work has been used to inform this application.

DESIGN PROCESS

1.10.8 A design process is set out in Figure 1-9 below, which illustrates the development of the scheme. As part of the design process, the Port of London Authority was engaged early with different options considered. Design solutions presented to the Port of London Authority included a range of different options for the alignment of the temporary ferry, foundations, span arrangements and methods of construction. Navigation risk, hazards and RiverThames traffic movements were also taken into consideration throughout the design process.

Figure 1-9: Design Process



CONSULTATION

1.10.9 TfL and UBTC have held consultation events with the following organisations:

- Shirley Cupit, Queen Caroline Estate Residents Association
- Fulham Reach boat club community meeting
- Hammersmith and Fulham Councillors
- Hammersmith local community meeting
  - Winslow Road
  - Rainville Estate
  - Queens Wharf Residents Association
  - Digby Mansions
  - HAMRA
  - Chancellors Wharf residents
  - Thames Reach and Hammersmith Embankment Residents Association
- Fulham Reach Boat Club / Fulham Reach Residents Association & Thames Regional Rowing Council
- Riverside Studios
- Richmond Councillors

- Barnes local community meeting
- Hammersmith Bridge SOS
- Barnes Community Association
- Riverview Gardens residents
- Management Committee for the Riverview Gardens Estate

1.10.10 Prior to the submission of this TA, discussions were held with highways and transportation officers from LBHF, LBRT and TfL Spatial Planning.

1.10.11 The scope of this assessment, its chapters and content, along with its supporting documents, were agreed jointly with the borough officers and TfL Spatial Planning in April 2021.

1.10.12 Concerns that have been raised through consultation and which have been addressed within the remainder of this TA include:

- pier access points;
- land ownership;
- conflict with existing pedestrian movements;
- queuing on the public highway;
- anti-social behaviour;
- access for delivery and servicing vehicles;
- routes prioritised for cyclists to access the wider cycle network; and
- last-mile connection strategies and interventions.

DOCUMENT STRUCTURE

1.10.13 The remainder of this Healthy Streets Hybrid-TA is structured as follows:

- **Section 2 -** assesses the proposed development's compliance with relevant national, regional and local transport planning policy;
- **Section 3 -** considers the users of the development and their common method of travel;
- **Section 4** – outlines the existing and proposed connectivity of the site;
- **Section 5** – summarises the outcome of the Active Travel Zone assessment;
- **Section 6** – outlines the baseline London wide network and the existing site's trip generation;
- **Section 7** – outlines the future London wide network once the proposed development is operational, which includes anticipated trip generation and distribution assessments;
- **Section 8** – provides details extracted from the outline Construction Logistics Plan; and
- **Section 9** – provides the conclusion of this Transport Assessment.

2 STRATEGIC POLICY DELIVERY

2.1 MAYOR OF LONDON ORDER (2008)

2.1.1 According to the Mayor of London Order (2008), certain planning applications are 'referable' to the Mayor of London for an additional layer of checks, as well as the standard process through the borough planning system. These are called applications of Potential Strategic Importance (PSI).

2.1.2 Under the Schedule 'PSI Applications and Categories of Development', Part 2: Major Infrastructure, the Order sets out categories by which to judge whether an application is referable.

2.1.3 The temporary ferry service infrastructure comes under Category 2C '(h) a crossing over or under the River Thames'. It is therefore referable to the Mayor of London.

2.2 MAYOR'S TRANSPORT STRATEGY (MARCH 2018)

2.2.1 The Mayor's Transport Strategy (MTS) was adopted in March 2018. The document outlines what the Mayor sees as London's main challenges over the next 25 years. These include car dependency, population growth, demand for new homes, the historic car-centric design of parts of the city, and limited space available for road building.

2.2.2 The Mayor's vision for London involves reducing the need to use cars and making more Londoners walk and cycle. Sustainable growth is also set out as part of the vision, growing London's economy but also improving the lives of people who live in London. The MTS's aim is that by 2041, 80 % of Londoners' trips are taken on foot, by cycle or using public transport. In 2017, this figure was approximately 64 %.

2.2.3 The MTS has the following themes:

- Healthy Streets and Healthy People
- A Good Public Transport Experience
- New Homes and Jobs

2.2.4 The importance of connectivity in development planning is emphasised in Chapter 1 of the MTS:

> *'Potential development depends so heavily on good connectivity that this not only hampers personal opportunities, but also limits housing and jobs growth.'*

2.3 THE LONDON PLAN (MARCH 2021)

2.3.1 The London Plan 2021 was published in March 2021. The London Plan is part of the statutory development plan and aims to ensure that London's transport is easy, safe, and convenient for everyone and actively encourages more walking and cycling.

2.3.2 Many points in the London Plan support the principle of connectivity in London. For instance, in Chapter 1: Planning London's Future – Good Growth, under the heading 'Building strong and inclusive communities', Paragraph 1.1.4. states:

'Delivering good quality, affordable homes, better public transport connectivity, accessible and welcoming public space, a range of workspaces in accessible locations, built forms that work with local heritage and identity, and social, physical and environmental infrastructure that meets London's diverse needs is essential if London is to maintain and develop strong and inclusive communities.'

2.3.3 In Chapter 10: Transport, Policy T1: Strategic Approach to Transport states:

'*A Development Plans should support, and development proposals should facilitate:*

'1) the delivery of the Mayor's strategic target of 80 per cent of all trips in London to be made by foot, cycle or public transport by 2041

'2) the proposed transport schemes set out in Table 10.1.

'B 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.'

2.3.4 The maintenance of connectivity which the temporary ferry crossing provides is in accordance with these London Plan policies.

2.3.5 Policy T2: Helathy Streets requires development proposals to:

'1) demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance

2) reduce the dominance of vehicles on London's streets whether stationary or moving

3) be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport'

2.3.6 For the temporary ferry crossing in particular, there are certain other policies that would support the proposal. Chapter 9: Sustainable Infrastructure, contains Policy SI14: Waterways – strategic role. This policy advises boroughs on how to integrate the Thames and other waterways into their development plans. The relevant sections are reproduced below:

'A Development Plans and development proposals should address the strategic importance of London's network of linked waterways, including the River Thames, and should seek to maximise their multifunctional social, economic and environmental benefits.

[…]

'C Boroughs are encouraged to work together on policies or other appropriate area-based strategies that address cross-boundary waterways issues.

'D To reflect the distinctiveness of areas that specifically relate to the River Thames, relevant Development Plans should designate, and ensure the maintenance of, Thames Policy Areas (TPAs). Setting the boundary of TPAs should be done in consultation with neighbouring boroughs, including those across the river. Boroughs are encouraged to plan for TPAs through joint Thames Strategies.

'E Joint Thames Strategies and other area-based joint waterways strategies should consider:

- *· the local character of the river/waterway*

- *· water-based passenger and freight transport nodes*
- *· development sites and regeneration opportunities*
- *· opportunities for environmental/ecological and urban design improvements*
- *· sites of ecological, historic, or archaeological importance*
- *· sites, buildings, structures, landscapes and views of particular sensitivity or importance*
- *· focal points of public activity*
- *· inclusive public access*
- *· strategic cultural value*
- *· recreation and marine infrastructure*
- *· river crossings and other structures*
- *· indicative flood risk and water quality.'*

2.3.7 Policy SI 15 – Water Transport – refers to piers and freight, in particular:

> *'A Development proposals should protect and enhance existing passenger transport piers and their capacity. New piers will be supported in line with the Port of London Authority and Transport for London's Pier Strategy. The necessary provision of moorings, waste and sewage facilities for passenger vessels should be provided…*
>
> *C Development proposals to facilitate an increase in the amount of freight transported on London's waterways should be supported…'*

2.3.8 The proposed introduction of the new piers and temporary ferry service is supported by and in accordance with the requirements of part A, and in addition, the freight requirements associated with the construction of the piers will predominantly be undertaken by river craft in support of part C (Policy SI 15).

2.3.9 Both relevant boroughs have Thames Area Policies in their Local Plans, which are quoted below. The temporary ferry crossing would re-provide a river crossing and maximise the social and environmental benefits of the River Thames and is therefore in accordance with this policy.

2.3.10 In Chapter 10: Transport, Policy T3: 'Transport capacity, connectivity and safeguarding' explains the importance of river crossings and connectivity to development planning decisions:

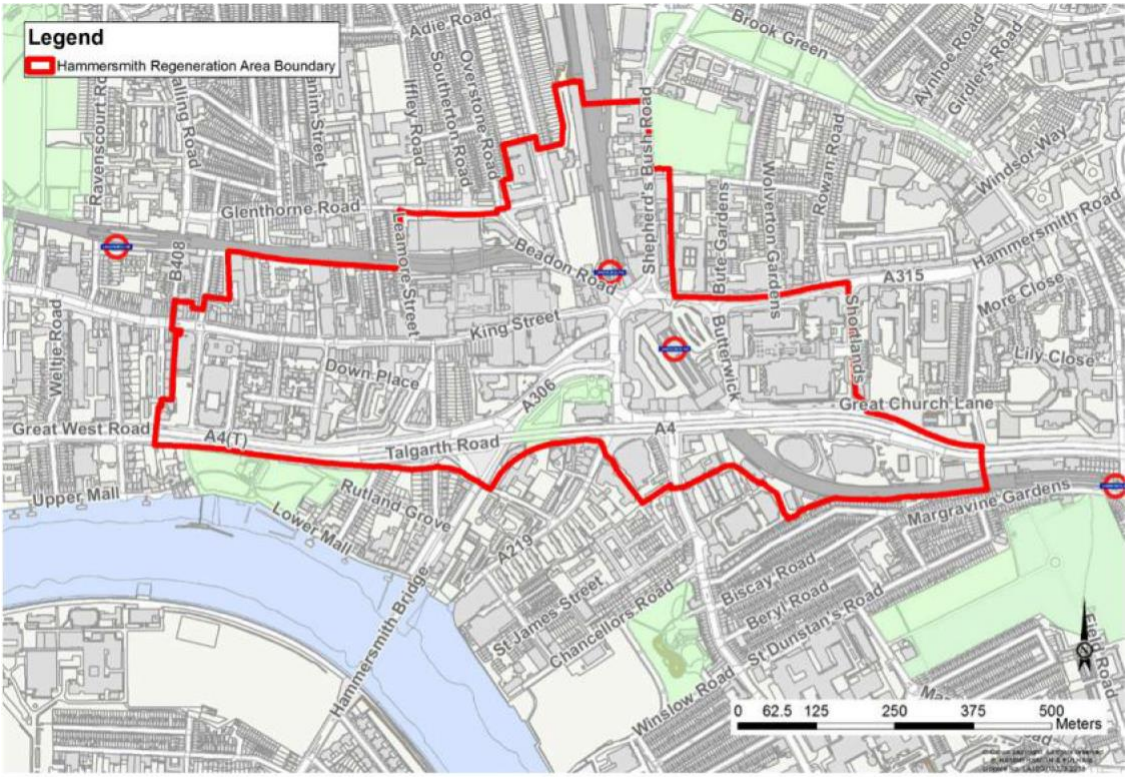
> *'D In Development Plans and development decisions, particular priority should be given to securing and supporting the delivery of upgrades to Underground lines, Crossrail 2, the Bakerloo line extension,* ***river crossings*** *and an eastwards extension of the Elizabeth line.' [emphasis added]*

2.4 LB HAMMERSMITH AND FULHAM LOCAL PLAN (FEBRUARY 2018)

2.4.1 The Local Plan for LB Hammersmith and Fulham was adopted in February 2018. After outlining some of the challenges and features specific to Hammersmith and Fulham, the Local Plan sets out its Spatial Vision and Strategic Objectives. The Spatial Vision sets out how the borough will look once the Local Plan timespan has run its course.

2.4.2 In terms of site-specific policies, one which may be relevant to the temporary ferry crossing's location is the Hammersmith Regeneration Area (HRA), covering Hammersmith town centre and London Underground station. The HRA is a strategic policy seeking to provide 2,800 new homes and 10,000 new jobs.

Figure 2-1: Hammersmith Regeneration Area from Local Plan



2.4.3 The HRA is located just to the north of the temporary ferry crossing. It states:

> *'The council will encourage the regeneration of Hammersmith Town Centre and seek development that builds upon the centre's major locational advantages for office and retail development. Opportunities will be taken to secure more modern accommodation, to continually improve the environment and public realm, and to improve access between the town centre and the Thames.'*

2.4.4 Additionally, it states that

> *'Proposals for development in the HRA should:*
>
> - *· be based on a thorough assessment of the heritage significance of the area and respond positively to local character and history, conserving and taking opportunities to enhance the significance of heritage assets;*
> - *· improve pedestrian and cycle infrastructure, including connectivity with the River;*
> - *· provide appropriate social, physical, environmental and transport infrastructure to support the needs arising from the development of HRA;*
> - *· seek the creation of an urban environment, with public spaces, architecture and public realm of the highest quality, that is sensitively integrated into the existing context;'*

2.4.5 In the Justification section, Paragraph 5.51 states:

> *'Pedestrian movement between the town centre and the riverside is currently limited due to the lack of pedestrian routes, the uninviting environment under the A4 flyover and poor signage. There could be potential to provide a high quality, safe and easily accessible public realm that will encourage activity toward the Riverside Studios and the Thames Path and uses along the river frontage.'*

2.4.6 From the Policies Chapters of the Local Plan, Policies RTC2, T1 and T3 are most relevant to the proposed development. Sections from the policies are reproduced below.

2.4.7 Policy RTC2 regards Access to the Thames Riverside and Foreshore. It states that:

> *'The council will seek accessible and inclusive public access to the riverside, including through-site links when riparian development takes place and the provision and enhancement of the Thames Path National Trail (the riverside walk). It will also seek the retention and enhancement of access to and from the foreshore in development schemes where it is appropriate and safe to do so, and will promote enjoyment of riverside heritage assets and open spaces.'*

2.4.8 In the Justification section, Paragraph 11.6 states that:

> *'Although priority will be given to pedestrians so that they may benefit from the many opportunities that walking can give, the council wishes to encourage cycling, and the riverside walk can also provide a traffic-free route for cyclists. Measures will be taken to reduce pedestrian/cyclist conflicts, for example by providing separate paths where appropriate, or measures to slow cyclists. The council also accepts that the design of the riverside walk should respect and enhance the natural character of the river wherever possible e.g. by use of planted embankments. However, it should also embrace the industrial heritage of the river so that visitors, can learn about the river's past. The council's Riverside Walk Enhancement Report 2010 provides details of opportunities for improving the riverside walk.'*

2.4.9 Paragraphs 11.8 and 11.9 state:

> *'Development bordering the river has an important role to play in access to the foreshore. Some sites may include drawdocks, slipways, steps, stairs, hards, piers, pontoons, ladders, chains or other infrastructure enabling access to and from the river and its foreshore. It is important that these are retained, kept in good repair or added to as appropriate, and planning conditions may be used to ensure this happens. The profile of the river bank may also have a bearing on ease of access to and away from the foreshore, and on the protection of environmental interests, while mutual visibility between development sites and the foreshore is also an important aid to public safety. These are matters that will be taken into account when considering the design of developments bordering the river.*
>
> *'Consultation with the Port of London Authority, the Environment Agency and other stakeholders will be undertaken on all proposals concerned with or affecting access to the riverside and the foreshore.'*

2.4.10 The temporary ferry crossing pier proposals retain access to and along the Thames Path and are therefore in accordance with this policy.

2.4.11 Air quality issues in LB Hammersmith and Fulham have resulted in the entire borough being designated as an Air Quality Management Area (AQMA). Policy CC10: Air Quality requires that new developments be 'air quality neutral' and that air quality impacts are considered through the planning process. Developments should also 'contribute towards improving local air quality, particularly where they include potentially major new sources of emissions or could significantly increase traffic-generated emissions'. Designs should seek to reduce exposure to poor air quality.

2.4.12 The goal of Policy T1: Transport is to:

> *'work with strategic partners to improve transportation provision, accessibility, and air quality in the borough, by improving and increasing the opportunities for cycling and walking, and by improving connections for bus services, underground, national and regional rail.'*

2.4.13 Policy T3 discusses Increasing and Promoting Opportunities for Walking and Cycling. It justifies itself in paragraphs 14.14–14.16:

> *'Increasing the opportunities for accessible and safe walking and cycling in the borough will have a number of benefits, ranging from improving people's health, improving air quality and reducing traffic congestion. As well as strategic walking and cycling routes, the council will seek local improvements, including convenient and safe walking routes, cycling changing and parking facilities and signage.'*

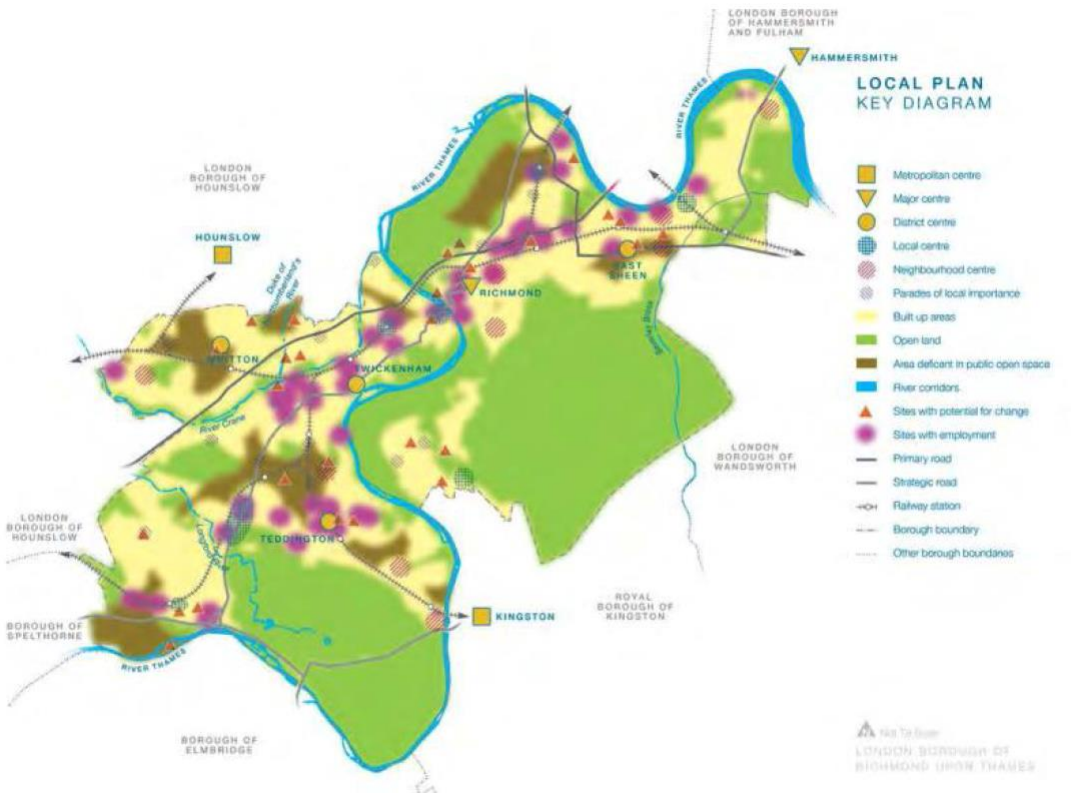
2.4.14 The temporary ferry crossing reinstates the north-south link for pedestrians and cyclists that would otherwise be provided by Hammersmith Bridge, increasing opportunities for walking and cycling with safe separation from motor traffic, and so is in accordance with this policy. An Air Quality Impact Assessment also forms part of this submission.

2.5 LB RICHMOND LOCAL PLAN (JULY 2018)

2.5.1 The Local Plan for LB Richmond was approved and adopted on 3 July 2018. After two legal challenges, it was adopted again on 3 March 2020.

2.5.2 LB Richmond Local Plan's Spatial Strategy is based on the previous Spatial Strategy in their previous local plan. As the Local Plan 2018 states: 'The Spatial Strategy also sets out how the main elements of the strategic vision and strategic objectives for the borough are to be delivered over the plan period from 2018 to 2033'. A map is shown in **Figure 2-2**, with the temporary ferry crossing located to the northeast.

Figure 2-2: LB Richmond Local Plan key diagram



2.5.3 Relevant to the temporary ferry crossing are the specific policies for Barnes and Castelnau. The Centre Hierarchy at paragraph 7.1.1 says that Barnes is designated a local centre and Castelnau is a neighbourhood centre. Hammersmith is also a Major Centre, despite it being in another borough, which demonstrates the need for interconnectivity of the two boroughs regardless of the River Thames.

2.5.4 From the Policies sections of the Local Plan, most relevant to the temporary ferry crossing are Policy LP 18 River Corridors and Policy LP 44 Sustainable Travel Choices.

2.5.5 Policy LP 18 is located in 'Chapter 5: Green Infrastructure, 5.7: River Corridors'. Its aim is that:

> *'The natural, historic and built environment of the River Thames corridor and the various watercourses in the borough, including the River Crane, Beverley Brook, Duke of Northumberland River, Longford River and Whitton Brook, will be protected. Development adjacent to the river corridors will be expected to contribute to improvements and enhancements to the river environment.'*

2.5.6 It seeks to achieve this through: 'Thames Policy Area

- *'Developments alongside and adjacent to the River Thames should:*
- *· protect, and where appropriate enhance, the individuality and character of the reach;*
- *· establish a relationship with the river and address the river as a frontage;*
- *· open up views and vistas to allow the public to appreciate the riverside setting;*

- *· protect and, where opportunities arise, enhance existing access points, including river-dependent structures such as bridges, jetties, piers and slipways;*
- *· allow for public access for pedestrians and cyclists, and where appropriate boats, to enable local communities to gain access to the river and enjoy the riverside;*
- *· ensure appropriate land uses enable the public to enjoy the riverside setting, especially at ground level in buildings fronting the river where possible.*

'Public access

'There is public access to much of the riverbank in the borough either by towpath or riverside open spaces. Public access to the river, riverside and the foreshore should be provided as part of new developments adjacent to and alongside the borough's rivers where feasible and appropriate. Existing public access to the borough's rivers should be retained and opportunities should be taken to improve and enhance access arrangements, including creating inclusive access, where possible.

'The river corridors, including their associated parks and open spaces, provide important opportunities for recreation and healthy lifestyles. Therefore, all major development proposals adjacent to the borough's rivers should provide through-site links to the riverside to enable the public access to the riverside environment

'Riverside uses, including river-dependent and river-related uses

'River-dependent uses are those whose primary purpose is dependent on the river for siting and function. They are defined as an activity which can only be conducted on, in, over or adjacent to the river because the activity requires direct access to the river and which involves, as an integral part of the activity, the use of the water. River-dependent structures which may in exceptional circumstances be permitted to encroach into the river and its foreshore include tunnels, bridges, jetties, piers, and slipways.'

2.5.7 The temporary ferry crossing proposals retain access to and along the Thames Path and are therefore in accordance with this policy.

2.5.8 Policy LP 44 is located in Chapter 11: 'Transport'. The priorities for 'Sustainable Travel Choices' are to:

'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's aim is to minimise the impacts of development, including in relation to congestion and air pollution. Transport has a significant impact on air quality in the borough, with many areas experiencing levels of pollution above national set target levels. Consequently the entire borough is designated an Air Quality Management Area.'

'This will be delivered via seven routes:

A. Location of Development

B. Walking and cycling

C. Public transport

D. The road network

E. River transport

F. Safeguarding of routes and facilities

G. Taxis and private hire vehicles'

2.5.9 The temporary ferry crossing encourages sustainable travel choices overall, but most relevant out of the above policies are:

> *'Walking and cycling*
>
> *'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.*
>
> *'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.*
>
> *'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.*
>
> *'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.*

2.5.10 The temporary ferry crossing encourages sustainable travel choices through provision for walking and cycling and is therefore in accordance with this policy.

2.6 LB RICHMOND NEW LOCAL PLAN (CONSULTATION SPRING 2020)

2.6.1 The LB Richmond Local Plan is being renewed via a process of consultation on its Direction of Travel document. This will determine the preferred direction in which interpretation of the Local Plan and adaptations to it will move in during the next few years. The public consultation ran from 24 February to 5 April 2020.

2.6.2 Reasons for updating the Local Plan included the announcement (since the publication of the Local Plan) of a Climate Emergency in LB Richmond, changes to the National Planning Policy Framework and Guidance in 2019, and the publication of the new London Plan.

2.6.3 A 'Pre-Publication consultation' (first draft of Local Plan) is expected in spring 2022, and adoption is expected in spring 2024. The temporary ferry's application will therefore be assessed under the lifespan of the current Local Plan.

3 TRANSPORT PLANNING FOR PEOPLE

3.1 2.1 OVERVIEW

3.1.1 The Healthy Streets TA format states that 'Heathy Streets and Vision Zero are about putting people first. [TfL] need to know your new development will be a pleasant and convenient place for people of all abilities to walk, cycle and use public transport – including people already in the area.'

3.1.2 Therefore, the purpose of this section of the TA is to set out who the temporary ferry crossing is for, when they will travel and why. This will set the scene for the remaining parts of the TA as it will inform thinking around how the temporary ferry crossing will need to be configured to meet the needs of the users.

3.2 TRANSPORT CLASSIFICATION OF LONDONERS

3.2.1 The Transport Classifications of Londoners (TCoL; February 2017) report is a multi-modal customer segmentation tool developed by TfL to categorise Londoners into nine segments based on the travel choices that they make.

3.2.2 Reference to the TCoL demonstrates a wide variety of types of people, and therefore types of travel patterns across LB Hammersmith and Fulham and LB Richmond. According to the TCoL, LB Hammersmith and Fulham most populous segments are:

- 32 % 'Students and Graduates' – walk and cycle rates above average
- 21 % 'Urban Mobility' – walk and cycle rates above average
- 21 % 'City Living' – walk rates well above average and cycle rates above average

3.2.3 LB Richmond's most populous 'segments' of the population are:

- 66 % 'Detached Retirement' – walk and cycle rates below average
- 15 % 'City Living' – walk rates well above average and cycle rates above average
- 7 % 'Settled Suburbia' – walk and cycle rates below average

3.2.4 TCoL demonstrates that the majority of types of people living on both sides of the River Thames already have rates of walking and cycling above average. The temporary ferry will benefit residents and workers of both boroughs and provide a safe walking and cycling environment for its users. More importantly, it will ensure that this behaviour is maintained, which might not be the case in the absence of an ability to cross the River Thames.

3.2.5 The closure of the main bridge to motor traffic had not occurred at the time of preparation of the TCoL report, and so the designation of some people into low walk and cycle groups may not accurately represent the current situation. Operational analysis undertaken by TfL in 2019 showed that of the removal of approximately 25,000 motor vehicles per day from the main bridge due to the closure, the majority of these have rerouted to alternative River Thames crossing points. Chiswick Bridge flows increased by approximately 6,500 vehicles per day, and Putney Bridge 4,000 vehicles per day. A further total increase of 5,000 vehicles per day were observed across Kew, Wandsworth and Battersea Bridges. Accounting for these and other routes, approximately one-quarter of motor vehicle traffic that has stopped being able to cross the main bridge is no longer observed on the network. This is expected (non-exhaustively) to be due to a combination of the following:

- Transfer of these trips to alternative modes, including walking and cycling. For local trips, this is likely to be the fastest mode by which cross-River Thames journeys can now be completed. These trips would transfer to the temporary ferry and can therefore continue in the same manner
- Transfer of trips to alternative destinations. For example, shopping trips by Barnes residents to destinations in Hammersmith town centre may now be completed locally or elsewhere
- A reduction in the overall number of trips taken, e.g. by working from home more often to avoid travelling at all

3.2.6 Overall changes in vehicle mileage as a result of the main bridge closure are unknown but are considered to be likely to be similar or higher than prior to the closure due to longer routes being taken by diverted traffic.

3.2.7 Finally, following the coronavirus pandemic and lockdown commencing the evening of 23rd March 2020, travel patterns have further changed and continue to do so in light of emerging government guidance. It is unknown at this time how travel patterns will develop following a loosening of lockdown restrictions, but the temporary ferry will be able to support the ongoing transfer of additional trips to walking and cycling that may otherwise be unable to be completed by public transport.

3.3 HAMMERSMITH BRIDGE SURVEY DATA

3.3.1 The methodology of this section is based on the understanding that users of the temporary ferry will likely be similar in demographics and numbers to the current users of the main bridge. This section uses data from pedestrian and cycle surveys conducted on the main bridge in March 2020, as well as further surveys that were undertaken in January 2020, July and August 2019 as provided by LB Hammersmith and Fulham and TfL.

3.3.2 Data from March 2020 was collected before the coronavirus pandemic and lockdown commencing evening of 23rd March 2020. This survey was undertaken between 19th - 22nd March 2020 when the effects of coronavirus were starting to influence people's travel movements in London, but before offices and retail outlets were officially closed by the Government. As such, this data is presented for the purpose of information and distributional patterns and should not be relied on in terms of absolute values.

WEEKDAY FLOWS

3.3.3 **Figure 3-1** and **Figure 3-2** are drawn from the three different surveys conducted on the northeast end of the main bridge during a weekday. They show pedestrians and their movements in both directions throughout the day. There is high variability between the different surveys undertaken, even excluding consideration of the March 2020 data (which was collected in the week prior to the coronavirus lockdown commencing evening of 23rd March 2020, and that has been included for information). For example, the figures show differences in excess of 600 pedestrians during the PM peak hours between the July 2019 and January 2020 surveys. Nonetheless, a clear tidal pattern between the AM and PM peaks is visible. Northbound movements are predominant during the AM peaks and southbound flows during the PM peaks.

Figure 3-1: Hammersmith Bridge weekday pedestrians travelling northbound

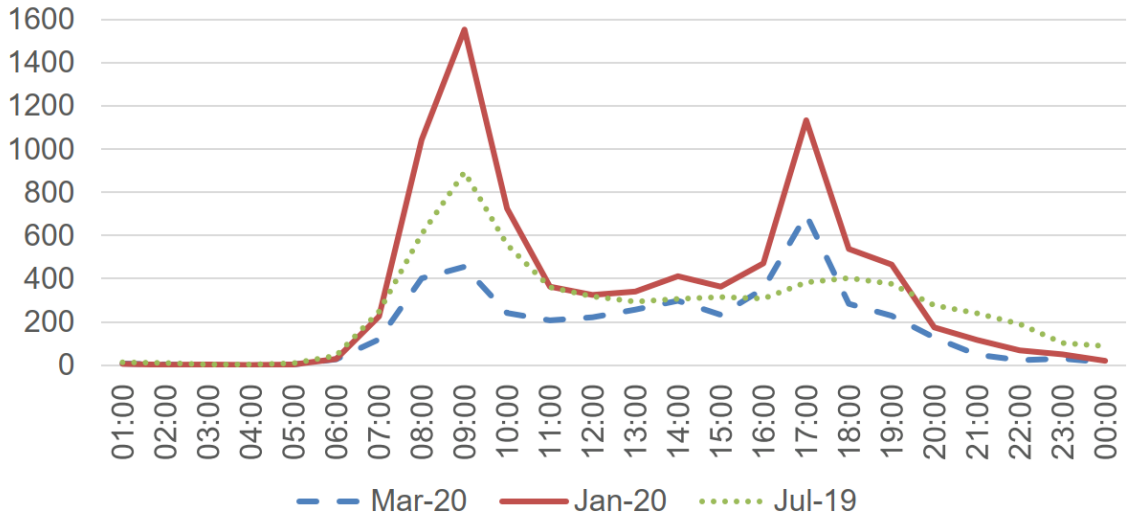
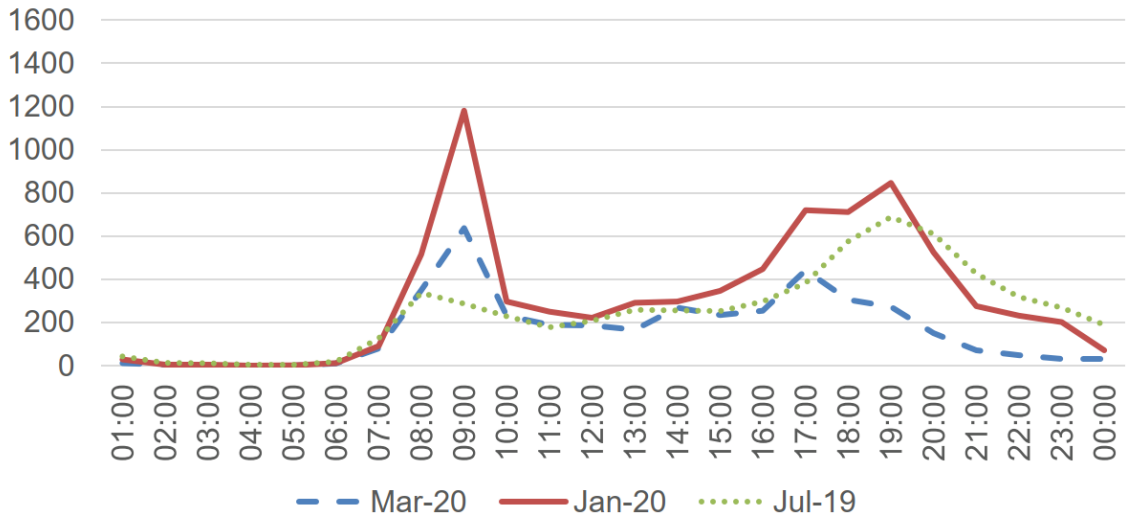


Figure 3-2: Hammersmith Bridge weekday pedestrians travelling southbound



3.3.4 However, this is not the case for the March 2020 survey, showing opposite results. As noted, the March 2020 survey was collected immediately prior to the coronavirus lockdown commencing the evening of 23rd March 2020. Schools were open until 19th March, and this has been captured by the survey, resulting in a higher southbound morning flow due to St Paul's School located on the south bank of the River Thames.

Figure 3-3: Hammersmith Bridge weekday cyclists travelling northbound

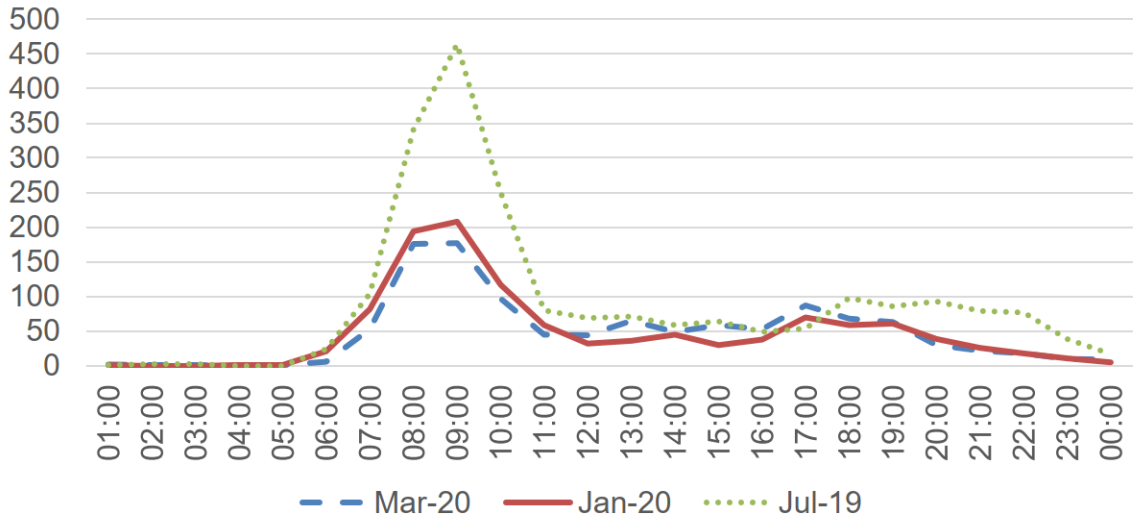
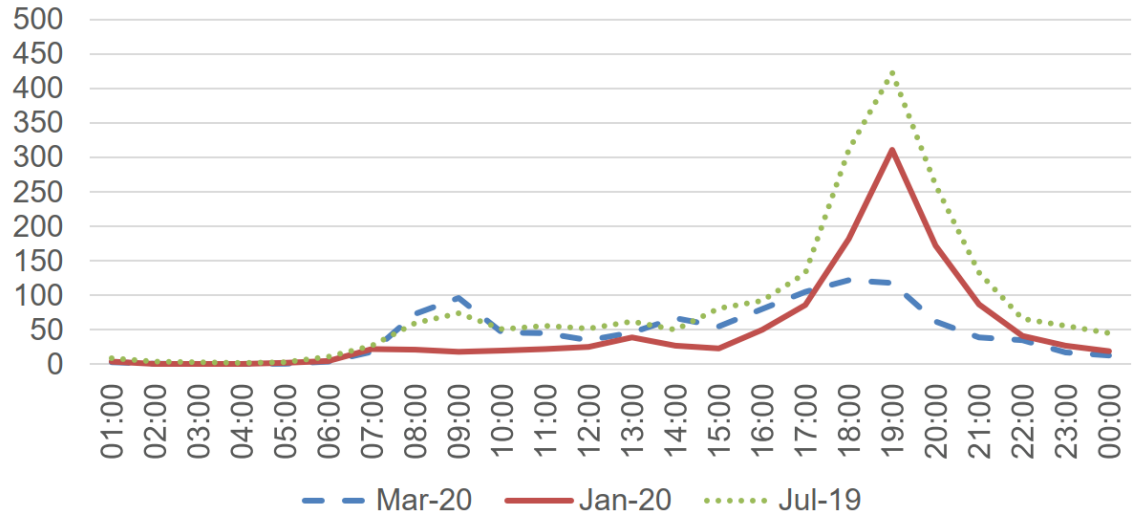


Figure 3-4: Hammersmith Bridge weekday cyclists travelling southbound



3.3.5 An analysis has also been undertaken for cyclist data obtained from the previously mentioned surveys and presented in **Figure 3-3** and **Figure 3-4**. Similar to pedestrians, and accounting for the fact that the March 2020 data was collected in the week prior to the coronavirus lockdown (commencing evening of 23rd March 2020) that has been included for information, cyclist results show less variability between the July 2019 and January 2020 surveys. The highest cycle flows were recorded during July 2019. This could be due (in part) to an increase in cycle use during the summer months. A clear tidal movement between peaks can also be perceived, with northbound movements higher across the AM peak and southbound being the main movement during the PM peak.

3.3.6 Both the pedestrian and cyclist results suggest a high proportion of users travelling from LB Richmond to Hammersmith to work in the mornings and returning in the evenings during the weekday.

WEEKEND FLOWS

3.3.7 **Figure 3-5** and **Figure 3-6** present a similar analysis for the surveyed Saturdays and show a more distributed profile across the day, reaching the peak hour between 13:00 and 14:00. There is a clear shift towards the evening hours in the July survey, probably due to the longer days and better weather.

3.3.8 Overall, the weekend presents lower flows during the peak, with approximately 500 pedestrians travelling northbound, compared to the weekday AM peak of up to 1,500. Across the day, the differences between weekday and weekend are smaller, with a maximum of 8,424 pedestrians recorded during a weekday of January 2020 and 6,264 during a Saturday.

Figure 3-5: Hammersmith Bridge Saturday pedestrians travelling northbound

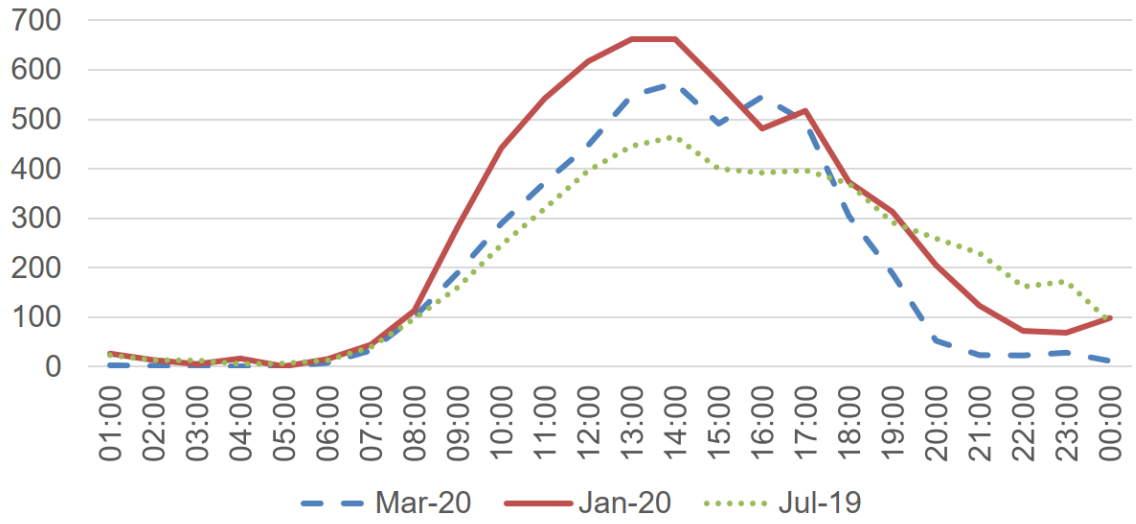
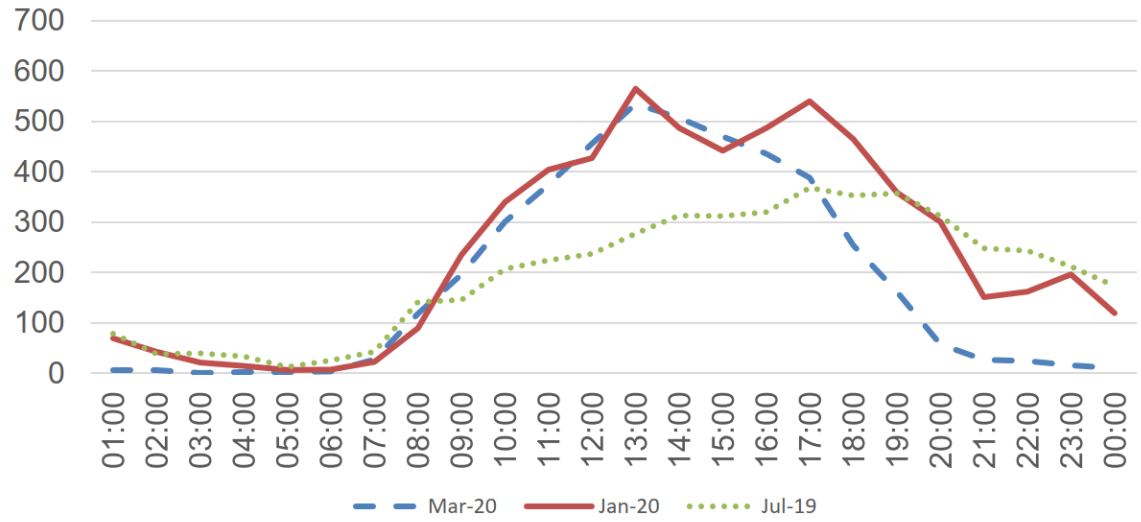


Figure 3-6: Hammersmith Bridge Saturday pedestrians travelling southbound



3.3.9 **Figure 3-7** and **Figure 3-8** demonstrate a large increase in cycle use during March 2020 when compared to July 2019 and January 2020. Overall, the weekend presents lower flows, with approximately 250 cyclists travelling northbound, compared to the weekday AM peak of up to 450. Across the day, the differences between weekday and weekend are smaller, with a maximum of 2,123 cyclists recorded during a weekday of July 2019 and 1,729 during a Saturday in March 2020.

Figure 3-7: Hammersmith Bridge Saturday cyclists travelling northbound

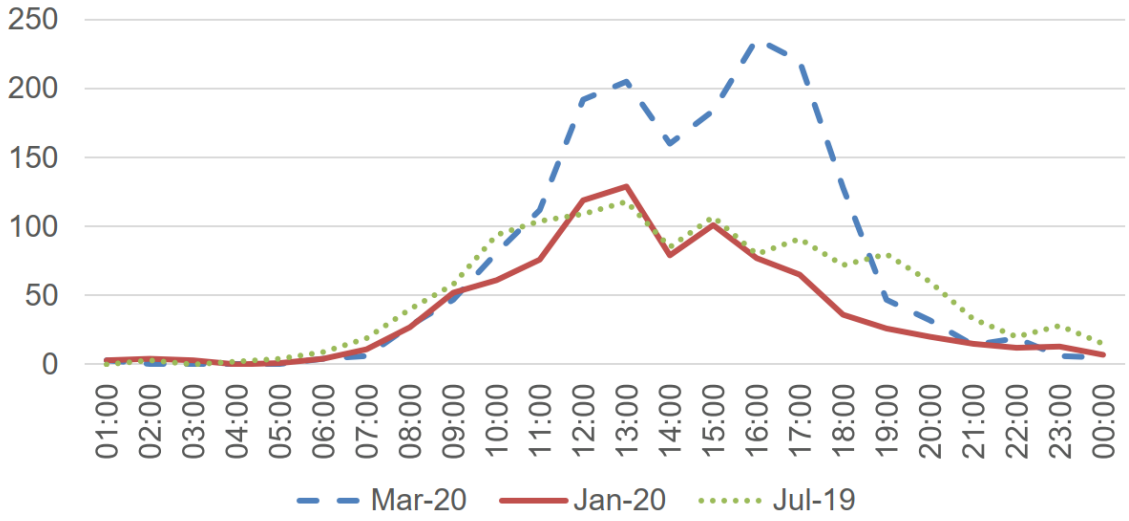
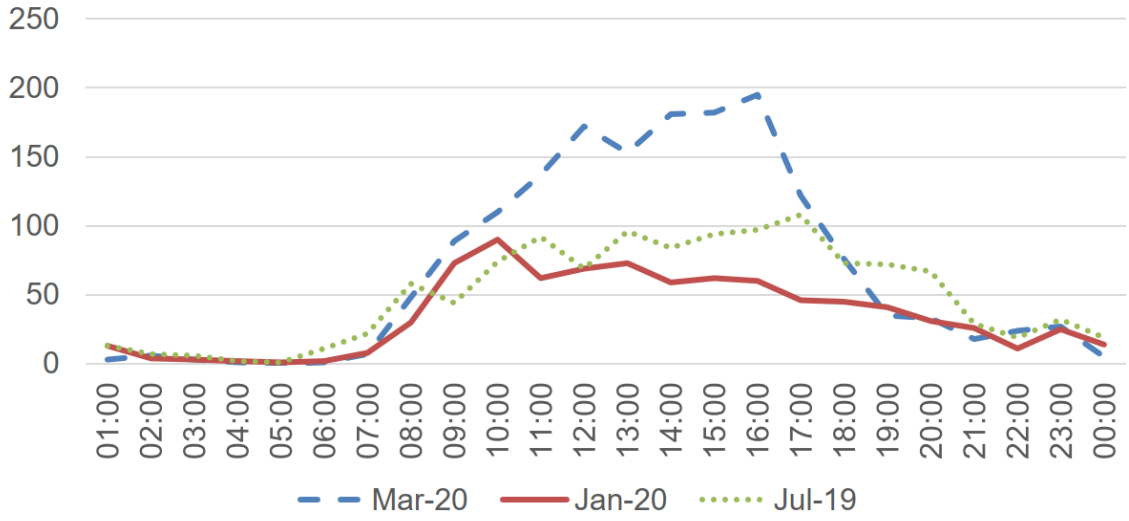


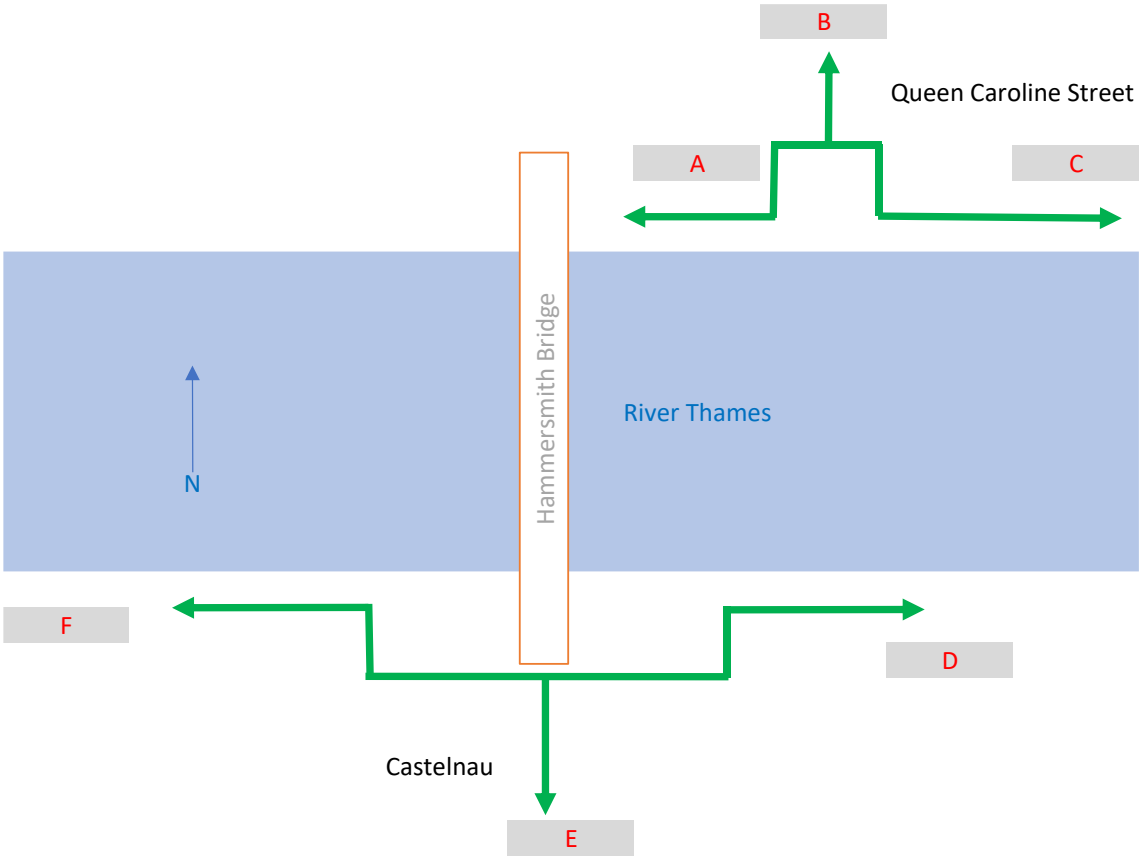
Figure 3-8: Hammersmith Bridge Saturday cyclists travelling southbound



3.4 THAMES PATH SURVEY DATA

3.4.1 Surveys were undertaken on Thursday 29 April 2021 (0800-0900 & 1700-1800) and Saturday 01 May 2021 (1300-1400) to understand the existing peak distributions of pedestrian and cycle movements at the location of the proposed pier accesses. The surveys recorded the number of pedestrians and cyclists travelling along the Thames Paths north and south of the river and those travelling to and from the river from Queen Caroline Street and Castelnau, respectively. A diagram showing the survey extents and the origin-destination coding is shown at **Figure 3-9**.

Figure 3-9: Thames Path Pedestrian Survey Extents



3.4.2 Summaries of the survey results for the Weeday AM, PM and Saturday Peak hours are shown in Tables 3-1, 3-2, and 3-3, respectively.

Table 3-1: Thursday AM Survey Results

	A-C & C-A			A-B & B-A			B-C & C-B		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
08:00 - 08:15	59	35	94	7	3	10	23	14	37
08:15 - 08:30	28	43	71	7	2	9	17	17	34
08:30 - 08:45	61	44	105	4	1	5	21	13	34
08:45 - 09:00	61	19	80	7	3	10	31	19	50
08:00 - 09:00	209	141	350	25	9	34	92	63	155

	D-F & F-D			E-F & F-E			D-E & E-D		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
08:00 - 08:15	15	0	15	5	0	5	13	6	19
08:15 - 08:30	18	0	18	14	3	17	17	15	32
08:30 - 08:45	14	1	15	15	2	17	12	19	31
08:45 - 09:00	9	3	12	9	1	10	4	13	17
08:00 - 09:00	56	4	60	43	6	49	46	53	99

Table 3-2: Thursday PM Survey Results

	A-C & C-A			A-B & B-A			B-C & C-B		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
17:00 - 17:15	60	23	83	7	2	9	30	10	40
17:15 - 17:30	60	36	96	5	2	7	25	12	37
17:30 - 17:45	53	38	91	4	2	6	20	12	32
17:45 - 18:00	78	30	108	18	2	20	25	13	38
17:00 - 18:00	251	127	378	34	8	42	100	47	147

	D-F & F-D			E-F & F-E			D-E & E-D		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
17:00 - 17:15	0	3	3	2	0	2	0	1	1
17:15 - 17:30	1	3	4	3	0	3	1	1	2
17:30 - 17:45	14	3	17	11	0	11	5	3	8
17:45 - 18:00	13	3	16	7	0	7	9	0	9
17:00 - 18:00	28	12	40	23	0	23	15	5	20

Table 3-3: Saturday Survey Results

	A-C & C-A			A-B & B-A			B-C & C-B		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
13:00 - 13:15	65	12	77	13	3	16	33	7	40
13:15 - 13:30	70	5	75	11	2	13	28	5	33
13:30 - 13:45	73	12	85	16	5	21	14	3	17
13:45 - 14:00	103	7	110	10	1	11	23	6	29
13:00 - 14:00	311	36	347	50	11	61	98	21	119

	D-F & F-D			E-F & F-E			D-E & E-D		
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total
13:00 - 13:15	20	17	37	9	0	9	2	3	5
13:15 - 13:30	24	14	38	6	1	7	11	7	18
13:30 - 13:45	33	8	41	11	1	12	2	5	7
13:45 - 14:00	28	11	39	10	0	10	3	3	6
13:00 - 14:00	105	50	155	36	2	38	18	18	36

3.4.3 The surveys identified that peak pedestrian movements occur at the weekend, and peak cyclist movements occur during the Weekday AM peak hour.

3.5 PROJECTED FLOWS AND CROSSING CAPACITY

3.5.1 This section describes the analysis carried out to estimate potential demand for the temporary ferry crossing. An appropriately detailed estimation process has been undertaken using the counts from the Hammersmith Bridge and fare elasticity findings from the Rotherhithe to Canary Wharf river crossing project.

3.5.2 To determine the difference in demand between Hammersmith bridge and the temporary ferry, factors from previous river crossings analysis were used as a proxy and applied to the counts above. In 2017, pedestrian and cycling modelling – informed by stated preference surveys - was undertaken for the Rotherhithe to Canary Wharf project to determine potential demand for different types of river crossings. In summary, it was found that pedestrian demand for a ferry with a £1.45 fare was 56% of the demand for a bridge. Cycling demand was just 1.5% for the ferry compared to a new bridge.

3.5.3 Due to limited data, no account has been taken for the difference between commuting and non-commuting behaviour. It is possible that having to use a ferry would deter more discretionary trips than commuter trips.

3.5.4 Taking account of the available data, two pedestrian demand scenarios were derived:

- The maximum peak demand scenario is based on the pre-covid January-20 surveys, and
- a low "lockdown" scenario from the March 20 surveys.

3.5.5 In reality, it is expected that the flows will lie somewhere between these two scenarios, with travel activity expected to be greater than during a lockdown period but not returning to pre-covid levels within the temporary ferry's operating timescale.

PEDESTRIAN ANALYSIS

3.5.6 **Table 3-4**shows a summary table of the peak hour bridge crossing counts.

Table 3-4: Flow count summary table

	AM (0800-0900)			PM (1600-1700)			SAT (1300-1400)		
	N	S	Total	N	S	Total	N	S	Total
"Lockdown" Counts	632	418	1050	658	431	1089	546	519	1065
Pre-Covid Max Counts	1528	1111	2639	1148	657	1805	662	556	1218

3.5.7 **Table 3-5** shows a summary of the bridge counts converted to ferry demand, with the maximum predicted demand of 856 northbound trips and 622 southbound trips occurring during the am peak hour (this is the busiest hour during the day for both northbound and southbound trips).

Table 3-5: Lower and upper bound temporary ferry service demand forecasts

	AM			PM			SAT		
	N	S	Total	N	S	Total	N	S	Total
Low Demand	354	234	588	368	241	610	306	291	596
High Demand	856	622	1478	643	368	1011	371	311	682

3.5.8 The maximum predicted demand (856), at full pre-covid bridge flows, and assuming no reduction in demand for discretionary journeys would exceed the initial peak service capacity of 744 passengers per direction. This is not predicted to occur within the three-year timeframe of the operation of the ferry, and certainly not during initial operations. In the event that demand increases over time, such that additional services (or alternative craft) are required, there are provisions within TfL's contract with UBTC to ensure that demand could be met.

SUMMARY

3.5.9 Pedestrians make up the majority of the demand for the ferry, and at the absolute maximum range of predicted demand, additional service capacity may need to be introduced towards the end of the contract. Cyclists only make up 1-3% of the total demand, with most preferring to use alternative crossings (i.e. Chiswick or Putney bridge) instead. This is likely due to comparable journey times, no cost and waiting times. Pedestrians have fewer options to divert, with only Barnes bridge a reasonable alternative which would likely increase journey times.

3.6 PROJECTED FLOWS AND PIER ARRIVALS

3.6.1 To facilitate efficient boarding, foot passengers and cyclists will be queued independently on the piers and use separate boarding ramps to embark/disembark the vessel. Inclusive of the 62-passenger capacity, each vessel can accommodate two wheelchairs or one mobility scooter (with advance approval via our mobility scooter scheme). If footfall is regularly greater than anticipated during off-peak periods or weekends (one boat service), the second vessel would be mobilised to support the demand providing a frequency and capacity equal to peak time operation.

3.6.2 There is no anticipated requirement for queuing landside on the public highway or public rights of way due to the high frequency of the service. If, however, off-pier queuing is required, it will be managed and martialled by the pier entry CSA, it will be reported to the Duty Manager and will trigger a timetable review process to ensure that exceptional one-off manageable events do not turn into regular managed events.

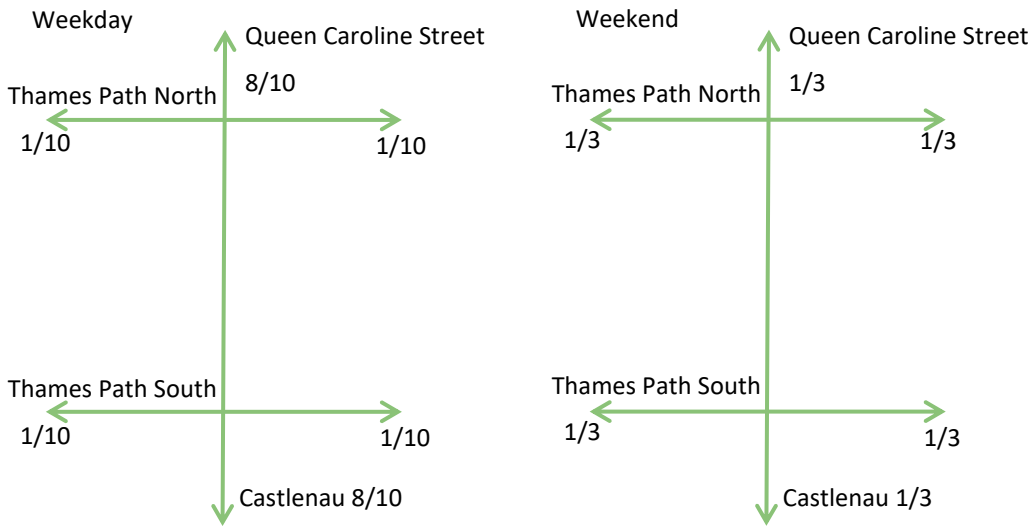
3.7 FLOW DISTRIBUTION

3.7.1 No survey data is available to identify the pre-existing distribution of trips at either end of the bridge when it was open. However, it would seem likely that, on weekdays, a higher proportion of people would continue north and south rather than using the Thames Path. For the purposes of assessment, this is assumed to be 1/10 east, 1/10 west and 8/10 north-south.

3.7.2 At the weekends, a higher proportion of leisure trips would be expected, likely increasing the use of the Thames path. For the purposes of assessment, this is assumed to be 1/3 east, 1/3 west and 1/3 north-south.

3.7.3 The assumed distributions are shown in **Figure 3-10**.

Figure 3-10: Pedestrian and cycle distributions



3.8 PEDESTRIAN COMFORT LEVEL ASSESSMENT

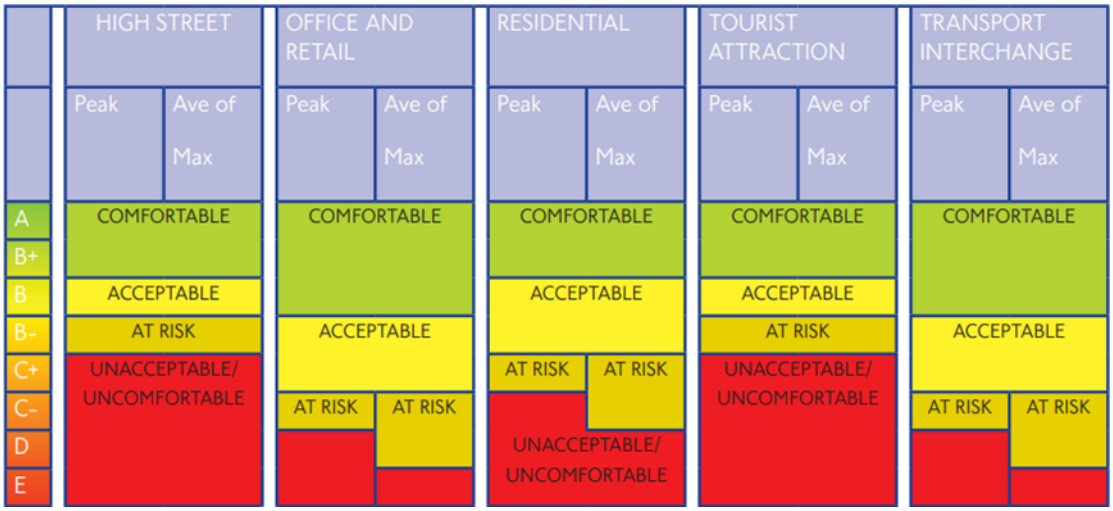
3.8.1 A pedestrian comfort assessment has been undertaken for the access routes to the temporary ferry piers, namely, Queen Caroline Street and The Thames River Paths (north and south of the river). Castelnau has not been assessed as it was used by significantly greater volumes of pedestrians and cyclists while the bridge was open and will return to this intensified use once the bridge is re-opened.

3.8.2 For the purposes of this assessment, the methodology described in Pedestrian Comfort Guidance for London published by TfL has been followed.

3.8.3 The aim of a pedestrian comfort assessment is to understand the pedestrian experience as people walk along the street. Pedestrian Comfort Levels (PCLs) classify the level of comfort based on the level of crowding a pedestrian experiences along the route. Pedestrian crowding is measured in pedestrians per metre of clear footway width per minute.

3.8.4 The first step when assessing pedestrian comfort is classifying the study area. Of the available classifications, the ferry service terminals are best represented by the criteria for a 'Transport Interchange' as shown in **Figure 3-11**. As stated in TfL guidance, the main peak pedestrian times in Transport Interchanges take place during the AM and PM weekday peaks, between 08:00 to 10:00 and 16:00 to 19:00, respectively. This is reflected in the peak pedestrian movements observed in the historical surveys and the projected ferry flows.

Figure 3-11: Pedestrian Comfort Level Scale



3.8.5 Crowding is calculated by dividing the people per minute by the clear footway width in metres (ppmm), as shown in **Table 3-6**. A PCL Value of F ("Fail") is given wherever the clear footway width is less than 1.9m wide.

Table 3-6: PCL crowding categories

	Crowding (ppmm)	0-3	3-5	5-8	8-11	11-14	14-17	17-20	20-23
Comfortable / Acceptable	Pedestrian Comfort LevelA+ to B-	A+	A	A-	B+	B	B-	C+	C
	Crowding (ppmm)	23-26	26-35	35+	N/A				
At Risk / Unacceptable	Pedestrian Comfort LevelC+ to E	C-	D	E	F				

3.8.6 Following the described methodology, typical PCLs have been calculated for each approach route to the ferry pier access, on the basis of existing AM peak hour flows (surveyed 29 April 2021 as shown in **Table 3-1**) and with the addition of the maximum projected AM peak hour flow for the ferry service demand (As shown in **Table 3-5**). At all other times, the cumulative flows are lower, and the PCLs would be more comfortable than as shown in this worst-case assessment.

Table 3-7: PCL analysis results

LOCATION	EXISTING PCL	MAX FUTURE DEMAND PCL (NO MITIGATION)	MAX FUTURE DEMAND PCL (QCSE DECLUTTERED)
Queen Caroline Street Eastern Footway	F	F	B+
Queen Caroline Street Western Footway	F	F	F
Thames Path North (East)	A+	A+	A+
Thames Path North (West)	A+	A	A
QCS/Thames Path/Pier access crossing	A+	A-	A-
Thames Path South	A+	B	B

3.8.7 **Table 3-7** shows that the existing footway widths on Queen Caroline Street are generally insufficient to provide qualifying PCL scores, i.e. the available footway width is regularly less than 1.9m.

3.8.8 On the western footway, significant improvements are not possible as, at times, the full footway width is less than 1.9m, and where the footway does widen, regular significant pinch-points are created by trees that should not be removed.

3.8.9 On the eastern side, there is much more opportunity for improvement with the overall width approaching 2.5m and the principle of decluttering the existing street furniture such as bollards and bins, permitting the PCL value to score A+ with the existing pedestrian flows and, more importantly, a "comfortable" B+ with 100% of the Queen Caroline Street flows assigned to the eastern footway (i.e. we have not assigned any additional pedestrian traffic to the western footway due to the existing poor PCL, although in reality, some ferry passengers would choose to walk on the western side of the street as it better meets their personal route desire line).

3.9 CYCLIST ANALYSIS

3.9.1 The maximum cycle demand in any one hour was observed in July 2019, with 450 cycle movements over the bridge (northbound AM peak hour – see **Figure 3-3**). Based on the 1.5% conversion rate, this equates to less than 10 bicycles in the peak hour of a peak summers day. During a typical weekend day, three bicycles per hour per direction would be expected to use the temporary ferry service.

3.9.2 This number of cyclists mounting and dismounting close to the ferry entrances is unlikely to cause any significant disturbance to the flow of other pedestrian and cycle movements in the area.

3.9.3 A number of cyclists travel east-west (or vice versa) on the northern Thames Path, dismounting to access the Thames Path from Hammersmith Bridge Road, where the path narrows to 1.5m (1.2m at pinch-points), making it impossible for cyclists and pedestrians to pass without giving way to each other. These cycling movements would also conflict with pedestrians leaving the northern pier, as from both directions they would be arriving from behind the pedestrians and then turning across their path.

3.9.4 Due to the configuration of the Thames Path in this location, it is not possible to provide acceptable pedestrian cyclist conflict intervisibility, and it is therefore proposed to close the Thames Path to cyclists between Queen Caroline Street and Hammersmith Bridge Road. A diversion will be introduced with appropriate wayfinding signage via Worlidge Street and Queen Caroline Street. The diversion adds 225m to a cyclist's journey (less than 1 minute at typical cycling speeds) but removes the need for cyclists to dismount and walk along the narrow access to the Thames path adjacent to the bridge, which inconveniences pedestrians and is likely to add more than 1 minute to the journey time for cyclists.

3.9.5 A number of school pupils use the Southern Thames Path to cycle westwards to school in the morning peak hour and conversely in the opposite direction at the end of the school day.

3.9.6 It may be necessary to require cyclists to dismount for the short section of raised accessway to the South Site pier to ensure pedestrian and cyclist safety in this location. If required, Customer Service Assistance will help to enforce compliance, by asking cyclists to dismount, to ensure safety for all.

4 SITE & SURROUNDINGS

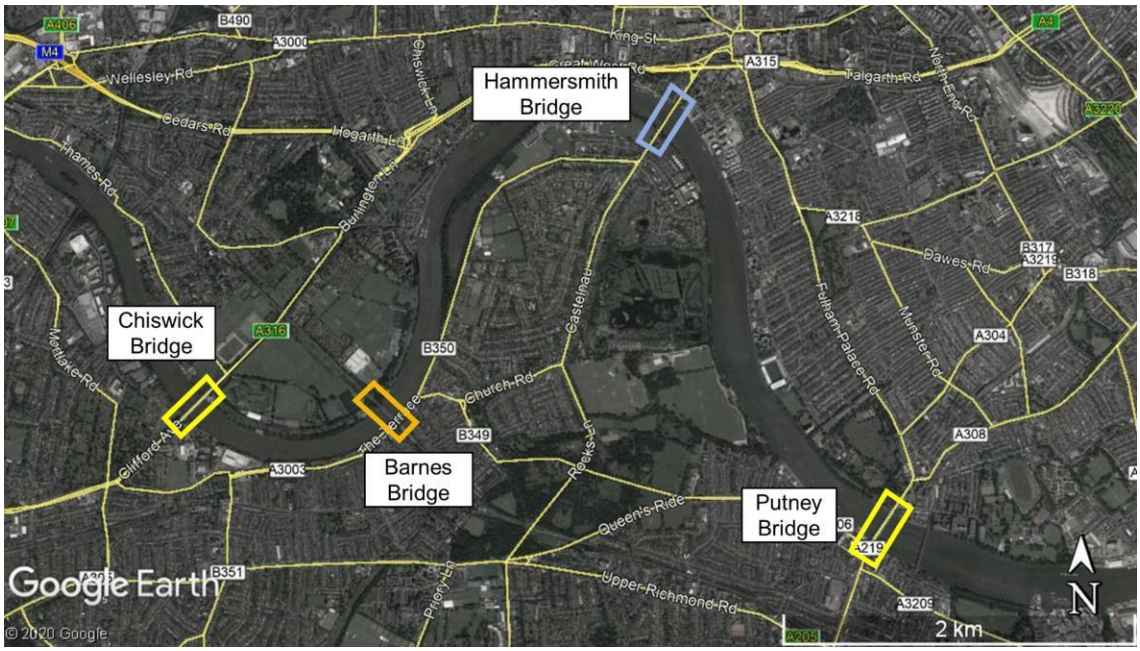
4.1 INTRODUCTION

4.1.1 This section describes the temporary ferry landing sites and their position within the surrounding area.

4.1.2 Hammersmith Bridge is a bridge of significant importance within west London's road transport network. It links Barnes, the easternmost ward in LB Richmond, with Hammersmith town centre on the north side of the River Thames. It is marked in red on **Figure 4-1**. Nearby road bridges Chiswick Bridge and Putney Bridge are marked in yellow, Barnes Bridge (a railway and pedestrian bridge) is marked in orange.

4.1.3 A crossing at Hammersmith is ideally located for users in Barnes that walk and cycle and wish to cross the River Thames or users in Hammersmith wishing to walk or cycle to Barnes. Using either of the other two nearest local road bridges (or the pedestrian part of Barnes Bridge) would require significant diversions of up to eight kilometres depending on the bridge and route chosen. To minimise disruption to residents, employees, and others who walk and cycle on the main bridge regularly, pedestrian and cyclist connectivity at this point on the River Thames should be maintained.

Figure 4-1: Location of Hammersmith Bridge in relation to neighbouring bridges



4.1.4 The retention of a pedestrian and cycle crossing of some type in this location is necessary to meet the demand for trips between Barnes and Hammersmith town centre. Hammersmith bridge's long history linking the two boroughs at this point has led to development on either side of the main bridge relying on the other side for services such as employment and healthcare. To retain existing demand stemming from development, it is vital in the short term to retain a crossing at the location of Hammersmith Bridge that matches existing desire lines. In the longer term, connectivity for all users will be retained following the restoration of the main bridge.

4.1.5 The temporary ferry serves to retain an existing connection across the River Thames during remediation of the main bridge, and thereby retains Barnes' close connection with Hammersmith town centre for pedestrians and cyclists.

4.2 WALKING

4.2.1 Queen Caroline Street provides a walking route between the River Thames and the centre of Hammersmith. Queen Caroline Street's footways are generally of a good surface quality for walking with in-situ concrete or concrete slab construction. Drop kerbs are provided at junctions and crossovers; however these are generally integrated into historic kerblines and radii, rather than being a purpose-built provision. Few have tactile provision. Crisp Road and other adjoining roads are comparable.

4.2.2 The northern Thames Path runs along the north bank of the River Thames as a part of the longer National Trail, which runs the length of the River Thames. It is of variable width (generally three to five metres) with concrete slab surfacing of a good quality (**Figure 4-2**). The route is bordered by a flood defence wall on the River Thames north bank and (generally private) properties on the land side.

Figure 4-2: Northern Thames Path, west of main bridge (September 2017)

4.2.3 Footways are provided on both sides of Castelnau, providing a walking route between the ferry, Castelnau shopping parade and the wider Barnes area. Footways along this route are generally in good condition, with purpose-built drop kerbs at side-roads and tactile paving provided.

4.2.4 Ramped footpath connections either side of the main bridge provide routes onto the southern Thames Path. The southern Thames Path runs along the south bank of the River Thames as a part of the longer National Trail, which runs the length of the River Thames. It is of variable width (around four metres) and is formed of an unmade surface of mixed mud, gravel and aggregate (**Figure 4-3**). This surface is, therefore, prone to potholes and standing water.

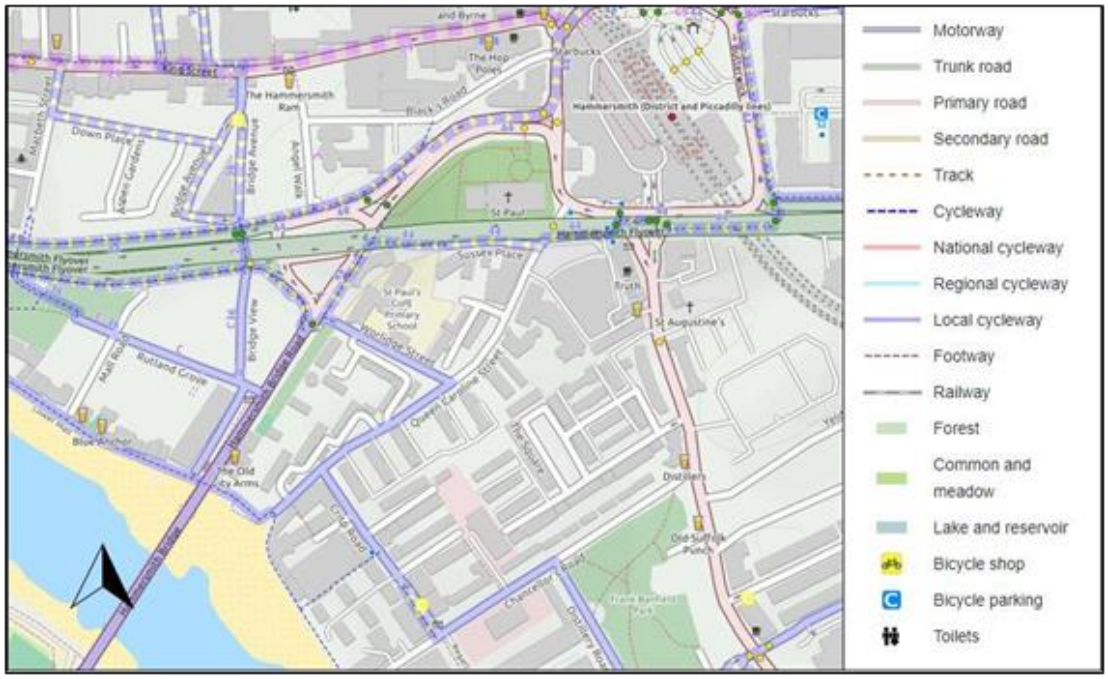
Figure 4-3: Southern Thames Path east of the main bridge (April 2018)

4.2.5 Further details on walking are provided within the Active Travel Zone assessment included in Section 4.

4.3 CYCLING

4.3.1 Cycle routes in the area (**Figure 4-4**) are of mixed quality and generally consist of on-carriageway signed routes and off-carriageway (originally) pedestrian routes that have been designated for shared use. No formal cycle provision is made on (or off) carriageway of either Queen Caroline Street or most of the length of Crisp Road. However, the area is not a through-route for motor traffic. Additionally, motor vehicle flows and speeds are low, with segregation not likely to be necessary.

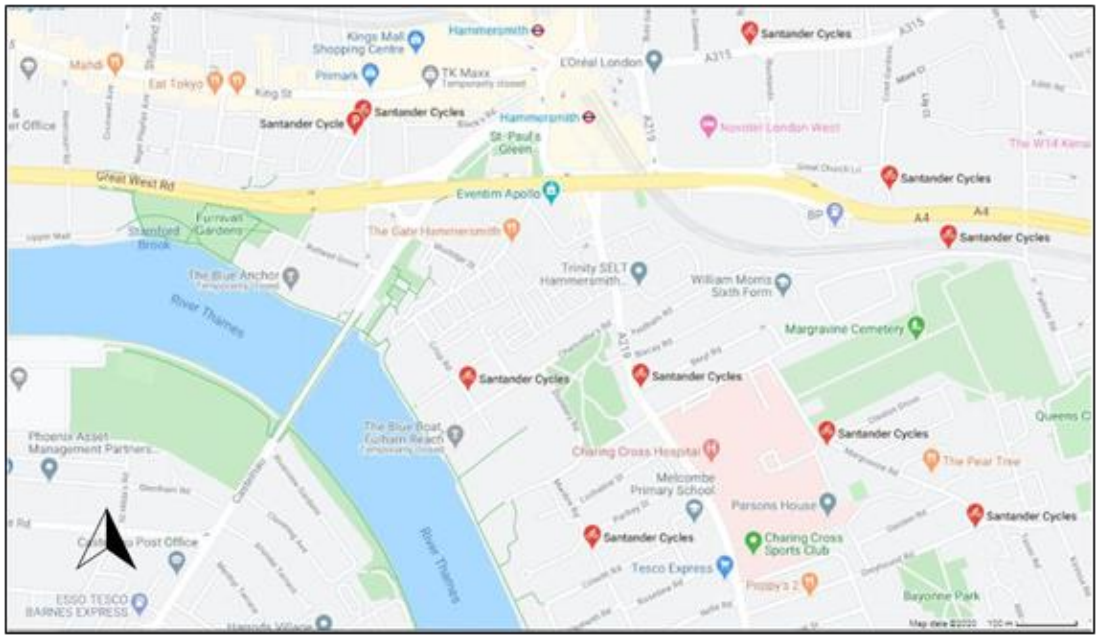
Figure 4-4: Cycle routes around the North Site



4.3.2 The route of Cycleway 9 (connecting Brentford and Kensington Olympia) is expected to pass through Hammersmith town centre; although the timeline for delivery of this is uncertain, it is currently under construction at Kew Bridge, and full completion is planned for spring 2021.

4.3.3 A Santander Cycles (**Figure 4-5**) docking station is available at the southern end of Crisp Road (up to 46 bicycles), with this being the approximate westernmost extent of the scheme's coverage. Further docking stations are available off King Street in Hammersmith (Bridge Avenue, up to 18 bicycles, approx. 350 metres to the north) or on Beryl Road (adjacent to Charing Cross Hospital, up to 26 bicycles, approx. 400 metres to the east).

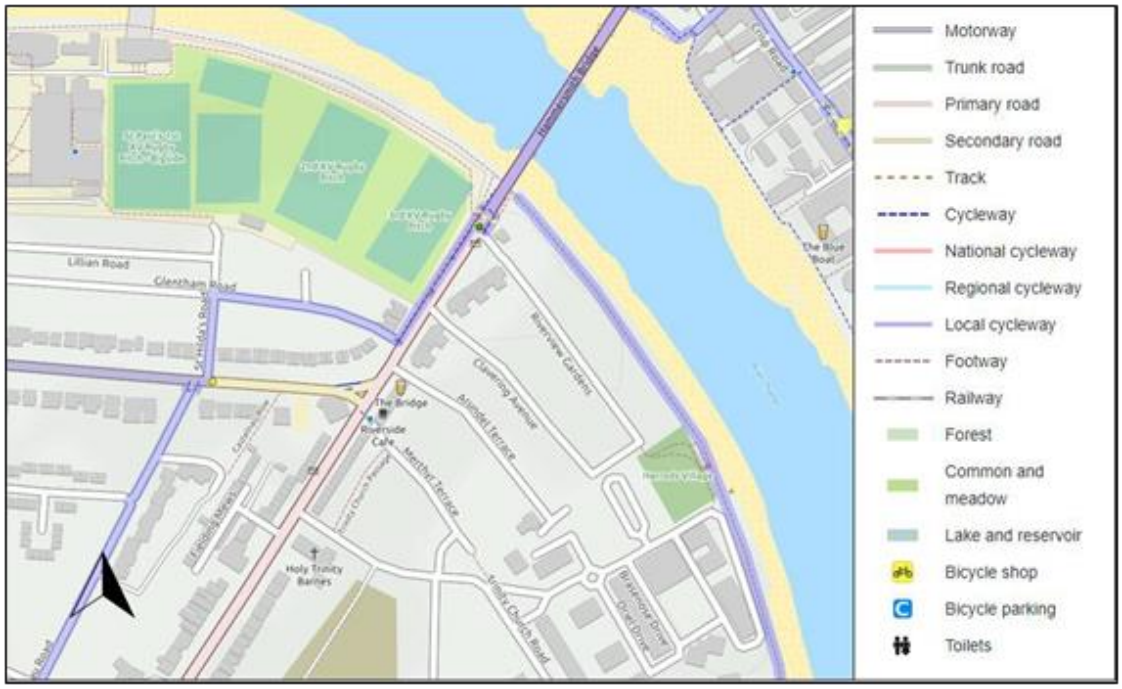
Figure 4-5: Santander Cycles locations



4.3.4 Wide footways are provided on both sides of Castelnau with the western footway (approx. 3.5 metres) being designated for shared use with cyclists (as part of a designated cycle route, **Figure 4-6**). Cyclists can also use the northbound bus lane on approach to the main bridge and would then be required to mix with general traffic (were it present in the absence of the current closure). Cyclists travelling southbound would be required to either use the shared-use footway on the western side of Castelnau or to mix with traffic were it present.

4.3.5 With the bridge closed, Castelnau north of the junction with Lonsdale Road provides access only for motor traffic to Arundel Terrace, Clavering Avenue, and Riverview Gardens, but remains a through-route for cyclists using the river path.

Figure 4-6: Cycle routes in around the South Site in Barnes



4.3.6 Santander Cycles is not available in LB Richmond, with the nearest docking stations being those identified in LB Hammersmith and Fulham in **Figure 4-5**. National Cycle Network Route 4 runs to the south of the London Wetland Centre, approximately 1.3km to the south. Connections to the north of the River Thames, including the future Cycleway 9 through Hammersmith, are available across the main bridge.

4.3.7 Further details on cycling are provided within the Active Travel Zone assessment in Section 4.

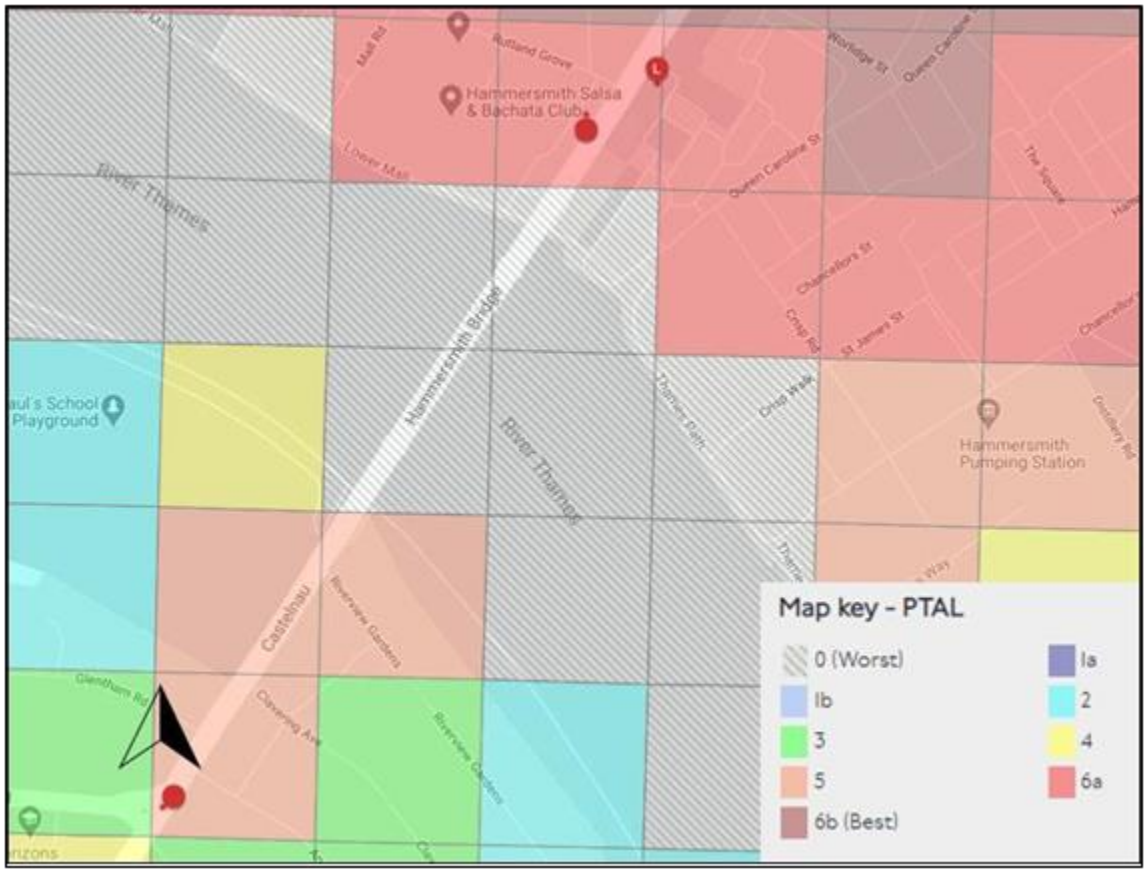
4.4 PUBLIC TRANSPORT

PUBLIC TRANSPORT ACCESSIBILITY LEVEL

4.4.1 Public Transport Access Level (PTAL) is a measure of access to the public transport network. For any given point in London, PTALs combine walk times from a chosen point to the network (stations and bus stops, for example) together with service frequency data at these locations. This provides an overall 'access index', which can be allocated to nine accessibility levels between 0 (lowest) and 6b (highest).

4.4.2 The PTAL of the Sites varies between the North and South Sites. Using TfL tools, the North Site has a PTAL rating of 6a, and the South Site has a PTAL rating of 5 (**Figure 4-7**).

Figure 4-7: PTAL map extract around Hammersmith Bridge



4.4.3 The TfL tools determine PTAL for the centre of each 100-metre grid tile. PTALs have been recalculated based on the actual location of the Sites. The PTAL of the North Site remains at 6a, the PTAL of the South Site remains at 5.

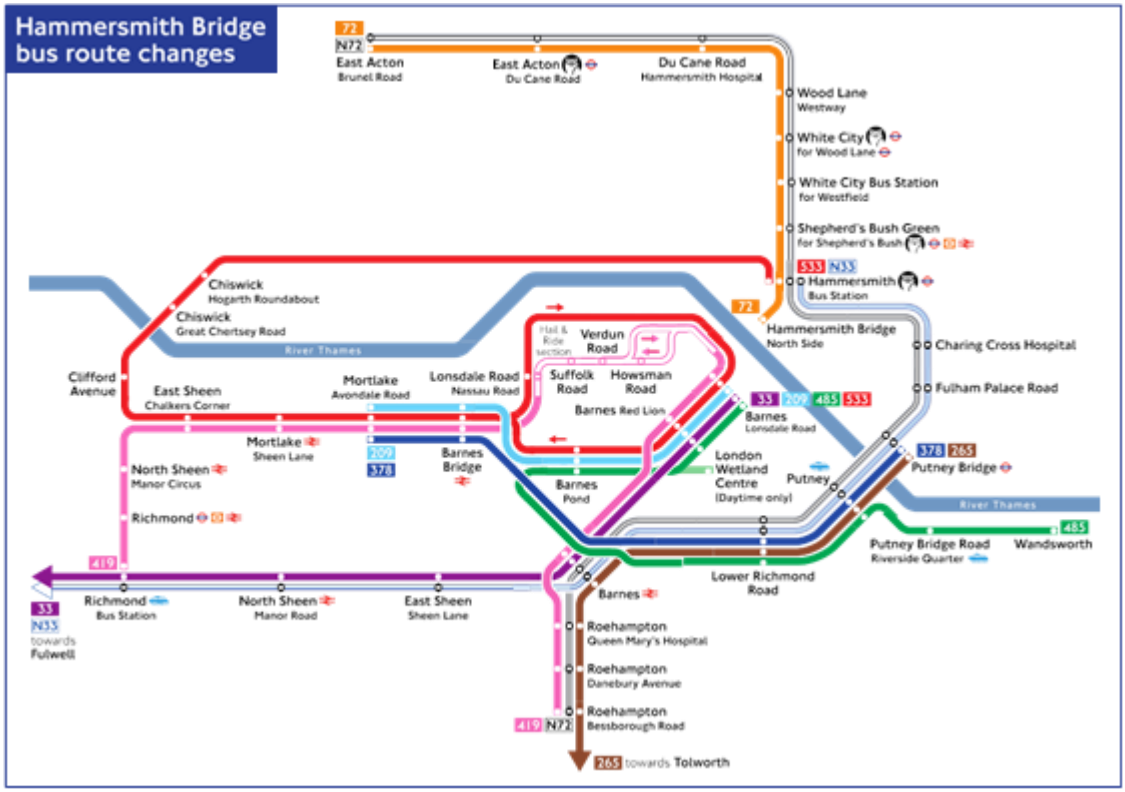
4.4.4 In the absence of a crossing at Hammersmith, the PTAL of the North Site remains unchanged (i.e. remains at a level of 6a). However, the PTAL of the South Site falls to 3, as London Underground services in LB Hammersmith and Fulham would no longer be within an acceptable walking distance (960 metres or 12-minute walk). Access to bus services around the junction of Castelnau and Lonsdale Road is unaffected.

BUS SERVICES

4.4.5 Existing bus stops are located on Hammersmith Bridge Road; however, since the closure of the bridge, these stops have been out of use given that buses can no longer cross the Bridge. The next nearest bus stops are located at the northern end of Hammersmith Bridge Road (to the north of the Hammersmith flyover) and on Fulham Palace Road, with a large number of stops and a range of routes available from Hammersmith bus station located within the Hammersmith gyratory.

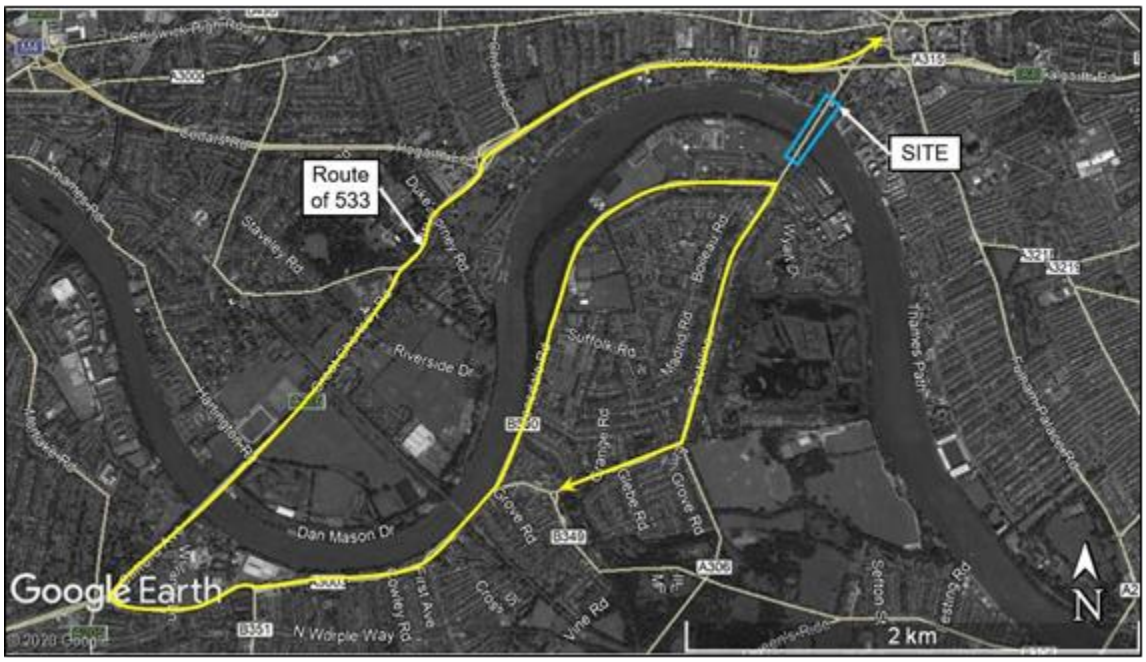
4.4.6 Former routes have been curtailed, adjusted and/or withdrawn (as shown in **Figure 4-8**) as a result of the bridge closure to buses (and other motor traffic).

Figure 4-8: Barnes bus routes – bridge closed (post-Sept 2019)



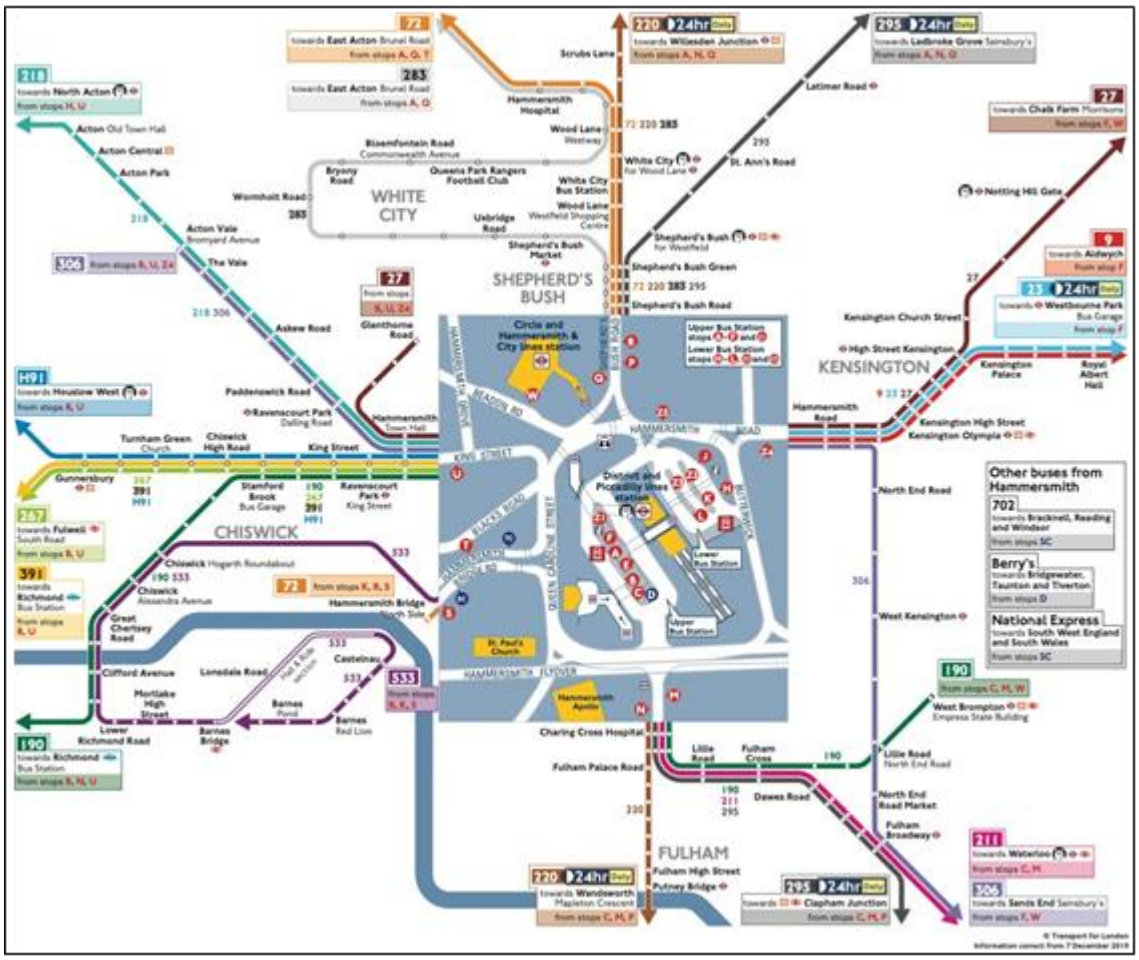
4.4.7 The bridge provided a fast and direct River Thames crossing route for many buses, including the 33, 72, 209, and 485. To reinstate some of this connectivity, TfL has created a new bus route, Route 533. This is shown in **Figure 4-9** running via Chiswick Bridge. As can be seen in Table 3.1, this route operates services every 30 minutes throughout the day.

Figure 4-9: Route of 533 bus



4.4.8 **Figure 4-10** shows the bus routes that currently serve the Hammersmith area.

Figure 4-10: Bus routes in Hammersmith



4.4.9 As of 15th April 2020, the services detailed previously serviced the area with the following frequencies, as set out in **Table 4-1**.

4.4.10 The coronavirus pandemic is in progress at the time of writing, and public transport service levels have been subject to fluctuation depending upon the levels of restriction in place at the time. As set out in TfL's press release of 11th May 2020, TfL has been able to operate more than 80 % of bus services during the coronavirus pandemic to support essential journeys. This is while managing the impact of the virus on the transport workforce with staff ill, shielding or self-isolating.

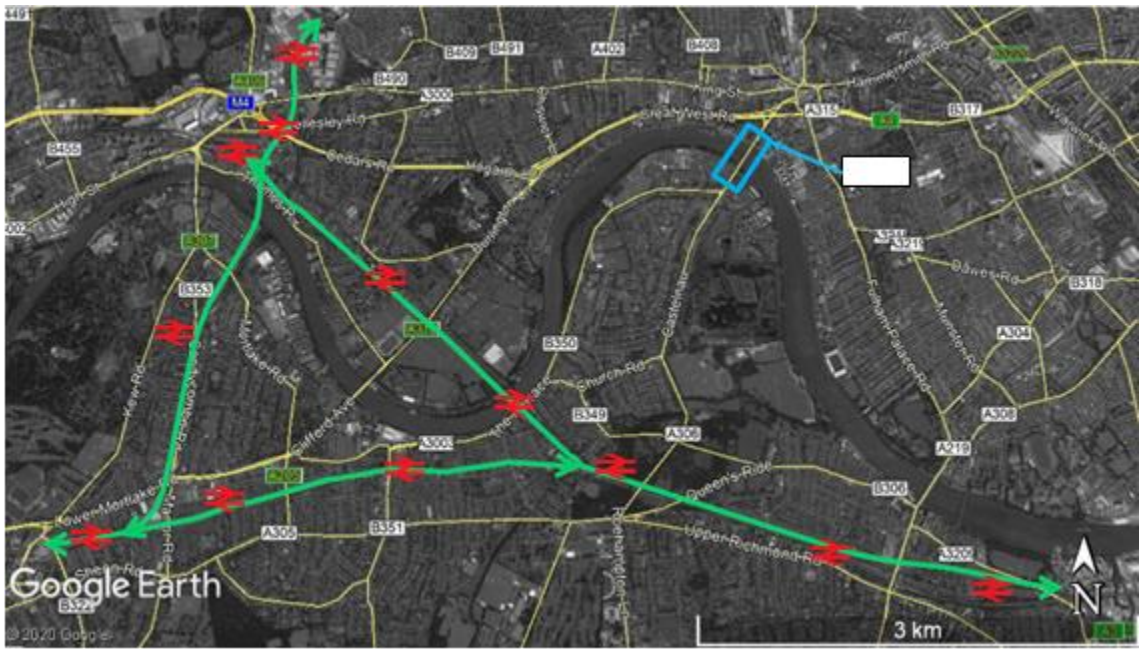
Table 4-1: Bus frequencies (correct at 15th April 2020)

BUS FREQUENCIES										
Service	Route	Mon-Fri			Sat			Sun		
		First bus	Daytime (mins)	Evening (mins)	First bus	Daytime (mins)	Last bus	First bus	Daytime (mins)	Last bus
	From	Hammersmith Broadway Stop M/N								
190	GeorgeStreet	06:15	15	15	06:12	15	00:44	07:07	20	00:44
211	Hammersmith Bus Station	05:05	8-11	15	05:05	8-12	00:00	05:05	10-15	00:00
220	Willesden Junction Station	Every 30mins 00:10-05:50	10-13	10-12	Every 30mins 00:12-05:49	10-12	23:54	00:09	10-14	23:54
295	Ladbroke Grove Sainsbury's	Every 30mins 00:07-05:56	7-10	10-12	Every 30mins 00:07-05:59	8-12	Every 30mins 00:03-04:46	05:16	11-13	Every30 mins 00:07-05:56
N11	Ealing Broadway Station	Every 30mins 00:18-04:18	-	-	Every 30mins 00:21-04:48	-	Every 30mins 00:18-04:48	Every 30mins 00:18-04:48	-	Every 30mins 00:18-04:48
N33	FulwellStation	Every 30mins 01:02-05:01	-	-	Every 30mins 01:02-05:01	-	Every 30mins 01:02-05:01	Every 30mins 01:02-05:01	-	Every 30mins 01:02-05:01
N72	Brunel Road	Every 30mins 00:46-04:43	-	-	Every 30mins 00:46-04:43	-	Every 30mins 00:46-04:43	Every 30mins 00:46-04:43	-	Every 30mins 00:46-04:43
N97	Hammersmith bus station	Every 30mins 00:15-05:16	-	-	Every 30mins 00:13-05:16	-	Every 20mins 00:15-05:16	Every 20mins 00:15-05:16	-	Every 20mins 00:15-05:16
	From	Hammersmith Bridge Road Stop S								
72	Brunel Road	05:16	6-10	8-12	05:15	7-11	00:30	05:15	10-13	00:30
533	Hammersmith Bus Station	04:52	30	30	04:52	30	00:54	04:52	30	00:54
	From	Lonsdale Road K/J								
33	FulwellStation	05:30	5-10	15	05:30	6-10	00:35	05:30	12-15	00:35
209	Mortlake Bus Station	05:07	6-10	6-10	05:06	6-10	00:58	05:06	10-12	00:58
419	GeorgeStreet	06:01	9-13	8-10	06:00	8-13	01:12	06:40	10-20	01:12
485	Wandsworth Police Station	07:10	30	Last bus 19:41	07:06	30	19:38	-	-	-
533	**Hammersmith Bus Station**	**05:05**	**30**	**30**	**05:05**	**30**	-	-	-	-

4.5 RAIL AND UNDERGROUND SERVICES

4.5.1 **Figure 4-11** shows a selection of National Rail stations nearest the main bridge on its south and west sides. The train lines which link them are also marked in green.

Figure 4-11: Nearest train stations and lines



4.5.2 There are several train stations to the south of the Barnes area, and **Table 4-2** shows there is a good service at all of them. However, as **Figure 4-11** shows, there is a lack of rail connectivity to areas to the north and east of Barnes. Train lines marked as green lines connect only to other destinations to the south, south-east and west of Barnes, leaving a gap in the network for people wishing to travel north or to the east of Barnes.

4.5.3 Historically, this gap in the public transport network was filled by the main bridge's provision of a bus link. The temporary ferry would ensure the continuity of this pedestrian and cycle link across the River Thames and prevent future severance for Barnes and areas immediately north and east of Barnes.

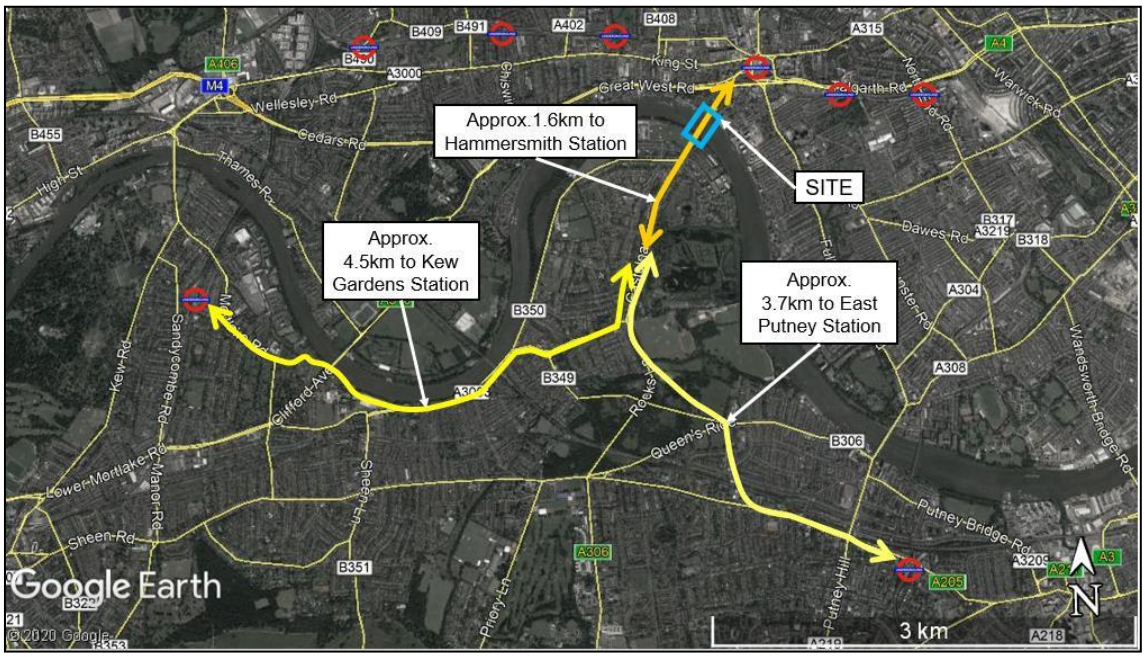
Table 4-2: Train frequencies (corrrect at 15th April 2020)

			MON-FRI		
ORIGIN	NEAREST STATION	JOURNEY TIME	First train	Daytime frequency (mins)	Evening frequency (mins)
Richmond	Barnes	7 mins (direct)	05:21	15	15
Clapham Junction	Barnes	9 mins (direct)	05:24	8.5	7.5
Kew Bridge	Barnes Bridge	5 mins (direct)	05:46	15	15

4.5.4 For Underground access, the loss of connectivity presented in a scenario without a River Thames crossing at the location of the bridge would be greater than for National Rail or buses. As can be seen in **Figure 4-12**, Hammersmith Underground Station is the nearest London Underground station for people in the Barnes area.

4.5.5 As set out in TfL's press release of 11th May 2020, TfL has been able to operate up to 60 % of Tube services during the coronavirus pandemic to support essential journeys. This is while managing the impact of the virus on the transport workforce with staff ill, shielding or self-isolating.

Figure 4-12: Nearest London Underground Stations



4.5.6 The temporary ferry crossing would not only retain access to Hammersmith Underground Station but also to two nearby stations just east ofHammersmith town centre: Barons Court and West Kensington. This would reduce the severance currently being experienced in the Barnes area due to the bridge closure.

4.6 LOCAL HIGHWAY NETWORK

CHISWICK BRIDGE

4.6.1 The A316 Clifford Avenue runs over Chiswick Bridge, an adjacent River Thames crossing to the west of Hammersmith Bridge. It has two lanes in either direction and is a single carriageway, with footways approximately four metres wide on either side, including an area marked for cyclists. It is approximately 140 metres long.

4.6.2 The footways are enclosed by approximately 1.5 metre high stone barriers on the outside edges. The bridge is lit by street lamps approximately every 30 metres on both sides of the road.

4.6.3 Bus services 190 and 533 run in both directions over the Chiswick Bridge.

PUTNEY BRIDGE

4.6.4 The A219 Putney Bridge is an adjacent River Thames crossing to the east of Hammersmith Bridge. It is within the purview of Wandsworth Council. Northbound, it has one lane and a painted advisory cycle lane. Southbound, it has two lanes for general traffic and a bus lane. It is a single carriageway, with footways approximately 3.5 metres wide on either side. It is approximately 220 metres long.

4.6.5 The footways are enclosed by stone barriers approximately 1.5 metres high on the outside edges. Putney Bridge is lit by lamps set approximately 50 metres apart on both sides.

4.6.6 There is a northbound bus stop on the Putney Bridge itself (and southbound stops in the vicinity) served by bus routes 39, 85, 93, 265, 270 and 378.

QUEEN CAROLINE STREET

4.6.7 The North Site is located at the southern end of Queen Caroline Stree. It is approximately 400 metres long and runs from the pedestrian junction with the Thames Path (at the slipway into the River Thames) at its southwest end, through a residential area and underneath the Hammersmith flyover to meet the A219 Hammersmith gyratory outside Hammersmith Underground Station. The southwest end is a dead-end for vehicles.

4.6.8 The carriageway is approximately seven metres wide, although there are significant sections along the length of the road which are taken up with parking bays for residents and pay-and-display visitor use. This means the carriageway varies between one lane and two lanes wide. It is a two-way road without a centre line.

4.6.9 There are various measures to slow speeds on Queen Caroline Street, including signs stating a 20mph speed limit, a zebra crossing at the northeast end, cobblestone rumble strips around a raised platform area at the junction with Sussex Place, and speed cushions along its length.

CRISP ROAD

4.6.10 Crisp Road is a single carriageway road approximately seven metres wide, with approximately 1.5 metre wide footways on either side. There is a footway on both sides of the carriageway for the full length of 180 metres.

4.6.11 Crisp Road is a minor road when the northern end meets Queen Caroline Street adjacent to the North Site. Its frontage varies between residential and commercial, with business including Riverside Studios, The Chancellors public house, and one side of the British Safety Council offices.

4.6.12 The southern end of Crisp Road is one-way southbound, with a Santander Cycles docking station with spaces for 46 bikes and a segregated contraflow cycle lane taking up the rest of the carriageway space. The segregation consists of a narrow paved island lined with trees. The southern end of Crisp Road meets Chancellor's Road as a minor arm of a give-way junction.

CASTELNAU

4.6.13 The A306 Castelnau is a main road in Barnes and is next to the location of the South Site. It is about 1.5km long from the southern end of the bridge at its northern end to the junction with Church Street at its southern end.

4.6.14 Its design varies at the northern end, although much of the single carriageway road contains a northbound bus lane, one general traffic lane in either direction and no cycle-specific infrastructure in either direction. There are wide footways on each side: 3.5 metres on the western side, approximately 2.5 metres on the eastern side and no parked cars.

4.6.15 At the point where Castelnau meets the main bridge, large barriers are in place on the footway for approximately five metres, and metal barriers on either side of the footways prevent pedestrians from mixing with traffic.

4.6.16 A pedestrian footpath leads off the eastern footway down to the Thames Path at an incline, just after the junction with Riverview Gardens.

RIVERVIEW GARDENS

4.6.17 Riverview Gardens is a two-way, one-lane, single carriageway road, with residents' parking bays on both sides. It is lined with large trees located on the footways on both sides of the carriageway and is lit by standard street lamps.

4.6.18 It has residential frontage throughout its approximately 230-metre length. At its south-eastern end, it turns 90 degrees and runs south to reach Clavering Avenue, a similar and parallel street to Riverview Gardens.

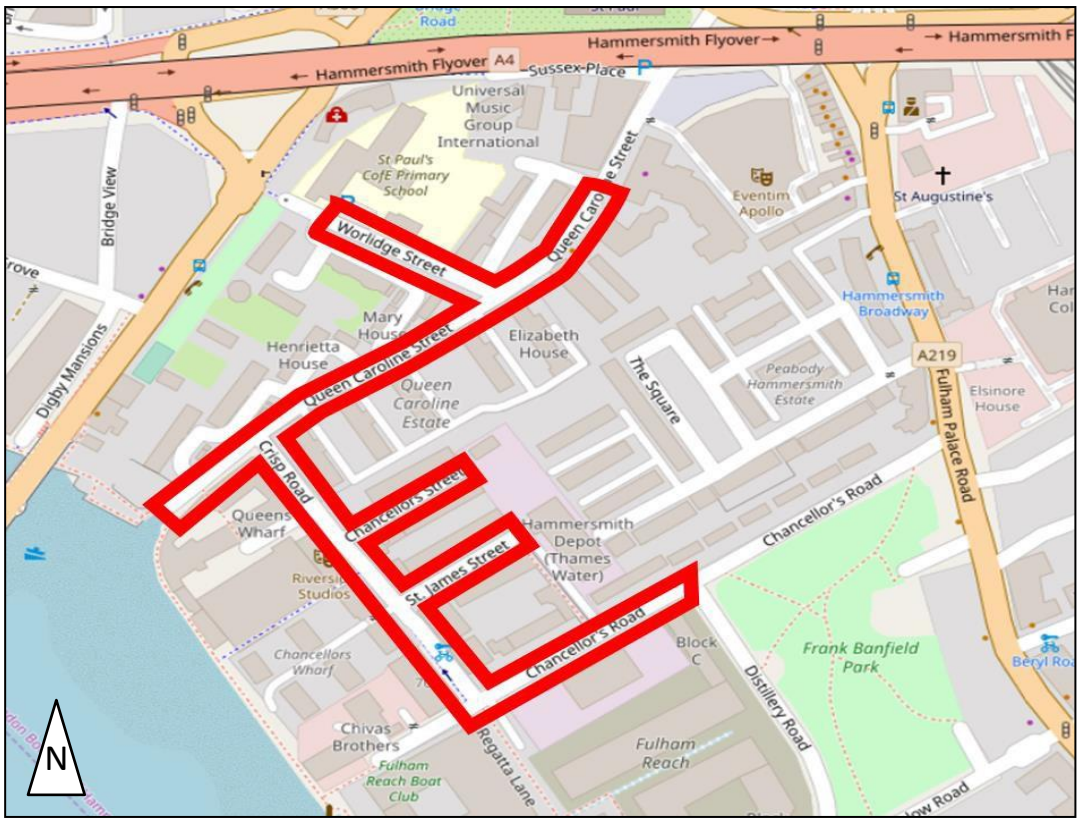
4.7 PARKING SURVEY RESULTS

4.7.1 A detailed parking survey was undertaken between Thursday 19 March and Sunday 22 March 2020, the purpose of which was to establish existing on-street car parking capacity and demand on the area surrounding the North Site. The parking survey covered a total of 16 hours each day, between 07:00 and 23:00.

4.7.2 The area surveyed covers nearby roads surrounding the North Site of the temporary ferry, including Chancellor's Road, Chancellors Street, Crisp Road, Queen Caroline Street, St James Street and Worlidge Street. The assessed area is shown in **Figure 4-13**.

4.7.3 All roads in the survey area are in LB Hammersmith and Fulham controlled parking zone 'A (Riverside)'. This means that they are subject to parking controls every day between the hours of 08:30 and 23:00. On-street parking is in marked bays only for that zone's permit holders or for pay-and-display users up to a maximum of two hours.

Figure 4-13: Extent of parking survey



4.7.4 The results of the survey have been summarised in **Table 4-3** and are categorised by the roads, including AM and PM peak times as well as an average daily capacity.

Table 4-3: Parking survey results (19th through 22nd March 2020)

ROAD	TOTAL CAPACITY	WEEKDAY						WEEKEND	
		AM (07:00-10:00)		PM (16:00-19:00)		Daily (07:00-23:00)		Daily (07:00-23:00)	
		Stress %	Spare spaces	Stress %	Spare spaces	Stress %	Spare spaces	Stress %	Spare spaces
Chancellor'sRd - North	18	38%	11	21%	14	28%	13	22%	14
Chancellor'sRd - South	18	51%	9	31%	13	32%	12	14%	15
Chancellors St - South	9	82%	2	56%	4	65%	3	80%	2
Crisp Rd –West	8	83%	1	46%	4	56%	4	44%	4
Crisp Rd -East	15	61%	6	22%	12	32%	10	62%	6
Queen Caroline St - North	37	47%	20	42%	22	42%	22	33%	25
Queen Caroline St - South	17	62%	7	38%	11	44%	10	57%	7
St James St -North	14	73%	4	61%	6	66%	5	62%	5
St James St -South	11	72%	3	59%	5	59%	5	63%	4
Worlidge St -North	14	26%	10	16%	12	17%	12	17%	12
Worlidge St -South	21	66%	7	64%	8	63%	8	67%	7
Total	**182**	**60%**	**80**	**41%**	**111**	**46%**	**104**	**47%**	**101**

4.7.5 As **Table 4-3**shows, the overall results for the area demonstrate that the daily occupancy does not noticeably change between weekdays and weekends, with an average occupancy level of 46 % and over 100 parking spaces available on average across the day.

4.7.6 The results vary between time periods and streets assessed. The AM peak shows the highest occupancy levels with an average of 60 % across the area and up to 83 % in Chancellors Street and Crisp Road. Nonetheless, the survey results show that up to 80 parking spaces would be available within the surveyed area during the AM peak period.

4.7.7 The PM peak period demonstrated lower occupancy levels, with an average of 46 % across the area and up to 111 spaces available.

4.7.8 The temporary ferry crossing will result in more pedestrian footfall and could result in some pick-up / drop-off trips, particularly for school students who may travel across the river unaccompanied by their parents or guardians. The significant availability of parking spaces provides opportunities to increase pedestrian space and/or to allow for pick-up drop-off traffic if that is desirable to the authorities. Alternatively, pick-up drop-off traffic could be prevented through traffic orders and CCTV civil enforcement by LBHF, in the unlikely event it proved to be a problem.

4.8 LEGAL OWNERSHIP AND MANAGEMENT

4.8.1 The ferry gangways and piers will be retained as a private asset owned/leased by TfL, with TfL giving the public permissive rights to pass and repass.

4.9 LICENSES AND TRAFFIC REGULATION ORDERS

4.9.1 A number of Licenses and Traffic Regulation Orders (TRO) will be required through the life of the project to allow legal changes to be made to roads in and around the Sites. These may include:

- Temporary road closures: As some parts of the Sites are located on the public highway, TROs or footway licenses will be required to allow the closure of those parts of the public highway where the public will no longer have access.
- Temporary path closures may also be required to close or divert sections of the Thames Path.
- Parking alterations: Could be required to allow controlled pick-up drop-off activity or to provide additional pedestrian and cycle space.

4.10 ACCESS

NORTH SITE

4.10.1 The north site will be accessed directly from the public highway of Queen Caroline Street. The southernmost section of the carriageway will require conversion to footway for the duration of the works, and this will be secured via a Unilateral Undertaking to implement the works under S278 of the Highways Act (1980). In addition, temporary stopping up may be required where the gangway is located or an appropriate license secured (such as a pavement license) to allow furniture to be placed in the footway..

SOUTH SITE

4.10.2 Access to the south site is simpler, with direct access to the public right of way along the Thames Path. Improvements will be made to the path in this location and planning permission is being sought for a new section of raised walkway that will facilitate access to the path at spring high tides. Improvements will also be made to the eastern Castlenau access to the Thames Path, making it more suitable for access in all weather.

4.11 3.10 ON-SITE/NEARBY PUBLIC REALM

4.11.1 The Healthy Streets Indicators are used by TfL to assess the extent to which public realm and urban design encourage healthy movement. The scoring system consists of a qualitative marking scheme against each of the ten indicators, amounting to a final judgment that feeds into the planning process.

4.11.2 The 10 indicators are displayed in **Figure 4-14**.

Figure 4-14: The 10 Healthy Streets Indicators

4.11.3 TfL's Active Travel Zone (ATZ) guidance recommends judging a development's public realm by the 10 Healthy Streets indicators.

4.11.4 The Healthy Streets assessment is presented in **Table 4-4**:

Table 4-4: Healthy Streets Assessment

People choose to walk,cycle and use public transport	The ferry will provide a safe and convenient public transport link between Barnes and Hammersmith, re-enabling cross-river pedestrian and cycle trips that are currently not taking place or are diverted onto adjacent bridges. The ferry will decrease the likelihood of motorised travel as the nearest alternatives are Putney Bridge 2.8km east, Barnes Bridge - pedestrian-only - 2.9km to the west, and Chiswick Bridge 4.1km to the west, none of which are particularly attractive for walking or cycling).
Pedestrians from allwalks of life	Pedestrians are expected to use the ferry for a variety of trip purposes, as was the case when the bridge was open. The fare for the ferry (equivalent to a bus fare) may discourage some discretionary trips (such as parents accompanying school pupils across the river), noting the TfL concessionary fare structure for London Buses will apply, ensuring those entitled to free or discounted travel receive it. The accessways would be 4.0m wide on the north side and 2.5m wide on the south side, allowing two wheelchairs, two standard pushchairs, or a large/double pushchair and a pedestrian to pass one another. Cyclists would dismount and push their cycle to the jetty. Pedestrians would load at the front of the vessel and cyclists to the rear). Two members of crew would staff the pier and jetty – one at the entrance to the pier and one on the jetty; they would be available to provide assistance to people with reduced mobility.
Easy to cross	This indicator regards pedestrian crossing facilities on standard roads and so has limited application in this case as there is no motor vehicle traffic on the proposed infrastructure. However, it is proposed that the southern end of the Carriageway on Queen Caroline Street is converted to footway to ensure safe pedestrian crossing at the entrance to the pier. Additionally, it is proposed that the Thames River path would be closed to cyclists between Queen Caroline Street and Hammersmith Bridge Road, in order to remove the conflict of cyclists movements crossing the access and egress of the pier. Cyclists would be diverted via Worlidge Street, which adds 225m to a cyclist's journey (less than 1 minute at typical cycling speeds), but removes the need for cyclists to dismount and walk along the narrow access to the Thames path adjacent to the bridge, which inconveniences pedestrians and is likely to add more than 1 minute to the journey time for cyclists.
People feel safe	Guidance for this indicator refers to pedestrian safety with regard to vehicles, so without any motor vehicles present the ferry service would be safe in this respect. The piers and jetties will have appropriate barriers to prevent accidental entry into the water with lifesaving equipment for use in the event of an incident and trained crewmembers on hand during operational hours, providing additional water safety security and the presence of an official to deter any anti-social behaviour.
Things to see and do	The ferry accesses and the vessels will allow views of the main bridge, which is considered a protected view in local guidance, as well as views along the River Thames.
Places to stop and rest	There will be seating on the jetty and on the boats.
People feel relaxed	It is expected that people will feel relaxed, mainly due to the absence of motor vehicle traffic, creating a slower pace of movement and a quieter atmosphere.
Not too noisy	Due to the absence of motor vehicle traffic, which is the focus of this indicator, there would not be significant road-related noises at the ferry terminals. The ferries themselves are motor driven and will create an element of noise as they cross the river.
Clean air	The entirety of each of both LB Hammersmith and Fulham and LB Richmond are designated as AQMAs. The closure of the bridge to motor traffic is likely to have reduced localised pollution and increased it elsewhere in the boroughs. Operational analysis by TfL in 2019 (see Paragraph 3.2.5) indicates that around three-quarters of the traffic displaced from the main bridge due to closure has transferred elsewhere, with the remaining traffic disappearing. This reduction in traffic levels both locally and more widely could be expected to reduce air pollution, although it is accepted that this may be counterbalanced by an increase in air pollution elsewhere due to the increased distances travelled and increased congestion on those routes. The ferry will permit more localised pedestrian and cycle movements, reducing the need for vehicular travel along the diversion routes, thus potentially reducing pollution at the adjacent vehicular bridges east and west.
Shade and shelter	Shade and shelter will be provided within the vessels and on the jetties.

4.12 DELIVERY & SERVICING - PROPOSED

4.12.1 All deliveries and servicing are expected to take place from the river. A draft Deliveries and Servicing Plan is submitted with the planning application.

4.13 EMERGENCY VEHICLE ACCESS – PROPOSED

4.13.1 Emergency vehicles will have access to the southern end of Queen Caroline Street for the northern site, the junction of Riverview Gardens and Castelnau for the southern site, and from the river for emergency service river craft.

4.14 CYCLE PARKING - EXISTING

4.14.1 Fourteen cycle parking spaces are provided adjacent to the proposed new pier access at the north site. There is a Santander Cycle docking station (46 docking points) at the southern end of Crisp Road.

4.14.2 There is no cycle parking in the immediate vicinity of the south site.

4.15 CYCLE PARKING – PROPOSED

4.15.1 The existing cycle parking adjacent to the northern ferry access will be relocated closer to the river wall to reduce the potential for conflict between pedestrians, cyclists and cycle parking.

4.15.2 No additional cycle parking is proposed as cyclists are expected to want to take their bicycles with them across the river to their end destination.

4.15.3 Staff Cycle parking has been secured with the nearby management office. All staff who wish to cycle to work will be able to securely store their bicycle.

4.16 CAR PARKING - PROPOSED

4.16.1 No car parking is proposed associated with the temporary ferry crossing. Should a Blue Badge space be required for employees, one will be requested on Queen Caroline Street from LBHF's parking team.

4.16.2 The parking surveys undertaken in March 2020 indicate substantial spare on-street capacity.A highway, streets and public realm strategy is being consulted on with members of the public and the relevant highways authorities as to whether any changes in on-street parking controls would be beneficial during the operation of the temporary ferry service.

4.17 LOCAL HIGHWAY IMPROVEMENTS

4.17.1 It is proposed that the southern end of the carriageway on Queen Caroline Street is converted to footway to ensure safe pedestrian crossing at the entrance to the pier. Additionally, it is proposed that the Thames Path would be closed to cyclists between Queen Caroline Street and Hammersmith Bridge Road, in order to remove the conflict of cyclists' movements crossing the access and egress of the pier. Cyclists would be diverted via Worlidge Street, which adds 225m to a cyclists journey (less than 1-minute cycle), but removes the need for cyclists to dismount and walk along the narrow access to the Thames path adjacent the bridge, which inconveniences pedestrians and is likely to add more than 1 minute to the journey time for cyclists.

4.17.2 Improvements to the access to the southern Thames Path from Castelnau and a raised walkway along the Thames Path will ensure access is maintained to the pier during spring high tides, when at present the path is liable to flooding. Cyclists may be required to dismount for the length of the raised walkway for their own and pedestrian safety.

4.18 ROAD SAFETY AUDIT

4.18.1 A Road Safety Audit of the proposed changes to the southern end of Queen Caroline Street will be secured by condition.

5 ACTIVE TRAVEL ZONE ASSESSMENT

5.1 OVERVIEW

5.1.1 TfL's Healthy Streets TA guidance mandates an ATZ assessment. The ATZ is defined as the area within a 20-minute walk or cycle of a given location - in this case the temporary ferry. Within the ATZ, it is considered that active travel modes (walking and cycling) can provide the most sustainable mode choice for local trips and support the MTS target for 80 % of all journeys to be made on foot, by cycle or using public transport by 2041.

5.1.2 The ATZ assessment process contains three steps:

- 'Active Travel Zone mapping: Mapping all the potential key destinations within 10 and 20-minute walk and cycle boundaries ('active travel zones') of the site. Destination categories include public transport stops, the strategic cycle network, and town centres and parks.
- 'Choosing Key Active Travel Routes: Choosing routes between the site and certain destinations. Destinations and routes should be chosen based on the likelihood of use.
- 'Healthy Streets Photographic Audit: Going to the site and taking photographs every 150 [metres]. At the desk, choosing the worst (most unsafe) section of the route and writing about it according to 8 of the 10 Healthy Streets criteria.'

5.1.3 For reference to the Healthy Streets criteria, TfL's 'Guide to the Healthy Streets Indicators' was used. The indicators are shown in **Figure 4-14**. 'Pedestrians from all walks of life' and 'People choose to walk, cycle and use public transport' are the two main indicators. The eight remaining indicators which are assessed here 'point to the essential elements required to support [the] two main indicators'.

5.1.4 In light of the emerging coronavirus pandemic and lockdown commencing evening of 23rd March 2020, TfL Spatial Planning issued updated email guidance on 26th March 2020 with regard to ATZ assessment methodology. This stated:

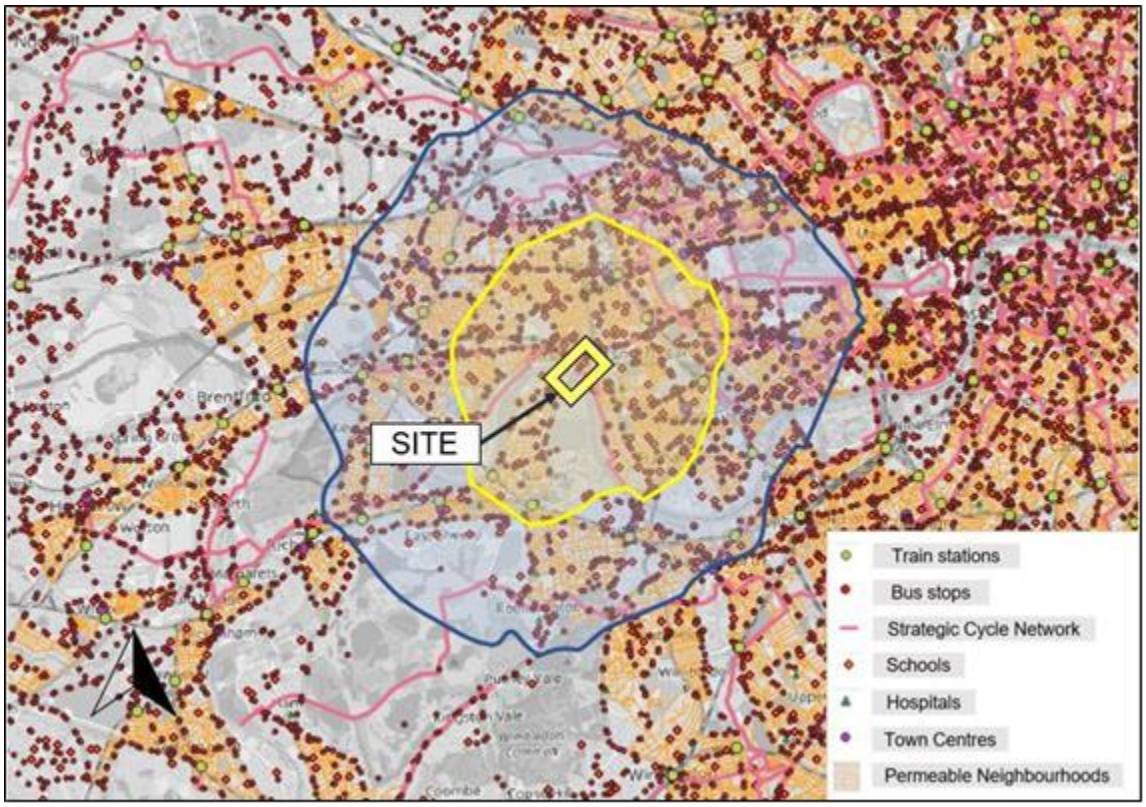
5.1.5 '[ATZ] assessment and other Site Visits are not requested or recommended by [TfL] for planning applications until further notice. If you are working on a Healthy Streets TA and wish to continue, please follow all of our usual instructions as well as you can with online tools such as Google Maps.'

5.1.6 As the assessment that follows was already in progress, the assessment that follows was therefore conducted via a Google StreetView desk-based methodology.

5.2 ACTIVE TRAVEL ZONE MAPPING

5.2.1 The ATZ mapping was conducted in accordance with the TfL guidance, which produced a great many potential key destinations. This is shown in **Figure 5-1**, with the outer 20-minute cycling boundary from the temporary ferry shown in blue and the outer walking boundary shown in yellow.

Figure 5-1: ATZs



5.3 ACTIVE TRAVEL ZONE ROUTES

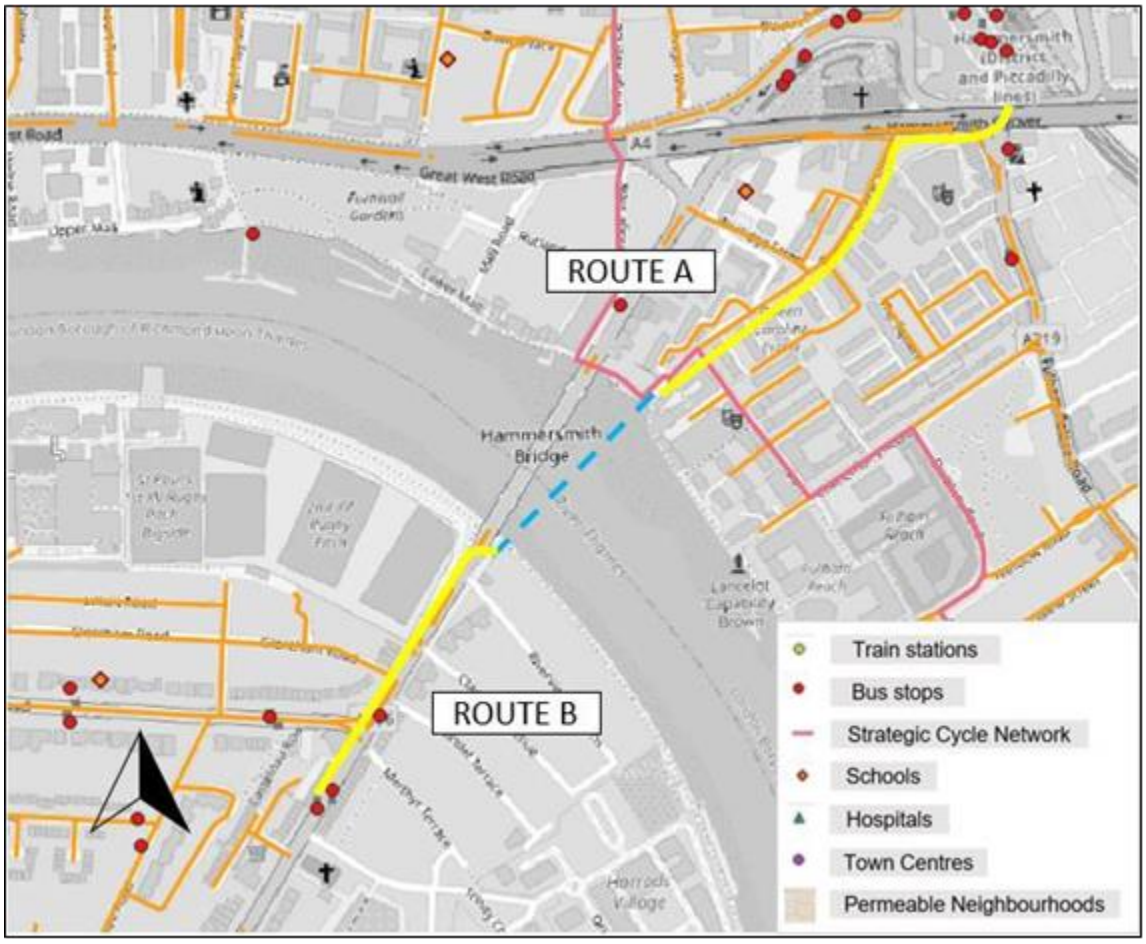
5.3.1 Based on the mapping and in line with the TfL guidance, access to the nearest bus stop and other nearby amenities must be demonstrated. However, as the temporary ferry largely replicates/replaces an existing route, one route from each end of the temporary ferry has been deemed sufficient. The following two Active Travel Routes were agreed with LB Hammersmith and Fulham, LB Richmond and TfL Spatial Planning in April 2020 for study:

- **Route A: Temporary ferry to Hammersmith town centre:** The new main route for pedestrians and cyclists using the temporary ferry will be to/from the temporary ferry to Hammersmith town centre on Queen Caroline Street, rather than Hammersmith Bridge Road. Hammersmith town centre is the location of shopping destinations, London Underground, and a range of bus services.
- **Route B: Temporary ferry to Castelnau:** The main route for pedestrians and cyclists on the south side of the River Thames is not expected to change as a result of the temporary ferry so a route from the temporary ferry to Castelnau neighbourhood centre is proposed which links the temporary ferry to local shops, the local bus stops and to the road network's natural diffusion point of pedestrian/cycle routes.

5.3.2 Both routes are shown on **Figure 5-2**. These are also shown in the context of the ATZ map (**Figure 5-3**).

Figure 5-2: Route A and Route B

Figure 5-3: Routes in context of ATZs



5.4 4.4 HEALTHY STREETS PHOTOGRAPHIC AUDIT

5.4.1 The final step of the process is the Healthy Streets Photographic Audit, which was undertaken on 15th April 2020. The images from this audit are included at Appendix D: Active Travel Zone Healthy Streets Photographic Audit.

5.4.2 The Photographic Audit is the photographic log of the two Active Travel Routes identified above. In line with the TfL ATZ Assessment Instructions, each route is audited by following the walking journey and taking a 'point of view' photograph every 150 metres. For 'only the worst part of each journey (i.e. most unpleasant or potentially unsafe for people on the street)' the auditor should 'write 8 statements 3 sentences long, on why the area shown in [the] photo doesn't meet each of Healthy Streets indicators 3-10 and how this could be improved.' As noted in Section 4.1, in line with TfL updated guidance of 26th March 2020, this was conducted via Google StreetView desk-based study in place of a physical site visit.

ROUTE A: NORTH SITE TO HAMMERSMITH TOWN CENTRE

5.4.3 The worst section of the route has been determined to be the northeast end of Queen Caroline Street, due to the width of the carriageway and footway. However, this section is not below average quality compared to other residential streets in London, and the quality of all sections of the route against the Healthy Streets Indicators was broadly high. For instance, the section underneath the Hammersmith flyover has recently been fitted with signalised pedestrian crossings that follow desire lines to the bus stops, and Sheffield stands covered by the Hammersmith flyover structure.

5.4.4 The worst section of the route is marked in yellow on **Figure 5-4**.

Figure 5-4: Worst section of Route A

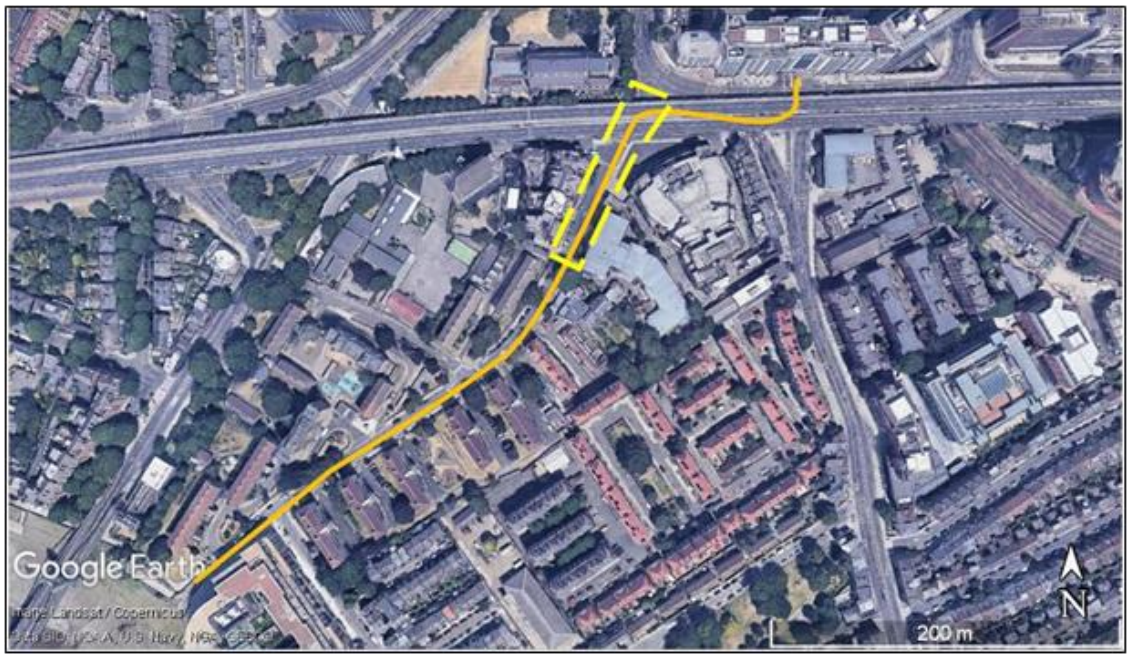


Table 5-1: Healthy Streets Indicators for Route A

HEALTHY STREETS INDICATOR	POST-DEVELOPMENT SITUATION
Easy to cross	There is a zebra crossing over Queen Caroline Street, which aids crossing. However, south of this on Queen Caroline Street, there is no formal crossing provision and no marked crossing places. If pedestrians do not wish to use the zebra crossing, which is slightly out of the desire line for people walking from the central island underneath the Hammersmith flyover to Queen Caroline Street, they have no other formal crossing place across Queen Caroline Street untilthe temporary ferry. Fortunately, Queen Caroline Street has a generally low flow of traffic which makes it easy to cross informally at any point. The width of the street at the northeastern end (approximately 12 metres) is particularly wide compared to the rest of the street, and which contributes to its judgment as the worst section of the route. There is a raised platform area in the carriageway at the northeast end of the road, which is intended to slow traffic and reduce speeds at the junction. While this does make it easier for people to cross, the car parking bays on Sussex Place extend right up to the crossing point, and this both reduces pedestrian visibility when heading north across Sussex Place, and means pedestrians have to walk across the rumble strip which may be uncomfortable. For cyclists, the wide carriageway at this point in the route may prove difficult to cross if they are not confident turning right across traffic into or out of Sussex Place. Further northeast on Queen Caroline Street, the junction with the A219 (Hammersmith gyratory) would be particularly difficult even for confident cyclists, as it is a busy four-lane carriageway. There is a risk of collision on this section of the route, as illustrated by the Collision Data Analysis below.
People feel safe	It is judged that people mainly do feel safe on this section of the route. The low number of existing pedestrians may be off-putting for people using Queen Caroline Street, as it is a quiet residential-fronted street. However, the temporary ferry will divert pedestrians onto Queen Caroline Street and this will increase the number of 'eyes on the street'. There is residential frontage set back slightly from the street and the pavements are lit. The 20mph speed limit on Queen Caroline Street reduces speeds to a level where the majority of cyclists would feel safe, in combination with the frequent presence of speed bumps along the carriageway. This, in turn, means cyclists remain on the carriageway and do not often cycle on the pavement, which makes pedestrians feel safer. The section of the route underneath the Hammersmith flyover would typically be the least safe section of the route for pedestrians, but the presence of floodlights has been deemed to reduce the perception of danger.
Things to see and do	There are no things to see or do on this section of the route. However, this is not considered to be an issue due to the likely use of the street by people on their way to a destination.
Places to stop and rest	There are few places to stop and rest on this section of the route. There are two low walls that could be used for stopping against, although one contains a metal railing in the top of the wall, presumably to deter loitering. These are not designed as relaxing resting places for all types of pedestrian. For cyclists, the Sheffield stands underneath the Hammersmith flyover are not in the direct path of pedestrians so there should be some flexibility to stop and lock bikes. They are covered by shade from the Hammersmith flyover so this would facilitate stopping for longer to consult a map or similar.
People feel relaxed	The low volume of traffic and slow speeds on Queen Caroline Street should encourage pedestrians to feel relaxed on this section of the route. The speed bumps encourage better driver behaviour. As mentioned above, crossing the carriageway at its widest point may be stressful if pedestrians are not confident or fast walkers. These feelings could be addressed by a wider footway or a formal crossing point. The pavements on both sides of Queen Caroline Street are narrow and interrupted by trees, poles and bollards on the footway, which may constitute obstructions for pedestrians with pushchairs or those walking in groups. For cyclists, the slow speed limit on Queen Caroline Street and effective enforcement through speed bumps would encourage more relaxed cycling. However, for cyclists travelling in both directions, the presence of parked cars on both sides of the carriageway would not be relaxing due to the risk of being struck by an opening vehicle door.
Not too noisy	The street is not too noisy as it is a residential street and there are no businesses open late, so overall this is not a major issue on this section of the route. The low volume of vehicle traffic does not create much noise. Noise from the Hammersmith flyover and A219 may be considerable at busier times.
Clean air	The entirety of LB Hammersmith and Fulham is designated as an AQMA. The closure of the main bridge to motor traffic is likely to have reduced exposure of main bridge users (and users of Hammersmith Bridge Road) to localised pollution. The transfer of pedestrians to Queen Caroline Street will likely have a negligible effect as the street is already lightly trafficked.
Shade and shelter	The Hammersmith flyover provides some protection from rain and strong sun, and the trees on Queen Caroline Street provide moderate shade in summer but still allow light through.

ROUTE B: SOUTH SITE TO CASTELNAU

5.4.5 This route is the same as for the main bridge, as the landing point of the temporary ferry is almost the same as the landing point of the main bridge.

5.4.6 The length of the route scores well against all the Healthy Streets Indicators below, particularly the southern end with bus stops which has various nearby small businesses, Sheffield stands and signalised pedestrian crossings. The section on the middle of Castelnau (adjacent to the bus gate / width restriction) would normally have been considered as the worst section, as cyclists are diverted up onto the narrow footway. However, whilst the main bridge is closed to motor traffic, the bus gate is suspended, and traffic is removed.

5.4.7 The worst section is, by a small margin, considered to be the stretch of Castelnau between the bus gate and the junction with Lonsdale Road, as marked in yellow on **Figure 5-5**.

Figure 5-5: Worst section of Route B

Table 5-2: Healthy Streets Indicators for Route B

HEALTHY STREETS INDICATOR	POST-DEVELOPMENT SITUATION
Easy to cross	Castelnau is easy to cross with a signalised pedestrian crossing at the northeastern end and one either side ofthe junction with the B350 Lonsdale Road. The intervening section of Castelnau is approximately 180 metres without formal pedestrian crossing provision, which may be frustrating for a minority of pedestrians who, walking from the temporary ferry, wish to continue their journeys up Glentham Road and have missed the northernmost crossing. However, the currentlow level of traffic means crossing during this 180 metres should not be an issue for most pedestrians. The side roads to the southeast of Castelnau (namely Clavering Avenue and Arundel Terrace) are also easy to cross, due to their being 'dead ends' which reduces the level of traffic, and due to the dropped kerbs with tactile paving on each junction. Glentham Road, to the northwest of Castelnau, is exceptionally easy to cross, due to the modal filter and continuous footway (with appropriate tactile paving) at the junction with Castelnau (see Appendix D, Figure D12). This is the only road on the northwest side of Castelnau, so the footway on the northern side of Castelnau is uninterrupted by motor traffic which makesit very easy to cross. For cyclists, the current reduction of motor traffic on Castelnau would mean right turns into any of the sidestreets are easier. The dropped kerbs mean those walking with cycles would also be able to cross the carriageway on foot without damage to the cycle.
People feel safe	It is considered that people do feel safe on this section of the route, primarily due to the low levels of motor traffic on Castelnau and side streets. This would mean people are less worried about a collision with a motor vehicle. The same holds for cyclists, who would be less concerned about being hit by a motor vehicle when there are fewer vehicles on the road. In terms of other aspects of safety, there are no parked cars and light can easily reach the footway. Pedestrians commonly use this section of the street to reach destinations other than the main bridge, which means there is a safe presence of passers-by. Additionally, after the temporary ferry is built, the number of pedestrians and cyclists on this section of the street will likely be maintained at the existing levels.
Things to see and do	There are few things to see or do on this section of the route. The majority of the route is lined by residential frontage, and the playground of a school is separated from the footway by a metal fence. At the junction of the B350 Lonsdale Road there is a pub with benches outside, which marks the start of more active frontage to the south of the worst section.
Places to stop and rest	There are no places to stop and rest on this section of the route, which was a contributory factor to its selection as the worst section of the route. The footway is not wide enough at most points to accommodate a bench (which would be the best seating solution for all pedestrians) although there are some street corners, for instance Clavering Avenue, which could be suitable. Glentham Road's junction with Castelnau in particular does have the space for a bench, and the low levels of traffic to make it a pleasant place to sit. The narrow footway would not allow for cyclists to pull over if necessary.
People feel relaxed	It is considered that people do feel relaxed on this section of the route, mainly due to the low levels of motor traffic on Castelnau. However, the footways on both sides are quite narrow, particularly for high numbers of pedestrians at peak times. The northwest footway and the southeast footway are both relatively narrow compared to the width of the carriageway and contain obstructions directly in the path of pedestrians. Cyclists would be relaxed by the absence of motor traffic and the lack of parked cars on Castelnau.
Not too noisy	The absence of motor traffic in the direction of the main or temporary ferry would reduce the level of noise. There are few other noise-producing activities going on due to the lack of things to see and do.
Clean air	The entire of LB Richmond is designated as an AQMA. The closure of the main bridge to motor traffic is likely to have reduced exposure of main bridge users (and users of Castelnau) to localised pollution. Pedestrians on Route B are unlikely to experience any different localised air quality effects as a result of the temporary ferry.
Shade and shelter	The trees on both sides of Castelnau provide some shade and shelter. There is no other notable shelter on the worst section of the route although bus stops K and J both have shelters to protect bus users from the rain.

5.5 COLLISION DATA ANALYSIS

5.5.1 In light of Vision Zero policies adopted by the Mayor, which seeks to eradicate deaths and serious injuries from London's roads, an analysis has been conducted on the most recently available collision data. This includes year-by-year analysis of collisions and discussion focussing on non-motorised users, which is pertinent as the temporary ferry is for pedestrians and cyclists only. The analysis covers in-depth assessments of the groups of collisions at junctions nearest the Active Travel Routes and those which involved pedestrians and cyclists.

HEADLINE STATISTICS

5.5.2 'STATS19' data for road traffic collisions resulting in personal injury was collated for the five year period to end July 2019. A total of 41 collisions were included in the dataset, which covers an extensive area including:

- The main bridge, and its landing points and areas north and south of them
- The South Site, streets in the proximity of the South Site down to the nearest bus stops, and streets around the tow path diversions and Active Travel Routes; i.e. Castelnau
- The North Site, streets in the proximity of North Site to the nearest bus stops and Hammersmith Underground Station, around the tow path diversions and Active Travel Routes; i.e. Queen Caroline Street

5.5.3 Diversion routes in the period of construction were determined in mind of collision hotspots. In this manner, Vision Zero was mainstreamed into the design and delivery process and care was taken to avoid diversions into high collision rate areas.

Table 5-3: Collision severity frequency by year

YEAR	SEVERITY			TOTAL
	Fatal	Serious	Slight	
2014 (July-Dec)	-	-	4	4
2015	-	2	6	8
2016	-	1	11	12
2017	-	-	8	8
2018	-	2	6	8
2019 (Jan-July)	-	-	1	1
Total	0	5	36	**41**

5.5.4 **Table 5-3** summarises the severity of collisions in the study area over the five studied years. No fatal collisions have been recorded in the area of study in the period July 2014 to July 2019 inclusive. Five 'serious' severity collisions were recorded with the remainder (36) rated as 'slight' severity.

5.6 NON-MOTORISED USERS

5.6.1 Twenty-eight of the forty-one collisions involved non-motorised road users, either in combination with or exclusive of motorised users. In the vast majority of these, the non-motorised user suffered the injury. **Table 5-4** summarises the collision frequencies and severities for pedestrians and cyclists within the study area.

Table 5-4: Summary of non-motorised collisions by severity

YEAR	PEDESTRIANS		CYCLISTS		TOTAL
	Serious	Slight	Serious	Slight	
2014 (July-Dec)	0	0	0	3	3
2015	0	1	1	3	5
2016	1	1	0	5	7
2017	0	1	0	5	6
2018	1	0	1	4	6
2019 (Jan-July)	0	0	0	1	1
Total	2	3	2	21	**28**

5.6.2 Of the above 23 cyclist injuries, four were cyclists injured with no other vehicle involved.

COLLISIONS IN 2019

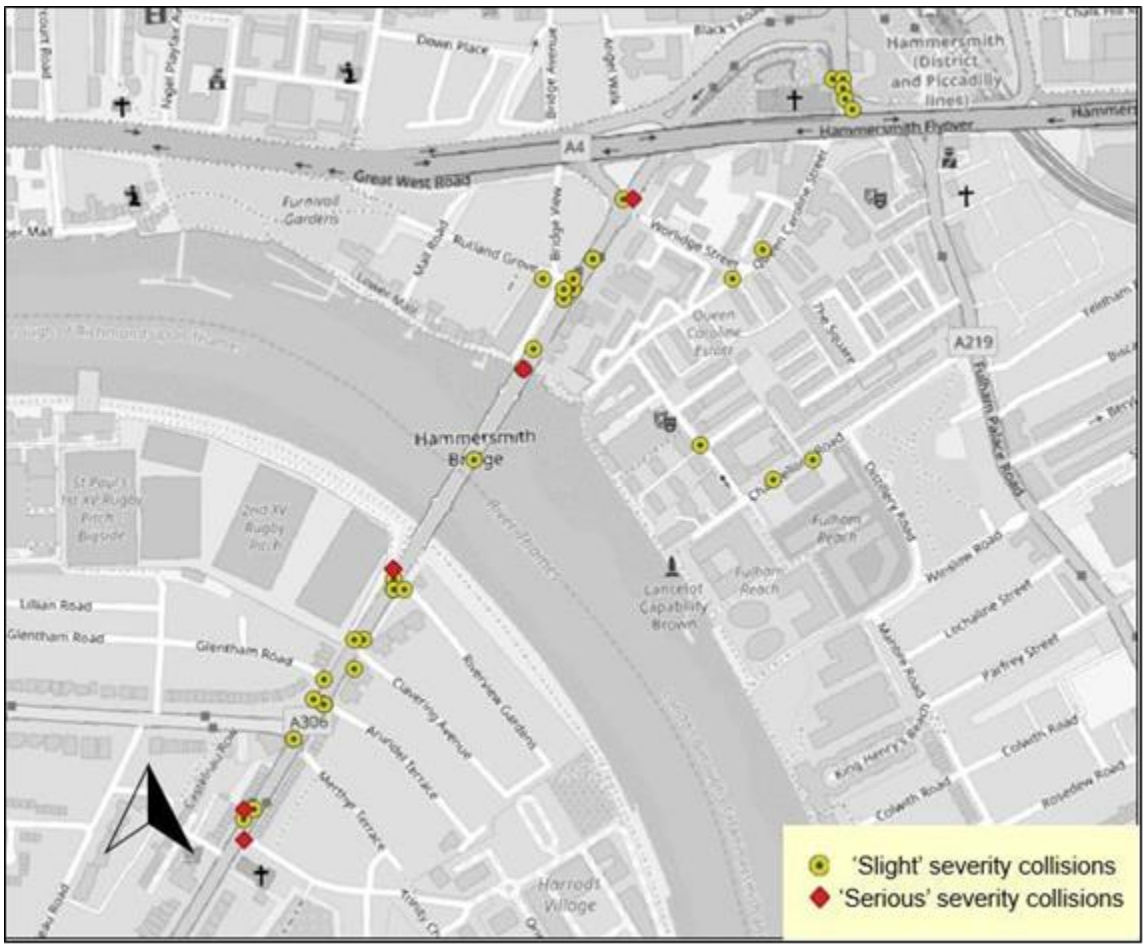
5.6.3 The closure of the main bridge to motor traffic in April 2019 removed the motor traffic crossing the main bridge and the streets connecting to the main bridge. This would be expected to reduce the number of collisions involving motor vehicles.

5.6.4 A 'before-and-after' review of the pattern of collisions occurring on either side of the closure would be appropriate. However, such collision reviews generally cover a period of three years on either side of the given event, and as details of these collisions were only available up to July 2019, this is too short a period to make a proper determination of the effect of the main bridge's closure on collision rates.

5.6.5 During these months, one collision was recorded: occurring at the junction of Crisp Road and St James Street, between a light goods vehicle and a cyclist, in which the cyclist suffered slight injuries.

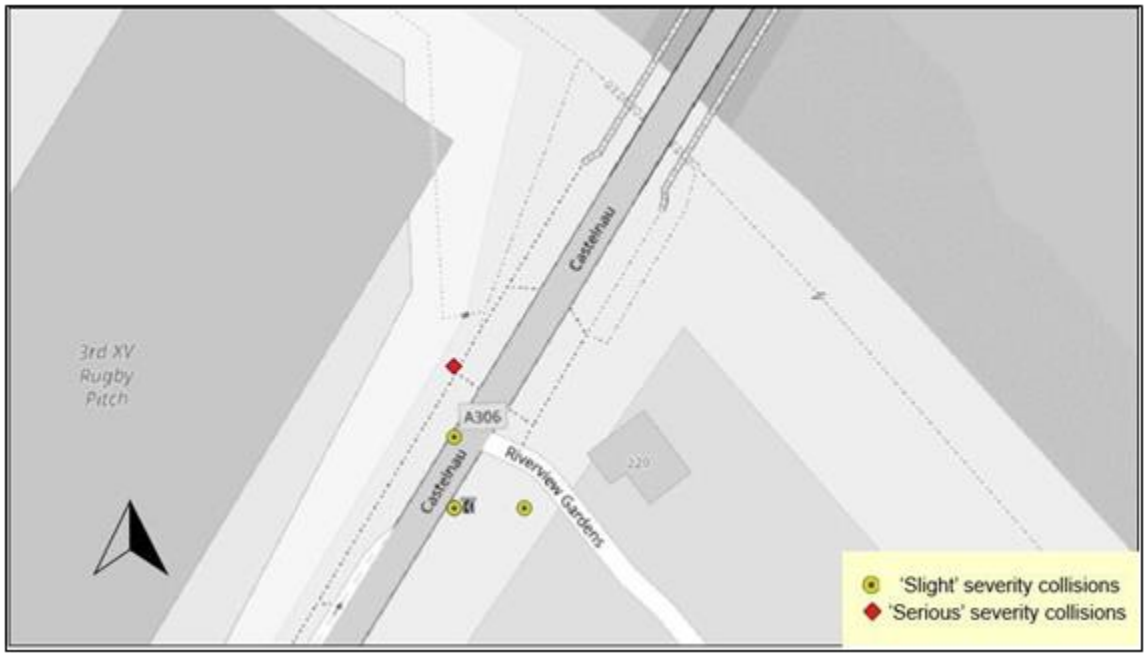
SPATIAL ARRANGEMENT OF COLLISIONS

Figure 5-6: Spatial arrangements of recorded collisions in study area



5.6.6 Figure 5-6 details the spatial arrangements of the collated set of collisions. Some clustering appears at junctions along the main bridge and around Hammersmith Station, with some others on smaller roads near the North Site.These clusters have been assessed individually below.

Figure 5-7: Collison locations - Barnes end of main bridge



5.6.7 Four collisions occurred at the junction of Castelnau, the Barnes end of the main bridge and the northwest end of Riverview Gardens: three slight and one serious. In the first slight one, a car door was opened into the path of a cyclist. The second does not provide enough information to provide a summary of the collision. In the third slight collision, resulting in three slight injuries, four cars were involved in a chain of rear-ending. The serious one occurred in 2017 and involved two vehicles.

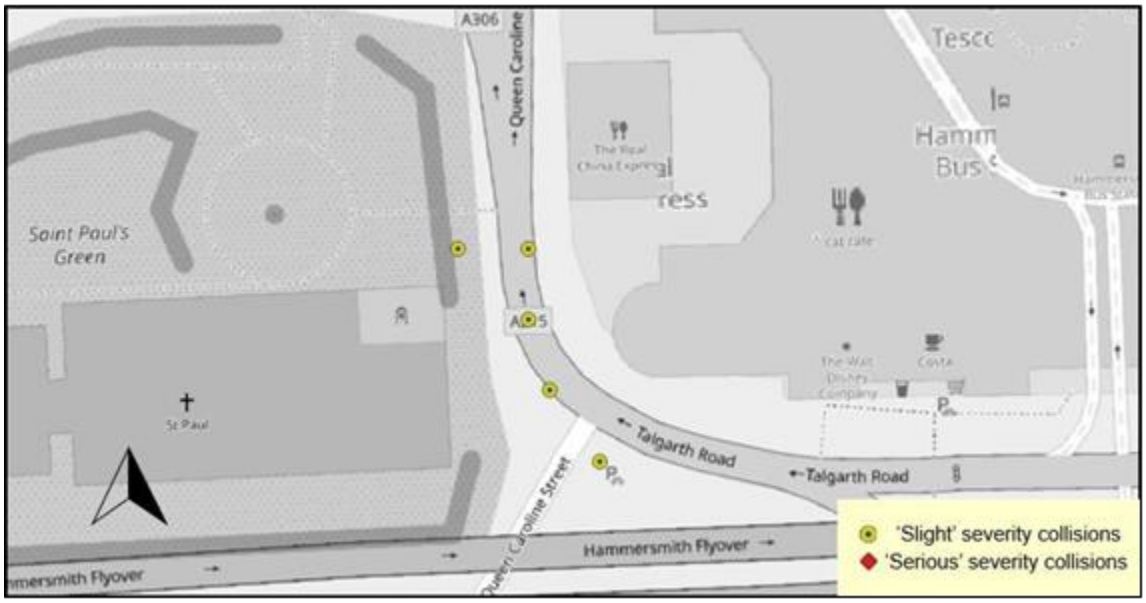
Figure 5-8: Collision locations - Rutland Grove/Hammersmith Bridge Rd

5.6.8 Six collisions were recorded at the junction of Rutland Grove and Hammersmith Bridge Road, of which all were of slight severity.

5.6.9 In 2015, one collision between a private hire vehicle (PHV) and a car resulted in a slight injury for the PHV driver. Also in 2015, a 15-year-old girl was involved in a collision with a light goods vehicle at a pedestrian crossing,resulting in serious injury.

5.6.10 In 2017, a cyclist was involved in a collision with a car while the former was turning right. Of the three collisions occurring in 2018, one was between a cyclist and a car, one was between a motorcycle and a car, and the final one was between a PHV and a cyclist.

Figure 5-9: Junction of Queen Caroline Street and Talgarth Road



5.6.11 Five collisions occurred at the junction of Queen Caroline Street and Talgarth Road, near Hammersmith Underground Station, all of which were rated slight severity. In 2014, a car changed lanes into the blind spot of a heavy goods vehicle and the vehicles collided. In 2016, a cyclist was involved in a side-on collision with a light goods vehicle, resulting in injuries for the cyclist. In 2017, a pedestrian was involved in a collision with a vehicle at a pedestrian crossing. Also, in 2017, a cyclist was involved in a collision with a car which was too close behind the cyclist. Finally, another collision between a cyclist and light goods vehicle occurred, however no further instructive detail was recorded.

SUMMARY

5.6.12 The bridge is closed to motor traffic and as the temporary ferry is for walking and cycling only, it is likely that the probability of collisions accruing between vehicles and vulnerable road users will reduce. A loss of connectivity across the River Thames in the absence of either the main or temporary ferry, would likely cause some diversion of pedestrians and cyclists to alternative crossing locations which are open to motor traffic (e.g. Chiswick and Putney Bridges), this would likely be less safe for those users than the use of a non-motor vehicular crossing.

6 LONDON-WIDE NETWORK

6.1 TRIP GENERATION

6.1.1 The local effects of trip diversion have been assessed in Sections 3.5 – 3.9 of this TA. The proposals are not expected to generate any significant numbers of new trips on the strategic bus, rail or road networks that were not occurring before the closure of Hammersmith Bridge.

6.2 CONSTRUCTION TRIPS

6.2.1 Any possible trips arising during the construction phase have been discussed in the accompanying Construction Workplace Travel Plan and Detailed Construction Logistics Plan (CLP), included as part of the supporting planning applications.

6.3 DELIVERY AND SERVICING TRIPS

6.3.1 A draft Delivery and Servicing Plan (DSP) has been produced as part of the supporting planning applications for the temporary ferry. The DSP is intended to cover the operation and maintenance of the temporary ferry, including delivery, servicing and waste trips.

6.3.2 Further details on the level of servicing requirement, inspections, maintenance schedule and waste collection are included in the DSP.

6.4 MANAGEMENT STRATEGIES AND DESIGN SOLUTIONS

6.4.1 The Delivery and Servicing Plan and Travel Plan will be implemented to ensure the proposed development encourages sustainable travel and operates efficiently. Travel Plan monitoring will be secured by a planning condition.

WAYFINDING STRATEGY

6.4.2 A wayfinding strategy will be developed and signage directing cyclists and pedestrians to and around the site, including cyclist diversions and dismount signs where appropriate.

FRAMEWORK TRAVEL PLAN

6.4.3 As part of this application, an EmployeeTravel Plan (TP) has been prepared in accordance with TfL and DfT guidance, which sets out a range of preliminary management strategies and measures to support and encourage sustainable travel.

6.4.4 The overall aim/objective of any TP should be to minimise the impact of travel on the local and wider environment and to promote sustainable travel choices, such as walking, cycling and public transport.

6.4.5 The TP identifies the requirement for specific travel plans to be developed upon occupation of the site. It is anticipated that a separate Workplace Travel Plan and Residential Travel Plan will be produced once the site is operational.

DRAFT DELIVERY & SERVICING PLAN

6.4.6 A draft Delivery & Servicing Plan has been prepared, setting out a management strategy to ensure the site can be serviced in an efficient and safe manner.

6.4.7 The DSP has been produced to support the planning application as a standalone document in order to manage refuse, delivery and service vehicle arrangements and overall accessibility. While it is recognised this will be a live document that will need to be adapted over the life of the development, the DSP sets out a range of management strategies and measures to ensure the site can be readily serviced in an efficient and safe manner without inconveniencing others.

6.4.8 Planned inspections will be undertaken for pier and shore-based assets in the same way as vessels, with travel to and from the piers by river craft. The pier design will be optimised with the maintenance and operation in mind based on UBTC's experience of managing similar pier assets, which UBTC own and manage along its current route. On this basis, a maintenance routine will be drawn up and scheduled for the new infrastructure. Inspections will be carried out by the Safety and Compliance team every three months (including the Designated Person) alongside the daily pre-service check performed by the Duty Engineer and operational teams.

CONSTRUCTION LOGISTICS PLAN

6.4.9 A Detailed Construction Logistics Plan is being submitted as part of the planning application.

6.4.10 The following section of the TA summarises the key contents of the CLP in the context of Policy Requirements.

7 CONSTRUCTION LOGISTICS PLAN

7.1 CONSTRUCTION LOGISTICS POLICY

7.1.1 Relevant local and regional planning policy and guidance have been reviewed to provide context for deliveries and servicing in relation to the development proposal.

THE LONDON PLAN (2021)

7.1.2 The London Plan 2021 was published in March 2021. The London Plan is part of the statutory development plan and aims to ensure that London's transport is easy, safe, and convenient for everyone, and actively encourages more walking and cycling and making better use of the Thames.

7.1.3 Policy T7 'Freight and Servicing' sets out that "Development proposals must adopt appropriate construction site design standards to enable the use of safer, lower trucks with increased levels of direct vision on waste and landfill sites, tip sites, transfer stations and construction sites."

TFL CONSTRUCTION LOGISTICS PLAN GUIDANCE

7.1.4 TfL issued the 'Construction Logistics Plan Guidance' in July 2017 ("Guidance"), the purpose of which is to ensure that CLPs of high quality are produced to minimise the impact of construction logistics on the road network. The Guidance focuses on reducing the impact of construction in terms of:

- Environmental impact: Lower vehicle emissions and noise levels
- Road risk: Improving the safety of road users
- Congestion: Reduced vehicle trips, particularly in peak periods
- Cost: Efficient working practices and reduced deliveries

7.1.5 CLPs provide a framework for understanding and managing construction vehicle activity into and out of a proposed development and should detail:

- The amount of construction traffic generated
- The routes the construction vehicles will use and consideration of local impacts
- The impact on relevant Community Considerations
- Any traffic management that will be in place

7.1.6 There are two types of CLPs that may be required. An outline CLP accompanies the planning application and gives the planning authority an overview of the expected logistics activity during the construction programme. A detailed CLP is submitted to a planning authority pursuant to, and in discharge of, a condition that has been imposed on the planning permission. It provides the planning authority with the detail of the logistics activity expected during the construction programme. A detailed CLP is submitted with this planning application.

7.1.7 The Guidance suggests a range of measures and strategies that should be considered to reduce the impact of construction on the local environment.

7.2 OBJECTIVES OF CONSTRUCTION PLANNING

7.2.1 The overall objectives of the strategy set out in this TA and the CLP, are to:

- Lower Emissions;
- Enhance Safety – Improved vehicle and road users' safety; and
- Reduce Congestion – Reduced trips overall, especially in peak periods.

7.2.2 To support the realisation of these objectives, several sub-objectives include:

- Encouraging construction workers to travel to the site by non-car modes;
- Promote smarter operations that reduce the need for construction travel or that reduce or eliminate trips in peak periods;
- Encouraging greater use of sustainable freight modes;
- Encouraging the use of greener vehicles;
- Managing the on-going development and delivery of the CLP with construction contractors;
- Communication of site delivery and servicing facilities to workers and suppliers; and
- Encouraging the most efficient use of construction freight vehicles.ievi

7.3 CONSTRUCTION PROGRAMME

7.3.1 The construction programme for the works from 19/7/2021 – 3/9/21.

7.4 CONSTRUCTION PHASING

7.4.1 The below paragraphs outline the assumed construction phases likely to be required for the construction of the proposed development.

7.4.2 All major construction operations will be carried out from the river to keep road traffic to a minimum. All vehicle movement landside will be scheduled to prevent congestion on the road or within the working area and the landside works are limited and will involve:

7.4.3 **North-side** – construction of the access ramp over the river wall and the installation of an electrical and water supply. It is envisaged that this work will take 3 – 4 weeks to complete and will involve minimal vehicle movements restricted to the delivery of fencing and welfare facilities, the ramp and the utility companies works. It is anticipated that over the construction period there will be 1 – 2 vehicle movements per day

7.4.4 **South-side** – construction of a concrete bank-seat, an approach ramp, electrical supply and minor re-grading of the Castlenau approach for pedestrian access. These works are estimated to take up to 5 weeks and will involve 2 – 3 vehicle movements per day.

7.5 VEHICLE ROUTING

7.5.1 No significant construction traffic is expected, with almost all activity constrained to the river and undertaken by rivercraft.

7.5.2 The small number of vehicles required to attend the north site would access via the A4, Hammersmith Bridge Road and Queen Caroline Street.

7.5.3 Those needing to access the south site would do so via the A205, Rocks Lane and Castelnau.

7.6 VEHICLE ACCESS

7.6.1 If vehicle access is required, it is likely that this would be to one of four locations:

- On-street parking on Queen Caroline Street
- On-Street Parking on Castelnau
- A location to be agreed and licensed on the northern Thames River Path
- A location to be agreed upon and licensed on the Castelnau access to the southern Thames River path.

SITE HOARDING

7.6.2 Details of the erection and maintenance of boundary hoarding behind any established visibility zones will be outlined in this section, the hoarding of which may be required for security purposes and to ensure that the construction site is not accessed by non-authorised members.

7.6.3 Details of any permits required to be applied for from LBHF and LBRT in order to implement boundary hoarding will also be outlined.

7.7 STRATEGIES TO REDUCE CONSTRUCTION IMPACT

7.7.1 A number of strategies and measures are planned to reduce the impacts of construction and construction traffic on the local area. The planned measures can be categorised as follows:

- Committed – Measures that will be implemented as part of the CLP.
- Proposed – Measures that are feasible and likely to be implemented. Once a contractor is appointed these measures will be studied further and confirmed within the Detailed CLP.
- Considered – Measures that are unlikely to be implemented or feasible but could be investigated or become relevant in the future.

7.7.2 **Table 7-1** summarises the planned measures for the construction of the Proposed Development, based on the checklist provided in TfL's CLP guidance.

Table 7-1: Construction Planned Measures

PLANNED MEASURES	COMMITTED	PROPOSED	CONSIDERED
MEASURES INFLUENCING CONSTRUCTION VEHICLES AND DELIVERIES			
Safety and environmental standards and programmes	x		
Adherence to designated routes	x		
Delivery scheduling	x		
Re-timing for out of peak deliveries		x	
Re-timing for out of hours deliveries			x
Use of holding areas and vehicle call off areas			x
Use of logistics and consolidation centres			x
MEASURES TO ENCOURAGE SUSTAINABLE FRIEGHT			
Freight by water			x
Freight by rail			x
MATERIAL PROCUREMENT MEAURES			
Design for Manufacture and Assembly and off-site manufacture			x
Re-use of material on-site		x	
Smart procurement		x	
OTHER MEASURES			
Collaboration with other sites in the area			x
Implement a staff Travel Plan	x		

CONSTRUCTION LOGISTICS AND COMMUNITY SAFETY (CLOCS)

7.7.3 The CLOCS (Construction Logistics and Community Safety) standard will be signed up to, which will ensure that the construction contractor (as well suppliers and sub-contractors) follow safe practices in the management of their operations, vehicles, drivers and construction sites.

7.7.4 All construction vehicle operators will be required to be accredited in line with the Fleet Operator Recognition Scheme (FORS). FORS accreditation confirms that a fleet operator can demonstrate that appropriate systems and policies exist to ensure drivers are suitably fit, qualified and licenced to operate vehicles that are properly maintained, equipped and insured. It is a mechanism by which adherence to the CLOCS standard can be assured and monitored.

CONSTRUCTION DELIVERIES

7.7.5 The majority of deliveries will be made by river. A delivery scheduling system is planned to allow for the control and management in the timings of deliveries. Booking availability will be determined by unloading space available, activities on-site and managed carefully to minimise impacts on the local transport and river networks. A comprehensive daily logistics schedule will be maintained, and unauthorised deliveries will be turned away until the approved procedure has been followed.

7.7.6 Construction staff on-site will be prepared for the arrival of all materials to reduce waiting and loading times. Deliveries will be made 'just in time' to minimise the amount of space required on-site for construction materials.

VEHICLE CLEANING

7.7.7 No "dirty" vehicular access is proposed, and thus wheel wash and vehicle cleaning procedures would not be required.

CONSOLIDATION AND ABNORMAL LOADS

7.7.8 Where possible goods will be consolidated to minimise the number of trips by river or road.

7.7.9 Any abnormal loads will be brought in by river craft.

SUSTAINABLE TRANSPORTATION

7.7.10 All significant construction movements are proposed to be by river freight.

PUBLIC HIGHWAYS AND FOOTWAYS

7.7.11 Public highway and local footpath routes will be maintained or appropriate diversions will be implemented for the minimum amount of time required to complete the works

CONSTRUCTION PERSONEL

7.7.12 Approximately ten construction personel are expected on site during the peak activity of walkway installation. At other times there will be fewer operatives on site. All construction staff site operatives will be given a site induction.

7.7.13 No construction staff car parking will be provided on-site. Cycle parking facilities will be provided. Staff will be expected to use sustainable modes of travel to work considering the good level of public transport accessibility and lack of on-site or nearby parking.

CONSTRUCTION HOURS OF OPERATION

7.7.14 Construction works are anticipated to take place during normal construction working hours (i.e. 08:00 – 18:00 Mon-Fri, 08:00-13:00 Saturday. No construction work will take place on Sundays, Bank or Public Holidays).

SITE COLLABORATION

7.7.15 Once appointed, the contractor will investigate the opportunity to collaborate with other local construction sites.

7.8 ESTIMATED VEHICLE MOVEMENTS

7.8.1 **North-side** –It is anticipated that over the construction period (3-4 weeks) there will be 1 – 2 vehicle movements per day.

7.8.2 **South-side** – These works are estimated to take up to 5 weeks and will involve 2 – 3 vehicle movements per day.

7.8.3 The following will be included in the forthcoming detailed CLP, once planning permission is granted:

VEHICLE NUMBERS

7.8.4 Confirmation of vehicular numbers.

VEHICLE TYPES

7.8.5 Deliveries will predominantly be made via river craft, eliminating the need for specialist delivery and traffic implications.

VEHICLE PARKING

7.8.6 No construction staff car parking will be provided on-site and no construction workers are expected to travel by car.

7.9 TRAFFIC DIVERSIONS

7.9.1 There is no requirement for diversion of traffic on the public highway.

7.10 PEDESTRIAN AND CYCLIST DIVERSIONS

LBHF

7.10.1 It is proposed that the cyclist diversion of the Thames path between the pier access and Hammersmith Bridge is introduced (via Worlidge Street) from the commencement of construction activity.

LBRT

7.10.2 Due to the restricted width of the tow path, it will need to be closed for the duration of the landside (bank seat and raised walkway) installation. The intention is to divert the pedestrians, as shown in **Figure 7-1**, during construction operating hours. The diversion route takes the pedestrians through the Metropolitan Open Land area which is owned by 'The Village Estate Management Company Limited'. TFL is currently liaising with the company to gain the necessary approvals.

7.10.3 This area of land is fenced and gated. The gates are locked at sunset and re-opened at sunrise. Therefore, at the end of each construction shift, a hoarding will be erected around the worksite to make it safe and open the Thames Path route (with restricted width at the works area). This will ensure that pedestrians will still be able to access the Thames Path from Castelnau.

Figure 7-1: LBRT Thames Path diversion during construction

7.11 IMPLEMENTATION, MONITORING AND UPDATING

IMPLEMENTING

7.11.1 Subject to gaining planning approval for the scheme and certainty over the programme and start dates, the contractor will discuss the opportunity for collaboration with other local construction sites as necessary.

7.11.2 The Principal Contractor will be responsible for implementing the CLP. It is expected that a Contractor and Driver Handbook or equivalent would be used to distribute information that makes sure that all contractors are aware of their obligations.

7.11.3 The key measures identified to manage and control the impacts of construction traffic are expected to be:

- Commitment to meet CLOCS / FORS accreditation.
- Use of delivery scheduling system.
- Designated construction traffic routes ensuring all HGVs use appropriate strategic roads (noting HGV movements are expected to be replaced by river movements for this project).

MONITORING

7.11.4 Data sharing remains a key principle for the success and continuous improvement of construction. A list of items will be agreed, and specific data will be disseminated. This is expected to include:

- Compliance
  - FORS compliance

- Routing compliance
- No construction workforce staff car parking on-site

- Data from the delivery scheduling system and the recorded log of vehicle movements to the site:
  - Vehicle type and size
  - Duration on-site
- Safety issues including any injuries or near misses
- Breaches and complaints

UPDATING

7.11.5 The CLP will be an evolving document to account for any changes to the construction strategy and incorporate monitoring results and any consequent changes. It will be reviewed internally on a monthly basis and/or at any time there is a significant change in construction process. This will ensure that the document remains relative to the realities of the site at any point in time.

7.11.6 The CLP will be kept on-site and updated by the principal contractor in consultation with Highways Officers at LBHF, LBRT, and TfL.

8 SUMMARY AND CONCLUSIONS

8.1.1 This Transport Assessment has been prepared in support of development proposals for a temporary ferry crossing between Hammersmith and Barnes during the refurbishment of Hammersmith Bridge. Without the temporary ferry, the current pedestrian and cyclist severance being experienced due to the closure of the bridge will continue until it reopens.

8.1.2 The impact of the proposed development on the strategic highway and public transport networks is negligible.

8.1.3 The proposed development is in accordance with relevant national, regional and local policies and will support cross river sustainable travel.

8.1.4 Localised impacts adjacent to the pier access points can readily be mitigated via the appropriate delivery of the following strategies:

- Wayfinding Strategy;
- Construction Logistics Plan;
- Staff Travel Plan; and
- Delivery Sand Servicing Plan.

8.1.5 The Wayfinding Strategy and Travel Plan monitoring wil be secured by condition.

8.1.6 In accordance with TfL's Healthy Streets Transport Assessment Guidance, **Table 8-1** summarises the conclusions of this Hybrid-Healthy Streets TA.

Table 8-1: Key Transport Assessment Conclusions

TA SECTION	KEY TRANSPORT IMPACTS / ISSUES	SOLUTIONS / MECHANISMS / RECOMMENDATIONS
Site & Surroundings	Cyclist conflict with pier exit on northern Thames Path	Cyclists to be diverted via Worlidge Street
Site & Surroundings	Cyclist conflict on southern Thames path	Cyclists to dismount along the raised walkway
Site & Surroundings	Potential for vehicular pick-up drop-off traffic	Parking restriction and enforcement strategy to be secured by condition
Site & Surroundings	Wayfinding and service disruption information	Wayfinding strategy to be implemented by TfL.
Site & Surroundings	Parking and pick-up drop-off	Residents and highways authorities to be consulted, and appropriate Parking, Drop-off and Public Realm Strategy be agreed with Highway authorities.
Site & Surroundings	Stopping up and highways licenses	Appropriate temporary stopping up and or pavement licenses to be agreed via a licensing strategy.
Site and surroundings	Long term impacts of temporary infrastructure	Site restoration strategy to be secured by condition to be agreed with the highways authorities.

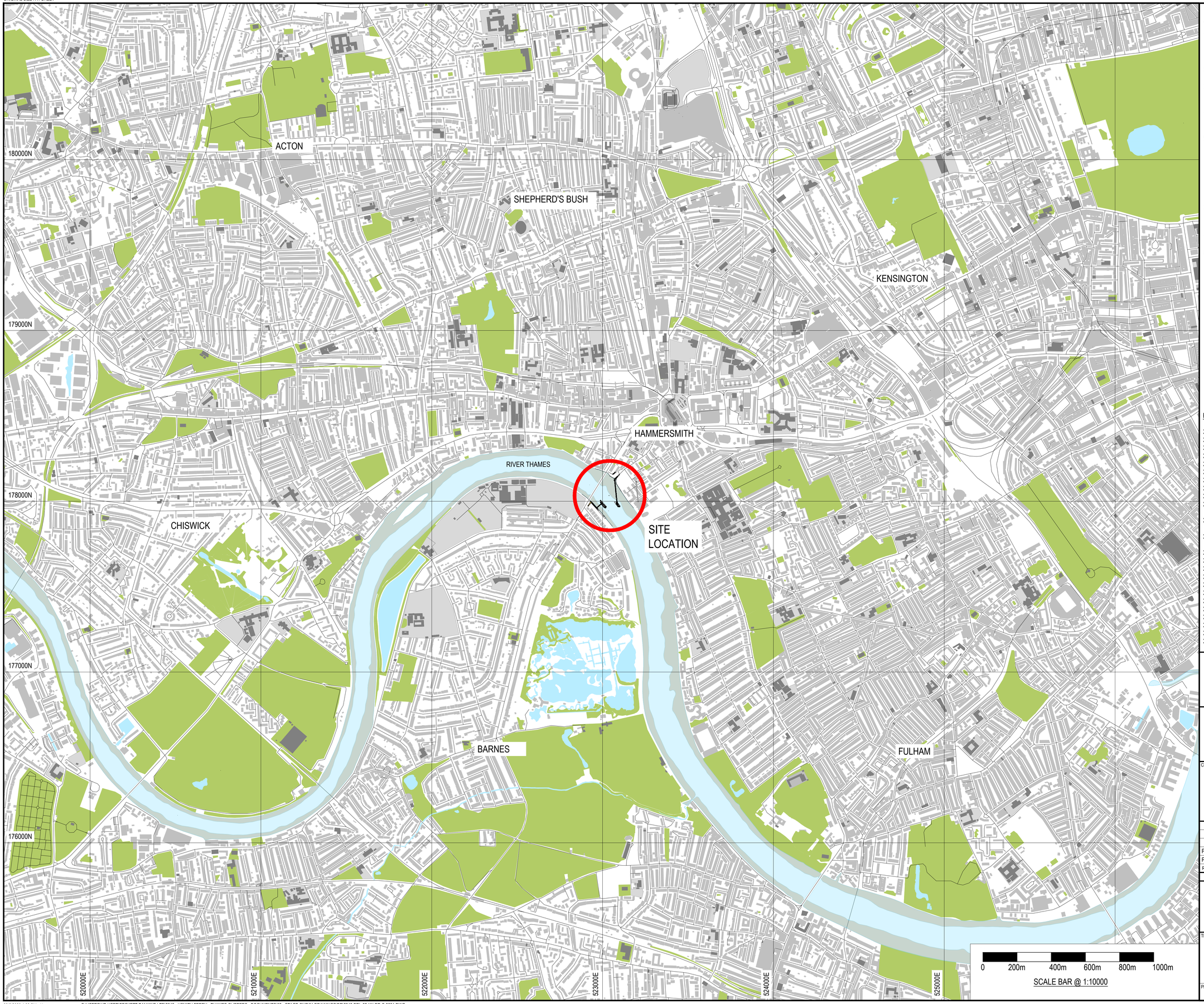
8.1.7 The TA has thoroughly reviewed the existing conditions and associated transport impacts of the proposal. It has demonstrated that the proposed development would have a negligible strategic transport impact on highway and public transport capacities and, with the proposed mitigation strategies to minimise localised impacts, would contribute to the strategically important reintroduction of cross-river pedestrian and cyclist permeability between Hammersmith in LBHFand Barnes in LBRT.

8.1.8 The TA has also thoroughly considered the proposals in the context of current and emerging planning policy and demonstrates support for and compliance with national, regional and local strategic policies.

APPENDIX A

PROPOSED DEVELOPMENT DRAWINGS

ORIGINAL SIZE : A1 SHEET



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REFERENCE DRAWINGS:

2048-BRL-02-XX-DR-C-3001	KEY PLAN
2048-BRL-02-XX-DR-C-3012	HAMMERSMITH PIER - LOCATION SITE PLAN
2048-BRL-02-XX-DR-C-3013	HAMMERSMITH PIER - PROPOSED BLOCK PLAN
2048-BRL-02-XX-DR-C-3022	BARNES PIER - LOCATION SITE PLAN
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2048-BRL-02-XX-DR-C-3103	HAMMERSMITH PIER - PROPOSED ELEVATION
2048-BRL-02-XX-DR-C-3104	HAMMERSMITH PIER - EXISTING RIVER SECTION
2048-BRL-02-XX-DR-C-3105	HAMMERSMITH PIER - PROPOSED RIVER SECTION - MHWS
2048-BRL-02-XX-DR-C-3106	HAMMERSMITH PIER - PROPOSED RIVER SECTION - MLWS
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2048-BRL-02-XX-DR-C-3131	HAMMERSMITH PIER - PROPOSED BED LEVELLING PLAN
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2048-BRL-02-XX-DR-C-3220	BARNES PIER - PONTOON LAYOUT

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P02	14.05.21	MS	OM	HP	TKHB	ISSUED FOR APPROVAL
P01	10.05.21	MS	OM	HP	TKHB	ISSUED FOR APPROVAL

REVISION

BECKETT RANKINE
Marine Consulting Engineers

TITLE

HAMMERSMITH TEMPORARY FERRY

KEY PLAN

PROJECT DRAWING No.	SCALE	S. CODE	REV
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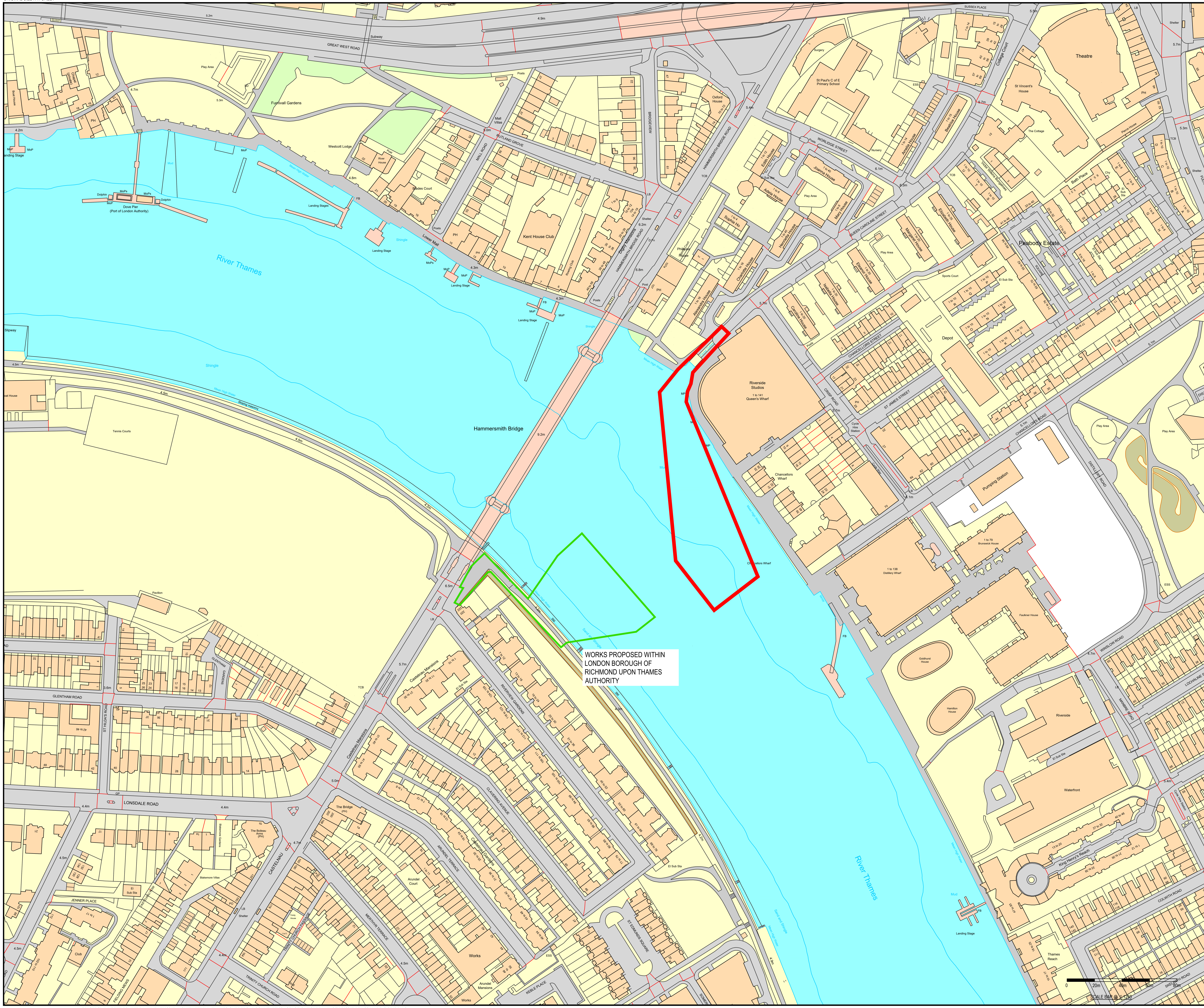

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LEGEND

PROPOSED SITE AREA

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Marine Consulting Engineers

TITLE

HAMMERSMITH TEMPORARY FERRY

HAMMERSMITH PIER
SITE LOCATION PLAN

PROJECT DRAWING No.	SCALE	S. CODE	REV
2048-BRL-02-XX-DR-C-3012	1:1250	S4	P01

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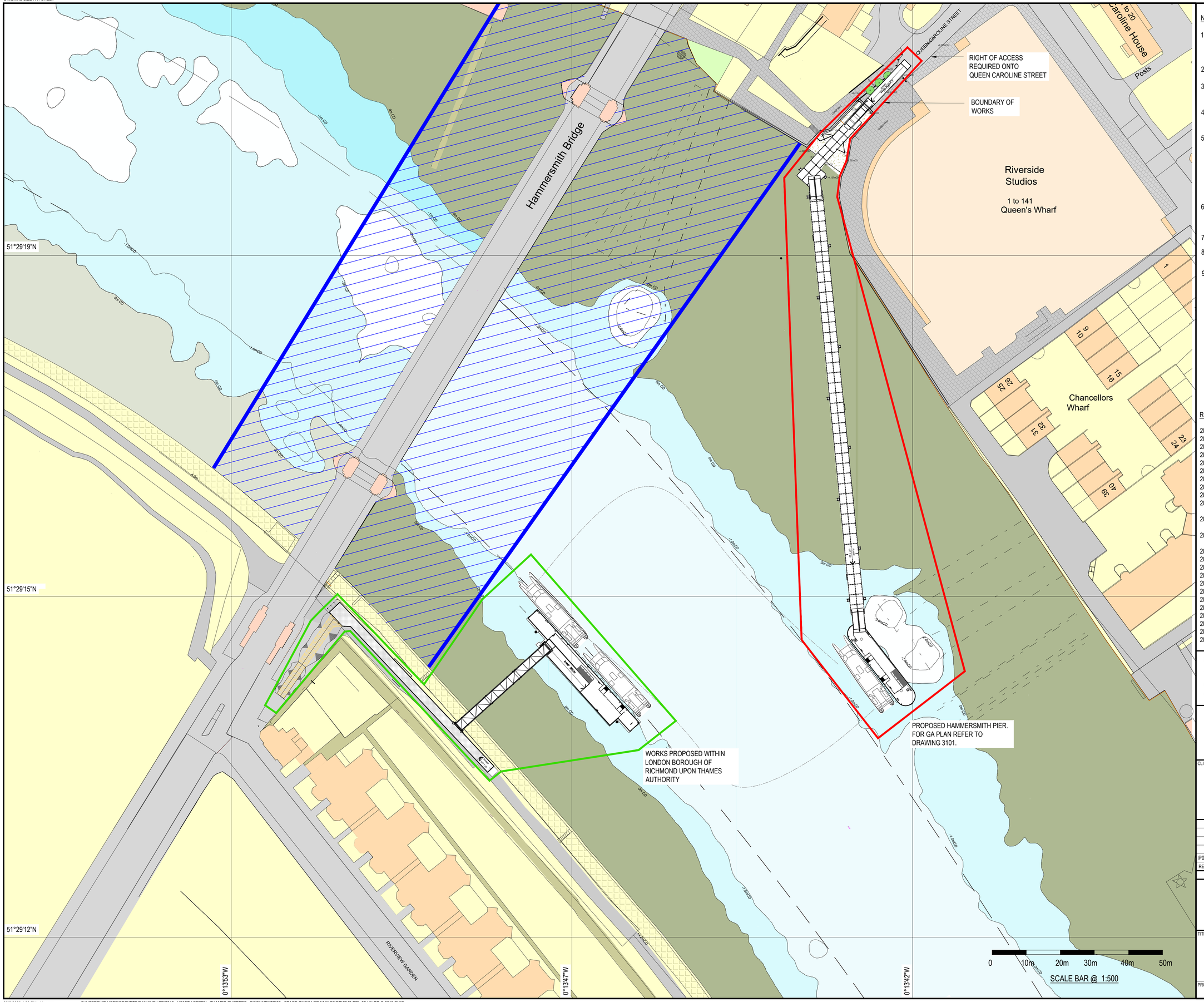

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LEGEND

EXCLUSION ZONE AROUND HAMMERSMITH BRIDGE

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Marine Consulting Engineers

TITLE

HAMMERSMITH TEMPORARY FERRY

HAMMERSMITH PIER
PROPOSED BLOCK PLAN

PROJECT DRAWING No.	SCALE	S. CODE	REV
2048-BRL-02-XX-DR-C-3013	1:500	S4	P01

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LEGEND

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2048-BRL-02-XX-DR-C-3208	BARNES PIER - EXISTING HIGHWAY ACCESS SECTION
2048-BRL-02-XX-DR-C-3209	BARNES PIER - PROPOSED HIGHWAY ACCESS SECTION
2048-BRL-02-XX-DR-C-3220	BARNES PIER - PONTOON LAYOUT

Transport for London

CLIENT

Uber Boat by thames clippers

REV	DATE	DRN	DoChk	EngChk	APP	DESCRIPTION
P01	14.05.21	MS	OM	HP	TKHB	ISSUED FOR APPROVAL

REVISION

BECKETT RANKINE
Marine Consulting Engineers

TITLE

HAMMERSMITH TEMPORARY FERRY

BARNES PIER
SITE LOCATION PLAN

PROJECT DRAWING No.	SCALE	S. CODE	REV
2048-BRL-02-XX-DR-C-3022	1:1250	S4	P01

SCALE BAR @ 1:1250