Figure 3-4: Damage to Marsh Farm Road footway

Figure 3-5: Tyre marks on Marsh Farm Road footway

COLNE ROAD – SCHOOL STREET

3.3.6 In September 2021 The School Street scheme was approved and made permanent for Twickenham Primary Academy for part of Colne Road between the junction of March Farm Road and Albion Road.

3.3.7 School Streets do not operate during school holidays or at weekends and the signs will be closed when not operational for holidays and half term breaks.

3.3.8 Th operating hours for Colne Road are Monday to Friday 08:20 to 09:00 and 15:30 to 16:15.

3.3.9 People walking, scooting, using wheelchairs, mobility scooters and cycles (including adapted cycles) are not restricted. All other motor vehicles are restricted during the operating times displayed on the signs, subject to exemptions.

3.3.10 The following motorised vehicles are automatically exempt:

- Emergency vehicles
- Council waste trucks serving properties within the School Street zone
- Postal service vehicles serving post boxes within the School Street zone
- Statutory undertakers (such as water and gas companies) attending emergency works within the School Street zone
- School buses serving the school or properties within the School Street zone
- Public transport and taxis (Hackney Carriage) serving properties within the School Street zone

3.3.11 The following vehicles are also exempt, but they must apply for exemption using LBRuTs online exemption form or contact LBRuT:

- Residents and businesses within the School Street zone
- Blue badge holders (when their destination is within the School Street zone)
- Carers and healthcare workers serving properties within the School Street zone
- Private hire taxis serving properties within the School Street zone
- Tradespeople/service providers serving properties within the School Street
- Delivery vehicles serving properties within the School Street

3.3.12 The introduction of the School Street at Colne Road has led to more vehicles accessing Edwin Road during the closure times.

3.4 ACCESS – PROPOSED

3.4.1 The proposed development seeks to retain two access points on Gould Road/Crane Road and Edwin Road, albeit with changes to entry treatment.

3.4.2 Figure 3-6 shows the proposed access arrangement for the proposed development. A preliminary design of the proposed access is shown in APPENDIX B.

Figure 3-6: Proposed access strategy

3.4.3 The northern access on Gould Road/Crane Road, shown in Figure 3-6, will form the primary access for residents. The access will lead into the on-site car parking and landscaping area for residents.

3.4.4 The proposal provides separate access points to the employment building and car parking via Edwin Road and to the residential area via Crane Road. It is proposed to provide a two-way internal route through the residential area with a turning head at the southern end of the route (as shown in green in Figure 3-6). All vehicles would enter and exit the residential scheme from the Crane Road access, except refuse vehicles who would continue through the employment area and egress onto Edwin Road.

3.4.5 A clear minimum on-site carriageway width of 4.8m plus 2.0m footway will be provided to allow for access and egress to on-site residential garages and driveways.

3.4.6 A swept path analysis exercise has been undertaken to show vehicles accessing, manoeuvring and egressing the site; the full set of vehicle tracking drawings are included in APPENDIX C.

SHARED USE DESIGN

3.4.7 A shared use design approach is proposed on-site to encourage lower vehicular speeds, better driver attention and offer priority for non-motorised users (i.e., pedestrians and cyclists). The proposed access and shared-space design approach are intended to reflect the principles of a typical London mews street which is further reinforced by the housing typologies proposed.

STAGE 1 ROAD SAFETY AUDIT

3.4.8 A Stage 1 Road Safety Audit (RSA) has been undertaken to assess the new proposed access points on Edwin Road and Gould Road/Crane Road and to also assess the routing within the development.

3.4.9 A copy of the Stage 1 RSA along with the Designers Response is contained within APPENDIX D.

3.4.10 Given that the proposed alterations to the highway are done so with the overarching principles of improving road safety, the safety audit has not raised any fundamental concerns and all the problems raised can be resolved.

3.4.11 The proposed entry treatments would reinstate the footway across each access, with the vehicular accesses being akin to crossovers rather than formal junctions. This approach would return priority to pedestrians. Structures within the site accesses such as boundary walls are designed to a maximum height of 0.6m in accordance with Manual for Streets (DfT, 2007) guidance on visibility.

3.4.12 The detailed design of the two access points would be the subject of discussions with LBRuT, the highway authority and be the subject of an s278 agreement.

ROAD SAFETY ASSESSMENT STUDY

3.4.13 In Addition to the above Stage 1 RSA, VTP commissioned the same independent Road Safety Auditor to carry out a wider Road Safety Assessment study. The purpose of the study was to assess and evaluate in operational road safety terms, the current situation and circumstances on the residentials roads near to the site which act as a link between it and the A305, and whether these roads are suitable to carry the type and number of vehicles associated with the proposed development.

3.4.14 The Road Safety Assessment Study contains a number of conclusions and a summary. A copy is contained within APPENDIX E.

3.5 CYCLE PARKING – EXISTING

3.5.1 The existing site (when previously operational) did not have any on-site cycle parking provision.

3.6 CYCLE PARKING – PROPOSED

RESIDENTIAL

LONG-STAY

3.6.1 The proposed long-stay residential cycle parking provision for the residential development is set out in Table 3-1 and shows the proposed long-stay provision exceeds the London Plan requirements.

Table 3-1: Proposed residential cycle parking provision

LAND USE	LONG-STAY	SHORT-STAY
London Plan minimum cycle parking requirement	178	4
Residential (C3) - Provision	196	6

3.6.2 Long-stay residential cycle parking will be provided within the boundary of each house or within dedicated, secure cycle parking stores for the apartments.

3.6.3 Access to the dedicated communal cycle stores will be controlled by RFID cards/fobs and will be monitored by CCTV.

SHORT-STAY

3.6.4 The short-stay residential cycle spaces will be provided by means of Sheffield stands within the public realm.

EMPLOYMENT

LONG-STAY

3.6.5 For the employment uses, long-stay cycle parking for prospective employees will be provided within a secure and sheltered store either within or adjoining the employment building, immediately accessible from the unit.

SHORT-STAY

3.6.6 The short-stay cycle parking associated with the employment uses will be provided in the form of Sheffield stands within the public realm within proximity of the employment unit.

3.6.7 The proposed long-stay and short-stay cycle parking provisions for the employment unit are set out in Table 3-2.

Table 3-2: Proposed Employment cycle parking provision

LAND USE	LONG-STAY	SHORT-STAY
London Plan minimum cycle parking requirement	6	2
Proposed Industrial (Class E)	10	2
Proposed Commercial (Class E)		

3.6.8 Table 3-2 shows the proposed provision exceeds the minimum cycle parking provision for the employment use required to be compliant with the London Plan.

3.7 CAR PARKING – EXISTING

3.7.1 The existing site (when previously operational) had a small on-site car park providing provision for approximately 30 spaces. The on-site car park was used by employees and visitors and was accessed from the site's Crane Road/Gould Road access. Figure 3-7 shows the location of the existing on-site car park.

Figure 3-7: Existing on-site car park

3.8 CAR PARKING – PROPOSED

RESIDENTIAL

3.8.1 The proposed development will deliver 83 car parking spaces, equating to 0.86 spaces per dwelling. The proposed provision is compliant with the London Plan's maximum car parking requirements for an Outer London site with a PTAL of 2, which allows between 0.75 and 1 space per dwelling (depending on the number of bedrooms proposed).

3.8.2 Figure 3-8 shows the location of the proposed parking for the residential and employment uses throughout the site.

Figure 3-8: Proposed car parking provisions

3.8.3 Figure 3-8 shows parking spaces for the residential properties that will be provided adjacent to the units in the form of driveways and within garages.

3.8.4 All parking associated with the proposed development will be provided on-site and be available to residents only. There will be no visitor parking provision as part of the development. Visitor cycle parking will be provided within the public realm, encouraging active sustainable travel to/from the site for visitors of the residential use.

3.8.5 A swept path analysis exercise has been undertaken demonstrating cars can safely access and egress the on-site parking bays. An extract is shown in Figure 3-7

Figure 3-9: Swept path analysis - car parking spaces

3.8.6 The full set of swept path drawings are included in APPENDIX C.

BLUE BADGE PARKING

3.8.7 Eight Blue Badge parking bays are proposed for residential use, equating to a provision of 8% of all dwellings from the outset, which is compliant with the London Plan, March 2021.

3.8.8 Figure 3-8 shows the location of the Blue Badge parking associated with the proposed residential and employment uses.

ELECTRIC CHARGING PROVISION

3.8.9 Electric vehicle charging points (EVCPs) will be provided in line with the London Plan (March 2021). It is proposed that 20 per cent of the parking bays will have active provision; this would equate to one electric vehicle charging point per space. The remaining bays (i.e., 80 per cent) will have passive charging provision installed.

CAR CLUB PROVISION

3.8.10 The applicant will look to promote active and sustainable travel. LB Richmond upon Thames advocates car clubs as an alternative to private cars, as outlined on the Council website:

> "Car Clubs encourage people to forego private car ownership, and they are also attractive to people that make very limited use of a car. While not having the expense of buying, insuring and maintaining their own vehicle, members have access to a car. Research has shown that car club cars replace between 6 to 20 privately-owned vehicles."

3.8.11 CoMo UK have just released development guidance 'New developments and shared transport: cutting car dependency' February 2022. CoMo UK research indicated that each car club vehicle can replace an average 24 private cars within Outer London.

3.8.12 Zipcar and Enterprise Car Club are the two car club providers affiliated with LB Richmond upon Thames and have been contacted to ascertain the possibility of providing additional car club bays in the area surrounding the site. Both providers expressed an interest in working alongside the developer to provide a car club bay and membership for the proposed development.

3.8.13 The location of the prospective bay is yet to be agreed upon; however, it is anticipated it could be situated along Edwin Road close to the access.

3.8.14 The new car club bay facilitated by the development would not be exclusively for the use of residents at the site and would thus provide a communal benefit for surrounding residential properties. The implementation of the car cub bay would be agreed upon with the developer, car club provider and Local Authority and secured by the s106 agreement.

EMPLOYMENT

3.8.15 The employment unit will provide 18 car parking spaces within its forecourt area which will include five Blue Badge parking spaces. Parking will be allocated to employees, and a small number of spaces will be allocated for visitors to park on-site.

3.8.16 The location of the on-site employment parking, including the Blue Badge parking space for the employment unit, is shown in Figure 3-8.

PARKING DESIGN MANAGEMENT PLAN

3.8.17 A Parking Design Management Plan (PDMP) has been prepared to describe the proposed car parking, Blue Badge parking provision, long-stay cycle parking and short-stay cycle parking that the proposed development will deliver. The PDMP will set out the access arrangements and enforcement measures to prevent vehicle and cycle parking misuse across the site.

3.8.18 Further information, including a review of local car ownership, is included in Section 6 of this TA and within the PDMP.

3.9 DELIVERY AND SERVICING

EXISTING

3.9.1 The existing service yard is accessed from Edwin Road. When fully operational as a factory, this service yard was utilised by large HGVs from very early in the morning and throughout the rest of a typical day. The hours within the service yard were not restricted and vehicles used the service area 24 hours a day.

3.9.2 Figure 3-10 shows the location of the on-site servicing yard, and Figure 3-11 shows the extant servicing access looking into the site from Edwin Road.

Figure 3-10: Location of the existing service yard

Figure 3-11: Extant servicing access and yard from Edwin Road

PROPOSED

3.9.3 The proposed internal road will enable all refuse collection, residential deliveries and maintenance vehicles to access and collect from within the site. The access route for servicing vehicles is shown in Figure 3-6.

3.9.4 The proposal provides separate access points to the employment building and car parking via Edwin Road and to the residential area via the existing access on Crane Road.

3.9.5 It is proposed to provide a two-way internal route through the residential area with a turning head at the southern end of the route. All vehicles would enter and exit the residential scheme from the Crane Road

access, except refuse vehicles who would continue through the employment area and egress onto Edwin Road.

3.9.6 A swept path analysis exercise has been undertaken and shows the delivery and refuse collection vehicles accessing, manoeuvring and egressing the site; the full set of swept paths drawings are included in APPENDIX C.

3.10 EMERGENCY ACCESS

EXISTING

3.10.1 It is expected that fire tender/emergency vehicle access was previously achieved via the existing access points.

PROPOSED

3.10.2 Emergency vehicles will be able to access and egress the site in a forward gear and gain access to all parts of the site at all times. The proposed fire tender and emergency vehicle access strategy are shown in Figure 3-12.

Figure 3-12: Proposed fire tender access strategy

4 ACTIVE TRAVEL

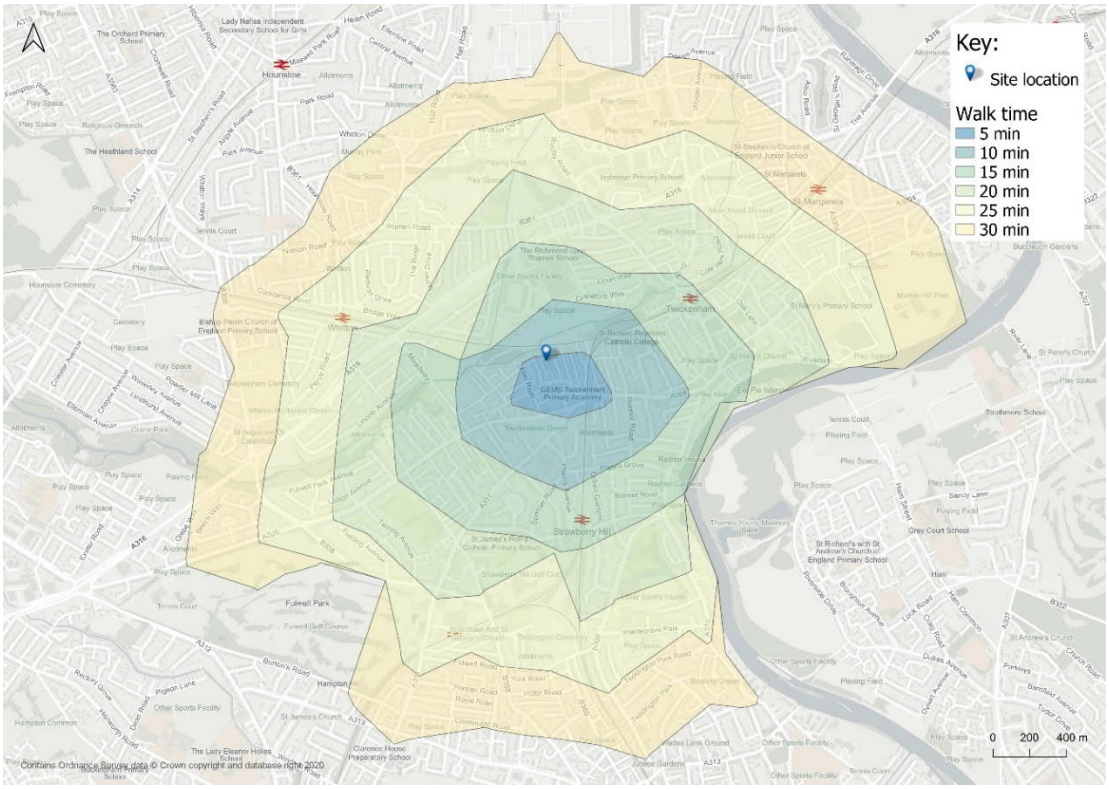
4.1 WALKING

4.1.1 The National Travel Survey identifies that walking is the most frequent travel mode for short-distance trips (within 1 mile/1.6 km). Therefore, infrastructure that supports travel on foot is essential to promote sustainable and active travel.

4.1.2 The footways in the proximity of the site are well-lit and well-connected. The site benefits from good footpath connectivity to the A305 The Green and Twickenham Railway Station. In addition to a range of public transport options, the site is also within walking distance of several local amenities and services, including London Road and King Street, reducing the need for prospective residents to travel by car in most instances.

4.1.3 A pedestrian isochrone map is shown in Figure 4-1, which shows the area/distance that can be walked from the site within a five-minute to 30 minutes' walk, based on a walking speed of 4.8km/hr.

Figure 4-1: Walking accessibility



4.1.4 Several public transport stations and stops can be reached within a short walk of the site, including:

- Twickenham Station via Marsh Farm Road at 15 minutes (1.28km);
- Twickenham Green bus stop (Stop GL) via Norcutt Rd and A305 at 7 minutes (640m) and Twickenham Station bus stop via Marsh Farm Rd at 16 minutes (1.28km); and

- Strawberry Hill Railway Station is around a 16-minute walk (1.28 km) from the site to the south of the site.

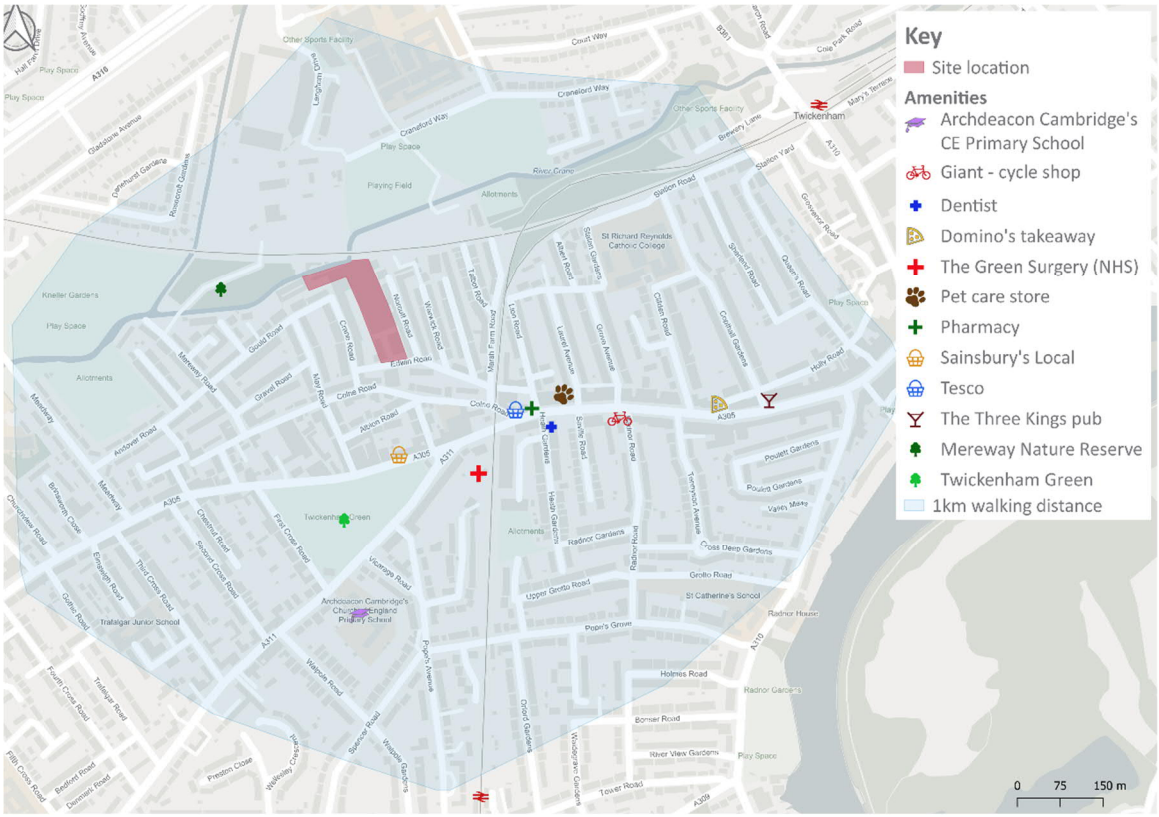
Table 4-1 sets out the local amenities and facilities within 1km of the site and can be reached within an 11-minute walk/four-minute cycle.

4.1.5 Figure 4-2 illustrates the amenities listed in Table 4-1.

Table 4-1: Local facilities/amenities within proximity of the site

FACILITY / DESTINATION	TRIP PURPOSE	DISTANCE (METRES)	WALK TIME (MINUTES)	CYCLING TIME (MINUTES)
Twickenham Green	Leisure	400	5	3
Mereway Nature Reserve	Leisure	550	7	2
Sainsbury's Local	Food retail	400	5	1
Tesco Express	Food retail	500	6	1
Pet Care store	Retail	600	8	3
The Green Surgery (NHS)	Healthcare	400	5	2
Maple Leaf Pharmacy	Healthcare	400	5	2
Dentist	Healthcare	500	6	3
Archdeacon Cambridge's CoE Primary School	Primary education	600	7	4
Giant – cycle shop	Retail	650	8	3
Domino's	Food retail	800	10	3
The Three Kings	Leisure	900	11	3

Figure 4-2: Amenities within walking distance

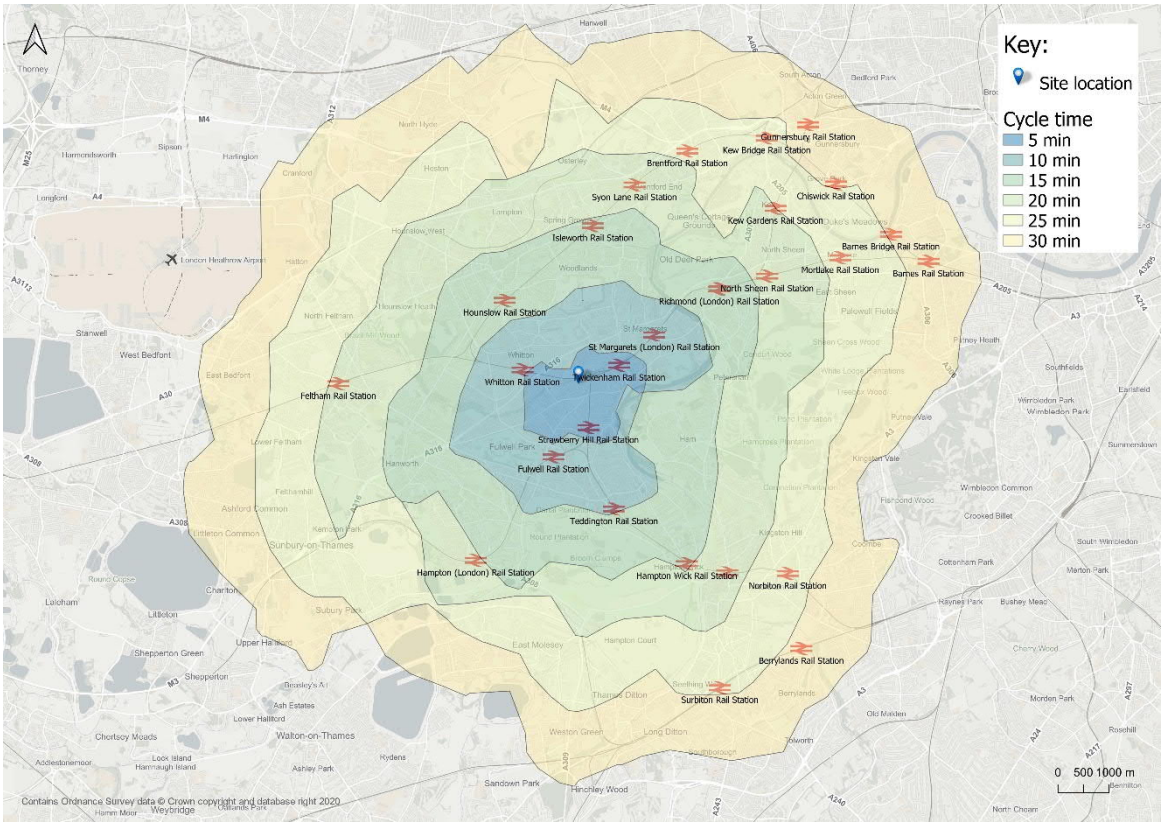


4.2 CYCLING

4.2.1 Cycling can substitute for short car trips, particularly those less than five kilometres in length; however, many people will cycle longer distances.

4.2.2 A cycling isochrone map is shown in Figure 4-3 which shows the area/distance that can be cycled from the site within a five-minute to 30 minutes cycle, based on a cycling speed of 16km/hr.

Figure 4-3: Cycling accessibility

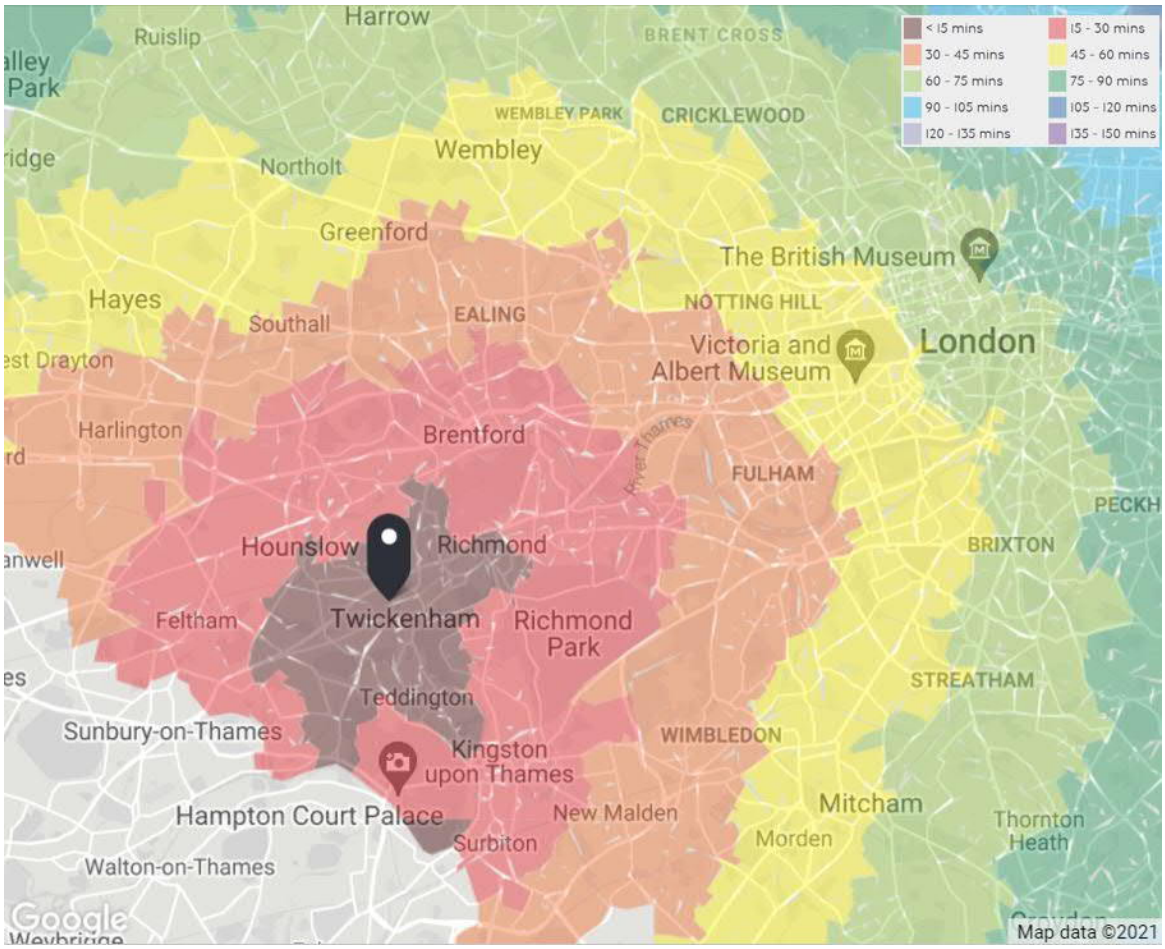


4.2.3 Figure 4-3 shows the site is within cycle distance of the Strawberry Hill, Twickenham Green and Heath Road areas, all of which provide access to a range of local amenities and services.

4.2.4 Although there is no dedicated cycling infrastructure (i.e., cycleways and cycle lanes) in the vicinity of the site, TfL Local Cycling Guide highlights Edwin Road, Lion Road, Crane Road, Gould Road, Grove Avenue and Radnor Road as marked or signed cycle routes which are located on a mix of quieter and busier roads. It is noted that a large number of roads in the surrounding area are marked as having this classification and provide strong links throughout the wider area to other town centres. Cycle parking stands are provided along the A305 Heath Road, and a further 30 cycle racks are provided at Twickenham Railway Station.

4.2.5 Time Mapping (TIM) is a tool developed by TfL within their WebCAT suite of tools to assess connectivity. Time Mapping for the site, travelling by bicycle during the AM peak, is presented in Figure 4-4.

Figure 4-4: TIM cyclist accessibility in proximity to the development site



Source: TfL

4.2.6 Figure 4-4 demonstrates that a number of areas, including Fulham, Wimbledon, Ealing and Harlington, can be accessed within a 45minutes cycle of the site.

4.3 KEY ACTIVE TRAVEL JOURNEYS

4.3.1 An Active Travel Zone (ATZ) assessment has been undertaken to assess the existing walking and cycling baseline conditions surrounding the Site.

4.3.2 This ATZ Assessment has been carried out in line with the new TfL Transport Assessment guidance, which came into effect on 5 March 2020 and aims to show how the Proposed Development supports Vision Zero and the Healthy Streets policies.

4.3.3 The ATZ assessment has been prepared using the 'ATZ assessment instructions'. There are four parts to the ATZ assessment process, which are as follows:

1. Map One: The ATZ and all potential key active travel destinations;
2. Map Two: Neighbourhood safety and the most important journeys with supporting text, including a vision zero analysis and safety improvement ideas;

3. Map Three: ATZ Neighbourhood healthy characteristics check including text on severance, deficiency, local change, the development; and
4. Neighbourhood Photo Survey: ATZ neighbourhood key routes check based on the Healthy Streets Indicators.

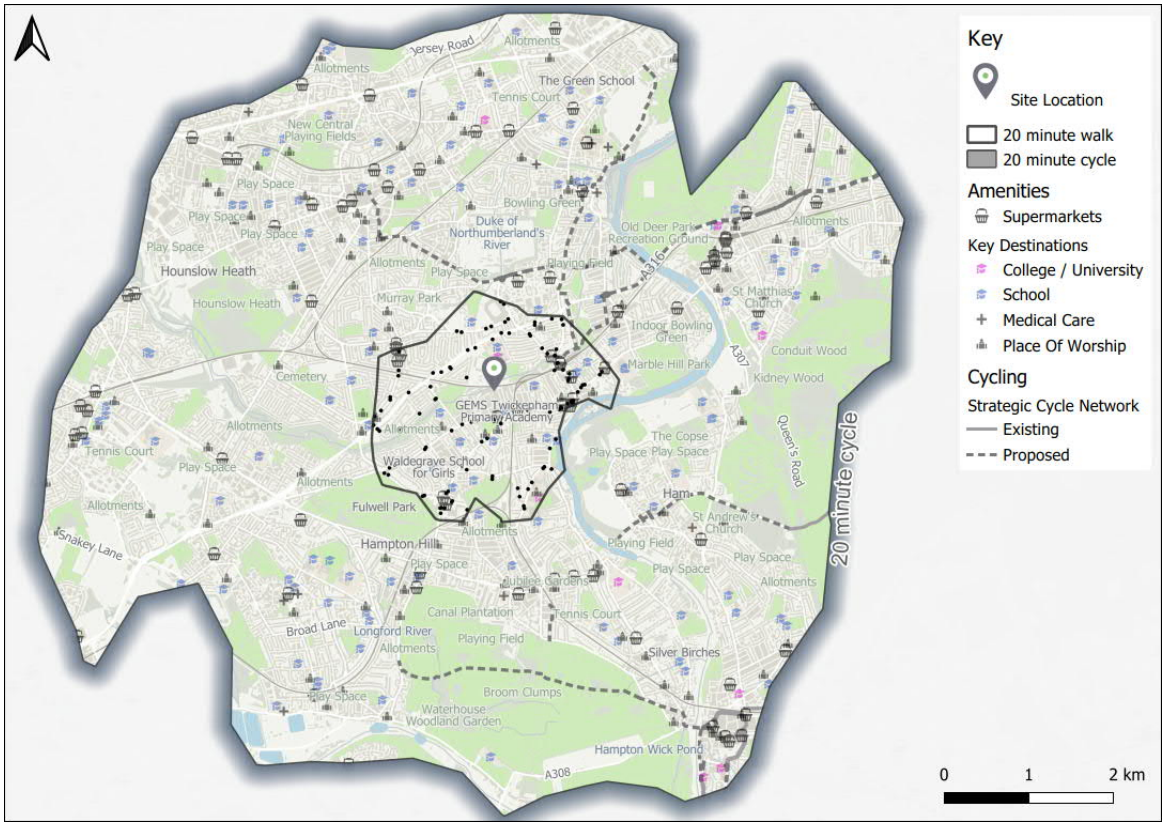
4.3.4 The neighbourhood photo survey site visit was carried out online (i.e., a desktop survey). Throughout the desktop survey, consideration was given to how people walking or cycling would experience the route after daylight hours.

ACTIVE TRAVEL ZONE ACCESSIBILITY

4.3.5 Map One, shown in Figure 4-5, displays all destinations within a 20-minute cycle of the Site, including:

- Town Centres;
- Public transport stations;
- Bus stops;
- Primary and secondary schools;
- Health centres/hospitals;
- Recreational parks / green spaces;
- Places of worship; and
- The strategic cycle network (existing and proposed routes).

Figure 4-5: Map 1 – Active Travel Zone Map

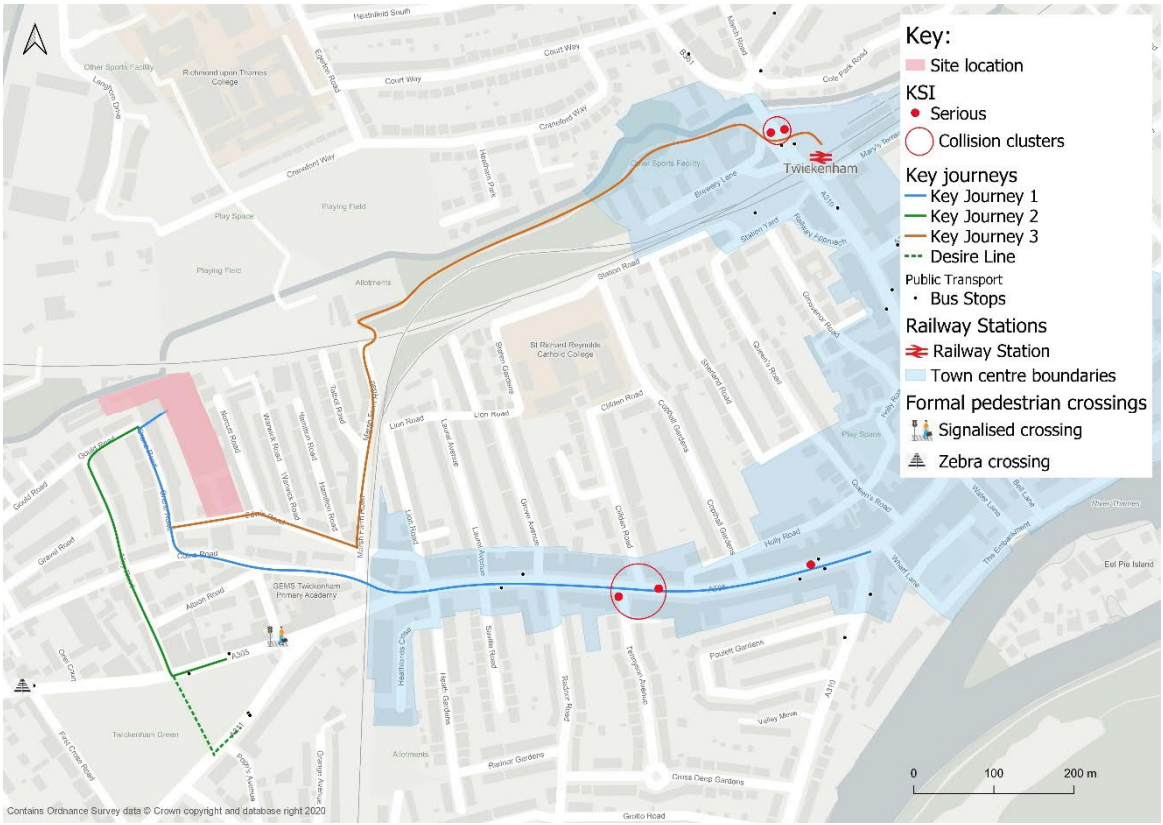


ACTIVE TRAVEL ZONE NEIGHBOURHOOD SCALE

4.3.6 Map Two (Figure 4-6) prioritises key destinations within the ATZ and shows the likely walking and cycling routes residents will take to reach them. The following key journeys have been identified:

- Key journey 1: Heath Road/King Street Town Centre;
- Key journey 2: Bus Stops along Twickenham Green; and
- Key journey 3: Twickenham Station.

Figure 4-6: Map 2 - Key active travel journeys



VISION ZERO AND MITIGATION

4.3.7 A review of collision data provided by the Department of Transport was undertaken to identify clusters of one fatal or two or more serious collisions occurring along the key journeys between 2017 and 2019, the most recent three-year period available. For each killed or seriously injured (KSI) cluster identified, safety improvements are recommended.

4.3.8 Two clusters of collisions were identified in Figure 4-6. No fatal collisions have occurred on the key journeys within the recent three-year period reviewed.

KEY JOURNEY 1 CLUSTER – HEATH ROAD/TENNYSON AVENUE AND HEATH ROAD/CLIFDEN ROAD

4.3.9 Two collisions resulting in a number of casualties occurred on A503 Heath Road. One occurred at the priority junction with Tennyson Avenue, and the other occurred at the priority junction with Clifden Road.

4.3.10 The following safety improvements are recommended for junctions where KSI clusters have been identified on Key Journey One:

- Installation of average speed cameras to enforce the 20mph speed limit.
- Provision of additional crossing points for pedestrians and cyclists (where possible) on the A503 Heath Road to better accommodate desired lines.
- General highways maintenance issues such as repainting markings and re-surfacing the carriageway are suggested to be rectified by LBRuT.

KEY JOURNEY 3 CLUSTER – A310 LONDON ROAD

4.3.11 Two collisions resulting in a number of casualties occurred on the A310 London Road to the north of the junction with Brewery Lane.

4.3.12 The following safety improvements are recommended for junctions where KSI clusters have been identified on Key Journey Three:

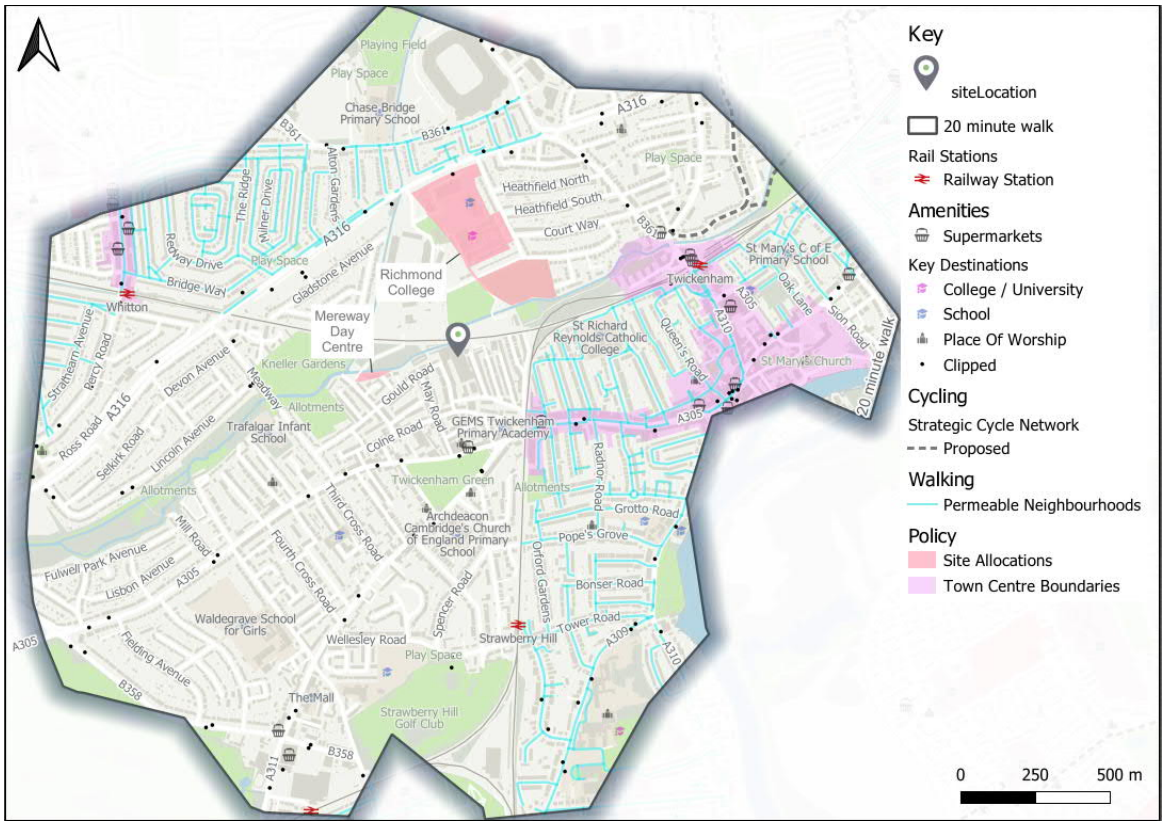
- Installation of average speed cameras to enforce the 20mph speed limit.
- Install signage and road markings on junctions to alert drivers to slow their speeds, alert pedestrians to look out for cyclists, and alert cyclists of locations where pedestrians are likely to share space with cyclists.
- Provision of wayfinding signage to facilitate pedestrian movement through the area better and realign existing desire lines towards controlled crossing points.
- General highways maintenance issues such as repainting markings and re-surfacing the carriageway are suggested to be rectified by LBRuT.

HEALTHY NEIGHBOURHOOD CHARACTERISTICS

4.3.13 Figure 4-7 shows Map Three, and the characteristics of a typical healthy neighbourhood, including:

- Street density
- Public transport
- Green spaces
- Other development and regeneration projects

Figure 4-7: Map 3 - Healthy Neighbourhood Characteristics



KEY JOURNEY ASSESSMENT

4.3.14 The ATZ assessment was undertaken as a desktop audit using online street-level imagery. Consideration was given to how pedestrians may feel about travelling via the key routes during evening hours when daylight is significantly reduced.

4.3.15 This section reviews the 'worst' part of each journey against eight of the ten Healthy Streets criteria (criteria 3 – 10), making recommended suggestions for improvements where possible. 'Worst' is defined as the most unpleasant or potentially unsafe section for people on the street.

4.3.16 The eight Healthy Streets criteria considered in this assessment are:

- Easy to cross.
- People feel safe.
- Things to see and do.
- Places to stop and rest.
- People feel relaxed.
- Not too noisy.
- Clean air.
- Shade and shelter.

KEY JOURNEY 1 - HEATH ROAD/KING STREET TOWN CENTRE

4.3.17 Key journey one connects the site with Heath Road/King Street Town Centre where there are several local retailers, restaurants, supermarkets, a gym, bank, doctors' surgery and Twickenham Farmers' Market (which is open on Saturdays from 9am to 1pm) and Holly Road car park.

4.3.18 The worst section of this journey, shown in Figure 4-8, was identified to be on Colne Road at the junction with Marsh Farm Road, underneath the railway bridge. This section of the journey lacks lighting, visibility, things to see and do and has narrow footways.

Figure 4-8: Key journey 1 – worst point on Colne Road

4.3.19 This area of the journey has been assessed against the eight healthy streets indicators below:

- Easy to cross – The crossing at the Colne Road/Marsh Farm Road junction lacks dropped kerbs and tactile paving. Dropped kerbs and tactile paving could be provided at the junction to make crossing accessible and easy to cross for all.
- People feel safe – This section has narrow footways, which may negatively affect peoples' perceptions of safety on this journey. However, the bridge forms a constraint, and the existing carriageway width is already narrow which prevents footway widening in this location.
- Things to see and do – There are a number of supermarkets, shops, cafes, and restaurants along this journey.

- Places to stop and rest – There are limited opportunities to sit along this journey with the exception of bus stop seating. Additional public benches could be installed where the footway width allows on Heath Road.
- People feel relaxed – This section of the journey has poor visibility and lack lamination. Lighting could be installed under the bridge.
- Not too noisy – The journey is generally quiet, with the exception of the sound of trains travelling over the bridge.
- Clean air – According to the London Air Quality Network[1] this section of the journey passes the annual mean objective for NO2 pollution.
- Shade and shelter – The railway bridge and street trees offer shade and shelter along this journey.

KEY JOURNEY 2 - BUS STOPS ALONG TWICKENHAM GREEN

4.3.20 Key journey two connects the site with the bus stops on Twickenham Green. The bus stops on the northern side of Twickenham Green are served by bus routes 490 and H22, and the bus stops at the southern side of the green are served by bus routes 267, 281, 290, 681, N22 and R70.

4.3.21 This journey also connects with a number of nearby local amenities, including a local dentist (The Complete Smile Twickenham), a church (Twickenham Green Baptist Church), a pharmacy (Maple Leaf Pharmacy), a primary school (Archdeacon Cambridge's Church of England (CofE) Primary School), a nursery (Jack and Jill Reception Nursery School), Twickenham Cricket Club and a number of local retailers, restaurants and supermarkets, all of which surround Twickenham Green.

4.3.22 The worst section of this journey was identified at the May Road/Colne Road crossroad junction, shown in Figure 4-9, which lacks tactile paving at the dropped kerbs of each arm, lacks footway width, which is narrowed further by the placement/positioning of street furniture, bollards and parking bays.

[1] http://www.londonair.org.uk/london/asp/annualmaps.asp