7. TRANSPORT & ACCESS

Introduction

7.1 This chapter assesses the likely significant effects of the Development on the environment in terms of transport and access. This chapter should be read in conjunction with the following appendices used to inform the assessment:

- Appendix 7.1 (Transport Assessment – Residential Development Zone);
- Appendix 7.2 (Transport Statement – Sports Halls)
- Appendix 7.3 (Residential Travel Plan);
- Appendix 7.4 (Framework Delivery & Servicing Management Plan);
- Appendix 7.5 (Department for Transport Traffic Counts);
- Appendix 7.6 (Car Parking Management Plan – College Development Zone);
- Appendix 7.7 (Delivery & Servicing Management Plan – College Development Zone);
- Appendix 7.8 (Car & Cycle Management Plan – School Development Zone);
- Appendix 7.9 (Servicing & Delivery Plan - School Development Zone);
- Appendix 7.10 (Mini-bus & Coach Management Plan – School Development Zone);
- Appendix 7.11 (College Travel Plan); and
- Appendix 7.12 (Sports facilities Travel Plan Statement).

7.2 In addition, this Chapter refers to the Outline Construction Environmental Management Plan (CEMP) which is contained within Appendix 5.1 of this ES.

7.3 This chapter has been prepared by RGP as the appointed transport planning and infrastructure design consultants for the project (refer to Appendix 1.2: Statement of Expertise).

Planning Policy and Legislative Context

National Planning Policy

National Planning Policy Framework[i]

7.4 The National Planning Policy Framework (NPPF) published in July 2021 refers (Section 4) to the promotion of sustainable transport and states that the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. Paragraph 32 states:

> *'All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account whether:*
>
> - *The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
> - *Safe and suitable access to the site can be achieved for all people; and*
> - *Improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.'*

7.5 Paragraph 34 states '*that plans and decisions should ensure developments that generate significant movements are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised'*.

7.6 Paragraph 35 states that developments should be located and designed where practical to accommodate the efficient delivery of goods and supplies; give priority to pedestrian and cycle movements; and have access to high quality public transport facilities and create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians.

7.7 Paragraph 16 states that '*developments which generate significant amounts of movement should be required to provide a Travel Plan'*.

Regional Planning Policy

The London Plan (2021) [ii]

7.8 Following the Mayor's approval of the previous 'Intend to Publish' version of the draft new London Plan, the new London Plan was adopted in March 2021.

7.9 Policy T2 '*Healthy Streets*' confirms that new development should deliver patterns of land use that facilitate residents making short, regular trips by walking and cycling in order to reduce health inequalities, car dependency and ownership, road danger, severance, emissions and noise. Development proposals should identify opportunities to improve the balance of space given to utilise active modes of transport, public transport and essential vehicle trips.

7.10 Policy T4 relates to the assessment and mitigation of transport impacts, stating the requirement for Transport Assessment to be submitted with development proposals to ensure that the impacts are fully assessed at a local, network-wide and strategic level.

7.11 With regard to cycling, the London Plan aims to achieve a 5% modal share by 2026. Policy T5 requires developments to provide cycle parking facilities in line with the defined minimum standards, with all spaces laid out in accordance with the design parameters of the London Cycle Design Standards[iii] document.

7.12 Car parking standards are also defined within Chapter 10 of the London Plan which should be applied to new development following its formal adoption. Policy T6 confirms that car-free development should be the starting point for all proposals in places that are well-connected by public transport.

7.13 The London Plan identifies Twickenham as a District Centre and a 'night-time economy cluster of more than local importance'.

Local Planning Policy

London Borough of Richmond upon Thames Local Plan (2018) [iv]

7.14 The London Borough of Richmond upon Thames (LBRuT) Local Plan was adopted in July 2018, replacing the Core Strategy and Development Management Plan.

7.15 The adopted Local Plan sets out policies and guidance for the development of the Borough over the next 15 years.

7.16 In terms of location, the Local Plan describes Twickenham as *"highly accessible by public transport and thus suitable for new major commercial development, which attract both local people and people who live outside the Borough"*.

7.17 Section 11 of the Local Plan outlines the key Transport policies within the Borough that must be considered. Policy LP44 confirms that sites should be located in accessible locations and promote sustainable travel choices. In this case, it is widely recognised that the Site is positioned close to an important District Centre, with excellent access to public transport modes.

7.18 Policy LP45 confirms the requirements for servicing, confirming that *…"the Council will require new development to make provision for the accommodation of vehicles in order to provide for the needs of the development while minimising the impact of car-based travel including on the operation of the road network and the local environment, and ensuring making the best of use of land"…*

7.19 Richmond upon Thames College is identified as an allocated site (SA9) which sets out the redevelopment proposals of the College, subject to the Outline planning consent (Planning Reference: 15/3038/OUT). It is also noted that The Stoop (Harlequins Rugby Football Club) is also an allocated site (SA10), with aspirations to revitalise the site for its continued use as a major sports arena. This would include the implementation of a new north stand, indoor leisure and hotel and or business uses. These allocations have been carefully considered in the development of the committed local infrastructure works that are in the process of being constructed, most notably the A316 Chertsey Road/Langhorn Drive signalised junction.

London Borough of Richmond upon Thames 'Transport' SPD[v]

7.20 LBRuT'S 'Transport' Supplementary Planning Document (SPD) was published in June 2020 to assist in promoting *"best practice in transport provision and highway design"*. The SPD confirms that Transport Assessments and Travel Plans should be submitted in accordance with Transport for London guidance.

7.21 In terms of scope of assessment, all development should demonstrate its sustainable credentials and provide high quality walking and cycling permeability, and connectivity within the surrounding highway and transport network. All development should be designed with a hierarchy of streets that ensures priority is given to non-car pedestrians, cyclists and those with disabilities.

Assessment Methodology

Scope

7.22 The Institute of Environmental Management and Assessment (IEMA) *Guidelines for the Environmental Assessment of Road Traffic*[vi] have been used to ensure that the environmental effects of arising due to the predicted changes in traffic levels are properly and comprehensively addressed.

7.23 The IEMA guidelines advise the use of a 'check-list' of likely effects covering noise, vibration, visual impact, severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation, accidents and safety, hazardous loads, air pollution, dust and dirt, ecological impact and heritage and conservation areas. The guidelines acknowledge that for many developments some of the effects listed may not be relevant but suggests that reasons should be provided for any exclusions.

7.24 This assessment includes the transport effects likely to be relevant to the Development, including accidents and safety, pedestrian and cycle flow effects (including severance, delay, fear and intimidation and amenity), traffic effects and impacts on parking. In addition, a quantitative assessment of the change in trips by public transport has been undertaken.

7.25 Further likely significant effects are assessed in other chapters of this ES, including Chapter 6: Townscape & Views, Chapter 8: Air Quality and Chapter 9 Noise.

7.26 It should be noted that the Outline planning consent (15/3038/OUT) for the redevelopment of the Richmond Education & Enterprise Campus (REEC) development included an Environmental Statement (ES), with a transport chapter prepared to an agreed scope that considered the effects of the wider Richmond College redevelopment (including the Site) as a whole. The transport assessment work for the Outline planning consent was based on robust assumptions with respect to traffic generation, including high trip rate assessments, that ensured that the impacts of the REEC development were robustly assessed at that time.

7.27 As set out in this chapter, the assessment confirms that the Development would generate levels of traffic movement below that previously assessed for the Outline planning consent. Therefore, whilst the effects of the Development have been considered in isolation in this chapter, the assessment undertaken as part of the Outline planning consent provides a worst-case assessment of the impacts in traffic terms.

7.28 The assessment undertaken as part of the ES for the Outline planning consent also included the approved procedures and practices for the demolition and construction works across the wider REEC Development site. However, the Development would alter the requirements for temporary access during construction of the residential element of the Site to allow residential traffic (from those units initially constructed in early phases of the Development) to be safely segregated from construction vehicle movements. This would include the formation of a temporary access off Egerton Road for a 12-month period.

7.29 The Development comprises the implementation of three parts of the REEC site, including the proposals for the Residential Development Zone, the RuTC Sports Hall and the RTS Sports Hall. These three elements have been assessed through this Transport Chapter as separate entities.

7.30 The extent of the road network assessed has been determined based on the roads which are used to directly or indirectly access the Site and the junctions that connect them.

7.31 The following roads/links have been assessed in this ES Chapter. This geographical scope reflects those considered in the ES Chapter for the Outline planning consent, for consistency and robustness:

- A316 Chertsey Road;
- Langhorn Drive;
- B361 Whitton Road;
- Court Way;
- Heathfield North;
- Heathfield South;
- Egerton Road; and
- Craneford Way.

7.32 The public transport nodes assessment was determined based on the Public Transport Accessibility level (PTAL) criteria, which includes all bus stops within 640m and all rail services within 960m of the Site. This chapter assesses the impacts on a number of nearby bus stops and Twickenham Rail Station, as key public transport nodes.

7.33 The assessments of walking and cycle routes were based on local roads and footpaths used to access the Site, including those used to access public transport.

Evaluation of Effects

7.34 The demolition and construction phases of the Development are set out in Chapter 5 of this ES. The construction phases of the Development have been assessed to determine the effects on the local highway network.

7.35 The construction effects of the Development that have been described in this Chapter are for the Site only. Owing to the absence of detailed construction data for committed developments within the study area a cumulative assessment for the construction period has not been undertaken.

7.36 For the operational phase, in order to determine the extent of the local highway network to be assessed in detail within this Chapter, the following thresholds have been applied in accordance with IEMA guidelines:

- Include links where traffic flows are expected to increase by more than 30% or where Heavy Goods Vehicle (HGV) flows are expected to increase by more than 30% as a result of the Development; and

- Include links in proximity to sensitive receptors as defined previously, where traffic flows are expected to increase by more than 10% as a result of the Development.

7.37 A cumulative assessment has been undertaken of the committed developments in the locality of the Site in combination with potential traffic growth in the area as described in the 'Future Year Baseline' section below. The following committed development sites have been considered:

- Lockcorp House, 75 Norcutt Road, Twickenham (planning ref: 19/2789/FUL);
- Old Station Forecourt, Railway Approach, Twickenham (planning ref: 19/3616/FUL); and
- 1-1C King Street, 4 Water Lane, The Embankment and River Wall, Water Lane, Wharf Lane and The Diamond Jubilee Gardens, Twickenham (planning ref: 21/2758/FUL).

7.38 The impact of these minor developments has been assessed in broad terms, and as set out in this chapter, no detailed capacity assessments are deemed appropriate.

Data Sources

7.39 Due to the current COVID-19 restrictions it has not been possible to undertake baseline traffic surveys of the local highway network conditions since surveys are not considered to be representative of 'normal' conditions on the local highway network at this time.

7.40 Notwithstanding the above, the new development within the 'School Development Zone' and elements of the Outline planning consent are part constructed and not operating at the full capacity or to a representative level that could be recorded by traffic surveys.

7.41 However, the previous assessment undertaken as part of the Outline planning consent included robust traffic data that is readily available and appropriate for the assessment of the future impact of the Development. These assessments for the Outline planning consent included an assessment of forecast traffic flows up to 2034, including allowance for all committed development at that time and for the future growth of traffic on the local highway network. The use of this data therefore represents a robust assessment of the local highway network in future years with the inclusion of all elements of the Outline planning consent. This included an assessment of a residential scheme of up to 200 residential dwellings (despite

the final Outline consent for 180 dwellings only) and whilst the Development includes a higher number of dwellings (212 dwellings), the Outline planning consent included a higher proportion of houses and generated greater levels of vehicle traffic. In addition, the previous assessments were based on robust assumptions of traffic generation that far exceeded the levels of traffic expected to be generated by the proposed 212 dwelling scheme.

7.42 Therefore, to determine the likely significant effects of the Development on the local highway network, an examination of the historic assessments through the previously approved Outline planning consent has been undertaken.

7.43 Where possible, further, more recent data has been obtained from the Department for Transport's (DfT) permanent traffic counters located in the vicinity of the Site (including those on A316 Chertsey Road). The use of data obtained from the Trip Rate Information Computer System (TRICS) database[vii] has also been considered, where appropriate.

7.44 In addition, Transport for London (TfL) has also been approached to obtain the most recent Personal Injury Accident (PIA) data for the local highway network.

7.45 Information in relation to the accessibility of the Site has been sourced from TfL's WebCAT[viii] website.

Significance Criteria

7.46 The assessment of the likely significant effects as a result of the Development has taken into account both the construction and operational phases. The significance level attributed to each effect has been assessed based on the magnitude of change due to the Development, and the sensitivity of affected receptor / receiving environment to change.

7.47 Magnitude of change is assessed on a scale of Major, Moderate, Minor and Negligible as set out in Table 7.1 below. The sensitivity of the affected receptor / receiving environment is assessed on a scale of High, Medium, Low, Negligible as set out in Table 7.2 below. The significant of effect is assessed on a scale of Major, Moderate, Minor and Negligible as set out in Table 7.3 below.

7.48 The level of impact of the magnitude of change depends upon the effect being assessed and this has been informed by the guidance set out in IEMA document Guidelines for the Environmental Assessment of Road Traffic (1993). The main factors relating to transportation are identified as follows and the associated criteria applied to each factor within this assessment are described below:

- Traffic flows effects;
- Pedestrian and cycle flow effects;
- Severance;
- Driver delay;
- Pedestrian and cycle amenity and delay;
- Fear and intimidation;
- Accidents and safety;
- Parking; and
- Public transport.

7.49 Each of these factors have been considered in further detail.

Traffic flows effects

7.50 Traffic flow effects including Driver Delay can occur at several points in a highway network, although the effects are only likely to be major/significant when the increased traffic is likely to result in a junction or link being at or close to capacity.

7.51 A Transport Statement has been prepared (Appendix 7.2) to summarises the traffic flow effects of the proposed Sports Halls on the operation of the REEC site and the local highway network. The Sports Halls will replace the existing sports facilities on the Site and will serve the Replacement College, the Secondary School, the Clarendon School, and the wider community. The sports Halls will comprise sports space made up of both the Replacement College's and Secondary School's sports facilities. The proposed Sports Halls will continue to offer similar services to the community as the current one on the College site, but using either new or improved facilities and equipment. The Sports Hall facilities will not therefore have any traffic flow effects.

7.52 Therefore, a qualitative assessment has been undertaken to establish the traffic flow effects as a result of the Residential Development Zone only. This is based on the traffic generation assessment of the Development as reported in the Transport Assessment (Appendix 7.1). Professional judgement has been employed to conclude the severity of any identified effects.

Severance

7.53 Severance is defined as a perceived division that can occur within a community when it becomes separated by a major traffic artery and describes a series of factors that separate

people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself.

7.54 Paragraph 4.31 of the IEMA guidance confirms that *"changes in traffic flow of 30%, 60% and 90% are regarded as producing "slight", "moderate" and "substantial" changes in severance respectively"*.

7.55 For this assessment, the changes in traffic flow thresholds will follow the above figures but adjusted to reflect the changes (from a transport perspective) as follows:

- Negligible: less than 30%;
- Low: 30% to 30%;
- Medium: 60% to 90%;
- High: greater than 90%.

7.56 The assessment of severance takes into account relevant factors including road width, traffic flow, speed, the presence of crossing facilities and the number of movements across an affected route.

7.57 It is typically assumed that there is a threshold below which changes in severance are not considered relevant, where the AADT (Annual Average Daily Traffic) flow is below 800 vehicles.

7.58 Professional judgment has been employed in the assessment of the effects of severance, with consideration of these thresholds.

Pedestrian and Cyclist Amenity and Delay

7.59 The assessment of delay considers changes in volume, composition and speed of traffic that may affect the ability for pedestrians to crossroads. Typically, increases in traffic will increase delay to pedestrians, although increased pedestrian activity also contributes. This assessment relies of professional judgement to determine the magnitude of impact and significance of the effect.

7.60 IEMA guidelines define pedestrian amenity as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity. The

guidelines suggest tentative thresholds of significance would be where the traffic flow is halved or doubled.

7.61 In addition to traffic flows, it is important to consider the impacts of amenity that will result from improved pedestrian and cyclist permeability and connectivity brought about by the Development. The improved connections to be introduced by the Outline planning consent are also relevant in this case.

7.62 For the purposes of this assessment the pedestrian amenity and delay has been based on the following criteria, based on the change in the number of vehicles passing along the adjacent road, using the junction approaches:

- Negligible: less than 1440 vehicles per day change (less than 1 vehicle per minute);
- Low: more than 1440 vehicles per day change (more than 1 vehicle per minute);
- Medium: more than 2880 vehicles per day change (equivalent to more than 2 vehicles per minute);
- High: more than 4,320 vehicles per day change (equivalent to more than 3 vehicles per minute).

7.63 A qualitative assessment has also been undertaken where the number of crossing stages on a signal junction is amended or where specific cycle measures are proposed.

Fear and Intimidation

7.64 Pedestrian amenity also covers the issue of 'fear and intimidation' within the IEMA guidelines. There are no commonly agreed thresholds for estimating levels of fear and intimidation but this impact is considered dependent on the volume of traffic, its Heavy Goods Vehicles (HGV) component, its proximity to people, or the lack of protection or segregation from traffic influenced by factors such as footway width.

7.65 Professional judgment has been employed in the assessment of the effect of fear and intimidation due to changes in traffic flow at the Site. The predicted changes in flow has been assessed in the context of the available pedestrian facilities on the route to the Site.

Accidents and Road Safety

7.66 No specific definition is provided in respect to accidents and safety and therefore the implications of accidents have been assessed based on professional judgement, reviewing

local circumstances, root causes and factors (such as increased flows) that may increase or decrease the risk of accidents/collisions.

7.67 The accident and safety assessment will review the past five years of available accident data and will assess the impact of the Development in respect of changes to potential conflict points as a result of the Development.

Parking

7.68 No specific definition is provided in respect to impacts on parking. Therefore, professional judgement has been applied based on an estimate of the local capacity of on-street parking and the forecast increase in parking demand that the Development may generate.

Public Transport

7.69 No specific definition is provided in respect to impacts on public transport. Therefore, professional judgement has been applied based on an estimate of the local capacity of nearby services and the forecast increase in trips that the Development may generate.

Magnitude of Impact & Significance of Effects

7.70 The magnitude of impact has been assessed in accordance with the IEMA guidelines and takes into account considerations with respect to the forecast changes in traffic flows by all modes of travel within the study area to facilitate a subjective judgement of traffic impact and significance of effect. The thresholds provided in the IEMA guidelines are guidance only and have been used as a start point by which the detailed analysis will inform a subjective analysis of the impact of magnitude.

7.71 It is important to note that the assessments of the impacts during the demolition and construction stage are temporary, and this affects the significance attached to them.

7.72 The criteria which define the magnitude of an impact are summarised in Table 7.1.

Table 7.1: Methodology for Assessing Magnitude

Magnitude of Impact	Receptor Type
Major	Total loss or major/substantial alteration to key elements/features of the baseline (pre-Development) conditions such that the post Development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline (pre-Development) conditions such that post Development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying

	character/composition/attributes of the baseline condition will be similar to the pre-Development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Sensitivity Criteria

7.73 Paragraph 2.5 of the IEMA Guidelines explains that locations which may be sensitive to changes in traffic conditions could be:

- People at home;
- People in workplaces;
- Sensitive groups such as children, the elderly or disabled;
- Sensitive locations such as hospitals, churches, schools or historical buildings;
- People walking or cycling;
- Open spaces;
- Recreational sites and play spaces;
- Shopping areas;
- Sites of ecological/nature conservation value; and
- Sites of tourist/visitor attraction.

7.74 The determination of the receptor sensitivity is based on the criteria relating to value, adaptability and tolerance. In terms of transport, receptors include people that are living in and using facilities, and using transport networks, in the area. The sensitivity to change in transport conditions is generally focussed on vulnerable user groups who are less able to adapt to or recover from changes.

7.75 A summary of the criteria for identifying receptor sensitivity is presented in Table 7.2.

Table 7.2: Methodology for Determining Sensitivity

Sensitivity	Receptor Type
High	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident black spots, retirement homes, urban/residential roads without footways that are used by pedestrians.
Medium	Traffic flow sensitive receptors including: congested junctions, doctor surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycleways; community centres, parks, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, listed buildings, tourist attractions, residential areas, roads with good footway provision, roads that pedestrians cross.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distance from affected roads and junctions

Significance of Effect

7.76 The likely significance of a transport effect is defined as the magnitude of the change in an effect, against the sensitivity of the receptors for that change.

7.77 The significance of effects is therefore determined through referencing magnitude of change and sensitivity of receptors. The significance of effects can be either beneficial, adverse, negligible, or no effect as set out below:

- **Beneficial**: effects that produce a beneficial change in terms of transport and access;
- **Adverse**: effects that produce detrimental change in terms of transportation and access;
- **Negligible**: effects that produce no perceptible change in terms of transportation and access;
- **No Impact**: no effect.

7.78 The significance of adverse or have been defined as either negligible, minor, moderate or major:

- **Negligible**: changes where no discernible effect is expected regardless of receptor sensitivity or magnitude of change;
- **Minor**: changes which are small in magnitude regardless of receptor sensitivity or low sensitivity receptors regardless of magnitude of change;
- **Moderate**: changes which are medium in magnitude at receptors with either medium or high sensitivity or medium sensitivity receptors experiencing a medium or large magnitude of change: and;
- **Major**: changes which are large in magnitude and at a receptor with a high sensitivity.

7.79 Table 7.3 summarises the relationship between significance of effect, magnitude of change and sensitivity of receptors. For the purposes of this assessment, significant effects are considered to be those that are not negligible.

Table 7.3: Effect Significance Matrix

MAGNITUDE	High	Medium	Low	Negligible
Major	Major	Major	Moderate	Negligible
Moderate	Major	Moderate	Minor	Negligible
Minor	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Limitations and Assumptions

7.80 The assessment undertaken in this chapter is based on reasonable assumptions based on the professional experience of the author having studied the patterns of traffic movements across the local area.

7.81 As detailed previously, due to the current COVID-19 restrictions it has not been possible to undertake baseline traffic surveys of the local highway network conditions, since surveys are not considered to be representative of 'normal' conditions on the local highway network at this time. In addition, the wider works associated with the Outline planning consent are currently in the process of being constructed and are therefore not operating at the full capacity or to a representative level that could be recorded by traffic surveys.

7.82 However, the previous assessments undertaken as part of the Outline planning consent included robust traffic data that is readily available and appropriate the assessment of the future impact of the Development. The assessment for the Outline planning consent included an assessment of forecast traffic flows up to 2034 (15 years post planning approval) and included allowance for all committed development at that time and for the future growth of traffic on the local highway network up to the assessment year.

7.83 This data is therefore considered to be the most appropriate for assessing the Development in the absence of accurate baseline data at this time.

7.84 Whilst a review of the assessments of the Outline planning consent is considered to be most appropriate, these are still subject to limitations. The assessment work is a forecast of how traffic conditions are anticipated to change over the period up to 2034 and is therefore limited by the fact that any prediction of the future contains an element of uncertainty. Individuals who ultimately have a choice about when and how to travel will be swayed differently by different conditions (such as COVID-19 restrictions, for example). The assumptions made are however based on the data available at the time of which is independently sourced where possible.

7.85 The Residential Development Zone would include a high proportion of smaller flats/apartments that would attract the low car ownership requirements of single occupants and couples, typically utilising local amenities and public transport for most journeys, in particular commuting trips.

Baseline Conditions

Local Highway Network

7.86 The local highway network is currently undergoing a number of changes, with a number of agreed infrastructure improvements which have been or are in the process of being completed in relation to the Outline planning consent.

7.87 The A316 Chertsey Road serves as the main access to the Site and forms a major part of the Transport for London Road Network (TLRN). The A316 Chertsey Road links the Site with the M3 Motorway and strategic road network to the west and serves as a direct link into Central London to the east. A316 Chertsey Road is formed as a dual-carriageway subject to a 40mph post speed limit. The A316 benefits from high-quality pedestrian and cycle connections with shared footpaths provided on both sides and a pedestrian footbridge provided close to the Langhorn Drive junction. Further 'at-grade' signalised crossings are provided to the east of the Site.

7.88 The Site benefits from an existing access off Egerton Road that historically served as a secondary vehicle access to the College staff car park and provided an important pedestrian/cycle connection for students and staff travelling from the centre of Twickenham to the south-east.

7.89 To the east of the Site, Egerton Road, serves as a local collector road now principally serving residential development, having historically served as the main access to the College.

7.90 Egerton Road does not benefit from direct connections to the A316 Chertsey Road with a vehicle restriction/barrier positioned immediately to the south of the College car park. Therefore, all traffic accesses Egerton Road via adjoining residential streets to the east. Egerton Road operates as a 'School Street' with restrictions along its northern section (north of Heathfield North) to prevent vehicle access during peak School drop-off and pick-up times.

7.91 The adjoining streets of Court Way, Heathfield North and Heathfield South provide the main links between Egerton Road and Whitton Road to the east, which in turn serves as the main roadside connection to the A316 Chertsey Road and Twickenham District Centre. These residential streets provide quiet routes subject to a 20mph, with Heathfield North and Heathfield South operating as one-way routes (westbound and eastbound respectively) and Court Way accommodating two-way traffic.

7.92 To the south, Egerton Road provides access to Craneford Way, which in turn serves as the main access to the Craneford Way Playing Fields and serves LBRuT Council Depot. Craneford Way also provides access to the rear of the Site, historically operating as a service vehicle access for the College, whilst also accommodating an important pedestrian link along Marsh Farm Lane.

7.93 Egerton Road itself is subject to a 30mph speed limit and provides for two-way vehicle movements, with good levels of on-street parking provided on both sides (subject to

Controlled Parking Zone (CPZ) restrictions). Good pedestrian connections are provided in all directions.

7.94 These residential streets all link back to the B361 Whitton Road to the east, which in turn serves as the main connection between A316 Chertsey Road and the District Centre of Twickenham via the A310 London Road to the south.

Baseline Traffic Flows

7.95 The Outline planning consent included an assessment of existing traffic flows on key links based on recorded traffic count surveys carried out in 2014, with growth applied to determine the 2019 baseline scenario. A copy of the relevant extracts of the Transport Assessment for the outline planning application are replicated in the table below.

Table 7.4: Base 2019 Traffic Flows

Road	Peak Hour	Two-way Flow	AADT
A316 Chertsey Road	AM	3351	44602
	PM	3663	
B531 Whitton Road	AM	701	8953
	PM	707	
Court Way	AM	116	1456
	PM	113	
Langhorn Drive	AM	100	1335
	PM	110	

7.96 These 2019 traffic flows have been utilised as the basis for the assessment, in the absence of more recent survey data and the ability for further traffic surveys to be undertaken during the COVID-19 pandemic. It is envisaged that the travel restrictions associated with the pandemic and the forecast changes to the travel habits, particularly during the peak periods (more people working from home for example), will continue to generate reduced traffic flows on the local highway network.

7.97 To ensure that the recorded traffic flows and baselines assessments remain robust, these flows have been validated using a permanent DfT traffic counter on Chertsey Road situated to west of the Langhorn Drive junction. A copy of the DfT Traffic Counts is attached at Appendix 7.5. The Annual Average Daily Traffic (AADT) Flows for A316 Chertsey Road are summarised in Table 7.5.

Table 7.5: Recorded AADT Flows on A316 Chertsey Road

Year	Direction	All Vehicles	LGVs	HGVs
2019	Eastbound	22997	3469	437
	Westbound	22950	3567	497
2018	Eastbound	22173	3043	451
	Westbound	22560	3924	585
2017	Eastbound	22146	2982	468
	Westbound	22519	3845	605
2016	Eastbound	24755	4159	546
	Westbound	25312	3657	473
2015	Eastbound	24506	3398	542
	Westbound	26133	3907	648

7.98 The above table confirms that the baseline assessments in the TA for the Outline planning consent remain reflective of AADT flows on the local highway network. It is also noted that the table indicates baseline traffic flows reducing across the network in recent years. The proposed use of the 2019 baseline data is therefore considered to be robust.

7.99 In addition, it is noted that the other parts of the Outline scheme continue to be developed/constructed, with the construction traffic levels continuing to vary and the use of the college/school development areas still not fully operational. It is therefore considered that a further survey of traffic conditions would not be representative.

7.100 Notwithstanding the baseline data used, the Transport ES Chapter for the Outline planning consent also included an assessment of the 2034 scenario, with traffic growth calculated at 7.65% in the AM and 7.38% in the PM peak hours. This 2034 scenario has also been considered in the assessments of the traffic impact of the Development.

Accident Review

7.101 PIA data has been obtained from TfL for the most recent available 5-year period (60-months) up to August 2020. The study area includes:

- A316 Chertsey Road (between Langhorn Drive and Whitton Road);
- Langhorn Drive;
- Whitton Road (between Chertsey Road and London Road); and
- Egerton Road, Court Way, Heathfield North, Heathfield South, Craneford Way.

7.102 The results confirm a total of 39 PIA's have occurred within the study area during that time, with 29 collisions resulting in 'slight' injury and 10 collisions (26%) resulting in 'serious' injury. No fatalities have been recorded.

7.103 The data confirms that no accidents have occurred on Egerton Road and along its adjoining residential streets during this period. A single PIA has occurred at the existing College access on Egerton Road involving slight injury from a head on collision. This proposed access has since been closed and will be retained only as a pedestrian and cycle access/egress.

7.104 The recorded PIAs have been identified at, or near, the surrounding junctions as follows:

Table 7.6: Accident Location Summary

Junction/Link	Sight	Serious	Fatal
A316 Chertsey Road	0	2	0
A316 Chertsey Road/Egerton Road	2	0	0
A316 Chertsey Road/Whitton Road	10	3	0
A316 Chertsey Road/Chudleigh Road	3	0	0
A316 Chertsey Road/Langhorn Drive	1	0	0
Whitton Road	1	0	0
Whitton Road/London Road	4	0	0
Whitton Road/Latham Road	1	0	0
Whitton Road/Erncroft Way	1	1	0
Whitton Road/Chudleigh Road	0	2	0
Whitton Road/Grimwood Road	0	1	0
Whitton Road/Court Way	2	0	0
Whitton Road/Heathfield South	1	0	0
London Road/Brewery Lane	1	1	0
London Road/March Road	1	0	0
Egerton Road/Court Way	1	0	0
TOTAL PIAS	**29**	**10**	**0**

7.105 As detailed in Table 7.6, the recorded PIAs are generally spread across the network at various junctions, with junctions generally operating with low levels of accidents recorded. A single accident hotspot has been identified at the signal-controlled roundabout junction of A316 Chertsey Road and Whitton Road, which has recorded 13 accidents over the 5-year period. This level of accidents, equivalent to 2.6 PIAs per year is not considered to be a significant level of accidents given the nature of the junction and the flows it accommodates.

Pedestrian and Cycle Network and Facilities

7.106 The footways surrounding the Site are of a good standard, with key routes along desire lines being a minimum of 2m wide (except on Heathfield North and Heathfield South, where the effective footway width may be reduced due to part of the on-street parking bays being marked on the footway), with dropped kerbs, tactile paving and street lighting. The residential streets to the east of the Site have traffic calming by means of speed cushions located at regular intervals, and there is a fire access gate across Egerton Road which reduces traffic on the residential roads to access only. In addition, Egerton Road serves as a 'School Street' with restrictions in place to prevent unauthorised traffic entering the northern end of Egerton Road during peak school drop-off and pick-up times.

7.107 On the A316 Chertsey Road, there is crash barrier on the central reservation preventing pedestrians from crossing the road. There is a signal controlled pedestrian crossing on Chertsey Road approximately 100m east of the Site and a pedestrian footbridge directly north of the Site. The A316 Chertsey Road has off-road shared cycle/footway routes adjacent to it providing segregation from cyclists and motorists.

7.108 The shared cycle/footpath referred to as Marsh Farm Lane runs along the western boundary of the Site between the junction of the A316 Chertsey Road / Langhorn Drive and Craneford Way. From Craneford Way, the cycle / footpath runs south through the Craneford Way Playing Fields, accessing 'Twickenham Junction Rough' before continuing across the railway line via a footbridge and onto Marsh Farm Road.

7.109 These existing residential streets and local off-road routes also offer safe and convenient links for cycling, with Chertsey Road also providing a direct cycle route for routes further afield, including into Central London. The Site is well connected by cycle routes providing links to locations within an 'Active Travel Zone' including Twickenham Station, Richmond, Isleworth and Teddington.

7.110 The bus services on Whitton Road can be accessed via the footbridge or signalised pedestrian crossing on the A316 Chertsey Road. This route has dropped kerbs and tactile paving and has street lighting. The footways leading to Twickenham Station, either via Court Way, Heathfield North or Heathfield South and Whitton Road and London Road have similar characteristics with a zebra crossing on Whitton Road and signal controlled pedestrian crossings at the junction of Whitton Road / London Road and on London Road.

Pedestrian & Cycle Flows

7.111 The assessment for the Outline planning consent included surveys of existing (baseline) pedestrian and cycle flows on local links generated by the College. These surveys represent the most recent available baseline data for all movements to and from the existing College, which is now undergoing redevelopment. The table below replicates the results of the assessment.

Table 7.7: Base 2019 Total (two-way) peak hour pedestrian and cycle flows

Route	AM Peak Hour (08:00-09:00)		PM Peak Hour (16:00-17:00)	
	Pedestrian	Cyclist	Pedestrian	Cyclist
Marsh Farm Lane	29	10	11	3
A316 Chertsey Road	241	19	74	10
Egerton Road	778	27	188	16
Heathfield South	182	11	45	5
Court Way	546	13	118	8
Talma Gardens	20	5	7	1

Public Transport facilities

PTAL Assessment

7.112 As defined by TfL's *'Assessing transport Connectivity in London*[ix] PTAL has been considered as part of this assessment. The PTAL is a rating of a selected place based on how close it is to public transport and how frequent services are in the area. PTAL suggests how well a place is connected to public transport services.

7.113 From a review of TfL's WebCAT planning tool, the Site is characterised as being within PTAL areas of 2 and 3, equivalent to 'good to poor' and 'good' accessibility ratings respectively. It is noted that the western portion of the Site is not currently included within the PTAL assessment (PTAL of 0) since there is currently no access/permeability through the Site. Approximately 350m to the east of the Site, Court Way becomes part of a PTAL 4 leading into the District Centre of Twickenham.

Bus Services/Connections

7.114 To the east and north of the Site, bus stops on Whitton Road (approximately 450m from the Egerton Road Site access) provide access to routes 281 and 681.

7.115 In addition, routes 110 and 481 are accessible further north on Whitton Road (540m walk) via the A316 footbridge. Bus Routes 267 and H22 are also available from Twickenham Station. Whilst some of these stops fall outside the walking distances recognised by the PTAL assessment methodology, in practice all of these stops are located within a 6-8 minute walk time with safe and convenient connections.

7.116 Table 7.8 provides a summary of the key destinations accessible via these local bus services, along with typical frequencies and rail/underground connections. It is noted that the figures shown represent typical weekday frequencies, which may be higher during the peak hours. It

is noted that these services reflect the typical services on the local highway network and not any restricted services in place due to the COVID-19 pandemic.

Table 7.8: Summary of Local Bus Services

Route	Key Destinations	Typical Weekday Frequency
110	Hampton Hill, Whitton Station, Twickenham Stadium, St Margaret's, Richmond, Kew Gardens, Kew Bridge, Gunnersbury, Ravenscourt, Hammersmith	15 minutes
267	Fullwell, Twickenham, Kew Bridge, Gunnersbury, Ravenscourt Park, Hammersmith	10-11 minutes
281	Tolworth Tower, Surbiton Station, Kingston Station, Hampston Wick Station, Fullwell Station, Twickenham Station, Hounslow Station, Hounslow Bus Station	9-13 minutes
481	Kingston, Teddington, Fulwell, Twickenham Stadium, West Middlesex Hospital	3 services per hour
681	Hounslow, Twickenham, Fulwell, Teddington	Morning and Afternoon Services
H22	Bell Corner/Hounslow Civic Centre, Whitton Station, Twickenham, West Middlesex Hospital	11-13 minutes

7.117 As detailed above, the Site benefits from convenient access to bus services to a range of local destinations including Richmond Station, whereby further National Rail, London Underground and London Overground services can be accessed (journey time of approximately 26 minutes).

Rail Services/Connections

7.118 Twickenham Rail Station is located approximately 650m to the south-east of the Site (an 8-minute walk). The station is operated by South West Trains and is served by a number of routes providing regular services into Central London. Table 7.9 below summarises the key routes and destinations available from the station.

Table 7.9: Summary of Rail Services – Twickenham Rail Station

Key Destinations	Typical Weekday Frequency
Wimbledon, Raynes Park, New Malden, Kingston, Teddington, **Twickenham**, Richmond, North Sheen, Barnes, Putney, Clapham Junction, Vauxhall, London Waterloo	30 minutes
Windsor & Eton Riverside, Sunnymeads, Staines, Feltham, Whitton, **Twickenham**, Richmond, Putney, Clapham Junction, Vauxhall, London Waterloo	30 minutes
Reading, Wokingham, Bracknell, Ascot, Sunningdale, Virginia Water, Egham, Staines, **Twickenham**, Richmond, Clapham Junction, London Waterloo	2 per hour
Shepperton, Sunbury, Hampton, Fulwell, Strawberry Hill, **Twickenham**, Richmond, Putney, Clapham Junction, Vauxhall, London Waterloo	1 per day

7.119 From Twickenham Rail Station, regular services are available to Central London including London Waterloo, with a typical journey time of 30 minutes.

7.120 It is also noted that these regular services offer a quick connection to Richmond station with a 4-5 minute train journey time, where London Underground and Overground services can be accessed.

Likely Significant Effects

Overview

7.121 This section assesses the likely significant effects of the Development, including for both the construction and the operational phases.

Construction Phase

Traffic flows effects

7.122 This assessment is for the 'peak' construction period i.e. when construction traffic will be at its greatest. The assessment includes vehicles associated with materials delivery/construction (all are assumed to be HGV), and light vehicles.

7.123 A full programme for the demolition and construction phases of the Development shall be discussed and agreed with the Local Planning Authority prior to commencement and will be subject to ongoing review to ensure that the timing of the delivery the Development are coordinated with the external works across other areas surrounding the Site, associated with the Outline planning consent.

7.124 The construction traffic for the Residential Development Zone would include up to 10-11 HGVs (20 two-way HGV movements) per day as a maximum, with an average of 4-5 per day (8-10 two-way vehicle movements). A similar level of construction vehicle traffic is expected for the construction of the School and RuTC Sports Halls.

7.125 The construction works would include a small area of car parking for site operatives and visitors associated with the construction works, although staff will be encouraged to travel to/from the site by non-car modes. It is anticipated that an average of 4-5 vehicles will arrive and departs the site per day (8-10 two-way vehicle movements) associated with this on-site parking, accommodating site operative cars and light goods vehicles. The operating hours of the Site (08:00am to 6:00pm) mean that most staff would arrive and depart outside of the peak hours (i.e. prior to 8am and after 6pm) and would not contribute to increased traffic generation during the busier periods on the local highway network.

7.126 The construction phase of the Development also includes the requirement to implement a temporary access off Egerton Road for residential traffic during the initial completed phases of construction.

7.127 As detailed in Chapter 5: Construction Methodology and Phasing, the construction phase is anticipated to take 36 months in total. A temporary access off Egerton Road will be used for a period of 12 months (months 12-24 approximately), when some homes are occupied and there is still significant ongoing construction on the remainder of the Site. This access would enable the early occupation of the early phases of the Development prior to the completion of the Development when all vehicular access would then be gained from Langhorn Drive and Chertsey Road. All construction vehicles will access the Site using the main arterial roads, most notably the A316 / Chertsey Road, as far as possible to minimise the impacts on the local road network.

7.128 It is anticipated that the construction phase would require up to 59 residential units to be served by the temporary access off Egerton Road. This number of units would not be from the outset but would steadily increase during the construction phase as each of the blocks and terraces are constructed and occupied.

7.129 As detailed above, the proposed construction phase would enable access to up to 59 residential dwellings, comprising 14 houses and 45 flats/apartments. Table 7.10 summarises the likely levels of traffic to be generated by the proposed temporary access.

Table 7.10: Temporary Vehicle Trip Generation – 59 Residential Dwellings

TIME PERIOD	14 HOUSES			45 APARTMENTS			TOTAL (59 UNITS)		
	ARR	DEP	TOTAL	ARR	DEP	TOTAL	ARR	DEP	TOTAL
08:00-09:00	1	6	7	1	5	6	2	11	13
17:00-18:00	6	3	9	5	3	8	11	6	17
Daily Total	34	36	70	43	40	83	77	76	153

7.130 The proposed temporary measures for access would generate between 13 and 17 peak hour movements on Egerton Road and its connecting residential streets, amounting to an additional vehicle movement approximately every 4 minutes.

7.131 As detailed above, this level of traffic would not be generated from the outset and would form a gradual increase as the constructed dwellings become occupied. Notwithstanding, the proposed levels of traffic identified above would not amount to a significant impact and could be readily accommodated on a temporary basis, particularly given the significant reduction in trips on Egerton Road following the removal of the historic levels of College traffic.

7.132 As detailed in the TA (Appendix 7.1), the existing College generated a total of 88 and 86 two-way vehicle movements during the AM and PM peak hours respectively on Egerton Road. The traffic flows effects of the construction phase on the local residential streets, including driver delay, would therefore be improved and would be **negligible**.

Pedestrian & cycle flow effects

7.133 The Residential Development Zone is expected to employ 90 FTE staff per month, with the Sports Halls expected to employ 24 FTE workers per month. As detailed above, the operating hours of the Site (08:00am to 6:00pm) mean that most staff would arrive outside of the peak hours (i.e. prior to 8am and after 6pm). However, for robustness an assessment has been undertaken based on 10 staff arriving in the AM peak hour and 10 staff leaving during the PM peak hour.

7.134 As detailed above, any staff travelling to the Site by public transport, specifically by train, or living near District Centres such as Twickenham would benefit from the use of a mini-bus service that would avoid having to walk with heavy tools and Personal Protective Equipment (PPE). Contractors that do walk and cycle to the Site will access and egress the Site via separate gates from vehicle traffic, to avoid conflicting movements. Therefore, it is deemed that the effect on pedestrian and cycle flows across the site and the wider pedestrian/cycle network would be **negligible**.

7.135 The proposed temporary access would allow initial residents of the Development to utilise the existing pedestrian and cycle infrastructure on Egerton Road and its connecting residential streets, Marsh Farm Lane and Craneford Way Playing Fields. This level of activity and the ability to use these streets directly would be no different from the previous permissions which allowed for a phased construction process and would be significantly less than those generated by the operational phase. The effects of the proposed temporary access in terms of pedestrian and cycle movements would therefore be **negligible**.

Severance

7.136 As detailed above, the proposed construction vehicle movements are likely to be minimal and less than a 30% increase, thus being classified as having a negligible magnitude of change. On this basis, the temporary significance of effect on severance would be **negligible**.

Pedestrian and Cyclist Amenity and Delay

7.137 As confirmed in Table 7.7, the baseline data indicates a reasonable proportion of pedestrian movements across the network in the baseline scenario. However, it is not considered that these levels of movement cause any material delay to the operations of the local highway network.

7.138 As detailed previously, the proposed construction work would principally generate pedestrian and cycle movement outside of the traditional highway peak hours, dictated by the opening and closing hours of the construction site. On this basis, the effect on pedestrian and cyclist delay would be negligible.

7.139 Based on the IEMA guidelines, the change in flows at which pedestrian and cyclist amenity changes should be considered in detail are a doubling or halving in the flow of all traffic of HGV movements.

7.140 Across the day and during the peak hours none of the total traffic flows of HGV traffic flows on any link is predicted to half or double. As a result, there will be a **negligible** effect on pedestrian and cyclist amenity.

Fear and Intimidation

7.141 The assessment of fear and intimidation is a narrative judgement relating to a number of factors. Given the very low level of change and the remoteness of the construction areas from the majority of the sensitive areas, and the nature of local construction traffic that is already operating and will continue to be through the construction phase, it is considered unlikely that the change in traffic resulting from the construction works will increase fear and intimidation for road users. Consequently, the effect of the construction traffic on fear and intimidation is considered to be **negligible**.

Accidents and Safety

7.142 The assessments of accidents and road safety is a narrative judgement relating to a number of factors. Given the very low level of change and the remoteness of the construction works from the majority of sensitive areas, it is considered unlikely that the change in traffic from the construction of the Development will adversely affect road safety on the local highway network. Therefore, the effect of the construction traffic accidents and safety is concluded to be **negligible**.

Parking

7.143 The proposed construction setup would ensure that no on-site parking would be made available to construction workers during the construction process. The local Controlled Parking Zone (CPZ) restrictions would continue to prevent contractors parking on local roads to the east of the Site. Whilst local roads to the north of the Site are only subject to restrictions during events at Twickenham Stadium, the assessment undertaken for the Outline planning consent (Ref: 15/3038/OUT) confirmed that the existing on-street parking capacity (67% parking stress[1]) could accommodate any temporary demands of the Site (and the demands of all phases of the construction works associate with the Outline planning consent) and therefore the effect associated with the construction of the Development would be **negligible**.

7.144 With regard to the temporary site access for residents during construction, each construction phase would ensure that the required numbers of car parking and the correct allocations would be completed to ensure that no shortfalls in parking numbers are created that would lead to a demand for on-street parking. The impact on on-street parking is therefore deemed to be **negligible**.

Public Transport

7.145 As detailed above, there will be some increased activity from contractors using the public transport network when working at the Site. However, as also stated, workers would generally arrive/leave prior to the peak hours.

7.146 The Site is located within an accessible location at represented by its PTAL rating, with convenient access to a significant number of bus and rail services. Once staff are dispersed across the various public transport services, the change in the number of trips and increase in occupancy on any one mode/service would be minimal. The resulting significance of effect on this temporary basis will therefore be **negligible**.

Operational Phase

7.147 The ES chapter undertaken for the Outline planning consent detailed the proposed levels of traffic that would be generated by all parts of the outline scheme, including the residential element and the sports halls, when fully operational.

7.148 As stated previously, the Sports Halls would provide replacement facilities within the Development and would not generate any new traffic on the local highway network.

[1] Parking stress is a recognised measure to show the usage level of on-street parking in percentage terms.

7.149 With respect to the Residential Development Zone, whilst the Outline planning consent was for a reduced number of residential dwellings compared to what is now being applied for, the assessments were based on highly robust assumptions, with much higher trip rates used to model the impacts on the local highway network.

7.150 The TA for the residential phase of the Development (Appendix 7.1) includes a more detailed assessment of the proposed levels of traffic based on a further TRICS assessment undertaken for houses and flats separately, using the same agreed parameters (Suburban sites in Greater London and the south-east).

7.151 The table below summarises the changes in vehicular traffic between the Outline planning consent and reserved matters planning consent (Ref: 18/4157/RES) and the predicted traffic levels for the Development. It is noted that daily HGV traffic figures for the Outline planning consent are not available and therefore they have been assumed to be the same as those determined for the Reserved Matters assessment - (shown in brackets).

Table 7.11: Traffic Generation Comparison (Outline and Reserved Matters planning consents & Development) – Residential Development Zone

Time Period	Outline Planning Consent 15/3038/OUT	Reserved Matters Planning Consent 18/4157/RES	Development – 212 Dwellings
AM Peak Hour (08:00-09:00)	63 (3)	42 (0)	41 (0)
PM Peak Hour (17:00-18:00)	63 (0)	51 (0)	50 (0)
Daily Total (12hr) AAWT	596 (8)	472 (8)	487 (8)
Daily Total (24hr) AAWT	760 (8)	602 (8)	621 (8)
Annual Average Daily Traffic	714 (8)	565 (8)	583 (8)

7.152 As detailed in Table 7.11, whilst the Development would result in an increase in residential dwellings to those assessed for the Outline planning consent, the robust assumptions used for the assessments of the Outline planning consent confirmed the impacts of the REEC development based on much higher base traffic flows. It is also noted that the previous assessments made no allowance for internal trips, with residents potentially being educated or employed at the College/Schools, or using the recreational facilities (sports halls, for example) which would further reduce the trip rates of all person movements.

7.153 Table 7.11 confirms the higher levels of traffic flow determined for the Outline planning consent to be equivalent to 131 two-way AADT flows. Therefore, the assumptions made within the Outline planning consent remain the worst-case scenario.

7.154 In terms of Multi-modal trips, the table below summarises the calculated change in trips by all modes of transport between the Outline planning consent and the assessment for the Development.

Table 7.12: Multi-modal Trip Generation Comparison (Outline planning consent & Development) – Residential Development Zone

Mode	Outline Approval		Development		Net Change	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Walk	12	5	27	22	+15	+17
Cycle	10	3	3	2	+7	-1
Rail/Tube	63	25	19	12	-44	-13
Bus	6	2	12	7	+6	-5
Taxi	0	0	1	1	+1	-1
Car Share (Passenger)	1	1	33	22	+32	+21
Car Driver	63	63	41	50	-19	-13
Motorcycle	2	1	0	1	-2	0
Other	1	0	0	0	-1	0
Total	**158**	**100**	**136**	**117**	**-41**	**+17**

7.155 As detailed above, the previous assessment allowed for much higher trip rates upon which to assess vehicle/driver trips and trips made by public transport. It is noted however, that the assessment for the Development confirms that pedestrian and cycle trips would be higher than previously assumed for the Outline planning consent.

7.156 The ES Chapter for the Outline planning consent also detailed the levels of traffic that would be generated by the RuTC Sports Hall. The Development includes the extension and refurbishment of the existing Sports Hall, to be retained in its current location. The proposed RuTC Sports Hall will continue to offer similar services to the educational facilities and the local community as those currently on the Site but using either new or improved facilities and equipment. The operational times of the Sports Hall will remain unchanged.

Traffic flow effects

7.157 The existing RuTC Sports Hall trip generation was picked up in the existing College surveys undertaken as part of the baseline assessment. The Development comprises the extension and refurbishment of this existing sports facility on the Site and would operate in a similar way, providing a facility for the adjacent College during its operating hours, and providing a community facility at all other times. The RuTC Sports Hall will operate with the same capacity and same timetable of use. The operational impacts of the RuTC Sports Hall on traffic flow would therefore be **negligible**.

7.158 The RTS Sports Hall will form an internal facility for the use of the School only, replacing the temporary facilities that are currently in place. All movements associated with the RTS Sports Hall will be internal (within the School demise) and would already be occurred on site. Therefore, the traffic impacts of the RTS Sports Hall would be **negligible**.

7.159 With respect to the Residential Development Zone, notwithstanding the significant reduction in vehicle trips from the Outline planning consent (and therefore the resultant negligible effect of the Development), an assessment of the Development in isolation has been undertaken, for robustness.

7.160 The table below summarises the impacts of the Development on the local highway network from the 'Base' scenario, which includes all completed aspects of the Outline planning consent without the proposed residential use. The 'with Development' scenario confirms the change in traffic flows as a result of the addition of the residential Development.

Table 7.13: Base 2019 Traffic Flows ('With Development')

Road	Peak Hour	Base 2019 (Two-way)	Base 2019 'With Development'	% Increase from Baseline
A316 Chertsey Road	AM	3288	3329	1.23%
	PM	3600	3650	1.37%
Court Way	AM	156	156	0.0%
	PM	117	117	0.0%
Langhorn Drive	AM	201	242	16.9%
	PM	204	254	19.6%

7.161 The results show that the Development will result in a marginal increase traffic on the local highway network. The impact of this increase in traffic would be greatest along Langhorn Drive, however the percentage increase is considered to be misleading since the baseline flows are very low. The proposed access road on Langhorn Drive (to be implemented as part of the Outline planning consent) has been designed to accommodate significantly higher levels of traffic, including that associated with the College site and the Rugby Stadium. The impact of the Development is therefore deemed to be **negligible**.

7.162 It should be noted that the Outline planning consent is not reliant on the delivery of the A316 Chertsey Road/Langhorn Drive junction improvements. It was agreed through discussions as part of the Outline planning consent that the junction improvements would be implemented as 'additional mitigation' as the wider scheme could operate without them. This would also be the case for the Development, which would not be reliant on the delivery of the proposed junction improvements and could operate with the access in its current form whilst maintaining a negligible impact.

Pedestrian and cycle flow effects

7.163 The proposed Sports Halls would not lead to any change in pedestrian and cycle flows from those that already occurred at the Site. Therefore, the impact of these facilities would be **negligible**.

7.164 As detailed in Table 7.12, the Residential Development Zone would generate a modest increase in pedestrian movements, with 27 in the AM peak hour and 22 in the PM peak hour. These movements are likely to be spread across the highway network and will utilise the excellent connections on Egerton Road and its connecting residential streets (Craneford Way, Court Way, Heathfield North, Heathfield South) Marsh Farm Lane/Langhorn Drive and A316 Chertsey Road.

7.165 The Environmental Statement for the Outline planning consent included an anticipated net increase of 579 walking trips in the AM peak hour, which would result in a 59% increase in pedestrian trips on local routes. In the PM peak hour, it was determined that the Outline scheme as a whole would generate an increase of 181 walking trips, equivalent to a 74% increase. This was determined as a minor adverse to major adverse effect on the local highway network. However, it was concluded that these high percentages are due to the very low existing levels of use of the routes, which have suitable capacity to accommodate all of the extra 204 and 169 walking trips in the AM and PM peaks hours respectively. Therefore, it was concluded that the effects of these increased pedestrian movements for the outline scheme would be **negligible**.

7.166 As detailed in Table 7.12, the Development would increase pedestrian movements, with an additional 27 and 22 movements expected in the AM and PM peak hour respectively. This increase in trips in isolation would therefore be **negligible**.

7.167 It is considered that these increases will be distributed between Egerton Road and Court Way (the 'on-road' route between the Site and Twickenham District Centre) and Craneford Way Playing fields and Twickenham Rough (the 'off-road' route to/from District Centre).

7.168 These level of additional cycle movements are also considered to be **negligible**, particularly in the context of the significant infrastructure improvements that are proposed as part of the Outline planning consent.

Severance

7.169 As can be seen in Table 7.13, all of the road links will experience an increase in total flows of less than the threshold for change in flow to be significant in terms of severance (less than 30%), at which point the magnitude of change would be considered negligible. The significance of effect would therefore be **negligible**.

Pedestrian and Cycle Amenity and Delay

7.170 The Development would ensure that this design philosophy is maintained, and the pedestrian environment remains of a high standard. The Development would 'unlock' the proportions of the Site to be completed, some of which are currently severed in terms of pedestrian permeability (reflected by the lack of a PTAL rating) and would optimise links through the Site.

7.171 As can be seen in Table 7.13 the highest change in traffic flow on local roads is on Langhorn Drive, which is 50 additional vehicles in the peak hours (0.83 vehicles per minute). As detailed in the Transport Assessment (Appendix 7.1), the Development would generate an average of 487 daily two-way vehicle movements. In terms of establishing pedestrian and cycle amenity delay, a threshold of an additional vehicle per minute is used, equating to 1,440 additional vehicles per day. These traffic flows are below this level and therefore the effect would be **negligible**.

Fear and Intimidation

7.172 The assessment of fear and intimidation is a narrative judgement relating to a number of factors. Given the low level of change (less than 10% change in traffic flow) it is considered unlikely that the change in traffic resulting from the operational phase of the Development will increase fear and intimidation for road users. A 10% change is considered unlikely to be perceptible to users of the road. Consequently, the effect of the operational traffic on fear and intimidation is considered to be **negligible**.

Accidents and Safety

7.173 The assessment of accidents and safety is a narrative judgement relating to a number of factors. From an assessment of the PIAs in the vicinity of the Site it has been determined that the existing highway network does not suffer from any adverse road safety problems.

7.174 The Development would result in the redistribution of vehicle trips away from the local residential streets to the east of the Site and their connecting junction with Whitton Road and

London Road, which would significantly improve road safety in these areas (which serve as the main pedestrian/cycle routes to and from the centre of Twickenham.

7.175 The Development would be accessed via Langhorn Drive and A316 Chertsey Road only, with the planned improvements to be implemented by the Outline planning consent to provide a signalised arrangement with controlled pedestrian/cycle crossings to further enhance safety in this location.

7.176 Whilst minor, the operational traffic will increase traffic flow and pedestrian and cycle demand on Langhorn Drive and Marsh Farm Lane. Consequently, prior to mitigation, it is considered that there is a minor change on this low-sensitivity road resulting in a minor adverse effect on accidents and safety on Marsh Farm Lane. However, mitigation for this increase is already programmed in the works to be implemented by the Outline planning consent, including improvements to the existing shared pedestrian and cycle route on Marsh Farm Lane, with segregated access for vehicle traffic. These works will be completed prior to the occupation of the Development. Therefore, any impacts from increase flows from the Development will have already been sufficiently mitigated.

7.177 Therefore, the proposed residential Development is unlikely to increase the number and severity of PIAs in the locality and the effects on accidents and safety would be **negligible**.

Parking

7.178 The existing residential streets are heavily controlled by the CPZs in locations which prevent parking for College and School users.

7.179 However, the existing CPZ restrictions do permit parking in the evenings to allow local residents to park if they need to. The local streets also provide pay and display parking on-street for short stay use (use by visitors, for example).

7.180 The Development has therefore considered car parking levels in relation to the ambitious strategies of the London Plan, seeking to implement a reduced level of parking reflective of the highly accessible location of the Site. The Residential Development Zone would include a high proportion of smaller flats/apartments that would attract the low car ownership requirements of single occupants and couples, typically utilising local amenities and public transport for most journeys, in particular commuting trips.

7.181 It is therefore considered that effects of the proposed parking arrangements would be **negligible**.

Public Transport

7.182 As summarised in Table 7.8 of this Chapter, the Site is served by a number of bus routes with a frequency of 46 services (two-way) in the peak hours, amounting to a total of 3,220 seats (a typical London bus has on average 70 seats) available on local buses.

7.183 The Sports Halls would not generate any change in demand for public transport use. However, the Residential Development Zone would result in a change in the use of these services.

7.184 As confirmed in Table 7.12, the Development would result in a net increase in bus passengers of 12 in the AM peak hour, which accounts for 0.37% of the bus seats which would be a negligible effect on bus capacity.

7.185 During the PM peak hour, the Development would generate an increase of 7 bus passengers, amounting to an increase of 0.22% and a negligible effect on bus capacity.

7.186 The ES Chapter for the Outline planning consent assessed that there would be a negligible effect in each of the peak hours on the capacity of Twickenham Rail Station. These were based on much higher figures for rail use as a result of the Development, which shows that rail travel from residents would be lower than that previously estimated.

7.187 Twickenham rail station is now undergoing extensive improvement to capacity through implementation of the Twickenham Gateway development, which will accommodate an increase in services. The Development would therefore result in a **negligible** effect in terms of public transport.

Mitigation Measures

Construction Phase

7.188 The impact and effect of construction traffic on the study area would be negligible. As a result, no physical off-site highway works will be required.

7.189 The outline CEMP for the Development (Appendix 5.1) sets out further details of the management measures to be implemented on-site during the construction phase of the Development. Measures in relation to transport include:

- Provision of a mini-bus service for all construction site staff (shared with other area of construction of the Outline planning consent);
- Provision of limited parking on-site to prevent car travel; and
- Measures to control delivery routing, timings and frequencies.

7.190 These will integrate the overarching policies and processes that are already in place for the construction of elements of the Outline planning consent, which continue to be constructed to the north of the Site. The outline CEMP will be used as the basis for a detailed document to be produced by the Contractor, when appointed.

7.191 The outline CEMP will be monitored and regularly reviewed by the Applicant. Procedures will be put in place to minimise impact on neighbours during the construction works and in accordance with any mitigation measures identified in this ES.

7.192 The detailed CEMP will be supplemented by a Construction Logistics Plan (CLP) and a Construction Method Statement to be prepared by the Contractor prior to commencement of the construction works. The implementation of the detailed CEMP and supplementary documents will be secured through an appropriate planning condition.

Operational Phase

7.193 A range of measures have been designed into the Development and/or will be implemented to reduce transport effects and maximise opportunities for the use of sustainable travel modes.

7.194 These measures would complement the comprehensive scheme of measures to be implemented to enhance the operations of the highway network through the Outline planning consent. This principally includes the provision of the Langhorn Drive/A316 Chertsey Road signal-controlled junction, with enhanced pedestrian and cycle provisions.

7.195 The Applicant has prepared a Residential Travel Plan (contained within Appendix 7.3) which proposes to introduce a range of measures and initiatives to discourage car dependency and encourage trips by sustainable modes (walking, cycling and public transport), which in conjunction will further minimise the traffic effects and associated effects on noise and air quality. The principal measures to be implemented through the Residential Travel Plan are as follows:

i) Appointment of a Travel Plan Coordinator (TPC) to oversee the implementation and monitoring of the Travel Plan;

ii) Implementation of cycle parking across the Site, with measures to encourage use through the publishing of information, provision of discounts and education/training;
iii) Provision of public transport information and discounted travel;
iv) Implementation of a car sharing database;
v) Provision of car club memberships to all residents to facilitate the use of the proposed car club space on Egerton Road;
vi) Provision of Residential Travel Packs to provide all necessary information; and
vii) Implementation of Travel Plan targets for reduced single-occupancy car use and increased uptake of sustainable modes. Implementation of a schedule for monitoring, including periodic Travel Surveys.

7.196 In addition, to further reduce the impact and effect of servicing and deliveries, a framework Delivery and Servicing Management Plan (DSMP) has been prepared (Appendix 7.4) for the Residential Development Zone which sets out how deliveries will be managed and, where possible, reduced and scheduled outside of transport network peak periods. This will ensure that the effects of the servicing strategy on surrounding transport network are minimised. The key strategies of the DSMP are as follows:

i) Management and monitoring of waste collection;
ii) Management of deliveries where possible; and
iii) Management and review of on-site maintenance and repair.

7.197 The RuTC Sports Hall is situated within the Tech Hub Development Zone of the REEC but would operate within the parameters of the College Development Zone. The RuTC Sports Hall will be supported by several key documents that have been approved (planning reference: 15/3038/DD15) and will be implemented across the College Development Zone to manage its use. These include:

i) Car Parking Management Plan (see Appendix 7.6)
ii) Delivery & Servicing Management Plan (see Appendix 7.7)

7.198 The RTS Sports Hall is situated within the College Development Zone but would conform to the operations of the School Development Zone. The RTS Sports Hall will also be supported by several key documents that have been approved (planning reference: 15/3038/DD10) and will be implemented across the School Development Zone to ensure that any impacts are sufficiently mitigated: These include:

i) Car & Cycle Management Plan (see Appendix 7.8);
ii) Servicing & Delivery Plan (see Appendix 7.9);

iii) Mini-bus & Coach Management Plan (see Appendix 7.10).

7.199 In addition, the proposed Sports Halls would benefit from being included within the overarching Travel Plans for the College Development Zone and School Development Zone, to be implemented to encourage and promote the use of sustainable travel to all users of the REEC. A copy of the draft Travel Plan for the College Development Zone forms Appendix 7.11, with the Travel Plan for the School Development Zone still to be prepared. It is expected that the full Travel Plans would be submitted to the Council and approved through a separate planning application, with the documents implemented prior to full occupation of the Development Zones.

7.200 However, to outline the proposed measures to be implemented across the REEC site to the benefit of the proposed Sports Halls, a Travel Plan Statement for both uses has been prepared. The Travel Plan Statement for the Sports Hall facilities is contained within Appendix 7.12

Pedestrian & Cycle

7.201 The Development would not result in any significant impacts on the pedestrian and cycle network that would require further mitigation from that proposed as part of the Development.

7.202 The Development includes the implementation of permeable routes through the Site to ensure maximum connectivity for all users, include pedestrian connections in all directions. These proposed measures would complement the proposed infrastructure that is to be implemented as part of the Outline planning consent.

7.203 The approved Langhorn Drive/A316 Chertsey Road signal-controlled junction includes the formation of at-grade pedestrian/cycle crossings on all arms. These crossings would replace the existing pedestrian overbridge that would be removed. These improvements would complement the recent improvements to the shared pedestrian/cycle paths along the A316.

7.204 The Outline planning consent also includes the upgrade of the Marsh Farm Lane to a shared pedestrian/cycle path, linking with the proposed improvements to Twickenham Junction and providing a continuous off-road connection to London Road and Twickenham Rail station.

7.205 In addition to these measures, the Development includes the formation of a pedestrian and cycle access from Egerton Road, catering for journeys between the Site and the centre of Twickenham. The proposed access and the quality of the route to/from the District Centre has been assessed in regard to TfL's 'Healthy Streets Assessment' criteria, with further improvements provided including the upgrade of crossing points on Egerton Road.

7.206 The proposed introduction of routes through the Site between Egerton Road and March Farm Lane to access the residential dwellings and the College would allow these areas to be included within the PTAL assessment and form part of the PTAL 3 (increasing from PTAL 0).

Parking

7.207 Parking on-street is prohibited by the existing CPZ restrictions. The Development would include the implementation of a car club space on Egerton Road to provide a further incentive for residents to not own a private car. All residents would be provided with memberships for the car club operator to encourage uptake from occupation. These car club spaces would also be available to the public, who may also be encouraged to not replace their private car when needed (it is found that most residents only use the car occasionally) opting for more sustainable modes with adhoc car club use.

7.208 The proposed 'car-lite' approach to the Development would discourage car ownership, with a series of mitigation measures to be implemented to encourage this from the outset. It is also noted that the Development would include an increase in on-street parking provisions, providing additional on-street parking spaces on Egerton Road.

7.209 The Development includes for the provision of a Car Club bay, along with membership and initial subsidy for residents use. This will support the low car parking provision at the Development and also allow future residents to use a car without the need to own one, thus leading to reductions in overall vehicle trips and therefore noise and air quality effects.

Public Transport Services

7.210 The Development would result in a negligible effect on the operations of the local bus and rail services. Further public transport services have been added since the Outline planning consent and further services are still to be added (as confirmed by TfL during pre-app discussions).

Traffic Flows

7.211 No mitigation is required for the local highway network road links as the effects of the Development would be negligible.

Junction Capacity

7.212 No further mitigation is required for the local junctions. As part of the Outline planning consent the use of the existing junction of A316 Chertsey Road was modelled using capacity software and was found to operate within capacity. In addition, the proposed improvements to the junction including its signalisation and increased turning movements (to be delivered as part of the Outline planning consent) have also previously been modelled using capacity software to confirm that it would further improve the capacity of the junction, whilst also maximise the efficiencies of the junction and improve the capacity of other junctions elsewhere.

Residual Effects

7.213 This section of the chapter identifies the remaining residual effects of the Development, assuming implementation of the proposed mitigation and enhancement measures set out above.

Construction Phase

7.214 The traffic flows effects of all mode trip generation including construction person and vehicle trips would be **negligible**.

7.215 The effects of the proposed temporary vehicular access off Egerton Road for residents would only have a localised impact, with the levels of traffic already permitted on the wider network as part of the Outline consented scheme. As determined by this assessment, the temporary impact on the local streets would be **negligible**.

7.216 The residual effects on pedestrian and cycle modes, pedestrian severance and delay, fear and intimidation, amenity would remain **negligible**.

7.217 The residual effect on accidents and safety would be **negligible.**

7.218 The residual effect on parking would be **negligible**.

7.219 The residual effect on public transport services would also be **negligible**.

Operational Phase

7.220 The Development would result in a reduction in traffic flows from that assessed for the Outline planning consent. However, in isolation the Development has been assessed and the residual effect on traffic flows and junction capacity would be **negligible**.

7.221 The Development would have **negligible** residual effect on pedestrian severance, delay, fear and intimidation and amenity.

7.222 The residual effect on public transport services would also be **negligible**.

7.223 The residual effect on parking would be **negligible**.

Cumulative Effects

Construction Phase

7.224 As set out previously in this chapter, it is not possible to undertake a cumulative assessment of the construction phase due to the lack of data available for other committed developments locally.

7.225 The ES Chapter for the Outline planning consent (Ref: 15/3038/OUT) included consideration of two committed developments at the time; the Royal Mail Sorting Office development, which is now complete, and the improvements to Twickenham Station, which are currently being constructed. At this time, it is difficult to accurately predict the levels of construction activity that would remain at Twickenham Station when the Development commences.

7.226 Notwithstanding the above, the construction of the Outline planning consent and Twickenham Station development continue to progress in unison, with no adverse impacts. The Development would continue to impose the same construction procedures and process as those for the Outline planning consent still to be constructed. All construction traffic would prioritise the use of the strategic road network and would be unlikely to utilise routes passing the station that would cause any disruption to operations.

7.227 The proposed construction works would be supported by a CEMP, in liaison with LBRuT and TfL, to ensure that construction programmes, routing strategies and timings for road closures, for example, are carefully coordinated. It is therefore concluded that the residual cumulative effects will be **negligible**.

Operational Phase

7.228 As detailed above, the Development would generate less traffic than that previously considered as part of the Outline planning consent and would reduce traffic levels from that considered as part of the cumulative assessment. The operational cumulative effect would therefore be **negligible**.

7.229 Three other committed development sites (as set out in Chapter 2: Methodology) have been considered further as part of the cumulative assessment. These have been reviewed further below.

7.230 Lockcorp House, 75 Norcutt Road, Twickenham (planning ref: 19/2789/FUL). A proposal for 15 affordable residential dwellings located to the south of the Site. The Lockcorp House site is located to the south of the railway line and away from the main traffic routes that are subject assessment for the Development (such as Whitton Road and the adjacent section of the A316 Chertsey Road, for example). Therefore, any traffic generated by this scheme would be unlikely to use these routes, with alternative routes along the highway network likely to be more desirable.

7.231 Notwithstanding the scheme's location, the proposal includes a modest level of development that replaces a more intensive commercial use that would result in a reduction in vehicle trips. Therefore, no further assessment of the cumulative effects of this development are considered necessary.

7.232 Old Station Forecourt, Railway Approach, Twickenham (planning ref: 19/3616/FUL). The proposal includes the redevelopment of an existing car park to provide a residential block of 46 dwellings. This proposal is located close to London Road opposite Twickenham Station. The scheme is for a car-free development, replacing an existing station car parking that would have been regularly used. Therefore, the impacts of the scheme would be **negligible** and would not require further assessment.

7.233 1-1C King Street, 4 Water Lane, The Embankment and River Wall, Water Lane, Wharf Lane and The Diamond Jubilee Gardens, Twickenham (planning ref: 21/2758/FUL). The proposal includes the demolition of existing buildings to construct a scheme of 45 residential dwellings, ground floor commercial/retail, a public house and associated landscaping and amenity space including the reprovision of Diamond Jubilee Gardens.

7.234 The site is located approximately 1.5 kilometres to the south of the Site and to the southern of the railway line away from the main traffic routes that are subject to assessment as part

of the Development (such as Whitton Road and the adjacent section of the A316 Chertsey Road, for example). Therefore, any traffic generated by this scheme would be unlikely to use these routes, with alternative routes along the highway network likely to be more desirable (such as the A305). The location of the site is also unlikely to result in any change to the use of these routes by pedestrians, with the site located on the opposite side of the town centre.

7.235 It is therefore considered that the cumulative effects of the identified Developments would be **negligible**.

Summary

7.236 As a result of the proposed design measures, the effects of the Development on the surrounding highway network will not result in any significant adverse effects.

7.237 All construction traffic to and from the Site will be controlled by a routing agreement which will prevent the use of residential roads by such vehicles, therefore resulting in a negligible effect on road users, pedestrians and cyclists during the construction phase.

7.238 There will be a negligible increase in traffic flows on the surrounding highway network as a result of the completed Development. The highest increases are expected to occur on the internal access roads that serve the Site, with increases on the highway network forecast to be negligible.

7.239 Traffic resulting from the Development will be appropriately mitigated by the proposed highway and pedestrian/cycle improvements, to be implemented by both the Development and through the Outline planning consent. All existing junctions will continue to operate with sufficient capacity.

7.240 In addition to traffic flow and capacity, the impacts of the Development on public transport have also been assessed. In a similar arrangement to traffic flows, the assessment for the Outline planning consent was considered to be robust and confirmed higher levels of public transport use than that which is now anticipated. Notwithstanding, the extents of bus and rail services have since increased and are due to increase further in the near future which will further enhance the capacity of the network.

7.241 An assessment of pedestrian and cycle trips has also been undertaken confirming that the Development would not result in a material impact on pedestrian infrastructure, particularly following the implementation of the significant infrastructure improvements through the Outline planning consent.

7.242 As confirmed by this assessment, the Development is unlikely to generate any material change in pedestrian and cycle demand.

7.243 Overall, the Development will not have a significant adverse effect on the local transport network or the local environment in transport terms.Tables 7.14 and 7.15 contain a summary of the likely significant effects of the Residential Development Zone and the Sports Hall phases of the Development respectively.

Table 7.14: Table of Significance – Residential Development Zone planning application

Potential Effect	Nature of Effect (Permanent/ Temporary)	Significance (Major/Moderate / Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/ Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	B	L	
Construction											
Traffic flows effects	Temporary	Negligible	Implementation of a detailed Construction Environmental Management Plan (CEMP), to include a Construction Logistics Plan (CLP) and Construction Method Statement. To be secured by planning condition.							*	Negligible
Pedestrian and cycle flow effects	Temporary	Negligible								*	Negligible
Severance	Temporary	Negligible								*	Negligible
Pedestrian/Cycle Amenity & Delay	Temporary	Negligible								*	Negligible
Fear and Intimidation	Temporary	Negligible								*	Negligible
Accidents and Safety	Temporary	Negligible								*	Negligible
Parking	Temporary	Negligible								*	Negligible
Public Transport	Temporary	Negligible								*	Negligible
Completed Development											
Traffic Flow Effects	Permanent	Negligible	Implementation of a detailed Travel Plans and Delivery & Servicing Plans. To be secured by planning condition. Improvements to access at Egerton Road for pedestrians and cyclists including new crossing facilities. Additional on-street parking provision on Egerton Road, including the addition of a car club bay/space							*	Negligible
Pedestrian and Cycle Flow Effects	Permanent	Negligible								*	Negligible
Severance	Permanent	Negligible								*	Negligible
Pedestrian/Cycle Amenity & Delay	Permanent	Negligible								*	Negligible
Fear and Intimidation	Permanent	Negligible								*	Negligible
Accidents and Safety	Permanent	Negligible								*	Negligible
Parking	Permanent	Negligible								*	Negligible
Public Transport	Permanent	Negligible								*	Negligible
Cumulative Effects											
Construction	Temporary	No Impact	CEMP							*	Negligible
Operation	Permanent	Negligible	None required							*	Negligible

*** Geographical Level of Importance**
I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; L = Local

Table 7.15: Table of Significance – RuTC and RTS Sports Halls planning applications

Potential Effect	Nature of Effect (Permanent/ Temporary)	Significance (Major/Moderate / Minor) (Beneficial/Adverse/Negligible)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/ Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	B	L	
Construction											
Traffic flows effects	Temporary	Negligible	Implementation of a detailed Construction Environmental Management Plan (CEMP), to include a Construction Logistics Plan (CLP) and Construction Method Statement. To be secured by planning condition.							*	Negligible
Pedestrian and cycle flow effects	Temporary	Negligible								*	Negligible
Severance	Temporary	Negligible								*	Negligible
Pedestrian/Cycle Amenity & Delay	Temporary	Negligible								*	Negligible
Fear and Intimidation	Temporary	Negligible								*	Negligible
Accidents and Safety	Temporary	Negligible								*	Negligible
Parking	Temporary	Negligible								*	Negligible
Public Transport	Temporary	Negligible								*	Negligible
Completed Development											
Traffic Flow Effects	Permanent	Negligible	Implementation of a detailed Travel Plans and Delivery & Servicing Plans. To be secured by planning condition. Improvements to access at Egerton Road for pedestrians and cyclists including new crossing facilities. Additional on-street parking provision on Egerton Road, including the addition of a car club bay/space							*	Negligible
Pedestrian and Cycle Flow Effects	Permanent	Negligible								*	Negligible
Severance	Permanent	Negligible								*	Negligible
Pedestrian/Cycle Amenity & Delay	Permanent	Negligible								*	Negligible
Fear and Intimidation	Permanent	Negligible								*	Negligible
Accidents and Safety	Permanent	Negligible								*	Negligible
Parking	Permanent	Negligible								*	Negligible
Public Transport	Permanent	Negligible								*	Negligible
Cumulative Effects											
Construction	Temporary	No Impact	CEMP							*	Negligible
Operation	Permanent	Negligible	None required							*	Negligible

*** Geographical Level of Importance**
I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; L = Local

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