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## **11.1 INTRODUCTION**

11.1.1 The Traffic and Transport chapter of the Environmental Statement (ES) assesses the potential traffic and transport impacts of the Proposal at the Site. Specifically, it assesses the impact of the Proposal on the surrounding highway network; public transport networks; and surrounding pedestrian and cycling environments. The Chapter has been prepared by SBA, part of the WYG Group.

11.1.2 SBA has also prepared a Transport Assessment (TA) Report and to support the detailed planning application for the Proposal at the Site. The TA Report is included within Technical Appendix 11.1 of this ES.

### **Scope of Assessment**

11.1.3 A highways scoping note was prepared by SBA in June 2013 and issued to London Borough of Richmond-upon-Thames (LBRuT) Highways.

11.1.4 It was agreed with the Highways Officer (Mary Toffi) that car and cycle parking provision for the site should meeting the maximum and minimum standards set out in LBRuT's Development Management Policies document.

11.1.5 Suitable TRAVL trip rates and traffic flows associated with the proposed development were also agreed, in principle.

### **Data Collection Methodology**

#### Existing Trip Generation

11.1.6 A traffic survey was carried out at the main site access between 7am and 7pm for a six day period; Friday 17<sup>th</sup> May to Wednesday 22<sup>nd</sup> May 2013. The survey was used to determine the typical number and type of vehicle trips arriving and departing the site on an hourly basis. The survey recorded the number of cars, LGVs, HGVs, motorcycles and pedal cycles.

### Proposed Trip Generation

- 11.1.7 The methodology used to predict the trip generation for the proposed development was presented in the highways scoping note and agreed with the LBRuT Highways Officer.
- 11.1.8 The TRAVL trip rate database (Version 1.18) was used to determine average trip rates (per dwelling) from existing residential developments considered similar to that proposed in terms of scale, location, car parking provision and accessibility to public transport. A total of four survey sites were identified as being suitable.
- 11.1.9 Vehicle (car driver) trip rates were applied to the proposed development of 265 dwellings to calculate the number of arrival departure and total hourly vehicle trips.

## **11.2 POLICY CONTEXT**

### **National Planning Policy**

#### The Transport White Paper (2011)

- 11.2.1 The government's vision for the local transport system is set out in the January 2011 Transport White paper "Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen".
- 11.2.2 The White Paper acknowledges that transport provision is essential for economic growth if the Government is to improve the economic deficit that it is currently facing. However, The Paper also recognises that the current levels of carbon emissions from transport cannot be sustained if the nation is to meet its national commitment on climate change as well as creating a safer and cleaner environment in which to live. With this in mind, the Government highlights sustainable transport solutions as a means by which the economy can grow which will also see a positive impact on the local environs.

11.2.3 Whilst the Paper outlines the funding options which will be available for sustainable transport schemes, it also recognises that investment alone will not be enough and that help needs to be given to people to ensure that the transport choices they make are good for society as a whole. The Paper recognises that it is at the local level where most can be done to encourage sustainable transport modes and implement sustainable transport schemes. Solutions should be developed for the places they serve, tailored for the specific needs and behaviour patterns of individual communities.

11.2.4 Within the Paper, sustainable transport considers more than just public transport, walking and cycling schemes and acknowledges that it is not feasible for some trips to be undertaken by these modes. There is therefore a realisation that the car will continue to be an important mode of transport and focus should be given to making car travel greener through electric and other low emission vehicles.

#### The National Planning Policy Framework (2010)

11.2.5 The Government's National Planning Policy Framework (NPPF) replaced the majority of previous Planning Policy Statement (PPS) and Planning Policy Guidance Note (PPG) documents on 27 March 2012. It sets out the Government's expectations and requirements from the planning system. It is meant as high level guidance for local councils to use when defining their own personal local and neighbourhood plans. This approach allows the planning system to be customised to reflect the needs and priorities of individual communities.

The NPPF defines the delivery of sustainable development through three roles:

1. Planning for prosperity (an economic role);
2. Planning for people (a social role); and
3. Planning for places (an environmental role).

11.2.6 It notes that to achieve sustainable development, these roles should be sought jointly and simultaneously through the planning system.

11.2.7 At the heart of the NPPF is a presumption in favour of sustainable development which:

*'should be seen as a golden thread running through both plan-making and decision-taking.'* (para. 14). In paragraph 15, it goes on to say that: *'Policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay.'*

11.2.8 The NPPF recognises that transport policies have an important role to play in wider sustainability and health objectives as well as their direct influence on development. In paragraph 29 it states that *'the transport system needs to be balanced in favour of sustainable transport modes giving people a real choice about how they travel.'*

11.2.9 Paragraph 32 states that:

*'All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of 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 limit 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.'*

11.2.10 Paragraph 34 seeks to ensure that,

*'developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.'*

11.2.11 It notes, however, that this needs to take account of policies set out elsewhere in this Framework. It goes on to mention that:

*'Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people.'* Therefore, 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, avoiding street clutter.*
- *incorporate facilities for charging plug-in and other ultra-low emission vehicles; and*
- *consider the needs of people with disabilities by all modes of transport.'*

### **Regional Planning Policy**

#### The London Plan (2011)

11.2.12 The July 2011 version of the London Plan replaces the 2008 version of the London Plan (consolidated with alterations since 2004). It is the overall strategic plan for London and sets out a fully integrated economic, environmental, transport and social framework for the development of the capital to 2031.

11.2.13 Enabling sustainable modes of transport is seen to support this vision. The London Plan notes that London should be (objective 6):

*'A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling and makes better use of the Thames, and supports delivery of all the objectives of this Plan.'*

11.2.14 Chapter 6 is titled 'London's Transport' and Policy 6.1 'Strategic Approach' states:

*'The Mayor will work with all relevant partners to encourage the closer integration of transport and development through:*

- encouraging patterns and nodes of development that reduce the need to travel, especially by car;*
- seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greatest demand;*
- supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvements including, where appropriate, those provided by developers through the use of planning obligations;*
- improving interchange between different forms of transport, particularly around major rail and Underground stations, especially where this will enhance connectivity in outer London;*
- seeking to increase the use of the Blue Ribbon Network, especially the Thames, for passenger and freight use;*
- facilitating the efficient distribution of freight whilst minimising its impacts on the transport network;*
- supporting measures that encourage shifts to more sustainable modes and appropriate demand management;*
- promoting greater use of low carbon technology so that carbon dioxide and other contributors to global warming are reduced;*
- promoting walking by ensuring an improved urban realm; and*
- seeking to ensure that all parts of the public transport network can be used safely, easily and with dignity by all Londoners, including by securing step free access where this is appropriate and practicable.'*

11.2.15 Policy 6.3 Assessing Effects of Development on Transport Capacity states:

*'Development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed.'*

11.2.16 Policy 6.13 'Strategic Approach' states:

*'The Mayor wishes to see an appropriate balance being struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use.'*

The Mayor's Transport Strategy (2010)

11.2.17 The Mayor's Transport Strategy, published in May 2010 contains six main objectives to (Chapter 1, Para. 2):

- *'Support economic development and population growth;*
- *Enhance the quality of life for all Londoners;*
- *Improve the safety and security of all Londoners;*
- *Improve transport opportunities for all Londoners;*
- *Reduce transport's contribution to climate change and improve its resilience; and*
- *Support delivery of the London 2012 Olympic and Paralympic Games and its legacy'.*

11.2.18 The Mayor's transport vision for London is that over the years to 2031 (Chapter 2, Para. 29):

*'London's transport system should excel among those of global cities, providing access to opportunities for all its people and enterprises, achieving the highest environmental standards and leading the world in its approach to tackling urban transport challenges of the 21st century.'*



## **Local Planning Policy**

### London Borough of Richmond upon Thames Local Plan (2011)

11.2.19 LBRuT Local Plan (also known as the Local Development Framework or LDF) is a collection of planning policy documents that will guide future development and regeneration in the Borough over the next 15 years and beyond. The Local Plan comprises the following development plan documents (DPDs):

- Core Strategy DPD (adopted April 2009);
- Development Management Plan DPD (adopted November 2011);
- Twickenham Area Action Plan (adopted July 2013);
- Site Allocations DPD (currently under consultation); and
- Joint Waste DPD (currently under consultation).

11.2.20 In addition to the DPDs, LBRuT have produced a series of Supplementary Planning Guidance (SPG) and Supplementary Planning Documents (SPD) providing greater detail on policies within the Local Plan to support decisions on planning applications.

11.2.21 As of November 2011, all policies contained within the LBRuT Unitary Development Plan with the exception of the UDP proposal sites and policy on waste collection and disposal were superseded LBRuT Local Development Management Plan (DMP).

11.2.22 Chapter 5.4 of the adopted DMP sets out Transport and Parking policy for the Borough and was designed to take forward Core Strategy Policy 5 and to complement the Borough's Local Implementation Plan. Policies relevant to the proposed redevelopment of Teddington Studios are listed below:

#### *Policy DM TP 2: Transport and New Development*

*'The impact of new development on the transport network will be assessed against other plan policies and transport standards. All planning applications for major developments should be accompanied by a Transport Assessment and for smaller development should be*

*accompanied by a Transport Statement. Matters to be included are set out in DfT/TfL guidance.*

*Developers should also take account of the Council's SPD on Transport Standards.'*

*Policy DM TP 3: Enhancing Transport Links*

*'New development will be expected to create or improve links with the local and wider transport networks, including links to the cycle and pedestrian networks.*

*All new development must be designed to improve accessibility including:-*

- 1. Maximise permeability, with safe, convenient, accessible and appropriate road, cycle and pedestrian routes within and in the immediate vicinity of the scheme, as well as accessible walking and cycling links to the wider transport network including to the public transport nodes and key land uses, taking account for the need to connect people to jobs, to town centres and to schools.*
- 2. Gated developments will not be permitted.*
- 3. Developments adjoin the River Thames must provide a public riverside walk.'*

*Policy DM TP 4: Integration of different types of Transport and Interchange facilities*

*'Developments will be expected to improve the quality and connectivity of transport interchanges of any scale, particularly in terms of*

- Opportunities for interchange between different types of transport through the provision of appropriate facilities and good information.*
- Easy access to interchange points (e.g. stations/bus stops) by various types of transport.*
- Transport facilities which are well laid out and allow access to a wide range of users (e.g. level or with accessible lifts or ramps).*

- *Attractive and welcoming environment – well designed civic spaces, sun and rain shelter, high quality and well maintained hard and soft landscape.*
- *Safe and secure environment – e.g. good lighting, CCTV, ticket barriers.'*

*Policy DM TP 6: Walking and Pedestrian Movement*

*To protect, maintain and improve the pedestrian environment, the Council will ensure that:-*

- 1. New development and schemes protect, maintain and, where appropriate, improve the existing pedestrian infrastructure, including the Rights of Way network.*
- 2. New development does not adversely impact on the pedestrian environment and provide appropriate pedestrian access.*
- 3. New development and schemes improve the safety and security of the pedestrian environment where appropriate.*

*Policy DM TP 7: Cycling*

*To maintain and improve conditions for cyclists, the Council will ensure that new development or schemes do not adversely impact on the cycling network or cyclists and provide appropriate cycle access and sufficient, secure cycle parking facilities.*

*Policy DM TP 8: Off Street Parking – Retention and New Provision*

*Development, redevelopments, conversions and extensions will have to demonstrate that the new scheme provides an appropriate level of off street parking to avoid an unacceptable impact on on-street parking conditions and local traffic conditions.*

*A set of maximum car parking standards and minimum cycle parking standards are set out in Appendix Four – Parking Standards for all types of development, these take into account bus, rail and tube accessibility as*

*well as local highways and traffic conditions including demand for on-street parking. These standards will be expected to be met, unless it can be shown that in proposing levels of parking applicants can demonstrate that there would be no adverse impact on the area in terms of street scene or on-street parking’.*

11.2.23 As set out in *Policy DM TP 8*, the Borough’s maximum car parking standards and minimum cycle parking standards are set out in Appendix 4 of the DMP document. The relevant section of the parking standards table is set out in Table 2.1 LBRuT Parking Standards (LDF DMP, 2011).

**Table 11.1 LBRuT Local Plan Car and Cycle Parking Standards**

LAND USE	VEHICLE PARKING SPACE REQUIRED (all floor space referred to is gross)		CYCLE PARKING (all floor space referred to is gross)
	CONTROLLED PARKING ZONES (Maximum unless otherwise stated)	THE REMAINDER OF THE BOROUGH	SPACE REQUIRED (Minimum)
(a) Residential Care Homes or Nursing Homes	1 space per 5 residents plus 0.5 spaces per unit of staff accommodation	as CPZ	0.5 spaces per unit of staff accommodation
(b) Hospitals	0.5-1.0 spaces per bed	as CPZ	1 per 200sqm
(c) Residential Colleges or Educational Centres	0.5 spaces per bedroom	as CPZ	0.5 spaces per bedroom
<b>NOTE:</b> Each case will be considered on its merits having regard to the nature of services being provided.			
USE CLASS C3			
STANDARD RESIDENTIAL	In CPZs occupiers of new residential developments may not be eligible for on street parking permits where existing levels of on street parking are very high. (Blue Badge holders exempt) There are exceptions to this rule which are detailed in Policy DM TP 8. Garages will be treated as parking spaces.		
	1- 2 bedrooms 1 space	1-2 bedrooms 1 space	1 space
	3 bedrooms For 1 unit, 2 spaces; for two or more units 1 allocated space plus sufficient unallocated spaces to provide a total of 1.5 spaces overall per unit	3 bedrooms For 1 unit, 2 spaces; for two or more units 1 allocated space plus sufficient unallocated spaces to provide a total of 1.5 spaces overall per unit	1 space
	4+ bedrooms 2 spaces	4+ bedrooms 2 spaces (negotiable)	2 spaces

Source: LBRuT Development Management Plan (pg. 146)

In summary, it can be seen that there are a number of current and emerging integrated land use and transport planning policies and policy guidance documents that support and underpin the proposed development of Teddington

Studios; and encourage travel to / from the Site by sustainable travel modes where possible. The key policy objectives to note are:

- Provide sustainable transport choices and promote behaviour change measures to encourage sustainable travel;
- Seek to reduce dependency on the private car;
- Adopt a sustainable level of car parking provision within maximum standards;
- Make provision for pedestrian and cycle access; and
- Provide cycle parking in line with minimum parking standards.

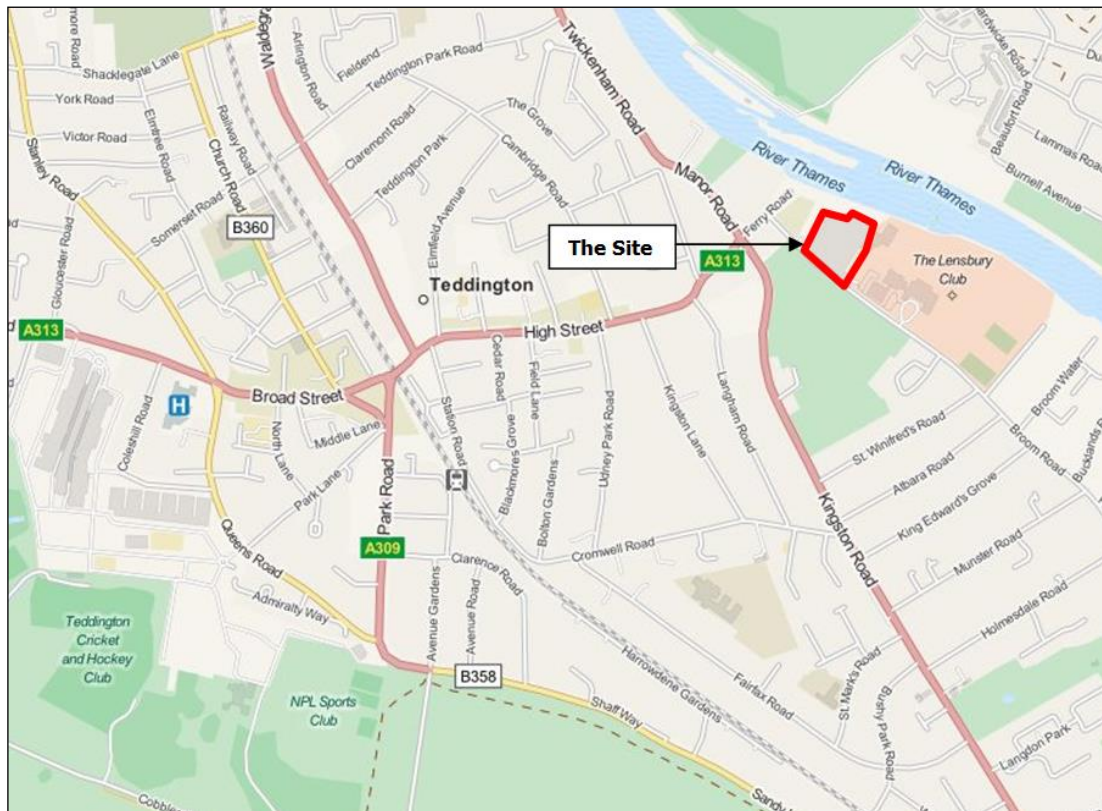
### **11.3 BASELINE CONDITIONS**

11.3.1 This Section of the Chapter provides a summary of the existing, or 'baseline', conditions at the site and within the surrounding area. Further details are provided within Chapter 3 of the Transport Assessment (TA).

11.3.2 The application site is located approximately 300m east of Teddington High Street and 120m east of the A310 Kingston Road / A313 Ferry Road crossroads junction. It is bounded to the west by a pub house known as the Anglers, to the south by the Broom Road, by the River Thames to the north and a hotel spa known as the Lensbury Club to the east. Teddington Lock Conservation Area is located immediately north and west of the site.

11.3.3 A site location plan is shown in Figure 5.1 overleaf:

**Figure 11.1 Site Location Plan**



### **Existing Uses**

11.3.4 The site is occupied by multiple buildings associated with Teddington Studios and 350 surface level car parking spaces. The spaces are used by employees associated with Pinewood Studios and Haymarket Media Group.

### **Existing Access Arrangements**

11.3.5 There are currently four access points to the site, namely:

- The main access, located towards the western boundary of the site and consists of a 6m wide vehicular cross over with 3m radii defined by low level brick walls, this gives access to the main site car park (around 81 spaces) and some of the delivery areas;
- An ingress point consisting of a vehicular crossover, at approximately the centre of the site's frontage adjacent to the pedestrian access to the main

building. This also provides access to a further area of parking (16 marked spaces) along the frontage to the site;

- An egress in connection with the above again a vehicular crossover; and
- A further vehicular crossover located towards the south-eastern boundary of the site providing access for servicing vehicles, this also links with the two access points discussed directly above.

### **Local Highway Network**

11.3.6 Broom Road extends approximately 1.5km in length from its junction with Ferry Road, 80m north of the site, to its junction with Normansfield Avenue and Lower Teddington Road to the south. Broom Road is an unclassified multifunctional link providing access to a number of residential no-through roads, playing fields, sports facilities, Lensbury Hotel Spa Teddington School.

11.3.7 Average Annual Daily Traffic (AADT) two-way flow on this link is 3,895 vehicles, including 213 vehicles greater than 3.5tn. The traffic survey recorded an AADT northbound flow of 2,028 vehicles and southbound flow of 1,868 vehicles.

11.3.8 The speed limit on Broom Road is 30mph and reflects the predominantly residential nature of the areas adjoining the link. Traffic calming on Broom Road is in the form of road humps located approximately 120m apart. The ATC survey recorded an average vehicle speed of 19.59mph on this link.

11.3.9 The Site is not located in an LBRuT Controlled Parking Zone (CPZ). However parking on Broom Road is prohibited by double yellow line markings and Ferry Road, between its junction with the A310 and the River Thames, is a small CPZ.

11.3.10 Ferry Road CPZ is known as 'Z2' and is in operation seven days a week between 8.30am and 6.30pm. Parking in the street within these operational hours is restricted to those with business and resident parking permits.



### **Road Safety Review**

11.3.11 Personal injury accident (PIA) data for the most recent five year period was obtained from Transport for London (*TfL*). The study area included the road network in the immediate vicinity of the site. A total of 15 accidents were recorded over the five year assessment, 14 accidents resulted in casualties with 'slight' injuries and one accident resulted in a pedestrian casualty with serious injuries. It was concluded that causation factors attributed to the accidents were a result of driver / rider / pedestrian error and not a result of highway design or layout. Full analysis of PIA data is provided in Chapter 3 of TA report.

### **Cycle & Pedestrian Accessibility**

11.3.12 There are a number of recommended and signed cycle routes accessible in the vicinity of the site. Broom Road is a signed route and provides an alternative route to Kingston Town Centre, which is less busy than the A310 Kingston Road located to the south of the site.

11.3.13 The closest route with national designation is National Cycle Route (NCR) 4 which runs between London and Fishguard via Reading, Bristol and Swansea. NCR 4 can be accessed from Ferry Road via a footbridge over the Thames, located 100m north of the Site. In close proximity to the site, NCR 4 is a traffic-free Greenway route providing access to Kingston-upon-Thames to the south and Richmond to the north.

11.3.14 The site is currently accessed on foot from Broom Road via a stepped footway with handrails adjoining the southern side of the vehicle access road. Zebra crossing markings are present across the access junction to assist pedestrians crossing.

11.3.15 Broom Road has footways on both sides of the carriageway and street lighting in the form of standard lighting columns located at the back of the footway. There is no formal pedestrian crossing facility on this link. The nearest controlled crossings to the site are located at the A310 / A313 junction in the

form of a pelican crossing at all four arms. These crossings benefit from dropped kerbs, but there is no tactile paving.

11.3.16 The site is located a short walk distance (approximately 80m from the site access) from Teddington Lock Footbridge, which comprises two separate bridges across the River Thames. The footbridge provides access to the Thames River Walk for onwards travel to facilities located on the 'Ham-side' of the river.

### **Public Transport Accessibility**

11.3.17 The Transport for London (TfL) Planning Information Database indicates that the site is rated as 'poor' (PTAL rating of 2) in terms of public transport accessibility. However, a low PTAL score can sometimes be misleading when accessibility to public transport is being considered. For example, in the case of this development the site is 1.2km from the railway station and will undoubtedly be used by the future residents of the site, but is not included within the PTAL calculation because it is more than 960m from the site.

11.3.18 The nearest bus stops to the site are located close to the junction of Ferry Road and Kingston Road at a distance of approximately 160-200m metres from the site access. The stops can be accessed using existing footways on Broom Road and Ferry Street along with pedestrian crossing facilities on all arms of the A310 / A313 crossroads junction. Bus routes serving these stops include the 281, 258 and R68, all of which operate seven days a week and provide access to key destinations including Twickenham, Richmond and Heathrow Airport.

11.3.19 TfL set a maximum of walk distance of 960m for accessible rail services. There are no underground stations within or close to being within this walk distance threshold from the site. However, Teddington Station is located approximately 1.2km walk distance for the site and can be accessed in approximately 14 to 16 minutes. The station provides a typical off-peak service of six trains per hour to London Waterloo, of which four run via Kingston and Wimbledon, and two run via Richmond and Putney. There are two trains per hour to Shepperton.

## 11.4 POTENTIAL IMPACTS AND MITIGATION

11.4.1 This section assesses the construction and operational impacts of the proposed development, in terms of any change in the number of vehicle trips on the local road network, change in the demand on local public transport services and any likely change in the pedestrian movements on the local footways and pedestrian crossings.

### Significance Criteria

11.4.2 The significance criteria take into consideration the sensitivity of the receptor being assessed as well as the proportional effect of the changes. These are classified in Tables 11.2, 11.3 and 11.4.

**Table 11.2 Receptor Sensitivity**

Receptor Sensitivity/Value	Geographical Importance
<b>Very High</b>	National network capacity
<b>High</b>	Greater London network capacity
<b>Medium</b>	LBRuT network capacity
<b>Low</b>	Site and immediate surrounding network

**Table 11.3 Magnitude of Effect**

Receptor Sensitivity/Value	Description
<b>Significant</b>	The proposed development would cause a large change to existing transport conditions (50% change)
<b>Moderate</b>	The proposed development would cause a noticeable change to existing transport conditions (20% < change < 50%)
<b>Low</b>	The proposed development would cause a small change to existing transport conditions (5% < change < 20%)
<b>No Effect</b>	The proposed development would cause no discernible change to existing transport conditions (< 5% change)

**Table 11.4 Significance Matrix**

<b>Receptor Sensitivity/Value</b>	<b>Significant</b>	<b>Moderate</b>	<b>Low</b>	<b>No Effect</b>
<b>Very High</b>	Significant	Significant	Moderate	No Effect
<b>High</b>	Significant	Moderate	Low	No Effect
<b>Medium</b>	Moderate	Low	No Effect	No Effect
<b>Low</b>	Low	No Effect	No Effect	No Effect

11.4.3 The above criteria can be further categorised into:

- Beneficial: Where positive effect in terms of transport is witnessed as a result of the scheme;
- Negligible: A small, immeasurable change; and,
- Adverse: Disbenefits occur as a result of the scheme implementation.

**Demolition and Construction Impacts**

11.4.4 Demolition and construction will generate short term increases in Heavy Goods Vehicle (HGV) movements on the highway in the vicinity of the application site.

11.4.5 The type and number of vehicles generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage.

11.4.6 Based on previous experience we would expect in the region of 50 HGVs to travel to the site on a daily basis during the demolition period. The ATC survey on Broom Road recorded that there are currently 3,825 two-way vehicle trips on Broom Road, including 213 HGVs.

11.4.7 The traffic survey of the existing use recorded up to 43 two-way HGV trips at the site access when new filming sets are transported to the site. 50 HGVs accessing the site during demolition will create 100 two-way HGV trips, which equates to a residual impact of 57 additional two-way trips compared to the existing situation.

11.4.8 There will also be traffic movements associated with co-worker and construction workers. However it is expected that the majority of these will arrive by public transport given the excellent public transport accessibility of the Site.

11.4.9 Potential transportation and access related impacts that will arise during the demolition and construction phases comprise:

- Temporary disruption to road users at specific times of the day from vehicles accessing and egressing the application site (minor adverse impact of temporary duration); and
- Temporary disruption to pedestrians at specific times of the day from vehicles accessing and egressing the application site (minor adverse impact of temporary duration).

11.4.10 Overall the demolition and construction phase will have a **moderate adverse** impact for a **temporary** duration. The highway impact of the demolition and construction stages will be managed via a Construction Management Plan (CMP), which it suggested is secured as a planning condition.

### **Completed Development Impacts**

11.4.11 This section assesses the operational impacts of the proposed development. The various transport networks which will be affected by the proposed development have been considered, including: bus; National Rail (from Teddington Station); pedestrian; cycle; parking; and highway.

#### Impact on Public Transport Capacity

11.4.12 The number of public transport trips generated by the proposed development was calculated using trip rates derived from the TRAVL database along with mode split data from 2011 Census.

11.4.13 Public transport trips are presented in Table 11.2 below, which includes the morning peak period is 8.00 – 9.00am and the afternoon peak period is 5.00 – 6.00pm.

**Table 11.5: Public Transport Trips**

Peak Periods	Arrivals	Departures	Two-way
<b>08:00-09:00</b>	10	25	35
<b>17:00-18:00</b>	26	20	46

11.4.14 The results of the TRAVL calculations show that the 219 unit development is likely to generate 35 public transport trips in the morning peak hour and 46 public transport trips in the afternoon peak hour.

11.4.15 Method of Travel to Work data for Teddington Ward from the 2011 Census has been used to determine the proportion of public transport trips across London Underground, trains and buses. The Census recorded 1,562 (70.5%) persons travelled by train, 441 (19.9%) by bus and 213 (9.6%) by London Underground.

Bus Capacity

11.4.16 The above information has been used to determine the number of bus trips generated by the site during the peak hours, the results of this are summarised in Table 11.3.

**Table 11.6: Bus Trips**

Peak Periods	Arrivals	Departures	Two-way
<b>08:00-09:00</b>	2	5	7
<b>17:00-18:00</b>	5	4	9

11.4.17 The R68 (four buses per hour), 281 (7 buses per hour) and 285 (7 buses per hour) bus services are accessible in 120 to 200 metres from the site access.

Combined, these services provide a total of 18 buses per hour in each direction during the morning and afternoon peak hours. Nine additional bus passengers on 36 two-way services will result in a very minor impact.

11.4.18 It has been concluded therefore that the proposed development is expected to result in a **no effect** on the surrounding bus network.

#### National Rail Capacity

11.4.19 The number of mainline rail trips generated by the proposed development was calculated using the above information and is summarised in Table 11.4 below.

**Table 11.7: Rail Trips**

Peak Periods	Arrivals	Departures	Two-way
08:00-09:00	7	18	25
17:00-18:00	18	14	32

11.4.20 There will be approximately 18 additional rail trips leaving from Teddington in the morning peak period and an additional 18 inbound trips in the afternoon peak period. The Station is served by eight trains per hour to Waterloo and two trains per hour in peak hour. This equates to less than two passengers on each train in the peak hour.

11.4.21 Therefore, it is expected that the proposed development will result in a **low** impact upon mainline rail services operating from Teddington Station.

#### London Underground Capacity

11.4.22 There are no London Underground stations within a reasonable walking distance of the site. Richmond Underground Station is the closest LUL station and can be accessed in approximately 40 minutes using Bus Route R68. However, residents are more likely to use rail services from Teddington Station for access to Central London. This is reflected in the above figures, which

suggest that the site would only generate three two-way trips in the morning peak and five in the afternoon peak on the London Underground.

11.4.23 In light of this, it is expected that the proposed development will result in a **no effect** upon London Underground services from local LUL stations.

#### Impact on Cycle Network and Facilities

11.4.24 The proposed development will provide secure, accessible cycle parking for the residential units located in the basement parking area. Cycle parking has been planned in excess of the Borough's minimum cycle parking standards as set out in their Development Management Plan. Further information on cycle parking provision is provided in the TA report in Appendix 11.1.

11.4.25 The traffic survey of the existing use at the site recorded a total of 147 two-way cycle trips between 7am and 7pm on a typical weekday. The multi-modal TRAVL data for cyclists suggests that the residential development will generate just 24 two-way cycle trips across this period. This is a reduction in 123 cycle trips on the local cycle and highway networks on a typical weekday.

11.4.26 It is considered that the proposed development will result in a **beneficial** impact in terms of cycling safety in the local area.

#### Impact on Highway Network

11.4.27 The number of vehicle trips generated by the proposed development was calculated using trip rates derived from the TRAVL database and compared to the number of vehicles recorded at the access. Details of the TRAVL survey sites and full trips rates are provided in Transport Assessment appended to this report. The residual traffic impact of the development is presented in Table 11.8.



**Table 11.8: Residual Traffic Impact across a Typical Weekday**

<b>Time Period</b>	<b>No. Vehicle Trips Generated by Existing Use</b>	<b>No. Vehicle Trips Generated by Proposed Use</b>	<b>Residual Impact</b>
<b>07:00-08:00</b>	26	29	3
<b>08:00-09:00</b>	61	42	-19
<b>09:00-10:00</b>	111	30	-81
<b>10:00-11:00</b>	40	31	-9
<b>11:00-12:00</b>	17	27	10
<b>12:00-13:00</b>	36	34	-2
<b>13:00-14:00</b>	65	23	-42
<b>14:00-15:00</b>	32	20	-12
<b>15:00-16:00</b>	23	34	11
<b>16:00-17:00</b>	34	40	6
<b>17:00-18:00</b>	96	48	-48
<b>18:00-19:00</b>	71	53	-18
<b>12 Hour Total</b>	<b>612</b>	<b>411</b>	<b>-201</b>

11.4.28 The above results indicate that the redevelopment of the Teddington Studios to provide 219 residential units will reduce the level of traffic generated by the site, by 201 two-way vehicle trips between the hours of 7am and 7pm. This includes 19 less two-way trips in the AM peak hour (8am - 9am) and 48 less trips in the PM peak hour (5pm – 6pm).

11.4.29 LB Richmond Highways requested that the traffic impact of the development on Broom Road was quantified at the peak hours for local school drop-offs and pick-ups in the morning and afternoon periods respectively.

11.4.30 The nearest academic institutions are Teddington School and Hampton Wick School located 900m and 1.4km south of the Site on Broom Road respectively. Table 5.3 demonstrates that the development will reduce traffic in the morning peak hour (08:00 to 09:00) and therefore it is unlikely that the development would have an impact on existing traffic during this period.

11.4.31 In the school PM peak hour for 'pick-ups' between 15:00 and 16:00 hours, the proposal will generate 11 additional two-way trips on Broom Road, six arrivals and five departures. The existing two-way flow on Broom Road between 15:00 and 16:00 hours is 307 vehicles, an additional 11 two-way trips would have a 3.5% impact, which is considered insignificant.

11.4.32 Assuming a robust worst-case 50/50 split of development traffic at the proposed Site accesses, only five additional vehicles would pass the locations of the school sites on Broom Road, three heading northbound (site arrivals) and two southbound (site departures). Five additional trips spread across the hour equates to one additional vehicle passing the schools every 12 minutes, this is unlikely to be detrimental to existing conditions.

11.4.33 In light of this assessment, it is considered that the proposed development will result in a **beneficial** impact on the surrounding highway network in the long term.

## 11.5 RESIDUAL IMPACTS

11.5.1 Table 11.9 below provides a summary of the impacts of the proposed development on the various transport networks surrounding the application site. It is expected that the impacts of the proposed development will be minor adverse during the demolition and construction phase. However, these impacts will be temporary and short-term in duration and will be managed through a CMP. Impacts during the operational phase of the proposed development will range from short term neutral to long term beneficial.

**Table 11.9: Summary of Residual Impact**

Topic Area (Traffic & Transport)	Description of Impact	Geographical Importance					Impact	Nature	Significance
		N	R	S	D	L			
<b>Increase in HGV movements</b>	During demolition and construction			*	*	*	Adverse	Short-term	moderate
<b>Impact on bus capacity</b>	Post development				*	*	Neutral	Long-term	No Effect
<b>Impact on National Rail capacity</b>	Post development			*	*	*	Neutral	Long-term	No Effect
<b>Impact on cycle network and facilities</b>	Post development				*	*	Beneficial	Long-term	No Effect
<b>Impact on highway network</b>	Post development			*	*	*	Beneficial	Long-term	No Effect

**KEY:**

<b>Geographical Level of Importance</b>	<b>Impact</b>	<b>Nature of Impact</b>	<b>Significance</b>
National	Adverse	Long Term	Significant
Regional	Neutral	Short Term	Moderate
Sub-Regional	Beneficial		Low
District			No Effect
Local			

## **11.6 SUMMARY AND CONCLUSIONS**

11.6.1 This Chapter of the ES provides an explanation of the methods used in undertaking the assessment of the proposal at the site with reference to published standards, guidelines and best practice. It provides a summary of the key findings of the TA Report, including the outcome of the traffic generation assessment.

11.6.2 Prior to the preparation of this Chapter, and the accompanying TA Report discussions took place with London Borough of Richmond Highways Development Control Team. This led to the preparation and submission of a range of Technical Notes addressing specific matters, the findings of which have been incorporated within this Chapter and the TA Report. This Chapter has been prepared in accordance with the requirements of the IEMA guidelines.

11.6.3 The traffic generation assessment concluded that the Proposal is likely to result in a net reduction in the number of vehicle trips generated by the site, which is likely to improve conditions on the local highway network. Furthermore, a significant reduction in the number of larger vehicles generated by the site at the post-development stage will have a long-term positive impact on highway safety on the local road network.

11.6.4 In conclusion, it is expected that the impacts of the proposal will be moderate adverse during the temporary and short-term demolition and construction phases. Impacts during the operational phase of the Proposal will range from Neutral to Beneficial with no significant effects.