

## 7. COMMUNITY AND PRIVATE ASSETS

### 7.1 Introduction

7.1.1 This chapter assesses the likely impacts of the Scheme on people and communities. Specifically, the chapter covers potential impacts relating to the following areas (both construction and operation of the Scheme are assessed unless otherwise stated):

- community facilities (this term includes social infrastructure such as schools, healthcare provision and places of worship; leisure and entertainment facilities; and areas of formal and informal open space);
- private assets (this relates to residential and commercial land uses, and includes infrastructure (for example apparatus of utility companies));
- development land (including planning applications and development land allocations);
- community severance (where access to facilities may be affected during the construction of the Scheme);
- accessibility impacts during the operational phase of the Scheme; and
- economic impacts associated with the Scheme.

7.1.2 Other likely impacts on people and communities are those relating to amenity, such as air quality (Chapter 6), noise (Chapter 14) and visual impacts (Chapter 15). These topics are addressed in further detail elsewhere in this Preliminary Environmental Information Report (PEIR), although relevant information as it relates to amenity will be summarised in this chapter.

7.1.3 All drawings referenced within this chapter are presented in Volume 2 of the PEIR and all appendices referenced in this chapter are presented in Volume 3.

### 7.2 Regulatory and policy framework

7.2.1 This impact assessment has been undertaken in accordance with current international and national legislation, and national, regional and local plans and policies relating to community and private assets in the context

of the Scheme. A summary of the relevant legislation and policies, together with the requirements of these policies and Scheme response has been provided in Table 7-1.

**Table 7-1 Community and private assets regulatory and policy framework**

Summary of requirements	Scheme response
National Road and Rail Networks: National Policy Statement (NN NPS) (December 2014) (Ref 7-1)	
<p>The Government’s vision and strategic objectives for national networks includes <i>‘supporting a prosperous and competitive economy’</i> and specifically:</p> <p>Networks with the capacity and connectivity to support national and local economic activity and facilitate growth and create jobs; and</p> <p>Networks which join up our communities and link effectively to each other.</p> <p>Paragraph 2.27 states that <i>‘in some cases....it will not be sufficient to simply expand capacity on the existing network. In those circumstances new road alignments and corresponding links, including alignments which cross a river or estuary, may be needed to support increased capacity and connectivity.’</i></p> <p>Paragraph 3.3 requires that <i>‘reasonable opportunities to deliver environmental and social benefits as part of schemes’</i> should be considered and that environmental and social impacts should be mitigated in line with the principles set out in the National Planning Policy Framework (NPPF) and the Government’s planning guidance.</p>	<p>The assessment has considered existing and proposed land-uses and the presence of communities on either side of the River Thames. The assessment has considered changes to journey times and reliability, which would support economic growth.</p> <p>It is considered that the Scheme complies with the requirements of the NN NPS by supporting economic development through improved access to jobs and services and improved journey time reliability. The Scheme will also result in improved public transport provision, which will deliver social benefits and opportunities.</p> <p>Mitigation for relevant environmental effects has been identified where necessary.</p>
National Planning Policy Framework (NPPF) (Ref 7-2)	
The Government published the NPPF in March 2012. The document streamlines national planning policy into a consolidated set of priorities,	The Scheme meets the applicable core principles and advice concerning development within the NPPF, for example by

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Summary of requirements	Scheme response
<p>replacing most Planning Policy Statement and Planning Policy Guidance notes.</p> <p>The NPPF sets out 12 core planning principles that should underpin decision taking. Those that apply to the development include to <i>'proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs.'</i></p> <p>Paragraph 69 of the NPPF states that <i>'the planning system can play an important role in facilitating social interaction and creating healthy, inclusive communities.'</i> Planning policies and decisions should <i>'guard against the unnecessary loss of valued facilities and services, particularly where this would reduce the community's ability to meet its day to day needs'</i> (Paragraph 70).</p>	<p>supporting economic development through improved access to jobs and services and improved journey time reliability.</p>

Summary of requirements	Scheme response
Planning Practice Guidance (2014) (Ref 7-3)	
The newly released Planning Practice Guidance provides practical guidance to support the NPPF. The Guidance states that existing open space should be taken into account when considering development proposals.	The assessment has considered existing open space as part of the assessment and found that the Scheme would have no adverse impact upon existing provision.
London Plan 2015 (2011 Plan consolidated with Alterations since 2011) (Ref 7-4)	
The London Plan 2015 is the overall strategic plan for London for the development of England's capital city up to 2036. It incorporates various alterations published since 2011. Policies of relevance to the Scheme, together with the Scheme response, are described below.	
<p>Policy 2.9 'Inner London'</p> <p>The policy states that there is a desire to <i>'work to realise the potential of inner London in ways that sustain and enhance its recent economic and demographic growth while also improving its distinct environment, neighbourhoods and public realm, supporting and sustaining existing and new communities....and improving quality of life and health for those living, working, studying or visiting there.'</i></p>	The assessment has considered existing and proposed land-uses, economic and demographic growth and factors relating to the local environment. The assessment has also considered changes to journey times and reliability, which would support economic growth. It is considered that the Scheme complies with this policy.
<p>Policy 2.13 'Opportunity Areas'</p> <p>The Greenwich Peninsula is designated as an Opportunity Area. The policy states that development proposals within Opportunity Areas should <i>'seek to optimise residential and non-residential output and densities, provide necessary social and other infrastructure to sustain</i></p>	Future development land, including Opportunity Areas have been included in the assessment of the Scheme. The Greenwich Masterplan and other potential future development areas have been taken into account during Scheme design in order to minimise land take that might impact upon future development.

Summary of requirements	Scheme response
<i>growth and, where appropriate, contain a mix of uses’.</i>	
<p>Policy 2.14 ‘Areas for Regeneration’ Identifies specific regeneration areas within London, including in and around the study area. The justification supporting the policy states that social deprivation remains particularly acute around the eastern side of central London.</p>	<p>Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.</p>
<p>Policy 2.18 ‘Green Infrastructure’ The policy states a need to <i>‘protect, promote, expand and manage the extent and quality of, and access to, London’s network of green infrastructure’.</i></p>	<p>Areas of open space and existing networks of green infrastructure have been included within the assessment of the Scheme and found that the Scheme would have no adverse impact upon existing provision.</p>
<p>Policy 3.1 ‘Ensuring equal life chances for all’ The policy states that development proposals should <i>‘protect and enhance facilities and services that meet the needs of particular groups and communities’.</i></p>	<p>Social infrastructure and access to it has been included within the assessment of the Scheme and no adverse impact upon existing provision has been identified.</p>
<p>Policy 3.16 ‘Protection and Enhancement of Social Infrastructure’ Describes what is covered by the term ‘social infrastructure’, referring to a wide range of facilities including health provision, nurseries, schools, colleges and universities, community, cultural, play, recreation and sport facilities, places of worship and fire stations. The policy includes the statement that <i>‘proposals which would result in a loss of social infrastructure in areas of defined need for that type of social infrastructure without realistic proposals for re-provision should be resisted’.</i></p>	<p>Social infrastructure and access to it has been included within the assessment of the Scheme and no adverse impact upon existing provision has been identified.</p>

Summary of requirements	Scheme response
<p>Policy 4.1 ‘Developing London’s Economy’ The policy states that there is a desire to <i>‘promote and enable the continued development of a strong, sustainable and increasingly diverse economy across all parts of London’</i>.</p>	<p>The Scheme would improve journey times and reliability and could therefore contribute to economic objectives.</p>
<p>Policy 4.5 ‘London’s Visitor Infrastructure’ The policy includes the need to promote, enhance and protect the special characteristics of major clusters of visitor attractions including those identified in Strategic Cultural Areas (for example Greenwich Riverside).</p>	<p>The Scheme would improve journey times and reliability and could therefore contribute to wider economic objectives including those relating to the tourism economy.</p>
<p>Policy 4.6 ‘Support for and Enhancement of Arts, Culture, Sport and Entertainment Provision’ The policy identifies the need to <i>‘support the continued success of London’s diverse range of arts, cultural, professional sporting and entertainment enterprises and the cultural, social and economic benefits that they offer to its residents, workers and visitors’</i>.</p>	<p>Social infrastructure and access to it has been included within the assessment of the Scheme and no adverse impact upon existing provision has been identified.</p>
<p>Policy 7.17 ‘Metropolitan Open Land (MOL)’ The policy states that there is protection from development having an adverse impact on the openness of MOL.</p>	<p>Areas of open space and existing networks of green infrastructure have been included within the assessment of the Scheme and no adverse impact upon existing provision has been identified.</p>
<p>Policy 7.18 ‘Protecting Local Open Space and Addressing Local Deficiency’ The policy states that the loss of local protected open spaces must be resisted unless equivalent or better quality provision is made within the local catchment area.</p>	<p>Areas of open space and existing networks of green infrastructure have been included within the assessment of the Scheme and no adverse impact upon existing provision has been identified.</p>

Summary of requirements	Scheme response
Greater London Authority 'Economic Development Strategy' (May 2010) (Ref 7-5)	
<p>The Economic Development Strategy sets out the Mayor's vision for London.</p> <p>Action 2E states that the Mayor will <i>'work with boroughs and other partners to improve the quality of life in London both for the benefit of Londoners and as a key competitive asset for the city'</i>.</p> <p>Action 5A states that the Mayor will <i>'direct growth into the places that have the greatest need of and potential for development, as set out in the London Plan, especially the Opportunity Areas'</i>.</p>	<p>The Scheme would improve journey times and reliability and could therefore contribute to economic objectives.</p>
Greater London Authority, Strategic Regeneration Framework (2011) (Ref 7-6)	
<p>The Mayor of London and the six Olympic Host Boroughs have committed to working towards achieving socio-economic convergence between the Host Boroughs and the rest of London over the period to 2030. A Convergence Action Plan, together with an annual progress report, has been produced for the period 2011-2015.</p>	<p>The Scheme would improve journey times and reliability and could therefore contribute to economic objectives.</p>
Greenwich Core Strategy (Ref 7-7)	
<p>The draft Core Strategy sets out the spatial strategy, vision, objectives and core policies for development within Greenwich up to 2027. Relevant strategic and development management policies include Policy EA1 (Economic Development), EA3 (Greenwich Peninsula West), EA4 (Strategic Industrial Locations), OS1 (Open Space), OS2 (MOL) and CH1 (Cohesive Communities).</p>	<p>The Scheme would improve journey times and reliability and could therefore contribute to economic objectives. Social infrastructure, communities and development land have also been considered in the assessment of the Scheme and no adverse impact upon existing provision has been identified. The Scheme has been designed to minimise land-take, including of</p>



Summary of requirements	Scheme response
	development land.
Newham Core Strategy (adopted January 2012) (Ref 7-8)	
Relevant policies include those relating to strategic industrial sites and safeguarded wharves.	
<p>Policy S3 'Royal Docks'</p> <p>The policy sets out a vision for this area as a unique and high quality waterfront urban quarter. Strategic sites included within the policy are S08 (Thames Wharf), S21 (Silvertown Quays) and S22 (Minoco Wharf).</p>	<p>Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.</p>
<p>Policy S4 'Canning Town and Custom House'</p> <p>The policy sets out the vision for the area to undergo a comprehensive programme of regeneration and renewal, to provide an enhanced neighbourhood delivering new homes, with an expanded town centre and carefully placed taller buildings. Strategic sites included within the policy are S08 (Thames Wharf).</p>	<p>Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.</p>
<p>Policies J1 and J2</p> <p>Policies J1 (Investment in the New Economy) and J2 (Providing for Efficient Use of Employment Land) state that major industrial development will be directed to Strategic Industrial Locations (SIL) including those to the north side of the River Thames along the Royal Docks area.</p>	<p>Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.</p>
INF8 (Community Facilities).	Social infrastructure and access to it has been included within the assessment of the Scheme and no adverse impact upon existing

Summary of requirements	Scheme response
	provision has been identified.
Tower Hamlets Core Strategy (adopted 2010) (Ref 7-9)	
The Core Strategy forms the key spatial planning document for Tower Hamlets and includes five spatial themes, namely refocusing town centres, strengthening neighbourhood well-being, enabling prosperous communities, designing a high quality city and delivering placemaking.	
Policy SP02 Policy SP02 states that the majority of new housing will be focused in the eastern part of the Borough, including locations such as Cubitt Town.	Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.
Greenwich Peninsula West Masterplan Supplementary Planning Document (SPD) April 2012 (Ref 7-10)	
The SPD provides a masterplan to guide development and support the planning process, setting out a vision and objectives for the area.	Future development land, including specific regeneration areas have been taken into account during Scheme design and included within the assessment of the Scheme.

## 7.3 Methodology

### General approach

- 7.3.1 No detailed guidance has been published to provide a specific methodology for the assessment of effects on community and private assets. Consequently, this assessment has drawn on the relevant parts of Design Manual for Roads and Bridges (DMRB) Guidance (Volume 11, Section 3, Parts 3, 6, 8, 9 and 12) which provide guidance for assessing the impact of schemes on land use, community access and policies and plans respectively (Ref 7-11). The guidance provides that the assessment of community assets is primarily concerned with issues of severance (i.e. the separation of residents from facilities and services they use) together with the loss of land and facilities used by the community. The assessment of the effects on private assets takes into account demolition and/or land-take from private properties and effects on development land.
- 7.3.2 The scope includes a socio-economic assessment of the Scheme. Other documents that deal with the economic benefits of the Scheme include the preliminary Outline Case for the Scheme (Ref 7-12) and the preliminary Regeneration Report (Ref 7-13) which are also part of the suite of consultation documents available for review. Socio-economic factors considered within this chapter relate to job creation during both the construction and operation phases and wider accessibility impacts. As such, the study has also been informed by the Homes and Communities Agency's (HCA) 'Additionality Guide' (Ref 7-14). The guide explains how to assess the additional impact of local economic growth for various interventions such as new infrastructure, and has recently been updated to include new information, research and guidance. The guide states that:
- 'central to good appraisal is the need to assess whether the intervention concerned will bring additional benefits over and above what would have happened anyway in its absence.'*
- 7.3.3 The HCA provides particular guidance in relation to issues such as the extent of the study area and the broad approach to the assessment.
- 7.3.4 Table 7-2 and Table 7-3 below set out in more detail the specific impacts that will be assessed, the resources that may be affected by the impact, together with a description of how the assessment will be undertaken.

**Table 7-2 Construction phase**

<b>Impact</b>	<b>Resource affected</b>	<b>Method of assessment</b>
Direct land-take	Residential, commercial and community facilities, and development land	The quantity of permanent and temporary land-take will be identified, together with the type of asset that it may relate to in the Book of Reference for Compulsory Acquisition which will be submitted with the DCO.
Construction impact on private and community assets	Residential, commercial and community facilities	Impacts assessed here include the possible damage to community and private assets as a result of construction processes. The assessment has been informed by specialist technical reports on construction process. The assessment will also consider potential impacts on development land during the construction process.
Impact on river navigation and wharfage	Working wharves and associated facilities, river users	Assessment informed by the Navigational Risk Assessment available in Volume 3, Appendix 4.B of the PEIR (Ref 7-15) prepared for the Scheme.
Impact on utilities infrastructure	Utilities infrastructure	Impacts on utilities infrastructure as a result of the construction of the tunnel and associated development. Assessment informed by the Utilities Strategy Report which will be submitted with the DCO and Preliminary Engineering Report prepared for the Scheme. Where appropriate this will be addressed by “protective provisions” in the DCO.
Severance	Access to residential, commercial and community facilities	Severance will be assessed through the identification of primary access routes and traffic data for each accordingly. The extent of the effect will be identified according to the degree of change in traffic levels predicted, in accordance with DMRB

<b>Impact</b>	<b>Resource affected</b>	<b>Method of assessment</b>
		guidance.
Amenity	Residential, commercial and community facilities	The assessment will summarise the effects on the amenity of people and communities which will result from changes in air quality, noise and traffic. Effects will be summarised from other relevant chapters of this PEIR.
Employment creation	Local economy	The scope of this chapter will include socio-economic impacts, including that of job creation during the construction period. The numbers of jobs that would be created, including displacement and leakage, will be assessed in line with guidance contained in the HCA's Additionality Guide (Ref 7-14). The number of jobs lost as a result of land-take will also be considered.
Local expenditure	Local economy	The indirect benefit to the local economy from expenditure of construction workers will be assessed, making use of employment and expenditure data.

**Table 7-3 Operation phase**

<b>Impact</b>	<b>Resource</b>	<b>Method of assessment</b>
Improved accessibility to jobs and services	Local residents and businesses	Changes in accessibility as a result of the Scheme, for example in relation to reductions in journey times, access to employment and services will be identified from documents including the Social and Distributional Analysis and Regeneration Report prepared for the Scheme.

<b>Impact</b>	<b>Resource</b>	<b>Method of assessment</b>
Employment	Direct and indirect jobs	The scope of this chapter will include socio-economic impacts, including that of job creation during the operation of the Scheme. The numbers of direct and indirect jobs that will be created by the Scheme will be identified.
Wider economic impacts	Direct and indirect jobs	Other areas to be considered include the impacts of the Scheme in the wider area, informed by the Outline Business Case (OBC) for the Scheme (for example the Regeneration Report) and on tourism.
Community Severance	Residential, commercial and community facilities	As with the construction phase of the Scheme, improvements to, or changes in levels of severance will be identified according to the degree of change in traffic levels predicted along primary routes, as identified by traffic modelling for the Scheme. The assessment will link with information provided in the OBC - Social and Distributional Analysis for the Scheme.
Amenity	Residential, commercial and community facilities	The assessment will summarise the effects on the amenity of people and communities which will result from changes in air quality, noise and traffic. Effects will be summarised from other relevant chapters of this PEIR.
Potential impacts on development land	Development land	An assessment undertaken of the impact of the Scheme on development land, using planning applications and strategic development sites which may be influenced by the Scheme.

**Consultation**

- 7.3.5 Public and stakeholder consultation was undertaken in relation to the Introductory Environmental Report produced for the Scheme in late 2014 (Ref 7-16), which provided initial detail about the Scheme and the potential effects arising from it. Since that time, non-statutory consultation has included engagement with relevant local authorities, major businesses and statutory stakeholders in addition to members of the public. Consultation roadshow events have taken place at local venues. Consultation with local businesses has been undertaken on behalf of Transport for London (TfL) using an updated Business Survey in 2015 (Ref 7-17), which has helped inform the findings of this chapter.
- 7.3.6 Other consultees include the Port of London Authority (PLA), which has been consulted on the potential impact of the Scheme on operational and safeguarded wharves and use of the River Thames.

**The study area**

- 7.3.7 The study area varies depending on the topic that is being assessed. Table 7-4 below sets out the spatial scope for the assessment of effects; it should be noted that the spatial scope is aligned with other assessments being undertaken as part of the Development Consent Order (DCO) preparation, including the Health Impact Assessment (HIA) and Equalities Impact Assessment (EqIA) work.

**Table 7-4 Spatial scope for the assessment of effects**

	<b>Description</b>
<b>Core area</b>	Effects experienced at or in the vicinity of the tunnel (includes the limit of land within the Land to be Acquired or Used (LLAU) by the Scheme).
<b>Noise, Air Quality and Traffic Assessment Area</b>	A study area that corresponds with those used within the air quality, noise and transport assessments of the Environmental Statement (ES) (including key routes used radiating out from the Scheme).
<b>Community Facilities Assessment</b>	A study area extending a distance of 1km from the LLAU.

	<b>Description</b>
<b>Local area</b>	Includes the three host Boroughs of Newham, Tower Hamlets and Greenwich.
<b>Sub-regional area</b>	Includes east London boroughs of Barking & Dagenham, Bexley, Hackney, Havering, Lewisham, Southwark, Redbridge and Waltham Forest.

7.3.8 For each of the potential impacts of the Scheme, Table 7-5 sets out the appropriate study area that has been used for assessment purposes.

**Table 7-5 Study area used to assess potential impacts**

<b>Impact</b>	<b>Study area</b>
<b>Land-take</b>	Core area
<b>Community severance</b>	Community facilities assessment area
<b>Impacts on private assets (including utilities infrastructure, development land)</b>	Core and local areas as appropriate
<b>Amenity (both from construction processes and during operation)</b>	Noise, air quality and traffic assessment areas
<b>Socio-economic impacts (employment creation, local expenditure, wider economic impacts)</b>	Local and sub-regional areas as appropriate
<b>Accessibility</b>	Local and sub-regional areas as appropriate



### **Methodology for establishing baseline conditions**

#### Establishing the existing baseline

- 7.3.9 A baseline has been developed for the area, described quantitatively where possible, making use of qualitative information where necessary.
- 7.3.10 Establishing the baseline conditions has drawn on the following range of information sources:
- identification of private and community assets within the appropriate study areas, based on on-line mapping and verified by site visits;
  - identification of development land allocations as identified in the relevant development plan framework, together with identification of relevant planning applications within 500m of the LLAU;
  - collection and analysis of socio-economic statistics in order to create a profile of the local and wider study area. This has included data from a range of sources such as the Office for National Statistics (ONS), Local Economic Assessments and Economic Development Strategies, and Core Strategies for individual London Boroughs. It has also considered research undertaken into new river crossings in East London, including for example findings from relevant reports and surveys (such as the River Crossings Business Survey undertaken in 2013 and repeated in 2015); and
  - information provided as part of other assessment work undertaken in relation to the Scheme, including for example the Outline Business Case, Regeneration Report and the Social and Distributional Impact Reports that are part of the suite of documents that accompany this PEIR.

#### *Forecasting the future baseline ('without scheme' scenario)*

- 7.3.11 The future baseline has been determined using sources including borough level population and employment growth projections prepared by the Greater London Authority (GLA) (Ref 7-18), as well as information relating to currently consented developments within the study area. The future baseline aligns with work undertaken in relation to the preparation of the Outline Business Case and other documents including the Transport Assessment.

*Defining the importance/sensitivity of resource*

7.3.12 Unlike most other environmental topics, the sensitivity of socio-economic receptors to the Scheme is not determined by reference to designations or an objective standard. The importance or sensitivity of resources has been categorised based on the perceived type and value of the asset or facility affected by the Scheme, using professional judgement. The criteria set out in Table 7-6 are used as a guide for assessment. Professional judgement has been applied in determining whether or not an effect is likely to be significant. A combination of quantitative and qualitative assessment has therefore been used, depending upon the type of impact that has been assessed.

**Table 7-6 Determining the importance / sensitivity of resource**

<b>Importance/ sensitivity of resource or receptor</b>	<b>Examples</b>
<b>High</b>	<ul style="list-style-type: none"> <li>• Residential properties</li> <li>• Safeguarded wharves</li> <li>• Specialised commercial uses (for example uses that are location dependent)</li> <li>• Buildings used by the community such as schools, community centres and places of worship</li> <li>• Open space or recreational facilities that are of national significance (including for example National Trails)</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>• Land associated with residential or commercial sites, for example gardens</li> <li>• Community land, open space or recreational facilities of regional significance (for example Metropolitan Open Land)</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>• Derelict or unoccupied buildings that are not the subject of a current planning permission</li> <li>• Community land, open space or recreational facilities of local significance (for example pocket parks, playing fields)</li> </ul>

Source: adapted from DMRB (Ref 7-11), professional judgment

### **Methodology for assessing impacts**

- 7.3.13 The definitions of magnitude of impact and significance of effect have been adapted from those presented in the DMRB using professional judgment. Summary tables for the assessment of impacts on community and private assets are provided in Table 7-7 and The significance of effects is a function of the magnitude of the impact and the sensitivity of the receptor. Table 7-8 sets out how the significance of impacts have been determined. Where two possible scores exist, professional judgment has been used to determine the significance of the effect. Shaded areas of the table show where an effect may be considered to be significant.
- 7.3.14 Table 7-8 below. The significance of effects is a function of the magnitude of the impact and the sensitivity of the receptor. Table 7-8 sets out how the significance of impacts have been determined. Where two possible scores exist, professional judgment has been used to determine the significance of the effect. Shaded areas of the table show where an effect may be considered to be significant.
- 7.3.15 The assessment of impacts on amenity draws on work detailed elsewhere in this PEIR (notably impacts relating to air quality, noise and traffic) and utilises assessment criteria used within these chapters accordingly.
- 7.3.16 The assessment of development land makes use of an alternative approach, based upon the availability of the land for the proposed use and impact on amenity as a result of the Scheme. Impacts are described as:
- Beneficial – where the availability of land for the proposed use is not affected and where there may be improvements to viability as a result of improved linkages or access, and where there are no amenity issues that may affect the use of the land;
  - Adverse – where part or all of the site may no longer be available, or where there may be a reduction in amenity at the site that may affect the use of land (either on a temporary or permanent basis); and
  - Neutral – where there would be no obvious impact on either the viability or amenity of the site.

**Table 7-7 Assessing magnitude of impact**

<b>Magnitude of impact*</b>	<b>Criteria</b>
<b>Major</b>	<ul style="list-style-type: none"> <li>• Demolition of buildings or significant loss of land (&gt;50%)</li> <li>• Complete severance of access</li> <li>• Significant change to accessibility</li> </ul>
<b>Moderate</b>	<ul style="list-style-type: none"> <li>• Moderate loss of land (between 15% to 50% of land)</li> <li>• Major severance of access</li> <li>• A moderate measurable change in employment numbers (positive or negative)</li> </ul>
<b>Minor</b>	<ul style="list-style-type: none"> <li>• Minor loss of land (&lt;15% of land)</li> <li>• Some partial or temporary severance of access</li> <li>• A minor negative or positive change in employment levels</li> </ul>
<b>Negligible</b>	<ul style="list-style-type: none"> <li>• Very slight change from the baseline conditions</li> </ul>
<b>No Change</b>	<ul style="list-style-type: none"> <li>• No discernible change from the baseline conditions</li> </ul>

\*Magnitude of impacts can be positive or negative

7.3.17 The significance of effects is a function of the magnitude of the impact and the sensitivity of the receptor. Table 7-8 sets out how the significance of impacts have been determined. Where two possible scores exist, professional judgment has been used to determine the significance of the effect. Shaded areas of the table show where an effect may be considered to be significant.

**Table 7-8 Assessing significance of effect**

		<b>Magnitude</b>			
		<b>Negligible</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>
<b>Sensitivity</b>	<b>High</b>	Minor	Moderate/ minor	Major/ moderate	Major
	<b>Medium</b>	Minor	Minor	Moderate	Major/ moderate
	<b>Low</b>	Negligible	Minor/ negligible	Moderate/ minor	Moderate

**Limitations and assumptions**

- 7.3.18 Baseline conditions have been established using data that is currently available and as up to date as possible. Where possible, directly comparable information has been obtained across local authority areas.
- 7.3.19 Detailed information regarding the catchment areas of community facilities has only been obtained in relation to schools where this is considered to be relevant, principally those schools in closest proximity to the Scheme Assessments regarding community severance from various other facilities such as employment areas have been made using professional judgement.

**7.4 Description of the baseline conditions**

**Existing baseline**

- 7.4.1 This section describes the baseline conditions, including an overview of the socio-economic environment, followed by specific information relating to community facilities, private assets and development land.

Socio-economic environment

- 7.4.2 The following paragraphs present a picture of the current economic environment for the local study area which comprises the three boroughs of Newham, Greenwich and Tower Hamlets, with comparator information provided for the sub region, the wider London area and the UK as necessary. Relevant data includes basic information relating to population; economic activity rates; employment by occupation; deprivation; numbers of, and survival rates for, existing businesses in

each of the three boroughs; and information relating to commuter travel. Data is also presented in relation to how the local economy might change over time in terms of population and employment growth.

7.4.3 Table 7-9 shows current population levels for boroughs within the local and sub-regional study area.

**Table 7-9 Borough population figures**

<b>Resident population of host and other east London boroughs</b>	<b>2011</b>
<b>Greenwich</b>	<b>245,586</b>
<b>Newham</b>	<b>295,777</b>
<b>Tower Hamlets</b>	<b>245,710</b>
Bexley	223,811
Hackney	235,334
Havering	233,207
Barking and Dagenham	180,895
Redbridge	266,175
Lewisham	271,275
<i>East and south-east sub-region</i>	<i>2,197,770</i>
<i>Greater London</i>	<i>7,991,889</i>

Source: GLA 2011

7.4.4 Table 7-10 sets out the economic activity rates for the three boroughs, together with comparative figures for London and for England and Wales as a whole. The economic activity rate measures the proportion of the working age population (aged between 16-64) who are active or potentially active members of the labour market. A high economic activity rate therefore means that a high proportion of people are working or available for work or training (ONS). The table shows that each of the boroughs has a lower economic activity rate than is the case for London, but also that the situation for each borough has improved over the ten

years since 2001. Newham currently has London’s lowest economic activity rate, yet both it and Tower Hamlets showed the greatest level of change between 2001 and 2011.

**Table 7-10 Economic activity rates 2001 and 2011**

	<b>2001</b>	<b>2011</b>
Newham	59%	67%
Tower Hamlets	59%	70%
Greenwich	66%	71%
London	68%	72%
England & Wales	67%	70%

Source: Census Data 2001 and 2011

7.4.5 Table 7-11 shows the proportion of economically active people classified as unemployed for each borough, together with comparative information for London and the UK. All three boroughs had higher proportions of unemployment than either for London as a whole or the UK (taken from the Annual Population Survey 2014 (Ref 7-19). The three boroughs have some of the highest proportions of unemployment in London (the highest is Barking and Dagenham, with an equivalent percentage of 10.8% unemployed).

**Table 7-11 Unemployment rates 2014**

	<b>Jan 2014-Dec 2014</b>
Newham	9.1%
Tower Hamlets	8.9%
Greenwich	9.1%
London	7.0%
UK	6.2%

Source: Nomis Web Annual Population Survey January 2014-December 2014

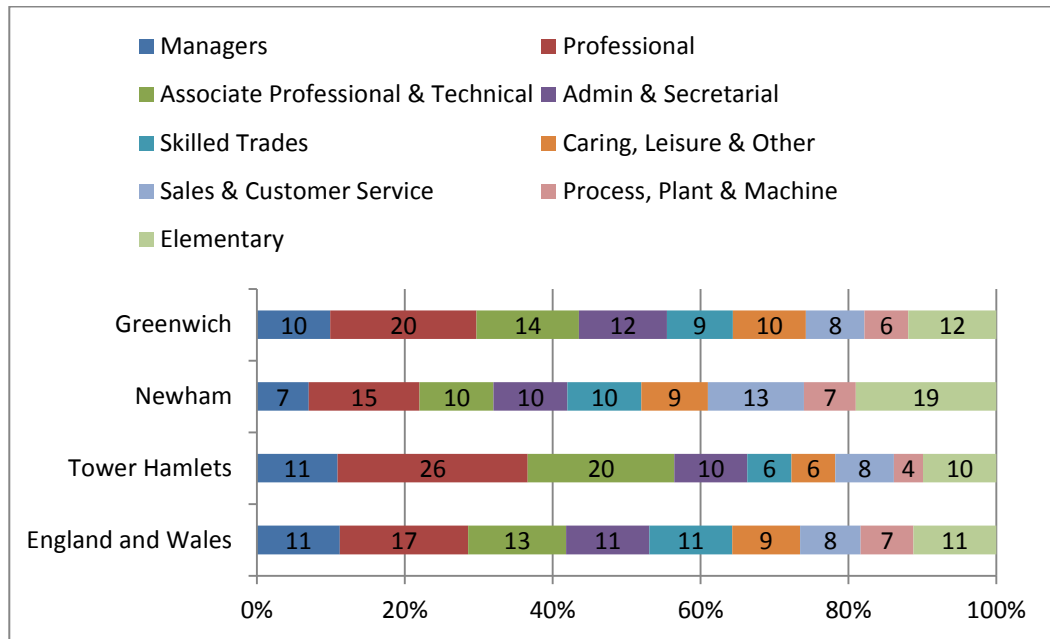
7.4.6 The Newham Local Economic Assessment 2010-2027 (Ref 7-20) refers to the level of change that is taking place within Newham in terms of development land and changes to employment areas. The Local Economic Assessment cites the importance of the London Borough of

Newham as a location for logistics and manufacturing firms, who value the close proximity of the borough to central London and the fact that the borough is home to the ExCeL Centre and London City Airport (the latter catered for some three million passengers in 2014 for a combination of domestic and international flights including to Europe and New York). The five largest employers in the borough are all within the public sector and include Newham University Hospital, the Metropolitan Police Authority and the University of East London. In line with the wider trend in London, Newham has experienced a decline in manufacturing employment. Large employers in this sector currently include London City Airport, the East London Bus and Coach Company and Tate and Lyle (Newham LEA 2010).

- 7.4.7 GLA forecasts for employment in London by broad industrial sector show that business services are expected to be the primary driver of London's employment growth, followed by other services including media, recreation and leisure, with major growth also anticipated in hotels and restaurants.
- 7.4.8 The English Indices of Deprivation 2010 provide a relative measure of deprivation at small area levels (Lower Super Output Areas) across England, based on information relating to income, employment, health and disability, education, crime, barriers to housing and services and living environment, which can be combined into an overall Index of Multiple Deprivation (IMD) (Ref 7-21). Using the IMD, the London Boroughs of Newham, Tower Hamlets and Greenwich rank amongst the 50 most deprived local authorities nationally, and amongst the 15 most deprived within London. The IMD is based on 2008 data; the Department of Communities and Local Government is currently updating the indices of deprivation, with publication of revised data planned for later in 2015.
- 7.4.9 Figure 7-1 shows employment of residents within each borough by occupation. The breakdown of employees varies considerably between boroughs. For example Tower Hamlets has higher employment in the managerial and professional categories (based around employment in scientific and technical areas as well as a focus in financial and insurance services). Newham, on the other hand, has comparatively lower levels of employment in these areas but instead has a higher proportion of employment in the sales and customer service and elementary sectors, reflecting employment in the wholesale and retail trade within the borough as well as accommodation and food services.



**Figure 7-1 Resident employment by occupation**



Source: RX Economic Baseline (based on ONS Census Data 2011)

7.4.10 Table 7-12 and Table 7-13 give a flavour of the business demography for the three boroughs of Newham, Tower Hamlets and Greenwich. Table 7-12 shows that Tower Hamlets is above the London borough average in terms of total number of businesses (in fact the borough has the tenth largest business base of all London boroughs reflecting, perhaps, its location adjacent to central London). The number of firms within both Newham and Greenwich falls significantly below the London average and both boroughs have one of the five smallest business bases of all London boroughs. Table 7-13 sets out firms by sector within each of the boroughs.

**Table 7-12 Number of firms (2011)**

	Number of Firms
Tower Hamlets	12,850
Greenwich	7,290
Newham	7,195
London Borough Average	12,763

Source: ONS Business Demography

**Table 7-13 Number of firms by sector (2011)**

<b>Sector</b>	<b>England &amp; Wales</b>	<b>London</b>	<b>Newham</b>	<b>Greenwich</b>	<b>Tower Hamlets</b>
Agriculture, forestry & fishing	108,180	565	5	5	10
Production	134,969	13,755	290	320	455
Construction	244,190	33,775	740	745	560
Motor trades	70,205	6,215	165	135	125
Wholesale	113,185	20,595	460	305	820
Retail	253,930	41,190	1,235	900	1,200
Transport & storage	74,185	9,515	240	200	395
Accommodation & food services	148,305	25,675	440	565	910
Information & communication	157,350	47,435	760	890	1,990
Finance & insurance	59,200	14,490	140	120	600
Property	82,910	20,390	295	195	555
Professional, scientific & technical	338,960	85,070	835	1,190	2,395
Business administration & support services	164,505	33,530	540	555	1,015
Public administration & defence	21,845	2,570	90	70	80
Education	59,760	8,810	240	245	305
Health	134,425	21,425	570	565	615
Arts, entertainment, recreation & other services	163,800	34,730	505	595	905
<b>TOTAL</b>	<b>2,329,895</b>	<b>19,735</b>	<b>7,550</b>	<b>7,600</b>	<b>12,935</b>

Source: ONS

7.4.11 The three boroughs of Newham, Tower Hamlets and Greenwich are characterised by a significant proportion of smaller firms – the majority of firms have fewer than four employees (70% of firms in Tower Hamlets fall

into this category, 71% of firms in Newham and 74% of firms in Greenwich).

7.4.12 Table 7-14 and Table 7-15 show the net increase in number of firms between 2011 and 2013 (business ‘births’ minus business ‘deaths’), together with survival rates for businesses born in 2008. Business start-ups, or births, are an indicator of entrepreneurial activity in an area, with survival rates giving an indication of the corresponding impact of that activity over time. The period between 2012 and 2013 has seen a considerable increase in the number of firms as economic recovery continues (the number of UK business births increased by 28.5% over this period, with the number of UK business deaths decreasing by only 6%) (Ref 7-22). Newham, despite having a relatively high number of business start-ups, has the lowest business survival rate of the 33 London boroughs.

**Table 7-14 Net increase in firms**

	<b>2011</b>	<b>2012</b>	<b>2013</b>
Tower Hamlets	1,000	700	1,605
Greenwich	440	315	805
Newham	740	500	1,010
London	18,100	13,570	33,990

Source: ONS Business Demography

**Table 7-15 Five year survival rates for businesses born in 2008**

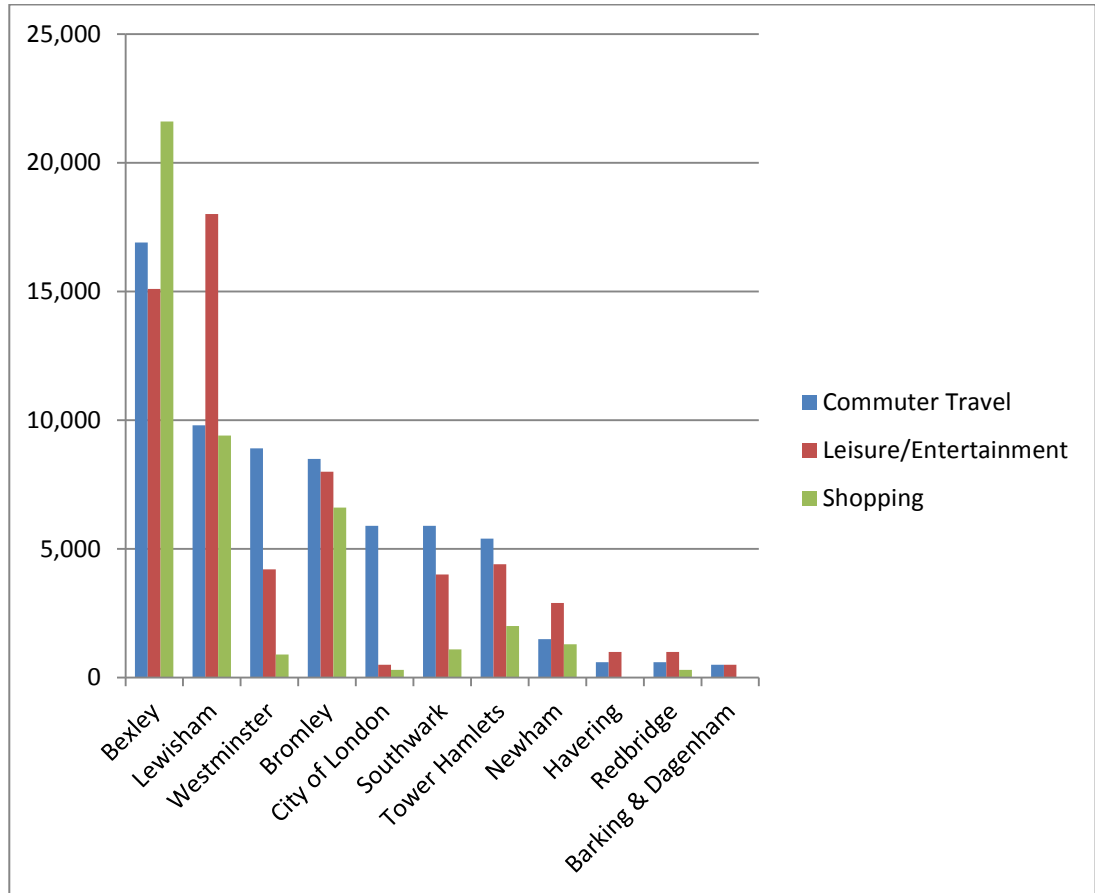
	<b>Survival Rate</b>
Tower Hamlets	35.0%
Greenwich	35.9%
Newham	29.2%
London	37.1%
UK	41.3%

Source: ONS Business Demography

Accessibility

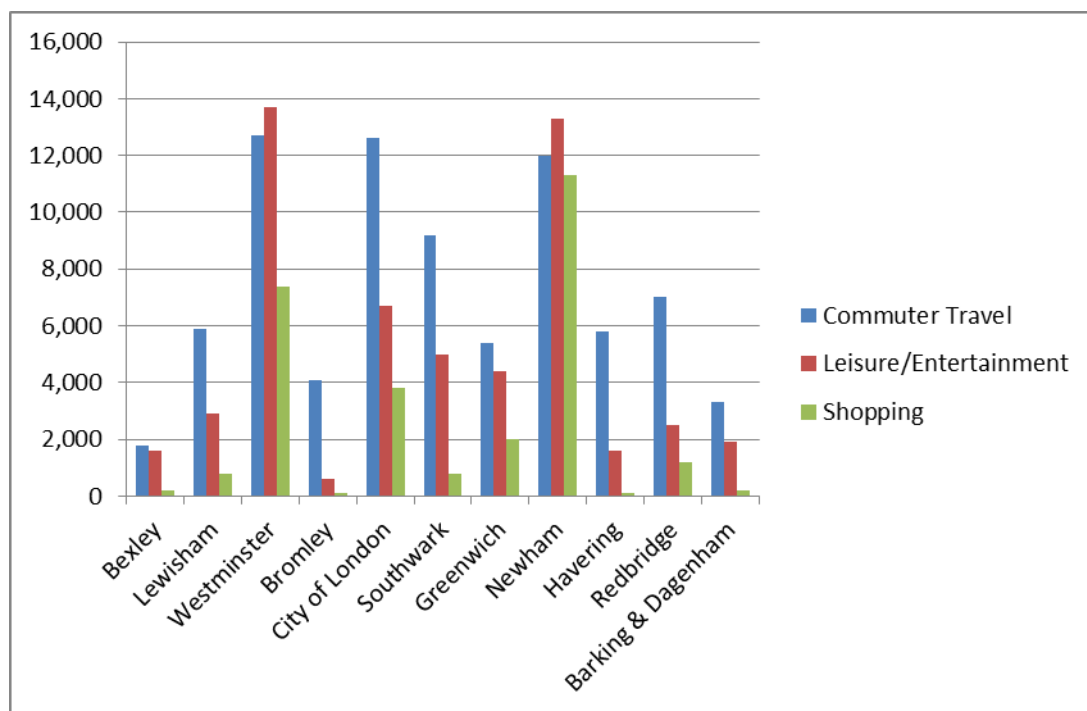
- 7.4.13 The Silvertown Tunnel Outline Business Case - Distributional Impact Appraisal (Ref 7-23) notes that, during the morning peak hour, there are over 69,000 cross-river trips in east London in the peak northbound direction, of which over 57,000 are by public transport modes. Figure 7-2 to Figure 7-4 show the total number of trips (by all modes of transport) to and from the boroughs of Newham, Tower Hamlets and Greenwich each of the three London boroughs for the purposes of commuting for work, travel relating to leisure and entertainment purposes, and that relating to shopping trips. The data is taken from the London Travel Demand Survey 2012/13 (Ref 7-24), an annual household travel survey of London residents which includes 8,000 households across London. The database covers the years between 2005-2011 with volumes of trips based on annual average daily trips during this period. The figures show that, in addition to commuter travel, leisure and entertainment purposes, including shopping, form an important component of trips.

**Figure 7-2 Travel to/from London Borough of Greenwich**



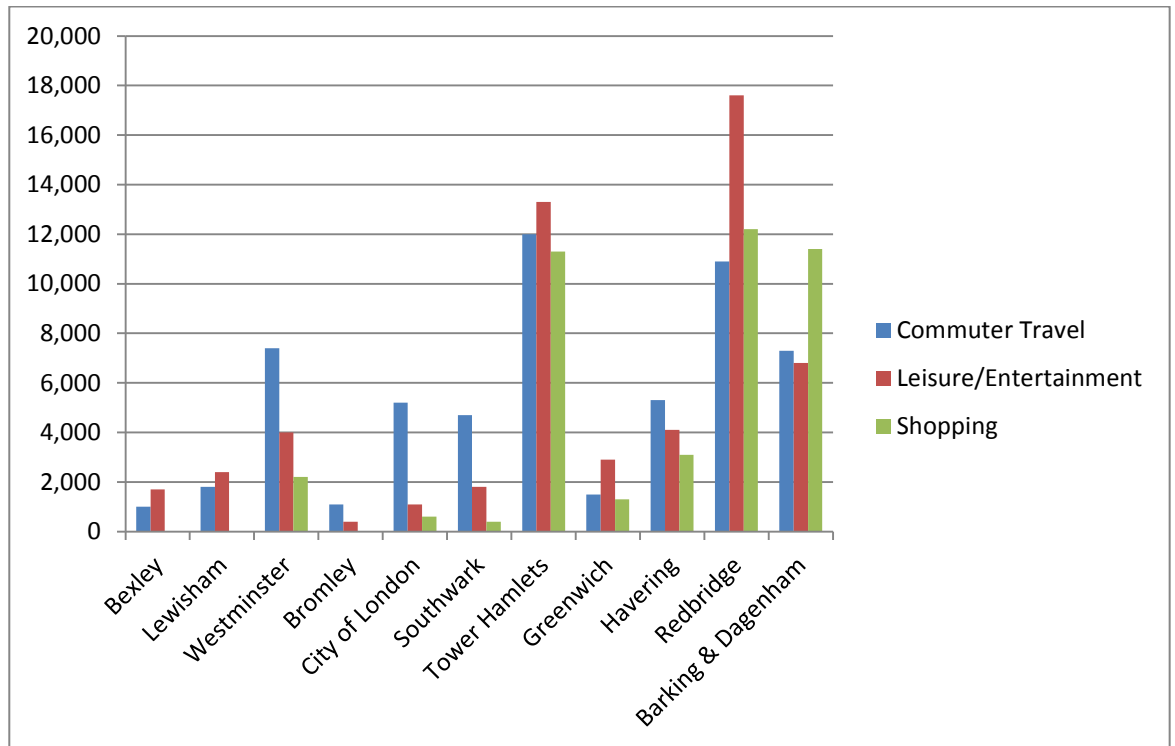
Source: LTDS Analysis (Ref 7-24)

**Figure 7-3 Travel to/from London Borough of Tower Hamlets**



Source: LTDS Analysis

**Figure 7-4 Travel to/from London Borough of Newham**



Source: LTDS Analysis

7.4.14 Key transport issues identified by local businesses as part of the preliminary Outline Business Case and preliminary Regeneration Report looking at river crossings in East London) (Ref 7-12 and Ref 7-13) included:

- reliability of existing river crossings (for example congestion, delays and unreliability associated with the Blackwall Tunnel and reliability and capacity issues associated with the Woolwich Ferry);
- good access to the strategic road network; and
- the importance of the local road network.

7.4.15 The report also identified general support for the Silvertown Tunnel, seen as a vital and necessary improvement by the majority of businesses contacted (Ref 7-25).

7.4.16 A more detailed and widespread survey of local businesses was undertaken by WSP in 2013, with updated information of business activity and opinion relative to the Silvertown Tunnel provided in 2015 (Silvertown

Business Survey 2013-2015, WSP 2015) (Ref 7-17). The aims of the research included to gauge business reaction to the specific consultation proposals under consideration to guide further development of the tunnel. Businesses surveyed were from boroughs within east and south London (London boroughs of Tower Hamlets, Newham, Barking and Dagenham, Southwark, Lewisham, Greenwich and Bexley). Businesses were sampled from a range of sectors, notably manufacturing; construction; transport, retail and distribution; and services.

7.4.17 The Business Survey identified that:

*'accessibility (both by customers and to market) remain amongst the most important issues for successful business operations.'*

7.4.18 Three-quarters of firms identified accessibility as important both north and south of the river, with accessibility to market identified as 'very important' for 62% of firms north of the river.

7.4.19 Predictability of journey times has been raised as an issue for businesses. The Business Survey identified that 62% of firms consider that poor reliability of cross-river travel acts as a constraint on or disruption to their business to an extent. 49% of businesses in both Tower Hamlets and Greenwich, and 53% amongst businesses with a turnover of £1m or more, considered that the current number and capacity of river crossings in east London act as a barrier to the development of their business across the other side of the river.

7.4.20 The following findings from the Silvertown Tunnel Business Survey 2013-2015 are of particular relevance. Findings relating to cross-river issues in the Silvertown/Blackwall area include that:

- significant disruption is caused by unpredictable journey times, delays due to unplanned incidents and daily congestion;
- around half of businesses felt they were likely to operate cross-river more often if crossings in the Blackwall Tunnel/Silvertown area were made more reliable in terms of consistent journey times, an opinion which appears consistent across boroughs and sectors, with those who are anticipating growth in their business turnover more likely to be using the crossing;
- half of businesses (49%) felt that a new Silvertown Tunnel would have a positive impact on the day to day operation of their business. For the



remaining 51% of businesses, the majority considered the tunnel would have no impact on the day to day operation of their businesses, with a small minority identifying a negative impact. The greatest support for the tunnel was identified from businesses in Newham and in the Transport, Retail and Distribution (TRAD) sector;

- 37% of businesses considered that the Silvertown Tunnel would impact positively on future growth of their business; and
- a minority (18%) considered they would seek an alternative route to avoid paying a charge.

Community and private assets

7.4.21 This section provides a description of baseline conditions as they relate to community and private assets. The Greenwich Peninsula and Silvertown areas are home to a variety of commercial and industrial activities, and are crossed by major road and rail infrastructure. Adjacent to the Site are areas of industrial uses, residential development, open space and community facilities. The River Thames forms a further corridor of activity (both commercial and recreational) between the two landward sides of the Scheme.

Industrial and commercial uses

7.4.22 Areas of commercial and industrial development are found particularly along the riverside and wharf areas in Silvertown and on the Greenwich Peninsula, with a range of businesses operating in terms of sector and scale. Table 7-16 identifies industrial and commercial operators located on both sides of the River Thames in the vicinity of the Scheme, including the nature of individual businesses (as far as can be ascertained).

**Table 7-16 Industrial and commercial operators located within the Core Area**

<b>Operator</b>	<b>Business description</b>
<b>Within or Adjacent to Northern Safeguarded Area</b>	
McGee Bedrock Limited	Scarab Way Business Park, Thames Wharf East London recycling depot
GB Macks Skips	Scarab Way Business Park Skip company

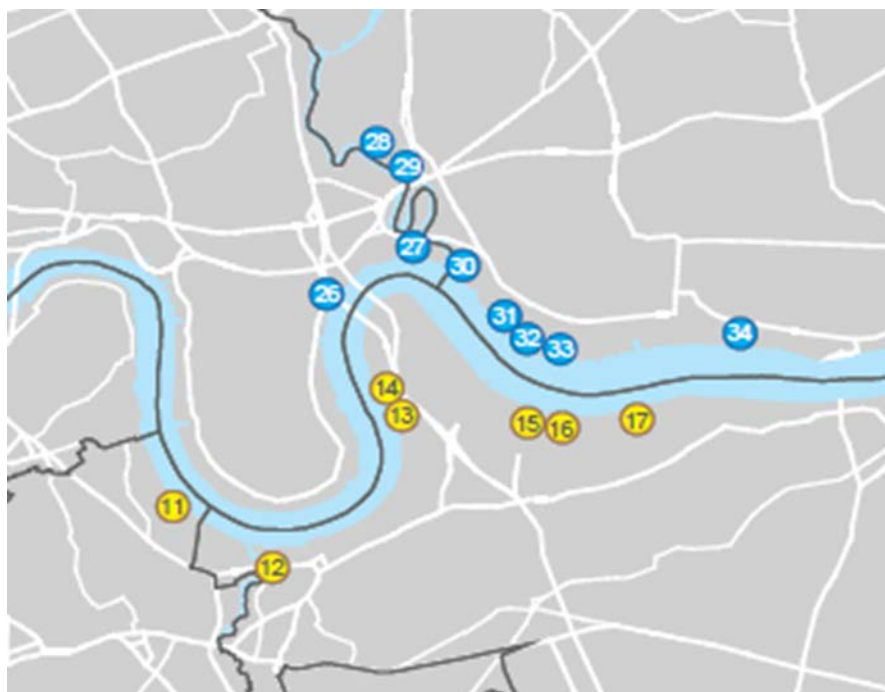
<b>Operator</b>	<b>Business description</b>
EMR	Thames Wharf Metal recycling
ASD	Thames Wharf Metal services
Brewsters Waste Management Ltd	Scarab Way Business Park Skip hire/waste management services
Docklands Waste Recycling Ltd	Scarab Way Business Park Waste management services
Hanson Quarry Products Ltd	Scarab Way Business Park
O'Connell Plant and Groundworks Limited	Off Dock Road Plant hire depot
Whitbread Drinks Logistics Docklands Depot	Adjacent to Docklands Light Railway (DLR) Viaduct and Silvertown Way
Waterfront Studios Business Centre	Located off Dock Road immediately adjacent to safeguarded area. A range of different sized business units covering 114,000sqft of office, light industrial and storage space are available to let.
<b>Adjacent to Southern Safeguarded Area</b>	
Kingman Services	Off Tunnel Avenue Haulage company. Workshops and depot located here.
H Sivyer	Off Tunnel Avenue Waste removal service provider and aggregate hauler; production of recycled aggregates
AS24	Off Tunnel Avenue
Ranburn Limited	Off Tunnel Avenue Motor vehicle parts wholesale
Hanson	Off Tunnel Avenue / Victoria Deep Water Terminal area
Brenntag	Off Tunnel Avenue Chemical distribution company

<b>Operator</b>	<b>Business description</b>
Studio Bar 338	Bar and nightclub located off Tunnel Avenue
O'Keefe Group	Off Boord Street/Tunnel Avenue Builders and civil engineers contractors
Baldwins	Crane hire company, Morden Wharf
MDM	Art manufacture workshop space, Morden Wharf

7.4.23 There are a number of safeguarded wharves in the vicinity of the Scheme. The Safeguarded Wharves Review (Ref 7-26) is the latest update of the Safeguarded Wharves Implementation Report (SWIR) (January 2005), through which 50 wharf sites were safeguarded by the Secretary of State for Environment, Transport, Local Government and the Regions, through a Direction made under Article 10(3) of the Town and Country Planning (General Development Procedure) Order 1995an Article 10 (3) Direction, which requires the Mayor of London to be consulted before planning permission on a safeguarded wharf is granted. The Review, which is currently with the Secretary of State for approval, details wharf capacity requirements and distribution to 2031 (equating to the lifespan of the London Plan) and includes the outcomes of viability assessment work.

7.4.24 Figure 7-5 below is taken from the Safeguarded Wharves Review. Reference numbers shown on the figure relate to the wharves identified in Table 7-17, which identifies proposed plans for each as set out in the Review.

**Figure 7-5 Location of safeguarded wharves in the vicinity of the Scheme**



Source: Safeguarded Wharves Review (March 2013)

**Table 7-17 Information relating to safeguarded wharves**

Reference number	Wharf	Current and proposed uses
13	Tunnel Wharf	Proposal to retain a safeguarded wharf in the general area, but for the site area to be reduced. The GLA and the PLA to consider working with relevant stakeholders to bring forward the use of the site for river freight handling.
14	Victoria Deep Water Terminal	The site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.
26	Northumberland Wharf	The site is in active use, with loading infrastructure to serve the current operational use.  GLA and PLA to consider working with relevant stakeholders to increase the use of the wharf for river freight, for example through handling recyclate material.

Reference number	Wharf	Current and proposed uses
27	Orchard Wharf	<p>The site is viable and well located to serve central and inner London locations. GLA and PLA are working with relevant stakeholders, including the operator, to secure and implement planning permission for cargo-handling and a subsequent re-activation of the wharf.</p>
30	Thames Wharf	<p>Site is in active use, within an industrial area and retains flexibility to meet a range of operational needs.</p> <p>Potential to encourage the increased use of the wharf for river freight. Part of the safeguarded wharf is to be used for waterborne logistics in connection with Crossrail construction for the medium term. Opportunities to consolidate wharves in the Thameside West area are under consideration.</p>
31	Peruvian Wharf	<p>The site is within an industrial area and retains flexibility to meet a range of operational needs. It has the benefit of planning permission for aggregates wharf use.</p> <p>The GLA and PLA are working with relevant stakeholders to bring forward the use of the site for river freight handling.</p> <p>Opportunities to consolidate wharves in the Thameside West area are under consideration.</p>
32	Manhattan Wharf	<p>The site is within an industrial area and retains flexibility to meet a range of operational needs.</p> <p>The GLA and PLA are to consider working with relevant stakeholders to bring forward the use of the site for river freight handling.</p> <p>Opportunities to consolidate wharves in the Thameside West area are under consideration.</p>
33	Sunshine Wharf	<p>In view of the surplus capacity in the north-east London area, the Review proposes to release the safeguarded wharf.</p>

### Infrastructure

7.4.25 Infrastructure identified as part of the baseline conditions relates to apparatus belonging to utility companies, as well as transport infrastructure such as railway lines. Those statutory undertakers who have confirmed the presence of apparatus within the vicinity of the Site are as follows:

- British Telecom;
- Envoy;
- Virgin Media;
- National Grid;
- Thames Water;
- National Grid (Gas);
- Cable and Wireless;
- Interoute;
- UK Power Networks;
- Scottish and Southern;
- Scottish and Southern;
- Trafficmaster; and
- Southern Gas Networks.

7.4.26 The following infrastructure has been identified within the vicinity of the Site:

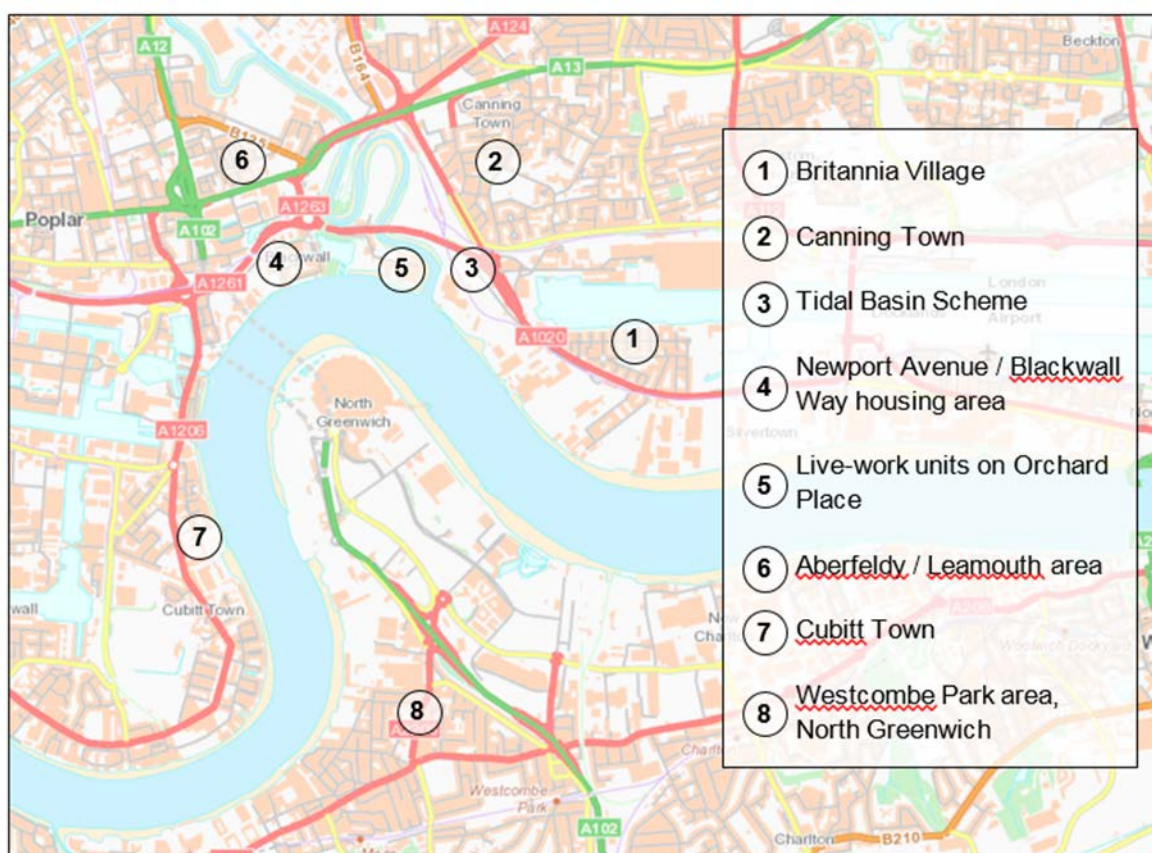
- assets associated with Emirates Air Line (EAL) (tower placements); and
- DLR Branch Viaduct.

### Residential

7.4.27 Areas of existing residential development within a 1km radius of the Scheme are described below and illustrated on Figure 7-6:

- the Britannia Village area to the north of A1011 Silvertown Way;
- the part of Canning Town bounded by Newham Way (the A13) to the north and Silvertown Way to the west;
- the Tidal Basin Road Scheme which comprises some 360 flats and is currently under construction near Canning Town;
- an area of housing bounded by Blackwall Way to the north, the East India Dock Basin to the west and the River Thames to the south;
- there are a small number of live-work units on the northern side of Orchard Place, adjacent to the Bow Creek;
- the Aberfeldy/Leamouth area includes residential areas to the north of the A13;
- part of Cubitt Town on the Isle of Dogs; and
- a small area of housing in the vicinity of North Greenwich District Centre.

**Figure 7-6 Residential areas in the vicinity of the Scheme**



### Community facilities

7.4.28 Social and community infrastructure has been identified within a 1km radius of the Scheme. Facilities within each of the following categories are described further below and located on Drawing 7-1:

- areas of public open space and recreational activities;
- education and healthcare facilities;
- community centres;
- leisure and entertainment facilities; and
- places of worship.

7.4.29 Areas of public open space are limited to Central Park on the Greenwich Peninsula, which has been designated as MOL (Metropolitan Open Land), a unique London designation which protects strategically important open spaces within the built up area of London, without regard for Borough



administrative boundaries that provide open-air recreation facilities to serve the needs of Londoners.

- 7.4.30 There are five parks or recreation grounds within the study area, namely:
- Kier Hardie Recreation Ground;
  - Lyle Park;
  - Mudchute Farm;
  - Milwall Park; and
  - St John's Park.
- 7.4.31 The Thames Path, a National Trail, follows the north bank of the river between Island Gardens and East India Dock and on the south bank of the river between Tower Bridge and the Thames Barrier. The Thames Path crosses Millennium Way to follow the line of Boord Street; from here it crosses Tunnel Avenue by means of a footbridge and follows the western edge of the road before turning south towards the river.
- 7.4.32 Sustrans National Cycle Route 1 is a long-distance cycle route (the North Sea Cycle Route) which passes to the south of the Greenwich Peninsula. National Cycle Network (NCN) 3 will, when complete, connect Tower Bridge in London with Fakenham in Norfolk. The route passes to the north of the River Thames in the vicinity of Silvertown.
- 7.4.33 The Greenwich Peninsula Ecology Park is a freshwater habitat made up of an inner and outer lake; the park includes facilities for bird and wildlife watching and is open to the public every day except Mondays and Tuesdays.
- 7.4.34 The study area is not tranquil. Major road and rail infrastructure crosses the area together with the presence of London City Airport. The public open spaces are affected either by the airport flight path (over the Royal Docks) or elevated road and rail infrastructure (the Royal Docks and Lea Park/East India Dock basin areas). Central Park is relatively quiet partly due to the vacant development plots adjacent and low traffic levels during the day.
- 7.4.35 The River Thames itself provides an opportunity for boating and other water-based recreational activities. The Greenwich Yacht Club has around 400 members and caters for a variety of boaters including cruiser

sailors, dinghy sailors, motor-boaters and rowers. The club, which is located at Pear Tree Wharf, includes both drying and deep water moorings, a boatyard and workshops. The club runs a programme of yacht and dinghy racing as well as practical and theory training for its members.

- 7.4.36 The preliminary Navigational Risk Assessment (Ref 7-15) produced for the Scheme identifies that the Silvertown Tunnel project falls within the Thames Barrier Control Zone (TBCZ), which is a controlled navigation zone, although the PLA has confirmed that the location of the site within the TBCZ would not pose any specific constraints on the project.
- 7.4.37 The Assessment identifies that river traffic on the Thames in the area of river between Reuters Pier and Hookness may consist of passenger vessels on scheduled and charter services, fast ferries, tugs and tows (waste transfer or barges delivering aggregates), service vehicles (for example emergency services, Environment Agency services) and recreational vessels such as dragon boats, kayaks and dinghies. Areas for particular attention identified in the Assessment include river users at The O2 pier, ships manoeuvring for aggregate terminals, the Trinity Buoy Wharf area (Thames Clippers, which operate commuter vessels on the river), vessels entering and leaving Bow Creek, vessels transiting the Thames Barrier and vessels outward bound at Blackwell Point.
- 7.4.38 A further area for consideration is that of river events. The Assessment identifies that there are multiple annual events on the River Thames, including for example the Transport on the Water (TOW) Barge Race and the Great River Race, held in July and September respectively, the Tall Ships event in August and the Totally Thames festival held during September.
- 7.4.39 The following education facilities are located within 1km of the Scheme:
- Britannia Village Primary School;
  - Hallsville Primary School;
  - St Luke's Primary School;
  - Millennium Primary School;
  - Ravensbourne University;
  - Cubitt Town Junior School;

- St Luke's Church of England Primary School;
- Faraday School, Orchard Place; and
- Woolmore Primary School.

7.4.40 Nurseries and pre-schools located within 1km of the Scheme are as follows:

- George Green's Day Nursery, Cubitt Town;
- Robert Owen Early Years Centre, Greenwich;
- Teddies Greenwich Nursery and Pre-school;
- Busy Bees Nursery, Royal Docks;
- Edith Kerrison Nursery School, Canning Town;
- Kier Hardie Creche;
- Headstart Day Nursery, Cubitt Town; and
- Crossharbour Montessori, Cubitt Town.

7.4.41 The Greenwich Peninsula Masterplan includes as one of its objectives to provide employment and education opportunities of excellence, the latter relating principally to a possible elite sports facility or university faculty.

7.4.42 The following healthcare facilities are located within 1km of the Scheme:

- Island Medical Centre;
- PSU Surgery;
- Custom House Teaching & Training Practice;
- The Practice Britannia Village; and
- Greenwich Peninsula Practice.

7.4.43 The location of hospitals, which are likely to have a wider catchment area than day-to-day healthcare facilities such as GP practices, and which offer more specialist treatment facilities, also need to be considered as they could be a source of cross-river journeys. The principal hospital facilities within this part of East London are as follows:

- Newham University Hospital (located to the north-east of the Scheme);
- The Queen Elizabeth Hospital (located at Woolwich Common to the south-east of the Scheme); and
- The Royal London Hospital (located at Whitechapel to the west of the Scheme).

7.4.44 Care homes located within 1km of the Scheme are as follows:

- Kemsing Road Respite Service, Greenwich;
- Webb Road Residential Care Home, Greenwich; and
- Summerdale Court Care Home, Newham.

7.4.45 The only community centre within 1km of the Scheme is Island House Community Centre located on the northern bank of the Thames in the London Borough of Tower Hamlets. The centre describes itself as a community resource hub, providing facilities, projects, services and activities for local people.

7.4.46 A number of places of worship have been located within 1km of the Scheme, as follows:

- Keir Hardie Methodist Church, Plymouth Street;
- Abraham's Care, Burke Street;
- Celestial Church of Christ, Horeb of God, North Woolwich Road;
- Christ and St John with St Luke, Manchester Road;
- Quaystone Church, Roserton Street; and
- City of Peace Community Church, Glengall Christian Centre.

#### Tourism, Leisure and Entertainment

7.4.47 London is clearly an important tourism destination. In 2013, London received 16.8 million international visitors, 12.3 million overnight visitors from Great Britain residents and 261.7 million tourism day visits (Ref 7-27). Cultural tourism is identified as one of the key reasons for visits and contributed £3.2 billion of Gross Value Added (GVA) to London in 2013, supporting 80,000 jobs in the capital (Ref 7-27). All of the major attractions in London fall within a relatively tightly-defined central area of

London stretching from South Kensington to Tower Hill (Ref 7-28), with the exception of the National Maritime Museum at Greenwich.

- 7.4.48 The number of visitors to Greenwich has increased dramatically following the opening of The O2 in 2007. The O2 is located on the northern extent of the Greenwich Peninsula, and is a major entertainment venue combining performance space and a number of restaurants and bars. The O2 is one of the largest arenas in Europe and can accommodate up to 20,000 people for a range of music, entertainment and sporting events. Over a million tickets are sold for a variety of events every year. Whilst car and coach parking is provided in the vicinity of The O2 to the north and south of Edmund Halley Way, a significant proportion of visitors make use of public transport to attend events. Event Management Plans are produced by The O2. In addition, there are two cinemas located on the Greenwich Peninsula, one within The O2 complex itself and the other located off Bugsby's Way.
- 7.4.49 Other key visitor attractions within Greenwich include the National Maritime Museum and the Greenwich Observatory, both of which have experienced increases in visitor numbers recently. Key areas identified as being most likely to contribute to the growth of the Greenwich visitor economy are building on the distinctiveness of the existing tourism product (particularly the World Heritage Site and The O2) and promoting Greenwich as a world-class visitor destination.
- 7.4.50 The EAL opened in June 2012 and connects the Greenwich Peninsula with the Royal Docks. Nearly 1.5 million commuter and tourist passengers utilised the EAL in 2014 (TfL data 2014).

#### **Future baseline**

- 7.4.51 Documents prepared as part of the Outline Business Case for the Scheme (for example the Regeneration Report) outline in more detail population and employment growth forecast for the local area and wider sub-region. The London Plan anticipates that population growth between 2011 and 2031 in the east and south-east sub-region will be considerably more rapid than in the other sub-regions. GLA forecasts (shown in Table 7-18) predict that London's population will grow by around 1,150,000 people (or 14%) between 2011 and 2031.
- 7.4.52 The London Boroughs of Tower Hamlets and Newham have shown the highest rates of population growth in London at 2.6% and 2.4% respectively between 2001 and 2011, with projections for Greenwich

standing at 1.7% (Census data). In terms of forecast population growth, Table 7-18 shows that Tower Hamlets is expected to see the largest increase in total population across all London boroughs over the period 2010-2031, with a 33% increase in population predicted (Ref 7-29). Greenwich is expected to see the second highest rate of growth over this period (28%), with Newham fourth highest. The growth will:

‘generate significant demand for transport for business, commuting and leisure purposes and will place increasing pressure on existing transport infrastructure.’ (Ref 7-25)

7.4.53 Forecasts based on more recent information reveal that in 2011 the London population was already higher than had been forecast by the GLA, showing a substantial increase in the number of additional residents in a short space of time (Ref 7-30). Together, the boroughs in the east and south-east sub-region are expected to account for 37% of London's total population growth over the period between 2011 and 2031, while the four boroughs with the highest rates of growth (the three Silvertown Tunnel host boroughs of Tower Hamlets, Newham, and Greenwich as well as Barking and Dagenham) are expected to account for 23% of London's population growth overall.

**Table 7-18 Forecast growth in population in east and south-east London sub-region**

<b>Resident Population</b>	<b>2011</b>	<b>2031</b>	<b>% growth</b>
<b>Greenwich</b>	<b>245,586</b>	<b>313,282</b>	<b>28%</b>
<b>Newham</b>	<b>295,777</b>	<b>361,181</b>	<b>22%</b>
<b>Tower Hamlets</b>	<b>245,710</b>	<b>325,723</b>	<b>33%</b>
Bexley	223,811	240,254	7%
Hackney	235,334	273,496	16%
Havering	233,207	269,676	16%
Barking and Dagenham	180,895	233,462	29%
Redbridge	266,175	300,212	13%
Lewisham	271,275	311,853	15%
<i>East and south-east sub-region</i>	<i>2,197,770</i>	<i>2,629,139</i>	<i>20%</i>
<i>Greater London</i>	<i>7,991,889</i>	<i>9,144,126</i>	<i>14%</i>

Source: GLA Population Projections 2011 Round, SHLAA, High Fertility, Borough SYA (Jan 2012, GLA)

7.4.54 Employment growth over a similar period is anticipated to be more concentrated in a few central boroughs (Tower Hamlets, Southwark and

Islington) (Ref 7-31) whereas significant population growth is forecast for a number of boroughs where there is less growth in jobs – this implies a greater need for commuting to central areas and therefore more cross-river movements (Ref 7-25).

- 7.4.55 Employment growth forecasts for the east and south-east sub-region produced as part of the Preliminary Transport Assessment for the Scheme reveal that, in contrast to the 37% share of London's total population growth, the share of total employment growth expected to take place in the sub-region is smaller at around 22%, as shown in Table 7-19 below. The Preliminary Transport Assessment for the Scheme highlights that, together, the three Silvertown Tunnel host boroughs account for over two-thirds of the employment growth forecast in the east and south-east sub-region (100,000 of the 145,000 new jobs forecast).

**Table 7-19 Employment forecasts**

<b>Employment forecasts:</b>	<b>2011</b>	<b>2031</b>	<b>% growth</b>
<b>Greenwich</b>	<b>80,000</b>	<b>87,000</b>	<b>9%</b>
<b>Newham</b>	<b>88,000</b>	<b>107,000</b>	<b>22%</b>
<b>Tower Hamlets</b>	<b>227,000</b>	<b>301,000</b>	<b>33%</b>
Bexley	74,000	79,000	7%
Hackney	95,000	111,000	17%
Havering	83,000	89,000	7%
Barking and Dagenham	51,000	56,000	10%
Redbridge	74,000	81,000	9%
Lewisham	77,000	83,000	8%
<i>East and south-east sub-region</i>	<i>849,000</i>	<i>994,000</i>	<i>17%</i>
<i>Greater London</i>	<i>4,797,000</i>	<i>5,452,000</i>	<i>14%</i>

Source: Borough Employment projections, 2009 GLA (presented in the London Plan 2011)

- 7.4.56 Other changes to the future baseline will arise from the growth in population described above. These will include likely growth in the number of vehicle trips, public transport networks and the share of trips being made by other modes of transport such as walking and cycling. With increasing demand for travel, it is likely that levels of congestion on the road network will increase (therefore reducing still further journey time reliability), particularly in the vicinity of the Blackwall Tunnel, will increase. Enhancements to the local public transport network in the future will

include the addition of Crossrail as well as increased service levels on the London Underground Jubilee Line and the DLR.

7.4.57 A further effect of increased populations relates to the increased social infrastructure that may be required to accommodate additional people, for example education and healthcare facilities. Major schemes, such as the Greenwich Peninsula development and other proposals in the vicinity of the Scheme such as the Robin Hood Gardens Estate, include proposals for replacement schools, healthcare, community and faith buildings.

Development Land

7.4.58 There are plans for significant levels of development on land in the vicinity of both the northern and southern tunnel portals.

7.4.59 The Greenwich Peninsula is an area set for intense development to high environmental standards. 10,000 homes plus offices and public spaces have been proposed. Some elements of the development are within close proximity to the Scheme safeguarded LLAU.

7.4.60 The Peninsula Masterplan envisages the development of a new entertainment/sports complex to the west of the Blackwall Tunnel Approach with a mixed development of high quality commercial and residential properties throughout the peninsula. The A102 corridor divides the peninsula and is a significant source of noise and air pollution.

7.4.61 Planning permission for the Peninsula Quays proposal was originally secured by a consortium (Meridian Delta Limited) on 23/02/2004 for use types as illustrated in Table 7-20 below. A revised 2015 Masterplan has now been approved increasing the number of homes to 12,500 (as discussed below).

**Table 7-20 Greenwich Peninsula planning permission**

Type	Amount
Residential	10,010 units
Office	343,000m <sup>2</sup>
Retail	33,750m <sup>2</sup>
Leisure	33,220m <sup>2</sup>

Source: Atkins Draft Development Study 2014



- 7.4.62 There are a number of different developers involved and each plot is given consent through a reserved matters application. 11 sites have recently obtained outline planning permissions for redevelopment at Peninsula Quays.
- 7.4.63 A planning application for a revised masterplan for Greenwich Peninsula has been approved recently. The masterplan includes an increased residential element of over 12,500 homes together with a creative and digital arts district incorporating a film and media studio, the extension of Ravensbourne College and commercial floorspace to include hotels.
- 7.4.64 Other development projects within the northern part of Greenwich include Greenwich Meridian Village, an 11.32 hectare site with an expected build-out time of 2011-2021. The development currently provides 1,095 homes with a further 705 expected by completion, together with shops and commercial units.
- 7.4.65 Within Newham, the Borough's Core Strategy (2012) identifies the Silvertown Quays, Minoco Wharf (Royal Docks), Thames Wharf and Royal Victoria west as areas for intensive development.
- 7.4.66 The Core Strategy states that Silvertown Quays is a residential-led mixed use development of 2,500 homes, also including commercial space and restaurants as well as a number of 'brand pavilions' which will combine product demonstration space, office space, exhibition space and retail space. New residential development on this site will form part of the wider neighbourhood at Silvertown, supported by local shopping and community uses (a new local centre) focused around North Woolwich Road, including use of space under the DLR viaduct. The Core Strategy outlines that leisure uses should relate to the water space, with clear pedestrian and cycle connections through to the new local centre and across North Woolwich Road. Public access to the dock edge should be provided. Planning permission for the site was granted earlier in 2015, with the first phase due to be finished by 2018.
- 7.4.67 In relation to Minoco Wharf (Royal Docks), the Core Strategy states that this includes land previously designated as a Strategic Industrial Location at Thameside West up to the eastern boundary of Lyle Park, and west of Lyle Park adjacent to North Woolwich Road (18 hectares in total). The release of this land is planned to assist in the development of a new neighbourhood at West Silvertown. A new local centre is intended to provide a focus to the new neighbourhood as a whole and provide connections to both DLR stations and pedestrian and cycle links to

Silvertown Quays. Planned development should include pedestrian and cycle access to the river.

- 7.4.68 Finally, the Core Strategy refers to the fact that Thames Wharf is an area currently designated as a Strategic Industrial Location from which it is proposed to be released. There is scope to reconfigure the safeguarded wharf on the site to the adjacent site (Carlsberg-Tetley) or to remove the wharf safeguarding at Thames Wharf if a consolidated wharf can be delivered at Thameside West subject to there being no net loss of functionality or wharf capacity. If it can be demonstrated that either scheme can be delivered, this could provide the opportunity to develop new employment, leisure/ tourism and residential uses grouped around a potential new DLR station where passive provision is in place, subject to addressing the constraints on the site, including the Silvertown Crossing safeguarding area, and the removal of the wharf safeguarding by the Secretary of State.
- 7.4.69 The Core Strategy states that the Council will work together with other public sector agencies and developers to further investigate proposals for relocating or consolidating the four individual safeguarded wharves at Thameside West, to facilitate a more efficient use of land, and support the growing neighbourhood at Silvertown.
- 7.4.70 Royal Victoria West is a gateway site to the Royal Docks identified in the Core Strategy as a site at which new residential, leisure and cultural uses will be supported. The Siemens building and EAL link to Greenwich Peninsula were completed in 2012 providing new visitor attractions. The Core Strategy states that public realm improvements, including an enhanced pedestrian and cycle link to Canning Town, and active water space, are key priorities in this location.
- 7.4.71 Within the London Borough of Tower Hamlets, strategic sites included within the Core Strategy that fall within or in close proximity to the wider assessment area include:
- Leamouth Peninsula – a mixed use riverside development site including housing and improved public realm; and
  - Marsh Wall East – a mixed use development opportunity to include commercial and residential space.
- 7.4.72 The redevelopment of Enderby Wharf, to the west of Greenwich, was secured by planning permission in 2012 for 770 residential units and the

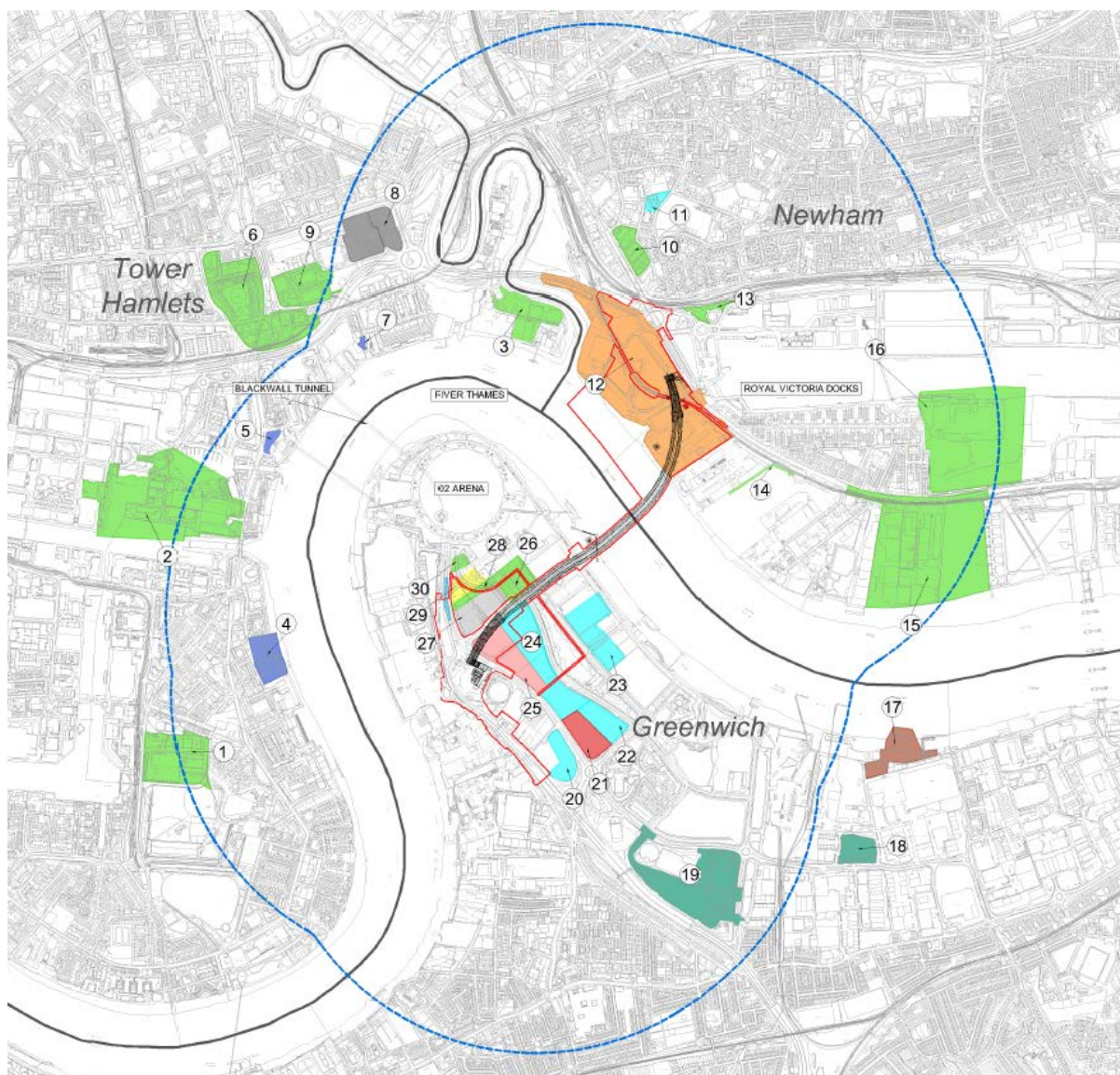
provision of an international cruise liner terminal and hotel. Construction of the residential element has begun, with construction of the cruise liner terminal due for completion in 2017.

- 7.4.73 The Thamescraft Dry Docking boatyard facility at Pipers Wharf to the west of the Greenwich Peninsula is considered to be a strategically important facility. A revised planning application has been submitted in relation to development at Lovell's, Granite, Badcock and Pipers Wharf. The application comprises a mixed-use development of some 439 residential units together with non-residential floorspace and includes the relocation of the boatyard to Bay Wharf as part of a Section 106 agreement.

Planning Applications

- 7.4.74 Planning applications submitted between 1 June 2010 and 1 June 2015 within a 500m radius of the northern and southern tunnel portals will be considered as part of the assessment. Applications from before this time have been discounted, as they will have either been implemented or planning permission will have lapsed. Applications will only be considered for those sites that are either approved (but not implemented), those pending consideration and those awaiting an appeal decision. Sites that have been completed are not included as they will already form part of baseline conditions described earlier.
- 7.4.75 The assessment of planning applications is anticipated to identify impacts on development land and as such householder applications relating to extensions/minor works or changes of use are not included. Planning applications have been identified through consultation with the relevant London Boroughs and a search of on-line planning portals and are shown on Figure 7-7 below. The numbered areas identified on the figure relate to specific planning applications, listed in Table 7-21.

**Figure 7-7 Relevant planning applications**



**Table 7-21 Relevant planning applications**

Reference number (taken from <i>Figure 7-7</i> )	Description
1	151 East Ferry Road – mixed-use development
2	Wood Wharf, Prestons Road – mixed-use development
3	Hercules Wharf, Castle Wharf and Union Wharf,

<b>Reference number (taken from <i>Figure 7-7</i>)</b>	<b>Description</b>
	Orchard Place – mixed-use development
4	New Union Close – residential development
5	Prestons Road – residential development
6	Robin Hood Gardens Estate – mixed-use development
7	Land at Virginia Quay – residential development
8	Telehouse Far East – office and employment
9	East India Dock – mixed development
10	Former Goswell Bakeries – mixed-use development
11	107 Tarling Road – residential development
12	Strategic Site S8 – infrastructure
13	The Pumping Station Site, Tidal Basin Road – mixed-use development
14	Peruvian Wharf – infrastructure
15	Minoco Wharf – mixed-use development
16	Silvertown Quays – mixed use development
17	Charlton Barge Yard – infrastructure
18	Bugsbys Way – retail
19	Bugsbys Way – retail
20-30	Greenwich Peninsula – mixed use development

## **7.5 Scheme design and mitigation**

7.5.1 Mitigation measures are required in order to prevent, reduce or offset any significant adverse effects on the environment. A number of these measures are already embedded within the current Scheme design.

Mitigation measures proposed for both construction and operation phases of the Scheme are described below.

### **Construction**

- 7.5.2 A Construction Environmental Management Plan (CEMP) will be completed prior to the start of construction in autumn 2018 and will dictate how environmental management will be achieved during the construction phase. An outline of this will be provided in a Code of Construction Practice (CoCP) Volume 3, Appendix 4-1. For example, good practice measures will be adopted during construction in order to minimise impacts on the amenity of local residents and stakeholders by virtue of noise, dust, and construction traffic. Heavy Goods Vehicle (HGV) movements and deliveries should be reduced during peak periods, leading to less congestion, reduced emissions and improved safety.
- 7.5.3 Local residents and businesses may experience reductions in amenity arising from changes in air quality and noise and disturbance. Detailed information relating to mitigation for these potential environmental effects can be found in Chapters 6 and 14 of this PEIR, respectively.
- 7.5.4 Appropriate induction would be given to ensure contractors act considerately in relation to local residents, particularly for any works taking place at night. It is proposed that all main contractors will be required to sign up and adhere to the Considerate Constructors Scheme which promotes good practice on construction sites; this is identified in the Preliminary CoCP, Appendix 4-1.
- 7.5.5 Specific mitigation measures that would be required over and above those set out in the Preliminary CoCP (Appendix 4-1) that relate to community and private assets would include:
- Measures to ensure the continuation of access for premises along Dock Road, including requirements for complementary measures to ensure that all delivery and servicing access can take place from the junction of Dock Road and North Woolwich Road and the provision and management of a turning facility for large vehicles in Dock Road.
  - The active management of access arrangements to Tunnel Avenue during the construction phase where access will be restricted.
  - The Scheme necessitates the removal of a significant amount of parking currently used by The O2. Mitigation includes the requirement

to provide alternative parking capacity for The O2 during the construction works.

- Alternative options to the total closure of Millennium Way during construction works have been identified in order to maintain continued access to facilities such as The O2. Localised temporary diversion will therefore be sought during the cut and cover tunnel works.
- Provisions will be necessary to divert or safeguard existing utilities infrastructure assets during construction works, and safeguard other infrastructure assets such as the DLR Woolwich extension, Jubilee Line and EAL. Appropriate safeguarding measures will be identified as the detail design progresses.

7.5.6 The Scheme provides an opportunity to develop good practice in terms of the use of a proportion of the workforce from local communities, development of skills and training programmes, and apprenticeship schemes (further details are set out in the Preliminary CoCP, Appendix 4-1).

7.5.7 The Scheme has been developed to minimise land-take where possible and thereby the impact on private assets in the area. Phasing of land-take for construction works has also been considered to enable early release of land and thereby minimise the extent of disruption. Compulsory acquisition issues are dealt with in the Book of Reference and Statement of Reasons which will be submitted with the DCO.

### **Operation**

7.5.8 Mitigation measures during the operational phase of the Scheme that are of relevance to community and private assets are described here.

7.5.9 Local residents and businesses may experience changes in amenity arising from effects relating to air quality, noise and disturbance. For example in relation to noise and disturbance, over 2,500 residential dwellings are expected to experience a perceptible decrease in noise levels. Changes in air quality will be partly due to improved traffic flows (less stationary traffic), the diversion of existing road traffic through the Silvertown Tunnel, and improvements to public transport. Detailed information relating to mitigation for these potential environmental effects can be found in Chapters 6 and 14 of this Report respectively.

7.5.10 Mitigation identified in the Preliminary Transport Assessment for the Scheme includes that:

- the road layout at either end of the tunnel portals is designed to link into the existing network and maintain access routes wherever possible;
- opportunities will be created by the Scheme for new cross-river bus services to improve public transport links between east and south-east London;
- the design of the southern alignment seeks to facilitate bus movements to and from the North Greenwich bus station; and
- signage of alternative pedestrian and cyclist access routes between the Tidal Basin Roundabout and Dock Road (via The Crystal) and around the Greenwich peninsula works sites (Millennium Way and the Boord Street footbridge).

## 7.6 Assessment of impacts

### Construction impacts

7.6.1 This section assesses the impacts of the Scheme during construction. Principal impacts are considered to relate to land-take, severance, effects on amenity, effects on river navigation and wharfage, and socio-economic effects including job creation. These areas are considered individually below.

#### *Direct land-take*

7.6.2 No residential properties are affected by the Scheme in terms of demolition or land-take. Commercial properties that will be affected by the Scheme, together with the likely extent of area affected, are listed in Table 7-22 below. The majority of commercial properties affected by the Scheme are relatively specialised in terms of their operations (for example locational requirements) and hence have been accorded a 'high' level of sensitivity; assets where there may be a moderate adverse impact are predominantly located on the north side of the Scheme (Silvertown end) and include a number of businesses for which the whole site will be required temporarily.



**Table 7-22 Assessment of impact of land-take**

<b>Commercial asset</b>	<b>Area affected</b>	<b>Sensitivity of receptor</b>	<b>Magnitude of impact</b>	<b>Significance of effect</b>
North Side (Silvertown)				
European Metal Recycling / Keltbray	The whole site will be required temporarily for the Scheme.	High	Moderate (negative)	Moderate adverse
ASD	Part of the site will be required on a temporary basis. Replacement land to be provided for the duration of construction works.	Medium	Minor (negative)	Minor adverse
Dockland Light Railway	DLR land, for the most part, is to be excluded from the land requirement. There is one small yard leased to T Clarke Limited where the whole site will be affected on a permanent basis.	High	Moderate (negative)	Moderate adverse
Brewsters	The whole site will be required temporarily for the Scheme – lease expires in 2017	High	Moderate (negative)	Moderate adverse
McGee	The whole site will be required temporarily for the Scheme – lease expires in 2017.	High	Moderate (negative)	Moderate adverse
GB Macks	The whole site will be required temporarily for the Scheme – lease expires in 2017.	High	Moderate (negative)	Moderate adverse
Docklands	As above			
Hanson	The whole site will be required for the Scheme – lease expires in 2017.	High	Moderate (negative)	Moderate adverse
O’Connell	The whole site will be required for the Scheme – lease expires in 2017.	High	Moderate (negative)	Moderate adverse
Waterfront Studios	The parking for the site will be affected by the Scheme on a permanent basis.	Medium	Moderate (negative)	Minor adverse

<b>Commercial asset</b>	<b>Area affected</b>	<b>Sensitivity of receptor</b>	<b>Magnitude of impact</b>	<b>Significance of effect</b>
	Replacement car parking land may be required.			
Lafarge Tarmac Trading Limited	The whole site will be required temporarily for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse
BFK Joint Venture	The whole site will be required for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse
Skanska UK plc	The whole site will be required for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse
Stanmore Quality Surfacing Limited	The whole site will be required for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse
The Old Basket Supply Limited	The whole site will be required for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse
Quintain	The site will be required for the Scheme on a temporary basis during construction	High	Moderate (negative)	Moderate adverse
Quintain / GLA	The site will be affected both temporarily and on a permanent basis. The land owner is the JV owner of the Carlsberg Tetley site which includes the five occupiers listed separately above (Lafarge Tarmac Trading Limited, BFK JV, Skanska UK plc, Stanmore Quality Surfacing Limited, and The Old Basket Supply Limited). The whole site will be required for the Scheme on a short-term lease.	High	Moderate (negative)	Moderate adverse

<b>Commercial asset</b>	<b>Area affected</b>	<b>Sensitivity of receptor</b>	<b>Magnitude of impact</b>	<b>Significance of effect</b>
GLA	Freehold owners of GB Macks, Brewsters, McGee, Docklands, Hanson and O'Connell sites as above	High	Moderate (negative)	Moderate adverse
London Borough of Newham	The site will be affected both temporarily and on a permanent basis.	High	Moderate (negative)	Moderate adverse
Nuplex	Permanent impact. The tunnel would be approximately 9m below a small area of the site which would require a covenant to restrict foundations etc in the future.	Medium	Moderate (negative)	Moderate adverse
<b>South Side (Greenwich)</b>				
GLA/Knight Dragon	GLA own most of the North Greenwich Peninsula with Knight Dragon developing much of the land. The scheme will affect a section of this land (includes temporary, permanent and protective rights).	High	Moderate (negative)	Moderate adverse
Studio 338	Existing access to car park will be required. The provision of alternative access is currently being considered.	Medium	Moderate (negative)	Minor adverse
Land owned by SGN	A section of the site will be affected on a permanent basis.	Medium	Moderate (negative)	Minor adverse
Land owned by Lidoka	A section of the site will be affected on a temporary basis	Medium	Moderate (negative)	Minor adverse
O'Keefe	Permanent requirement between office building and A102	Medium	Minor (negative)	Minor adverse
Hanson	A small section of the site will be affected on a permanent basis.	Medium	Minor (negative)	Minor adverse

<b>Commercial asset</b>	<b>Area affected</b>	<b>Sensitivity of receptor</b>	<b>Magnitude of impact</b>	<b>Significance of effect</b>
	A small section of the site will be affected on a temporary basis.	Medium	Minor (negative)	Minor adverse
Chris Hodge	A small section of the site will be affected on a permanent basis.	Medium	Minor (negative)	Minor adverse
Brenntag Inorganic Chemical	A small section of the site will be affected on a temporary basis.	Medium	Minor (negative)	Minor adverse
	A small section of the site will be affected on a temporary basis.	Medium	Minor (negative)	Minor adverse
Birch Sites Limited	Part of the site will be required permanently for the Scheme will be affected on a temporary basis.	High	Minor (negative)	Minor adverse
Morden College	Freehold owners of Brenntag and Hanson	Medium	Minor (negative)	Minor adverse

7.6.3 Temporary land-take within the Scheme area includes that required for construction compounds as well as additional land identified to allow sufficient space to construct the Scheme (in line with relevant Health and Safety legislation). The main site compound office is proposed to be located at Silvertown, with a satellite compound identified at Greenwich.

7.6.4 Consideration for existing land use and emerging developments has been made in the construction proposals made at both Silvertown and Greenwich Peninsula sites with proposals made to minimise adverse impacts or conflicts to existing landowners, residents and businesses. The zonal phasing of these emerging developments would be key to the efficient phasing of the Scheme works to enable the construction works to meet the programme. These phasing and interface aspects are the subject of ongoing liaison with relevant developers and land interests.

7.6.5 The works would require the temporary occupation of car parking facilities currently utilised by The O2. Approximately 636 spaces are proposed to be lost during the construction of the Scheme; these will be replaced jointly by Knight Dragon and TfL. A revised planning application for the

Greenwich Peninsula Masterplan submitted in 2015 includes a multi-storey car park capable of providing in the region of 2,000 spaces to meet the requirements of The O2.

- 7.6.6 It should be highlighted that land discussed above would form part of the Masterplan development thus the uses would be unlikely to continue in the future even without the tunnel. Moreover, many of the leases are subject to renewal in 2017 which is before TfL would take possession of the land. Taking into account all of the above, the significance of effect on private assets as a result of direct land-take is considered to be **Minor to Moderate Adverse**.

*Construction impact on assets*

- 7.6.7 Assessments have been undertaken (Ref 7-32) to predict ground movement and assess possible damage caused to third party assets by works associated with the construction of the Scheme. Surface structures identified as requiring assessment that are outside of the Land to be Acquired or Used (LLAU) for the Scheme include: a number of warehouse buildings at the Silvertown end of the Scheme; assets relating to the EAL South and DLR; and The O2 car park office at the Greenwich end of the Scheme. Findings from the initial assessment work have identified the following:

- That the effect of tunnel construction on the DLR should be negligible, however the technical report summarising the research identifies that 'comprehensive modelling of the asset behaviour during the tunnelling works would need to be undertaken at the project detailed design stage and monitoring installed prior to the tunnel construction'.
- Three industrial buildings at Silvertown have been labelled as at 'moderate' to 'severe' risk of damage and should be taken to a further assessment at detail design stage.
- The O2 car park office has been labelled as at 'severe' risk of damage and should also be taken to further assessment at detail design stage. However it should also be noted that this building is planned to be demolished as part of the Greenwich Peninsula Masterplan proposals.

- 7.6.8 A major property development is proposed next to the area of land safeguarded for the construction of the Scheme on the Greenwich Peninsula, comprising up to 12,500 homes and other uses along with the development of public spaces. Liaison with developers Knight Dragon

during the preparation of the Design for the Scheme has identified that the buildings, which comprise five high rise towers, are planned to be constructed immediately adjacent to the route of the tunnels. A Technical Note prepared by TfL (2015) (Ref 7-33) states that:

*'subject to the planning status of the proposed development...foundations and basement structure should be designed and constructed in such a way that the need for additional mitigation measures to the construction of the Silvertown Tunnel scheme, necessary as a consequence of the future but foreseen tunnelling activities, should be minimised'.*

- 7.6.9 The significance of effect of the construction impact on assets is considered to **Minor Adverse** overall, given the number and type of assets potentially affected.

*River navigation and wharfage*

- 7.6.10 The construction of the Scheme aims to maximise marine transportation for both delivery to site and removal of excavated material. As such, proposals include the construction of a new temporary jetty along Thames Wharf. The jetty would be aligned to be away from the navigable channel. The draft Navigational Risk Assessment (Volume 3, Appendix 4.B) concludes that there will be a likely local increase in traffic flows and patterns due to the construction activities related to the temporary works construction and during the spoil removal and materials delivery phases of the Scheme. However, any risks are considered to be 'as low as reasonably practicable' through the careful design of structures, including location of the jetty and consideration of mooring, berthing and manoeuvring arrangements. TfL will continue to work with the Port of London Authority (PLA) in relation to river navigation and wharfage.
- 7.6.11 The Draft Navigational Risk Assessment goes on to state that it is not intended that any existing working wharves will be materially adversely affected during the construction phase of the Scheme (TfL 2015). No permanent land-take of the riverbed is considered necessary.
- 7.6.12 The significance of effect of the Scheme on river navigation and wharfage is assessed as **Minor Adverse**, given the mitigation measures identified to reduce risk identified in the Navigational Risk Assessment.

*Infrastructure*

- 7.6.13 Utilities infrastructure has been identified within the vicinity of the Scheme that may impact upon the construction of the tunnel, tunnel portals or highways modifications. Diversion corridors have been proposed as part of the development of TfL's Utilities Strategy for the Scheme which will be submitted with the DCO. Utilities infrastructure is considered to be of medium sensitivity.
- 7.6.14 The Royal Victoria Dock drainage pipes (Thames Water) that currently run across the planned footprint of the northern approach to the bored tunnels on the Silvertown side require re-alignment as part of the Scheme; a number of options have been considered in relation to the diversion of the pipes and an application to Thames Water made under Section 185 of the Water Industry Act 1981.
- 7.6.15 The significance of effect on utility infrastructure as a result of the construction of the Scheme is considered to be **Negligible**.

*Severance*

- 7.6.16 During the construction period, access/egress to businesses currently using Dock Road will continue via new private accesses off the proposed Dock Road diversion. Existing accesses onto Tunnel Avenue will be retained. In addition, a non-motorised user (NMU) route will be established along a section of Tunnel Avenue.
- 7.6.17 The Preliminary Transport Assessment identifies that pedestrian routes around the Tidal Basin Roundabout would remain open for the duration of the works, although there may be minor temporary route diversions during this time. For the duration of the works, pedestrian access to Dock Road from the roundabout would be closed. The alternative pedestrian route is along the Silvertown Way roundabout slip road and down a stairwell. The nearest step-free access route would be via The Crystal and through a shared path passage under Silvertown Way.
- 7.6.18 Millennium Way, which provides access to the North Greenwich Bus Station, The O2 and associated parking areas, could be disrupted during the construction of the southern portal. A number of potential diversion routes have been considered in an attempt to prevent either severance of Millennium Way or utilisation of the surrounding road network. The preferred diversion option for the partial closure of Millennium Way minimises disruption to road users in this area, proposing the creation of a

two lane diversion around the works with traffic lights to control flow. Pedestrians would still be able to use Millennium Way via its temporary diversion throughout the entire works.

7.6.19 Pedestrian and vehicular access to Studio 338 is currently via Boord Street /Dreadnought Street. Although Dreadnought Street may effectively be removed by the construction of the Scheme, pedestrian access will continue to be via Boord Street and the route of Dreadnought Street.

7.6.20 The Preliminary Transport Assessment identifies that, although the existing Boord Street bridge would be demolished as part of the works, a bridge would be maintained at or adjacent to this location for the duration of the construction works. The pedestrian route along the Thames Path would be unaffected by the works. Pedestrian access to properties on the closed section of Tunnel Avenue may be restricted at times during part of the construction works, and engagement with the affected businesses would be required to ensure business continuity.

7.6.21 All diversion routes for pedestrians and cyclists will be kept to a minimum feasible length. No pedestrian or cycle access will be possible at the Silvertown and Greenwich works sites for the duration of Scheme construction.

7.6.22 The overall significance of effect of the Scheme on local communities as a result of severance caused by construction is considered to be **Minor Adverse**.

#### *Amenity*

7.6.23 For local businesses and residents, construction of the Scheme may lead to some temporary adverse impacts on amenity as a result of potential changes to air quality from construction dust, vehicle emissions and traffic management, increased noise disturbance and some loss of visual amenity. Residual effects are summarised below (refer to Chapter 6 Air Quality, Chapter 15 Visual and Townscape and Chapter 14 Noise and Vibration for further detail):

- The preliminary noise assessment identifies that construction noise levels would be highest at residential receptors within close proximity to the Scheme. As construction noise is not considered to be part of the character of the local area, the impact from construction noise has been assessed as slight adverse. Vibration levels from the rotary bore piling operations are assessed to be below human perception and



therefore would not have a significant effect upon the local area; finally the effects from percussive piling operations for the installation of the jetty on residential dwellings are considered to be slight adverse (worst case scenario);

- Chapter 6 of the PEIR, Air Quality, identifies that baseline air quality levels are relatively poor in London as a whole and transport related air pollutants are elevated. Potential significant effects that could arise from construction of the Scheme include dust and vehicle emissions. However, dust, vehicle and plant emissions would be controlled by implementing measures as outlined in the Preliminary CoCP, Appendix 4.A. The assessment of construction impacts in relation to air quality will be assessed as part of the ES; however, based on the assumption that the construction emissions will be predominantly from standard plant and vehicle sources and that standard good practice mitigation will be adopted, the magnitude of the air quality impact from construction activities at this stage is categorised in the Preliminary HIA as being 'low'. Further, any impact would be temporary as it relates to the construction period.
- Construction activities associated with the Scheme, namely the movement of plant and vehicles, creation of compounds, and material stockpiles, would introduce temporary elements within views. These activities would generally only be perceived in close proximity and are similar in nature to industrial activities in the Scheme locality, as a result wider visual amenity would not be notably disrupted. The overall significance of visual effect during construction is assessed as **Minor Adverse**.

7.6.24 Measures to mitigate adverse effects have been identified in the relevant chapters as appropriate and will be referred to in the outline CoCP, Appendix 4-1. The significance of the residual effect of the Scheme on the amenity of local businesses and residents is considered to be **Minor Adverse**.

7.6.25 Routes for construction traffic will be considered, taking into account the suitability of both strategic access routes (TfL Red Route corridors) as well as local access routes, ensuring consideration of the presence of key community facilities such as schools and healthcare facilities with regard to the local access and other effects on amenity. Construction Traffic Management Plans will be required to be produced and approved by the relevant local authorities.

*Socio-economic effects*

7.6.26 During construction, the principal socio-economic effects will be in relation to job creation and associated expenditure. It should be noted that estimation of job creation is high level at this stage, until the Scheme has been further developed.

*Employment creation*

7.6.27 The Homes and Communities Agency's Additionality Guide (Ref 7-14) states that effects can be considered at different spatial levels, but that appraisal is often concentrated at either the local or sub-regional level, with Travel to Work Areas (TTWA) considered relevant. The TTWA for London encompasses the whole London area, as shown on Figure 7-8 below (note the various coloured areas denote individual TTWA boundaries).

**Figure 7-8 London Travel To Work area**



Source: Office for National Statistics, 2015

7.6.28 An assessment of the number of jobs lost to displacement and leakage (employment benefits created outside of the study area) is required. Displacement relates to the proportion of employment that has been transferred from one place to another, rather than new job creation, so for

example where construction workers have moved between construction schemes. Leakage refers to the proportion of employment benefits that are 'lost' from the immediate area. An example of this could be where some of the more specialist construction techniques (such as tunnelling) may not be able to be provided from within the local jobs market and appropriately skilled workers may need to be brought in from outside of the study area.

- 7.6.29 The Homes and Communities Agency's Additionality Guide (Ref 7-14) states that the level of displacement is likely to vary according to the size of area being assessed, with generally a higher level of displacement taking place within larger areas. This is because there are likely to be a greater number of enterprises providing products and more opportunities for economic linkages. The reverse is the case for leakage, where the level of leakage is likely to reduce as the area being assessed increases.
- 7.6.30 For the purposes of the Scheme, the displacement effect over the London area has been assessed as low to medium, i.e. to fall somewhere between 'there are expected to be some displacement effects' and 'about half of the activity would be displaced', with an equivalent percentage range of 25%-50% displacement. The Socio-Economic Technical Report produced for Crossrail (Ref 7-34) identified that:
- 'due to the nature of London's economy, there is considerable potential for businesses to relocate within the area and/or for local competitors to take up demand.'*
- 7.6.31 Leakage has been assessed as medium i.e. that 'a reasonably high proportion of the benefits will be retained within the area' with an equivalent percentage of 25% (based on information provided within the Additionality Guide).
- 7.6.32 Beside the direct employment effects of construction, indirect and induced employment is also anticipated to occur. Indirect employment results from expenditure on supplies and services necessary for the construction of the Scheme. Induced employment results from the spending of incomes earned by those directly employed on the construction of the Scheme and workers employed by suppliers/ subcontractors for example on food, accommodation and so on. Multipliers to calculate supply linkages and income expenditure are often combined into a composite multiplier. At a regional level, the Additionality Guide identifies composite multipliers of 1.3, 1.5 and 1.7 (low, medium and high). For the purposes of the Scheme,

a medium composite multiplier of 1.5 has been assumed in that there would be anticipated to be average linkages.

7.6.33 Chapter 4, Scheme Description identifies that the estimated peak number of personnel working on the Scheme will be approximately 1,010 people, with works phased over a total period of four to five years. As far as possible, construction staff will be employed from the local and surrounding area. Specialist subcontractors (for example relating to tunnelling, piling etc) will be required for the Scheme and where possible, local subcontractors and workers will be employed, for example apprentices from the Tunnelling and Underground Construction Academy (TUCA) based in east London.

7.6.34 Table 7-23 below sets out how employment will build up over the construction period for both the Silvertown and Greenwich works sites, identifying the peak number of jobs at each location during each year.

**Table 7-23 Peak employment during construction period**

	2018	2019	2020	2021	2022
Silvertown works	232	408	609	682	531
Greenwich works	149	240	253	303	272
Overall Peak	381	648	862	977 <sup>1</sup>	803

\* Note that the peak at Silvertown and Greenwich occur in different months during 2021, hence the overall peak does not equate to the total of the peak month at Silvertown and Greenwich

7.6.35 Utilising the 1.5 multiplier described earlier, the total number of direct, indirect and induced employment created by the Scheme is likely to be in the region of 1,515 jobs. Taking into account displacement and leakage factors, this is likely to equate to in the region of just over 700 additional jobs within the London area.

7.6.36 The significance of effect of construction of the Scheme on direct and indirect employment creation within the local and wider economy is therefore considered to be **Minor to Moderate Beneficial**.

*Local expenditure*

7.6.37 In addition to construction employment, there would also be an indirect benefit to the local economy from expenditure from construction workers.

The Eurest Lunchtime Report 2008 (Ref 7-35) identified that, on average, workers spend £2.10 on lunch per day. As this report was produced in 2008, it is considered that this figure could now be higher. The annual impact of this can be calculated by multiplying this spend by the number of employees during the working year (assumed to be 233 days, with four weeks holiday per annum) – this gives a figure in the region of £475,000 for the year of peak employment (2021).

- 7.6.38 The Construction Statement recognises that, due to the specialised nature of the project, the local labour force will inevitably be supplemented by a non-local workforce. This workforce may require accommodation within the local area.
- 7.6.39 It is considered that the significance of effect of the Scheme through additional expenditure in the local economy will therefore be **Minor Beneficial**.

Operational effects

- 7.6.40 This section considers the potential impacts of the Scheme during the operational phase. Impacts principally relate to the socio-economic benefits of the Scheme with regard to improved accessibility to jobs and services; other impacts considered relate to job creation, potential impacts on tourism in the area, permanent land-take associated with the Scheme and severance.

*Improved accessibility to jobs and services*

- 7.6.41 The Outline Business Case and Preliminary Regeneration Report has been prepared for the Scheme, the purpose of which is to demonstrate how the Scheme will impact on the economy to the benefit of residents of the local regeneration areas. The Regeneration Area (RA) for the Scheme has been defined at a ward level, based on those wards containing Lower Super Output Areas (LSOAs) within the 20% most deprived according to the Index of Multiple Deprivation. A hinterland has also been identified, defined as the broad area within 30 minutes of highway access of the tunnels which, including tunnel access itself, results in a 45 minute catchment (Jacobs 2015). The hinterland therefore includes the remainder of the boroughs of Greenwich, Newham and Tower Hamlets.
- 7.6.42 In considering the general relationship between transport and development, the Preliminary Regeneration Report concludes that:

*'journey times and reliability impose real costs on businesses and the economy and reducing these will introduce efficiencies and help drive location decisions.'*

7.6.43 Although it is acknowledged that wider economic factors are involved, there:

*'is very clear evidence that there is a strong and positive relationship between new investment in transport and the growth of a local economy and development.'*

7.6.44 The Preliminary Distributional Impact Appraisal focuses on the public transport accessibility aspect of accessing not only employment, but also community services and social networks. The report concludes that due to new bus routes and a reduction in congestion, the Scheme will have a:

- beneficial impact on the ability of all residents in the RA in being able to reach their nearest town centre (increasing the number of residents able to reach their nearest town centre in a shorter time period). The impact for households without car is considered to be large beneficial because of the improved public transport availability;
- large beneficial impact on the number of 16-25 year olds receiving improved access the nearest university campus;
- there will also be a beneficial impact for people from outside the area that travel into the area to use local amenities due to improved public transport accessibility; and
- moderate beneficial impact on public transport accessibility to the nearest general hospital for households with no car.

7.6.45 The planned improvements to the Boord Street footbridge will have a beneficial effect on accessibility within the local area. The improved design of the new footbridge allows for access for all (including cyclists, wheelchair users and parents with pushchairs). The footbridge will also provide a valuable link between two of the Greenwich Peninsula Masterplan areas.

#### *Employment*

7.6.46 The tunnel is designed for routine operation as a fully automatic, unmanned facility. However, back office staff would be required for the management of the user charging element of the Scheme as well as to

respond to incidents/accidents and undertake both planned maintenance works and unplanned repairs as necessary. Resourcing of capital interventions over the life of the tunnel not only maintains a good state of repair but also allows for continuous improvement of both operational performance and reducing safety risks. Staffing requirements for other tunnels, for example the A13 tunnels, are in the region of around twenty staff for general operation and maintenance purposes. It is considered that the significance of effect of the Scheme in terms of employment within the local area will be **Minor Beneficial**.

*Wider economic impacts*

7.6.47 The Scheme is aimed at reducing congestion and improving the reliability and resilience of the Blackwall Tunnel river crossing. The Blackwall Tunnel is the highest capacity crossing between Tower Bridge and the Dartford Crossing, has a strategic importance in the east London road network and yet has a very high level of peak congestion, with no alternative routes with spare capacity.

7.6.48 The Outline Business Case shows that with the opening of Silvertown Tunnel:

- The evening, interpeak and morning peaks account for the largest proportion of benefits, which is to be expected given the congestion relief experienced during these periods
- Benefits at weekends are lowest, as there are lower traffic flows during this time and consequently the relief to congestion provided by the Scheme is lower;
- The main beneficiaries of the additional capacity provided by the Scheme are in the three host authority areas, with largest benefits in the areas to the south of the river, where currently northbound capacity is severely constrained and delays are extensive; and
- Total user net benefits are positive in total and for each user group (commuters, business and other travellers). There are significant time user benefits predicted for all modes of transport, with buses, coaches and business car users in particular having high levels of benefit.

7.6.49 The Regeneration and Development Impact Assessment (TfL 2015) notes the significant benefits for residents and employers in areas around the Scheme in terms of improved bus access to jobs and employees. The

Scheme is expected to deliver a step change in cross-river bus connectivity, opening up the area to many new potential bus connections and thereby 'stitching together' the regeneration areas on either side of the River Thames. Clear gains in accessibility are shown over a very wide area. Business opinion has identified potential benefits in terms of attracting more business to the area, making journey times more reliable, increasing their customer base and facilitating recruitment.

*Tourism and leisure*

7.6.50 Baseline data has shown that a relatively high proportion of cross-river trips are for leisure or entertainment purposes. There are also major tourist attractions on both sides of the river – within central London to the north of the river and the attractions such as the World Heritage Site and National Maritime Museum at Greenwich to the south. The O2 is a further significant visitor attraction/facility within the vicinity of the Scheme.

7.6.51 Public transport is utilised for a high proportion of tourism/leisure trips, for example the London Underground, the DLR, buses and the EAL, each of which currently provide cross-river routes at various points in east London. The Scheme provides an opportunity for additional public transport links across the river at this location. As such, the significance of effect of the Scheme on tourism and leisure within the wider area is considered to be **Minor to Moderate Beneficial**, through the provision of an additional public transport route.

*Community severance*

7.6.52 The Social Impacts Assessment prepared as part of the Outline Business Case for the Scheme (Ref 7-36) and in line with the Department for Transport (DfT) TAG Guidance (unit A4.1) considers the social impact of the Scheme on local residents, and includes severance as one of its key areas. The assessment considers the extent to which the Scheme impedes local residents' access to community facilities and services and is mainly concerned with the effects on non-road users. The level of potential severance was assessed by means of consideration of forecast changes in vehicle flow, speed and percentage HGV content. Areas identified as having significant changes in traffic flow as a result of the Scheme include Greenwich Peninsula West, Silvertown and the Aberfeldy/Leamouth area. For each of these areas, the assessment concluded that there was no change in the level of severance experienced by communities as a result of the Scheme. Residents within the Silvertown area may experience a slight improvement to the current



situation in respect of pedestrian access, with improved crossing facilities provided at the Tidal Basin roundabout. It is considered that the overall significance of effect of the Scheme on community severance within the local area will be **Minor Beneficial**.

*Amenity*

7.6.53 Impacts on the amenity of local businesses and residents as a result of the operation of the Scheme may relate to noise and air quality. Residual effects are summarised below (refer to Chapter 6 - Air Quality and Chapter 14 - Noise and Vibration for further detail):

- Changes in noise resulting from road traffic. In the short-term, the assessment concludes that noise impacts as a result of the Scheme would be localised and that there would be negligible or minor changes in road traffic noise at the majority of receptors. Over 2,500 residential dwellings would experience a perceptible decrease in noise levels. Dwellings predicted to experience a moderate noise increase are located in the east tower of the Hoola development (marketed as including luxury apartments) due to a higher numbers of HGV's along Tidal Basin Road as a result of the Scheme. Of the other sensitive receptors identified within the study area by the noise assessment, only one, Ravensbourne College, is identified as experiencing a slight increase in noise level as a result of the Scheme, however this is not considered to be significant. Long-term road traffic noise impacts relate to negligible changes being predicted at all sensitive receptor locations;
- Changes in air quality will partly be due to improved traffic flows (i.e. less stationary traffic) and partly due to the diversion of existing road traffic through the Silvertown Tunnel as opposed to alternative routes. User charging may also act to deter a proportion of road transport away from both the Blackwall and Silvertown tunnels to other river crossings. Improvements to bus routes due to the Scheme may also increase public transport use, reducing private car related emissions.
- The air quality assessment presented in Chapter 6 of the PEIR provides an overview of the Scheme's impact on local air quality. It should be noted that the findings of the air quality assessment are indicative and that a definitive evaluation of the significance of effects of the Scheme's impact on local air quality cannot be made until all

receptors within 200m of affected roads are modelled. This information will be presented in the ES.

- At this stage, modelling results presented in Chapter 6 of the PEIR show that the implementation of the Scheme results in both improvements and deteriorations to air quality. However in general there will be a net positive impact i.e. there are more receptors where concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are predicted to decrease than receptors where concentrations are predicted to increase. For example, air quality at receptors in the vicinity of the A12/A13 in Poplar are predicted to experience an improvement in air quality as a result of the reduction in traffic flows along the A12 Blackwall Tunnel Northern Avenue; similarly, predicted concentrations at worst case receptors on the Greenwich Peninsula are below the AQS objective for mean NO<sub>2</sub> at all modelled receptors apart from those close to the A102 Blackwall Tunnel Southern Approach. There are a number of receptors predicted to experience a deterioration in air quality, including at the Hoola development.

7.6.54 A definitive judgement has not been made in terms of the overall significance of effect relating to changes in air quality until the further modelling has been completed in the ES. Measures to mitigate adverse effects in relation to air quality and noise have been identified in Chapter 6 and Chapter 14 of the PEIR as appropriate and are referred to in the outline CoCP in Volume 3 Appendix 4.A. The significance of the residual effect of the Scheme on the amenity of local businesses and residents is considered to be **Minor Adverse**.

*Development land*

7.6.55 An assessment has been undertaken of the impact of the Scheme on development land, the findings of which are summarised in Table 7-24 below. Included in the assessment are planning applications that have been approved but not implemented, as well as those pending consideration; also included are strategic development sites which may be influenced by the Scheme. The table includes developments that have been incorporated into the traffic modelling and assessment of cumulative impacts for the Scheme. Whilst some sites will experience adverse impacts during construction, the overall impacts are assessed as **Beneficial**.

**Table 7-24 Summary of impacts on development land**

<b>Planning application / Strategic land allocation</b>	<b>Likely impact</b>	<b>Significance of effect</b>
<p>PA/11/03670 Asda, 151 East Ferry Road Hybrid planning application for the demolition of existing supermarket and comprehensive redevelopment of the site for mixed-use purposes.</p>	<p>The Scheme is not considered to have either an adverse or beneficial impact on the development of this site.</p>	<p>Neutral</p>
<p>PA/13/02966 Wood Wharf, Prestons Road Outline application for mixed-use redevelopment.</p>	<p>Likely to be improved transport linkages for residents and employees</p>	<p>Beneficial</p>
<p>PA/14/03594 Hercules Wharf, Castle Wharf and Union Wharf, Orchard Place Mixed-use development to include provision of 834 residential units.</p>	<p>There are potential impacts on amenity during the construction period.  The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Adverse (construction)  Beneficial (operation)</p>
<p>PA/12/00360 New Union Close Mixed-use development to include 399 residential units, together with 103sq.m (Gross Internal Area) office / community facility</p>	<p>The Scheme is not considered to have either an adverse or beneficial impact on the development of this site.</p>	<p>Neutral</p>
<p>PA/12/02107 Car Park At South East Junction Of Prestons Road And Yabsley Street, Prestons Road The erection of two buildings of 7 &amp; 26 storeys comprising 190 residential units</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>PA/12/00001 The Robin Hood Gardens Estate together with land</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>

Planning application / Strategic land allocation	Likely impact	Significance of effect
<p>south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street.</p> <p>Outline application for works to provide up to 1,575 residential units, retail, office and community floorspace; replacement school and faith building.</p>		
<p>PA/11/01426 Land at Virginia Quay</p> <p>Erection of 12 storey residential building to provide 23 residential dwellings and associated works</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>PA/14/00074 Telehouse Far East, Sites 6 and 8, Oregon Drive</p> <p>Erection of a new 10 storey data centre building</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>PA/07/00391/LBTH Land On West Side Of Leamouth Road At South West Junction Of East India Dock Road</p> <p>Erection of nine new residential buildings ranging from 8-36 storeys in height</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>

<b>Planning application / Strategic land allocation</b>	<b>Likely impact</b>	<b>Significance of effect</b>
<p>East India Dock E14</p> <p>Demolition of all existing buildings and structures on site and comprehensive mixed development of East India Dock comprising residential, business, leisure, retail, utilities uses.</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>13/01461/FUL Former Goswell Bakeries And Vacant Warehouses Site Caxton Street North</p> <p>Demolition of existing buildings and erection of mixed-use development, comprising of up to 2,637 sq.m of employment floorspace with residential use above consisting of 336 residential flats.</p>	<p>There are potential impacts on amenity during the construction period.</p> <p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Adverse (construction) Beneficial (operation)</p>
<p>13/00530/FUL 107 Tarling Road</p> <p>Erection of 44 new dwellings with associated works.</p>	<p>There are potential impacts on amenity during the construction period.</p> <p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Adverse (construction) Beneficial (operation)</p>
<p>Strategic Site S8</p>	<p>Proposed release from Strategic Industrial Location.</p> <p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>10/00369/FUL Site We8, The Pumping Station Site, Tidal Basin Road</p>	<p>There are potential impacts on amenity during the construction period.</p>	<p>Adverse (construction) Beneficial (operation)</p>

Planning application / Strategic land allocation	Likely impact	Significance of effect
<p>Redevelopment of the site for the construction of a 24 storey tower containing flexible B1/A1/A3 commercial space at ground floor level and 161 residential units on the floors above.</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	
<p>14/00395/FUL Peruvian Wharf, North Woolwich Road</p> <p>Application for a permanent access road connecting the Peruvian safeguarded wharf to North Woolwich Road.</p>	<p>The Scheme is not considered to have either an adverse or beneficial impact on the development of this site.</p>	<p>Neutral</p>
<p>11/00856/OUT Minoco Wharf, North Woolwich Road</p> <p>Outline planning application for the comprehensive mixed use redevelopment of the whole site for up to 363,000 m<sup>2</sup>.</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>14/01605/OUT Silvertown Quays Bounded By Royal Victoria Dock, Connaught Bridge And Mill Road North Woolwich Road Pending Decision</p> <p>Outline planning application with all matters reserved except for access for the redevelopment of the site for mixed use purposes.</p>	<p>The Scheme is likely to result in improved transport linkages for residents and employees during operation.</p>	<p>Beneficial</p>
<p>13/1773/F Charlton Barge Yard</p>	<p>The Scheme is not considered to have either an adverse or beneficial impact on the</p>	<p>Neutral</p>

<b>Planning application / Strategic land allocation</b>	<b>Likely impact</b>	<b>Significance of effect</b>
<p>Redevelopment of the site in two phases, to include provision of new barge, fabrication and tug boat buildings and replacement river wall and ancillary development.</p>	<p>development of this site.</p>	
<p>13/1529/F Matalan, 30 Bugsby's Way</p> <p>Demolition of existing retail unit and the construction of a 3-storey retail unit.</p>	<p>The Scheme is not considered to have either an adverse or beneficial impact on the development of this site.</p>	<p>Neutral</p>
<p>13/3285/O Sainsbury's and Former Comet Stores, 55 &amp; 57 Bugsby's Way</p> <p>Outline planning permission for the redevelopment of the site to provide one IKEA non-food retail unit (Class A1) of up to 33,000sqm. gross floor area, service yard and associated infrastructure</p>	<p>The Scheme is likely to result in improved transport linkages for residents, employees and customers during operation.</p>	<p>Beneficial</p>
<p>15/0716/O Approved (Approved: September 2015) proposals to revise part of the site of the 2004 approved Greenwich Peninsula Masterplan</p> <p>Outline planning permission with all matters reserved for the demolition of buildings and mixed use redevelopment comprising up to 12,678 residential</p>	<p>The Scheme is likely to result in improved transport linkages for residents, employees and customers during operation.</p>	<p>Beneficial</p>

Planning application / Strategic land allocation	Likely impact	Significance of effect
dwellings and up to 220 serviced apartments; food and non-food retail, restaurants, bars and cafes; business, hotel, education and healthcare facilities, visitor attraction and film and media studios.		

## 7.7 Cumulative impacts

7.7.1 A number of other significant residential, employment, mixed-use and infrastructure developments have been identified that have been taken into account as part of the cumulative assessment. These are identified in Chapter 17 and shown on Drawing 17.1 and Drawing 17.2.

### Construction

7.7.2 Construction of the Scheme over a four to five year period will naturally overlap with other development schemes in such a high density urban areas as east London. These developments have the potential to contribute to an adverse cumulative impact during construction of the Scheme in terms of impact on amenity (disturbance and nuisance from construction activities) and potential demand and supply for construction materials and workforce.

7.7.3 In relation to amenity, cumulative assessments undertaken as part of air quality and noise assessment work elsewhere in this PEIR (Chapters 6 and 14 respectively) identify that cumulative noise and vibration impacts during construction would be neutral on the northern side of the Scheme within the Borough of Newham. On the southern side of the Scheme there is anticipated to be slight adverse cumulative construction noise impacts in Greenwich.

7.7.4 In relation to employment, the Thames Tideway Tunnel is another significant infrastructure scheme which would have a requirement for similarly specialist construction/tunnelling workers over a longer period of time. There may therefore be an in combination impact on the availability of specialist labour, however within the London labour market and with specialist training centres nearby (such as the Tunnelling and



Underground Construction Academy), the impact is not considered to be significant from a cumulative perspective.

### **Operation**

7.7.5 The Scheme is located within an area of considerable potential urban development, with proposals at both the northern and southern ends of the Scheme for mixed-use and residential development in the London Boroughs of Newham, Tower Hamlets and the Royal London Borough of Greenwich. The proposals will bring additional population to east London, together with additional employment, community and other service facilities. There are not anticipated to be significant cumulative effects on community and private assets, due to the urban nature of the area, the way in which development and redevelopment continues to take place, and the opportunities that such development presents for new community and employment facilities.

### **7.8 Further work to be done**

7.8.1 In relation to community and private assets the preparation of the Environmental Statement will include any updates that may be necessary as a result of further modifications to Scheme design and comments received as part of this consultation.

### **7.9 NN NPS Statement compliance**

7.9.1 This assessment has taken into account issues the relevant policies and principles raised set out in the NN NPS that are of relevance, including a consideration of impacts on existing and proposed land-uses and areas of open space, and it is considered that the Scheme complies with the need for development of the national road network to be:

*‘designed to minimise social and environmental impacts and improve quality of life’ (para 3.2).*

### **7.10 Summary**

7.10.1 Both adverse and beneficial effects have been identified as a result of the construction of the Scheme, with positive effects relating to the creation of temporary employment and negative effects including temporary changes in air quality, visual amenity and noise and vibration disturbance for a number of receptors within the vicinity of the Scheme. Other potential impacts identified during construction include land-take and alterations to access arrangements for a number of businesses.

7.10.2 The public and stakeholder consultation that has taken place to date has led to changes in the Scheme design, in order to minimise potential impacts wherever possible; mitigation measures have been identified to improve further reduce negative effects, and include construction best practice, appropriate travel management measures and measures to compensate landowners and occupiers for land-take as a result of the Scheme. TfL have also been having regular contact with landowners over the past year through land owner forum groups. It is considered that the mitigation identified within this chapter and secured in the CoCP where appropriate, will be suitable to minimise adverse effects associated with the Scheme.

7.10.3 Permanent effects resulting from the Scheme relate primarily to improvements to journey times, reliability and accessibility. The Scheme will therefore benefit local residents through improved access to jobs and services, improvements to cross-river bus connectivity and pedestrian and cycling improvements. Businesses are expected to see potential benefits arising from improved reliability of journey times, access to potential employees and opportunities to increase their customer base.

7.10.4 A tabular summary of the significance of overall effects is provided in the table below.

**Table 7-25 Community and private assets impact effect summary**

<b>Impact</b>	<b>Description</b>	<b>Temporary/ Permanent</b>	<b>Significance of Effect</b>
<b>Construction</b>			
Direct land-take	Land-take as a result of the Scheme	Temporary	Minor to moderate adverse
Direct land-take	Land-take as a result of the Scheme	Permanent	Minor to moderate adverse
Construction impact on private and community assets	Construction damage to private assets	Temporary	Minor adverse
Impact on utilities infrastructure	Diversion of utility infrastructure as a result of the Scheme	Permanent	Negligible

<b>Impact</b>	<b>Description</b>	<b>Temporary/ Permanent</b>	<b>Significance of Effect</b>
Severance	Access/egress to businesses on Dock Road during construction	Temporary	Minor adverse
Severance	Impact as a result of the replacement of the Boord Street footbridge	Temporary	Negligible/minor adverse
Severance	Impacts along Millennium Way	Temporary	Minor adverse
Amenity	Impacts on amenity of residents and businesses as a result of construction activities	Temporary	Minor adverse
River navigation and wharfage	Impacts relating to river navigation and wharfage	Temporary	Minor adverse
Employment creation	Arising from Scheme construction (both direct and indirect employment)	Temporary	Minor to Moderate beneficial
Local expenditure	Within the local and wider economy from construction workers	Temporary	Minor beneficial
<b>Operation</b>			
Improved accessibility to jobs and services	Impacts identified through improvements to journey times and reliability	Permanent	Moderate beneficial
Employment	Employment creation as a result of Scheme	Permanent	Minor beneficial

Impact	Description	Temporary/ Permanent	Significance of Effect
	operation		
Severance	Impact on severance from improvements to junctions at the northern and southern ends of the Scheme	Permanent	Minor beneficial
Amenity	Impacts on amenity of residents and businesses as a result of Scheme operation	Permanent	Minor adverse
Impacts on development land	As a result of improved linkages for prospective residents/employees, and potentially unlocking land for future development	Permanent	Beneficial