

SILVERTOWN TUNNEL

SUPPORTING TECHNICAL DOCUMENTATION

PRELIMINARY EQUALITY IMPACT ASSESSMENT

October 2015

This Equality Impact Assessment (EqIA) assesses the Scheme's potential impacts on equalities groups. These groups are defined as having protected characteristics under the Equality Act 2010 and relate to age, disability, gender reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion or belief, gender, and sexual orientation. It also includes an assessment of low-income groups. The assessment outlines potential mitigation measures to achieve a positive impact.

This report forms part of a suite of documents that support the statutory public consultation for Silvertown Tunnel in October – November 2015. This document should be read in conjunction with other documents in the suite that provide evidential inputs and/or rely on outputs or findings.

The suite of documents with brief descriptions is listed below:-

- **Preliminary Case for the Scheme**
 - Preliminary Monitoring and Mitigation Strategy
- **Preliminary Charging Report**
- **Preliminary Transport Assessment**
- **Preliminary Design and Access Statement**
- **Preliminary Engineering Report**
- **Preliminary Maps, Plans and Drawings**
- **Preliminary Environmental Information Report (PEIR)**
 - Preliminary Non Technical Summary
 - Preliminary Code of Construction Practice
 - Preliminary Site Waste Management Plan
 - Preliminary Energy Statement
- **Preliminary Sustainability Statement**
- **Preliminary Equality Impact Assessment**
- **Preliminary Health Impact Assessment**
- **Preliminary Outline Business Case**
 - Preliminary Distributional Impacts Appraisal
 - Preliminary Social Impacts Appraisal
 - Preliminary Economic Assessment Report
 - Preliminary Regeneration and Development Impact Assessment

SILVERTOWN TUNNEL

Preliminary Equality Impact Assessment

October 2015

MAYOR OF LONDON



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Silvertown Tunnel

Preliminary Equality Impact Assessment



Planning Act 2008

Infrastructure Planning

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

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LIST OF ABBREVIATIONS

BAME	Black and Asian Minority Ethnic
CoCP	Code of Construction Practice
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
EAL	Emirates Air Line
EqIA	Equality Impact Assessment
GLA	Greater London Authority
HIA	Health Impact Assessment
IoMD	Index of Multiple Deprivation
LGB	Lesbian, Gay and Bisexual
LSOA	Lower Super Output Area
NN NPS	National Road and Rail Networks: National Policy Statement
NPPF	National Planning Policy Framework
OBC	Outline Business Case
ONS	Office for National Statistics

PEIR	Preliminary Environmental Information Report
PHV	Private Hire Vehicle
PTAL	Public Transport Accessibility Level
RA	Regeneration Area
RDIA	Regeneration and Development Impact Assessment
ULEZ	Ultra Low Emission Zone

GLOSSARY OF TERMS

Term	Explanation
Blackwall Tunnel	<p>A road tunnel underneath the River Thames in east London, linking the London Borough of Tower Hamlets with the Royal Borough of Greenwich, comprising two bores each with two lanes of traffic.</p> <p>The tunnel was originally opened as a single bore in 1897, as a major transport project to improve commerce and trade in London's east end. By the 1930s, capacity was becoming inadequate, and consequently, a second bore opened in 1967, handling southbound traffic while the earlier 19th century tunnel handled northbound.</p>
Department for Transport (DfT)	<p>The government department responsible for the English transport network and a limited number of transport matters in Scotland, Wales and Northern Ireland that have not been devolved.</p>
Development Consent Order (DCO)	<p>This is a statutory order which provides consent for the project and means that a range of other consents, such as planning permission and listed building consent, will not be required. A DCO can also include provisions authorising the compulsory acquisition of land or of interests in or rights over land which is the subject of an application.</p> <p>http://infrastructure.planninginspectorate.gov.uk/help/glossary-of-terms/</p>
Docklands Light Railway (DLR)	<p>An automated light metro system serving the Docklands and east London area. The DLR is operated under concession awarded by Transport for London to KeolisAmey Docklands, a joint venture between transport operator Keolis and infrastructure specialists Amey plc</p>
Heavy Goods Vehicle (HGV)	<p>European Union term for any vehicle with a gross combination mass of over 3500kg</p>
The Scheme	<p>The construction of a new bored tunnel under the River Thames between the Greenwich peninsula and Silvertown, as well as necessary alterations to the connecting road network and the</p>

Term	Explanation
	introduction of user charging at both Silvertown and Blackwall tunnels
Transport for London (TfL)	<p>A local government body responsible for most aspects of the transport system in Greater London. Its role is to implement transport strategy and to manage transport services across London.</p> <p>These services include: buses, the Underground network, Docklands Light Railway, Overground and Trams. TfL also runs Santander Cycles, London River Services, Victoria Coach Station and the Emirates Air Line.</p> <p>As well as controlling a 580km network of main roads and the city's 6,000 traffic lights, TfL regulates London's private hire vehicles and the Congestion Charge scheme.</p>

SUMMARY

1. The purpose of the Preliminary Equalities Impact Assessment (EqIA) is to present the potential impacts of the Silvertown Tunnel scheme (referred to as the Scheme) on equalities groups. These groups are defined as 'protected characteristics' in the Equality Act 2010 and relate to age (both older and younger people), disability, gender reassignment, marriage and civil partnerships, pregnancy and maternity, race, religion or belief, gender and sexual orientation. The EqIA process is designed to ensure that projects, policies and practices do not discriminate or disadvantage people and also to enable consideration of how equality can be improved or promoted. In addition to the statutory equalities groups already listed, the Preliminary EqIA also includes an assessment of low-income groups. Such groups are considered to be vulnerable in society.
2. The Scheme would comprise a new dual two-lane connection between the A102 Blackwall Tunnel Approach on Greenwich Peninsula (Royal Borough of Greenwich) and the Tidal Basin Roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way (London Borough of Newham) by means of twin tunnel bores under the River Thames and associated approach roads.
3. The Silvertown Tunnel would be approximately 1.4km long. The introduction of free-flow user charging on both the Blackwall and Silvertown Tunnels would play a fundamental part in managing traffic demand. It would also support the financing of the construction and operation of the Silvertown Tunnel.
4. Baseline data for this Preliminary EqIA has been collated from a range of sources in order to provide an overview of the existing population in relation to the various equality groups. Sources of information have included statistical data (for example 2011 Census data), data compiled by Transport for London (TfL) and a review of relevant data produced as part of other assessment work, for example the Preliminary Health Impact Assessment, Preliminary Regeneration and Development Impact Assessment and Social and Distributional Reports prepared for the Scheme as part of the Preliminary Outline Business Case.
5. The assessment of impacts on equality groups is informed by quantitative data where appropriate and based on professional judgment. In order to identify and assess potential equality impacts, factors that have been taken into consideration include the sensitivity of the equality group to individual impacts, the likely scale of impact (this may depend on factors such as the

geographic extent of the area affected or alternatively the potential number of people affected) and the duration of change (is the change likely to be temporary or permanent in nature). Finally, all potential equality impacts have been identified as being positive, negative or neutral and either disproportionate (where there is a proportionately greater impact on members of an equality group than on other members of the general population in a particular area) or differential (an impact which affects members of an equality group differently from the rest of the general population because of specific needs or a recognised vulnerability).

6. The Preliminary EqIA has been undertaken in accordance with current national legislation and with national, regional and local (i.e. relating to the three host boroughs of the London Borough of Newham, London Borough of Tower Hamlets and Royal Borough of Greenwich) plans and policies.
7. Measures that may enhance the potential benefits of the Scheme for equalities target groups, notably the opportunities for new cross-river bus services and the provision of a community fund for the host boroughs, have been identified. These have specific measures designed to avoid, reduce or offset any adverse impacts of the Scheme during both the construction and operation phases.
8. The Scheme would create opportunities for new cross-river bus services to improve public transport links between south-east and east London. The Silvertown Tunnel is designed to accommodate double-deck buses, thus providing operational flexibility in the bus routes that could be extended across the Thames, as well as greater capacity. The improved cross-river bus services might enhance the potential benefits of the Scheme for those equalities target groups more likely to use public transport, such as older and younger people, people with disabilities and people from low-income groups.
9. A community fund would be available to the host boroughs who would be able to decide on its exact function and distribution. The community fund would provide an opportunity through which transport, environmental and social enhancements can be delivered to local communities and could be used to mitigate impacts on low-income groups arising from the introduction of charging at both the Blackwall and Silvertown Tunnels.
10. Impacts identified during the construction stage of the Scheme relate to impacts on health and quality of life arising from changes to air quality (dust, plant and vehicle emissions), construction noise and vibration, and from likely diversions to public transport and pedestrian routes. Impacts have been

assessed in relation to those equalities groups with the potential to be most affected and have principally been both minor and short-term in nature.

11. During Scheme operation, a wider range of potential impacts have been identified relating both to effects arising from changes in road traffic through to effects of user-charging on personal affordability and businesses. Key findings from this preliminary assessment include that:

- There would be negligible or minor changes in road traffic noise at the majority of receptors with a net gain of 1,302 residential dwellings which would experience a perceptible decrease in noise level;
- Impacts on severance as a result of the Scheme are considered to be slightly beneficial but in line with the overall population;
- There are considered to be reductions in overall accident risk on the local network as a result of the scheme with a slightly beneficial impact;
- There would be connectivity improvements across a wider area as a result of the Scheme, benefiting groups both within and outside of the immediate study area;
- Proposed improvements in public transport accessibility as part of the Scheme would provide a considerable benefit for equalities groups that typically use public transport more frequently, with improvements not only to journey routes but also to journey times and reliability as a result of bus-only lanes through the tunnel;
- Potential differential impacts arising from user charging (for example impacts on personal affordability and on workers in the night-time economy) would be considerably offset by the provision of improved public transport links (specifically new and extended journey routes together with improvements to journey times and reliability) and through the provision of the community fund currently being developed between TfL and the host boroughs, which could be used to fund transport, social and environmental enhancements within deprived communities; and
- Potential differential impacts experienced by businesses with a high utilisation of LGVs, for which Asian businesses may be more highly represented within the local area, should be considerably offset by wider benefits to business brought about by the Scheme such as

improved access to cross-river markets and improvements in business journey times and reliability.

12. This EqlA is part of a suite of documents which have been made available for the pre-application consultation on the Silvertown Tunnel scheme which runs from 5 October to 29 November 2015. Following this consultation, TfL will carefully consider comments made by the public and stakeholders in order to improve and refine the scheme proposals. TfL aim to submit a Development Consent Order (DCO) application to the Planning Inspectorate in Spring 2016. This application will seek the consent of the Secretary of State for Transport to build and operate the proposed tunnel and all associated measures.

1. INTRODUCTION

1.1 Purpose of the Preliminary Equality Impact Assessment

1.1.1 The status of this document is preliminary. It forms part of a suite of documents which have been prepared for the pre-application consultation for the Silvertown Tunnel scheme (referred to as the Scheme). The Preliminary Equality Impact Assessment (EqIA) will remain subject to review in order to reflect changes as a result of the consultation process. The Preliminary EqIA will be updated with findings reported in the final Environmental Statement (ES), which will accompany the Development Consent Order (DCO) Application in 2016.

1.1.2 The purpose of the Preliminary EqIA is to present the potential impacts of the Scheme on equalities groups based on the baseline gathered to date and the preliminary findings of a number of environmental assessments. It also identifies possible mitigation measures where necessary, and outlines where further assessment work may need to be undertaken to aid the further development of the Scheme. The Preliminary EqIA draws on a variety of other documents submitted as part of the consultation as appropriate.

1.2 Existing context

1.2.1 The existing cross-river road network in east London does not have the capacity to accommodate current road traffic demand, and is also not sufficiently resilient when incidents occur. Four road crossings within east London (Tower Bridge, the Rotherhithe Tunnel, the Blackwall Tunnel and the Dartford Crossing) are all currently at or over capacity during peak times.

1.2.2 The existing cross-river highway network in east London experiences high levels of congestion and poor resilience because alternative crossings to the Blackwall Tunnel are very limited. Bus route 108, which uses the Blackwall Tunnel, is characterised by slow peak journey speed and poor reliability, and is frequently subject to disruption when the tunnel is closed. The route also has to operate with single deck vehicles due to the height restrictions on the northbound tunnel bore.

1.2.3 Population and employment is expected to rise rapidly across London between 2011 and 2031, and the three Silvertown Tunnel host boroughs (London Borough of Newham, Tower Hamlets and the Royal Borough of

Greenwich) are expected to see higher forecast growth in particular. In the absence of new road crossings, there will be limited capacity for growth in road vehicle trips in the future, with average journey times and delays expected to increase significantly and knock-on negative impacts for network resilience and connectivity to labour markets and jobs.

1.3 Description of the Scheme

- 1.3.1 The Scheme – known as the Silvertown Tunnel – involves the construction of a twin bore road tunnel providing a new connection between the A102 Blackwall Tunnel Approach on Greenwich Peninsula (London Borough of Greenwich) and the Tidal Basin Roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way (London Borough of Newham). The Silvertown Tunnel would be approximately 1.4km long and would be able to accommodate large vehicles including double deck buses.
- 1.3.2 On the north side, the tunnel approach road connects to the Tidal Basin Roundabout, which would be altered to create a new signal-controlled roundabout linking the Silvertown Way, Dock Road and the Lower Lea Crossing. Dock Road would be realigned to accommodate the new tunnel and approach road. On the south side, the A102 would be widened to create new slip-road links to the Silvertown Tunnel. A new flyover would be built to take southbound traffic exiting the Blackwall Tunnel over the northbound approach to the Silvertown Tunnel. The Boord Street footbridge over the A102 would be replaced with a pedestrian and cycle bridge.
- 1.3.3 New portal buildings would be located close to each portal to house the plant and equipment necessary to operate the tunnel, including ventilation equipment.
- 1.3.4 The location of the Scheme is shown in Figure 1-1 below. The London Borough of Tower Hamlets, London Borough of Newham and Royal Borough of Greenwich are acting as host boroughs for the Scheme and are referred to accordingly throughout this EqIA.

Figure 1-1 Scheme location

- 1.3.5 The introduction of free-flow user charging on both the Blackwall and Silvertown Tunnels would play a fundamental part in managing traffic demand and support the financing of the construction and operation of the Silvertown Tunnel.
- 1.3.6 The design of the tunnel would include a dedicated bus/coach and HGV lane, which would provide opportunities for TfL to provide additional cross-river bus routes.
- 1.3.7 Main construction works would likely commence in 2018 and would last approximately 4 years with the new tunnel opening in 2022/2023. A Tunnel Boring Machine (TBM) would be used to bore the main tunnel sections under the river with shorter sections of cut and cover tunnel at either end linking to the portals. The proposal is to erect and launch the TBM from a specially constructed chambers at Silvertown and Greenwich Peninsula where the bored and cut and cover sections connect. The main site construction compound would be located at Silvertown to utilise Thames Wharf to facilitate the removal of spoil and delivery of materials by river. A secondary site compound would be located adjacent to the

alignment of the proposed cut and cover tunnel on the Greenwich Peninsula.

1.4 Structure of the Preliminary EqIA

1.4.1 This Preliminary EqIA is structured as follows:

- Chapter 2 describes what an EqIA is, the scope of the Preliminary EqIA, the assessment methodology that has been used and consultation that has been undertaken to date;
- Chapter 3 outlines the relevant policy context;
- Chapter 4 sets out the baseline conditions as they relate to each of the equalities groups;
- Chapter 5 sets out measures that might enhance the potential benefits of the scheme for equality target groups and outlines mitigation measures which reflects good practice;
- Chapter 6 provides an assessment of the main construction impacts of the Scheme as they relate to each equalities group;
- Chapter 7 provides an assessment of the main operational impacts of the Scheme as they relate to each equalities group; and
- Chapter 8 provides a summary of the key findings and identifies the next steps in the process.

2. SCOPE AND METHODOLOGY

2.1 What is an Equality Impact Assessment?

2.1.1 The Equality Act 2010 brings together existing equality legislation into a single Act. The Act includes a public sector equality duty which requires public organisations and those delivering public functions to show due regard to the need to eliminate unlawful discrimination, harassment, victimisation; to advance equality of opportunity; and to foster good relations between communities. TfL aims to be an exemplary organisation in relation to equalities and to champion equal opportunities across London. The EqIA procedures apply to all projects and policies where TfL is the lead agency.

2.1.2 The EqIA process is designed to ensure that projects, policies and practices do not discriminate or disadvantage people and also to enable consideration of how equality can be improved or promoted. The 'protected characteristics' as listed in the Equality Act 2010 are presented below and referred to hereafter as equalities groups:

- Age (both older and younger people);
- Disability;
- Gender reassignment (i.e. transgender individuals);
- Marriage and Civil Partnerships;
- Pregnancy and Maternity;
- Race;
- Religion or Belief;
- Gender; and
- Sexual Orientation (i.e. heterosexual, gay, lesbian).

2.1.3 In addition to the statutory equalities groups listed above, the Preliminary EqIA also includes an assessment of low-income groups. Such groups are considered to be vulnerable in society and as such the impact of the Scheme on these groups should be assessed.

2.2 Scope and methodology

Study area

2.2.1 The study area for the Preliminary EqIA is consistent with that used in the Preliminary Health Impact Assessment (HIA) and with relevant chapters of the Preliminary Environmental Information Report (PEIR). The study area comprises a number of zones, each of which are described in Table 2-1 below.

Table 2-1 Study area description

Zone	Description
Core area	Effects experienced at or in the vicinity of the tunnel (includes the Limit of Land to be Acquired or Used (LLAU) by the Scheme).
Noise and Air Quality Assessment areas	The study areas used in the air quality and noise studies are defined in Chapters 6 and 14 respectively of Volume 1 of the PEIR. This study areas include key routes and examines expected changes at Blackwall Tunnel.
Community facilities assessment	A study area extending a distance of 1km from the LLAU (approximately 10 minutes walking distance). This corresponds with the study areas used in Volume 1 of the Community and Private Assets chapter (PEIR, Chapter 7).
Local area	Includes the three host boroughs of London Borough (LB) Newham, LB Tower Hamlets and Royal Borough of Greenwich.
Sub-regional area	Includes the remaining east LBs of Barking and Dagenham, Bexley, Southwark, Hackney, Havering, Lewisham, Redbridge and Waltham Forest (similar to the Distributional Impact Appraisal).

2.3 Temporal scope

2.3.1 The Scheme is predicted to open in 2023. The future assessment year is 2036. Significant population growth is forecast for East London which is expected to both exacerbate problems currently associated with the

Blackwall Tunnel such as congestion and air quality issues, as well as have a significant impact on the need for cross-river travel.

2.3.2 The environmental disturbance impacts of construction of the Scheme are likely to be short-term, however the social and accessibility benefits are likely to be a long-term legacy. The re-distribution of operational air quality and noise impacts as a result of the Scheme may also be long-term changes. Definitions for short-term and long-term impacts are aligned with those of the PEIR.

2.3.3 The temporal scope of the EqIA is consistent with other relevant assessments such as the EIA and the Preliminary HIA. The scope will cover both the construction and the operation of the Scheme and the likely duration of the impacts will be identified as appropriate.

2.4 Methodology

2.4.1 The following sections describe the approach that has been taken with regard to collation of baseline information and assessment methodology.

Baseline

2.4.2 Baseline data has been collated from a range of sources in order to provide an overview of the existing population in relation to the various equality groups. Sources of information include:

- Office of National Statistics (including 2011 Census data and more recent data as relevant);
- Data compiled by TfL ('Understanding the Travel Needs of London's Diverse Communities' 2014);
- London Travel Demand Survey 2012/13;
- Department for Communities and Local Government, Indices of Deprivation 2010;
- Statistics and relevant information produced at the local level for individual London boroughs, with comparator information for London and England as a whole; and
- Review of relevant data produced as part of other assessment work, for example the Preliminary HIA and Social and Distributional Reports prepared for the Scheme.

Assessment methodology

2.4.3 The assessment of impacts on equality groups is informed by quantitative data where appropriate and based on professional judgment. In order to identify and assess potential equality impacts, the following has been taken into consideration:

- key information relating to the equality group as identified in the baseline assessment (for example is there a higher proportion of the equality group within the proposed study area or are there particular features of an equality group that may apply, such as high levels of public transport usage);
- sensitivity to change – the sensitivity of the equality group to individual impacts, taking into account factors such as the specific needs or characteristics of that group;
- magnitude of change – for each impact, an assessment of whether the scale of the impact constitutes a minor, moderate or major effect (this may depend on factors such as the geographic extent of the area affected or alternatively the potential number of people affected); and
- duration of change – is the change likely to be temporary or permanent in nature (for example potential effects arising as a result of the construction process are likely to be temporary in nature).

2.4.4 Finally, all potential equality impacts have been identified as either disproportionate or differential. Disproportionate and differential impacts are identified as follows:

- disproportionate – one which has a proportionately greater impact on members of an equality group than on other members of the general population in a particular area; and
- differential – one which affects members of an equality group differently from the rest of the general population because of specific needs or a recognised vulnerability.

Mitigation

2.4.5 Mitigation measures are required in order to prevent, reduce or offset any significant adverse effects. A number of these measures are already embedded within the design for the Scheme. Other mitigation measures may be necessary to counter adverse effects experienced during the

construction or operational phases of the Scheme. Mitigation measures are considered in more detail in chapter 5 of the Preliminary EqIA.

2.5 Consultation and stakeholders engagement

2.5.1 This section summarises consultation that has been undertaken on the Scheme as a whole, as well as that which has been undertaken specifically in relation to equalities issues.

Consultation on the Scheme

2.5.2 In 2012 TfL ran a four week consultation with members of the public and stakeholders on proposals to enhance highway river crossings in east and south-east London, which included a new tunnel at Silvertown to ease congestion and provide additional resilience at Blackwall. Information about the proposals was made available online, including an online questionnaire; the consultation was promoted in a range of local and pan-London press titles, via social media and via emails direct to stakeholders and members of the public who had registered to receive email updates. The outcome of the consultation demonstrated that there was widespread support for TfL to continue to develop the Silvertown Tunnel proposals, which were then taken forward.

2.5.3 A further round of formal consultation took place between October 2012 and February 2013 which sought the views of the public and stakeholders on a number of issues relating to river crossings, including the introduction of a new tunnel at Silvertown. The consultation included the issue of nearly 200,000 information letters to local addresses, two separate emails to approximately 350,000 customers in TfL's customer services database, and advertising in London-wide and local press titles and on the Docklands Light Railway (DLR) network. Twelve consultation roadshow events were held at locations around the affected areas. The consultation was publicised to a large number of stakeholders, including relevant local authorities, political representatives and transport campaign groups.

2.5.4 Public and stakeholder consultation was also undertaken from September to October 2014. This consultation included the Introductory

Environmental Report¹, which provided initial detail about the Scheme and the potential effects arising from it. During this consultation, roadshow events took place at local venues. Consultation responses have been taken into account and are reflected in the current scheme proposals, for example measures would be implemented to improve public transport provision in the vicinity of the Scheme. Further details of the consultation are documented in the Silvertown Tunnel Public Consultation Analysis Report (2015)². Consultation has continued with relevant local authorities, major businesses and statutory stakeholders in addition to members of the public.

Consultation undertaken as part of EqIA

- 2.5.5 An Introductory EqIA (2014)³ was included in the 2014 consultation. This document comprised an initial assessment of the impact of the Scheme on equality target groups, identified possible mitigation measures where necessary and outlined where further modelling and assessment work may need to be undertaken to aid the further development of the Scheme.
- 2.5.6 A scoping report was produced for the EqIA in June 2015⁴, which identified key baseline data, study areas, potential impacts and assessment methodologies. The Scoping Report was distributed to key stakeholders (a list of whom is provided in Appendix A) with a four week period provided for receipt of comments/feedback.
- 2.5.7 In addition, a joint HIA/EqIA workshop was held in July 2015 for representatives of the host boroughs and other organisations in order to discuss and agree the content of the Scoping Reports for each assessment. The scope of the EqIA was adapted as a result of stakeholder comment to ensure that all potentially relevant areas would be covered by the assessment – for example, the need to cover road safety as part of the assessment as a result of its potential impact on younger age groups.

¹ Silvertown Tunnel Introductory Environmental Report, TfL, 2014

² Silvertown Tunnel Public Consultation Analysis Report, TfL, 2015

³ Silvertown Tunnel Introductory EqIA, TfL, 2014

⁴ Silvertown Tunnel EqIA Scoping Report, TfL, 2015

- 2.5.8 Meetings have also been ongoing with the host boroughs to discuss key elements of the Scheme including those relating to the Preliminary EqIA such as improvements relating to the provision of public transport and potential aspects of the community fund.
- 2.5.9 Key stakeholders and representatives of equalities groups will be invited to attend the Pre-Application Consultation and make comment on the Preliminary EqIA.

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3. POLICY CONTEXT

3.1 Policy context

3.1.1 The Preliminary EqlA has been undertaken in accordance with current national legislation and with national, regional and local (i.e. relating to the three host boroughs) plans and policies. A summary of these is provided in Table 3-1 below.

Table 3-1 Equality impact assessment policy context

Policy/Legislation	Summary of Requirements
National Road and Rail Networks: National Policy Statement (NN NPS) (December 2014)	<p>The Government’s vision and strategic objectives for national networks as set out in NN NPS includes ‘supporting a prosperous and competitive economy’ 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>
National Planning Policy Framework (NPPF) (March 2012)	<p>The NPPF provides the following key statements relevant to equalities:</p> <p>The social dimension of sustainable development involves creating a high quality environment that supports communities’ health, social and cultural well-being (Paragraph 7);</p> <p>One of the twelve core land-use planning principles is to consider and provide ‘<i>support to local strategies to improve health, social and cultural well-being for all</i>’ (Paragraph 17); and</p> <p>Paragraph 123 emphasises the importance of considering adverse impacts on health and quality of life in both planning policies and when determining planning applications.</p>

Policy/Legislation	Summary of Requirements
London Plan (2015)	<p>The London Plan sets the overarching policy framework in which the London boroughs formulate their Local Plans and supplementary planning guidance. Relevant policies include:</p> <p>Policy 3.1 Ensuring Equal Life Chances for All</p> <p>The Mayor is committed to ensuring equal life chances for all Londoners. Meeting the needs and expanding opportunities for all Londoners – and where appropriate, addressing the barriers to meeting the needs of particular groups and communities – is key to tackling the huge issue of inequality across London.</p> <p>Policy 4.12 Improving Opportunities for All</p> <p>The policy aims to ensure that Londoners are able to access jobs and other opportunities within the city. Priorities include helping people who are disadvantaged or excluded from the workplace through a combination of employment support and physically focused initiatives (for example transport infrastructure provision and the location of employment and training facilities).</p>
Mayor’s Transport Strategy 2010	<p>Policy 21: The Mayor, through TfL, and working with the Department for Transport (DfT), Network Rail, train operating companies, London boroughs and other stakeholders, will seek to increase accessibility for all Londoners by promoting measures to improve:</p> <p>a) The physical accessibility of the transport system, including streets, bus stops, stations and vehicles</p> <p>b) Information provision, staff service and the travelling environment</p> <p>Policy 22: The Mayor, through TfL, and working with the London Development Agency, DfT, Network Rail, train operating companies, London boroughs and other stakeholders, will seek to enhance connectivity, reduce community severance, promote community safety,</p>

Policy/Legislation	Summary of Requirements
	enhance the urban realm and improve access to jobs and services in deprived areas.
Royal Borough of Greenwich Core Strategy and Detailed Policies (July 2014)	<p>The Core Strategy states that the diverse nature of the Borough’s population is such that the issue of community cohesiveness is of particular importance. Strategic objectives include to:</p> <ul style="list-style-type: none"> • Reduce levels of worklessness, improve skills, encourage a prosperous economy and create sustainable jobs within the Borough making the most efficient use of land; and • Encourage diversity and to reduce deprivation and health inequalities within the Borough.
London Borough of Newham Core Strategy (April 2013)	<p>Relevant policies within the Core Strategy include:</p> <p>Policy J3 Skills and Access to Employment considers the removal of barriers to work for Newham residents in order to tackle the borough’s serious employment challenges.</p> <p>Policy SP2 Healthy Neighbourhoods refers to the need to improve employment levels, reduce poverty and improve inclusion through better urban design.</p>
London Borough of Newham Equality and Cohesion Plan 2011-2014	<p>Newham’s Equality and Cohesion Plan sets out how Newham will meet their legal duties in line with the new Equality Act 2010 and the Human Rights Act 1998 to advance equality, and defend human rights for all residents through the Council’s mainstream services and activities. From policy making to day to day services the council is focused on providing fairness and equality of opportunity for their residents.</p>
London Borough of Tower Hamlets Core Strategy (February 2009)	<p>The spatial theme of the Core Strategy <i>Strengthening neighbourhood well-being</i> seeks to ensure the timely provision of social infrastructure to support housing and employment growth.</p>

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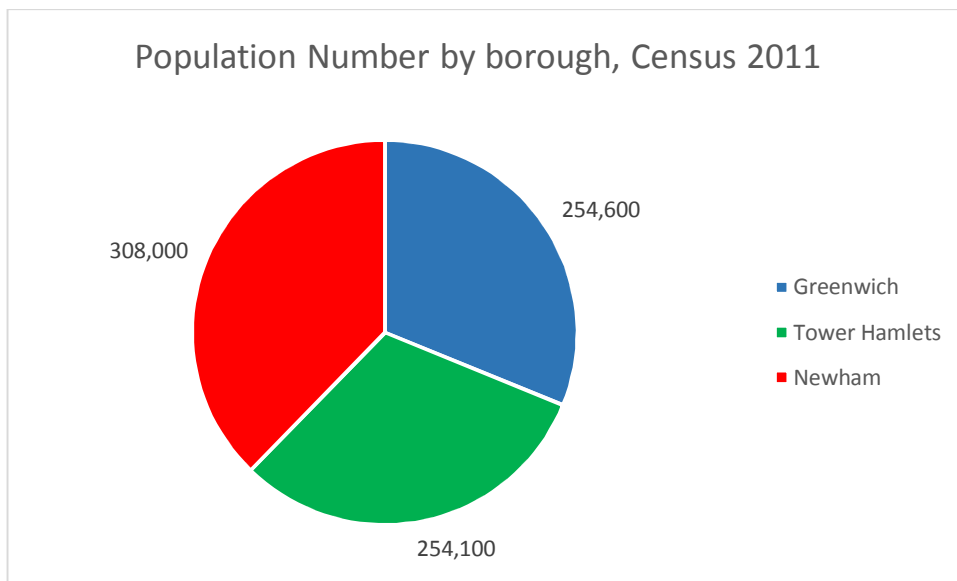
4. BASELINE

4.1 Overview

4.1.1 This chapter sets out baseline information relating to each of the equalities groups, including quantitative information taken from sources such as the 2011 Census as well as qualitative information from research into such areas as travel behaviour, for example.

4.1.2 Figure 4-1 shows the residential population for each of the three host boroughs, which together comprise some 10% of the population of Greater London.

Figure 4-1 Number of residents, by thousands, registered within each of the host boroughs, (Census 2011)



Travel behaviour

4.1.3 Table 4-1 sets out the proportion of Londoners using various modes of transport at least once a week, for each of the main equalities groups⁵. Key points relating to each equalities group where relevant can be found within the following sections.

Table 4-1 Percentage of Londoners using modes of transport by equalities group

	All	Men	Women	White	BAME	Age 24 & under	65+	Low-income	Disabled
Walking	96	96	96	97	97	99	87	95	79
Bus	61	58	64	57	68	69	64	71	57
Car (as a passenger)	47	40	54	46	49	65	43	42	46
Car (as a driver)	39	44	34	44	31	9	41	25	26
Underground	38	41	35	39	36	33	23	31	18
National Rail	17	18	16	19	15	14	12	13	7
Overground	8	9	7	8	8	8	4	8	4
Private hire vehicles	7	6	7	7	6	7	6	7	7

⁵ Understanding the Travel Needs of London's Diverse Communities, TfL, 2014
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	All	Men	Women	White	BAME	Age 24 & under	65+	Low-income	Disabled
DLR	4	5	4	4	5	4	2	4	2
London taxi	4	5	3	6	2	2	3	2	3
Tram	2	2	2	2	2	2	2	2	2
Motorcycle	1	2	-	2	1	1	-	1	-

Source TfL 2014

4.2 Age

4.2.1 Table 4-2 sets out a summary of the age profiles for each of the three host Boroughs, together with comparative information for the London and England. Table 4-2 shows that the three host Boroughs have a higher proportion of their population in all age groups from 0-45 than is the case for England as a whole. From 45-49 onwards the host boroughs have smaller proportions of their population than the England average. Both Newham and Tower Hamlets show higher proportions of their resident population within the 20-35 age range than the London average. Although a rise is projected across all age groups for the Greater London area, the rise is not uniform, with the largest rise predicted within the 65+ age groups (predicted to rise by 63.9% compared with the overall growth rate of 23% projected for the total population (GLA 2014).

Table 4-2 Age Profile of Host Boroughs (all usual residents)

Area	LB Newham	LB Tower Hamlets	RB Greenwich	London	England
<i>Total number</i>	307,984	254,096	254,557	8,173,941	53,012,456
<i>Age</i>					
0 to 4	8.24%	7.38%	8.23%	7.24%	6.26%

Area	LB Newham	LB Tower Hamlets	RB Greenwich	London	England
5 to 9	6.76%	6.11%	6.41%	5.91%	5.61%
10 to 14	6.36%	5.20%	5.89%	5.59%	5.81%
15 to 19	6.63%	5.75%	6.31%	5.77%	6.30%
20 to 24	10.58%	12.13%	7.85%	7.71%	6.78%
25 to 29	13.13%	15.80%	8.69%	10.19%	6.89%
30 to 34	10.36%	13.00%	9.90%	9.75%	6.62%
35 to 39	7.63%	8.48%	8.35%	8.12%	6.69%
40 to 44	6.89%	6.17%	7.51%	7.46%	7.33%
45 to 49	5.68%	4.64%	6.73%	6.81%	7.32%
50 to 54	4.78%	3.83%	5.52%	5.64%	6.41%
55 to 59	3.51%	3.08%	4.35%	4.55%	5.65%
60 to 64	2.77%	2.31%	4.00%	4.19%	5.98%
65 to 69	1.95%	1.63%	2.94%	3.14%	4.73%
70 to 74	1.78%	1.59%	2.43%	2.65%	3.86%
75 to 79	1.32%	1.26%	1.94%	2.16%	3.15%
80 to 84	0.89%	0.95%	1.47%	1.61%	2.37%
85 to 89	0.51%	0.49%	0.96%	0.99%	1.46%
90 to 100+	0.25%	0.21%	0.51%	0.52%	0.76%

From Office for National Statistics. Census 2011 Population by Age, UK Districts. <http://bit.ly/1K0ttSm>

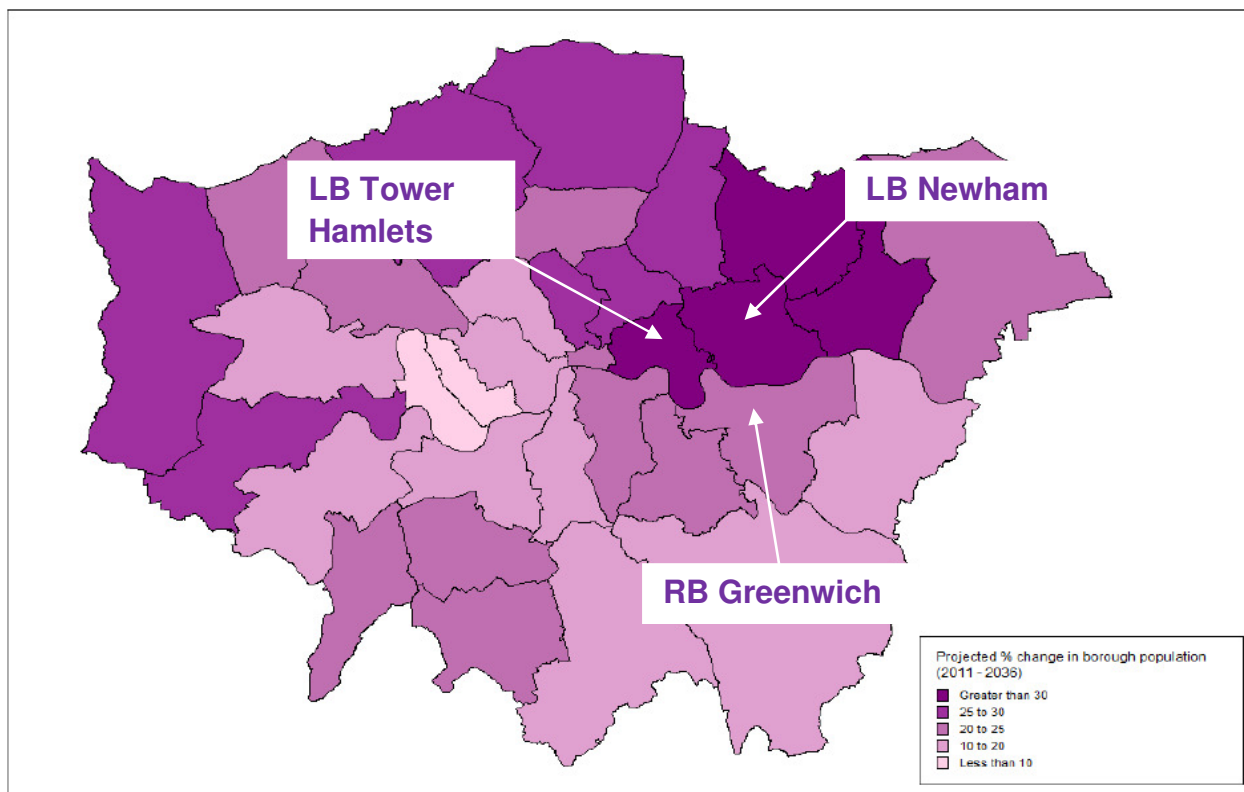
4.2.2 In terms of population change over time, LB Tower Hamlets has been the fastest growing area of the country over the last decade⁶. Estimated population change within London is provided by the Greater London Authority (GLA) between 2011 and 2036, which corresponds with the period covered by the London Plan⁷. Although a rise is projected across all age groups for the Greater London area, the rise is not uniform, with the largest rise predicted within the 65+ age groups (predicted to rise by 63.9%) compared with the overall growth rate of 23% projected for the total population⁸. The projected change in population by borough over this time period is illustrated in Figure 4-2 below. The greatest level of growth is projected in four boroughs within east London, including LB Tower Hamlets and LB Newham, all of which are anticipated to see a total population rise of more than 30%.

⁶ Tower Hamlets Research Briefing, 2013

⁷ GLA Borough Level Population and Employment Growth Projections, 2011

⁸ GLA Borough Level Population and Employment Growth Projections, 2011

Figure 4-2 Projected Population Change by Borough 2011-2036



Source: GLA 2014

Young people

4.2.3 Features of travel behaviour of relevance to young people in London as a whole as identified in TfL research⁹ include that:

- Regular bus use is high among younger Londoners.
- Travelling as a car passenger is a frequently used method of transport for younger Londoners, especially for under 16s (78% of 5-10 year olds and 76% of 11-15 year olds are car passengers at least once a week).

⁹ Understanding the Travel Needs of London's Diverse Communities, TfL, 2014

- More than half of the journeys made by Londoners aged between five and 15 are for education related reasons.

Older people

4.2.4 Features of relevance to this group as identified in TfL research¹⁰ include that:

- People aged 65 and over are more likely to be women, from a white ethnic group, on an annual income of less than £20,000 per year and be disabled.
- Older people tend to travel less frequently, with bus use being a key form of transport (64% of older people using the bus at least once a week, compared to 61% of all Londoners).
- 57% of weekday journeys made by Londoners aged 65 and over are for shopping/personal business, while 29% are for leisure purposes.

4.3 Gender

4.3.1 Table 4-2 shows that for the host boroughs, the male population is higher than for London and England as a whole. LB Tower Hamlets and RB Greenwich show roughly similar proportions of men and women within each age group. LB Newham exhibits a higher proportion of young men in the 20-30 age categories.

Table 4-2 Gender

	LB Newham (%)	LB Tower Hamlets (%)	RB Greenwich (%)	London (%)	England (%)
Men	52.1	51.5	49.6	49.3	49.2
Women	47.9	48.5	50.4	50.7	50.8

Source: 2011 Census Data

¹⁰ Understanding the Travel Needs of London’s Diverse Communities, TfL, 2014

4.4 Disability

4.4.1 Table 4-3 shows that only RB Greenwich has a higher proportion of the population affected by long-term health problems or disability than is the case for London as a whole, although for the three host boroughs this figure is lower than the comparable figure for England. The proportion of people claiming disability benefit is higher than the figure for London in both RB Greenwich (1.1%) and LB Newham (0.9%) (Table 4-4).

Table 4-3 Long-term health problems or disability

	LB Newham (%)	LB Tower Hamlets (%)	RB Greenwich (%)	London (%)	England (%)
Day-to-day activities limited a lot	7.0	6.8	7.5	6.7	8.3
Day-to-day activities limited a little	6.9	6.7	7.6	7.4	9.3

Source: ONS Census Data 2011 Table QS303EW

Table 4-4 Proportion of disability benefit claimants

	LB Newham (%)	LB Tower Hamlets (%)	RB Greenwich (%)	London (%)	England (%)
Proportion of Disability Benefit Claimants	0.9	0.7	1.1	0.8	

Source: ONS Census Data 2011

4.4.2 The Blue Badge scheme helps people with disabilities to park closer to their destination. Blue Badge holders comprise 3% of the population of

London¹¹. Table 4-5 below shows the number of Blue Badges issued to residents within each of the host boroughs in 2013/2014.

Table 4-5 Blue Badge holders by borough

	Total number of Blue Badges issued in 2013/14
LB Newham	2,769
LB Tower Hamlets	1,844
RB Greenwich	2,767
London	89,000

Source: DfT 2014

Door to door schemes

4.4.3 The Dial-a-Ride service operated by TfL provides free door-to-door transport for people with a permanent or long-term disability which means they are unable to use public transport some, or all, of the time. Membership of Dial-A-Ride within the local area, together with the numbers of outward journeys made by residents from within each borough, are shown in the Table 4-6 below.

Table 4-6 Dial-a-Ride users by host borough

	LB Newham	LB Tower Hamlets	RB Greenwich
Members at 31 March 2015	2,201	1,006	1,092
Outward journeys by residents	52,862	31,845	19,425

¹¹ TfL information, 2015

4.4.4 TfL and London boroughs also operate a subsidised taxi service (Taxicard) for people who have mobility impairments or who cannot easily use other public transport modes. The number of London Taxicards currently in circulation is 75,545, with 350,000 Taxicard trips during 2012/13.

4.4.5 In addition to the schemes described above, there are community transport schemes regulated and registered with the local authorities in operation.

4.5 Sexual orientation

4.5.1 The Integrated Household Survey (IHS) collects data on an annual basis relating to topics such as sexual identity, perceived general health, housing and employment. These statistics are designated as experimental by the Office for National Statistics (ONS), although they do provide useful information relating to individual topic areas.

4.5.2 In terms of sexual identity, the IHS found that, in 2012, 1.1% of adults in the UK identified themselves as gay or lesbian and a further 0.4%, as bisexual. Young people aged 16-24 were more likely to identify themselves as gay, lesbian or bisexual (2.6%) than people in other age groups. Looking at sexual identity by region, London had the highest proportion of adults who described themselves as gay, lesbian or bisexual (2.5%)¹².

4.5.3 Within the various London boroughs, there will doubtless be some variation in the proportion of the Lesbian, Gay and Bisexual (LGB) population. The proportion of the population in a registered same-sex civil partnership for each of the host boroughs is shown in Table 4-7 below. Proportions of same-sex civil partnerships are higher within each of the host Boroughs than for England as a whole (the proportion within LB Tower Hamlets being almost double that for England).

Table 4-7 Same-sex Civil Partnerships

	LB Newham	LB Tower Hamlets	RB Greenwich	London	England
Proportion in a registered same-sex civil partnership	637 (0.27%)	1,163 (0.57%)	690 (0.35%)	27,425 (0.42%)	100,288 (0.23%)

Source: ONS Census Data 2011 Table LC1107EW

4.6 Race/ Ethnic Identity

4.6.1 Table 4-8 shows population for the host boroughs by ethnic identity, with London, the South East of England and England as a whole for comparative information.

Table 4-8 Ethnic identity

London Borough/ Region	Ethnic Identity (%)										
	White	Gypsy / Traveller / Irish Traveller	Mixed / Multiple Ethnic Groups	Asian / Asian British Indian	Asian / Asian British: Pakistani	Asian / Asian British: Bangladeshi	Asian / Asian British: Chinese	Asian / Asian British: Other Asian	Black / African / Caribbean / Black British	Other	
Newham	28.8	0.2	4.5	13.8	9.8	12.1	1.3	6.5	19.6	3.5	
Tower Hamlets	45.1	0.1	4.1	2.7	1	32	3.2	2.3	7.3	2.3	
Greenwich	62.3	0.2	4.8	3.1	1	0.6	2	5	19.1	1.9	
London	59.7	0.1	5	6.6	2.7	2.7	1.5	4.9	13.3	3.4	
South East	90.5	0.2	1.9	1.8	1.1	0.3	0.6	1.4	1.6	0.6	
England	85.3	0.1	2.3	2.6	2.1	0.8	0.7	1.5	3.5	1	

Source: ONS Census Data 2011

4.6.2 LB Newham and RB Greenwich both show high proportions of residents with Black/African/Caribbean and Black British ethnic identities (19.6%

and 19.1% respectively). Asian and White population percentages are relatively similar in LB Tower Hamlets (41.2% and 45.1% respectively), meaning Black and Other Ethnic Groups are not as represented here as in the other two host boroughs and London as a whole. LB Newham has a particularly diverse ethnic make-up, with Asian residents forming the greatest proportion of the population (43.5%). The proportion of Asian residents in LB Tower Hamlets and RB Greenwich stand at 41.2% and 11.7% respectively; there is clearly a significantly smaller proportion of residents classed as Asian in the host borough to the south of the River Thames.

- 4.6.3 LB Newham has twice as many Asian/Asian British Indian residents as the London average (13.8% versus 6.6%) whereas LB Tower Hamlets and Royal Borough of Greenwich have proportions which are more in line with the national average (2.6% and 3.1% for the London boroughs compared to 2.7% nationally).
- 4.6.4 Multiple ethnic groups are similarly represented throughout London, but are almost double the national average (England's percentage of Mixed/Multiple Ethnic Groups is 2.3% compared to a range of 4.1-4.8% in host boroughs and 5.0% of London as a whole).
- 4.6.5 Gypsy/Travellers are scarcely represented throughout London, ranging from 0.1 to 0.2% of the population for the host boroughs and London as a whole. Royal Borough of Greenwich is the only host borough to contain traveller's pitches, however these are located at a significant distance from the Scheme.
- 4.6.6 Table 4-9 shows the level of car ownership amongst British, Asian and Minority Ethnic (BAME) residents in each of the host boroughs. The proportion of households with no cars or vans is highest for all ethnic groups within LB Tower Hamlets. Black/African/Caribbean households appear have some of the highest proportions of no vehicle ownership across all three boroughs (51.2%, 64.7% and 42.7% of Black/African/Caribbean residents within Newham, LB Tower Hamlets and Royal Borough of Greenwich respectively). Within LB Newham and LB Tower Hamlets, the ethnic group with the greatest proportion of '1 car or van per household' is Asian/Asian British, with figures of 43% and 43.2% respectively.

Table 4-9 Car and van availability by ethnic group

	LB Newham (%)			LB Tower Hamlets (%)			RB Greenwich (%)		
	No cars or vans	1 car or van	2 cars or vans	No cars or vans	1 car or van	2 cars or vans	No cars or vans	1 car or van	2 cars or vans
White	47.2	39.5	13.3	60.5	32.6	6.9	32.5	44.4	23.1
Mixed/multiple	51.6	38.7	9.7	61.1	33.4	5.5	40.0	44.4	15.6
Asian/Asian British	38.6	43.0	18.4	48.2	43.2	8.6	35.2	43.4	21.4
Black/African/Caribbean	51.2	39.2	9.6	64.7	30.6	4.7	42.7	42.9	14.3
Other ethnic group	47.9	41.5	10.5	63.6	31.5	4.9	33.7	42.3	24.0

Source: Census 2011 DC4203EW Tenure by car or van availability by ethnic group

Travel behaviour

4.6.7 Table 4-12 sets out the findings of TfL research into the proportion of people in London who use different types of transport at least once a week.

Table 4-10 Proportion of Londoners using transport by ethnic group

Form of Transport	%						
	All	White	BAME	Black	Asian	Mixed	Other
Walking	96	96	97	96	97	99	98
Bus	61	57	68	77	61	63	74
Car (as a passenger)	47	46	49	46	51	55	35

Form of Transport	%						
	All	White	BAME	Black	Asian	Mixed	Other
Car (as a driver)	39	44	31	27	35	24	29
Tube	38	39	36	35	36	35	38
National Rail	17	19	15	18	13	16	13
Overground	8	8	8	11	6	11	7
Other taxi/minicab (PHV)	7	7	6	10	4	8	4
London taxi/black cab	4	6	2	2	2	2	3
DLR	4	4	5	7	5	4	3
Tram	2	2	2	4	1	2	1
Motorbike	1	2	1	1	1	2	2

Source: TfL 2014 (London Travel Demand Survey 2012/13)

4.6.8 Research undertaken by TfL into the travel needs of various equalities groups in London has highlighted the following with regard to BAME Londoners¹³:

- BAME Londoners are more likely than white Londoners to use the bus at least once a week (68% for BAME Londoners compared to 57% for white);

¹³ ¹³ Understanding the Travel Needs of London's Diverse Communities, TfL, 2014

- the use of buses is particularly high among Black Londoners (77% using this type of transport at least once a week compared to 68% of all BAME Londoners);
- the use of cars tends to be higher among Asian Londoners than other ethnic groups; and
- BAME bus users are as likely as white customers to take the bus for work purposes during the day, but are more likely to travel to/from work at night by bus (52% BAME Londoners compared to 44% white Londoners).

4.6.9 Research has identified a number of issues relating to the predominance of people from BAME backgrounds within particular vehicle use class and operation. Specifically that:

- Vans play an important part in all sectors of London's economy, from servicing financial and business service companies to supporting London's network of independent retailers and food outlets. The assessment pointed to evidence that there is a 'significantly higher proportion of London's Asian community represented as business owners in the wholesale and retail business', with 39% of Asian owned businesses being in the wholesale and retail sector compared to 23% of all businesses in London¹⁴; and
- The majority of drivers of private hire vehicles (PHVs) in London are from BAME groups (43% Asian/Asian British, 10% black and 38% white). This compares with the fact that the overwhelming majority of taxi drivers are white (86%). There are also geographical variations in terms of operation, with taxi drivers operating predominantly within the inner London area and PHV drivers more evenly distributed across Greater London.

4.7 Faith

4.7.1 Table 4-11 shows religious identity for the host boroughs taken from ONS Census data 2011. The 2011 Census was the first to ask a question about

¹⁴ Spotlight on Asian Business, GLA Economics, 2007

religious identity; the question was not compulsory to answer, hence inclusion of the 'not stated' category. The UK wide responses to this question revealed that London was the most diverse region in the UK from a faith perspective, with the highest proportions of people identifying themselves as Muslim, Buddhist, Hindu and Jewish. A high proportion of residents in both LB Newham and LB Tower Hamlets identified themselves as Muslim (32% and 34.5% respectively).

Table 4-11 Religious identity

	Religion (%)								
	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	Other	No Religion	Not Stated
LB Newham	40	0.8	8.8	0.1	32	2.1	0.4	9.5	6.4
LB Tower Hamlets	27.1	1.1	1.7	0.5	34.5	0.3	0.3	19.1	15.4
RB Greenwich	52.9	1.7	3.6	0.2	6.8	1.4	0.4	25.5	7.6
London	48.4	1.0	5.0	1.8	12.4	1.5	0.6	20.7	8.5
England	59.4	0.5	1.5	0.5	5.0	0.8	0.4	24.7	12.0

Source: ONS Census Data 2011

4.8 Low income

4.8.1 TfL research¹⁵ identifies that 37% of Londoners live in lower income households (i.e. where household income is less than £20,000 per year). Women, people from BAME backgrounds, older people and disabled people are also more likely to be from lower income households as follows:

¹⁵ Understanding the Travel Needs of London's Diverse Communities, TfL, 2014

- women (56% within a lower income household compared to 51% of all Londoners);
- BAME people (45% within a lower income household compared to 37% of all Londoners);
- older people (23% within a lower income household compared to 13% of all Londoners); and
- disabled people (19% within a lower income household compared to 10% of all Londoners).

4.8.2 Of all the London boroughs, LB Tower Hamlets has the second highest proportion of residents with low household incomes (48% of households); Royal Borough of Greenwich and LB Newham have lower proportions (41% and 40% respectively), although the proportion of low income households remains higher for these two boroughs than for London as a whole. Indeed in 2012, LB Newham had the lowest median annual pay of all London boroughs (18% lower than the London average).

4.8.3 Social grade can also be used as a proxy indicator for lower income households. Social grade DE is the lowest of the four gradings, and includes semi-skilled and unskilled manual occupations (D) and unemployed and lowest grade occupations (E). Census data records the numbers of DE persons (aged between 16 and 64) within each of the host boroughs (Table 4-12). LB Newham has a significantly greater proportion of DE residents aged between 16 to 64 than the comparative figure for London or for England as a whole.

Table 4-12 Numbers of DE persons aged 16-64

	LB Newham	LB Tower Hamlets	RB Greenwich	London	England
DE Persons	30,856 (35%)	24,144 (26.8%)	21,402 (25.7%)	22.4%	25.5%

Source: 2011 Census Data

4.8.4 Research has identified that DE households exhibit slightly different characteristics to the wider population in terms of factors such as attitudes to crime and personal safety, and access to information, as follows:

- factors relating to crime and safety are more likely to prevent Londoners from DE households from using public transport more often during the day and at night;
- 68% of DE households in London have access to the internet (compared to 90% for all Londoners);
- 48% of DE households access the TfL website (compared to 76% of all Londoners); and
- smartphone use is also lower for this group (44% compared to 67% for all Londoners).

Benefit claimants

4.8.5 This section considers the proportion of benefit claimants within each of the three host boroughs. This includes those claiming Job Seekers Allowance as well as other benefits relating to disability, incapacity and lone parent allowances.

4.8.6 Table 4-13 shows the proportion of economically active people classified as unemployed for each host borough, together with comparative information for London and the UK. All three host boroughs had higher proportions of unemployment when compared to London and the UK as a whole¹⁶. The host boroughs have some of the highest proportions of unemployment in London (the highest in London is LB Barking and Dagenham, with an equivalent percentage of 10.8% unemployed).

Table 4-13 Unemployment rates 2014

	Jan 2014-Dec 2014
LB Newham	9.1%
LB Tower Hamlets	8.9%
RB Greenwich	9.1%
London	7.0%

UK	6.2%
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Source: Nomis Web Annual Population Survey January 2014-December 2014

4.8.7 Table 4-14 sets out the proportions of other benefit claimants within each of the host boroughs. The table shows that, for the majority of types of benefit, the proportion of claimants are higher within the host boroughs than for London or England as a whole, with the proportion of residents claiming Employment and Support Allowance (ESA) and incapacity benefits being higher than comparator areas in particular.

Table 4-14 Key benefit claimants

	LB Newham (%)	LB Tower Hamlets (%)	RB Greenwich (%)	London (%)	England (%)
Job Seekers	2.6	2.7	2.4	2.1	1.9
ESA and Incapacity Benefits	6.0	6.3	6.4	5.5	6.0
Lone Parents	1.1	1.2	1.7	1.2	1.1
Carers	1.5	1.7	1.3	1.1	1.4
Others on Income Related Benefits	0.3	0.3	0.3	0.3	0.3
Disabled	0.9	0.7	1.1	0.8	1.1
Bereaved	0.1	0.1	0.1	0.1	0.2

Source: Nomisweb November 2014

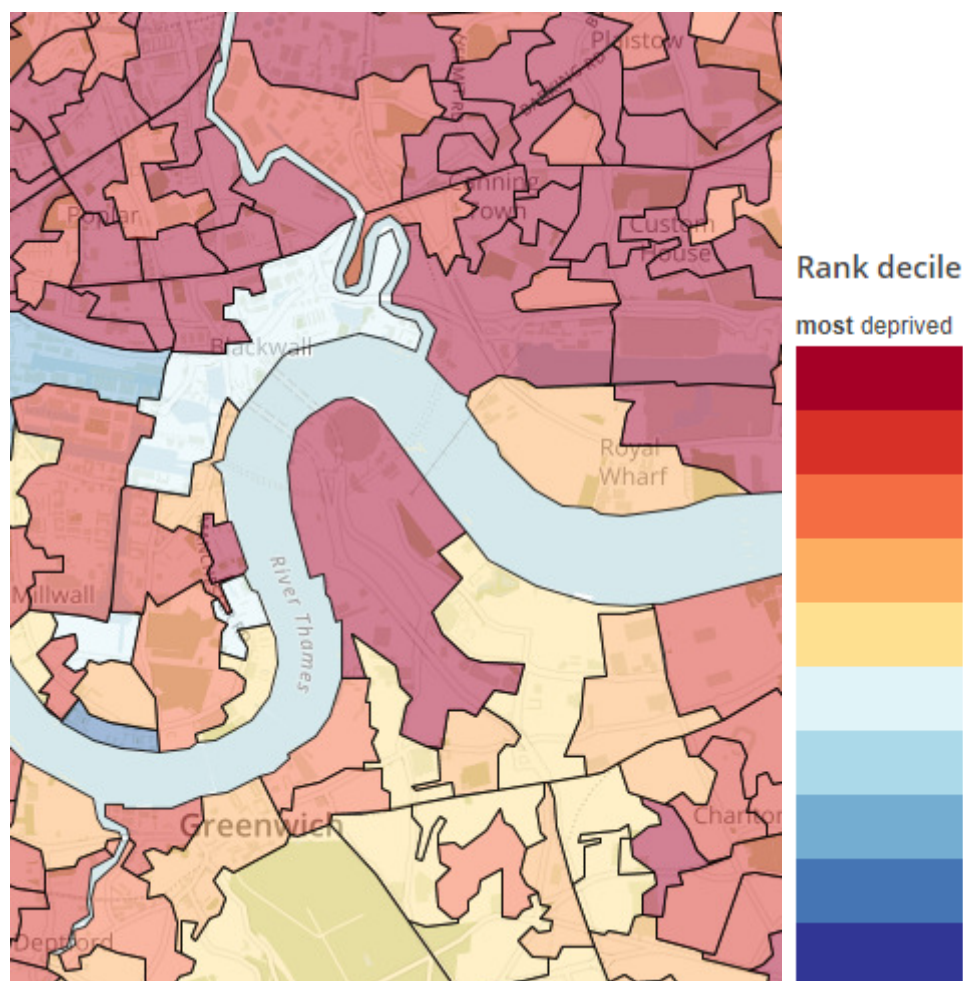
Deprivation

4.8.8 The English Indices of Deprivation 2010 provide a relative measure of deprivation at small area levels (Lower Super Output Areas (LSOAs)) across England. The Indices of Deprivation are based on seven domains of deprivation that can be measured separately, namely income, employment, health and disability, education, crime, barriers to housing and services and living environment. Individual domains can be used in isolation or combined into a single overall Index of Multiple Deprivation (IMD), with a total of 38 separate indicators used (Department for

Communities and Local Government, Indices of Deprivation 2010). The IMD is currently based on 2008 data; the Department of Communities and Local Government (DCLG) is currently updating the indices of deprivation, with publication of revised data planned for later in 2015.

- 4.8.9 Using the IMD, the LBs of Newham, Tower Hamlets and Royal Borough of Greenwich each rank amongst the 50 most deprived local authorities nationally, and amongst the 12 most deprived within London. Figure 4-3 illustrates the geographical spread of deprivation in the vicinity of the Scheme.

Figure 4-3 2010 Deprivation maps (all domains)



Source: <http://apps.opendatacommunities.org/showcase/deprivation>

- 4.8.10 In relation specifically to income deprivation, the domain measures the proportion of the population in an area experiencing deprivation related to low income; two supplementary indices concerning income deprivation

are also produced, namely an Income Deprivation Affecting Children Index and an Income Deprivation Affecting Older People Index. These two indices represent the proportion of children aged 0-15 living in income deprived households and the proportion of older people aged 60 or over living in income deprived households respectively (DCLG 2010).

- 4.8.11 Table 4-15 shows the levels of deprivation in the host boroughs. Deprivation within the boroughs is shown on a scale of 1 being the most deprived to 10 the least deprived for each domain.

Table 4-15 Indicators of deprivation borough wide

Indicator	RB Greenwich	LB Tower Hamlets	LB Newham
Deprivation (% of people in an area living in 20% most deprived areas)	29.4	43.6	32.0
Income	1	1	5
Employment	1	9	3
Crime	1	5	1
Education, skills and training	7	3	4
Health and disability	1	8	2
Living Environment	3	5	3
Barriers to housing and services	5	1	1

- 4.8.12 Table 4-16 shows the numbers of people who are classed as ‘income deprived’ for each host borough, together with ranking. This data is based on the population weighted average of the combined scores for the LSOAs in a single local authority area. Figure 4-4 shows visually how the areas close to the Scheme rank in relation to the Income Domain deprivation index; the figure shows that large parts of LB Newham to the north-east of the Scheme are among the most income deprived areas¹⁷.

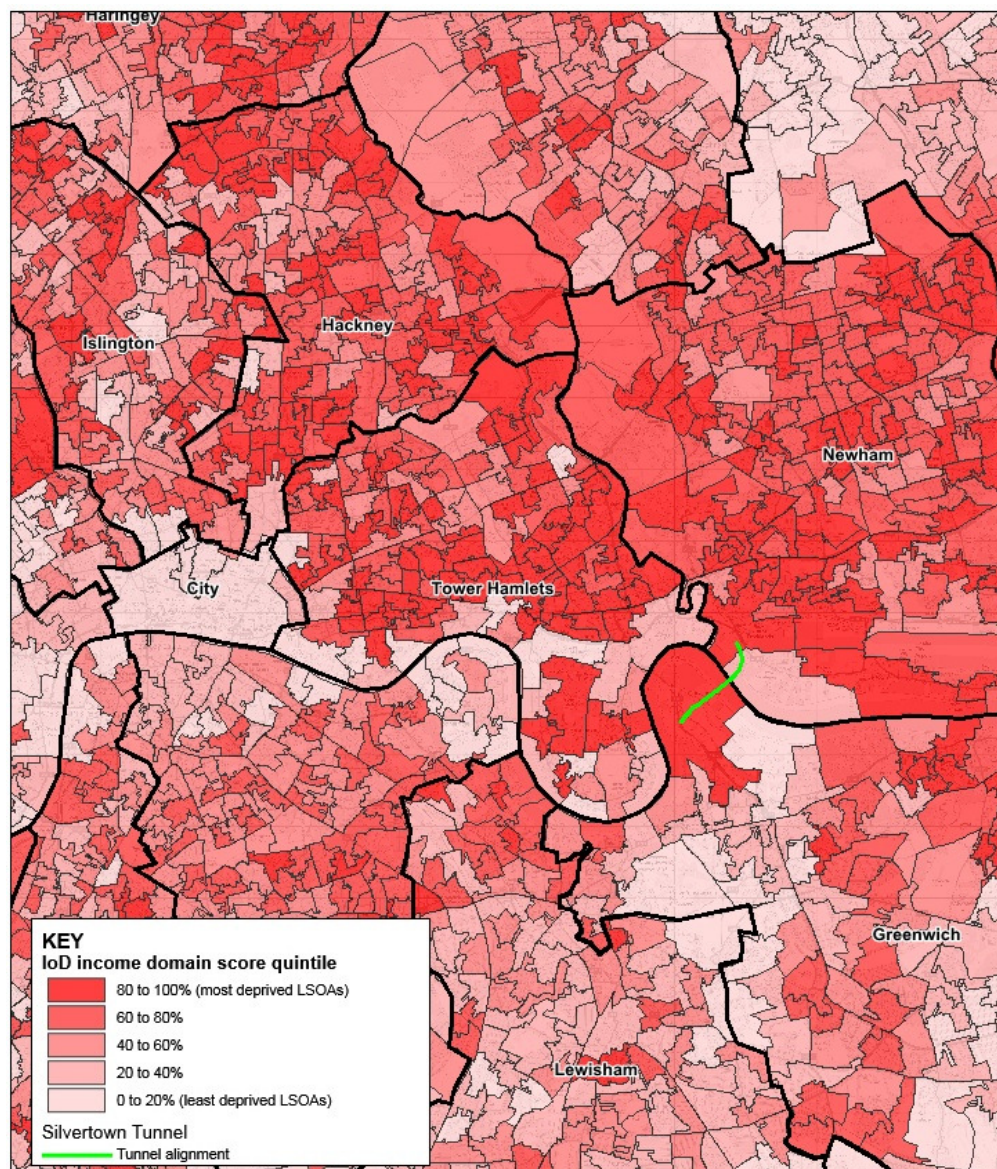
¹⁷ Silvertown Tunnel Distributional Impact Appraisal, TfL, 2015

Table 4-16 Borough wide income deprivation

	Numbers of Income Deprived	Rank (out of all Local Authorities in England)
LB Newham	79,384	8
LB Tower Hamlets	74,479	10
RB Greenwich	49,785	39

Source: DCLG Indices of Deprivation 2010

Figure 4-4 Income deprivation in the vicinity of the Scheme



Regeneration Areas

- 4.8.13 A Preliminary Regeneration and Development Impact Assessment (RDIA) has been prepared for the Scheme, the purpose of which is to demonstrate how the Scheme would 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 LSOAs within the 20% most deprived according to the IMD. 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 catchment¹⁸. The hinterland therefore includes the remainder of Royal Borough of Greenwich, LB Newham and LB Tower Hamlets. Detailed baseline data relating to future population growth, employment growth, and development projections are presented in the RDIA.

Social housing

- 4.8.14 There are a number of major schemes within the local study area that will bring increased levels of affordable housing to the area. These include:
- Greenwich Peninsula – the proposals put forward by developers Knight Dragon include approximately 3,270 affordable homes for rent;
 - Blackwall Reach – the large scale redevelopment of the Robin Hood Gardens housing estate and adjacent commercial area in Poplar includes just over 1,500 new mixed-tenure homes, of which more than 50% will be affordable rent or affordable home ownership. Planning permission for the scheme was granted in 2011, with the first phase of homes now completed; and
 - Silvertown Way – private rented sector scheme in the Canning Town/Custom House area that will include more than 1,000 homes, of which a proportion will be affordable housing.

¹⁸ Silvertown Tunnel Regeneration and Development Impact Assessment, TfL, 2015

London's night-time economy

- 4.8.15 TfL will introduce a new service, the 'Night Tube', which will provide nighttime services to travellers on Friday and Saturday nights beginning in autumn 2015. A report prepared for TfL in 2014 considered the economic impacts of the 'Night Tube'¹⁹. The report provides background information into London's night-time economy, which includes not only those working in the more traditional leisure and recreation sectors, but also support functions such as cleaners, IT maintenance workers, health workers and emergency services. Many of the positions that involve night-time working are within low to medium earnings sectors. The report identifies that the total level of Friday and Saturday night-time employment is in the region of 22,580 jobs, of which 62% is accounted for by the twelve inner London boroughs (which includes LB Tower Hamlets and Royal Borough of Greenwich).
- 4.8.16 The report also identifies that a significant proportion of users of public transport at night-time are travelling to get to and from work (this is reinforced by findings of a 2008 Bus Survey, which indicated that 49% of night bus passengers are either travelling to or from work²⁰). However, findings from TfL research into travel behaviours of various equalities groups identifies that there are groups who may experience particular concerns about personal safety when travelling in London and who may therefore not make use of public transport during night-time trips as a result. Personal safety is a concern for some women, with 68% of women considering themselves 'unworried' by using public transport, compared to 81% of men. A differential impact may therefore be experienced by groups of workers (particularly women) who may be working in the night-time economy and who may not wish to use available public transport for reasons of personal safety and security.

4.9 Access to key services and facilities

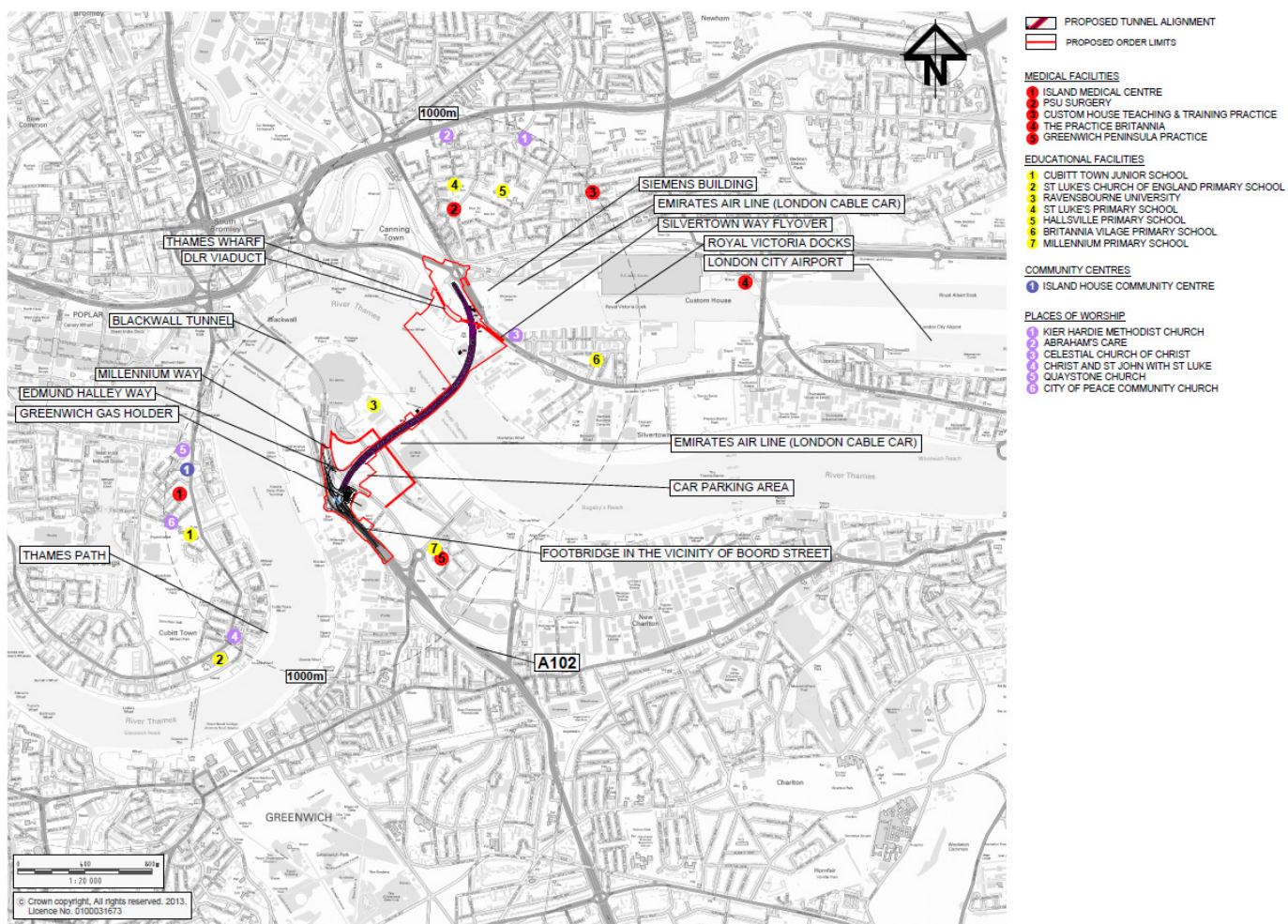
- 4.9.1 Services and facilities considered here include those that may have direct relationships with specific equalities groups, including education (young

¹⁹ Impact of the Night Tube on London's Night-Time Economy, Volterra Partners, September 2014

²⁰ Bus User Survey 2008, TfL, January 2009

people), healthcare (older people, disabled people), religious institutions (faith groups) and social care (older people). Part of the services/facilities offered may include trips using private hire vehicles (for example school trips, day trips, provision of a collection/drop-off service for individual users). Relevant facilities identified as part of the PEIR Chapter 7: Communities and Private Assets are illustrated on Figure 4-6.

Figure 4-6 Location of community facilities



Education

4.9.2 Education facilities in the vicinity of the Scheme, including information relating to catchment areas where relevant, are identified in Table 4-19.

Table 4-19 Education facilities

School / education facility	Comments relating to catchment area
Britannia Village Primary School	Priority catchment area is focused on the western Royal Docks area.
Hallsville Primary School	Located in Newham, priority catchment area is to the east of Silvertown Way.
Millennium Primary School	Located on Greenwich Peninsula, undersubscribed at present. Catchment area is focused to the east of the A102.
Ravensbourne University	Specialising in digital media and design courses; approximately 2,400 students.
Cubitt Town Junior School	Priority catchment area is predominantly the Isle of Dogs.
St Luke's Church of England Primary School	Faith admissions criteria; focused on Isle of Dogs.
Faraday School, Orchard Place	Independently managed school with selective admissions criteria.
Woolmore Primary School	Priority catchment area focused on the Poplar area.

4.9.3 Nurseries and pre-schools located within 1km of the Scheme are:

- 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.

Healthcare

4.9.4 Healthcare facilities within 1km of the Scheme are as follows:

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

4.9.5 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).

4.9.6 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.

Community centres

4.9.7 There are two community centres within 1km of the Scheme. Island House Community Centre is located on the northern bank of the River Thames in the LB Tower Hamlets. The Centre describes itself as a community resource hub, providing facilities, projects, services and activities for local people. Greenwich Millennium Village Association is a community resource hub for all residents and owners of property in Greenwich Millennium Village.

Places of worship

4.9.8 Places of worship identified within 1km of the Scheme are listed in Table 4-18 below. The catchment areas of religious meeting places typically relate to the parish or communities within which they are located (although there will inevitably also be users from outside of this area).

Table 4-17 Religious Institutions

Place of Worship	Comments relating to catchment area
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	Located on the western side of the Isle of Dogs, LB Tower Hamlets
Quaystone Church, Roserton Street	Based at the Island House Community Centre, Isle of Dogs area, LB Tower Hamlets
City of Peace Community Church, Glengall Christian Centre	Primarily centred around the St Johns Estate and Isle of Dogs area, LB Tower Hamlets

4.10 Future baseline

4.10.1 Documents prepared as part of the Preliminary Outline Business Case for the Scheme (for example the Preliminary Regeneration and Development Impact Assessment) describe in more detail population and employment growth forecast for the local area and wider sub-region. The London Plan 2015²¹ 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 predict that London's population will grow by around 1,150,000 people (or 14%) between 2011 and 2031.

4.10.2 LB Tower Hamlets and LB 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 Royal Borough of Greenwich standing at 1.7% (Census data). In terms of forecast population growth, LB Tower Hamlets is expected to see the largest increase in total population across all London boroughs over the period 2010-2031, with a 35% increase in population predicted²². Royal Borough of Greenwich is expected to see the second highest rate of growth over this period (30%), with LB Newham fifth highest. 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.

4.10.3 The Preliminary Transport Assessment (TA) notes that the existing cross-river road network in east London does not have the capacity to accommodate current road traffic demand, and is also not sufficiently resilient when incidents occur. Key points relating to current capacity include that:

- the Blackwall Tunnel is heavily used at most times of the day and week (including weekends);
- the lack of cross-river links has a major impact in terms of constraining cross-river demand including fundamentally the overall pattern of movement;
- some 18% of the journey time through the Blackwall Tunnel is spent in stationary traffic, with a further third (33%) in congested traffic; and
- there is only a single cross-river London bus route operating east of Tower bridge. The route is characterised by slow peak journey speed

²² GLA Borough Level Population and Employment Growth Projections, 2011

and poor reliability and is frequently subject to disruption when the tunnel is closed.

4.10.4 With future planned population and economic growth, the Preliminary TA identifies that:

- The forecast increase in demand will result in increasing levels of congestion on the road network in the vicinity of the Blackwall Tunnel, with capacity regularly exceeded during peak travel times;
- In addition, capacity will be exceeded on a number of other links on both sides of the River Thames during morning and evening peaks, resulting in increased congestion and extensive levels of delay;
- The large increase in population and employment in the local areas forecast to occur will result in an increase in trips on the local public transport network. Capacity increases as a result of investment such as Crossrail and increased service levels on the London Underground Jubilee Line and the Docklands Light Railway (DLR) will help manage overall forecast peak demand on cross-river public transport links, however it will be difficult to plug identified gaps in rail provision in the future by improved bus services without the provision of new river crossings;
- The forecast increase in traffic volumes in future years and the associated congestion and resilience issues are likely to have a significant negative impact on the performance of the current cross-river bus service, specifically in relation to increased journey time variability.

5. SCHEME DESIGN AND MITIGATION

5.1 Introduction

5.1.1 This chapter provides an overview of measures that are proposed to enhance the potential benefits of the Scheme for equalities target groups, notably the opportunities for new cross-river bus services and the provision of a community fund for the host boroughs. The chapter goes on to identify mitigation measures designed to avoid, reduce or offset adverse impacts of the Scheme during both the construction and operation phases.

5.2 Improved public transport links

5.2.1 As noted earlier, there is currently only one cross-river bus link operating in east London, with the route restricted to single deck buses through the Blackwall Tunnel and significantly disrupted due to congestion and closures.

5.2.2 The Scheme would create opportunities for new cross-river bus services to improve public transport links between south-east and east London, notably the growing employment areas in the Royal Docks and Canary Wharf.

5.2.3 The Silvertown Tunnel is designed to accommodate double-deck buses, thus providing operational flexibility in the bus routes that could be extended across the River Thames, as well as greater capacity.

5.2.4 It is currently proposed that one lane in each direction would be reserved for buses and Heavy Goods Vehicles (HGVs) which would further enhance reliability and reduce bus journey times. This configuration has the potential, over time, to deliver in excess of 60 buses per hour in each direction.

5.2.5 However, since the Scheme has an assumed opening date of 2022/2023, any plans for the bus network at this time can only be indicative and for the purpose of assessing operational feasibility. Whilst services would be finalised around two years before opening, TfL has identified two potential new services and enhancements to four existing services (predominantly extensions to existing cross-river services).

5.2.6 The improved cross-river bus services would provide not only a more reliable network (for example buses can be diverted into the new tunnel in

the event of closures of the Blackwall Tunnel) but would also create improvements to operational flexibility (in choice of bus routes) and provide greater capacity (for example through the accommodation of double-deck buses). There would therefore be considerable potential benefits of the Scheme for those equalities target groups more likely to use public transport, such as older and younger people, people with disabilities and people from low-income groups.

5.3 Community fund

5.3.1 A community fund would be available to the host boroughs who would be able to decide on its exact function and distribution. The community fund would provide an opportunity through which transport, environmental and social enhancements can be delivered to local communities. The fund could be used to mitigate impacts on low-income groups arising from the introduction of charging at both the Blackwall and Silvertown Tunnels.

5.3.2 TfL will continue to work with the host boroughs in developing the fund, including appropriate ways of distributing it; this might include commissioning research and undertaking further consultation in order to determine a fair and flexible approach.

5.4 Construction

5.4.1 The Preliminary Code of Construction Practice (CoCP) sets out how environmental management would be achieved during the construction phase. Good practice measures would 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.

5.4.2 A Community Engagement Plan (CEP) would be implemented to ensure communication with the local community, local authorities and other relevant stakeholders is undertaken throughout the construction period. TfL would, in consultation with the boroughs, establish and maintain a Community Liaison Group (CLG) and this group would meet regularly both before and during the construction period.

5.4.3 The CLG would be committed to providing community relations personnel who would be focussed on engaging with the community to provide appropriate information and to be the first line of response to resolve

issues of concern. The CLG would take reasonable steps to engage with residents including those who may be differentially affected by construction impacts. The CLG would ensure that occupiers of nearby properties would be informed in advance of works taking place, including the likely duration of those works.

5.4.4 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.

5.4.5 Specific mitigation measures that would be required over and above those set out in the Preliminary CoCP that relate to equalities target groups would include:

- The provision of appropriate step-free diversion routes where closures of roads and footways are necessary (for example at Dock Road or Millennium Way);
- Advance notification would be required regarding the timing and nature of any planned diversions, including pedestrian and bus routes, to be provided to local residents and businesses. Communications to be provided in accessible media and appropriate formats where appropriate; and
- Ongoing communication with user representative groups such as access groups, Transport for All.

5.5 Operation

5.5.1 Mitigation measures during the operation of the Scheme are shown in Table 5-1 below.

Table 5-1 Mitigation measures during operation

Mitigation Measure	Equalities groups Affected
Early and proactive communication of road user charging measures to be undertaken with local residents and businesses as appropriate.	Low-income groups
Pro-active and targeted communication with affected groups to be undertaken	Low-income groups

Mitigation Measure	Equalities groups Affected
where there may be an increased cost of accessing key facilities and services.	
New signage schemes associated with enhanced/new bus services through the Silvertown Tunnel to be consistent and easily identifiable.	Race Disability Age (older people)
Any new bus stops to be provided are to comply with TfL guidance regarding accessibility.	Disability Age (older people)
Directional signage for alternative pedestrian/cyclist routes (for example use of the Emirates Airline) to be consistent and easily identifiable.	All
Scheme design to incorporate defensible space features wherever practicable in order to enhance personal safety and reduce fear of crime.	Gender Sexual orientation Age (older people)

6. ASSESSMENT OF IMPACTS – CONSTRUCTION

6.1 Introduction

6.1.1 This chapter sets out the potential impacts of the Scheme on equalities groups during construction. Potential impacts during Scheme construction are temporary in nature and principally relate to noise, air quality, traffic, road safety and access to services. The preliminary findings of this chapter draw heavily on assessment work that has been undertaken in relation to each of these areas as part of the PEIR.

6.2 Traffic

6.2.1 The Preliminary TA identifies construction effects likely to arise from spoil removal and from the tunnel works sites themselves. In relation to the former, it is proposed that river transport would be used (as far as practicable) to facilitate spoil removal in order to minimise the number of heavy vehicle movements on the road network. In relation to the tunnel works at the Silvertown and Greenwich sites, there would be some localised impacts affecting access to businesses in the immediate area, for which a range of mitigation measures have been identified.

6.2.2 Findings from the TA in relation to construction traffic include:

- The vehicular access point to the Silvertown construction works site would be via the current alignment of Dock Road from the Tidal Basin Roundabout. Construction Traffic Management Plans (CTMPs) would be prepared for the working sites at both the Silvertown and Greenwich ends of the Scheme and would include further details of the expected number of lorry movements per day during the construction phase. CTMPs would include HGV routes from the strategic road network to the site. The principal HGV route from the A13 and A12 to the site should be via Leamouth Road and the Lower Lea Crossing. Construction traffic would be directed to minimise the impact on residential areas and to avoid Silvertown Way, which does not offer a direct route into the Tidal Basin Roundabout.
- The Greenwich site would require a smaller number of lorry movements, and the vehicular access point to the site would be from Millennium Way.

6.2.3 The Preliminary TA identifies that the impact of Silvertown site construction traffic on total traffic on the A12 and A13 would be negligible throughout the construction period, relating to less than 1% of traffic during the morning and evening peaks. Similarly, the impact of peak construction traffic on the A102 from the Greenwich site is assessed as negligible during peak periods. No equalities groups have been identified as being particularly vulnerable to changes in levels of construction traffic (noise and air quality are assessed separately below).

6.3 Noise

6.3.1 Noise can have an impact on the health and quality of life of local residents. Accordingly, the PEIR includes an assessment of construction noise and vibration impacts for the Scheme.

6.3.2 The preliminary noise assessment identifies that, as would be expected, construction noise levels would be highest at residential receptors within close proximity to the Scheme. As construction noise is considered not 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).

6.3.3 The selected worst case sensitive receptors for the construction noise and vibration assessment (within 300m of the application boundary) do not include any health, education, faith or community related facilities. A number of proposed new developments have also been identified as worst case sensitive receptors – these have been reviewed and include only residential, retail and employment uses (therefore no uses considered to be of relevance to specific equalities groups such as community or education for example). Therefore, there are not considered to be differential or disproportionate effects on equalities groups that may typically be users of such facilities (for example young people, older people, disabled people and people from faith groups).

6.3.4 The geographical spread of deprivation at the northern and southern tunnel portals and surrounding area has been identified as part of the baseline information, with higher concentrations of residents from lower-income groups likely within these areas. People from low-income groups may therefore be disproportionately affected by impacts relating to noise

and vibration; however as noted above, any impacts are not considered significant.

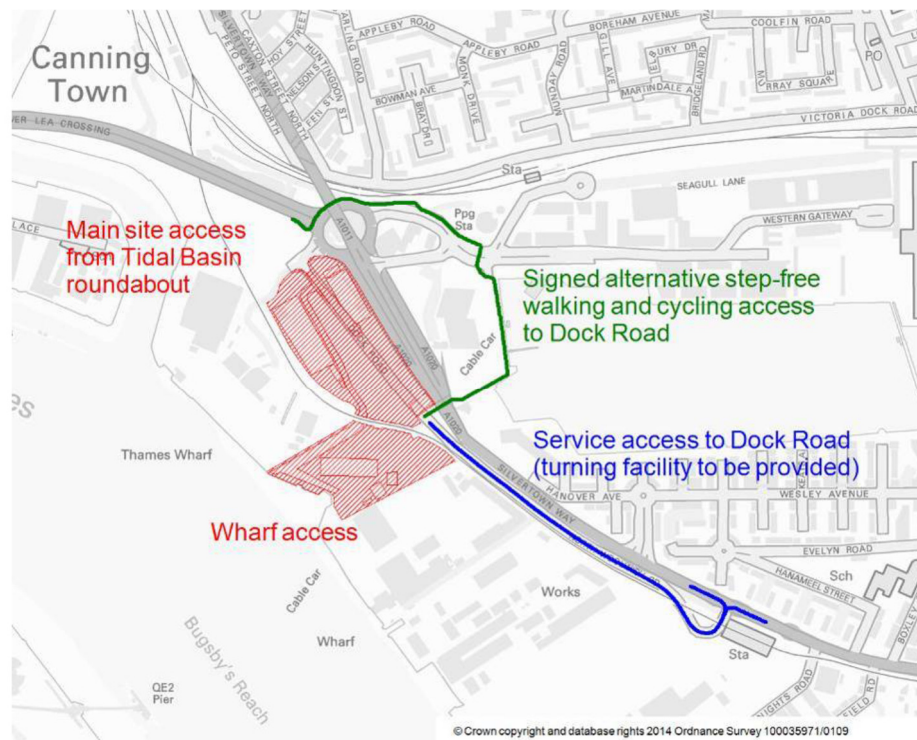
6.4 Air quality

- 6.4.1 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.
- 6.4.2 As noted in relation to the noise assessment above, the geographical spread of deprivation at the northern and southern tunnel portals means that people from low-income groups are more likely to reside in these areas and as a result, be disproportionately affected by impacts relating to air quality during construction.
- 6.4.3 Chapter 6 of the PEIR, Air Quality, identifies that baseline air quality levels are relatively poor in London as a whole and that 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 4-1. The assessment of construction impacts in relation to air quality will be assessed as part of the ES.
- 6.4.4 The Preliminary HIA highlights other factors as important for consideration including that much of the construction activity would take place below ground, with reduced potential for wide dispersal of air pollutants; further, the use of river transport for removing the bulk of excavated material would greatly reduce the HGV air pollutant exposure levels to vulnerable populations along the haul routes.
- 6.4.5 However, based on the assumption that the construction emissions would be predominantly from standard plant and vehicle sources and that standard good practice mitigation would 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.

6.5 Access to services

6.5.1 The Preliminary TA considers the likely construction effects on individual modes of transport. Key findings from an equalities perspective include the following:

- Key public transport access routes at the northern side of the Scheme (Silvertown) would remain open for the duration of the works. Access to Greenwich Bus Station would be maintained for all modes of transport during construction of the Scheme, however there would be some diversions to existing bus routes during the Greenwich construction phase.
- Bus routes likely to be affected are route 108 towards Stratford, route 108 towards Molesworth Street, route 188 towards north Greenwich and route 188 towards Russell Square.
- With regard to pedestrian access, a number of routes would be affected by construction of the Scheme. These include pedestrian access to Dock Road from the Tidal Basin Roundabout; suitable alternative routes would be identified (an example of a potential alternative route is shown in Figure 5-1 below).

Figure 6-1 Indicative alternative route

Source: Preliminary Transport Assessment (TfL 2015)

- Construction works at the Greenwich site would necessitate diversion of pedestrian routes along Millennium Way; alternative routes are likely to only be marginally longer.
- The Boord Street footbridge is proposed to be removed temporarily as part of the Scheme. The replacement footbridge would be located approximately 45m south-east of the existing footbridge, following the line of Boord Street, to make it more visible to users approaching from that direction. It is unlikely that step-free access would be provided for up to 6 months during the construction period at this crossing point, thus creating a potential impact for disabled users as well as parents/carers with babies and young children in prams and pushchairs. A survey to capture user numbers of the footbridge (weekday and weekend time periods) did not identify any wheelchair usage at this point; whilst it is acknowledged that the survey period covered two days and therefore cannot be regarded as conclusive, it is likely that the number of disabled users potentially affected by the loss of ramped access at this point is relatively low and therefore not significant.

6.6 Summary of impacts

6.6.1 A summary of impacts during construction in relation to equalities groups is provided in Table 6-1.

Table 6-1 Summary of potential impacts on equalities groups during construction of the Scheme

Description of likely impact	Equalities group
<p>Impacts on health and quality of life arising from changes to air quality (dust, plant and vehicle emissions).</p> <p>Whilst potentially large numbers of people from individual equalities groups could be affected, any impact is likely to be minor in nature and short-term. To be confirmed in the ES</p>	Low-income
<p>Impacts on health and quality of life arising from construction noise.</p> <p>Whilst potentially large numbers of people from individual equalities groups could be affected, any impact is likely to be minor in nature and short-term. To be confirmed in the ES</p>	Low-income
<p>Likely diversions to public transport routes may have a differential impact on those groups that are more reliant on this mode of transport. However, proposed diversions are relatively minor.</p>	Age (older people), Race, Gender (women), Disability
<p>Likely diversions to pedestrian routes during the construction period. Step-free diversion routes are available and would be signed during construction works.</p>	Disability, Age (young people)
<p>Boord Street footbridge would be replaced off-line to enable continued access during construction, however there may be a short period of time during which no ramped access across Millennium Way is available.</p>	Disability

7. ASSESSMENT OF IMPACTS – OPERATION

7.1 Introduction

7.1.1 This chapter sets out the potential impacts of the Scheme on equalities groups once the Silvertown tunnel is operational. Potential impacts principally relate to:

- environmental effects (noise, air quality, road safety and severance);
- improved accessibility (for example as a result of improved public transport availability); and
- the introduction of user-charging at both the Blackwall and Silvertown tunnels.

7.1.2 Each of these areas is considered in further detail below.

7.2 Environmental effects

7.2.1 Environmental effects associated with the proposed Scheme relate primarily to possible changes in noise levels, air quality, community severance and road safety. Each of the equalities groups identified may have different sensitivities to specific impacts (for example young people may be more sensitive to changes in noise or air quality).

Noise

7.2.2 The PEIR considers changes in noise resulting from road traffic as a result of the operation of the Scheme. The assessment considers receptors within a 1km study area from the application boundary and presents both short and long-term road traffic noise impacts. 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.

7.2.3 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 HGV percentage along Tidal Basin Road as a result of the Scheme. These impacts have been mitigated to a minimum through the use of low noise surfacing around Tidal Basin Road. Of the 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.

- 7.2.4 Overall, the assessment of the scheme in the short term indicates that there would be negligible or minor changes in road traffic noise at the majority of receptors with a net gain of 1,302 residential dwellings which would experience a perceptible decrease in noise level.
- 7.2.5 Long-term road traffic noise impacts relate to negligible changes being predicted at all sensitive receptor locations.
- 7.2.6 Accordingly, it is not considered that there would be a disproportionate or differential effect on equalities groups as a result of road traffic noise from the Scheme.

Air quality

- 7.2.7 The Preliminary Distributional Impacts Appraisal (DIA) for the Scheme focuses on the impact of air quality on children and income-deprived social groups. The Preliminary DIA states that:

'poor air quality problems are often experienced in areas of social deprivation, in which people already suffer relatively poor health...'

- 7.2.8 Evidence also suggests that children are more at risk from air pollution due to the fact that they tend to spend more time outside and therefore experience more exposure to harmful pollutants that impact on lung development.
- 7.2.9 The Preliminary Outline Business Case for the Scheme notes that, on a per-vehicle basis, slow-moving and congested stop-start traffic emits more pollutants than free-flowing traffic moving at a reasonable speed, resulting in poor air quality locally and higher CO₂ emissions. A positive impact on local air quality could therefore be realised when traffic queues are reduced or eliminated, one of the intended effects of the Silvertown Tunnel. The role of user charging is important here in order to ensure that the Scheme does not result in an overall increase in road traffic in this part of London, rather, the redistribution of current levels of road traffic.
- 7.2.10 Changes in air quality would therefore 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.

- 7.2.11 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.
- 7.2.12 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. 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 NO₂ at all modelled receptors apart from those close to the A102 Blackwall Tunnel Southern Approach. There are also a number of receptors predicted to experience a deterioration in air quality, including at the Hoola development.
- 7.2.13 The PEIR Air Quality chapter provides further detail on the preliminary modelling undertaken to date. The Preliminary HIA assessment has been based on this preliminary analysis and professional judgment. The Preliminary HIA states that, due to the limitations with the current modelling, a definitive judgement regarding the significance of air quality impacts on health will be made in the full HIA accompanying the DCO application. Currently, the Preliminary HIA identifies that the changes in air quality as a result of distribution of road transport, particularly due to displacement of vehicles from the Blackwall tunnel to the Silvertown Tunnel, are likely to result in a slight improvement in air quality around the approaches to the Blackwall tunnel and a slight decline in air quality around the approaches to the Silvertown Tunnel.
- 7.2.14 Taking the above into account, there is not considered at this stage to be a significant adverse effect on equalities groups (primarily young and older people and those from income-deprived groups) as a result of Scheme operation. The results of the base year 2012 air quality modelling set out in Chapter 6 of the PEIR show that the majority of 'worst case

receptors' at present exceed AQS objectives; preliminary analysis indicates that a minor positive impact may be experienced in a localised area around the Blackwall Tunnel approaches as a result of reduced congestion here. The impacts associated with air quality will be updated in the full EqIA to accompany the DCO application.

Severance

- 7.2.15 Severance relates to the extent to which the Scheme impedes resident's access to local community facilities and services, focusing on non-road users (i.e. pedestrians). The assessment of severance undertaken as part of the Preliminary DIA considered severance in relation to vulnerable groups such as young people, the elderly and people with disabilities. The Social Impacts Assessment prepared in line with the 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.
- 7.2.16 The Scheme design includes some provision for improving pedestrian and cycle connections, which would have positive impacts on severance.
- 7.2.17 The Preliminary DIA has considered areas where potential changes in severance may be experienced in more detail, as a result of increases or decreases in traffic volumes on certain sections of road. The level of potential severance was assessed by means of consideration of forecast changes in vehicle flow, speed and percentage Heavy Duty Vehicle (HDV) content. Areas identified as having significant changes in traffic flow as a result of the Scheme include the Greenwich Peninsula, Silvertown and Blackwall/South Bromley impact area.
- 7.2.18 The assessment has considered the proportion of vulnerable groups within each of the areas identified above, together with the identification of key amenities (for example healthcare and education facilities, places of worship and areas of open space). Within the Silvertown area, there are relatively high concentrations of older people, where the Scheme aims to maintain or enhance existing pedestrian connections. In the Blackwall/South Bromley impact area, there are a number of minor roads (such as Newby Place and Bazely Street) where there are relatively high concentrations of children and which are predicted to experience decreases in traffic flow. In the Greenwich impact area, minor benefits for the population as a whole are predicted as a result of enhancements to

pedestrian and cycle connections; whilst there are no significant concentrations of vulnerable groups in this location, the benefits for equalities groups are assumed to be in line with the wider population.

Road safety

- 7.2.19 Vulnerable equalities groups in terms of accident risk on the road network include children and older people. 99% of Londoners aged 24 and under stated that they walked to destinations at least once a week (TfL 2014). The Preliminary DIA highlights the link between deprivation and road accidents, with children from social class V (based on occupation, with social class V referring to workers in unskilled occupations) being five times more likely to be involved in a fatal road accident than those from social class I (TfL 2015).
- 7.2.20 The assessment has considered whether there are any locations where particularly high concentrations of vulnerable population groups might coincide with individual road links on which the number of accidents are expected to change. An impact area has been used with a resident population of some 29,000 people. The assessment concludes that overall in terms of areas with particularly high concentrations of children (for example along the section of the A12 to the north of the junction with the A13 and local roads to the south-west) a decrease in accidents is expected, thus giving an overall impact score of large beneficial for those areas with particularly high concentrations of children.
- 7.2.21 In areas where there are high concentrations of young people aged 16-25, for example near to the Blackwall Tunnel north portal, decreases in accidents would be expected with the Scheme. These are broadly balanced against the increase in accidents predicted on the Greenwich Peninsula, again where there are concentrations of young people, thus showing a moderate beneficial change overall.
- 7.2.22 Where there are higher concentrations of older people in parts of Canning Town on the edge of the impact area, there are some roads that would see a relative increase in accidents. Therefore the impacts on older people have been scored as slight adverse.
- 7.2.23 Findings of the appraisal indicate that, overall, the area would experience a moderate benefit in the proportion of accidents and that the impacts for equalities groups as a result of the Scheme are assessed as beneficial.

7.3 Accessibility

7.3.1 Accessibility impacts relate to a number of different areas, including access to public transport (and thereby jobs and services in the local area) as well as wider connectivity improvements. The River Crossings Development Study²³ measured changes in connectivity through the change in access to jobs, workforce, adult population and businesses. The Silvertown options considered as part of the study were predicted to provide an average increase in access by residents to 64,000 jobs (within a 37 minute travel catchment).

Public transport accessibility

7.3.2 The Preliminary TA states that ‘the most important impact on public transport is the opportunities the tunnel would create for new cross-river bus services to improve public transport links between east and south-east London’. The existing bus route 108, which is the only cross-river London bus service east of Tower Bridge, would benefit from improved performance in terms of reliability and journey times arising from reduced congestion at Blackwall Tunnel.

7.3.3 TfL recently (2015) commissioned a survey of local residents within those Boroughs closest to the proposed Silvertown Tunnel to:

- understand their current travel patterns;
- collect information on transport users, destination choices, and cross-river travel; and
- understand the role of river crossings in the area in current travel choices.

7.3.4 The key outcomes of the survey included that:

- in terms of education commuting trips, the main modes of travel are rail (49%) and bus (41%) followed by car (6%). With regard to socialising trips, the majority of these are undertaken by car;

- the majority of commuters agree that travel time to work and availability of public transport are important factors when they decide location of work;
- the availability of public transport was the main factor by far cited by those who said it was easy to cross the river, with 52% mentioning this. 26% of residents mentioned the reliability of public transport services across the river and 22% the frequency of public transport services across the river; and
- with regard to how local residents perceive the new (charged) tunnel crossing facility near the Greenwich Peninsula, 53% agreed that they would benefit from new bus services crossing the river and 50% agreed that a new road crossing, as an alternative to the Blackwall Tunnel would make their local area more attractive to live and work in.

7.3.5 Figure 7-1 below shows both existing and potential new routes that may be created as a result of the Scheme. These indicative routes include:

- enhanced frequency for bus route 108 (currently the only route which passes through the Blackwall Tunnel);
- the extension or re-routing of three existing bus routes to provide services via the Silvertown Tunnel; and
- the provision of two new routes via the Silvertown Tunnel, namely Eltham-Beckton and Grove Park-Canary Wharf.

for people from outside the area that travel into the area to use local amenities; and

- moderate beneficial impact on public transport accessibility to the nearest general hospital for households with no car.

- 7.3.7 The Preliminary Social Impacts Appraisal (SIA) for the Scheme also identifies that there is likely to be a positive impact on low-income public transport users as a result of the new cross-river bus links, which would reduce the need to use either the London Underground or Emirates Air Line (EAL) services, both of which are more expensive.
- 7.3.8 Chapter 4 of this Preliminary EqIA set out findings from the London Travel Demand Survey 2012/13, which showed that the proportion of Londoners using the bus at least once a week is above average for equalities groups including women, young people, older people, BAME people and people on low-incomes. Further, the baseline assessment showed a higher proportion of non-car-owning households within the boroughs of Newham and Tower Hamlets in particular, thus emphasising a likely increased reliance on public transport modes.
- 7.3.9 The Preliminary TA illustrates how the proposed new cross-river bus links could impact on bus patronage, with up to a four-fold increase in some services as a result of their proposed extension across the River Thames. There is also predicted to be an uplift in Public Transport Accessibility Levels (PTALs) in the areas directly affected by the new services. PTALs measure the accessibility of a location to the public transport network, taking into account walk access times to stops and stations, and service frequencies. Benefits in PTALs are identified particularly in the Silvertown and Beckton areas on the north side of the River Thames and on the approaches to the North Greenwich bus station to the south, as a result of the Scheme.
- 7.3.10 The increased availability of public transport is considered to have a positive disproportionate impact on public transport users, of which a high proportion would be representatives of equalities groups.

Wider connectivity improvements

- 7.3.11 The Silvertown Tunnel Preliminary Regeneration and Development Impact Assessment demonstrates how the Scheme would impact on the economy to the benefit of residents of the local regeneration area. 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. The hinterland therefore includes the remainder of the boroughs of Greenwich, Newham and Tower Hamlets.

7.3.12 The Report identifies that there is a strong and positive relationship between new investment in transport and the growth of a local economy and development. East London is a highly deprived area that has considerable potential to accommodate the housing and commercial development needed to support London's economy, yet the River Thames remains a major barrier to cross-river traffic.

7.3.13 The Silvertown Tunnel is anticipated to lead both to improvements in accessibility and material reductions in congestion and unreliability. The Scheme would provide the additional capacity and connectivity to support national and local economic activity and facilitate growth, job creation and regeneration within one of the UK's most disadvantaged areas.

7.3.14 The Preliminary TA identifies that the greatest increases in connectivity occur south of the Thames in Greenwich, Lewisham, Bexley and Bromley (with for example over 600,000 additional potential jobs accessible within 45 minutes from Greenwich). Wider connectivity improvements as a result of the Scheme are therefore likely to be particularly beneficial for those residents of working age, including equalities groups such as people from low-income households for whom the encouragement of employment creation and growth will be important.

7.4 User charging

7.4.1 TfL proposes to charge for the use of the Silvertown and Blackwall Tunnels for two principal reasons:

- to help manage the demand for both crossings and keep traffic levels within acceptable limits; and
- to help raise money to pay for the construction and operation of the new tunnel.

7.4.2 With regard to managing demand, the Silvertown Tunnel on its own would add highway capacity which would go some way towards addressing the

transport problems currently associated with the Blackwall Tunnel. However, as has been well documented in recent years, the provision of additional highway to address congestion in urban areas can prove to be of short-lived benefit. This reflects a phenomenon known as ‘induced demand’ in which the increased convenience of driving (for example owing to reduced journey times) attracts additional traffic to the point where queues eventually reach their former levels. At this point, congestion on the road network surrounding the crossing would increase, offsetting the benefits of the Scheme.

- 7.4.3 This deleterious effect can be removed by a user charge, which locks in the benefits of the additional highway capacity for the long-term by controlling demand for the tunnel.
- 7.4.4 Secondly, the user charge provides a means of helping to pay for the construction and operation of the tunnel. Charging users generates a relatively stable long-term source of revenue that can support both the servicing and repayment of construction finance (either publically or privately raised) and ongoing operation and maintenance costs. It is an approach that has been adopted on ‘crossing’ schemes around the world and there is an established market for financing on this basis (Mersey Gateway Bridge being a recent example).
- 7.4.5 There are a number of other benefits from having a charge. It can mitigate some of the environmental effects of the new tunnel, help to manage the road network and support growth. Much of this is contingent on the way that the charge is defined and managed and for this reason it is proposed that TfL can vary its approach to charging in future.
- 7.4.6 There is a balance to be struck between maintaining the charge at a sufficient level for it to be effective in managing demand and generating revenue and ensuring that adverse impacts are properly managed. It should be reiterated here that charging is a highly flexible tool (it is not simply the charge level that will be important) and that the charge is by no means the only mitigation which is built into the Scheme. TfL would take a holistic approach here which seeks to achieve an overall benefit to users.
- 7.4.7 In the previous Silvertown Tunnel public consultation (October 2014), TfL made available its outline strategy for user charging. TfL has now set out an indicative charging regime for the opening year of the scheme which demonstrates this flexibility. Views on this proposal are being sought in the consultation and TfL will take these into account. The indicative charges as used in the assessed case are set out in Table 7-1 below.

Table 7-1 Indicative charges

Charge per trip in 2015 prices (during charging hours: 6 am to 10 pm)			
User type	Account holder – registered for auto pay		Non account holder
Charge rates	Off peak charge	Peak charge	Headline charge
Time	Weekdays outside of peak period and all times on weekend	Weekday peak periods between 6-10am going Northbound and 4-7 pm going Southbound	At all times
Motorcycle , moped, motor tricycle	£1.00	£2.00	£3.00
Car and small van	£1.00	£3.00	£4.00
Large van	£1.65	£5.00	£6.00
HGVs	£4.00	£7.50	£8.50
Bus ,Coach and minibus	Free (100% discount)		

7.4.8 Impacts associated with user charging relate to personal affordability and the impact of this on vulnerable groups, such as low-income groups.

7.4.9 The distributional impacts associated with personal affordability have been assessed in detail in both the Preliminary SIA and Preliminary DIA. The introduction of user charging would have a direct and tangible impact on the affordability of travel by car for low-income groups.

Low-income groups

7.4.10 The Preliminary DIA considers the distributional impact of user charging from the perspective of low-income groups. The distributional assessment considers how user charges are spread across income deprivation quintiles and concludes that all quintiles experience a net increase in user charges as a result of the Scheme and that, for all quintiles, the share of

increase in costs is proportional to the proportion of the group amongst the population of the study area²⁴.

- 7.4.11 The distributional assessment for user charges identifies that the share of costs for the low-income group (27%) is smaller than the share of population in the study area as a whole (75%), with a corresponding neutral impact. However, the benefits arising from the enhanced bus package are assessed as large beneficial for low-income users, because the share of benefits is greater than the share of the population.

Workers in the night-time economy

- 7.4.12 A further area of impact is that which may be experienced by groups of workers (particularly women and low-income groups) who may be working in the night-time economy and who may not wish to use available public transport for reasons of personal safety and security. The outline charging strategy for the Scheme indicates that user charging is not likely to apply between 2200 to 0600; however there will be significant variation in working hours/shift times according to individual businesses and sectors. A proportion of workers in the night-time economy are therefore likely to be affected by user charging.

Vehicle categories

- 7.4.13 The charging strategy for both Blackwall and Silvertown Tunnels would include varied rates for different categories of vehicles, including cars / small vans, light goods vans (LGV), and HGVs. The assessed proposals have a 100% discount for buses, coaches or mini buses. Aside from the more general distributional impacts of user charging on low-income groups discussed earlier, there may also be differential impacts associated with equalities groups that may make disproportionate use of vehicles within each of these categories.
- 7.4.14 A range of exemptions and discounts are likely to apply to the charging strategy with either exemption or 100% discount applied to special
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²⁴ Preliminary Distributional Impacts Appraisal, TfL, 2015

disabled persons' vehicles, blue badge holders and taxis (both black cabs and private hire vehicles (PHVs)).

- 7.4.15 It was noted in chapter 4 that the majority of drivers of PHVs in London are from BAME groups (43% Asian/Asian British, 10% black and 38% white), with the overwhelming majority of taxi drivers being white (86%). The geographical variations in terms of operation were also noted, with taxi drivers operating predominantly within the inner London area and PHV drivers more evenly distributed across Greater London. In light of the fact that both taxis and PHVs are exempt from user charging, there is not considered to be a differential impact as a result of the Scheme.
- 7.4.16 Educational facilities and community groups requiring cross-river minibuses access could experience an impact if there was user-charging but it is noted that a 100% discount is proposed.
- 7.4.17 The catchment areas of religious meeting places typically relate to the parish or communities within which they are located (although there will inevitably also be users from outside of this area). There is unlikely to be a significant volume of cross-river trips as a result of faith groups accessing religious meeting places; however faith groups may make use of vehicles such as LGVs for undertaking charitable work and so on. The cost of servicing such groups may therefore increase but only for the carriage of goods.
- 7.4.18 Older people are significant users of community transport minibuses for recreational and social activities but these would be exempt from the charges.
- 7.4.19 Chapter 4 of the Preliminary EqIA identified that LGVs play an important part in all sectors of London's economy, with a 'significantly higher proportion of London's Asian community represented as business owners in the wholesale and retail business.' Whilst the higher representation of Asian populations within the local study area of LB Newham, LB Tower Hamlets and RB Greenwich means that the potential could exist for a disproportionate impact on this group, this is likely to be offset by the wider benefits to business from improved access to cross-river markets and improvements in journey times and reliability.

7.5 Summary of impacts

- 7.5.1 A summary of impacts arising during the operational phase of the Scheme in relation to equalities groups is provided in Table 7-2.

Table 7-2 Summary of potential impacts on equalities groups during operation of the Scheme

Summary of likely impact	Equalities groups affected
<p>There would be negligible or minor changes in road traffic noise at the majority of receptors with a net gain of 1,302 residential dwellings which would experience a perceptible decrease in noise level.</p>	<p>All</p>
<p>Changes in air quality levels as a result of road traffic during Scheme operation.</p> <p>Impacts are likely to be minor in nature as a result of changes in the distribution of road traffic and improvements to levels of congestion (to be confirmed in the ES)</p>	<p>Age (young people) Age (older people) Low-income groups</p>
<p>Impacts on severance as a result of the Scheme are considered to be slightly beneficial in line with the overall population.</p>	<p>Age (young people) Age (older people) Disability</p>
<p>There are considered to be reductions overall in terms of accident risk on the local road network as a result of the Scheme and accordingly any impact would be slightly beneficial.</p>	<p>Age (young people) Age (older people)</p>
<p>There would be connectivity improvements across a wider area as a result of the Scheme, benefiting groups both within and outside of the immediate study area.</p>	<p>All</p>
<p>Proposed improvements in public transport accessibility as part of the Scheme would provide a considerable benefit for equalities groups that typically use public transport more frequently, with improvements not only to journey routes but also to journey times and reliability as a result of bus-only lanes through the tunnel.</p>	<p>Women Age (young people) Age (older people) Disability BAME</p>

Summary of likely impact	Equalities groups affected
	Low-income
<p>Impacts on personal affordability as a result of user charging. Low-income groups may experience a differential impact as a result of a reduced ability to pay. However, the provision of improved public transport links would considerably offset this impact through the provision of new and extended journey routes together with improvements to journey times and reliability. The community fund currently being developed between TfL and the host boroughs would also help to offset some of the impacts of user charging through the potential provision of transport, social and environmental enhancements within deprived communities.</p>	Low-income
<p>Impact of user-charging on workers in the night-time economy. Some equalities groups may experience a differential effect through a reduced ability to pay particularly because there may be fewer transport choices for workers during the night, with possible higher reliance on car usage. Travel times for workers during the night may not necessarily equate to the non-charging hours (i.e. workers may need to travel after 6am or before 10pm). Again, the provision of improved public transport links as part of the Scheme could offset this impact through the provision of new and extended journey routes; the community fund currently being developed between TfL and the host boroughs could also help to offset some of the impacts of user charging through the potential provision of transport, social and environmental enhancements within deprived communities.</p>	<p>Women</p> <p>Low-income groups</p>
<p>Impact on businesses with high utilisation of LGVs. There is a potential differential impact on Asian businesses who may be more highly represented within the local area and for whom evidence has shown a higher level of utilisation of LGVs. However, this is likely to be offset by wider benefits to business from improved access to cross-river</p>	BAME

Summary of likely impact	Equalities groups affected
markets and improvements in business journey times and reliability.	

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8. CONCLUSIONS

- 8.1.1 All of the road crossings of the River Thames between east and southeast London operate at, or close to, their practical capacity at peak times. The existing cross-river highway network in east London experiences high levels of congestion and poor resilience because alternative crossings to the Blackwall Tunnel are very limited. Bus route 108, which uses the Blackwall Tunnel, is characterised by slow peak journey speed and poor reliability, and is frequently subject to disruption when the tunnel is closed. The route also has to operate with single deck vehicles due to the height restrictions on the northbound tunnel bore.
- 8.1.2 Population and employment is expected to rise rapidly across London between 2011 and 2031, and the three Silvertown Tunnel host boroughs are expected to see higher forecast growth in particular. In the absence of new road crossings, there will be limited capacity for growth in road vehicle trips in the future, with average journey times and delays expected to increase significantly and knock-on negative impacts for network resilience and connectivity to labour markets and jobs.
- 8.1.3 This Preliminary EqIA has described the potential impacts of the proposed Scheme on equalities groups based on an assessment of baseline data, the preliminary findings of a number of environmental topics and information presented as part of the Preliminary Outline Business Case.
- 8.1.4 Impacts identified during the construction stage of the Scheme relate to impacts on health and quality of life arising from changes to air quality (dust, plant and vehicle emissions), construction noise and vibration, and from likely diversions to public transport and pedestrian routes. Impacts have been assessed in relation to those equalities groups with the potential to be most affected and have principally been both minor and short-term in nature.
- 8.1.5 During Scheme operation, a wider range of potential impacts have been identified relating both to effects arising from changes in road traffic through to effects of user-charging on personal affordability and businesses. Key findings from this preliminary assessment include that:
- There would be negligible or minor changes in road traffic noise at the majority of receptors with a net gain of 1,302 residential dwellings which would experience a perceptible decrease in noise level;

- Impacts on severance as a result of the Scheme are considered to be slightly beneficial but in line with the overall population;
- There are considered to be reductions in overall accident risk on the local network as a result of the scheme with a slightly beneficial impact;
- There would be connectivity improvements across a wider area as a result of the Scheme, benefiting groups both within and outside of the immediate study area;
- Proposed improvements in public transport accessibility as part of the Scheme would provide a considerable benefit for equalities groups that typically use public transport more frequently, with improvements not only to journey routes but also to journey times and reliability as a result of bus-only lanes through the tunnel;
- Potential differential impacts arising from user charging (for example impacts on personal affordability) would be considerably offset by the provision of improved public transport links (specifically new and extended journey routes together with improvements to journey times and reliability) and through the provision of the community fund currently being developed between TfL and the host boroughs, which could be used to fund transport, social and environmental enhancements within deprived communities; and
- Potential differential impacts experienced by businesses with a high utilisation of LGVs, for which Asian businesses may be more highly represented within the local area, should be considerably offset by wider benefits to business brought about by the Scheme such as improved access to cross-river markets and improvements in business journey times and **reliability**

8.2 Next steps

- 8.2.1 This Preliminary EqIA is part of a suite of documents which have been made available for the pre-application consultation on the Silvertown Tunnel scheme which runs from 5 October to 29 November 2015. Following this consultation, TfL will carefully consider comments made by the public and stakeholders in order to improve and refine the scheme proposals. TfL aim to submit a DCO application to the Planning Inspectorate in Spring 2016. This application will seek the consent of the Secretary of State for Transport to build and operate the proposed tunnel

and all associated measures. A final EqIA will form part of the DCO submission.

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