



Transport for London Silvertown Tunnel Health Impact Assessment

Scoping Report

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Transport for London

Silvertown Tunnel

Health Impact Assessment

Scoping Report

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Abbreviations and acronyms

DCO	Development Consent Order
EIA	Environmental Impact Assessment
EqIA	Equality Impact Assessment
HIA	Health Impact Assessment
HUDU	Healthy Urban Development Unit
MTS	Mayor's Transport Strategy
NHS	National Health Service
TfL.....	Transport for London
WHIASU.....	Wales Health Impact Assessment Support Unit
WHO	World Health Organization

1 Introduction

- 1.1.1 Transport for London (TfL) is proposing a new road tunnel linking the areas north and south of the Thames between the Greenwich Peninsula and Silvertown, hereinafter referred to as the Silvertown Tunnel (the Scheme). The purpose of the Scheme is to reduce delays and closures at the Blackwall Tunnel by improving connections and offering alternative crossing options.
- 1.1.2 Following a request from the Mayor, the Secretary of State for Transport confirmed that the Scheme is of national significance and, by exercising her powers under the Planning Act 2008, directed that the scheme be treated as a development for which a Development Consent Order (DCO) is required. The legal structure within which the DCO application will be determined is governed by the Planning Act 2008.
- 1.1.3 Under the *Greater London Authority Act 2007* the Mayor of London is required to take into account the effect of all policies on the health of London's population (1). The Greater London Authority (GLA) have provided guidance on planning and health (2) and the London Plan requires consideration of the potential impact of development proposals on health and health inequalities within London (3).
- 1.1.4 TfL is a Functional Body of the GLA and is committed to supporting the delivery of these obligations by considering the opportunities to enhance public health and reduce health inequalities during the design and consent processes for this Scheme.
- 1.1.5 A Health Impact Assessment (HIA) is being undertaken to:
- identify existing health of the communities most likely to be affected;
 - identify any direct and indirect health effects during construction and operation; and
 - identify measures to mitigate the negative effects, and to enhance the positive effects, on health and wellbeing and on inequalities in health.
- 1.1.6 This HIA Scoping Report sets out the matters that have been identified as relevant for consideration in the HIA and provides transparency about the proposed approach to undertaking the HIA. This HIA Scoping Report is being circulated to key stakeholders. Recipients are invited to submit their comments and ways in which feedback can be provided are set out in Section 5 of this HIA Scoping Report.
- 1.1.7 Table 1 shows the timeline for the HIA to date and presents an indicative programme for the completion of this HIA and future consultation dates.
- 1.1.8 An Introductory HIA Report was produced for comment as part of the non-statutory consultation on the Scheme which ran between 15th October and 19th December 2014. This Introductory HIA Report set out a preliminary scope for

the HIA and it followed the NHS Healthy Urban Development Unit (HUDU) guidance (4). Public Health England reviewed this Introductory HIA Report and stated they would comment on the assessment, once quantitative analyses had completed. No further comments were received.

Table 1: Indicative Programme

Stage of the HIA	Date
October 2014	Introductory Health Impact Assessment Report
July 2015	Consultation on the HIA Scoping Report
September – October 2015	Consultation on the Preliminary Health Impact Assessment
March 2016	Submission of HIA as part of the DCO application

1.2 Structure of this document

1.2.1 This document has six further sections:

- [section 2](#) describes the Scheme;
- [section 3](#) defines health and Health Impact Assessment and states the methodology for this HIA;
- [section 4](#) describes and explains the proposed scope and methodology for the HIA;
- [section 5](#) sets out the next steps including contact details for comments on this scoping report;
- [section 6](#) consists of a list of all documents cited in this scoping report – the references are numbered and in brackets throughout the report; and
- [section 7](#) provides additional information such as the projects or developments that are likely to occur within the same geographical area at the same time as the Scheme and the reasoning behind these HIA scoping decisions.

2 Description of the Scheme

2.1.1 The location of the Scheme is shown in Figure 1 below.

Figure 1: Scheme Location



- 2.1.2 The Scheme would provide a dual two-lane road between the A102 Blackwall Tunnel Approach on Greenwich Peninsula and the Tidal Basin roundabout junction on the A1020 Lower Lea Crossing/Silvertown Way by means of twin tunnels under the River Thames.
- 2.1.3 The tunnels would be designed with a circular cross section, and would be connected by pedestrian cross passages to facilitate intervention in an emergency. The new tunnel would be built to a specification that would be large enough to carry vehicles of all sizes.
- 2.1.4 The Scheme would include new junctions to link the tunnels into the existing road network, and new portal buildings to house the infrastructure necessary to operate the tunnel, including ventilation equipment.
- 2.1.5 The existing river crossings in east London do not cater adequately for current cross river road traffic movement; they are at or over capacity and there are severe resilience problems, particularly at the Blackwall Tunnel. TfL state that while rail based public transport, walking and cycling are important, road travel (including local bus services) is also vital for the proper functioning of the London Thames Gateway area, and growth predictions are for significant increases in road travel and congestion.
- 2.1.6 A solution to relieve congestion and improve resilience in the area around the Blackwall Tunnel will ensure that the significant growth planned in the area can be catered for and supported. Delays are caused not only by an excess of demand, but also by the need to close the Blackwall Tunnel at short notice for a variety of reasons from over height vehicles to break downs.
- 2.1.7 The Mayor's Transport Strategy (MTS) published in 2010 sets out the transport strategy for London (5). This includes the strategy for delivering the transport infrastructure needed to accommodate growth in the east sub-region, which is a key part of the London Plan's strategic vision.
- 2.1.8 The MTS identifies a wide range of policies and proposals to support this growth. It is based around three key policy areas:
- Better co-ordination and integration of planning and transport
 - Providing new capacity
 - Managing the demand to travel
- 2.1.9 The Mayor and TfL have identified potential options to address the problem of poor cross-river connectivity and capacity and have shortlisted those which are considered to be practical to construct, are environmentally acceptable, are in suitable locations, and which will be affordable. The MTS sets out a commitment to take forward a package of new river crossings for east and southeast London which includes:
- Local links to improve connections for pedestrians and cyclists. Emirates Air Line, a new cable car connection between the Royal Docks and North Greenwich, opened in summer 2012.

- Gallions Reach Ferry. A new vehicle ferry at Gallions Reach between Beckton and Thamesmead. This would improve connectivity and could replace the Woolwich Ferry (this is the subject of a separate study and if taken forward would be consented as a self-contained project).
- A fixed link at Silvertown. This would relieve congestion at the Blackwall Tunnel by providing an alternative route between the Royal Docks, Isle of Dogs, Lower Lea Valley and Greenwich Peninsula.

- 2.1.10 This fixed link at Silvertown is the Scheme that is the subject of this Health Impact Assessment Scoping Report. For detailed information regarding the options assessment refer to the 2014 *Silvertown Crossing: Assessment of Needs and Options Report* (6).
- 2.1.11 The introduction of user charging on Blackwall and Silvertown Tunnels will play a fundamental part in covering the cost of Silvertown Tunnel and as a key traffic management measure (refer to the user charging report for more information 'Outline strategy for user charging at Blackwall and Silvertown Tunnels (2014)').
- 2.1.12 The user charging for the Scheme is under development and the Outline Strategy for user charging at Blackwall and Silvertown Tunnels will be subject to public consultation. The user charging model sets out broad working assumptions and once adopted for the Scheme will feed into the traffic modelling scenarios assessed in the ES as the charging arrangements would impact upon the demand and traffic flows.
- 2.1.13 Main construction works would commence in autumn 2018 and would last approximately 4 years with the new road and tunnel opening in late 2022. The main site compound office is located at Silvertown and would contain offices, stores, plant maintenance facilities, materials testing laboratory, recycling facilities, blacktop and potential concrete batching plants and a wheel wash. This site has been selected as the best location for utilising Thames Wharf for marine logistics. This will enable the efficient management of spoil removal and material delivery by river and reduce the increased demand on the local highway network.
- 2.1.14 The Scheme would include a number of changes to the road network on the north side of the tunnel, to link the tunnel to the existing road network. These changes are:
- Creating a new signal-controlled roundabout at the Tidal Basin roundabout, to create a link between the Silvertown Tunnel approach roads, Dock Road and the Lower Lea Crossing.
 - Temporarily closing the existing junction of Dock Road with the Lower Lea Crossing, and realigning Dock Road so that it links with the new Tidal Basin roundabout.
 - Introducing new pedestrian and cycle facilities within the new Tidal Basin Roundabout.

- Creating a new Tunnel services building over the mouth of the new Silvertown Tunnel to house ventilation equipment and other vital tunnel infrastructure.

2.1.15 The Scheme would include a number of changes to the existing road network on the south side, on the immediate approach to the new tunnel. These changes are:

- Widening the A102 Blackwall Tunnel Approach road in order to create new access routes to the Silvertown Tunnel portals.
- Demolishing the existing footbridge over the A102 near the junction with Boord Street, to allow for the A102 Blackwall Tunnel Approach to be widened. The footbridge would be replaced with a new structure.
- Building a new flyover to take southbound traffic exiting the Blackwall Tunnel over the northbound approach to the Silvertown Tunnel.
- Introducing new signage to direct motorists either to the Blackwall Tunnel or to the Silvertown Tunnel, depending on their final destination.
- Creating a new tunnel services building over the mouth of the new Silvertown Tunnel to house ventilation equipment and other vital tunnel infrastructure.

2.1.16 The northern portal is to be located in an area of significant change, with a character that is shifting from being industrial towards a more urban environment.

2.1.17 The area around the southern portal on Greenwich Peninsula is already characterised by significant levels of infrastructure associated with the Blackwall Tunnel approaches.

2.1.18 The Scheme will include new junctions to link the tunnels into the existing road network, and new portal buildings to house the infrastructure necessary to operate the tunnel, including ventilation equipment.

3 Health and Health Impact Assessment

3.1 Definition of Health Impact Assessment

- 3.1.1 The World Health Organization (WHO) definition of health (7) has been adopted for the purposes of the HIA (see Table 2). This shows how health is comprised of a range of aspects of physical and mental health and social wellbeing.

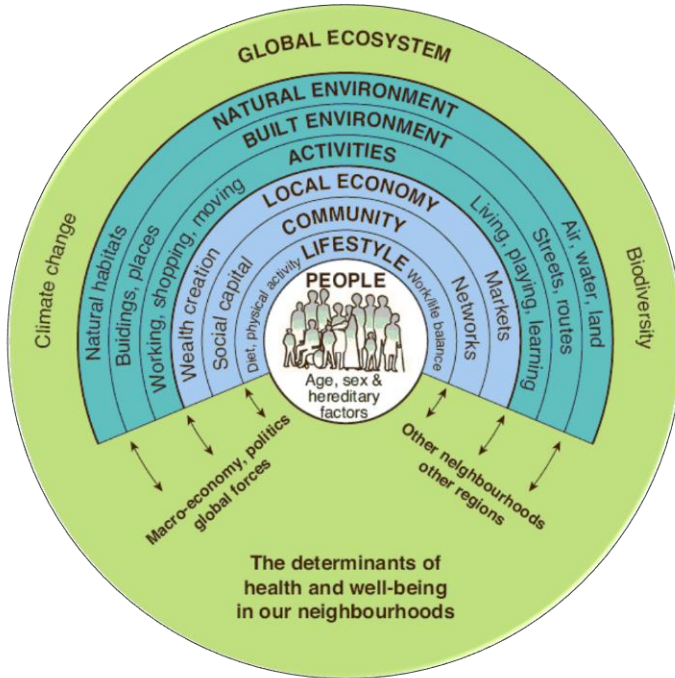
Table 2: Defining health and HIA

Health is ...
... a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (7).
Health Impact Assessment is ...
... a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan, programme or project on both the health of a population and the distribution of those effects within the population. HIA identifies appropriate actions to manage those effects (8).

- 3.1.2 HIA provides a systematic framework for considering the potential health effects associated with policies, plans, programmes or projects.
- 3.1.3 HIA consists of five stages (as set out at paragraph 3.2.3 below). The first stage identifies whether an HIA is needed.
- 3.1.4 The second stage is scoping. The scoping stage identifies key issues on which the HIA should focus. This helps to ensure that the subsequent stages of the HIA concentrate on those issues that are most important for the health and wellbeing of people living and working adjacent to the Scheme. Governance arrangements are also considered and set up during the scoping stage. This is described in this Scoping Report.
- 3.1.5 The objectives of the HIA are to identify:
- potentially positive and negative health effects of the development of the Scheme;
 - opportunities for improving health and reducing health inequalities; and,
 - mitigation opportunities.
- 3.1.6 Figure 2 shows how human health, as defined by the WHO, is affected by factors ranging from individual concerns such as age, sex and hereditary factors to those which cover increasingly large populations, such as the local economy, built environment and the natural environment. These are called determinants

of health. These include determinants that can improve and protect health as well as determinants which might harm health.

Figure 2: Determinants of health and wellbeing



Source: Based on the Whitehead and Dahlgren diagram (9) as amended by Barton and Grant (10)

3.1.7 Examining the ways in which the Scheme influences these determinants and the likely effects on the health of communities and individuals is a key role of HIA. Thus, changes in air quality, noise and/or accessibility will have effects on health and wellbeing.

3.1.8 As noted above these effects might be on physical health or on mental health. The effects of the Scheme might be experienced differently by different population groups: population groups can be identified by factors including (but not limited to) age, gender, ethnicity, socioeconomic status, place of residence or by dint of pre-existing health status. The HIA will look also at possible effects on, and ways to reduce, health inequality and inequity which is defined as avoidable differences in health (11;12).

3.2 Assessment Process

3.2.1 HIA is a multi-disciplinary scientific process which will be used to help inform decision-making. The process does not make decisions, but provides information to enable those responsible to make informed decisions.

- 3.2.2 The HUDU guidance (4) was used for the Introductory HIA report. This sets out the main topics for assessment then enabling a more detailed approach to HIA to allow examination of the potential effects of the Scheme on health and wellbeing and on health inequalities.
- 3.2.3 The assessment of the Scheme will be informed by the Wales Health Impact Assessment Support Unit (WHIASU) guidance (13). The assessment methodology also incorporates aspects of the *Mental Well-Being Impact Assessment Toolkit*, to ensure mental health issues are identified and addressed in the HIA process (14). The WHIASU guidance document identifies five steps for HIA:
- Step one: Screening – deciding whether to undertake a HIA;
 - Step two: Scoping – deciding the focus, methods and work plan;
 - Step three: Appraisal of Evidence – identifying the health impacts;
 - Step four: Reporting and Recommendations; and
 - Step five: Monitoring and Evaluation.
- 3.2.4 The HIA will be:¹
- open to stakeholders and a transparent process;
 - democratic in supporting participation;
 - robust in its methods and ethical use of evidence;
 - equitable by seeking to reduce health inequalities; and
 - sustainable in considering short and long term impacts.
- 3.2.5 The HIA assessment process will use quantitative, qualitative and participatory techniques to identify the potential effects on health, wellbeing and health inequities – both beneficial and adverse – of the Scheme. This will include consideration of the impact on mental wellbeing.
- 3.2.6 The HIA will include an examination of peer-reviewed literature and other reports on the potential health effects of large transport infrastructure projects. The assessment will not involve conducting original research from primary data. However, the HIA will draw upon the results of environmental, transport and engineering studies. It will also draw on results from stakeholder engagement on current health inequalities and potential impacts of the scheme.
- 3.2.7 The HIA will also recommend health issues that should be managed or monitored if the Scheme is approved in line with Step five of the WHIASU guidance.

¹ These principles for HIA were established by the World Health Organization Regional Office for Europe (15) and reaffirmed by the International Association for Impact Assessment and the WHO (8).

3.2.8 Table 3 below sets out the methodology and key activities at each step of the HIA process.

Table 3: HIA process, activities and outputs

Step	HIA activities	HIA outputs
Screening	<ul style="list-style-type: none"> ▪ Consider the potential effects on determinants of health ▪ Identify population groups that may be affected ▪ Record the decision 	The London Plan requires consideration of the potential impact of development proposals on health and health inequalities within London (3).
Scoping	<ul style="list-style-type: none"> ▪ Describe the Scheme and timescales ▪ Identify the most important health effects ▪ Define the area of study ▪ Provide an overview of future work 	HIA Scoping Report (this document)
Appraisal of Evidence	<ul style="list-style-type: none"> ▪ Review evidence on potential health effects ▪ Profile the potentially affected population and set out health baseline (including health inequalities) ▪ Stakeholder engagement ▪ Undertake assessment to identify potential health effects ▪ Identify measures to mitigate negative effects ▪ Identify measures to enhance positive effects 	Incorporated into draft HIA Reports (Preliminary HIA for PEIR ² and PAC ³ stage of application and full HIA for DCO ⁴ stage of the application).
Reporting	<ul style="list-style-type: none"> ▪ Prepare documentation to communicate the results of the assessment 	Preliminary HIA Report (draft) Preliminary HIA Report (final) Full HIA report (draft) Full HIA report (final).

² Preliminary environmental information report (PEIR).

³ Pre-application consultation (PAC).

⁴ Development Consent Order (DCO)

3.3 Consultation

3.3.1 TfL will seek to consult on the scoping report and as part of this process will hold a one-day workshop. Invitations will be sent to the Directors of Public Health, Planning Officers and Environmental Health (pollution) officers at:

- Royal Borough of Greenwich;
- LB Newham;
- LB Tower Hamlets.

3.3.2 Invitations will also be sent to

- Faculty of Public Health London Transport Special Interest Group;
- Public Health England, London.

3.3.3 The scope of the Silvertown Tunnel HIA will be informed by the views of these consultees. The workshop will be undertaken with the following objectives, to:

- ensure that all the potential determinants of health have been taken into account during the screening and scoping stages;
- provide comment as part of the scoping stage;
- look at potential impacts; and
- identify possible mitigation measures.

3.3.4 The outputs of this workshop will be incorporated into the design of the Scheme and the full HIA report.

4 Proposed Scope and Methodology

4.1 Screening

4.1.1 The London Plan requires consideration of the potential impact of development proposals on health and health inequalities within London (3) and a decision was taken to proceed with an HIA.

4.2 Scoping of Assessment

4.2.1 The HIA will examine the potential impacts on health, wellbeing and health inequalities of the Scheme. It will take into consideration the characteristics of the local population and workforce and assesses impacts during construction and operation. The complex nature of the Scheme, the all-encompassing definition of health, and the interaction of factors that influence the health of communities means there are a wide range of potential health and wellbeing impacts.

4.2.2 The objective of scoping is to determine the appropriate subject focus of the assessment. This will ensure that all the important potential health and wellbeing impacts of the Scheme, as well as opportunities for mitigation and enhancement, are identified. It sets out the framework of assessment for the HIA.

4.2.3 The HIA will not consider alternatives to the Silvertown Tunnel. Alternatives to the tunnel were considered at option selection stage and are reported in the 'Silvertown Crossing: Assessment of Needs and Options Report' (6).

4.2.4 The HIA team has drawn on the following information to scope the assessment:

- guidance documents, such as those developed by HUDU (4) and WHIASU (13);
- emerging information from other project studies (Environmental Impact Assessment, Equality Impact Assessment, Social and Distributional Impacts Appraisals); and
- Information from other HIAs (for example the Thames Tideway Tunnel (16)).

4.2.5 The Scheme was scoped using the information set out above and the issues set out in Table . These were assessed against the determinants of health provided by HUDU (12).

Table 4: Items considered in determining the scope of the HIA

HIA scope	Description
Description of the Scheme	The components of the Scheme, including planned infrastructure improvements
Scheme stages timescales	The timescales for each of the stages of the Scheme
Other studies	An overview of the other studies that have been commissioned, relevant to the HIA
Potential health effects	Identification of the potential health effects that form the focus of the HIA
Area of study	Description of the geographical area over which potential health effects will be considered
Population	The population groups that are expected to experience resultant health effects

4.2.6 Table 5 shows each of these determinants of health and explains which determinants have been *scoped in*. Those that are scoped in are expected to be of importance to either physical or mental health and will therefore be considered in the HIA. Further detail on this scoping and the reasoning is set out in the Appendices (see page 22 for the construction stage and page 27 for the operation stage).

4.2.7 HUDU places noise, air quality and neighbourhood amenity in one category. However, due to their importance within this Scheme, air quality and noise are in separate categories. Neighbourhood amenity is not considered as a separate category but is considered under *Social Cohesion and Lifetime Neighbourhoods*. Road safety is considered under *Crime Reduction and Community Safety*.

Table 5: Scoping the HIA: summary: construction & operation

Determinant of health	Construction	Operation
Housing and quality design	Out	Out
Access to healthcare services & other social infrastructure	Out	In
Access to open space and nature	Out	Out
Air quality	In	In
Noise	In	In
Accessibility and active travel	In	In
Crime reduction and community safety	In	In
Access to healthy food	Out	Out
Access to work and training	In	In
Social cohesion and lifetime neighbourhoods	Out	In
Minimising the use of resources	Out	Out
Climate change	Out	Out

Determinant of health are adapted from NHS HUDU (4).

4.3 Assessment Methodology

Spatial Scope

4.3.1 The spatial scope is influenced by the geographic extent of the potential health effects being assessed. The study areas within the spatial scope will be different for different types of effect. For example, effects related to noise and air quality are likely to be experienced close to the Scheme, whereas those related to socio-economic issues would be expected to be experienced over a larger area.

4.3.2 Table 6 defines the geographic areas by which the impacts might be distributed.

Table 6: Geographic area of distribution of effect

Distribution	Geographic area
Site	At or in the vicinity of the tunnel (includes the limit of land to be acquired by the scheme)
Noise, air quality and traffic assessment area	A study area to correspond with those used within the air quality, noise and transport assessments within the ES (including key routes used radiating out from the scheme).
Local	London Borough of Tower Hamlets; London Borough of Newham; and Royal Borough of Greenwich
Sub-Regional	LBs Barking & Dagenham, Bexley, Hackney, Havering, Lewisham, Redbridge and Waltham Forest

Temporal Scope

4.3.3 The working assumption at this scoping stage is to align the HIA with the timeframe for ES topics such as air quality. This looks 15 years ahead. The scheme is predicted to open in 2021 and the timeframe for the HIA will thus be up to 2036.

4.3.4 The scope will cover both the construction and the operation of the Scheme and the likely duration of the impacts will be identified within the assessment. Very broadly the environmental disturbance impacts of construction are likely to be short-term (this does not preclude health impacts). The social and accessibility benefits of the scheme are likely to be a long-term legacy. The distribution of operational air quality and noise, including the re-distribution of some impacts from the Blackwall Tunnel, may also be long-term changes of the Scheme. Definitions for short-term and long-term impacts will be aligned with those of the ES.

Baseline Data Gathering

4.3.5 Initial baseline data has been collated from a range of sources in order to provide an overview of the existing population, existing health profile, socio-

economic conditions in the local community and the physical environment in the area of the Scheme. The baseline data gathering has included review of:

- Public Health England 'Health Profiles' 2013;
- The Department of Communities and Local Government (DCLG)
- 'The English Indices of Deprivation' 2010;
- Office for National Statistics, Census 2011 data;
- Mental Health Statistics provided by the local authorities; and
- Accidents data provided by the local authorities.

4.3.6 An important part of the HIA is to develop an understanding of the people who are potentially going to be affected by the Scheme. The number of people, their demography and their vulnerability are characteristics that influence the scale and impact of potential health effects. The current and future residential community and commuters are population groups relevant to the HIA.

4.3.7 The HIA will include information on the existing population, referred to as a 'community profile'. This community profile will help to identify how many people would be likely to experience changes in their health and to identify vulnerable sections of the population. Measures of deprivation provide indicators of inequalities in health across geographical areas.

4.3.8 Further gathering of baseline data will be coordinated with other studies conducted for the DCO application such as the Environmental Statement, and the EqlA. Section 5 sets out the next steps for establishing a comprehensive baseline.

Assessment of potential health effects

4.3.9 The assessment will use quantitative, qualitative and participatory techniques to identify the potential effects on health, wellbeing and health inequities – both beneficial and adverse – of the Scheme. This will include the impact on mental wellbeing. It will cover the construction and operation phases of development.

4.3.10 The key parameters of the assessment are set out in Table 7. The HIA will include an examination of peer-reviewed literature and other reports on the potential health effects of large transport infrastructure projects. The assessment will not involve conducting original research from primary data. However, the HIA will draw upon the results of the Scheme's environmental, transport and engineering studies. It will also carefully consider the following:

- The Scheme EIA assessments including: air quality, noise and vibration, transport, socio-economic (including the impact on employment, the local economy, housing and education), landscape and visual amenity, leisure and recreation facilities;

- The Equality Impact Assessment and the likely impacts on equality groups to ensure the scheme does not discriminate against any disadvantaged or vulnerable people; and
- The social and distributional impacts appraisal which will include road safety impacts, physical activity impacts, severance and journey equality and accessibility impacts.

4.3.11 It will also draw on results from stakeholder engagement on current health inequalities and potential impacts of the scheme.

4.3.12 The HIA will recommend mitigation for negative health effects and enhancement opportunities for positive health effects. It will specify issues that should be managed or monitored if the Scheme is approved.

Table 7: Assessment of potential health effects

Scheme stage	The stage of the Scheme where the health effect would occur (e.g. Construction / Operation).
Potential health issue	A description of the change that would result from the Scheme and give rise to a health effect.
Health effect (outcome)	A measurable or observable change in health.
Health determinant	The health determinant (e.g. lifestyles, social and community factors, living and environmental conditions, economic conditions, access and quality of services, wider sustainability issues) which would be associated with a change in health outcome.
Direction of change	The likely nature of the health effect (e.g. positive / negative / uncertain).
Distribution	The geographical distribution of the health effect (e.g. from local to international).
Duration	The timescale over which the health effect would occur (e.g. from a few months to irreversible changes).
Number of people affected	The likely number of people that would experience the health effect.
Population groups	The groups of the population that would experience the health effect and whether any of those groups or communities are considered vulnerable.
Mitigation / Regulation	Whether mitigation measures to address the potential health issue have been identified and adopted already or whether a regulatory regime is in place to manage the potential health issue.

4.3.13 The potential health effects will be distributed across different geographical areas. The potential health effects will also be distributed across the population in different ways: some will affect the whole population while some will be experienced by subsections of the population, such as younger people or people with pre-existing health conditions. The HIA will identify the population groups likely to experience predicted changes in health and whether there are any groups that would be more susceptible or vulnerable to changes.

4.3.14 Other projects or developments are likely to occur within the same geographical area at the same time as the Scheme. Projects/developments known at the current time are listed on pages 22 to 25 below.

4.4 Collecting information for the HIA

4.4.1 The assessment of potential health effects will be based upon the best available evidence at the time the documents are prepared. The HIA team will seek three types of evidence, namely:

- data about the health of the local population;
- published literature on health effects: this will mainly be peer-reviewed literature; and
- the views of people living and working adjacent to the proposed development: these are important to place the academic studies in context and to anchor the assessment to the Scheme.

4.4.2 The types of evidence are considered briefly below. The HIA team has started to collate and examine sources of data and to review published literature.

Data on health of the local population

4.4.3 Public Health England has prepared profiles of health at borough level. This will provide invaluable information regarding the health and wellbeing of the local population. This profile adheres to the same model of health that is used in the HIA. Accidents and mental health data provided by the Environmental Health Officers in the relevant local authorities, will provide further detail of health issues of the local population. The HIA team will work with the advisory group to identify any reports that have been issued recently.

Published literature on health effects

4.4.4 The HIA team will examine peer-reviewed literature for the issues identified in Table 7 above. The evidence linking each of these changes in determinants of health, wellbeing and inequalities in health will be presented in a succinct summary.

4.4.5 The HIA will also consider potential health effects arising from the construction and operation of the Silvertown Tunnel. The Scheme will be required to comply, and to demonstrate its compliance, with regulations and safeguards.

The views of people living and working adjacent to, and using, the Scheme

4.4.6 TfL will be conducting consultation with people living and working adjacent to the Scheme and with commuters. This scoping report will be made publicly available. The HIA team will review the results of this consultation.

5 Next steps

5.1 Overview

5.1.1 This chapter describes the next steps for the HIA. This includes timescales for preparing HIA documentation and how information, data and evidence – including the views of stakeholders – will inform the HIA.

5.2 The pre-application consultation process

5.2.1 Pre-application consultation is a formal requirement before making an application for development consent under the Planning Act. TfL is embarking upon a process of pre-application consultation.

5.2.2 TfL will be reviewing all the feedback received and using it where possible to shape the on-going development of the Scheme. TfL currently anticipates undertaking pre-application consultation in September 2015. Table 8 shows the indicative timescales for the application for a Development Consent Order and the associated activities relevant to preparing the HIA.

Table 8: Indicative Timescales for preparing the HIA

Scheme stage	Timescale	HIA Activities
Stage One pre-application public consultation	October 2013 – December 2014	Engagement on the Introductory HIA Report
Stage Two pre-application consultation	July 2015	Engagement on HIA Scoping Report
Appraisal of Evidence	July 2015	Preliminary Assessment
Reporting to inform Stage Three pre-application consultation	July 2015	Preparation of Preliminary HIA Report
Stage Three pre-application consultation (PAC) and preliminary environmental information report (PEIR)	September – October 2015	Engagement on Preliminary HIA Report
Reporting to inform application for a Development Consent Order	November 2015 – March 2016	Preparation of Full HIA Report

Scheme stage	Timescale	HIA Activities
Submit application for a Development Consent Order	March 2016	Full HIA Report is submitted

5.3 Contact details for comment

5.3.1 The HIA team will continue to engage in ongoing dialogue with the design team on health related issues until the design of the Scheme is finalised. A Preliminary HIA report will be produced for statutory pre-application consultation in September 2015.

5.3.2 Please send comments on this report to: catherinetimson@tfl.gov.uk

6 List of references

1. HM Government of Great Britain. Greater London Authority Act. 2007. Available at <http://bit.ly/1jghuld>
2. Greater London Authority. Health issues in planning. Best Practice Guidance. 2007. Available at <http://bit.ly/1JxCOF>
3. Greater London Authority. Further Alterations to the London Plan. The London Plan: spatial development strategy for Greater London. Publication of the Further Alterations to the London Plan (March). 2015 GLA. London. Available at <http://bit.ly/1AIWIHh>
4. NHS Healthy Urban Development Unit. HUDU Rapid Health Impact Assessment (HIA) Tool. 2013 London. Available at <http://bit.ly/1jBO7en>
5. Greater London Authority and Transport for London. The Mayor's Transport Strategy. 2010. Available at <http://bit.ly/110vfmP>
6. Transport for London. Silvertown Crossing: Assessment of Needs and Options Report. Version 1.0. 2014 Prepared by Jacobs for TfL. Available at <http://bit.ly/1BCK4ZZ>
7. World Health Organization. Preamble to the Constitution of the World Health Organization; signed on 22 July 1946 by the representatives of 61 States and entered into force on 7 April 1948. Official Records of the World Health Organization, no. 2, p.100. 1948 New York. Available at <http://bit.ly/1cqnJ3S>
8. Quigley, R. et al. Health Impact Assessment. International best practice principles. Special publication series No. 5. 2006 International Association for Impact Assessment and World Health Organization. Available at <http://bit.ly/X2iOxM>
9. Dahlgren, G. and Whitehead, M. Policies and strategies to promote social equity in health. 1991. Stockholm, Institute for Future Studies.
10. Barton H, Grant M. A health map for the local human habitat. The Journal of the Royal Society for the Promotion of Health 2006;126(6):252-3.
11. Commission on the Social Determinants of Health. Closing the gap in a generation. Health equity through action on the social determinants of health. 2008 World Health Organization. Available at <http://bit.ly/WGOh97>
12. Marmot, M. et al. Fair society, healthy lives. Strategic review of health inequalities in England post 2010 (Marmot Review). 2010. Available at <http://bit.ly/1iK9VjN>
13. WHIASU. Health Impact Assessment: a practical guide. 2012 Ed. Chadderton, C., Elliott, E., Green, L., Lester, J., and Williams, G. Wales Health Impact Assessment Support Unit. Cardiff, Wales. Available at <http://bit.ly/WH8g9F>
14. Cooke, A. et al. Mental well-being impact assessment: a toolkit for well-being. 2011 Members of the National MWIA Collaborative (England). Available at <http://bit.ly/1k7DLTR>
15. World Health Organization Regional Office for Europe and European Centre for Health Policy. Health impact assessment: main concepts and suggested approach. Gothenburg consensus paper. 1999 WHO Regional Office for Europe, ECHP. Brussels. p.1-10. Available at <http://bit.ly/XyA89L>
16. Thames Water Utilities Limited. Thames Tideway Tunnel. Application for Development Consent: Health

Impact Assessment. Application
Reference Number: WWO10001. Doc
Ref: 7.12. APFP Regulations 2009:
Regulation 5(2)(q). 2013. Available at
<http://bit.ly/1lcx5ko>

17. World Health Organization. Transport
sector: preliminary findings. Initial

review. Health in the green economy:
co-benefits of climate change
mitigation. 2011 Public Health &
Environment Department (PHE),
WHO. Geneva, Switzerland. Available
at <http://bit.ly/1M9Nd4V>

7 Appendices

7.1 Other developments

	Planning application Number	Description of the development	Type
Tower Hamlets			
1	PA/11/03670 Approved: 10 Nov 2014	Asda, 151 East Ferry Road	Mixed use
2	PA/13/02966 Approved: 24 Dec 2014	Wood Wharf, Prestons Road	Mixed use
3	PA/14/03594 Pending decision	Hercules Wharf Castle Wharf And Union Wharf, Orchard Place	Mixed use
4	PA/12/00360 Approved: 31 May 2013	New Union Close	Residential
5	PA/12/02107 Approved: 20 June 2013	Car Park At South East Junction Of Prestons Road And Yabsley Street, Prestons Road	Residential
6	PA/12/00001 Approved:30 Mar 2013	The Robin Hood Gardens Estate together with land south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street.	Mixed use
7	PA/11/01426 Approved: 27 Sept 2012	Land at Virginia Quay	Residential
8	PA/14/00074 Approved: 23 Oct 2014	Telehouse Far East, Sites 6 and 8, Oregon Drive	Office and employment
9	PA/07/00391/LBTH Approved: 26 Oct 2007	Land On West Side Of Leamouth Road At South West Junction Of East India Dock Road	Residential

	Planning application Number	Description of the development	Type of development
Newham			
10	13/01461/FUL Approved: 16 Dec 2013	Former Goswell Bakeries And Vacant Warehouses Site Caxton Street North	Mixed use
11	13/00530/FUL Approved: 11 December 2013	107 Tarling Road	Residential
12	Strategic Site S8	Proposed release from Strategic Industrial Location (see Policy J2).	Planned (Infrastructure)
13	13/01873 Approved 24 April 2014	26 To 34 Tidal Basin Road	Residential
14	10/00369/FUL Approved: 12 March 2012	Site We8, The Pumping Station Site, Tidal Basin Road	Mixed use
15	14/00395/FUL Approved: 23 May 2014	Peruvian Wharf, North Woolwich Road	Infrastructure
16	11/00856/OUT Approved: 30 March 2012	Minoco Wharf, North Woolwich Road	Mixed use
17	14/01605/OUT Pending Decision	Silvertown Quays Bounded By Royal Victoria Dock, Connaught Bridge And Mill Road North Woolwich Road	Mixed use

	Planning application Number	Description of the development	Type
Greenwich			
18	13/1773/F Approved:16 October 2013	Charlton Barge Yard	Infrastructure and redevelopment works
19	13/1529/F Approved: 27 September 2013	Matalan, 30 Bugsby's Way	Retail
20	13/3285/O Approved: 3 March 2014	Sainsbury's and Former Comet Stores, 55 & 57 Bugsby's Way	Retail

	Planning application Number	Description of the development	Type
	02/2903/O 2004 Greenwich Masterplan	(Land at Greenwich Peninsula Greenwich SE10)	Mixed use
21	10/3422 Approved: 15 April 2011	Land to the South of Phoenix Avenue and to the West of Olympian Way (known as Plots NO207, NO404, NO405, MO106-MO110 & MO118 of the Greenwich Peninsula Masterplan)	Mixed use
22	13/1319 Approved: 16 July 2013	Land at Plot NO202, Greenwich Peninsula	Commercial and retail
23	10/0140/F Approved: Oct 2010	Land to the West of the O2 (known as Plot NO301)	Leisure and residential
25	13/0923/MA Approved: 25 June 2013	Land to the west of the O2 (known as plot n0301), Greenwich peninsula	Leisure and residential
26	14/2161/F Approved: 9 Feb 2015	Land at Peninsula Quays (Plots M0603, 604, 605, 606, 611 and 612), Off Tunnel Avenue	Leisure
27	10/3063 Approved: 30 March 2012	Land at Enderby Wharf (Former Alcatel Site) Christchurch Way	Infrastructure and mixed use
28	14/0293/F Approved: 16 Oct 2014	Alcatel-Lucent, Christchurch Way	Infrastructure and mixed use
29	14/1799/F Approved: 25 Feb 2015	PLOTS N0205, N0206 & N0207, Greenwich Peninsula	Residential
30	14/3601/F Approved: 19 March 2015	PLOT M0401, OLD School Close, Greenwich Peninsula	Utilities
31	15/0716/O Pending Decision	Land at Greenwich Peninsula to the south of the O2, SE10	Mixed use
		Dwelling houses/ serviced apartments	
32		School/College	
33		Dwelling houses/ serviced apartments	
34		Dwelling houses/ serviced apartments	
35		Dwelling houses/ serviced apartments	
36		Film Studio	
37		Design districting comprising A, B and D classes	
38		Parking	
39		Shops/Food/Financial services	
40		Transport Interchange	
41	Parking/Design district comprising A, B and D classes		

	Planning application Number	Description of the development	Type
Major Infrastructure Projects			
42	Thames Tideway Tunnel		Infrastructure

7.2 Scoping the HIA: construction phase

Determinant of health	Scoping decision	Reasoning
Housing and quality design	Out	This is not a residential development and there are no homes included in the Scheme. Therefore criteria concerning housing and quality design are not considered to be applicable.
Access to healthcare services and other social infrastructure	Out	This is scoped out on the basis that construction activity is not expected to disrupt existing flows of road or rail traffic for travel across the river and it is not expected to affect lateral movement on either side of the river. There is no effect expected on healthcare services and other social infrastructure.
Access to open space and nature	Out	This is scoped out on the basis that there is expected to be no loss (temporary or otherwise) of open and natural spaces that are accessible to the public during construction. There is a green area next to the gas storage facility where the tunnel emerges on the Greenwich side that would presumably be affected. This is considered unlikely to have an important role for public health.
Air quality	In	This is scoped in so as to enable consideration of air quality and nuisance effects arising from construction plant, vehicles (including vessels) and dust.
Noise	In	This is scoped in so as to enable consideration of noise and vibration effects (including nuisance) arising from construction plant, piling and vehicles (including vessels).

Determinant of health	Scoping decision	Reasoning
Accessibility and active travel	In	<p>The movement of HGVs and other construction traffic will be considered for their potential effects on walking and cycling.</p> <p>The pedestrian footbridge over the A102 will be demolished and replaced with a new structure. The effect of this on pedestrian footfall will be of interest. Other effects on walking and cycling around the construction site will be considered as will the effect on public transport.</p> <p>Potential effects on wheelchair or mobility scooter users will be considered in the EqIA.</p>
Crime reduction and community safety	In	<p>The effect of the Scheme on road safety for drivers and motorcyclists and for pedestrians and cyclists will be considered in this section.</p> <p>Crime reduction and community safety are scoped out of this assessment as they are not considered relevant.</p> <p>Safety at worksites and for working methods will be a requirement for the contractors. It will not be assessed as part of the HIA.</p>
Access to healthy food	Out	<p>This is scoped out as the construction of the Scheme is neither expected to provide, nor to affect, access to retail uses, food stores or smaller shops.</p>
Access to work and training	In	<p>This is scoped in to enable consideration of the construction workforce scheme/commitment on employment.</p>
Social cohesion and lifetime neighbourhoods	Out	<p>This is scoped out on the expectation that the construction of the Scheme will have no effect on connections between existing communities, i.e. layout and movement which avoids physical barriers and severance and land uses and spaces which encourage social interaction.</p>

Determinant of health	Scoping decision	Reasoning
Minimising the use of resources	Out	This is scoped out of this HIA as it is recognised that the implications for resource use is one of the reasons that this option was prioritised over other alternatives being considered to improve access across the river. This will be covered in the Sustainability Statement and the EIA chapter on Materials.
Climate change	Out	This is scoped out of the assessment of the construction phase.

7.3 Scoping the HIA: operational phase

Determinant of health	Scoping decision	Reasoning
Housing and quality design	Out	The Scheme is not a residential development and there are no homes included in the Scheme. Therefore criteria concerning housing and quality design are not considered to be applicable. The area surrounding the Silvertown Tunnel is expected to be subject to applications for residential development. Implications of the proposed tunnel for cohesive communities and active travel are considered below.
Access to healthcare services and other social infrastructure	In	The proposed scheme will have implications for travel across the river to hospitals for residents of RB Greenwich, LB Newham and LB Tower Hamlets. Effects on emergency services will also be considered. The effects on other social infrastructure, e.g. schools, social care and community facilities, will be considered.

Determinant of health	Scoping decision	Reasoning
Access to open space and nature	Out	<p>This is scoped out on the basis that there is no permanent loss of greenspace as landtake for tunnel entry/exit.</p> <p>Potential changes in access to parks across the river and access along the Thames Path will be covered in <i>Accessibility and Active Travel</i>.</p>
Air quality	In	<p>The Scheme will create an additional river crossing for traffic and it is expected to reduce the traffic using the Blackwall Tunnel. Emissions to air are expected to change in the vicinity of the new tunnel. Sources may include traffic as well as ventilation plant. Air quality is scoped in.</p>
Noise	In	<p>The Scheme will create an additional river crossing for traffic and it is expected to reduce the traffic using the Blackwall Tunnel. Noise and vibration are expected to increase in the vicinity of the new tunnel. Sources may include traffic as well as ventilation plant. Noise is scoped in.</p>
Accessibility and active travel	In	<p>Active travel is scoped in for consideration.</p> <p>The Scheme is not usable by cyclists and pedestrians and reduced private vehicle congestion may affect decision making regarding use of public (and active) transport – including river ferries.</p> <p>Cross river accessibility will be considered specifically the impact of traveller stress at Blackwall Tunnel. Accessibility to social infrastructure is covered under <i>Access to Healthcare Services and Other Social Infrastructure</i>.</p> <p>There will be landscaping above the cut-and-cover tunnel areas. The design of these areas is expected to be important for accessibility and for active travel.</p> <p>Potential effects on wheelchair or mobility scooter users will be considered in the EqIA.</p>

Determinant of health	Scoping decision	Reasoning
Crime reduction and community safety	In	<p>The effect of the Scheme on road safety for drivers and motorcyclists and for pedestrians and cyclists will be considered in this section.</p> <p>Community safety will not be considered in this HIA. It will be considered as part of the design, for example: safety for travellers in the tunnels will be considered by providing stopping points, help phones etc. CCTV will enable the tunnel and its entry and exit points to be policed.</p> <p>Implications for disabled people will be considered in the EqIA.</p> <p>Community safety is important for enabling active travel but as the tunnel will not be open to pedestrians or cyclists this factor will not be considered in this assessment.</p>
Access to healthy food	Out	This is not considered relevant to this assessment.
Access to work and training	In	The Scheme is seen as important to minimising the ‘barrier effect’ of the River Thames and to increasing access to markets for local firms, the size of retail and leisure catchments etc. This issue will be included for consideration.
Social cohesion and lifetime neighbourhoods	In	This is scoped in for consideration. The area, in LB Tower Hamlets, LB Newham, and RB Greenwich, surrounding the Silvertown Tunnel is expected to be subject to applications for residential development and mixed-use developments.
Minimising the use of resources	Out	This scoped out of this HIA as it is recognised that the implications for resource use is one of the reasons that this option was prioritised over other alternatives being considered to improve access across the river. This will be covered in the Sustainability Statement and the EIA chapter on Materials.

Determinant of health	Scoping decision	Reasoning
Climate change	Out	Climate change will not be considered as a topic in its own right in this assessment. The climate is an important determinant of health and wellbeing and there are co-benefits to health from climate change mitigation in the transport sector (17). The components of transport-related climate change mitigation are considered elsewhere in the assessment e.g.: active transport including public transport; reducing emissions to air; access to social infrastructure; access to jobs, goods and service.