

VICTORIA STATION UPGRADE
TRANSPORT AND WORKS ACT 1992
TOWN AND COUNTRY PLANNING ACT 1990

Transport and Works (Inquiries Procedure) Rules 2004

STATEMENT OF CASE
OF LONDON UNDERGROUND LIMITED

March 2008

1 GENERAL INTRODUCTION

- 1.1 On 22 November 2007 London Underground Limited (“LUL”) applied to the Secretary of State for Transport to make The London Underground (Victoria Station Upgrade) Order (“the Order”) under the Transport and Works Act 1992.
- 1.2 The application (“the TWAO Application”) was made in accordance with the procedure contained in the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006 (SI 2006/1466) (“the 2006 Rules”). It has been given reference TWA/07/APP/02 by the Department for Transport.
- 1.3 The Order, if made, would confer upon LUL the powers necessary to undertake substantial improvement works to Victoria Underground Station as described in further detail in this Statement. The proposal is known as the Victoria Station Upgrade Scheme or “VSU”.
- 1.4 This document is LUL’s Statement of Case for VSU. It contains particulars of the case which LUL proposes to put forward at the public local inquiry into the TWAO Application. The statement is to be served under Rule 7 of the Transport and Works (Inquiries Procedure) Rules 2004 (SI 2004/2018) (the “Inquiries Procedure Rules”).
- 1.5 The Statement of Case includes the following appendices;
Appendix 1: A glossary of terms used in this Statement
Appendix 2: A list of documents to which LUL intends to refer or put in evidence at the public local inquiry, including those documents comprising the TWAO Application as submitted on 22 November 2007

2 THE NEED FOR VSU

2.1 Victoria Underground Station

2.1.1 Victoria is one of London's main transport hubs, home to a combination of transport services including Victoria mainline station ("the National Rail Station"), three Underground lines (Victoria, District and Circle (D&C)), a bus station and a taxi rank with substantial associated pedestrian movements. The National Rail Station also provides a dedicated link to Gatwick Airport through the Gatwick Express rail service. London's main coach station, Victoria Coach Station, is close by on Buckingham Palace Road.

2.1.2 Over 80 million passengers pass through Victoria Underground Station (the Underground Station) each year, making it London Underground's second busiest station. The Underground Station serves as a gateway to the National Rail Station, an access point for local employment, and an interchange between the Victoria and D&C lines. During 2006, the typical weekday flow of passengers stood at 286,000, with approximately 70,000 passengers using the Underground Station during the morning 7am – 10am peak.

2.2 The Need for Improved Infrastructure

2.2.1 During peak periods, the Underground Station currently suffers major congestion, particularly for passengers using Victoria line services. This congestion is experienced as delay moving along platforms, delay boarding escalators, delay being held outside ticket gatelines and entering the Underground Station.

2.2.2 In order to accommodate current demand and safely manage passenger numbers on the platforms during peak hours and prevent crowding, gateline restrictions and ticket hall closures currently occur on a regular basis. However, such measures do not provide an acceptable long term solution to the Underground Station's congestion problems as closures and restrictions cause delay and discomfort for passengers.

2.2.3 Congestion at Victoria is not a recent but a long standing phenomenon. The Underground Station has been subject to severe capacity constraints for many years. As will be further explained in Chapter 5 of this Statement, since 1996 a number of scheme options, sub options and variations have been identified, reviewed, developed further and then rejected prior to confirmation of the scheme for which consent is now being sought.

2.2.4 Growth in central London employment and the upgrade of the Victoria line train service is forecast to add further to current demand. The number of passenger journeys in the AM and PM

peaks is expected to increase by approximately 12% from 2006 levels to 171,000 by 2016, which is equivalent to 101.4 million peak passenger journeys per annum. This growth will intensify the current congestion problems at the Underground Station, particularly during the morning peak, where the highest growth is forecast to occur.

- 2.2.5 The projected rise in commuter and visitor numbers over the next decade, as described in the Mayor's London Plan, suggests that existing problems will remain and worsen, with control measures such as gateline restrictions and closures continuing to be necessary but with increased frequency.
- 2.2.6 In addition to these congestion problems, the existing Underground Station entrances are mainly focussed on the National Rail Station and bus station and the Underground Station currently has no provision for step-free access. Victoria line services in particular are relatively inaccessible for those with reduced mobility.
- 2.2.7 Unaddressed, the problems now occurring will in due course lead to more significant measures to manage the problems, including extended closures at times of peak demand. Accordingly there is an urgent need to upgrade the Underground Station.

2.3 Principal Scheme Objectives

2.3.1 Against this background, the principal objectives of the VSU scheme have been identified as follows:

- TO INCREASE THE CAPACITY OF VICTORIA UNDERGROUND STATION SO THAT IT IS FIT FOR PURPOSE FOR HANDLING FORECAST DEMAND;
- TO MINIMISE PASSENGER JOURNEY TIME; AND,
- TO IMPROVE THE QUALITY OF ACCESS AND INTERCHANGE AND AMBIENCE TO THE MAXIMUM EXTENT PRACTICABLE WITHIN PHYSICAL, SCHEDULE AND FINANCIAL CONSTRAINTS.

2.3.2 In order to ensure each of the principal scheme objectives are met, four supporting objectives have been developed as follows:

- (a) Increasing the entrance capacity of the Underground Station through delivery of
- *a 50% increase in escalator capacity to/from the Victoria line with linking routes providing at least matching capacity; and*
 - *a new station entrance near the Victoria Street / Bressenden Place junction.*

- (b) Minimising journey times for passengers entering, leaving and interchanging at the Underground Station through
- *a targeted improvement of at least 5 minutes in the current journey time from Victoria Street to the Victoria line platforms;*
 - *making the location, orientation, facilities and signage of the Bressenden Place entrance prominent and welcoming in order to attract passengers towards the quickest route into the Underground Station;*
 - *designing passenger flows in normal operation to avoid queues blocking or conflicting with other flows;*
 - *avoiding in normal operation closures of the inward ticket gates;*
 - *making routes through the station as short, and as self-directing as possible; and*
 - *avoiding flows entering and leaving the Victoria line platforms delaying the operation of the upgraded train service.*
- (c) The provision of step-free access between the existing National Rail Station entrance and Bressenden Place entrance and all platforms.
- (d) Fitness for purpose: the Underground Station should meet standards and consents from regulatory and planning authorities.

2.4 The Benefits of VSU

2.4.1 The primary benefits to customers that will be realised from meeting the principal aims and objectives of the VSU scheme will be:

- a major reduction in the future expected peak delay to Victoria line passengers entering, exiting or interchanging with the D&C lines;
- a faster connection from the Victoria line platforms to the employment and commercial area around Victoria Street;
- step-free access from street to all platforms and step-free interchange between all platforms for persons of reduced mobility or the encumbered.

2.4.2 The benefits of the VSU Scheme are further described in Chapter 8 of this Statement.

3 THE APPLICANT AND THE APPLICATION

3.1 The Applicant

3.1.1 LUL is the promoter of the application for the Order under section 1 of the Transport and Works Act 1992. LUL is a company incorporated under the Companies Act with limited liability and since 15 July 2003 a wholly owned subsidiary of Transport for London (“TfL”). TfL is an executive arm of the Greater London Authority (“GLA”) reporting to the Mayor and is the integrated body responsible for the capital’s transport system. TfL’s role is to implement the Mayor’s Transport Strategy for London and to manage the transport services across the capital for which the Mayor is responsible. TfL is accountable for both the planning and the delivery of transport facilities and the promotion of the Order is consistent with this duty.

3.2 The TWAO Application and its Legislative Context

3.2.1 On 22 November 2007 LUL submitted an application to the Secretary of State for Transport for an Order under sections 1 and 5 of the Transport and Works Act 1992.

3.2.2 The purpose of the Order is to seek and obtain the powers necessary to authorise LUL to carry out works to improve the Underground Station and for that purpose, to acquire, compulsorily or by agreement, land and rights in land and to use land.

3.2.3 The legislative context for obtaining these powers is provided by the Transport and Works Act 1992. With effect from 1 January 1993, Part 1 of this Act provides a replacement order making procedure to the private Bill procedure that previously applied in the UK for the authorisation of major rail, tram and light rapid transit projects. The procedure involves application to the Secretary of State for Transport for a TWA Order in accordance with the 2006 Rules, with provision for a public inquiry to be held prior to the determination of the application.

3.2.4 The TWAO Application was the subject of publicity and notices as required by the 2006 Rules under which representations to the Secretary of State upon the TWAO Application were invited until 17 January 2008. The proposals were also the subject of a consultation exercise carried out by LUL as described in the Consultation Report submitted with the TWAO Application. The consultation exercise is described in Chapter 6 of this Statement.

3.2.5 Forty five letters of objections to the proposed Order have been submitted to the Secretary of State. The issues arising from them are discussed in Chapter 15 of this Statement.

- 3.2.6 On 14 February 2008, LUL was informed by the Department for Transport of the Secretary of State's intention to hold a public local inquiry into the TWAO Application ("the Inquiry") and that 14 February 2008 would be the 'starting date' for the purposes of the Inquiries Procedure Rules.
- 3.2.7 A statement of matters under Rule 7(6) of the Inquiries Procedure Rules will be served by the Secretary of State in due course.

3.3 The Scope of the Order

- 3.3.1 The Order is being promoted to permit LUL to construct and operate works and compulsorily acquire land and rights in land for the purpose of the improvement of the Underground Station. The proposed works comprise a new sub-surface ticket hall beneath Bressenden Place, the expansion of the existing Victoria line ticket hall beneath Wilton Road, new lifts, sub-surface escalators and pedestrian links and new surface-level entrances to the ticket hall.
- 3.3.2 The draft Order comprises 42 articles, made up in 5 parts, together with 11 Schedules. Part 1 of the Order contains preliminary provisions including citation, commencement and interpretation provisions. Part 2, together with Schedules 1 to 4, contain provision for, and relating to, the construction of the works. Part 3 of the Order, together with Schedule 5 to 7 contains provision for the compulsory acquisition of land and rights in land and for the temporary possession of land for the purposes of or in connection with the intended works and LUL's railway undertaking. Part 4 together with Schedules 8, 9 and 10, contains protective provisions for the protection of statutory undertakers and Network Rail. Part 5 contains a number of miscellaneous and general provisions.
- 3.3.3 The provisions of the Order are substantially based on the Model Clauses for Railways, as contained in Schedule 1 to the Transport and Works (Model Clauses for Railways and Tramways) Order 2006 ("the Model Clauses for Railways").
- 3.3.4 In some instances, the Order departs from the Model Clauses for Railways and instead follows previous orders, including the Docklands Light Railway (Stratford International Extension) Order 2006, the Merseytram (Liverpool City Centre to Kirby) Order 2005 and the Docklands Light Railway (Woolwich Arsenal Extension) Order 2004.
- 3.3.5 In other cases, the Order draws from the Model Clauses for Tramways, as contained in Schedule 2 to the Transport and Works (Model Clauses for Railways and Tramways) Order 2006.
- 3.3.6 In accordance with the requirements of Rule 10(2)(b) of the 2006 Rules, LUL's application to the Secretary of State for Transport

included an Explanatory Memorandum. This Memorandum explains the purpose and effect of each article of, and Schedule to, the Order.

3.4 The Suite of Application Documents

3.4.1 The 2006 Rules specify documents which are required to accompany an application for a Transport and Works Act Order where the application is submitted after 11 September 2006. LUL's TWAO Application comprises the documents required by the 2006 Rules and a number of other documents considered by LUL to be of assistance to the Secretary of State in determining the application.

3.4.2 This documentation comprised the following;

- Letter of application;
- Draft Order;
- A draft Explanatory Memorandum explaining the purpose and effect of each article and Schedule in the TWAO;
- Concise Statement of the aims of the proposals;
- Report summarising the consultations that have been undertaken;
- List of all consents, permissions or licences required under other enactments for the purpose of the powers sought in the application;
- A Scoping Opinion which sets out the information to be contained in the Environmental Statement to accompany the TWAO application ;
- A Funding Statement detailing LUL's proposals for funding the cost of implementing the TWAO;
- An Estimate of the Costs of carrying out the works provided for in the TWAO;
- A Request for a direction under Section 90(2A) of the Town and Country Planning Act 1990, including elements of the proposed development and draft planning conditions;
- An Environmental Statement (which consisted of a Main Statement together with a volume of figures, four volumes of Technical Appendices and a Non Technical Summary);
- A Location Plan, Works Plans and Sections, Land Plans and a Traffic Regulation Plan;
- Book of Reference relating to the Works and Land Plans;
- Planning Direction Drawings showing elements of the development in further detail;

- Other Plans (for information) ;
- CEEQUAL Pre-Assessment Advisory Report;
- Energy Demand Assessment;
- Draft Code of Construction Practice;
- Sustainability Appraisal;
- Health Impact Assessment; and
- A Design and Access Statement.

3.5 The need for planning permission and its scope

- 3.5.1 Rule 10(6) of the 2006 Rules allows an application to be made for a direction granting deemed planning permission under section 90(2A) of the Town and Country Planning Act 1990.
- 3.5.2 Some of the proposals contained within the Order do or may constitute development requiring planning permission under section 57(1) of the Town and Country Planning Act 1990. Accordingly, LUL has sought such a direction in this case, and certain conditions subject to which it is proposed that the direction should be made have also been put forward. The direction sought is one of deemed planning permission to be granted for the whole development and for each element of it with some matters being reserved for subsequent approval by the local planning authority (“LPA”).
- 3.5.3 The request for a direction is accompanied by a schedule entitled Elements of Development or Possible Development. This describes the components of the scheme for which planning permission is being sought. These relate principally to engineering works, but there are also some temporary changes of use proposed to allow for construction worksites.
- 3.5.4 A set of planning direction drawings showing elements of the development in further detail accompanies the Order application pursuant to Rule 10(6)(d) of the 2006 Rules.
- 3.5.5 The request was also accompanied by a statement of proposed planning conditions (“the Planning Conditions”). The Planning Conditions were drafted by LUL and agreed with Westminster City Council, the LPA. The proposed conditions relate to:
- A time limit for commencement of development
 - The later approval by the LPA of the above ground elements of the scheme – the submitted details of these are indicative only (2 conditions)

- Advance notice to the LPA of the commencement of the above ground elements
- Replacement of trees (3 conditions)
- Compliance with the project's Code of Construction Practice ("CoCP")
- Archaeology

3.5.6 In the light of points raised by the Department for Transport and following further discussion with the LPA, a revised list of proposed conditions was submitted to the Department on 15 January 2008. The changes made were:

- Two additional conditions to cover hard and soft landscaping (submission of details, implementation and maintenance);
- Two further conditions requiring (1) approvals required by condition to be in writing and (2) execution to be in accordance with written approvals; and
- Minor drafting changes.

3.5.7 The Department for Transport has also suggested that some of the matters covered by the VSU CoCP should be the subject of separate and specific conditions and this will be discussed further with the LPA. It is anticipated that a revised set of conditions that is agreed with the LPA will be provided well in advance of the Inquiry.

3.6 Listed Building Consents

3.6.1 The proposed works which are necessary for the VSU scheme to be implemented involve works affecting three listed buildings or structures, namely the National Rail Station, the Victoria Palace Theatre and the clock tower at the junction of Victoria Street, Wilton Road and Vauxhall Bridge Road known as "Little Ben".

3.6.2 In connection with the TWAO Application, and as foreshadowed in the list of consents, permission and licences required submitted to the Secretary of State under Rule (2)(f) of the 2006 Rules, LUL proposes to submit three applications for listed building consent under the Planning (Listed Buildings and Conservation Areas) Act 1990. If agreed by the Secretary of State, these listed building consent applications will be considered concurrently with the TWAO Application and the request for a planning direction.

3.6.3 The three listed building consent applications cover:

- protective works to the Victoria Palace Theatre;
- protective works to the National Rail Station, as well as certain proposed internal alterations and minor demolitions works in the basement area; and

- the removal, secure storage and reinstatement of Little Ben clock tower.
- 3.6.4 Mitigation is proposed such that none of these listed buildings will be materially affected in the long term. The proposed mitigation will be described within the documentation accompanying the listed building consent applications.
- 3.6.5 Prior to the submission of the TWAO Application, LUL submitted a separate application for listed building consent in respect of protective works to the Victoria Palace Theatre. The protective works arose in consequence of the proposed demolition (and thereafter redevelopment) of the properties known as 120 to 124 Victoria Street and 3 to 11 Bressenden Place, which were the subject of a separate planning application. These proposals were referred to within the TWAO Application documents as the Corner Site Development (or “CSD”). This planning application was withdrawn in December 2007. The application for listed building consent is being held in abeyance and it will be withdrawn when the new application for listed building consent for these protective works is made, as mentioned in paragraph 3.6.3 above.

4 TRANSPORT AND PLANNING POLICY CONTEXT

4.1 Introduction

4.1.1 The VSU scheme has been developed within the context of an extensive framework of policies provided at the national, regional and local levels.

4.2 National Policy Context

4.2.1 National guidance and policy on the following matters is considered by LUL to be relevant to the consideration of the TWAO Application.

Sustainability

4.2.2 *Planning Policy Statement 1: Delivering Sustainable Development (2005)* reiterates the four aims for sustainable development to be achieved by the planning system (paragraph 4) and sets out guidance on how sustainable development can be achieved under the headings of spatial plans, design and community involvement. Although predominantly advice to local planning authorities in respect of the production of their development plan policies, LUL will demonstrate how the VSU scheme assists in the achievement of a number of the identified ways of achieving sustainable development set out under these headings.

4.2.3 LUL will, in evidence, explain the regard that has been had in respect of the VSU scheme to the relevant aspects of the key planning objectives for the delivery of sustainable development set out in *Planning Policy Statement: Planning and Climate Change Supplement to Planning Policy Statement 1 (2007)*.

4.2.4 The Government's strategy for sustainable development set out in *Securing the Future – The UK Sustainable Development Strategy (2005)* recognises that the design and use of transport is an important element in encouraging more sustainable consumption and production and that transport specifically has to make a contribution to reducing carbon dioxide emissions. The VSU scheme will enable greater use to be made of what is recognised as a sustainable transport system.

4.2.5 The Government's Urban White Paper *Our Towns and Cities: The Future – Towards an Urban Renaissance (2000)* identifies the provision of a modern, efficient transport service as: essential to the effective functioning of local economies, communities and neighbourhoods; providing vital links to national and international markets; having a direct effect on the quality of people's daily lives,

and on their access to jobs, services and leisure opportunities; and having a major part to play in making towns and cities more attractive places in which to live and work (Action to create and share prosperity 4). The VSU scheme will assist in the achievement of such a modern efficient transport system for London.

- 4.2.6 The recent Government discussion document *Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World (2007)* recognises that transport has a vital role to play in supporting sustainable economic growth and develops a series of broadly defined goals that capture the full range of Government objectives that could be furthered by transport. The VSU is in accordance with these goals as it will assist in maximising competitiveness and productivity, assist in tackling climate change, contribute to better safety, security and health, enhance the quality of passenger journeys and improve access for people to transport networks (Figure 2.5).

Transport

- 4.2.7 The Government's approach to transport set out in the 1998 Transport White Paper *A New Deal for Transport: Better for Everyone* is developed further in the 2004 White Paper *The Future of Transport: A Network for 2030*, which recognises that the London Underground system is experiencing both a growth in passenger numbers and improving levels of service (paragraph 4.6), but also that it is a large and complex system that requires significant investment and management to maintain it as an efficient and effective network (paragraph 4.19). The VSU scheme is a key element in the ongoing development and maintenance of the Underground to ensure it is an efficient and effective network.
- 4.2.8 Within the Government's *Transport Ten Year Plan 2000*, the broad approach to improving transport in London shared by the Government and the Mayor is set out, including a number of objectives (paragraph 6.68), the achievement of which will be assisted by the VSU scheme. These objectives include: the delivery of increased public transport capacity and efficiency to cater for London's growing economy and a reduction in overcrowding; tackling road congestion with, amongst other things, improved public transport; improving access to, amongst other things, jobs and key local facilities; and providing a better door-to-door journey for all. The VSU scheme will also assist in achieving the overall vision of a transport system set out at paragraph 1.4 of the plan.
- 4.2.9 *Planning Policy Guidance Note 13: Transport (2001)* recognises that quick, easy and safe interchange is essential to integration between different modes of transport (paragraph 48). The VSU

scheme will enhance and further develop the function of the wider interchange facilities at Victoria and assist in the achievement of the objectives set out in PPG13.

Environment

- 4.2.10 *Planning Policy Guidance Note 15: Planning and the Historic Environment (1994)* provides a full statement of Government policies for the identification and protection of historic buildings, conservation areas, and other elements of the historic environment. The VSU scheme is located close to conservation areas and listed buildings, which have been taken account of in its design. LUL will demonstrate in its evidence how regard has been had to the requirements of this guidance, in particular in the approach adopted towards the assessment and mitigation of effects on built heritage. Similarly, LUL will also demonstrate in its evidence how regard has been taken of the guidance in *Planning Policy Guidance Note 16: Archaeology and Planning (1990)* in respect of the design and assessment of the scheme and the definition of appropriate mitigation measures and strategies.
- 4.2.11 The overall objective of Government policy on waste as set out in *Planning Policy Statement 10: Planning for Sustainable Waste Management* is to protect human health and the environment by producing less waste and by using it as a resource wherever possible. LUL will demonstrate how excavated materials, including the re-use or recycling of them wherever possible, will be handled, collected and disposed of in a sustainable manner. LUL will provide evidence on the CoCP which has been developed in consultation with the LPA, the provisions of which the contractor appointed to construct the proposed works will be required to adhere.
- 4.2.12 *Planning Policy Statement 23: Planning and Pollution Control* makes clear that the Government attaches great importance to controlling and minimising pollution (paragraph 4). LUL will demonstrate the regard that has been had to the guidance in PPS23, in particular that the land is suitable for the development envisaged and that any potential risks associated with contaminants can be and will be satisfactorily mitigated.
- 4.2.13 The VSU scheme is classified by *Planning Policy Statement 25: Development and Flood Risk (2006)* as 'essential infrastructure' and is proposed in a 1 in 100 year fluvial flood risk zone. LUL's evidence will demonstrate the regard that has been had to the guidance in PPS25 and in particular will explain why the 'Exception Test' set down in PPS25 is applicable. LUL will also demonstrate why the scheme meets the requirements of this test in that the proposed redevelopment of the site provides wider sustainability benefits to the community that outweigh flood risk, is on

developable previously developed land and will be safe, without increasing flood risk elsewhere.

- 4.2.14 The evidence of LUL will also explain the account that has been taken of relevant guidance provided in other policy statements and guidance notes, including: *Planning Policy Statement 6: Planning for Town Centres*, *Planning Policy Statement 9: Biodiversity and Geological Conservation*, *Planning Policy Statement 22: Renewable Energy* and *Planning Policy Guidance Note 24: Planning and Noise*.

4.3 Regional Policy Context

The London Plan

- 4.3.1 *The London Plan (February 2008)* develops six objectives aimed at fully implementing the Mayor's vision for London, which is to develop London as an exemplary, sustainable world city, based on the three balanced and interwoven themes of strong, long term and diverse economic growth, social inclusivity and fundamental improvements in the environment and use of resources (Introduction paragraph xxiv and xxv).

Overall Strategy

- 4.3.2 LUL will demonstrate the account that has been taken in the design of the VSU scheme of the relevant sustainability criteria set out in policy 2A.1. LUL's evidence will also set out how the VSU scheme will assist in the achievement of various aspects of the overarching spatial strategy for development set out in policy 2A.2, including *"improving London's accessibility through the co-ordination of transport and development with an emphasis on improvement to public transport and reducing traffic congestion"*.

Economic Context

- 4.3.3 One of the objectives identified to meet the Mayor's vision is *"to make London a more prosperous city with strong and diverse long term economic growth"*. Chapter 3B of the plan articulates the detailed policies which centre on the achievement of this objective. Policy 3B.1 makes clear that the Mayor, working with strategic partners will address the spatial needs and implications of a developing world city economy and the sectors, work practices and linkages (identified as those within London, nationally and internationally) that this gives rise to. The VSU scheme will assist in addressing the needs of the various transport linkages associated with the Victoria area.

Transport / Accessibility context

- 4.3.4 Another of the objectives is *"to improve London's accessibility"*. Chapter 3C of the plan articulates the detailed policies which centre

on the achievement of this objective. Under the heading ‘*Better public transport in London*’ policy 3C.9 seeks to increase the capacity, quality and integration of public transport to meet London’s need. The policy states that the “*Mayor will work with strategic partners to increase the capacity of public transport in London by up to 50 per cent over the plan period and to improve the integration, reliability, safety, quality, accessibility, frequency, attractiveness and environmental performance of the existing public transport system.*” The supporting text refers to a list of transport schemes (provided in Tables 3C.1 and 6A.2 of the plan) which will increase public transport capacity by up to 50 per cent in year 2022 compared to 2001. The VSU scheme is included in this list within the references to “*Underground station congestion relief, accessibility projects and interchange improvements*”.

- 4.3.5 In addition to increasing capacity LUL’s evidence will demonstrate that the VSU scheme will improve the integration, reliability, safety, quality, accessibility and attractiveness of the Underground Station and assist in the achievement of the benefits of improved frequency and environmental performance resulting from other proposed improvements to the Underground.
- 4.3.6 Other policies of relevance to the VSU scheme provided in the plan to meet the objective of improving London’s accessibility, and to which LUL’s evidence will have regard, include:
 - 4.3.6.1 The integration of transport and development by, amongst other things, seeking to improve public transport and accessibility in areas within which the VSU scheme is located, and by encouraging integration of the major transport infrastructure plans with improvements to the public realm (policy 3C.1 and supporting text).
 - 4.3.6.2 The support for, amongst other things, measures that encourage shifts to more sustainable modes of transport and improved public transport for areas such as Victoria identified as a specific ‘Opportunity area’ (policy 3C.3 and supporting text).
 - 4.3.6.3 The improvement of links between London and the surrounding regions (policy 3C.5 and supporting text).
 - 4.3.6.4 The commitment to improve the Underground service and to ensure its development supports the spatial strategy of the plan by delivering improvements in safety and security, reliability, customer service and effective capacity and by identifying and taking forward improvements to the network that support the priorities of the plan (policy 3C.13 and supporting text).

Sustainability and Design Context

4.3.7 Another identified objective of the plan is “to make London an exemplary world city in mitigating and adapting to climate change and a more attractive, well designed and green city”. Chapter 4 provides the policies that particularly focus on the achievement of this objective and is split into various parts. LUL’s evidence will demonstrate the account that has been taken of the relevant policies of this chapter of the plan and the conformity of the VSU scheme with these policy requirements.

Sub Regional context

4.3.8 The site of the VSU scheme is within the indicative boundary of the Central Activities Zone (“CAZ” shown on map 5G.1). Policy 5G.2 sets out the strategic priorities for the CAZ. LUL’s evidence will demonstrate how the VSU scheme will assist in the achievement of these strategic priorities, in particular:

4.3.8.1 providing a competitive, integrated and varied global business location;

4.3.8.2 enhancing the operating environment supporting different clusters within the CAZ;

4.3.8.3 sustaining and enhancing the offer of the country’s premier retail destinations in Knightsbridge and the West End;

4.3.8.4 enhancing and managing the role of the CAZ as the country’s premier visitor destination;

4.3.8.5 developing and implementing the framework for the Victoria Opportunity Area to realise its opportunities for local communities, businesses as well as London as a whole (an issue explained in more detail below); and

4.3.8.6 enhancing the strategically vital linkages between the CAZ and labour markets within and beyond London in line with objectives to secure sustainable development of the wider city region.

4.3.9 The VSU site also falls within the North London sub-region. LUL’s evidence to the Inquiry will demonstrate how the VSU scheme will assist in the achievement of the priorities of this sub-region that are set out in policy 5B.1. The VSU site also falls within the Victoria Opportunity Area for which policy 5B.2 indicates that subsequent planning frameworks will be drawn up by the Mayor and partners. The general policy directions for the Victoria planning framework to follow are indicated in paragraph 5.37, which recognises that Victoria is a major transport interchange, the busiest in London, in need of substantial upgrading and enhancement, with the public

realm also in need of improvement. The station and nearby sites are identified as having significant capacity for intensification but that this will require management to sustain its heritage features. Advice on the suitability of tall buildings and synergy with another nearby Opportunity Area is also outlined.

- 4.3.10 LUL's evidence will demonstrate that the VSU scheme is clearly in line with the policy direction and aspirations for the Victoria Opportunity Area set out in the plan.

The Mayor's Transport Strategy 2001 (as amended)

- 4.3.11 The Transport Strategy was originally published in 2001 with revisions being provided in 2004 and in 2006. The London Plan (2008) indicates that the Transport Strategy will be updated.
- 4.3.12 The strategy emphasises the reliance of Central London on both national rail and Underground services (paragraph 2.76) indicating that key issues for transport in, to and from central London include unreliability and gross overcrowding of Underground services, and high levels of interchange from National Rail to underground and bus, often at routinely over-loaded stations (paragraph 2.81).
- 4.3.13 LUL will demonstrate how the VSU scheme will contribute to the achievement of the five overarching objectives of the vision for London as they relate to the key implications for London's transport system set out in the strategy (paragraph 3.9). LUL's evidence will further explain the conformity of the VSU scheme with the wider policies and proposals set out in Chapter 3 of the Transport Strategy.
- 4.3.14 LUL will also explain how the VSU scheme will assist in the achievement of relevant key transport system priorities identified in the strategy (Chapter 4A) to provide the world class system the capital needs to support the overall vision for London set out by the Mayor. In particular LUL's evidence will give consideration to the key priorities of:
- 4.3.14.1 overcoming the backlog of investment so as to safely increase capacity, reduce overcrowding, and increase both reliability and frequency of services (Transport System Priority b);
- 4.3.14.2 improving the accessibility of London's transport system so that everyone, regardless of disability, can enjoy the benefits of living in, working in and visiting the Capital, thus improving social inclusion (Transport System Priority i); and

- 4.3.14.3 bringing forward new integration initiatives to, amongst other things, improve key interchanges (Transport System Priority j).
- 4.3.15 LUL will also demonstrate that the VSU scheme is, in accordance with policy 4C.2, a proposal that will address overcrowding and unreliability problems of the Underground to assist in the provision of a service to passengers that is consistently reliable, comfortable, easy to use, safe and secure. The extent to which the VSU scheme has had regard to the principles of developing and maintaining a programme for funding and improving the Underground set out in policy 4C.3 will also be explained. LUL will further explain the relevance of the VSU scheme to the various relevant proposals set out in chapter 4C of the strategy.
- 4.3.16 The VSU scheme will make the Underground system more accessible for persons of restricted mobility by removing barriers that affect independent mobility. LUL's evidence will therefore set out the conformity of the VSU scheme with the relevant policies and proposals of chapter 40 of the strategy – 'accessible transport'.
- 4.3.17 One of the key benefits of the VSU scheme is the improvement it will provide to the interchange of different transport modes at Victoria, as such LUL's evidence will demonstrate the conformity of the scheme with the relevant policies and proposals of chapter 4P of the strategy – 'integration: the seamless journey'.

Sustaining Success – Developing London's Economy: Economic Development Strategy (January 2005)

- 4.3.18 Chapter 3 of the strategy emphasises that investment in places and infrastructure is vital to support London's continued economic success. Section 3.2.1 recognises that transport is a key economic development issue for London and makes clear that realisation of the strategy requires a comprehensive, accessible transport system for people and freight, enabling easy access to and from all parts of London. Improvement to the Underground and interchange facilities are identified as helping support development and regeneration across London. LUL's evidence will demonstrate how the VSU scheme will assist in the delivery of relevant strategic objectives, including: delivering an improved and effective infrastructure to support London's future growth and development; deliver healthy, sustainable, high quality communities and urban environments; and maintain and develop London as a top international destination and principal UK gateway for visitors, tourism and investment.

Other Mayoral Strategies

- 4.3.19 LUL's evidence will also demonstrate the regard that has been had in respect of the VSU scheme to other relevant strategies of the Mayor.

Central London Sub-Regional Development Framework (May 2006)

- 4.3.20 This framework remains extant in the absence of a new north London sub regional implementation framework that will be produced to reflect the recently published 2008 London Plan. Within the existing sub-regional framework the site of the VSU scheme is located within the defined Central Activities Zone and defined as an Area for Intensification.
- 4.3.21 Annex 2 deals in detail with the Areas for Intensification which in respect of the Victoria area, identifies various key issues which are generally and specifically of relevance to the VSU scheme. Action 2C of the framework requires the production of frameworks for individual Areas of Intensification taking into account the issues and parameters summarised in Annex 2. In respect of the status of the Victoria area framework Annex 2 refers to the Victoria Area Planning Brief produced by Westminster City Council, the details of which are discussed below.

Supplementary Planning Guidance

- 4.3.22 Considerable supplementary planning guidance providing detailed advice and guidance on the policies in the London Plan have been produced by the Greater London Authority. Although relating to the previous version of the London Plan LUL will demonstrate the regard it has had to relevant guidance in respect of the VSU scheme, including:
- 4.3.22.1 '*Accessible London: achieving an inclusive environment (2004)*'. In particular Implementation Point 25 relating to public transport infrastructure and the aim of achieving the highest standards of safe, easy and inclusive access for all and the importance of integrating various transport modes in a fully inclusive way.
- 4.3.22.2 '*Land for Transport Functions (2007)*'. In particular the encouragement given to considering the requirements of additional infrastructure to upgrade both Underground and interchange facilities when considering development proposals on land near to such facilities.
- 4.3.22.3 '*Planning for Equality and Diversity in London (2007)*'. In particular the principles of development being accessible and inclusive for all.

- 4.3.22.4 *'Sustainable Design and Construction (2006)'*. In particular LUL will explain the energy assessment and wider sustainability appraisal and assessment it has undertaken of the scheme in respect of this and other related policies and guidance.

Best Practice Guidance

- 4.3.23 In its evidence LUL will demonstrate the regard it has had to relevant Best Practice Guidance, including:

- 4.3.23.1 *'The control of dust and emissions from construction and demolition (2006)'*. In particular LUL will explain how the relevant requirements of this best practice guidance in relation to the control of dust and emissions are included within the proposed CoCP for the VSU scheme.

- 4.3.23.2 *'Health Issues in Planning (2007)'*. LUL will demonstrate how the Health Impact Assessment undertaken for the scheme has considered the detailed aspects of this guidance.

4.4 Local Policy Context

City of Westminster Unitary Development Plan (2007)

- 4.4.1 Strategic policy STRA 3 states that the aim of the City Council in respect of Westminster's Central Area (within which the VSU scheme is located) is *"to protect and enhance the strategic role, historic character, social and cultural importance of the central part of Westminster through the designation of a Central Activities Zone and Central Activities Zone Frontages"*.
- 4.4.2 The UDP identifies Victoria as a sub-area in the CAZ where, in describing its character and function, makes clear that the railway, underground, bus and coach stations provide the gateway for many people arriving in the areas and that there are likely to be major opportunities to improve the stations and local environmental quality during the plan period (paragraph 1.25).
- 4.4.3 The Underground Station, as part of a wider interchange facility for public transport of some significance, is identified as a particularly appropriate non residential Central London Activity (UDP Table 1.1 and paragraph 1.84). LUL's evidence will demonstrate that the VSU scheme is appropriate to the character and function of its particular area in accordance with policy CENT 1
- 4.4.4 Strategic policy STRA 21 sets out the Council's aims in respect of walking cycling and public transport which include the improvement

of the *“quality, reliability, efficiency, safety and accessibility of public transport by promoting and supporting proposals that integrate, improve and extend bus, Underground and rail networks and services and river services”*. The VSU scheme will result in such improvements to Underground services. Strategic policy STRA 22 further aims to protect and improve environmental quality by reducing the use of all motorised vehicles and encouraging modes of transport and types of engine and/or fuel which cause less pollution and congestion.

- 4.4.5 Policy TRANS 5 gives specific encouragement and support to *“improvements to the main line rail termini, Underground stations and associated interchange facilities, including improved access to and capacity of stations and interchanges”* (policy TRANS 5 (A) and makes clear that where improved rail facilities are proposed the Council will seek to ensure that they *“include suitable and convenient access for people with mobility difficulties”* (policy TRANS 5 (D)). LUL’s evidence will explain that such accessibility issues have been key in the design of the VSU scheme.
- 4.4.6 In accordance with part E of policy TRANS 5, LUL will explain the measures that have been taken to protect the environment through the minimisation of the adverse impacts of the construction of the VSU scheme including those impacts relating to traffic and the measures that will be taken to minimise impacts on listed buildings and other valued buildings.
- 4.4.7 Through policy TRANS 15, the Council in seeking *“To minimise the adverse effects of traffic on the environment and amenity”* will *“seek to increase the use, integration and development of public transport, cycling and walking as viable alternatives to motor vehicles”*. The VSU scheme, once constructed, will increase the use and integration of the Underground public transport system. In seeking to protect the environment from the effects of transport activities the Council, through policy TRANS 1(A), will seek to improve air quality, reduce the emission of greenhouse gases and minimise noise disturbance to residents and workers by, amongst other things, *“improving provision for, and giving higher priority to, walking, cycling and the use of public transport”*.
- 4.4.8 LUL will also show how regard has been had to policy TRANS 14 and Appendix 4.1 in respect of the production of the Transport Assessment of the VSU scheme.
- 4.4.9 LUL will explain how the VSU scheme has been designed to ensure access for all having regard to persons of reduced mobility, in accordance with policies STRA 26 and DES 1(B)(2). LUL’s evidence will further demonstrate the account that has been taken of design matters set out in policies STRA 27 and policy DES1 in respect of the VSU scheme, in particular demonstrating the

benefits to the urban environment that are proposed as part of the scheme.

- 4.4.10 In respect of conservation areas, strategic policy STRA 28 highlights the Council's aim as being the preservation or enhancement of *'the built and landscaped environment of Westminster; paying particular regard to its historic character, appearance and cultural importance and ecological value'*. Further guidance is provided in policy DES 9, which makes clear that development, even if it is not partly or wholly within a conservation area, will not be permitted if it were to have a visibly adverse effect upon the area's recognised special character or appearance. The VSU scheme will not have an adverse effect on the setting of nearby conservation areas as there will be appropriate reinstatement of sites where buildings need to be demolished.
- 4.4.11 Strategic policy STRA 29 makes clear the Council's aim *"To preserve or enhance listed buildings and their settings"*. Further policy guidance relevant to both the protection of listed buildings and their setting is provided in policy DES 10. In respect of these policies LUL's evidence will explain the potential implications of the scheme on nearby and adjacent listed buildings during both its construction and subsequent operation and the way in which these will be mitigated. Detailed design issues will be agreed with the LPA as the scheme design develops.
- 4.4.12 Strategic policy STRA 18 sets out one of the Council's aim as being *"To reduce the fear of crime, actual crime and nuisance for residents, businesses and visitors"*. Policy DES 1(B)(3) further makes it clear that developments should *"adopt design measures to reduce the opportunity for crime and anti social behaviour"*. The VSU scheme has been designed to maximise security and minimise crime.
- 4.4.13 The UDP contains various policies relating to environmental matters which are of relevance to the VSU scheme. These consist of strategic policies set out in part 1 of the UDP and more detailed policies provided in Chapter 9 of the UDP, and include:
- 4.4.13.1 Policy STRA 32 which sets out the Council's aim of seeking to achieve sustainable development and to meet the economic, social and environmental needs of the city in an integrated and balanced way.
- 4.4.13.2 Policy STRA 33, which sets out the Council's aim of promoting the efficient use of materials and the reduction of energy and water consumption by various means.

- 4.4.13.3 Policy ENV 1, which sets out various ways in which the Council will aim to ensure the resource efficiency and sustainability of buildings in Westminster.
- 4.4.13.4 Policy STRA 34, which sets out the Council's aim in respect of the pollution of air, water and land, including, amongst other things, the aim of improving air quality through Westminster's Air Quality Management Plan.
- 4.4.13.5 Policy ENV 5, which sets out various measures by which the Council will seek to reduce air pollution.
- 4.4.13.6 Policy ENV 9, which sets out various measures by which the Council will seek to conserve water and reduce water pollution.
- 4.4.13.7 Policy STRA 17, which sets out the Council's aim of reducing noise levels in Westminster below maximum noise levels in the World Health Organisation 'Guidelines for Community Noise'.
- 4.4.13.8 Policies ENV 6 and ENV 7, which seek, through various measures, to limit and contain noise from development, to protect noise sensitive properties from noise disturbance, to protect tranquil areas and to reduce noise from transport, including the requirement to produce a noise and vibration assessment report where development could affect noise sensitive properties.
- 4.4.13.9 Policy ENV 13, which sets out various ways in which the Council will seek to protect amenities, daylight, sunlight and environmental quality.
- 4.4.14 LUL's evidence will explain the account that has been taken of the aims, objectives and requirements contained within these various policies in the design and subsequent assessment of the VSU scheme.
- 4.4.15 The Planning and Compulsory Purchase Act 2004 established a new development plan making system whereby UDPs are to be replaced by a local development framework. The first main element of the framework, the Core Strategy, has reached the Issues and Options stage. The process of formulating this document is ongoing and LUL will address any relevant points arising from the production of the Core Strategy in its evidence.

Westminster City Council Supplementary Planning Guidance

- 4.4.16 In its evidence LUL will demonstrate the regard it has had to relevant supplementary planning guidance produced by the Westminster City Council, including: *Inclusive Design and Access (2007)*; *Design Matters in Westminster (2004)*; *Designing out Crime (2004)*; *Sustainable Buildings (2003)*; *the protection of Historic Buildings in Westminster (2000)*; and *Central Activities Zone (2001)*.

Victoria Area Planning Brief

- 4.4.17 The Victoria Area Planning Brief (“VAPB”) was adopted in April 2006 and covers an area located around the National Rail Station and includes the VSU scheme site. The VSU scheme has been developed having regard to the principles for major development set out in chapter 3 of the brief. The scheme:
- 4.4.17.1 has given the highest priority to pedestrian movement around sites and within the transport interchange;
 - 4.4.17.2 has taken account of, and addressed as far as possible the transport requirements at Victoria;
 - 4.4.17.3 has limited the harm to residential amenity;
 - 4.4.17.4 has been designed to and is proposed to be built to the highest quality and seeks to ameliorate the negative impacts of construction activity;
 - 4.4.17.5 will assist in supporting and developing the strategic and long term objectives for Victoria.
- 4.4.18 Chapter 7 of the brief sets out the existing and required provision for all transport modes at the Victoria Interchange. It recognises that Victoria is one of the busiest interchanges in London and is under stress, particularly for four main reasons, including that the LUL station is regularly closed for short periods during the morning peak due to excessive demand (paragraph 7.7).
- 4.4.19 In respect of the Underground paragraph 7.23 sets out the existing provision and paragraph 7.24 the required provision, which concentrates on the VSU congestion relief scheme. Paragraph 7.24 of the VAPB makes clear that, *“The City Council fully supports the Victoria Station Upgrade and will work with TfL and the GLA to facilitate the consents process and development of the project” before adding that “When proposals for any other development that could materially affect the VSU project proposals are being considered the potential impact on the delivery of VSU will be considered”*. The brief also identifies that by improving access and increasing capacity at Victoria, the VSU scheme will optimise delivery of the benefits of VLU.

- 4.4.20 In respect of required provision for pedestrians and the public realm the brief (at paragraph 7.16) makes clear that a proportion of pedestrian trips between the Underground and the north east will be redistributed via the new LUL access at Bressenden Place that forms part of the VSU scheme. Other relevant aspects of the brief have been taken account of in the design and assessment of the scheme.

4.5 TfL Policy

Transport2025 – Transport Vision for a Growing World City

- 4.5.1 The VSU scheme will assist in the achievement of the vision of T2025 to create a world class transport system which delivers the safe, reliable and efficient movement of people and goods that enhances London's economy, environment and social inclusion, and has had regard to the three objectives developed to achieve this vision. Those objectives being: supporting economic development; tackling climate change and enhancing the environment; and improving social inclusion.
- 4.5.2 T2025 concludes by summarising identified key priorities which include completing the full PPP to rebuild the underground system and increase its capacity. In respect of the full PPP section 6.6.1 of the document indicates that in addition to the work committed under the PPP contracts directly, other improvements to ensure the full benefits of the PPP can be realised need to be funded and delivered. Such improvements are identified as including station capacity enhancements at key interchanges in central London to capture the full potential of the additional capacity provided by the investment in train services. As explained elsewhere in the statement, the full benefits of the broader Victoria Line Upgrade proposals will not be realised without the VSU scheme.

5 SCHEME DEVELOPMENT

5.1 Introduction

5.1.1 LUL's evidence to the forthcoming inquiry will describe the various potential scheme options examined for VSU, the criteria against which these have been assessed, the rationale for rejection of options not adopted, and reasons for selection of the preferred option now before the Secretary of State.

5.2 Approach to Considering Alternatives

5.2.1 Since 1996 a number of scheme options, sub options and variations have been identified, reviewed, developed further and then rejected prior to confirmation of the scheme for which consent is now being sought.

5.2.2 The alternatives assessment process that led to the identification of the final preferred option will be described by LUL in its evidence.

5.3 Alternatives to the Scheme - Pre 2005

5.3.1 The Underground Station has suffered severe capacity constraints for many years and studies were started in the 1990s to develop a viable scheme to alleviate them. In the light of this, Victoria is a priority station for LUL and feasibility studies for the Underground Station and the wider Victoria Transport Interchange (VTI) were undertaken by TfL following its formation. These studies, undertaken by a number of consultants but latterly Arup, examined proposals for the whole interchange as well as the Underground Station. There were a number of large-scale and complex proposals, which included cut-and-cover boxes as well as tunnelling infrastructure. These proposals were considered unaffordable in the context of other investment priorities for TfL and LUL.

5.3.2 However, LUL continued to develop a solution for the Underground Station and further feasibility studies were undertaken by Arup. In 2004, it was concluded that there was a viable congestion relief scheme for the underground station, principally within the Victoria line areas of the station. This scheme was known as the Phase 1-6 Scheme. Phases 1-3 were aimed at the Victoria line congestion relief improvements whilst Phases 4-6 addressed the D&C line areas of the station. Further work by Arup showed that Phases 1-3 had a very good business case and was considered affordable by TfL, although Phases 4-6 did not have an acceptable business case.

- 5.3.3 In October 2004, TfL considered that Phases 1-3 was the most appropriate solution for the Underground Station, principally to address congestion in the Victoria line areas of the station. Further development of Phases 4-6 was not progressed although the entire station would undergo both congestion relief works in the critical Victoria line areas of the station and additionally, station modernisation works for both the D&C line and Victoria line station areas. TfL included funds to further develop Phases 1-3 within the 2005-2010 TfL 5-Year Investment Programme. At this point Phases 1-3 became known as the Victoria Station Upgrade (“VSU”) Project.
- 5.3.4 The main alternatives to the scheme are described in the ES at paragraph 4.2 and included the following:
- upgrade of the whole underground station including the Victoria line and D&C line ticket halls (Alternative 1);
 - extra to alternative 1 with additional open access below the National Rail Station concourse (Alternative 2);
 - construction of a new ticket hall on the site of Elliot House (Alternative 3);
 - pedestrian access tunnel from the south side of Victoria Street to the new North Ticket Hall (Alternative 4);
 - construction of an additional underground train tunnel with new platforms (Alternative 5);
 - increasing the diameter of the existing tunnels (Alternative 6); and
 - extension of the Victoria line platforms (Alternative 7).
- 5.3.5 The numbering of the alternatives in the above paragraph corresponds to that used in the ES where further details of the options are provided. LUL’s evidence at the inquiry will further elaborate upon these alternatives as appropriate to explain the reasons for pursuing the proposal now before the Secretary of State.
- 5.3.6 It will be explained that due broadly to the nature of the long term heavy engineering works involved, the alternative options have broadly similar effects on the environment within the vicinity of the VSU scheme. Differences between the schemes relate to the extent and the duration of the works. Optioneering revealed that the greater the extent of the scheme and the longer the duration of the construction process the greater the adverse environmental effects associated with alternatives whilst also resulting in higher costs. The process therefore showed that in general, the higher the cost of the scheme, the greater the environmental effects.

- 5.3.7 The alternatives were considered in the early development phases. The reasons for rejection are presented in the ES and will be explained in evidence.

5.4 Alternatives to the Scheme - 2005 - 2006

- 5.4.1 In June 2005 LUL appointed Scott Wilson Railways as its Multi Disciplinary Consultant (“MDC1”) to develop the VSU design through to RIBA Stage D.
- 5.4.2 Immediately prior to this, Tony Meadows Associates were appointed by LUL to undertake a short review of the previous Arup work and then develop high level options for the NTH with a view to minimising land acquisition in that area. This review informed the brief given to MDC1.
- 5.4.3 The first stage of MDC1’s involvement was an examination of the previous VSU proposals to ensure that an appropriate solution had been achieved considering the site constraints.
- 5.4.4 Following this review it was considered that the principal elements proposed met the project objectives, and the scope of works of the MDC1 commission was therefore confirmed by LUL as design of a new North Ticket Hall, Enlarged South Ticket Hall, new East Link (subsequently renamed the Paid Area Link (PAL)) between the two ticket halls, and lifts providing step free access from street to platforms.

5.5 Alternatives to the Scheme – Post 2006

- 5.5.1 In December 2006 LUL appointed Mott MacDonald as its Multi Disciplinary Consultant 2 (“MDC2”) to progress the scheme and detailed design of the VSU Project.
- 5.5.2 At the outset of this commission, MDC2 reviewed the VSU scheme proposals developed by MDC1 and a further range of options were considered.
- 5.5.3 An initial assessment of the alternative options of the proposed scheme was carried out leading to the alternatives detailed in the ES being rejected at that stage for the reasons indicated.
- 5.5.4 All remaining options were subsequently tested having regard to:
- journey time (operational safety and quality);
 - programme;
 - project cost;
 - buildability;
 - operational impacts;

- stakeholder impacts;
 - utilities; and
 - environmental impacts.
- 5.5.5 The process described briefly in the above paragraphs led to the rejection of the alternatives detailed in Table 4 -2 of the ES for the reasons given in that table.
- 5.5.6 Option #6 as identified in Table 4-3 of the ES was chosen in view of the factors considered and because this option maximised operational flexibility. Accordingly it was progressed through to detailed design as the preferred scheme.
- 5.5.7 Other options that were considered and rejected are summarised as follows:
- 5.5.8 The previous MDC1 option (#0) required the East Link to be tunnelled at shallow depth, in superficial granular deposits, extensively below the Victoria Palace Theatre (VPT). A difficulty with this was in gaining access in order to install the appropriate ground treatment methods required to control settlement. The first option (#1) examined by MDC2 therefore realigned the East Link (now called the Paid Area Link (PAL)) to the west, principally below Allington Street, in order to largely avoid the footprint of the VPT. This adjustment was considered an improvement principally on the buildability and impact of the previous design, whilst providing effectively a similar solution. However, this scheme did not offer the operational flexibility of the selected Option 6.
- 5.5.9 A series of options (series #2) were examined, for which the PAL connected to the south end of the North Ticket Hall. These were rejected principally due to excessive passenger journey time.
- 5.5.10 Options were also examined (series #3) which removed the existing interchange concourse escalators in order to provide an open Victoria line concourse and allow passengers to move freely up to the north end of the platforms. These were rejected due to insufficient escalator capacity to ensure safe station evacuation.
- 5.5.11 Other rejected options (#4 and #5) centred around providing an enhanced D&C line overpass to the immediate east of the existing D&C line station. This overpass was to connect with the western PAL. Both of these options were rejected principally on the basis of insufficient escalator capacity to ensure safe station evacuation.
- 5.5.12 The chronological history of option development post December 2006 (e.g. by MDC2) is as indicated in the document entitled '*VSU MDC2 Option Selection and Operational Scenario Summary, Ref. MMD-V047-1159-ARC-DOC-50004*, and accompanying summary sketches entitled *VSU Optioneering Summary Sheets 1 and 2*.

6 CONSULTATION

6.1 Consultation Report

6.1.1 Details of the consultation activity conducted by LUL during the development and design of the VSU proposals are set out in the Consultation Report (Application Document A5). The consultation exercise and what was gained from it will be explained in LUL's evidence.

6.2 Main features of LUL's Consultation Process

6.2.1 Consultation on major projects is a matter of best practice for LUL, who recognise the importance of consulting and engaging with external organisations and individuals with an interest in the proposals.

6.2.2 Consultation undertaken by LUL in respect of the VSU scheme involved -

- Over 1,000 letters, introducing the project and providing a point of contact, being sent in April 2006 to stakeholders including local residents and businesses, user groups, accessibility groups and statutory consultees.
- Meetings with key stakeholders including Westminster City Council, Land Securities, the owners of the Victoria Palace Theatre, the owners of the Apollo Theatre, Network Rail, CIS AXA (who are redeveloping Abford House) and relevant utility companies.
- Briefings with numerous organisations and local businesses including London TravelWatch, London First, the GLA, Disabled Persons Transport Advisory Committee, Victoria Interchange Group (a local residents group) John Lewis Partnership and Thistle Hotels (owners of the Thistle Victoria).
- Regular project updates being sent to over 1,000 stakeholders, including local residents and businesses, to report on progress and provide a point of contact for feedback.
- Public exhibitions in May and July 2007 to allow a wider audience to view and comment on the proposals. The exhibitions were held close to the Underground Station and members of the VSU team were present throughout to answer any questions raised by visitors. For both exhibitions

all residents in the consultation area received invitations with contact details for further information.

6.3 Main outcomes of the consultation process

6.3.1 Over 1,400 people visited the public exhibitions. Most of the comments made at both exhibitions were supportive and all detailed points made were considered by LUL. The exhibition in July 2007 displayed some of the most common questions and comments received at the May exhibition along with LUL's response. LUL responded individually to all feedback forms received at both exhibitions except where no address was left by the individual commenting.

6.3.2 LUL is prepared to work with objectors and other stakeholders in order to address their concerns, in so far as it is reasonably practicable and appropriate to do so. Accordingly, communication with stakeholders will continue in advance of the Inquiry.

6.4 Website

6.4.1 Since the application was lodged with the Department for Transport, information about the project (including all of the TWAO Application documents) has been available on the TfL website at www.tfl.gov.uk/vsu.

7 DESCRIPTION OF THE SCHEME

7.1 Site Location and Setting

- 7.1.1 The Underground Station is located in the City of Westminster, approximately 1km north of the River Thames.
- 7.1.2 The Underground Station's running tunnels are located to the north of the National Rail Station and are concealed below the dense urban fabric of central Westminster. The District and Circle (D&C) line Underground station and sub-surface running tunnels are located on the north side of Terminus Place.
- 7.1.3 The D&C line was originally opened as the Metropolitan District Railway in 1868, constructed below the surface (6m to platform level) using cut and cover techniques. The D&C lines are some distance north of the National Rail Station on an east-west alignment close to the surface. The area between the D&C and the National Rail Station is occupied by Victoria bus station. Buildings have been erected above the D&C line such that most of the air space above the station is covered.
- 7.1.4 The Victoria line was constructed in the 1960s and a new sub-surface ticket hall was constructed immediately north to north-east of the National Rail Station as part of the works. It is known as the Victoria line ticket hall.
- 7.1.5 Numerous roads surround the Victoria transport facilities including Victoria Street to the north, Bressenden Place and Allington Street to the north/northeast, Wilton Road to the east and Buckingham Palace Road to the west. Terminus Place, where Victoria bus station and the taxi rank are situated, lies partly above the Victoria line ticket hall.
- 7.1.6 In the area surrounding the station there are retail uses located on the main roads, in the National Rail Station and in the new Cardinal Place development on Victoria Street. There are also a number of residential areas and office spaces, including those of LUL and Network Rail, and a number of Government department offices.
- 7.1.7 A number of conservation areas are close to the station, namely:
- Birdcage Walk;
 - Westminster Cathedral;
 - Grosvenor Gardens;
 - Belgravia; and

- Royal Parks.
- 7.1.8 There are several listed buildings in the area including the Victoria Palace Theatre (VPT), the Little Ben Clock Tower and the National Rail Station.
- 7.1.9 The King's Scholars' Pond Sewer runs approximately north to southeast under the eastern edge of VPT, heading south and to the east of Vauxhall Bridge Road and King's Scholars' Passage. It lies at a depth of 1 - 1.5m below ground level. A second sewer, the Western Deep Sewer, runs north to south through the site, and is located at an approximate depth of 27m below existing ground level. These sewers, in particular the former, together with existing LUL infrastructure, are significant constraints to further sub-surface development.

7.2 Outline of the VSU Scheme

- 7.2.1 The proposed works that comprise VSU and the associated station modernisation project are summarised as follows:
- utilities diversions;
 - demolition of some buildings for the purposes of the works;
 - a new subterranean North Ticket Hall (NTH) at the junction of Bressenden Place and Victoria Street improving access from the north and east of the station;
 - an enlarged existing Victoria line ticket hall (identified within the VSU scheme as the South Ticket Hall (STH)) providing greater ease of passenger movements inside the station;
 - three new banks of escalators (each bank comprising three escalators);
 - a new interchange tunnel, referred to as the Paid Area Link (PAL). This new pedestrian tunnel will connect the NTH to the STH;
 - New Tunnel Cooling Project (TCP) tunnel, linking air handling plant within the NTH to the Victoria line platform tunnels;
 - A new sump (Sump #9) in Vauxhall Bridge Road serving the D&C line drainage system;
 - new lifts providing step-free access for persons of reduced mobility between the street, ticket hall and platform levels, for the NTH and STH and for interchange between the D&C line and Victoria line platforms;
 - improved emergency services access by the provision of an evacuation core in the NTH; and

- improved access for passengers interchanging between the National Rail and to the Underground stations by means of a widening of an existing stairway and lift provision.

7.3 Station Planning & Architecture

- 7.3.1 The proposed station layout will provide improved wayfinding and an additional choice of passenger routes. Operational analysis has highlighted the need for passenger improvements and demonstrates the improved operational flexibility offered by the proposals.
- 7.3.2 The STH works will provide a series of improvements to the pedestrian environment within Terminus Place. The ticket hall and surface works form an integrated proposal that relates the above and below ground spaces.
- 7.3.3 The large open spaces and intuitive way finding of the new NTH are designed to reinforce simplicity and clarity throughout. The PAL, which forms the backbone of VSU, provides connectivity between the new and extended ticket halls and the platforms, as well as step-free access to all platforms.

7.4 Engineering

- 7.4.1 The design of the NTH consists of secant pile retaining walls with a reinforced concrete roof, base and intermediate slabs.
- 7.4.2 The STH extension will also be encapsulated by secant pile retaining walls with a reinforced concrete base and intermediate slabs. The roof will be formed from a composite structural steel frame and a reinforced concrete slab to match the existing Victoria line ticket hall structure.
- 7.4.3 The PAL tunnels will be constructed using the sprayed concrete lining (SCL) technique with a primary and secondary lining.
- 7.4.4 Strengthening of the D&C line invert to allow the PAL to be constructed immediately beneath will be by longitudinal beams supported on underpinned tunnel walls.
- 7.4.5 Dependent on location, shafts will be constructed in SCL, pre-cast concrete segmental linings or square work (e.g. for the lower sections of the lifts or for minor connections).
- 7.4.6 Tunnelling operations will require ground improvement within the superficial deposits above the London Clay. This will be achieved by jet grouting, subject to additional ground investigation and a grouting trial.

- 7.4.7 LUL's evidence will explain why these techniques are appropriate for the VSU works.

7.5 Station Services

- 7.5.1 The requirements of VSU and the associated station modernisation works have been fully integrated in the station services designs.

7.6 Construction

- 7.6.1 Prior to the main works, enabling works will include utility diversions, and for the STH, duplication and relocation of mechanical and electrical services.
- 7.6.2 To maintain a minimum of two traffic lanes on Bressenden Place during construction, the NTH roof slab will be constructed in two halves, requiring phased traffic diversions.
- 7.6.3 Existing electrical, mechanical and communications equipment within affected parts of the STH will be relocated to a 'temporary' area within the existing ticket hall and all utilities within the footprint will be diverted. Interfaces with the existing infrastructure, the confined site area and the need to maintain acceptable access and egress routes to both the Underground Station and the National Rail Station results in a hybrid 'bottom up' and 'top down' construction sequence being appropriate in this case.
- 7.6.4 Wilton Road will remain open to a single lane of traffic throughout construction, except for a period of up to five months for the purposes of constructing the new STH escalator barrel.
- 7.6.5 To facilitate construction a wide range of traffic management measures are proposed throughout the various construction phases.
- 7.6.6 The overall anticipated construction programme is approximately 7½ years, with the critical path running through construction and fitting out of the tunnels and escalators from the STH, and the NTH escalator, which in turn is linked to the relocation of the Signalling Equipment Room (about which further detail is provided in Chapter 12 of this Statement).

7.7 Environmental

- 7.7.1 The Environmental Statement (ES) demonstrates that, whilst there will be manageable adverse environmental effects during construction, implementation of VSU will bring about long term traffic and transport, townscape, socio economic and community benefits.

7.8 Fire Safety

- 7.8.1 As well as improvements in passenger flow and reduced crowding, the benefits of VSU in terms of fire safety are numerous. Of key importance is the provision of a secondary escape route from the station via the NTH. The benefits will be fully explained in LUL's evidence.

7.9 Project Risk

- 7.9.1 Ongoing risk management has enabled appropriate identification, control and assessment of risks, and the provision of contingency through cost and time allowances.

7.10 Design and Procurement Activities

- 7.10.1 Passageways and staircases have been sized by static methods, and this is subject to verification by ongoing dynamic analysis.
- 7.10.2 The detail of the design will be sufficient to allow tenders for construction to be issued in July 2008. Depending upon the progress and success of the TWAO Application and the subsequent securing of further funding and approval from the TfL Board, it is estimated that the main works contract could be let in late December 2009 with construction activities commencing soon after.

7.11 Designing for Resilience and Long Term Growth

- 7.11.1 LUL seeks a design which has sufficient capacity to handle traffic levels at a reference year at or close to the project completion plus 35% (to allow for 60 years of further growth) based on very long run trends in peak traffic. The design also looks to handle demand from such plausible combinations of other transport projects and land use developments that puts the greatest pressure on the station.
- 7.11.2 In this context the passenger demand projections for design purposes assumed the upgrade of the Victoria line but without Crossrail, Thameslink or the Chelsea-Hackney line having been built. These last three projects would all reduce demand at Victoria and therefore the demand assumption increase of 35% is high. Due to the likelihood that the Thameslink project would be starting construction in the near future, a demand level increase of 20% has been used.

7.12 Victoria Line Upgrade

- 7.12.1 The Victoria Line Upgrade (VLU) is an LUL scheme currently being delivered as part of TfL's £10bn 5 year Investment Programme. The scheme will provide passengers with safer, more reliable and

quicker journeys as 47 faster and more spacious new trains, improved track and an improved signalling and control system are scheduled to be delivered by 2012, although an earlier target completion of November 2011 is being assumed by LUL.

- 7.12.2 VLU will provide an increase in peak frequencies of about 17% and improvements (decrease) in journey time of around 16%. The VSU and VLU schemes are both important elements of the TfL's Investment Programme and the improvements to the Underground Station proposed by the VSU scheme are essential to enable the full benefits of the VLU project to be realised in terms of increased capacity and improved journey times.
- 7.12.3 If VSU is not carried out then the Victoria line passengers entering the Underground Station in the peaks will find the improved service on the line will be counteracted by the worsening delay moving through the station.

8 BENEFITS FROM THE SCHEME

8.1 Congestion Relief in the Station

- 8.1.1 LUL has used computer simulation to estimate passenger delay in 2016 with and without the new scheme.
- 8.1.2 Customers have a dislike of walking and waiting for trains compared to riding on a train seated. The dislike is stronger if walking is in crowded conditions or standing in a queue. In a business case appraisal, time is valued at 13.7 pence per minute (2007 prices) if passengers are seated on a moving train. If passengers are walking or waiting for trains the 'dislike' referred to above is reflected by an increase in the weighting of this journey time so a minute's walking is equivalent to 2 minutes riding on a train.
- 8.1.3 Dynamic pedestrian modelling of movement through the station using Pedroute has been carried out by LUL. This process involves computer simulations and is an iterative process in which different scenarios can be modelled and the simulation refined and improved in each iteration. In the latest iteration, carried out in January 2008, it was identified that in the morning peak (7.00 am to 10.00 am) the estimated delay in 2016 moving through the existing station is on average 5.6 minutes (weighted). For some routes, such as going from the National Rail Station to the Victoria line and at the height of the peak, the delay will be much longer. For the same time period but with the station upgraded the delay is estimated to drop to 0.9 minutes weighted, an improvement of 4.7 minutes. The delay is reduced by 84%.
- 8.1.4 In the evening peak, the existing station in 2016 will have delays averaging 1.5 minutes (weighted) while the upgraded station will reduce these delays to 1.1 minutes (weighted). However, with an additional 10% demand, the delay in the existing station would rise to 3.3 minutes while the new station will reduce this to 1.3 minutes, an improvement of 2 minutes.

8.2 Shorter time in the Station

- 8.2.1 The new layout will slightly reduce the average time to move through the station under free-flow conditions. This is because the time it takes to walk from the Victoria line platform to the new entrance at Bressenden Place is slightly shorter than the time it takes to go from the Victoria line platform to the Wilton Road exit.

8.3 Shorter Time on the Street

- 8.3.1 Excluding rail and bus interchanges, over half the customers who leave the Underground Station in the morning peak and who enter in the evening peak come from the Victoria Street side of the station. They are expected to use the new Bressenden Place entrance if coming from or going to the Victoria line. In the peak hours around 21,000 passengers would come into this category. For these passengers, there is an estimated 7 minutes (weighted) saving using Bressenden Place compared to using the existing Wilton Road entrance. Part of this time saving is the avoidance of multiple road crossing at the Wilton Road, Vauxhall Bridge Road and Victoria Street junctions.
- 8.3.2 In the peaks, there is already significant congestion along the route from the National Rail Station/Wilton Road underground exit going to Victoria Street which will be eased by removing a significant proportion of this traffic to the Bressenden Place entrance.

8.4 Ambience

- 8.4.1 The quality of improvement in station facilities and appearance is planned to be at least as good as that obtaining at other National Rail interchanges recently modernised such as King's Cross, Waterloo, Liverpool Street and London Bridge.

8.5 Step Free Access

- 8.5.1 Access will be provided through a series of lifts which will connect passengers from the street down to the Victoria line and D&C line platforms as follows:

8.6 Street level to Ticket hall

- 8.6.1 There will be new lifts in the STH and the NTH.

8.7 South Ticket Hall Level to District line westbound

- 8.7.1 There will be a new lift (which also connects to interchange level below).

8.8 District line to Intermediate Interchange Level

- 8.8.1 There will be a new lift from the eastbound (and the one above to the District westbound)

8.9 North Ticket Hall to Intermediate Interchange Level

- 8.9.1 There will be a new lift from the NTH to the Intermediate Interchange Level.

8.9.2 All level access movements can be made using two or three separate lifts.

8.10 Business Case for VSU

8.10.1 In line with TfL practice and Department for Transport guidance, a business case for the upgraded station has been prepared. The business case, in short, compares the benefits derived from the scheme with both capital and operating costs. Costs and benefits are all discounted to a common year and totalled.

8.11 Benefits Assessment

8.11.1 The assessment of benefits has taken the improvements described in the previous paragraphs and forecasts of demand that reflect the recent go-ahead for the Thameslink project.

8.12 Costs

8.12.1 Costs are addressed in Chapter 10 of this Statement.

8.13 Economic Evaluation

8.13.1 The economic evaluation for the scheme has a benefit to cost ratio of 3.8:1 predominantly from reduced congestion and the easier connection to Victoria Street. For a major project with this level of capital investment this is considered a good return.

9 VSU AND THE WIDER VICTORIA CONTEXT

9.1 Victoria as a major transport interchange

9.1.1 Passengers using public transport can interchange with three underground railway lines at Victoria (Victoria, D&C), 19 bus routes, taxis, coaches to numerous destinations (from Victoria Coach Station) and a national rail terminus providing services to the southern regions of the UK. Currently about 80 million people use the Underground Station each year i.e. they enter or leave the system at Victoria or they interchange between lines) and the number using the transport interchange as a whole is considerably higher.

9.1.2 Victoria is located at a junction between four major roads – Grosvenor Place (A302), Victoria Street (A302), Vauxhall Bridge Road (A202) and Buckingham Palace Road (A3214). Grosvenor Place and Vauxhall Bridge Road form part of the toll-free route between the Eastern and Western Congestion Charging Zones. Footways surrounding the Victoria interchange are amongst the most congested in London. Pedestrians, road traffic and public transport compete to use the space.

9.2 National Rail Station

9.2.1 There are 19 platforms in the National Rail Station, which serves the Medway towns, the Kent coast, Sussex (including Gatwick and Brighton) and the south coast as far west as Portsmouth and Southampton. Network Rail (“NR”) manages the station, with rail services operated by Southern Railway, Southeastern Railway and Gatwick Express.

9.3 Victoria Underground Station

9.3.1 The Underground Station provides links to King’s Cross, the West End and the City of London. It is one of the busiest stations on London’s Underground network. Below ground, the Victoria line is aligned northeast/southwest direction across the site at a depth of approximately 20m. The D&C lines run close to the surface and east to west along or close to Victoria Street.

9.3.2 The Victoria line covers a total of 21 km with 16 stations. Trains run from Walthamstow Central in the north to Brixton in the south. With the exception of the depot in Northumberland Park (Northeast London), the entire line is underground. Currently 28 trains per hour operate at peak times in both directions. It is anticipated that

this number will increase to 33 per hour in 2012 following completion of the Victoria Line Upgrade (“VLU”).

- 9.3.3 The existing ticket hall entrances for the Victoria line are located within and immediately north of the National Rail Station and on an area known as “The Beach” close to Wilton Road. The D&C line ticket hall entrances are on the north side of Terminus Place and south side of Victoria Street, Both are integrated within a group of buildings, which include Victoria Arcade and Victoria Station House.

9.4 Bus Station

- 9.4.1 The bus station is a major hub for bus services and, in conjunction with stops on surrounding streets, has 19 different daytime bus routes operating through it serving most of central London and many outer areas. Nine services operate at night through the station across London, along with two services that operate 24 hours a day.
- 9.4.2 The bus station acts as a terminus and an interchange, with buses entering from Buckingham Palace Road picking up passengers along Terminus Place, and exiting onto Victoria Street or Vauxhall Bridge Road. Major bus stops are also located in Wilton Road and Victoria Street.

9.5 Taxi Services

- 9.5.1 The main taxi set-down and pick-up is provided on Terminus Place, immediately in front of the main entrance to the National Rail Station. At present taxis enter Terminus Place from Wilton Road to the east and exit onto Buckingham Palace Road. Taxis also utilise Terminus Place to double back on themselves and return to Wilton Road. These alternatives facilitate movements to all directions.
- 9.5.2 Taxis queue on Wilton Road whilst waiting to join the main taxi rank outside the station. There are also taxi set-down and pick-up areas south of the main railway buildings just off Belgrave Road.

9.6 Relationship to VTI

- 9.6.1 VTI (Victoria Transport Interchange) is the title given to proposals for improvements to the Victoria interchange as a whole, including improving the Underground Station and bus facilities and a mixed-use commercial development proposed by Land Securities. Pre-2005, VSU was notionally a component of VTI but has been progressed separately since April 2005.
- 9.6.2 The need to improve transport facilities at Victoria and to regenerate the area has been recognised for some time and work on developing proposals to improve the transport interchange

dates back to the 1990s. More recently TfL developed various interchange designs between 2002 and 2005 with the aim of improving both bus and Underground facilities. A preferred option for what came to be called the VTI scheme emerged but a funding review in mid-2004 required that it be divided into phases. As part of this process it was decided that the proposed improvement to the Victoria line parts of the Underground Station, which were phases 1 to 3 of the VTI scheme, should be progressed separately as VSU. It is this element that is the subject of the current VSU proposal and for which a TWA Order is now sought.

- 9.6.3 In November 2003 Land Securities (LS) proposed that they and TfL should collaborate to progress VTI. The proposal included the combining of land holdings (LS have major landholdings on the north side of Victoria Street and TfL and LUL have significant land interests on the south side) with the objective of a comprehensive redevelopment of the area bounded by Victoria station frontage to the south, Buckingham Palace Road to the west and Bressenden Place to the north and east. LS then collaborated with TfL to develop a VTI proposal which includes an upgrade of the D&C parts of the Underground Station together with changes to arrangements for buses to allow the existing bus station to be redeveloped, partly as an area of public realm.
- 9.6.4 As part of this process there were regular meetings between LS and TfL/ LUL, the purpose of which included keeping each other informed about the progress of the respective schemes. In early 2006 it became apparent that there was a potential conflict between piling needed for the VTI scheme and LUL's proposal for the Northern Ticket Hall (NTH). As a result LUL agreed to postpone its original TWA Order application planned for February 2007 to November 2007, such that LUL's proposals could be reviewed to better accommodate LS's aspirations. LUL decided to accept this delay in order to maximise compatibility between LUL's scheme and VTI so far as is reasonably practicable. The degree of compatibility between VTI and VSU is the subject of ongoing liaison with Land Securities, although it is evident from LS's objection to LUL's TWAO Application that this compatibility has not been achieved to LS's satisfaction.
- 9.6.5 LS submitted an application for planning permission for the VTI scheme in August 2007. When this application was presented to members of the LPA (Westminster City Council) in December 2007 it became clear that LS would need to make major changes to their proposals in order to secure the Westminster City Council's support (which was also needed in order to progress a compulsory purchase order). It is understood that LS are now developing a revised scheme that limits new development on the north side of Victoria Street within their own landholdings and that a revised planning application will be made later in 2008.

- 9.6.6 LUL is willing to consider LS's requirements as far as is reasonably practicable and appropriate but not so as to prejudice the implementation of or further delay to VSU, which is urgently required to address the current problems of congestion at the station. Therefore if it proves necessary to give priority to one scheme over another in terms of programming, VSU must, in LUL's view, take precedence over VTI. Further, it is LUL's position that any decision concerning proposals for further large scale commercial development at Victoria should have regard to the need to provide additional capacity in the public transport system in order to cope with existing congestion as well as the additional demand for travel that the new development will generate.
- 9.6.7 The draft Order for VSU does not seek any powers for commercial redevelopment. However, LUL will seek to promote appropriate development on those sites where buildings are demolished as part of the VSU works. It will do so by collaborating with LS if it is appropriate to do so and in accordance with a Strategy for Reinstatement of the Sites of Demolished Buildings (referred to in Chapter 13 of this Statement) which LUL is pursuing in the interests of the proper planning of the area.

9.7 Relationship to Network Rail scheme

- 9.7.1 LUL has regular meetings with Network Rail ("NR") and is aware that NR wishes to undertake a major development scheme at Victoria National Rail Station. As indicated in their objection (ref Obj. 26), Hammerson is NR's development partner at Victoria. At present, as LUL understands it, proposals by NR / Hammerson are conceptual and LUL has not, as yet, been provided with any details by Network Rail. It is unlikely that there will be more detailed information about the scheme until around 2009/2010. However it is understood that a primary objective of NR's proposal will be capacity enhancement and commercial elements of the scheme will support the provision of improvements to the operational part of the station such that this objective can be met.
- 9.7.2 The need for capacity enhancement at Victoria is common ground between LUL and NR and the implementation of VSU is essential if this objective is to be achieved. NR is predicting that traffic at peak times through the National Rail Station will increase significantly.
- 9.7.3 LUL has sought to ensure that as far as practicable its own proposals and those of NR are compatible, albeit that no details of the NR scheme are yet available. LUL has sought to do this by:
- Having regular discussions with NR to keep them up to date with the VSU proposals and to give NR the opportunity to raise any concerns it may have.

- Limiting the footprint of VSU such that there is only minimal additional intrusion into the National Rail Station. In this way the extent to which VSU constrains the options for the NR / Hammerson scheme are minimised

9.7.4 It is acknowledged by both LUL and NR that there may be an overlap in terms of the construction periods for the respective proposals and that good co-ordination and co-operation will be needed.

9.7.5 It is further acknowledged by both parties that as the NR / Hammerson proposals become more developed there may be opportunities as part of that development to enhance access to the Underground Station from the National Rail Station concourse. NR has advised that it may wish to develop proposals that include access to the Underground Station from within their station concourse. LUL will work with NR if they wish to develop any such proposals and both parties are of the view that this is consistent with progressing VSU.

9.7.6 The draft Order contains protective provisions in Article 32 and Schedule 9 which conforms to current precedents and which protect NR's position. NR has nonetheless raised certain points of concern in its objection letter and these are under discussion between NR and LUL with a view to matters being resolved on a satisfactory basis.

9.8 Other relevant developments in Victoria

9.8.1 As well as the Victoria Transport Interchange and NR proposals there are a number of other developments currently under development in the Victoria area and others that are proposed to happen in the future.

9.9 Victoria Line Upgrade

9.9.1 Works to upgrade Victoria line services and their relationship to VSU are explained in Chapter 7 of this Statement.

9.10 Abford House

9.10.1 Development on the site of the former Abford House (between Vauxhall Bridge Road and Wilton Road) is currently underway to provide a mixture of office, retail and professional service and restaurant space. The development will create a total of 12,460m² gross external area and is due to be substantially complete by early 2009 (i.e. before the main VSU works are due to commence).

9.11 Other Current Developments

9.11.1 Other current developments of which LUL are aware of significant scale (but which are of limited relevance to VSU) are:

- Wilton Piazza – a mixed use development located on Gillingham Street, Gillingham Mews and Wilton Road.
- Howick Place - a mixed use development involving modifications to an existing building.

9.12 Planned developments in the future

Extension of Victoria Palace Theatre (VPT)

9.12.1 The owners of the VPT propose to build a 6m long rear extension to the north of theatre with the primary objective of providing a deeper stage area. The proposal includes a corresponding extension to the basement. LUL understands that a planning application is due to be submitted shortly. The site of part of the proposed extension lies directly above part of the proposed sub-surface VSU works. LUL is liaising with the owners of the VPT about this.

Other proposed developments

9.12.2 Other major proposed developments of which we are aware of significant scale in or close to the Victoria area are:

- Chelsea Barracks - a 5.18ha site where redevelopment is proposed to provide mainly residential development with an area of open space.
- Parliament Square Improvement Project – a TfL scheme to provide enhanced and expanded public space.

9.12.3 The Victoria Area Planning Brief provides details of other proposed developments in the Victoria area.

Street Traders

9.12.4 Article 35 of the draft Order makes provision for street and market traders. Street trading in the area is regulated by Westminster City Council and there are a number of street trading pitches in the vicinity of the VSU works. Not all of them are in use. The VSU works will affect some pitches during the construction period. Westminster City Council has stated that in respect of affected pitches it will seek to make local temporary arrangements where possible with the consent of the licence holders concerned. Article 35 contains powers to vary or revoke licences according to the procedures therein and has precedent in the Merseytram (Liverpool City Centre to Kirby) Order 2005 and the Docklands Light Railway (Woolwich Arsenal Extension) Order 2004.

10 COSTS AND FUNDING

10.1 Strength of the Business Case for VSU

- 10.1.1 Chapter 8 of this Statement explains that the cost benefit ratio for the proposals is 3.8:1. This cost benefit ratio demonstrates that there is a good business case for making the Order.
- 10.1.2 The anticipated costs of VSU are identified in the costs estimate submitted to the Secretary of State under Rule 10(3)(b)(ii) of the 2006 Rules (Application Document A9) and are identified in that document as being £510,404,000 using 2007 (Second Quarter) prices.

10.2 TfL Funding Approval

- 10.2.1 TfL's current investment programme covers the period from 1 April 2005 to 31 March 2010. The investment programme was approved by the TfL Board on 24 October 2007. It includes the full £117,000,000 estimated cost of VSU for the period ending 31 March 2010. Further funding of VSU must be approved by the TfL Board.
- 10.2.2 After March 2010 funding is dependant upon the TfL Board approving the allocation of the funding provided to TfL under HM Treasury's Comprehensive Spending Review (CSR) of October 2007. The CSR provides for schemes such as VSU. VSU was confirmed at LUL's Investment Delivery Meeting (a director level meeting) on 16 October 2007 as a priority scheme. LUL intends to apply to TfL for the funding required for the scheme after March 2010 in 2009, the precise timing being dependent on the as-yet unpublished TfL Board meeting dates.
- 10.2.3 In the meantime, it is a measure of LUL's commitment to VSU that LUL has, between April 2005 and March 2008, spent approximately £24 million on the scheme.
- 10.2.4 LUL's funding proposals are explained in Application Document A8.

11 ACQUISITION AND USE OF LAND

11.1 LUL's General Approach to Land Acquisition and Use

11.1.1 The amount of land which can be acquired or used for the project or is subject to the protective works provisions in the draft order is defined by the permanent and temporary limits of land to be acquired or used and the protective works limits. These are all defined in the draft Order and shown on the land plan numbers 1-4. The limits have been drawn to include land required for:

- Construction and safeguarding work to take place, together with working space
- Acquisition for permanent structures associated with the works or over which rights will be required to safeguard and protect the future operation of the works.
- LUL to undertake protective works to buildings as required

11.1.2 As part of the TWAO Application process and in accordance with the 2006 Rules, numerous notices have been served by LUL, including on the owners, lessees and occupiers of land affected by the project as summarised above.

11.1.3 Land and property will be acquired or used for the VSU works in a number of different ways including

- For street works and temporary use involving temporary use of land and property to enable construction of the works
- For permanent acquisition of land and property, including rights, required for the purposes of construction, operation, maintenance, protection and repair of permanent structures. For some parcels of land the powers are limited to sub soil only.
- For protective works providing rights over property, including rights of access in order to protect existing structures.

11.1.4 All of the areas of land and proprietary rights sought to be acquired under the powers in Part 3 of the draft Order are required for the construction, operation or maintenance, renewal or protection of the VSU work and have been drawn as necessary to achieve this in an economic way.

11.1.5 In some cases, temporary use of land and property is sought for construction purposes but not for the future operation, maintenance, renewal or protection of the VSU works.

- 11.1.6 In some cases, permanent acquisition of land, including subsoil, is required for the construction of the permanent structures, and their future operation, maintenance, renewal or protection, or where it is necessary to demolish buildings on the site.
- 11.1.7 Rights to undertake protective works to existing structures are required in relation to the construction of the project and contained in Article 14 of the draft Order. These provisions would give powers to LUL to undertake protective works, at its own expense, to buildings identified as being within the protective works limits as shown on the land plans.
- 11.1.8 No residential property will be demolished to accommodate the VSU scheme. Only commercial buildings need to be demolished to allow construction works to be undertaken.
- 11.1.9 The general approach of LUL to the acquisition of land for new works will be further explained in LUL's evidence to the inquiry and is in accordance with LUL's usual practice for works of this kind. Further, land owners subject to compulsory acquisition under the Order will be entitled to compensation. Under the provisions in the Order the statutory compensation code is applied subject to some adjustments as set out in the draft Order
- 11.1.10 LUL will in due course be producing a policy statement that will apply to the London Underground network as a whole. The policy statement will be made generally available and will reflect existing LUL practice and the principles of compulsory purchase generally. It will be accompanied by a policy statement upon the disposal of sites acquired by LUL but no longer needed for LUL works.

12 CONSTRUCTION

12.1 The Construction Process

12.1.1 The proposed works will be carried out using appropriate methods selected to mitigate potential impacts and have been planned so as to allow a robust programme and cost estimate to be developed. Each major stage of the construction works is described below.

12.2 Utilities Diversions

12.2.1 The area affected by the VSU Scheme contains many sub-surface utilities and services. A number of key utilities within proximity of the VSU worksites will require diversion, strengthening or protection in advance of the main upgrade works. Powers are being sought in the proposed Order to carry out all the utilities diversions needed, but LUL may nonetheless arrange for some utilities works to be carried out in advance of the main VSU works where it is practicable to do so and in agreement with the utility companies concerned, before the TWAO Application is determined. Such works would be carried out in the ordinary way by the utility companies using their existing powers.

12.2.2 Many of these works will involve the diversion to a temporary, protectable location for re-diversion during the main VSU works and will be undertaken within the existing carriageway and footway areas.

12.3 Demolition

12.3.1 A number of buildings will need to be demolished to allow for the construction of the VSU scheme, namely:

- 175 to 179, and 120 to 124 Victoria Street;
- 3 to 11 Bressenden Place;
- Elliot House;
- The subway and public lavatories under Bressenden Place;
- Roof structure for South Ticket Hall (STH);
- Cardinal Place basement structure (part); and
- National Rail Station basement (part).

12.3.2 There are other properties where part of the building will be encroached upon and where partial demolition may be required. This is still the subject of further discussion with property owners.

12.3.3 Underpinning designs are being developed so that 4 to 7 Victoria Buildings, 22 Terminus Place and 181 to 183 Victoria Street can be

retained if possible. It will also be necessary to undertake significant underpinning and strengthening works to the internal structure of the Duke of York public house. This building will need to be vacated during construction works..

12.3.4 Underpinning works may also be appropriate for the VPT and Allington House foundations closest to the Paid Area Link tunnels.

12.4 Ground Improvement

12.4.1 Ground improvement measures will be used to improve the ground characteristics and achieve the following:

- a reduction in the permeability of the terrace gravel deposits locally around the new tunnels excavated at this level;
- stabilisation of the face and ground around the periphery of the proposed tunnel excavation;
- support for building foundations where underpinning is required; and
- to limit ground movement.

12.4.2 With the above in mind various ground treatment methods for the construction of the tunnels and shafts have been considered.

12.4.3 Permeation Grouting. This can be carried out in soils with sufficient permeability to be susceptible to grouting. At this stage it is considered that the design cannot be based on this method of ground treatment when using the Sprayed Concrete Lining (SCL) method for tunnelling due to the variable nature of the ground. It is possible that the use of microfine cement and silicate grouting may be considered for use by the works contractor in localised areas, particularly from within the tunnels during excavation as a supplementary ground treatment.

12.4.4 Jet Grouting. This is a robust and effective method that is used to stabilise granular soils. The technique can be used vertically from the surface or horizontally from within the tunnel. The process employs combinations of high energy fluid jets of air, water and grout to disaggregate, partially or fully replace and remix soil in situ.

12.4.5 In general, vertical application of jet grouting from the ground surface is envisaged in all tunnel sections accessible at ground level, e.g. from Allington Street, Victoria Street and Wilton Road.

12.4.6 Where new tunnels are to be constructed in close proximity to the foundations of the buildings such as the VPT, Duke of York public house, and Allington House inclined jet grouting is proposed to the maximum practicable extent. To achieve the full coverage of ground improvement required for tunnelling, additional jet grouting from within the basement of the Duke of York public house will be

required. A jet grouting trial is being carried out to provide verification of the practicality and feasibility of use.

12.4.7 Ground Freezing can be used for the construction of the new tunnels however it is considered by the design team that the potentially adverse influence that freezing may have on surrounding third party assets and services precludes its general use. If this method were to be used, horizontal freeze pipes would be installed from within a tunnel enlargement and a section of ground frozen in advance of driving the tunnel. This procedure would be repeated when the excavation comes to the end of the frozen block of ground.

12.4.8 The exact form of ground treatment will be developed in detail by the works contractor on the basis of several factors including:

- All site investigation data;
- grouting trial results;
- the precise location of utilities;
- access to properties to carry out the works;
- structural surveys for properties and services affected by the works; and
- third party approvals and consents as may be required

12.5 Tunnel Pre-Support

12.5.1 In addition to the jet grouting it will be necessary to install tunnel pre-supports during excavation in order to reduce overbreak and stabilise the ground around the periphery, allow quick adjustment to changing ground conditions; and to maximise work safety. It is proposed to achieve these objectives by using grouted pipe arches and spiling techniques, and further detail thereupon will be given in evidence at the inquiry.

12.6 Tunnels (Paid Area Link)

12.6.1 The tunnels range in diameter from approximately 3.6 metres to approximately 7 metres. Generally the invert of the PAL tunnels is located in the London Clay and the majority of the tunnel face in the Terrace Deposits. To reduce the risk of ground-borne hazards during tunnelling, advanced ground improvement will take the form of jet grouting from the surface, where possible (as previously noted).

12.6.2 The Sprayed Concrete Lining method is a safe and well established means of supporting underground structures by using sprayed concrete to support the excavation as the work proceeds. Sprayed concrete linings have been used extensively on major underground works in London over a number of years. Notable

examples include the Jubilee Line Extension, Heathrow Express, the Heathrow Baggage Transfer tunnel and Channel Tunnel Rail Link. It is also proposed for the primary tunnel lining support for the construction of the passenger circulation tunnels for the redevelopment of Kings Cross Station for LUL.

- 12.6.3 Construction of the tunnels will be sequenced to minimise the exposed face area and to enable early ring closure where necessary. An advantage of the sprayed concrete method for tunnel driving is that the arrangement and size of tunnels will permit the use of mechanical excavation equipment and robotic spraying equipment, thereby avoiding or at least minimising the use of hand methods.

12.7 D&C Underpass

- 12.7.1 Prior to constructing the new D&C underpass, the existing invert to the D&C line tunnel will be strengthened to span the underpass and sustain operational loads from underground trains. The strengthened invert would then form the roof of the underpass. It is proposed that the strengthening of the D&C line tunnel invert will be achieved by removing the ballast, concrete invert and brickwork that currently exists and replacing these with in-situ reinforced concrete.

12.8 North Ticket Hall

- 12.8.1 The proposed North Ticket Hall (“NTH”) is a 3-storey subsurface structure located below Bressenden Place and the current location of Numbers 3-11 Bressenden Place and Numbers 120-124 Victoria Street. The NTH is an irregular shape in plan with 76m maximum length and 33m maximum width. It has a constant excavation depth of 17.4m from ground level (105.0mTD) to formation level (87.6mTD).
- 12.8.2 The proposed NTH is constrained by existing structures including Portland House and the recently constructed Cardinal Place development on its eastern side. VPT, Elliot House, the existing LUL Draft Relief Shaft, Thames Water King’s Scholar Pond and Western Deep sewers lie to the west of the NTH.
- 12.8.3 The proposed method of construction for the main NTH is by top-down construction, and the proposed outline construction sequence is detailed in section 2.8 of the ES. This will be explained in further detail in LUL’s evidence to the inquiry.
- 12.8.4 Impacts on various existing structures are likely to occur due to ground movements, and there will be some noise and vibration associated with construction. Measures will be taken before and

during construction to minimise these impacts in so far as reasonably practicable.

12.9 South Ticket Hall

- 12.9.1 The proposed STH is a 3-storey subsurface structure located in part below the open area of the National Rail Station building known informally as 'The Beach' area and partly below Wilton Road. The STH extension is approximately triangular in plan with 32m maximum length and 32m maximum width. It has an approximate excavation depth of 10.9m from ground level (104.5mATD) to formation level (93.6mATD).
- 12.9.2 The proposed STH is constrained on the southern side by the existing National Rail Station building and on its east side by traffic and utility apparatus in Wilton Road. The STH will form an extension of the existing Victoria line ticket hall to the west, part of which will be removed and replaced. Abford House and the Apollo Theatre lie along the eastside of the proposed STH and their basements are in close proximity to the proposed secant pile wall. The Victoria line southbound running tunnel lies below the proposed STH.
- 12.9.3 The new Wilton Road entrance will form an integral part of the STH between roof and ticket hall levels. The roof canopy structure is proposed to be constructed in structural steel, metal cladding and reinforced glass. The works will be phased to ensure that impact on the operation of the existing station will be minimised so far as reasonably practicable. The existing Wilton Road entrances will be utilised throughout the works and will only be decommissioned when the new entrance stairs become operational.
- 12.9.4 The proposed method of construction for the STH is a combination of bottom-up and top-down construction. The proposed outline construction sequence, incorporating construction of the cut-and-cover passageway connection to the westbound D&C line, is detailed in section 2.8 of the ES.
- 12.9.5 Construction of the STH is also likely to impact upon the Apollo Theatre and the new Abford House due to ground movements and noise and vibration associated with construction. Measures will be taken during construction to ensure that the effect of the works on nearby structures is minimised so far as reasonably practicable.

12.10 Signalling Equipment Room

- 12.10.1 The proposed Signal Equipment Room ("SER") is a single storey subsurface structure located in a new cut-and-cover structure above the Victoria line running tunnels north of the station platforms. The proposed SER will replace the existing SER located

between the platform tunnels at the northern end of the station. The proposed SER is rectangular in plan 21m long by 8.5m wide and an approximate excavation depth of 9.5m from ground level (104.5mTD) to formation level (95.0mTD).

- 12.10.2 The proposed SER location is constrained on its eastern side by the existing King's Scholar Pond Sewer, and on its south side by a proposed emergency shaft. The Stag Pub is adjacent to the proposed SER on the west side.
- 12.10.3 The proposed method of construction for the SER is bottom-up construction. The proposed outline construction sequence is detailed in section 2.8 of the ES.
- 12.10.4 The design requires the demolition of Elliot House to allow tunnelling of the Paid Area Link ("PAL").
- 12.10.5 The location of Land Securities' VTI proposals have also been taken into account in formulating and refining the scheme design.

12.11 Sump #9 in Vauxhall Bridge Road

- 12.11.1 The new sump in Vauxhall Bridge Road is required to replace an existing sump that serves the D&C line drainage system that will be severed during construction of the PAL tunnels. During construction a worksite will be required for the duration of the works. No site or access is required to the sump from Vauxhall Bridge Road for permanent operational reasons. The shaft for the new sump will be constructed with a pre-cast concrete segmental lining. Connections to the PAL at the base of the shaft will be constructed using traditional square work methods in the London Clay.

12.12 Construction programme

- 12.12.1 With an estimated construction period of approximately 7½ years (including the works to protect and/or strengthen the utilities infrastructure), construction phasing for the VSU scheme is complex and construction activities are not restricted to a single area of the site at any one time. Detailed construction planning has accompanied the developing design with appropriate methodology and an assessment of likely production rates (and hence programme) for each activity.

12.13 Location and use of temporary work sites

- 12.13.1 Construction worksites have been identified and selected using appropriate consideration of the construction methodology, the space required for safe construction and provision of appropriate site facilities including welfare and offices.

- 12.13.2 There are distinct focuses of activity at each ticket hall site that require sufficient land to ensure safe construction, access and servicing of the construction works.
- 12.13.3 The detailed construction planning and phasing has taken into account the complex methodology required to safely implement the works by considering the number of activities (for example piling rigs and excavators) that can operate at any one time.
- 12.13.4 To minimise risks a worksite for tunnel construction is needed in Allington Street. It will remove construction activity from already congested worksites for the north and south ticket halls.

12.14 Code of Construction Practice

- 12.14.1 Generally, in order to minimise its impact, construction of VSU will be carried out in accordance with a Code of Construction Practice (CoCP). Drafting of the Code has included discussions with Westminster City Council which are at an advanced stage. It is anticipated that agreement will be reached in the near future with the Council upon the wording of the CoCP, which follows current best practice for major rail projects.
- 12.14.2 The CoCP will be binding on contractors. It covers principles of health and safety and all aspects of construction that may materially affect the environment including surface water and drainage, the treatment and handling of contaminated spoil or land, the means of enclosure of work sites, hours of working, traffic management and the monitoring and mitigation of environmental impacts such as noise, vibration and dust. The provisions of the CoCP also include a commitment to ongoing consultation and liaison with the local community.
- 12.14.3 A draft CoCP accompanied the TWAO Application as Application Document A20.

13 ENVIRONMENTAL IMPACT ASSESSMENT

13.1 The Environmental Impact Assessment Process

- 13.1.1 An Environmental Impact Assessment (EIA) has been undertaken for VSU in accordance with the 2006 Rules
- 13.1.2 The findings of the EIA have been reported in an Environmental Statement (ES) which was submitted with the TWAO Application. The ES is based on recognised procedures and describes the likely significant environmental effects arising from the construction and operation of the works and, where appropriate, the mitigation measures intended to prevent, reduce or remedy any significant adverse effects on the environment
- 13.1.3 The 2006 Rules require an ES to describe those environmental effects which are considered likely to be significant. There is no statutory definition of significance and the primary purpose of identifying and describing significant effects is to inform the decision making process. On this basis a significant effect has been regarded as an effect that, either in isolation or in combination with others, should be taken into account in this process.
- 13.1.4 This approach has provided a common framework within which to predict the significance of effects for all environmental topics. In assessing the significance of effects, specific account has been taken of their nature and duration and whether they are direct, indirect, secondary, cumulative, short-term, medium-term, long-term, permanent, temporary, positive or negative.

13.2 Scope of the EIA

- 13.2.1 At the outset of the EIA process a scoping exercise was undertaken and a scoping report was submitted to the DfT for a formal scoping opinion. The scoping exercise identified the potential environmental impacts that are likely to arise as a result of the scheme. As a result the following environmental issues were considered in the EIA process:
- (a) Traffic and Transport
 - (b) Air quality
 - (c) Noise and vibration
 - (d) Townscape and Visual Amenity
 - (e) Built Heritage

- (f) Archaeology and Cultural Heritage
- (g) Contaminated Land
- (h) Demolition and Excavated Materials and Waste
- (i) Water Resources
- (j) Ecology
- (k) Socio-Economics
- (l) Community

13.3 Avoidance or mitigation of potentially adverse environmental effects

Mitigating impacts from the outset

- 13.3.1 Schedule 1 to the 2006 Rules requires that where significant effects are identified 'a description of the measures taken to prevent, reduce and where possible remedy the effects on the environment' must be included in the ES (Paragraph 5 of Schedule 1). For each significant adverse effect appropriate mitigation measures are proposed, taking into account local constraints and characteristics and deliverability of the scheme.
- 13.3.2 In developing the layout for VSU considerable effort has been made to ensure that the potential benefits of the upgrade are maximised and potential adverse effects minimised.

Incorporated Mitigation

- 13.3.3 In developing the scheme LUL has sought to mitigate potentially adverse effects through the design. Significant effects identified in the ES take account of incorporated mitigation measures. Where mitigation fails to reduce the significance of any adverse environmental effect the remaining component of the effect is known as a residual effect.

Management of Environmental issues during construction.

- 13.3.4 The contractor will be required to comply with the CoCP that has been developed and produce a Site Environmental Management Plan (SEMP) to demonstrate how environmental issues will be managed for the duration of the works. The SEMP will provide detail on how the contractor will identify, minimise and control the impacts and outline the monitoring regime that will be undertaken to check that mitigation is effective.

Mitigating the effects of the operational scheme

- 13.3.5 Overall the effects of the operational scheme will be beneficial to the local environment. As part of its operational controls, LUL has a

Health, Safety and Environmental Management System (HSEMA) which contains standards which are applied to safeguard the environment and the safety of its staff and passengers.

13.4 Environmental Effects

Traffic

- 13.4.1 An assessment of the impacts on users of the transport network, including roads and public transport facilities has been undertaken. The effects on traffic on completion of VSU are minimal and so the assessment has focused upon the effects during construction of VSU. This assessment forms part of the ES.
- 13.4.2 The VSU scheme forms a key focus for bus and taxi movements and also lies close to a section of the Congestion Charge Free Route. As such, there is a need to minimise impacts on the Free Route and on bus journey times. The advanced utilities and construction phase works traffic management plans have been developed in consultation with TfL.
- 13.4.3 The traffic assessments have been supported by both strategic traffic modelling (using SATURN) and more localised modelling (using VISSIM and TRANSYT) in order to produce detailed traffic plans and signalling arrangements.
- 13.4.4 All of the traffic management schemes developed for the construction phases have assumed implementation from the outset of the lane widening at the Ecclestone Bridge / Buckingham Palace road junction to provide a full two-lane right turn facility.
- 13.4.5 There will be a number of adverse effects during construction.
- 13.4.6 Bus operations will be affected by the proposed diversions. The assessments indicate, however, that with mitigation, including junction reconfigurations and also, in some cases, bus rerouting, the maximum additional delay to buses is not expected to exceed 3 minutes per bus on any route
- 13.4.7 The footways will be reduced in width around the worksites at Terminus Place, Wilton Road and Vauxhall Bridge Road and the assessment of pedestrian movements indicate that there is expected to be a need to reroute pedestrians by use of signage and temporary footways. Under some of the advanced utility and construction phases, where station exit or pavement capacity is constrained, additional exit capacity from the National Rail Station on the Wilton Road frontage may also be required depending on the specific layouts of construction sites. This will be determined in accordance with specific phasing plans and is being discussed further with Network Rail.

- 13.4.8 The schemes also include for the management of pedestrian movements, varying with each phase of advanced utilities and main scheme construction.
- 13.4.9 The existing taxi rank will need to be relocated during the construction phases and this will result in a longer walk for passengers and potentially some delay. LUL is considering measures to reduce this delay.
- 13.4.10 The effects described above are all temporary effects. Once built VSU will significantly improve conditions for users of the Underground Station. Traffic and bus routes will be returned to the current situation and so there are no anticipated permanent effects.

Noise and Vibration

- 13.4.11 The potential noise and vibration effects arising from the construction and operation of VSU have been assessed. They will be minimised so far as is reasonably practicable LUL has prepared a Noise Policy as outlined in the Draft CoCP (at Appendix 2 of that document) for the scheme which will apply to occupiers of buildings in residential use. The policy includes commitments to apply suitable design standards to control noise and will allow for those premises which meet the criteria specified to be considered for noise insulation.
- 13.4.12 Mitigation under the policy might include consideration on a case-by-case basis of the provision of acoustic screening or enclosure of specific items of plant or worksites. In appropriate cases LUL may offer to temporarily re-house occupants of some premises.
- 13.4.13 It is inevitable that there will be some adverse noise effects on a number of residential properties, hotels and public houses in areas surrounding worksites. During construction noise and vibration will, however, be managed by the provisions in the SEMP and CoCP in line with best practice for similar schemes.

Air quality

- 13.4.14 An assessment of the effects associated with air quality and dust was undertaken in accordance with national guidance.
- 13.4.15 During the construction of the scheme there is potential for dust generation. The draft CoCP outlines the general mitigation measures proposed to deal with this.
- 13.4.16 Each construction worksite will be assessed in accordance with the GLA and Mayor of London's guidance, and mitigation and control measures introduced on a case by case basis. Measures additional to the general guidance given in the CoCP may include batching materials off-site, on-going modification of working practices, and

the setting up of a liaison / communication mechanism for the community including a telephone complaint system.

- 13.4.17 With the incorporation of the above measures, it is anticipated that construction dust is unlikely to cause a significant residual effect to sensitive receptors. However, the level of impact is dependent on a number of factors such as weather, existing dust levels and the amount of construction activity. Accordingly the mitigation proposals include dust monitoring at identified sensitive receptors where construction activities are deemed to represent a higher level of risk.
- 13.4.18 The level of construction traffic associated with the scheme is not likely to have a significant effect on local air quality.
- 13.4.19 There are not likely to be any significant residual effects from the operational phases of the scheme on local air quality

Townscape and Visual Amenity

- 13.4.20 The VSU works will entail the demolition of a number of buildings and structures at surface level as follows:
- (a) 120-124 (even) Victoria Street and 3-11 (odd) Bressenden Place. These adjoin or are close to VPT
 - (b) Elliot House
 - (c) 175-179 (odd) Victoria Street
 - (d) Existing LUL stairways and vent structure on an area known as the Beach in front of the National Rail Station.
- 13.4.21 The reinstatement of sites (a), (b) and (c) above will accord with LUL's Strategy for Reinstatement of the Sites of Demolished Buildings which is to be agreed with the LPA. As part of VSU, LUL is proposing a new stairway and vent structure(s) on The Beach. Details of these are reserved for future approval by the LPA pursuant to conditions.

Built Heritage

- 13.4.22 The VSU scheme footprint lies close to the Westminster Cathedral Conservation Area. However, with the exception of a small area at the junction of Vauxhall Bridge Road and Victoria Street where subsurface works are required, the proposed works will be outside the conservation area.
- 13.4.23 There are a number of listed buildings in the area. Three (all Grade II) will be directly affected by the VSU works although not in any way that will adversely affect their historic character. These are:

- (a) Victoria National Rail Station
- (b) Victoria Palace Theatre
- (c) Little Ben Clock Tower

13.4.24 The proposed works to these buildings and structures will be the subject of applications for listed building consent as described in paragraph 3.6 of this statement. Other listed buildings close to the VSU footprint are the Apollo Theatre and the Grosvenor Hotel (both Grade II*) but no works will need to be carried out to these buildings that will require listed building consent.

Ground Movement

13.4.25 All subsurface excavations give rise to ground movement. These movements manifest themselves, in particular, as settlement. It has the potential to damage buildings and other infrastructure including utilities. This can range from small internal cracks in plaster to effects on the structure, although in most cases there is no discernible effect. The application of the appropriate measures to control and mitigate against the effects of settlement can reduce this impact.

13.4.26 Further settlement assessments will be undertaken for buildings, structures and utilities within the zone potentially affected by settlement and will use established methods to assess the need for mitigation. Buildings will be assessed using a three phase process similar to that developed on other projects including the Jubilee line extension and the Channel Tunnel Rail Link: The three phases are:

- (a) Phase 1: production of settlement contours. Engineering information is used to assess where and how much settlement will occur.
- (b) Phase 2: building assessment. Buildings that would be at risk of damage as a result of the assessed settlement will be identified.
- (c) Phase 3: structural analysis. An analysis of individual buildings that are assessed as being at risk of serious damage will be undertaken.

Settlement contours (Phase 1) have already been produced and on the basis of them protective works limits have been identified on the land plans for the purposes of Article 14 of the draft Order.

13.4.27 In areas where significant settlement is expected to occur, appropriate measures will be taken to limit the effects. Surveys will be taken and, where appropriate, buildings will be monitored during and for a period after the construction takes place.

- 13.4.28 The application of protective measures will be based on an appropriate risk assessment. Depending on the level of risk either no action will be required, or buildings will be monitored during construction or special protective measures will be implemented.
- 13.4.29 In some cases, as mentioned below, particular structural measures may be needed to reduce the impact of ground movements by increasing the capacity of a building or structure to resist, modify or accommodate those movements. This may involve:
- (a) Underpinning works to buildings on Terminus Place;
 - (b) Underpinning by jet grouting of VPT;
 - (c) Strengthening works/possible façade retention to protect the Duke of York public house

Archaeology and Cultural Heritage

- 13.4.30 The archaeological assessment has determined that the site does not contain any Scheduled Monuments and does not lie in an Area of Special Archaeological Priority. The area is heavily developed and so the potential for archaeological deposits of importance is limited.
- 13.4.31 The ES concluded that there are no resources of high importance requiring preservation in situ however, the draft CoCP outlines the provisions for ensuring that the effect of construction on buried archaeological resources is minimised through a programme of archaeological investigation prior to development.

Water Resources

- 13.4.32 The water resources assessment considered the potential effects of the scheme on the local water resources.
- 13.4.33 The draft CoCP makes provision for minimising potential effects on water resources by incorporating best practice techniques for :
- (a) Control of pollution to groundwater
 - (b) Control of pollution to surface water
 - (c) Management of site drainage
 - (d) Control of groundwater flooding
 - (e) Control of dewatering activities
- 13.4.34 There may be temporary changes in water levels and groundwater flows as a result of the tunnelling but they are not likely to be significant.

- 13.4.35 Where pumping is being undertaken in the basements of buildings, monitoring of groundwater levels and drainage flows as well as monitoring of the pumping regime will ensure that conditions are improved.

Ecology

- 13.4.36 There are no statutory sites designated for nature conservation within 2km of the VSU scheme. There are four non-statutory designated sites known as Sites of Importance for Nature Conservation within 2km of the site. None of these lie within the Zone of Influence of the scheme and are therefore not likely to be affected by the scheme.
- 13.4.37 There are three London Plane trees located on Bressenden Place that will be removed during the construction phases. LUL proposes to replace them on a one for one basis or better.

Contaminated Land

- 13.4.38 An assessment has been undertaken of the potential effects of soil and groundwater contamination within the limits of the VSU works. The assessment has identified that there is potential for contaminants to exist in the immediate subsurface of the site. Therefore construction activities have the potential to disturb and remobilise contamination and introduce contamination particularly where groundwater drainage is required from new excavations.
- 13.4.39 The risks will be managed and contained through the adoption of best practicable means as specified in the draft CoCP. The provisions outlined include:
- (a) Completion of site assessment and investigation wherever work is planned to assess the potential for contamination in soil and groundwater.
 - (b) Full liaison with the LPA, the Environment Agency and other statutory bodies to agree control or protection measures.
 - (c) Monitoring of excavations to check for unexpected material that may have contamination potential (e.g. oil drums).
 - (d) Ensure the removal of contaminated material designated areas on site where contaminated material can be separated from clean material and stored in appropriate containers to prevent leaching to the ground, sewers or neighbouring property.
- 13.4.40 With these mitigation measures in place there are not likely to be any significant residual effects.

Waste and materials handling

- 13.4.41 LUL intends to develop a waste management plan to show how waste material will be identified, managed, stored and disposed of. Waste management is highly legislated and regulated.
- 13.4.42 Considerable volumes of material will be generated during construction and demolition. Waste streams will include concrete, timber, bricks, and metal. Material will be reused on site as far as is practicable. Inevitably some material will require disposal and this will be transported from the site in lorries. The traffic assessment does not anticipate a significant effect to traffic arising from the construction traffic. As a result of the waste management plan being implemented and monitored there is not likely to be any residual effect arising from demolition and construction of the scheme.
- 13.4.43 Once the VSU scheme is in operation, waste streams will be similar to those currently generated during LUL operations and so no significant residual effect is likely.

Socio Economics

- 13.4.44 The assessment considers the social profile of the areas including labour force, age, ethnicity, employment and skills base. It looks at the potential social and economic impact of the works and the final scheme on the local and regional economy.
- 13.4.45 The construction of VSU will lead to approximately 450 job losses arising from the demolition of existing office and retail outlets. As a percentage of employment in the area this is negligible. Construction works will result in a gain of jobs and will benefit the local economy as construction staff spend money in the local area buying goods and services. There are a number of businesses that will experience disruption during construction but the scale of the effect will not be significant to the operation of the businesses.
- 13.4.46 Once the VSU scheme is completed land currently occupied by buildings that will have to be demolished will be reinstated. This might involve replacement buildings and this will provide new jobs. Further, VSU will increase the capacity and efficiency of the station and make it a more pleasant environment to the benefit of Victoria as a whole.
- 13.4.47 In the wider context, the project will also bring benefits. Improving transport infrastructure is an important element in ensuring that Victoria is able to operate more effectively. This will encourage business to relocate to or remain in the area to the benefit of the London economy.

Community

- 13.4.48 The community assessment looked at the effect of the proposed works on the local community during construction and operations. It focussed on residents, incoming workers, use of community facilities and accessibility for the people moving around the area. Community facilities identified were educational facilities, medical facilities, places of worship and recreational facilities..
- 13.4.49 During construction there will be no temporary closures or disruption to community facilities. There will be some disruption to accessibility with the removal of the subway under Bressenden Place and the reduction in pedestrian footways. Street level crossings will, however, remain in place and temporary pedestrian routes are planned.
- 13.4.50 There will be no permanent loss of residential or community facilities. The assessment concluded that there will be an overall improvement in accessibility in the Victoria area.

13.5 Cumulative impacts

- 13.5.1 There will be cumulative impacts resulting from the interaction of the VSU with other proposed developments in the area as mentioned in Chapter 9 of this Statement. A number of schemes have planning permission or are in the process of seeking to obtain it. Cumulative effects are dealt with in Chapter 7 of the ES.

13.6 Conclusion

- 13.6.1 VSU will inevitably cause a degree of disruption while it is being constructed. Construction equipment, traffic and hoardings will be visible. Some noise disturbance is likely to occur at a limited number of locations during noisier construction activities. Motorists, public transport users, pedestrians and cyclists may also suffer delays during temporary road and footway closures and diversions. These effects, however, will remain only for the duration of the construction works.
- 13.6.2 VSU will have a number of significant positive effects. It will reduce the severe congestion at the Underground Station during peak periods. It will also reduce the number of pedestrians moving over the very busy junction of Wilton Road and Victoria Street. This will not only benefit commuters and passengers passing from the National Railway Station into the underground, it will benefit others in the area by providing better ingress/egress and a more pleasant environment.
- 13.6.3 The scheme will generate construction employment. It will also contribute to the overall improvements in public transport provision

and increased accessibility to employment and services in the locality.

14 UTILITIES DIVERSIONS

14.1 LUL's Engagement with Utility Companies

- 14.1.1 During the course of the VSU design development a number of meetings have been held with utility companies regarding utility diversions and mitigation measures including the jet grouting trial proposals.
- 14.1.2 These meetings commenced in June 2006 with the project team focusing on those utility providers most affected by the project.
- 14.1.3 From these initial meetings MDC2 developed a series of proposals to either divert or protect apparatus and equipment. These initial proposals have been issued as formal NRSWA Stage C3 Enquiries. Whilst the scope of the utilities diversions is generally established, the detailed design and NRSWA Stages C3 and C4 utility company consultations are continuing.
- 14.1.4 The initial diversions proposals referred to above are now being developed into a set of detailed designs by the respective utility providers in accordance with NRSWA Stage C4.
- 14.1.5 Many of these designs require survey information to give the precise location and condition of the various utility assets under the various footpaths and roadways.
- 14.1.6 As a result of these meetings a number of utility companies have provided guidance on damage limitation criteria they consider appropriate where the VSU works are to be carried out in close proximity to their assets.
- 14.1.7 In developing its approach to utility diversions and protections, LUL has sought the agreement of the various utility companies to each of the mitigation options being proposed.
- 14.1.8 Further the draft Order contains detailed provisions in Articles 8, 29, 31 and 33 and Schedules 8 and 10 which regulate works involving works to apparatus owned by statutory undertakers, the detailed provisions in Schedule 10 applying only to those undertakers within the definition of a "specified undertaker" in paragraph 1 of the Schedule.

14.2 LUL's General Approach to Utilities Affected

- 14.2.1 Public and private utilities are being addressed through the NRSWA design process, the approach taken comprising the following:

- Avoiding the utility by adapting the VSU design
- Protecting the utility within the zone of influence of VSU
- Diverting the utility such that it is relocated beyond the zone of influence of VSU

14.2.2 Due to the numerous constraints facing the construction of the VSU main works, diversions will be unavoidable and these will have direct and indirect effects on other utilities, people and property. A variety of construction techniques will be employed including, but not limited to, the following:

- Ground improvement works
- Construction of secant pile walls
- Top-down (cut-and-cover) shaft construction
- Cut-and-cover excavation
- Sprayed concrete lining (SCL) tunnelling techniques
- Contractor's temporary works and installations

14.2.3 Direct effects

14.2.3.1 Where existing utilities cannot be avoided, LUL will require the utility to be protected in-situ or diverted to a protectable location. In general, piling, shaft construction and all other excavated voids will have a direct effect on some utilities. Services in close proximity to certain construction activities (e.g. percussive piling etc.) may require vibration sensitive services to be diverted. Secondary service diversions may also be required.

14.2.4 Settlement and heave

14.2.4.1 SCL tunnelling methods and other sub-surface excavations may result in varying levels of surface settlement. The predicted 'greenfield' site conditions and settlements will be alleviated by employing ground improvement techniques to strengthen and de-water the underlying sands and gravels.

14.2.4.2 Numerous existing utilities, including several trunk services, sensitive to ground movements by virtue of their function, material, joint type and/or condition are present across the site area.

14.2.5 Noise and Vibration

14.2.5.1 The works contractor will be responsible for obtaining local authority consent under Section 61 of the Control of Pollution Act 1974 to control noise and vibration levels

and other working arrangements. It is not anticipated that vibration due to construction activities (secant piling, excavation through jet grout columns) will affect utilities.

14.2.6 Jet Grouting

14.2.6.1 As noted in Chapter 12 of this Statement it is proposed, subject to trials, to use jet grouting as a ground improvement technique to mitigate against settlement due to the proposed tunnelling and/or open cut excavation works.

14.2.6.2 Most of the vertical and sub vertical jet grouting will be executed in the vicinity of underground utilities and services. A trial will provide information on the system parameters required to design and construct column diameters with confidence and to monitor resultant movements and potential adverse effect on adjacent properties and utilities.

14.2.6.3 Any measures required to protect utilities against adverse effects caused by jet grouting will be undertaken during the main works.

14.3 Possible Diversions in Advance of TWAO Application Being Determined

14.3.1 As noted above the current design is based on diverting utilities where they cause a physical obstruction to the new works and where they are not to be diverted to develop solutions which limit damage resulting from settlement induced strain.

14.3.2 Utility apparatus is regarded as affected by the works if within the predicted 1mm settlement contour line defined by assessment and as identified in Figure 6.6 of the ES. In LUL's opinion this is a conservative analysis.

14.3.3 These possible solutions are summarised as follows:

- Ground treatment. The current proposal is to use jet grouting;
- Design of the excavation sequencing and additional ground support to minimise ground loss
- Internal strengthening of sewers (prior to tunnelling).
- Internal liners (to prevent leakage and to maintain the brickwork intact)
- Divert utilities where they cause a physical obstruction to the new works.

- Divert utilities where they cause an obstruction to the ground improvement works

14.3.4 Utility diversions will by their nature have the greatest impact on the local road network. LUL is therefore considering the possibility of carrying out works to utilities before it undertakes the main upgrade works.

14.4 Coordination with Third Parties

14.4.1 LUL's specialist contractor will be required to construct ducts, chambers, shafts and other required works to specifications agreed with the relevant utility companies, to programme and coordinate their works with all of the relevant utility companies to ensure timely installation of diverted services. All utility diversions will be subject to inspection and approval by the relevant utility company. Trench and other reinstatements are to be approved by Westminster City Council or TfL as appropriate.

14.5 Traffic Management

14.5.1 The utilities works will have a direct effect on pedestrians, public service vehicles and other traffic. Traffic management proposals, comprising work-site areas, phasing diagrams, schedules of impact assessments and mitigation measures have been developed by MDC2.

14.5.2 The traffic management proposals include outline junction, traffic signal timing and layout alterations to the existing road network. These works will be required in advance of the utility works to alleviate congestion when the local road network has reduced capacity due to the advance utilities works. The enabling works proposals include outline designs of works to the traffic signals affected by the proposed Wilton Road traffic diversion via Eccleston Bridge and Buckingham Palace Road, and the proposed changes to bus and taxi operations which have been developed through discussions with London Buses and the Public Carriage Office.

14.6 VSU Proposals - Main Works Contract Utilities Protection Measures

14.6.1 It is currently proposed to undertake all protection measures to utilities which are to remain in place by virtue of their scale, strategic importance, high diversion costs or adverse impact on programme during the main works contract.

14.6.2 As noted above the consultations and negotiation about the scope of any protective measures continue to be developed.

15 ISSUES ARISING FROM OBJECTIONS

15.1 Objections to the TWAO Application

15.1.1 Forty-five (45) objections to the VSU scheme have been received together with one (1) representation and one (1) letter of support. The following table summarises the origins of the objections to the scheme.

Objector Category	Total number
Land Owners	5
Utilities	6
Developers	1
Statutory Bodies	1
Theatres and associated advisory body	3
Local Authorities	1
Residents Associations and associated proforma objections	28
Total Objections	45

15.1.2 LUL is in correspondence with and is meeting objectors with a view to further explaining aspects of the scheme where this would assist and where possible and appropriate to reach an arrangement such that the objection can be withdrawn.

15.1.3 The following sections summarise the principal issues raised in the objection letters and outline LUL's overall and current position on the issues.

15.1.4 LUL acknowledges that every objector has specific concerns about the VSU scheme and in some cases requirements for further information. However for the purposes of this statement the issues have been categorised into those with concerns about the construction and operation of the scheme and those with specific concerns about the objectors' interests, e.g. land acquisition.

- 15.1.5 Twenty-two (22) objections were proformas endorsing the concerns raised in the objections made by Victoria Interchange Group and Cathedral Area Resident Group

15.2 General Issues Raised in Objections

15.2.1 Scheme Alternatives

- 15.2.1.1 Three objectors raised concerns that the alternatives to the scheme had not been thoroughly identified and questioned the process by which the final scheme has been put forward for approval by LUL
- 15.2.1.2 Further to those above, all the residents associations and the 22 residents have suggested that there are other options to provide access to the underground station from the National Rail Station concourse and to provide a link from the south side of Victoria Street to the proposed new north ticket hall.
- 15.2.1.3 Alternatives to the preferred scheme have been considered by LUL and its professional advisors during the development of the scheme. This is dealt with in Chapter 5 of this Statement and in the ES.
- 15.2.1.4 The impact of the PAL and the associated construction works and land take on the Victoria Palace Theatre was a factor in choosing the preferred design. The original design was changed because of the impact on the theatre of tunnelling beneath it at shallow depth.

15.2.2 Project Assumptions

- 15.2.2.1 One objector questioned that the proposed scheme will work as a congestion relief solution as it relies on the assumption that passengers will use the PAL. It is further suggested that the TWAO Application over states the benefits to pedestrian movements as large numbers of commuters will still use surface pedestrian routes between the National Rail Station and Victoria Street.
- 15.2.2.2 LUL's position is that the Bresseden Place entrance will provide access to street level for a large number of passengers who presently leave the Underground Station via the South Ticket Hall and Wilton Road and then use surface footways to reach Victoria Street. LUL can take steps to ensure that passenger movements are managed to maintain safety and reduce the need for station control measures. In particular LUL station staff will actively direct customers to use the PAL at times when the south end of the Victoria line platforms are congested.

15.2.3 Land Acquisition and Use

- 15.2.3.1 Eight objectors have raised concerns relating to the need for and the extent of the compulsory powers sought by LUL in the draft Order.
- 15.2.3.2 A further four objectors are concerned about the temporary land use required for construction sites.
- 15.2.3.3 LUL requires compulsory acquisition powers to ensure the construction of the VSU scheme is not impeded or delayed by the need to reach individual agreements with land owners or those with property interests affected by the scheme. Such powers are required not only for permanent infrastructure but also for temporary occupation to allow construction of the scheme and associated utilities work.
- 15.2.3.4 LUL's approach to land acquisition is dealt with in Chapter 11 of this Statement and will be explained further in evidence.

15.2.4 Protection of Apparatus

- 15.2.4.1 Six objections have been raised by statutory undertakers and utility companies in relation to the protection of apparatus and other property rights affected by the works.
- 15.2.4.2 LUL recognises the need for there to be appropriate protection in relation to the statutory undertakers such as utility companies. Discussions with these bodies are taking place and will continue with a view reaching agreements on an acceptable basis that meet the need for utility apparatus to be properly protected.

15.2.5 Planned and Future Development

- 15.2.5.1 Three objectors have expressed concerns that the works may impede other developments. In these cases, ongoing liaison is being undertaken to identify and if possible resolve any potential conflicts on an acceptable basis.
- 15.2.5.2 Three objectors raised concerns about the plans for reinstating buildings that need to be demolished for VSU. The objectors were keen to ensure that future developments are sympathetic to the townscape of the area and to nearby listed buildings. As mentioned previously in this statement LUL is discussing with Westminster City Council a reinstatement strategy for sites where buildings will be demolished. Any replacement

building will, of course, have to be approved under the planning process.

15.2.6 Environmental Effects

- 15.2.6.1 All of the residents, residents' associations and the owners of the VPT expressed concerns about the potential environmental effects arising from the construction of the scheme. In particular there is concern that the mitigation measures outlined in the ES are not detailed enough to deal with issues relating to noise/vibration, dust and traffic and settlement.
- 15.2.6.2 Three of the residents associations questioned the modelling in relation to the effect of utility diversions and main construction works on air quality (dust) and noise and vibration.
- 15.2.6.3 It is LUL's position that the ES does deal with these matters in a level of detail appropriate for an environmental statement. During construction, however, LUL's contractor will be required to comply with a Code of Construction Practice (CoCP), as well as specific statutory requirements. Although not required to do so by the 2006 Rules LUL has produced as part of its application a draft CoCP. It explains in some detail how the contractor must perform the required work whilst minimising disruption and nuisance as much as is reasonably practicable. The draft CoCP also governs the behaviour of contractors and provides details of working hours, access arrangements and other provisions.
- 15.2.6.4 Specific traffic management plans have been developed to manage traffic movements as discussed in Chapter 13 of this Statement of Case.
- 15.2.6.5 Three objectors, the owners of the Victoria Palace Theatre, the owners of the Apollo Theatre and the Theatres Trust raised concerns about noise, vibration, dust and traffic and also about the setting of listed buildings and settlement.
- 15.2.6.6 The two theatres have expressed particular concerns in relation to noise and vibration, both during the construction of the VSU scheme and its subsequent operation. Detailed noise and vibration analysis is currently being undertaken in discussion with these owners to identify in detail any mitigation measures that ought to be adopted.

- 15.2.6.7 With regard to settlement and ground movement LUL intends to take protective measures as appropriate to ensure that settlement effects arising from its activities do not, as far as reasonably practicable, affect the listed or other buildings in the vicinity of the VSU scheme. LUL intends develop a mitigation strategy in line with current best practices and in appropriate cases will agree deeds of settlement with freeholders. Settlement and ground movement are dealt with in Chapter 13 of this Statement. Further, as mentioned previously the draft Order makes provision, in article 14, for protective works to be carried out to buildings.
- 15.2.6.8 The owners of the VPT have objected on the grounds that there will be a negative impact on the setting of the VPT as a result of demolitions required for the VSU scheme, in particular the demolition of 120-124 Victoria Street and 3-11 Bressenden Place. LUL does not accept that there will be a negative impact on the setting of the VPT and it is developing a reinstatement strategy, which it is intended to agree with the LPA, which will ensure that this site, along with the sites of any other demolitions, will be properly dealt with in terms of townscape and the built heritage.
- 15.2.6.9 English Heritage has raised concerns regarding the archaeological conditions and the protection of listed buildings against settlement. Archaeology is dealt with in Chapter 11 of this Statement and settlement in Chapter 13.

15.2.7 Compliance with the 2006 Rules

- 15.2.7.1 One objection states that the ES does not comply with the 2006 Rules and included a request to the Secretary of State to issue a direction under Rule 17, the effect of which would be to require the provision of further environmental information. A second objector had also requested the Secretary of State to issue a direction under Rule 17, in advance of lodging an objection to the TWAO Application. In both cases the Secretary of State has declined to make any such direction.

15.2.8 Disruption to Business

- 15.2.8.1 Four (4) objectors raised concerns relating to disruption to business arising from the construction work and due to compulsory land take. LUL will discuss the particular concerns raised with the appropriate freehold and leasehold owners. LUL's approach to land acquisition and

the matter of construction effects and are dealt with in this Statement in Chapters 11 and 12 respectively.

15.2.9 Accessibility

- 15.2.9.1 Three objectors raised concern about access to their property during the construction works. One (1) objector, the owners of the Apollo Theatre, is concerned about access for loading and delivery of equipment and accessibility for refuse collection, persons of restricted mobility etc. LUL is addressing this issue and anticipates that an agreement can be reached to allow the theatre to function as normal.
- 15.2.9.2 One objector has commercial and residential interests along Vauxhall Bridge Road and is concerned that access will be impeded during the construction phase. LUL will discuss these concerns with the objector. The draft Order provides, however, that in respect of any street that is to be temporarily stopped up or diverted for the purpose of the works that pedestrian access will be maintained.
- 15.2.9.3 The third objection relates to access to properties along the northern façade of the National Rail Station, LUL is in discussion with Network Rail to resolve the issue and reach an agreement on access arrangements.

15.2.10 Public Consultation

- 15.2.10.1 Three of the residents associations objected to the scheme on the grounds that there had not been enough public consultation. and in particular that the exhibitions were not long enough and not open enough at the weekends. LUL does not accept this. The Public Exhibitions held in May & July 2007 were open between 10am - 7pm on weekdays and from 10am - 1pm on Saturdays. All residents within the consultation area received invitations to the exhibitions with contact details for further information if they wanted to put any questions to the project team. The main residents associations representing many of the resident's views and concerns also received an offer of meeting. LUL has undertaken a full consultation exercise and it is explained in the consultation report which accompanied the TWA0 Application.

15.2.11 Policy

- 15.2.11.1 One objector contends that the VSU scheme is contrary to policy, on the grounds that it adversely impacts upon its

listed building, a sensitive receptor in noise terms and a tourist attraction. LUL considers that the VSU scheme is in accordance with policy. This is explained in more detail in Chapter 4 of this Statement.

APPENDIX ONE - GLOSSARY OF TERMS

2006 Rules	The Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006 (SI 2006/1466)
The Beach	An informal name for the area in front of Victoria National Rail Station
CAZ	Central Activities Zone
CEEQUAL	The Civil Engineering Environmental Quality Assessment and Award Scheme
CoCP	Code of Construction Practice
CSR	Comprehensive Spending Review
D&C	District and Circle
EIA	Environmental Impact Assessment
ES	Environmental Statement
GLA	Greater London Authority
Inquiries Procedure Rules	Transport and Works (Inquiries Procedure) Rules 2004 (SI 2004/2018)
LPA	The Local Planning Authority (Westminster City Council)
LS	Land Securities
LUL	London Underground Limited
MDC1	Multi Disciplinary Consultant 1 (namely Scott Wilson Railways)
MDC2	Multi Disciplinary Consultant 2 (namely Mott MacDonald)
National Rail Station	Victoria National Rail Station
NR	Network Rail
NRSWA	New Roads and Street Works Act 1991
NTH	North Ticket Hall
Order	The London Underground (Victoria Station Upgrade) Order

PAL	Paid Area Link
SCL	Sprayed Concrete Lining
SEMP	Site Environmental Management Plan
SER	Signalling Equipment Room
STH	South Ticket Hall
TfL	Transport for London
TWAO Application	The application made by London Underground Limited for the Order on 22 November 2007
The Underground Station	Victoria Underground Station
VAPB	Victoria Area Planning Brief
VLU	Victoria Line Upgrade
VSU	Victoria Station Upgrade
VTI	Victoria Transport Interchange

Appendix 2 - Statement of Case Document List

CATEGORY A DOCUMENTS	TRANSPORT AND WORKS ORDER AND RELATED APPLICATIONS DOCUMENTS
VSU.A1	Letter of Application dated 22 November 2007
VSU.A2	Draft Order
VSU.A3	An Explanatory Memorandum explaining the purpose and effect of each article and Schedule in the draft Order
VSU.A4	Concise statement of the aims of the proposals
VSU.A5	Report summarising the consultations that have been undertaken
VSU.A6	List of consents, permissions or licences required under other enactments for the purposes of the powers sought in the application
VSU.A7	Scoping opinion
VSU.A8	Details of the applicant's proposals for funding the cost of implementing the Order
VSU.A9	An estimate of the cost of carrying out the works provided for in the proposed Order
VSU.A10	A request for a direction under section 90 (2A) of the Town and Country Planning Act 1990
VSU.A11	Statement of proposed planning conditions
VSU.A12	Environmental Statement Non-technical Summary
VSU.A13	Environmental Statement Main Report, Figures & Technical Appendices (Six Volumes in total)
VSU.A14	Location Plan, Works Plan and Sections, Land Plans and Traffic Regulation Plan
VSU.A15	Book of Reference
VSU.A16	Planning Direction Drawings
VSU.A17	Other Plans (for information)
VSU.A18	CEEQUAL Pre-Assessment Advisory Report
VSU.A19	Energy Demand Assessment
VSU.A20	Draft Code of Construction Practice
VSU.A21	Sustainability Appraisal

VSU.A22	Health Impact Assessment
VSU.A23	Design and Access Statement

CATEGORY B DOCUMENTS	PROJECT DEVELOPMENT, APPRAISAL AND FUNDING DOCUMENTS
<i>Project Development</i>	
VSU.B1	TfL / VTI / Phases 1-3+ Initial Feasibility Study Arup (July 2004)
VSU.B2	TfL / VTI / LUL Phased Implementation - Final Report, Vol. 2 of 3 Arup (July 2004)
VSU.B3	TfL / VTI / LUL Phased Implementation - Appendices, Vol. 3 of 3 Arup (July 2004)
VSU.B4	Bressenden Place Ticket Hall Minimum Property Acquisition Tony Meadows Associates (April 2005)
VSU.B5	LUL VSU Stage B + Option Review Scott Wilson (July 2005)
VSU.B6	VSU / MDC2 W5_D1 Scheme Option Selection (MMD-V047-1159-GEN-DOC-5011 Rev. D01) Mott MacDonald (May 2007) MMD-V047-1159-GEN-DOC-5011 Rev. D01
VSU.B7	VSU MDC2 Option Selection and Operational Scenario Summary (MMD-V047-1159-ARC-DOC-50004 Rev.E01) Mott MacDonald (March 2008)
VSU.B8	VSU Optioneering Summary Sheets 1 and 2 Mott MacDonald (March 2008)
<i>Business Case and Funding</i>	
VSU.B9	Business Case: Background Report for TWA Submission and Funding Paper (January 2008)
VSU.B10	Transport Analysis Guidance Unit 3.5.9 <i>The Estimation and Treatment of Transport Scheme Costs for Appraisal</i> Department for Transport (September 2006)

VSU.B11	Structural Survey of Duke of York Pub and Victoria Palace Theatre (MMD-V047-1159-SUV-DOC-50075 Rev E01) (Alan Baxter)
VSU.B12	Report : Visual Inspection of 4 - 7 Victoria Buildings, Wilton Road & 22 Terminal Place (MMD-V047-1159-SUV-DOC-50072 Rev E01)
VSU.B13	Phase 1 Potential Damage Assessment Report (MMD-V047-1159- GEO-DOC-50010 Rev D01) Mott MacDonald (August 2007)
VSU.B14	Extract from Ground Improvement (2 nd Edition) - " <i>Jet Grouting</i> " R. Essler and H. Yoshida
VSU.B15	Extract from <i>Ground Performance and Building Response due to Tunnelling</i> , Skempton Conference J Burland, R J Mair and J R Standing (March 2004)
VSU.B16	Construction Planning Report & Appendices Mott MacDonald MMD-V047-1159-CIV-DOC-50011 Rev. D01
VSU.B17	VSU Revised Utility Strategy (MMD-V047-1159-UTL-DOC-50000 Rev E01) Mott MacDonald (December 2007)
VSU.B18	MDC2 NRSWA Correspondence Tracking Schedule 2008
Noise & Vibration	
VSU.B19	London Road Traffic Noise Map WS Atkins (2002)
VSU.B20	Calculation of Road Traffic Noise (CRTN) Highways Agency, the Welsh Office HMSO, (1988) 0-11-550847-3
VSU.B21	Design Manual for Roads and Bridges (DMRB) Vol 11, Part 7, Department for Transport (1994)
VSU.B22	BS5228 Noise and vibration control on construction and open sites: Part 1: 1997 BSI (1997)

VSU.B23	BS4142:1997 Method for Rating industrial noise affecting mixed residential and industrial areas (BSI 1997)
VSU.B24	TRL Report 429 <i>Groundborne vibration caused by mechanical construction works</i> Hiller, DM, Crabb GI/TRL (2000)
VSU.B25	Converting the UK traffic noise index LA10, 18th to EU noise indices for noise mapping P G Abbot and P M Nelson/Project Report PR/SE/451/02. TRL Ltd Crowthorne (2002)
<i>Transport and Movement</i>	
VSU.B26	Design Standards for signal Schemes in London TfL DTO Specification SQA-0064 (formerly TTS 6) Rev 0 August 2007
VSU.B27	Transport Assessment Best Practice : Guidance Document TfL (May 2006)
VSU.B28	Guidance for Workplace Travel Planning for Development TfL and GLA Final Draft (vs.3.6.020807)
VSU.B29	Traffic Schemes in London Urban Networks TfL DTO Model auditing Process (version. 1) (July 2007)
VSU.B30	Traffic Schemes in London Urban Networks TFI Modelling Guidelines (version. 2) (July 2006)
VSU.B31	Station Planning Standards and Guidelines (5 th Edition) LUL
VSU.B32	Intermodal Transport Interchange for London Best Practice Guidelines TfL January 2001 Issue 1
VSU.B33	Accessible Bus Stop Design Guidance, London Buses BP1/06 (January 2006)

VSU.B34	Network Rail Route Plan, Route 2 Brighton Main Line and Sussex, November 2007 (Extract)
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CATEGORY C DOCUMENTS	NATIONAL, REGIONAL AND LOCAL PLANNING AND TRANSPORT REPORTS, POLICIES AND GUIDANCE
<i>National Policies and Guidance</i>	
VSU.C1	Planning Policy Statement 1: Delivering Sustainable Development (2005)
VSU.C2	The Planning System: General Principles (2005)
VSU.C3	Planning Policy Statement: Planning and Climate Change Supplement to Planning Policy Statement 1 (2007)
VSU.C4	Planning Policy Statement 6: Planning for Town Centres (2005)
VSU.C5	Planning Policy Statement 9: Biodiversity and Geological Conservation (2005)
VSU.C6	Planning Policy Statement 10: Planning for Sustainable Waste Management (2005)
VSU.C7	Planning Policy Guidance Note 13: Transport (2001)
VSU.C8	Planning Policy Guidance Note 15: Planning and the Historic Environment (1994)
VSU.C9	Planning Policy Guidance Note 16: Archaeology and Planning (1990)
VSU.C10	Planning Policy Statement 22: Renewable Energy (2004)
VSU.C11	Planning Policy Statement 23: Planning and Pollution Control (2004)
VSU.C12	Planning Policy Guidance Note 24: Planning and Noise (1994)
VSU.C13	Planning Policy Statement 25: Development and Flood Risk (2006)
VSU.C14	Securing the Future – The UK Government Sustainable Development Strategy (2005)
VSU.C15	Our Towns and Cities: The Future – Delivering an Urban Renaissance (2000)

VSU.C16	Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World (2007)
VSU.C17	A New Deal for Transport: Better for Everyone (1998)
VSU.C18	The Future of Transport: A Network for 2030 (2004)
VSU.C19	Transport Ten Year Plan 2000
<i>Regional Policies and Guidance</i>	
VSU.C20	The London Plan – Spatial Development Strategy for Greater London: Consolidated with Alterations since 2004 (February 2008)
VSU.C21	The Mayor’s Transport Strategy (2001)
VSU.C22	The Mayor’s Transport Strategy Revision (2004)
VSU.C23	The Mayor’s Transport and Air Quality Strategy Revisions (2006)
VSU.C24	Sustaining Success – Developing London’s Economy: Economic Development Strategy (January 2005)
VSU.C25	The Mayor’s Air Quality Strategy (2002)
VSU.C26	Souder City – The Mayor’s Ambient Noise Strategy (2004)
VSU.C27	Water matters - The Mayor’s Draft Water Strategy (2007)
VSU.C28	Central London Sub-Regional Development Framework (May 2006)
VSU.C29	Accessible London: achieving an inclusive environment – The London Plan Supplementary Planning Guidance (2004)
VSU.C30	Land for Transport Functions - The London Plan Supplementary Planning Guidance (2007)
VSU.C31	Planning for Equality and Diversity in London - The London Plan Supplementary Planning Guidance (2007)
VSU.C32	Sustainable Design and Construction - The London Plan Supplementary Planning Guidance (2006)
VSU.C33	The control of dust and emissions from construction and demolition – Best Practice Guidance (2006)
VSU.C34	Health Issues in Planning – Best Practice Guidance (2007)

Local Policies and Guidance	
VSU.C35	City of Westminster Unitary Development Plan (adopted January 2007)
VSU.C36	City of Westminster - Inclusive Access and Design Supplementary Planning Guidance (2007)
VSU.C37	City of Westminster - Design Matters in Westminster Supplementary Planning Guidance (2004)
VSU.C38	City of Westminster - Designing out Crime Supplementary Planning Guidance (2004)
VSU.C39	City of Westminster – Sustainable Buildings Supplementary Planning Guidance (2003)
VSU.C40	City of Westminster – Central Activities Zone Supplementary Planning Guidance (2001)
VSU.C41	City of Westminster – The Protection of Historic Buildings in Westminster Supplementary Planning Guidance (2000)
VSU.C42	City of Westminster - Victoria Area Planning Brief (April 2006)
VSU.C43	City of Westminster – Issues and Options relating to the Core Strategy (May 2007)
VSU.C44	City of Westminster – Local Development Scheme 2007 – 2010 (2007)
Other	
VSU.C45	Transport2025 – Transport Vision for a Growing World City (2006)

CATEGORY D DOCUMENTS	LEGAL MATERIALS AND GUIDANCE
Transport and Works Act & Planning	
VSU.D1	Transport and Works Act 1992, Part I
VSU.D2	Transport and Works Applications (Listed Buildings, Conservation Areas and Ancient Monuments Procedure) Regulations 1992, S.I. 1992/3138

VSU.D3	Transport and Works (Inquiries Procedure) Rules 2004, S.I. 2004/2018
VSU.D4	The Transport and Works (Applications and Objections Procedures) England and Wales Rules 2006, S.I. 2006/1466
VSU.D5	Section 90(2A) Town and Country Planning Act 1990
VSU.D6	Planning (Listed Buildings and Conservation Areas) Act 1990
VSU.D7	Planning and Compulsory Purchase Act 2004
VSU.D8	Town and Country Planning (General Development Procedure) Order 1995, S.I. 1995/419
VSU.D9	A Guide to Transport and Works Act Procedures 2006
VSU.D10	Extract of ODPM Circular 06/04: Compulsory Purchase and The Crichel Down Rules
VSU.D11	DCLG Circular 01/06 Guidance on Changes to the Development Control System
<i>Environmental</i>	
VSU.D12	Control of Pollution Act 1974
VSU.D13	The Noise Insulation Regulations 1975, S.I. 1975/1763
VSU.D14	The Noise Insulation (Amendment) Regulations 1988, S.I. 1988/2000
VSU.D15	European Council Directive on Environmental Impact Assessment 85/337/EEC
VSU.D16	European Council Directive on Environmental Impact Assessment 97/11/EC
VSU.D17	European Directive on the Assessment and Management of Environmental Noise 2002/49/EC
VSU.D18	DETR Circular 02/99 Environmental Impact Assessment