

**Proposed extension of the Northern line to Battersea**

**Consultation with the public on proposed route options and location of  
ventilation and access shafts; further work on the options**

# **TfL's REPORT ON THE CONSULTATION and UPDATE ON THE PROPOSAL**

October 2011

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## **Executive Summary**

### **Overview**

The Mayor of London supports the regeneration of the Vauxhall Nine Elms Battersea (VNEB) area and has set out his plans for the area in a draft Opportunity Area Framework (OAPF), which is expected to be finalised later in 2011. The scale of the development envisaged for the area will require significant enhancements to public transport capacity and an extension of the Northern line to Battersea has been identified as the best way in which to achieve this. In his Transport Strategy, the Mayor set out his support for a privately-funded extension.

In summer 2011, TfL and the Mayor of London, together with Treasury Holdings, the development managers acting on behalf of the owners of the Battersea Power Station site, held a second stage formal public consultation on the route options and sites for permanent access and ventilation shafts. This follows an earlier public consultation in 2010 on the route options.

The report focuses on the results of this 2011 consultation and considers the issues raised by respondents and interested parties in some detail. It also summarises the process by which both the VNEB OAPF and its accompanying Transport Study considered transport options for the area; and how these have been developed in conjunction with Treasury Holdings. It also sets out in detail the next steps in developing and seeking permission for the proposal.

### **The development of the proposal**

The VNEB OAPF was developed by the Greater London Authority (GLA) with input from TfL on the transport aspects of the draft framework. TfL commissioned a Transport Study<sup>1</sup> which considered in detail the transport options which would be appropriate for the various development scenarios set out in the draft OAPF. For the scenario which is preferred by the Mayor, Revised Scenario 5, the level of transport demand could only be met by an extension of the Northern line to Battersea. That said, it should be reiterated that this would be part of an overall package of transport improvements – albeit the most significant– envisaged for the Opportunity Area.

Before and during the development of the draft OAPF and the Transport Study, Treasury Holdings and transport consultants Steer Davies Gleave (SDG) had undertaken work on the initial transport options for the site. Following the first stage

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<sup>1</sup> The draft VNEB OAPF and the Transport Study (both first published Nov 2009) can be downloaded from: [www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-opportunity-area-planning-framework](http://www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-opportunity-area-planning-framework)

public consultation of 2010, an initial draft appraisal of the four route options was carried out, using the results of this consultation, the Mayor's objectives for transport as set out in the draft OAPF; the new Mayor's Transport Strategy (May 2010); the Government's appraisal criteria for transport schemes; and an appraisal of the feasibility and affordability aspects of each option.

The four route options considered would all extend the Charing Cross branch of the Northern line from Kennington Station to Battersea. Option 1 would provide a direct link to Battersea Power Station (BPS) with no mid-station; Option 2 would provide a new station in the south Nine Elms area; Option 3 would include a new interchange station at Vauxhall; and Option 4 would provide a new station in the north Nine Elms area, close to the future US Embassy site.

After considering the engineering, technical and economic aspects, and the results of the consultation, with input from TfL and the local Boroughs of Lambeth and Wandsworth, the draft assessment recommended that Route 2 be taken forward as the preferred route.

### **Key Findings from the 2011 Consultation**

Two leaflets and questionnaires were distributed locally and available at public exhibitions and meetings, seeking views on the preferred route (Route Option 2) and the location of permanent shafts along the route. The questionnaires could also be completed online. The extended consultation ran for some 13 weeks from 9 May to 10 August 2011. In total eight public exhibitions were held in addition to a number of local meetings as requested by residents.

SDG analysed the results from the questionnaires and their report was published online on 30 September<sup>2</sup> and is attached to this report at Appendix A.

There was strong agreement with the statement that the proposal would bring transport benefits to the area: 90% agreed or strongly agreed in the first questionnaire and 87% in the second.

In terms of the route options, the first questionnaire asked if the respondent supported the currently preferred route, Route 2. Sixty-nine per cent said that they supported it, 14% opposed it and 17% said that they either had no opinion or did not know. In the second questionnaire, respondents were asked about all four of the route options. Route 2 had the strongest support (61%), followed by Route 3 (24%), with 5% supporting Route 4 and 4% supporting Route 1. Four per cent of respondents supported none of these options and 1% had no preference.

In the response to the options for the location of permanent shafts, there was a clear preference for housing areas and parklands to be avoided. In summary, at Claylands

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<sup>2</sup> The report may be downloaded from: [www.northernlineextension.com](http://www.northernlineextension.com)

Road the most-preferred option was 'at the garages' (29%); at Kennington Green it was 'on the distillery site' (43%); and at Kennington Park, 'at the Old Lodge' (27%). It should be noted that around 40% had no opinion on each of these sites.

As well as a quantitative analysis as summarised above, SDG identified the most-often raised issues in the free text responses made in the questionnaires. This analysis, together with information from email and letter responses and comments made at exhibitions and meetings, is considered in more detail in TfL's report. The issues include for example the decision to propose an Underground extension rather than other schemes; noise and vibration impacts of the proposal; and how the proposal will be progressed.

### **Next steps**

New railway infrastructure of this type requires permission from the Secretary of State in the form of a Transport and Works Act Order (TWAO). Such an application could be made in 2012, subject to further assessment and development of the proposal, and the identification of an appropriate funding and financing package.

TfL has now updated the draft appraisal of route options in autumn 2011, using the results of the recent public consultation and further work on engineering and technical aspects of the route options. Final confirmation of the route to be taken forward will now be progressed through key stakeholder internal decision-making processes and announced shortly.

Following this, having now agreed and finalised the preferred design, updated the cost estimate and carried out the business case appraisal, the next key step is to identify and confirm the most appropriate funding package for the scheme. All these aspects, alongside an Environmental Assessment, will be required to take the scheme through to a TWAO application.

## **Introduction**

### **1.1 Purpose of this report**

1.1.1 This report summarises the development of the proposal to extend the Northern line to Battersea and sets out what the future stages will be in deciding a route to be taken forward. It follows a second stage public consultation on the proposal which took place in summer 2011, which was sponsored by Treasury Holdings, Transport for London (TfL) and the Mayor of London. At the end of September, SDG published a quantitative analysis of the results of the consultation<sup>3</sup> which has informed this report and will be used in the further development and assessment of the proposal. SDG's report includes copies of the leaflets and questionnaires used in 2011. As well as providing context on the extension of the Northern line, the present report will consider in more detail some of the issues raised during the consultation. For reference, SDG's report is attached at Appendix A.

1.1.2 For clarification, whilst a final Consultation Report forms part of the suite of documents required for any TWAO application, the present report is not intended to fulfil this function, but will of course inform the final Consultation Report.

### **1.2 Overview of the proposal**

1.2.1 An extension of the Northern line (Charing Cross branch) is proposed from Kennington Station to Battersea Power Station. Chapter 2 sets out in detail how the proposal has been developed in the context of the Mayor's vision for the regeneration of Vauxhall Nine Elms Battersea (VNEB), which he has designated an Opportunity Area. The scale of the development envisaged for the area will require significant enhancements to public transport capacity and an extension of the Northern line to Battersea has been identified as the best way in which to achieve this.

1.2.2 Following extensive development work by TfL and by Treasury Holdings, including a consideration of other possible transport options, four possible route alignments for the extension were identified and these have been subject to public consultation in 2010 and in 2011 (with minor changes to the alignment of Routes 2 and 4). Option 1

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<sup>3</sup> Available from: [www.northernlineextension.com](http://www.northernlineextension.com)

would provide a direct link to Battersea Power Station (BPS) with no mid-station; Option 2 would provide a new station in the south Nine Elms area; Option 3 would include a new interchange station at Vauxhall; and Option 4 would provide a new station in the north Nine Elms area, close to the future US Embassy site.

- 1.2.3 An initial draft appraisal by SDG in 2010, with input from TfL and the local Boroughs of Lambeth and Wandsworth, recommended that Route 2 be taken forward as the preferred route. Consequently, the consultation in 2011 focussed on Route 2 and the potential locations for permanent shafts along this route, while also providing an opportunity for respondents to comment on the proposal and the four route options (as well as any alternative options).

### 1.3 Policy context for the proposal

*The Mayor's Transport Strategy (MTS) and the Mayor's support for a privately funded extension; the London Plan*

- 1.3.1 In May 2010 the Mayor confirmed his Transport Strategy (MTS)<sup>4</sup>, following consultation with the London Assembly and Functional Bodies and public and stakeholders. Proposal 22 of the Strategy sets out that: *The Mayor, through TfL, and working with DfT...London boroughs and other stakeholders, will seek longer-term enhancements and extension to the Underground network, including...a privately funded extension of the Northern Line to Battersea to support regeneration of the Vauxhall/Nine Elms/Battersea area*.

- 1.3.2 The Mayor's spatial development strategy for London, The London Plan<sup>5</sup> was published in July 2011. Vauxhall Nine Elms Battersea (VNEB) is described as an Opportunity Area with scope for significant intensification and increase in housing and commercial capacity. The Plan sets an indicative employment capacity of at least 15,000 new jobs and a minimum of 10,000 new homes by 2031. VNEB is also an integral part of the Central Activity Zone (CAZ) and the Battersea Power Station site has the potential to become a new 'CAZ frontage' with a strategically significant mix of residential, business, leisure, retail and service uses.

- 1.3.3 In addition to the Power Station site, there are also a number other significant developments planned across VNEB, including the

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<sup>4</sup> GLA, 2010 [www.london.gov.uk/publication/mayors-transport-strategy](http://www.london.gov.uk/publication/mayors-transport-strategy)

<sup>5</sup>GLA, 2011 [www.london.gov.uk/priorities/planning/londonplan](http://www.london.gov.uk/priorities/planning/londonplan)



relocation of the US Embassy from Grosvenor Square, the refurbishment and redevelopment of New Covent Garden Market and a range of other private residential and commercial schemes. To deliver the area's full potential will require major transport investment, the most significant of which would be an extension of the Northern Line Extension to Battersea.

- 1.3.4 Policy 6.2 of the London Plan sets out that the Mayor will work with strategic partners to put in place a Northern line extension, with anticipated completion in the medium to long term (2013 to 2031). Policy 6.5 '*Funding Crossrail and other strategically important transport infrastructure*' outlines how developer contributions could play a role in funding strategic transport infrastructure provision. This could be in the form of planning obligations and/or Community Infrastructure Levy, used in accordance with relevant legislation and policy guidance. Part E states '*The approach outlined in this Policy could where appropriate also be applied to other transport infrastructure of regional strategic importance to London's economic regeneration and development and other objectives of this Plan (such as an extension of the Northern Line to Battersea)*'.

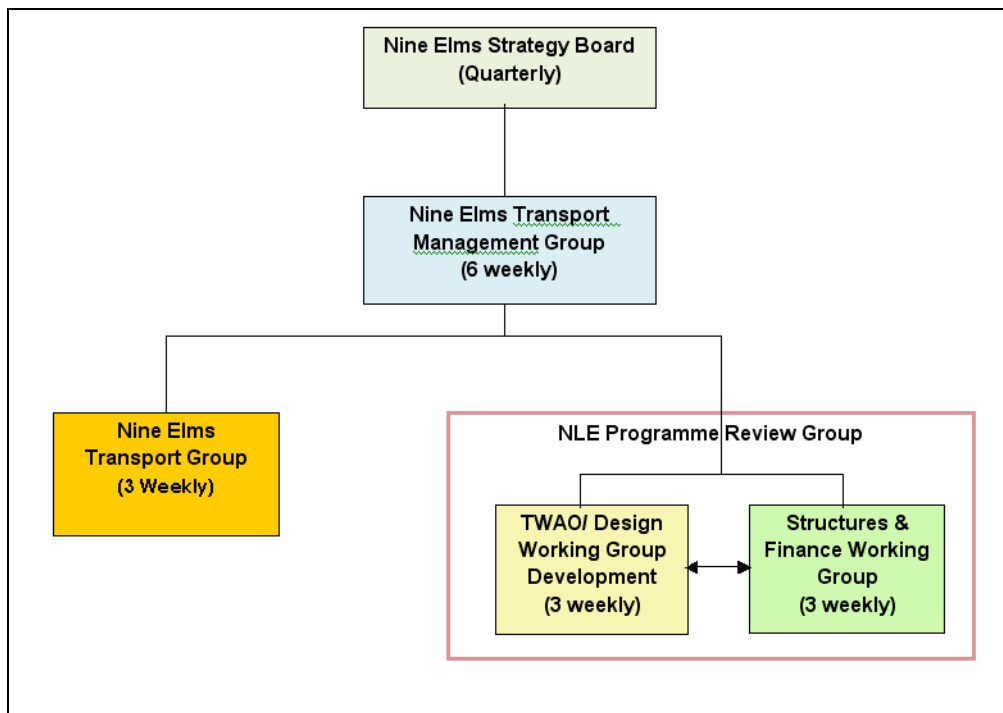
#### *VNEB Governance and TfL's role*

- 1.3.5 TfL has been involved in the proposals for developments in the area from a very early stage, starting from the pre-application process and beyond the granting of permissions. The development of the area in terms of property and the need to provide and mitigate transport impacts are closely entwined. The governance arrangements for VNEB have been an important factor in ensuring that these aspects are aligned, and remain important.
- 1.3.6 The VNEB Strategy Board first met in October 2010 and continues to meet on a quarterly basis. The meeting is chaired by the Leader of Wandsworth Council, Councillor Ravi Govindia, and is attended by Sir Edward Lister (Deputy Mayor) and the Leader of Lambeth Council, Councillor Steve Reed, as well as senior officers from TfL, the GLA and the major landowners in the Opportunity Area (including Treasury Holdings, Ballymore and Berkeley St James). Its purpose is to provide strategic leadership and decision-making to guide the regeneration of the VNEB area and to ensure an integrated approach to planning and delivery. More frequent meetings are held on the details of the regeneration, as shown in Figure 1 below. Further ad-hoc meetings are also set up as required (for example, a consultation working group over

summer 2011) and there is flexibility in the structure as the scheme progresses.

1.3.7 The local planning authorities for the VNEB OA are the London Boroughs of Lambeth and Wandsworth.

Figure 1: Governance



#### *Treasury Holdings' role in developing the proposal*

1.3.8 Treasury Holdings, the development managers acting on behalf of the owners of the Battersea Power Station site, have to date taken the lead responsibility for progressing the development of the proposed extension towards a TWAO application, with the support and guidance of TfL on the technical aspects. It is expected that TfL would be one of the sponsors of a joint application for a TWAO, subject to a suitable funding and financing solution being in place.

1.3.9 In order to fulfil their lead project management role, Treasury Holdings have, over the past three years, appointed and overseen the output of a number of professional consultants who continue to work with both them and TfL on the proposal. These are listed and their roles briefly described below.

<b>Work Area</b>	<b>Lead Consultant</b>
Initial Engineering Feasibility	Parsons Brinckerhoff (PB)
Engineering Design	Halcrow
Station Architecture	Studiosare
Capital Cost Estimate	Corderoy
Business Case	Steer Davies Gleave (SDG)
Transport Planning / Rail Operations	Steer Davies Gleave (SDG)
Environmental Assessment	URS Corporation Ltd (URS)
Legal Services	Bircham Dyson Bell
Property	Ardent
Funding & Financing	KPMG

### *TfL's role in developing the proposal*

- 1.3.10 Chapter 2 describes TfL's involvement in the development of the VNEB OAPF and the accompanying Transport Study. TfL staff continue to work on all transport and public realm plans relating to the overall Opportunity Area. This includes transport and highways modelling, consultation, planning applications and related transport issues and legal matters. Officers also attend Vauxhall Nine Elms Battersea working groups, meetings and boards.
- 1.3.11 With regard to the detailed development of the Northern line extension specifically, TfL staff are involved in working in partnership with Treasury Holdings towards a Transport Works Act Order application (in broadly the same work areas as staff involved with the OAPF).
- 1.3.12 TfL commissioned the transport modelling for the VNEB OAPF Transport Study and has remained involved in the further work advising SDG on this aspect of the proposals, and agreed on the inputs used to refresh the appraisal of options in autumn 2011. This work has used TfL's suite of strategic sub-models to assess the proposed extension including the projection of demand for and impact of the extension on the wider transport network in the context of other development and future committed investment (such as the Tube upgrade). The methodology used is consistent with the modelling and analysis carried out for the London Plan, Mayor's Transport Strategy and other strategic transport studies. Within London Underground, a project sponsor is responsible for ensuring that the proposal satisfies Underground requirements, for example with regard to operating practices and engineering standards.

## **1.4 Post-consultation; updating the appraisal of route options**

- 1.4.1 The updated appraisal of the route options is populated with a number of separate pieces of work on different aspects of the proposal and uses the Government's guidelines on the evaluation of potential transport schemes, as well as TfL's own criteria and approach to ensure that schemes meet the Mayor's objectives for transport (as set out in the MTS) as well as providing good value for money. As in the development of the OAPF and the Transport Study, the planning policies of the London Boroughs of Wandsworth and Lambeth have also informed the appraisal.
- 1.4.2 The views of individual respondents as expressed in response to the public consultations, along with other important considerations such as cost, engineering complexity and environmental impacts, will continue to inform the future development of the scheme, beyond the final decision on the route alignment.
- 1.4.3 Throughout 2011, TfL and Treasury Holdings have worked together on expanding and refreshing the inputs to the appraisal, which include a consideration of station site options; engineering feasibility for the route options; environmental and transport impacts and options for funding and financing the scheme. Much of this detailed technical work will continue as the scheme is further developed and progressed towards and beyond TWAO application.
- 1.4.4 In addition, the future development of the proposal will naturally need to take account of any potential changing policy context (for example, the Coalition Government's emerging policies on local government finance) and the future policy positions of local Boroughs (for example, on local Community Infrastructure Levies -CILs), as well as the views which emerge from the continued engagement with local people, the finalised OAPF and the views of the Mayor, as well as many other relevant factors. This wider context will continue to inform consideration of development of both the OA and the transport infrastructure required to support it.
- 1.4.5 That said, the decision that a Northern line/Underground extension is the only way of providing sufficient capacity for the development as currently envisaged, has already been taken. There are also ongoing discussions with regard to the other infrastructure (transport, health, education and so on) needed. In particular, GLA and TfL staff are working with the Boroughs of Lambeth and Wandsworth and developers across the area to develop a funding and finance strategy

for this project, which will build on the recommendations of the VNEB Development Infrastructure Funding Study (see section 2.6).

- 1.4.6 Whilst all of the four route options are feasible in engineering terms, Route 2 is currently the preferred option, as this offers the most benefits and was also the option preferred by respondents to the consultations in 2010, and 2011. A significant amount of work has been carried out on the design of the scheme to date. Final confirmation of the route to be taken forward to a TWAO application will now be progressed through key stakeholder internal decision-making processes and announced shortly.

## **2. Background to the proposed extension**

### **2.1 Introduction**

2.1.1 As already indicated, the development of the proposal to extend the Northern line is closely aligned with and dependent on the Mayor's plans for the regeneration of the area as set out in the VNEB OAPF. Work on both aspects (including the transport package beyond the Underground extension) is ongoing. The following sections describe the development of both strands of work: while the wider OAPF work is led by TfL and GLA, specific work leading to the development of the Northern line proposal has been undertaken by both TfL and Treasury Holdings as appropriate. It should be noted that the summary below presents the situation as it was at the time the documents referred to were produced.

### **2.2 The Vauxhall Nine Elms Battersea (VNEB) Opportunity Area**

#### *The Mayor's vision for VNEB*

2.2.1 The Vauxhall Nine Elms Battersea (VNEB) Opportunity Area covers some 196 hectares and is the largest development opportunity close to the centre of London. It is the largest remaining industrial area in central London.

2.2.2 The Mayor of London strongly supports this regeneration and on his behalf a draft Opportunity Area Planning Framework (OAPF)<sup>6</sup> has been prepared. Formal public consultation on the OAPF ran from November 2009 to the end of March 2010. The OAPF set out five possible development scenarios for the Opportunity Area, each of which had a varying mix of land uses and densities. Revised Scenario 5, a mix of high density housing, major retail and office development emerged as the GLA's preferred option and would allow for up to 16,000 new homes and 20-25,000 new jobs in the OA. Work done subsequently on the transport package for the area, including the Northern line extension, has used the assumptions of this Scenario.

2.2.3 The GLA is expected to finalise the OAPF shortly. This follows further consultation on the funding and financing chapter of the draft OAPF (see Section 2.6 below). The work to progress the extension of the

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<sup>6</sup> [www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-opportunity-area-planning-framework](http://www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-opportunity-area-planning-framework)

Northern line to TWAO will also be reflected in the final published OAPF.

### *Planning policy and other context including the section 106 agreement*

2.2.4 This report focuses on the proposed Northern line extension which is required to support and enable development in the VNEB opportunity area, including the major commercial and residential development at Battersea Power Station (BPS). In addition to BPS, there are a number of other major developments within the VNEB Opportunity Area. The majority of sites have either submitted or are in the process of preparing planning applications. Each development will be required to mitigate its own transport impact, and as well as contributing toward transport enhancements, there will also be a need to address and contribute to the wider infrastructure needs of the Opportunity Area such as health, education and the environment. Physical mitigation measures and financial contributions will be secured through the planning process.

## **2.3 The Transport Study and The Public Realm and Highways Modelling Study**

2.3.1 The consultation on the draft OAPF included a Transport Study<sup>7</sup> commissioned by TfL which assessed the transport needs for the five development scenarios under consideration. A range of potential transport initiatives were identified to provide varying levels of transport improvement to support each of the development scenarios. In keeping with wider GLA strategic objectives relating to long-term sustainability, the initiatives focused on public transport, walking and cycling rather than the car.

2.3.2 A 'long list' of possible interventions was considered, including walking & cycling, bus, light rail transit similar to the DLR, Network Rail (mainline services), an Underground extension and other modes. These initiatives were modelled in combination with the five development scenarios. As indicated above, the draft OAPF was developed alongside the Transport Study and gave a general direction

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<sup>7</sup> Sinclair Knight Merz, VNEB Opportunity Area Transport Study, 2009  
<http://www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-opportunity-area-planning-framework>

for the likely transport needs. It was acknowledged that no single intervention would suffice and that a *package* of measures – albeit one which would probably have one major project, dependent on the development scenario adopted – would be required. For example, walking and cycling would always be part of the package, regardless of the other elements.

- 2.3.3 Revised Scenario 5, the GLA's preferred option, would create approximately 40,000 additional trips to and from the OA in the morning peak as compared to the 2026 base case. Of these over half were expected to travel by public transport and nearly 30% by walking and cycling.
- 2.3.4 The full details of the consideration for each scenario are set out in the Study. Here we will focus on the options considered for Scenario 5. The transport packages were appraised in line with WEBTAG<sup>8</sup> guidance which includes an appraisal against study-specific objectives (set by TfL), central government objectives, and the Mayor's Transport Strategy (MTS) objectives.
- 2.3.5 National rail was not considered suitable because lines are already at capacity during peak times and any new link from the Power Station to either Waterloo or Victoria (as was part of the previous BPS permission) has been ruled out by TfL and Network Rail due to capacity constraints at the respective termini and the likely need to cross the 'fast' Kent lines out of Victoria.
- 2.3.6 A light rail option, with a route from Battersea Power Station to Waterloo via Vauxhall along Nine Elms Lane and Albert Embankment was considered in the Transport Study; however this would create significant traffic disruption and would require extra facilities such as a depot. A bus rapid transit scheme would have similar disadvantages.
- 2.3.7 Extending each of the Bakerloo, Waterloo & City, Northern and Victoria lines into the OA was considered, with an extension to the Northern line (Charing Cross branch) emerging as the preferred option, given the capacity required for the scale of development planned. This option would include a mid-station in the Nine Elms area (a new station or possibly at Vauxhall). This recommendation from the Transport Study supported a similar conclusion emerging from specific option appraisal work as described in Section 2.4.

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<sup>8</sup> WEBTAG is part of the Government's guidance on producing a Business Case for major transport schemes, [www.dft.gov.uk/publications/transport-business-case/](http://www.dft.gov.uk/publications/transport-business-case/)



- 2.3.8 The OAPF Transport Study identified four different alignment and station location options for the extension, all running from Kennington Station: to Battersea Power Station (BPS) direct; to BPS via a mid-station at Nine Elms; to BPS via Vauxhall station; and via Nine Elms Post Office (this last option was discounted on the grounds that it would not support the density of development planned for the area).
- 2.3.9 The proposed Northern line extension was developed as and remains part of an overall package of transport measures identified as necessary to meet the scale of development which is preferred in the draft OAPF. This package includes enhancements to bus services including the introduction and extension of new routes; improvements to Vauxhall, Battersea Park and Queenstown Road NR stations; a step change in the walking and cycle environment and public realm, including Vauxhall Gyratory; an approach to development which reduces the need to travel by car; and improving conditions for taxis, coaches, freight and river services.
- 2.3.10 This outline package continues to be developed in more detail. The various s106 agreements, as well as the policies of the local boroughs and TfL's own schemes, will continue to be important in determining the transport infrastructure to be put in place in the Opportunity Area.
- 2.3.11 A Public Realm and Highways Modelling Study<sup>9</sup> was undertaken on behalf of TfL and further develops the public realm strategy as set out in the draft OAPF to the next level considers the impacts of development (e.g. on traffic and pedestrian flows) on the key areas of Albert Embankment, Vauxhall Gyratory and Nine Elms Lane, and puts forward possible options for these going forward. It concludes with recommendations and a list of further work to be undertaken.

## **2.4 The case for an Underground extension to Battersea**

- 2.4.1 Prior to the publication of the consultation draft OAPF, SDG undertook work for Treasury Holdings on the initial transport options for the site. This was part of an assessment of options used in support of a planning application for redevelopment of the Battersea Power Station site. The report 'Outline Feasibility Studies and Business Cases for Tram and Tube Options'<sup>10</sup> (February 2008), considered two options in detail: a new tram link running from near Waterloo to Battersea Power

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<sup>9</sup> Burns and Nice, VNEB Public Realm and Highways Modelling Study, 2010

<sup>10</sup> This report, and the others referred to in this and the following section, can be downloaded from [www.northernlineextension.com/downloads.aspx](http://www.northernlineextension.com/downloads.aspx)

Station via Vauxhall, and an extension of the Northern line (Charing Cross branch) from Kennington to Battersea. A short engineering review of the outline scheme was also produced by Mott McDonald at the same time.

2.4.2 This early Feasibility Study set out in summary a consideration of other modes, some of which (improvements to bus services, provision of piers and riverbus, and better options for pedestrians and cyclists, for example) have since been retained as complementary to the main proposal. It noted, though, that increases to train frequency of existing local services would have a relatively small impact and there would be challenges in adding or moving stations.

2.4.3 While the study concluded that both tram and Tube options were feasible, the Tube option would provide much greater capacity, and have a slightly better Benefit Cost Ratio (BCR). At the time, TfL was developing a proposal for a Cross River Tram (CRT) linking Euston and Waterloo and the consideration of a tram option was undertaken in this context. TfL announced in late 2008 that it was no longer pursuing CRT due to lack of funding.

2.4.4 Following this initial SDG work, an Engineering and Architectural Feasibility Study by the engineers Parsons Brinckerhoff<sup>11</sup> looked at initial route options for the Northern line extension. This was accompanied by a Construction Cost Report<sup>12</sup>, and a Preliminary Environmental Assessment<sup>13</sup> which appraised the costs and environmental impacts of the three route options under consideration at that time. More information on these is given in the following section.

## **2.5 The development of the route options 2008-2010**

### *The development of the route options 2008-2010; key documents*

2.5.1 The feasibility work undertaken in 2008 by Treasury Holdings' consultants considered three routes for the extension all from Kennington to Battersea, as set out below. Transport Commissioner Peter Hendy, commenting on LUL's review of these options, stated that these routes were all feasible, but noted that Option 3 would be a complex engineering challenge.<sup>14</sup> The three routes were:

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<sup>11</sup> Parsons Brinckerhoff, December 2008

<sup>12</sup> Corderoy, December 2008

<sup>13</sup> URS, December 2008

<sup>14</sup> Letter to Applicant, 24 February 2009

- Option 1: Direct from Kennington to BPS;
- Option 2: From Kennington to BPS via a new station in the Nine Elms area; and
- Option 3: From Kennington to BPS via a new interchange station at Vauxhall.

2.5.2 The Preliminary Environmental Assessment considered that Route 2 (via a new station in Nine Elms) was the least environmentally sensitive and Route 3 (via Vauxhall) the most environmentally sensitive option.

2.5.3 In his letter to Treasury Holdings, the Transport Commissioner described the Northern line extension proposals as “bold and imaginative” and, although at that stage, he was unable to provide a formal commitment to any particular scheme until the Mayor’s OAPF was published, he nevertheless encouraged Treasury Holdings to continue working with TfL (including LUL).<sup>15</sup>

2.5.4 As a result, with significant input from TfL, SDG produced a Preliminary Business Case in summer 2009, which considered the three route options from the perspective of transport modelling, scheme costs and economic appraisal (financial effects and other benefits such as travel time saved and reduction in public transport crowding). Note that wider economic benefits were not included in the appraisal, but were estimated to increase economic benefits by at least 20%.

2.5.5 The conclusion of the Preliminary Business Case was that Options 1 and 2 had a strong economic case, but Option 3 had a higher cost and lower benefit. In particular, Option 2, since it had a mid-station, would increase accessibility benefits across the area. This benefit was markedly lower for Options 1 and 3; the first because it has no mid-station, and, the second, its link to Vauxhall station means that Option 3 would enhance existing accessibility and put extra pressure on the station.

2.5.6 In autumn 2009, following discussions with the relevant Boroughs and TfL, a further route/station option with 3 sub-variants was suggested, and Parsons Brinckerhoff produced an addendum to their earlier Feasibility Report. This new Option 4 would place the mid-station closer to the US Embassy development. The sub-variants were as follows:

- route option 4a – a new station just to the south of the US Embassy site

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<sup>15</sup> Letter to Applicant, 24 February 2009

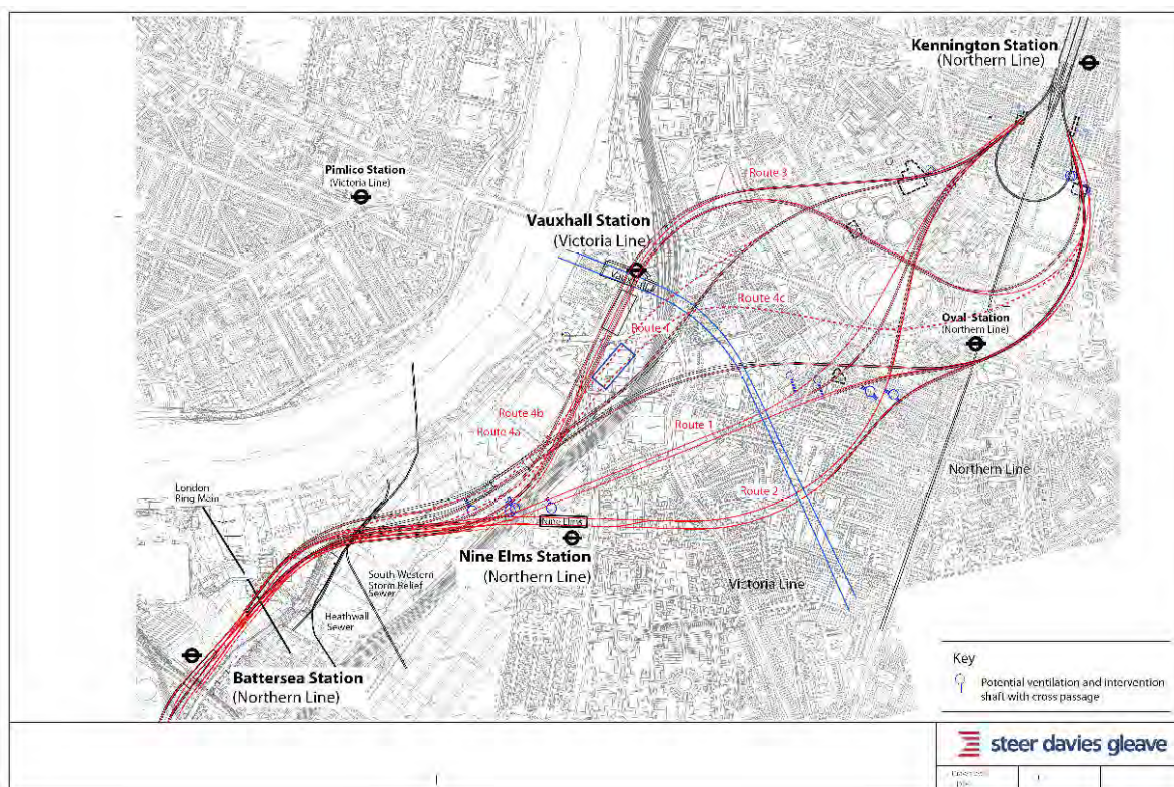
- route option 4b – a new station just to the east of the route option 4a station and just to the south of the Covent Garden Market Authority (CGMA) Flower Market; and

A further variant (4c) was assessed by Halcrow in early 2010, which would add a new station just to the south of Vauxhall, with one end of the station close to Wandsworth Road and the other end close to Vauxhall Bus Station.

*The initial draft appraisal of the route options*

2.5.7 In August 2010, on behalf of Treasury Holdings, SDG undertook a multi-criteria assessment of the route options, and produced a draft appraisal, with input from TfL and the local Boroughs of Lambeth and Wandsworth. This was informed by three significant developments: the publication in late 2009 of TfL’s Transport Study (see section 2.3); the confirmation of the Mayor’s Transport Strategy (MTS) in May 2010 and the first formal stage of public consultation on the route options during the summer of 2010. The options considered in the draft appraisal are shown in Figure 2 below.

Figure 2: the route options considered in the draft appraisal



2.5.8 The initial draft appraisal considered the route options using four sets of criteria: the Mayor’s objectives and priorities for transport as set out

in the MTS; the objectives set out for the area in the VNEB OAPF; the Government's NATA<sup>16</sup> appraisal criteria; as well as an appraisal of the feasibility and affordability aspects of each option. The appraisal took into account the results of the 2010 consultation, the Engineering Feasibility Study, the Transport Study and used passenger demand forecasts from TfL's Railplan model. As in the Preliminary Business Case of 2009, a calculation of Wider Economic Benefits was not included in the appraisal. The principal issues considered in the appraisal are summarised below.

- 2.5.9 With regard to engineering feasibility, all four route options (including the Route 4 variants) were found to be feasible. However, all the options present engineering challenges, including the connection of the two new tunnels to existing tunnels at Kennington; integrating the extension into Vauxhall station (Route 3) and the location of the intermediate station for Route 2; for Route 4 the need to have an acute crossing under the existing railway viaduct.
- 2.5.10 The benefits to passengers of the different routes were calculated by looking at forecast demand levels and potential journey time savings and crowding impacts, using the modelling work undertaken for the OAPF Transport Study. Route 2 had the highest benefits; the next-best performing was Route 4b, with little difference between the remaining options.
- 2.5.11 The options were also appraised against the MTS objectives most relevant to the OAPF, for example the objective to support economic development and population growth. Routes 2 and 4 performed equally well on this assessment and scored higher than Routes 1 and 3. The assessment against the objectives set out in the OAPF itself with regard to transport – mitigating adverse impacts caused by development traffic and improving accessibility by certain modes<sup>17</sup> – also scored Routes 2 and 4 as the most favourable.
- 2.5.12 At the centre of the appraisal was a NATA-style assessment, using the Government's guidelines for assessing major transport schemes on the following criteria: environment, safety, economy, accessibility and integration. Each of these has several sub-criteria: environment includes greenhouse gases, heritage, ambiance, townscape and noise, for example. On some aspects, there is little difference between routes,

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<sup>16</sup> New Approach to Appraisal (NATA). NATA is part of the Government's WEBtag appraisal approach for the assessment of transport schemes. In April 2011 the Secretary of State announced changes to the DfT's approach to the assessment of transport projects, replacing the separate NATA process, which had been in effect (with updates) since 1998.

<sup>17</sup> Walking, cycling, public transport, taxi and goods vehicles

but again Route 2 often performed the best. Some of this is attributable to the fact that the mid-station would be sited in South Nine Elms, serving both existing communities and enhancing transport accessibility from new development in the Opportunity Area.

2.5.13 Finally, a deliverability assessment considered the feasibility, affordability and acceptability aspects of the route options. The main challenges are summarised in paragraph 2.5.8; in comparative terms, Route 1, with no intermediate station, would be easiest to design, and Route 3 the most difficult, given the need to integrate with Vauxhall station. Affordability is based on both the absolute costs of the different route options and their relative ability to attract developer funding. So while Route 1 is the cheapest to build, the lack of an intermediate station would limit the sources of contribution; the risk attached to the construction of Route 3 is also a limiting factor in this way. Routes 2 and 4, then, are the most affordable. Both of these were assessed as the most acceptable to stakeholders.

2.5.14 After considering the engineering, technical and economic aspects, and the results of the consultation, the draft appraisal recommended that Route Option 2 was the best option to take forward for further development and consultation.

2.5.15 The figure below is a simplified summary of the 'filtering' process applied in developing transport options to support the development. As already indicated, no single option would be sufficient and a transport package which includes improvements to walking, cycling and bus services (for example) would be put in place as well as the proposed Northern line extension.

	Underground-based solutions	Tram	Bus	River	National rail
Preliminary assessment of options by Steer Davis Gleave (Feb 2008)	<p>Victoria Extension not viable</p> <p>Northern K'ton to BPS seen as most practical option</p> <p>Circle Extension not viable</p> <p>District Extension not viable</p> <p>Bakerloo Extension not viable</p> <p>W &amp; C Extension not viable</p>	<p>LRT Branch to City of London proposed "City Tram"</p> <p>CRT extension</p>	<p>Bus rapid transit</p> <p>Enhance bus services</p> <p>Not sufficient in themselves, but required in all scenarios</p>	<p>River bus services</p> <p>Capacity insufficient for planned growth</p>	<p>National rail services</p> <p>Capacity insufficient for planned growth</p>
SKM assessment (Dec 2009)	<p>K'ton - BPS (direct) "Route 1"</p> <p>K'ton - 9 Elms - BPS "Route 2"</p> <p>K'ton - Vauxhall - BPS "Route 3"</p> <p>K'ton - 9 Elms PO - BPS "Route 4"</p> <p>Bank Branch Risks overloading the line</p> <p>K'ton - C'ham Junction</p>	<p>LRT Excessive adverse traffic impacts to strategic roads</p> <p>CRT extension Not viable in absence of CRT</p>	<p>Bus rapid transit</p> <p>Excessive traffic disruption</p> <p>Enhance bus services</p> <p>Not sufficient in themselves, but required in all scenarios</p>		
Public consultations (2010, 2011)	<p>K'ton - BPS (direct) "Route 1"</p> <p>K'ton - 9 Elms - BPS "Route 2"</p> <p>K'ton - Vauxhall - BPS "Route 3"</p> <p>K'ton - North 9 Elms - BPS "Route 4"</p>				



## *Treasury Holdings' consultation on a Northern line extension*

2.5.16 One of the inputs in the draft appraisal was the result of the first stage public consultation undertaken by Treasury Holdings in summer 2010. The leaflet and questionnaire is included in SDG's report at Appendix A. Route Option 2 was the most-supported option (61% of respondents). In addition to the public responses, a number of important stakeholders in the area, including the London Boroughs of Lambeth and Wandsworth, stated their support for this route.

2.5.17 This consultation was preceded by public events at Battersea Power Station in June 2008 and again in June and December 2009, where the public were invited to look at proposals for the Northern line extension and the overall development, and give their feedback. There was strong support for the proposed extension. In summer 2008, at its first public exhibition on the wider BPS project, information about the planned extension on its exhibition boards. A question was also included within the exhibition questionnaire: "Do you support the plan to extend the Northern line from Kennington to a new station at Battersea". Over 14,000 people attended the BPS public exhibition over 17 days, and 3,789 responses were made to the questionnaire. 87% of respondents said that they supported the extension, 6% said they did not support it and 7% gave no response.

2.5.18 Similar levels of public support for the proposed extension were subsequently recorded at further public exhibitions organised in support of the wider BPS planning application.

## **2.6 Funding and Financing options for the extension**

2.6.1 The GLA have recently finished consulting on an amended Chapter 12 of the VNEB OAPF, which deals with CIL and Section 106 arrangements for funding the infrastructure needed for the area's development.

2.6.2 This chapter was informed by a Development Infrastructure Funding Study (DIFS)<sup>18</sup>, which was commissioned by the GLA in partnership with TfL, the London Boroughs of Lambeth and Wandsworth and landowners. It considered what infrastructure would be required to support development in the OA and identify the level of contribution

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<sup>18</sup> DIFS study available from [www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-s-106](http://www.london.gov.uk/who-runs-london/mayor/publications/planning/vauxhall-nine-elms-battersea-s-106)



that could be collected from developers; how this might be split amongst different types of infrastructure; and assess the size of any funding gap and how this might be addressed.

- 2.6.3 The draft OAPF sets out that a significant uplift in transport infrastructure would be required to deliver the scale of development as defined by Revised Scenario 5. The Northern line extension is identified as a key option in delivering this uplift, and would require around 62% of the total estimated infrastructure costs for the area. It is expected that the Mayor will publish the final OAPF, including the revised Chapter 12 shortly. The planning framework for the area includes a proposed level of developer contributions to fund infrastructure, including the proposed Northern line extension. Potentially there are a range of funding and financing options which could be put in place, including Tax Increment Financing (TIF).<sup>19</sup>

### **3. The Consultation Process**

#### **3.1 The Formal Consultation process prior to a TWAO Application**

- 3.1.1 The summer 2011 consultation (which is the focus of this report) was the second formal phase of consultation. This consultation was undertaken jointly by TfL, the Mayor and Treasury Holdings consultation, with the London Boroughs of Lambeth and Wandsworth as major supporters. The consultation was also supported by major landowners in the Opportunity Area: St James, Sainsbury's, New Covent Garden Market Authority, CIT, National Grid and Ballymore. It took place from 9 May to 10 August 2011.
- 3.1.2 A consultation working group was set up in April 2011. This comprised representatives from the London Boroughs of Lambeth and Wandsworth, as well as from TfL and Treasury Holdings and its consultants. The group has met regularly to discuss matters related to the consultation; in particular, the local boroughs have been important in providing contact details for local groups and venues so that information could be distributed in the area and meetings set up.
- 3.1.3 A third phase formal consultation is planned prior to the submission of a TWAO application, and is currently programmed for early in 2012. In

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<sup>19</sup> The UK TIF model is based on reinvesting a proportion of future business rates from an area back into infrastructure and related development. It applies where the sources of funding available for a scheme to deliver economic growth and renewal cannot cover the cost of infrastructure required by the scheme. (Rough Guide to TIF, Core Cities Group)

addition, smaller and local informal consultations will continue to take place as appropriate throughout the development of the scheme.

- 3.1.4 This second phase consultation had two elements. The first consultation leaflet and questionnaire – which primarily sought views on Route Option 2 including station locations and the preferred locations of permanent shafts – was distributed (and available online) from 9 May with a closing date of 17 June. During this consultation, it became apparent that some people did not have the opportunity to comment on the route options in 2010, due to problems with distribution of the leaflets, and would now like to do so. Although there was an opportunity to comment on these in the May leaflet, TfL and Treasury Holdings decided to issue a further leaflet and questionnaire – revisiting the route options in order to give further opportunity to comment, with an extended end date for the consultation.

## **3.2 Consultation leaflets and Questionnaires**

- 3.2.1 At the start of the consultation, in week beginning 9 May, an initial leaflet and questionnaire was distributed to some 40,000 addresses in the area. The questionnaire primarily sought views on the preferred Route Option 2 and on the options for the location of permanent access and ventilation shafts for the proposed extension, as well as on the preferred route option and the management and benefits of the scheme overall. Copies were also available at the public exhibitions, local meetings and on request from the project team.
- 3.2.2 In the week beginning 27 June, a second leaflet was distributed to the same 40,000 addresses, which included maps of the four route options as consulted on in summer 2010 (although there was also a slight change to Routes 2 and 4). Copies were, again, also available at further public exhibitions, local meetings and on request from the project team.
- 3.2.3 As a result of the decision to distribute the second leaflet, the whole public consultation was extended until 10 August.
- 3.2.4 Both leaflet questionnaires contained text boxes for respondents' comments on specific questions as well as on the proposal generally. As well as a questionnaire for people to record their views on the proposals, the leaflets also included an email address and telephone number for the project team for both queries and consultation responses.

3.2.5 Copies of the questionnaires are included in the SDG Report at Appendix A.

### **3.3 Press and communications**

3.3.1 TfL and Treasury Holdings issued a joint press notice<sup>20</sup> on 9 May 2011, announcing the start of the consultation. It included a link to the Northern line extension website and details of the public exhibitions.

### **3.4 Stakeholder communications and meetings**

3.4.1 At the start of the consultation, Treasury Holdings emailed a number of stakeholders, including those that would need to be consulted through the TWAO process. A joint email was also sent from TfL (Managing Director of Planning) and Treasury Holdings (Managing Director) to around 30 stakeholders including local Assembly Members and ward councillors along the proposed route.

3.4.2 TfL has regular programmed meetings with officers from all the London boroughs. Briefings were also given to Assembly Members and local councillors on request. Meetings with the public in addition to the scheduled exhibitions were advertised in the local and borough press as appropriate.

### **3.5 Events and local meetings**

3.5.1 Six public exhibitions were held in May and June. Following the distribution of the second leaflet, three further public exhibitions were held in July. TfL and Treasury Holdings were represented at all these events, alongside members from the technical consultant teams also involved in the development of the proposed scheme.

3.5.2 Throughout the summer, a range of additional local meetings were also set up on request, and summary information about all the meetings is given in Appendix B. At some of these events, local councillors and occasionally London Assembly members were present. In addition, a number of individual meetings took place in residents' homes at their request.

### **3.6 Consultation website**

3.6.1 To coincide with the launch of the public consultation in May, a Northern line extension website was also set up:

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<sup>20</sup> <http://www.tfl.gov.uk/corporate/media/newscentre/archive/19950.aspx>

[www.northernlineextension.com](http://www.northernlineextension.com). This website contained copies of the consultation leaflets and a facility to complete these online. It also provided background materials to the proposals and downloads of some of the main documents, such as the draft NATA appraisal of 2010, an Information Note on noise and vibration prepared by URS and a map of the working draft limits of Route 2.

3.6.2 Between 9 May and 23 September 2011 there were 13,978 visitors and 18,027 visits to the website.

### **3.7 Directly-affected properties**

3.7.1 Treasury Holdings wrote directly to owners of potentially directly-affected properties along the proposed route at the start of the consultation, advising them of the consultation and that there would be two specific consultation events on 23 and 25 May for them to ask about the project (in addition to the general public exhibitions). Potentially directly-affected properties included, for example, those above the proposed route and those in immediate proximity to the proposed sites for construction of shafts. For clarity, properties which are affected only by, for example, temporary road closures to accommodate construction works are not considered to be directly-affected.

3.7.2 Both Treasury Holdings and TfL have continued to liaise with this group of people, answering queries on, for example, the expected noise and settlement effects on property along the route (see section 4.6), and the procedure for any compensation payable were the route to go ahead. A full Environmental Impact Assessment covering issues such as noise and settlement will also be required as part of the TWAO application.

## **4. Issues raised in the Consultation**

### **4.1 Overview**

4.1.1 As set out above, respondents could have their say on the proposals via a paper and online questionnaire or by writing to or emailing the project team. There was also an opportunity to comment at the meetings and exhibitions. A detailed quantitative analysis of the responses received via the questionnaires is provided in SDG's report at Appendix A, including analysis of the differences between responses by area of the proposed route. The section below will reiterate the main

findings of this and also considers some of the most-often raised questions during the consultation.

- 4.1.2 Just over 1,800 responses were received to the first questionnaire and nearly 1,000 to the second..Around 230 additional email and letter queries, comments and responses were also been received Copies of all questionnaire, email and letter responses have been forwarded to the Mayor.

#### *Summary of consultation responses*

- 4.1.3 The first questionnaire included options in relation to potential sites for permanent shafts. At Claylands Rd and Kennington Green, there was a clear preference for a site at the garages (30%) and the distillery (42%) respectively; at Kennington Park, the Old Lodge was the most preferred option (27%). In all three cases, around half of respondents said that they had no opinion or were content with any of the options.
- 4.1.4 Both the first and second questionnaire sought opinions on the proposed route options, although the questions differed. In the first questionnaire, respondents were asked if they supported or opposed the preferred option, Route 2. Sixty-nine per cent said that they supported it, 14% opposed it and 17% said that they either had no opinion or did not know.
- 4.1.5 In the second questionnaire, respondents were asked about all four of the route options, which were shown on maps. Route 2 had the strongest support (61%), followed by Route 3 (24%), with 5% supporting Route 4 and 4% supporting Route 1. Four per cent of respondents supported none of these options and 1% had no preference.
- 4.1.6 In its analysis, SDG has considered views according to the home/work postcode given by the respondent, where this has been supplied. Returning to the first questionnaire, whilst opposition to Route 2 is higher (29%) among residents at the eastern end of the proposed route 2 than it is among all respondents or western end residents, around twice as many (57%) of eastern end residents actually support Route 2; with a further 15% having no preference.
- 4.1.7 In the second questionnaire, Route 2 still gets the biggest share of support from eastern end residents (53%), compared to 61% of all respondents and 82% of western end respondents. Twenty-eight per

cent of eastern end residents preferred Route 3 (9% Route 4, 5% Route 1, 4% none of the options, 1% no preference).

- 4.1.8 The second questionnaire asked respondents if their views on the scheme had changed since their last response. Six percent (61) respondents said it had, (mostly to prefer Route 2 or Route3).
- 4.1.9 In both questionnaires there was strong support for the scheme: in the first questionnaire, 90% said they agreed or strongly agreed that it would bring transport benefits to the area; in the second questionnaire this figure was 87%.

## **4.2 Consideration of key issues raised**

- 4.2.1 A number of key themes emerged, from the analysis of the questionnaires, and email and letter responses to the consultation. Most of these were also raised in local meetings and occasionally in Mayor's Questions. The list below is not intended to be exhaustive, but sets out the most-often raised matters, and TfL's response to them. However, it should be noted that there remain several important stages of this project before any TWAO application is made and approved and any work could commence on construction. These stages are set out in Chapter 5. With this in mind, the issues below are considered with the best information available at this time (October 2011), and further information will be published in future.
- 4.2.2 SDG analysed the frequency of issues raised in comments made in the questionnaires and this is summarised in their report at Appendix A. Where a figure is available it is quoted in the section below.

## **4.3 Key issue 1: how the route options presented were developed**

- 4.3.1 Chapter 2 provides a detailed summary of how the route options were developed; rather than repeat this here it may be useful to focus on how the options were presented for consultation; the feasibility of the options and how options might develop over time.
- 4.3.2 All of the four route options are feasible in engineering terms; as detailed in Chapter 2 there are different levels of cost and benefit and engineering complexity associated with each. It was made clear in the 2011 consultation that Route 2 is currently the preferred option and for this reason the first questionnaire focused on Route 2 (including station locations) and the location of permanent shafts along this route. In an answer to a question put by Caroline Pidgeon AM<sup>21</sup>, the Mayor

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<sup>21</sup> MQ 2073, July 2011

confirmed that all routes could be constructed but that Route 2 had the most benefits and was the most preferred option among respondents to the 2010 consultation. It should also be reiterated that the four route options have been developed over an extensive period by both TfL and Treasury Holdings and it was therefore appropriate to continue to consult on these in 2011, rather than seek to develop completely new options.

4.3.3 Route 3 was the second-most supported option in the recent consultation, and the question has often been asked if, by providing an interchange with National Rail and Victoria line services at Vauxhall, this option would not provide more benefit than the others. While this may be perceived as an advantage, it would not only be complex and expensive to build (not least because of this existing infrastructure), more importantly, it would also place further pressure on both the station and on the already congested Victoria line. The passenger benefits are therefore significantly lower than for Route 2. By constructing a new station in the Nine Elms area (as in Routes 2 and, to a lesser extent, Route 4), a part of the area which did not previously have such close access to the Underground network is benefited, and crowding at Kennington could be reduced.

4.3.4 Routes 1 and 4 have not proven popular in the consultation: both would (to different degrees) bring limited benefit to the existing communities in the Nine Elms area. Route 1 chiefly because it provides no mid-station, while Route 4 would be less accessible to the existing population south of the viaduct in Nine Elms.

#### **4.4 Key issue 2: the location of the permanent ventilation and access shafts at Claylands Road, Kennington Green and Kennington Park**

4.4.1 The first information leaflet and questionnaire sought views on the location of three permanent shafts, which would be positioned along the route of the proposed extension. Shafts are required for any new Underground railway for three reasons: in order to provide ventilation for the tunnels; smoke control in the event of a fire; and access for the emergency services. In identifying possible sites for these shafts, consideration has been given to the need to fulfil these functions effectively and the likely impacts above ground. With this in mind, two or three possible sites were proposed at each location. As set out in the leaflet, the Claylands Road shaft would primarily be for intervention and ventilation and the shafts at Kennington Green and Kennington Park would primarily be for ventilation (which includes smoke control in the event of a fire).

- 4.4.2 Guidance on the location of access for the emergency services (in this instance, by shafts) suggests that these points should be not more than 1km apart, and that they should be accessible from street level. Nine Elms station will provide a point of access for the emergency services and the proposed shaft at Claylands Road is mid-way between this station and Kennington Station. In this way, emergency access points are evenly spaced out along the route of the proposed extension.
- 4.4.3 With regard to alternative forms of emergency access, the provision of cross-passages between the two tunnels has been considered. These can be used, for example, where a tunnel passes under water and it is not therefore feasible to provide a shaft; the cross-passage is fitted with smoke doors so that the adjacent tunnel can provide a place of safety. However, the two tunnels which would be constructed under the current proposals diverge significantly along much of the route, meaning that any cross-passages would need to be quite long, increasing the distance that the emergency services would need to cover. Cross-passages would have other disadvantages such as additional cost and potential ground settlement effects.
- 4.4.4 The need to optimise ventilation from the tunnels of the extension has also helped to determine the proposed locations for the shafts. All three would be fitted with fans which at normal low-speed operation would ventilate the tunnels but which could if required be run at higher speed to extract smoke and provide clean air in the event of an incident. Again, positioning the shafts along the route as proposed helps to optimise their effectiveness.
- 4.4.5 The appearance of the shaft structures at street level is part of the ongoing work on project design. There will be further engagement with residents on the options available at each site. The preferred design will be subject to an Environmental Impact Assessment in order to take it forward to a TWAO application.

#### **4.5 Key issue 3: construction impacts of the extension**

- 4.5.1 Any works undertaken for the construction of the proposed extension, including preparatory works such as the ground treatment works planned for 2014, would be regulated by a Code of Construction Practice put in place by relevant borough. This would put in place requirements for contractors to manage the impacts of the work locally, for example with regard to dust, noise and working hours. No works at surface level would normally take place in the evening, on Sundays or on Bank Holidays.



- 4.5.2 For some construction there will be a need for road closures, temporary traffic diversions and suspension of parking spaces. These requirements will be minimised as far as possible and their impacts on the area carefully managed. For the main construction phase of the scheme, a Community Liaison Manager will be appointed to keep people informed about the works, respond to queries and help to resolve any problems.
- 4.5.3 A Transport Assessment and Environmental Impact Assessment will be required in order to take the preferred design to a TWAO application.

#### **4.6 Key issue 4: noise and vibration impacts of the extension**

- 4.6.1 As part of the TWAO application an Environmental Statement (ES) will be produced which will assess the impact of both construction and operational noise and vibration on receptors and where these impacts are significant the ES will recommend appropriate mitigation measures.
- 4.6.2 Other London Underground projects have set precedents as to the thresholds of significance for groundborne noise impacts for various types of properties and these are likely to be adopted on the Northern line extension project.
- 4.6.3 During the consultation, a Noise and Vibration Information Note was produced by URS and remains available on the Northern line extension website.

#### **4.7 Key issue 5: the impact on Kennington and the Northern line of the 4 route options; a possible interchange at Vauxhall**

- 4.7.1 During the consultation, questions were often asked about the proposal to extend the Northern line from Kennington as opposed to other options, particularly the Victoria line from Vauxhall, and why it is the Charing Cross branch of the line that has been proposed. Chapter 2 summarises the overall process by which the proposals were developed. As was indicated in the consultation leaflet, Route 2 is currently the preferred option; the following text summarises the main reasons for preferring this route, and the expected impacts if it were to be taken forward.
- 4.7.2 The Charing Cross branch of the Northern line has lower levels of crowding than the Bank branch of the Northern line and this will remain the case in the foreseeable future including beyond the Northern line

upgrade<sup>22</sup>. Similarly, the Victoria line also has higher levels of crowding, especially on the heavily used sections north of Victoria. In this respect, it is preferable to design the extension in order to avoid the more crowded parts of the network.

- 4.7.3 With regard to station locations, the proposed Option 3 would use the existing Vauxhall station as its mid-station, providing interchange with the Victoria line, National Rail services and Vauxhall bus station. Vauxhall station<sup>23</sup> is already very congested, and would not be able to cope with a significant increase in passengers. In addition, it would be an expensive and technically difficult option to construct, owing to existing infrastructure in the area. Furthermore, this option would also only serve to increase pressure on the already crowded Victoria line.
- 4.7.4 A station at Nine Elms would provide an improvement to public transport accessibility that could not be provided by an existing station. It would be able to directly serve the north east corner of the Opportunity Area, including the New Covent Garden Market area as well as the existing communities in Nine Elms. It would also attract trips away from the nearby existing Victoria and Northern line stations, freeing up capacity on both the Victoria line and the Northern line south of Kennington.
- 4.7.5 An extension from Oval station would not be possible owing to operational limits on track geometry. Having begun with connections to the existing Kennington Loop, the tunnel angles needed for the tunnels to converge at Oval would be too tight to achieve satisfactory operational running of tube trains.
- 4.7.6 The impact of the proposed extension on the existing rail, road and bus network will be assessed prior to a TWAO application, and sensitivity testing will be undertaken with regard to significant, but as yet uncommitted, schemes as necessary.

## **4.8 Key issue 6: further extensions from Battersea**

- 4.8.1 In its analysis of comments made in the first questionnaire, SDG noted that 119 respondents said that they supported the scheme but would like to see it extended in the future, with Clapham Junction a frequent suggestion.

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<sup>22</sup> Northern line upgrade phase 1 will provide a further four trains through the central branches per hour and add 20% more capacity to the line. It is due for completion in 2014.

<sup>23</sup> Improvement works are planned at Vauxhall Underground Station from 2018. Work is scheduled to begin on Vauxhall National Rail station shortly, including the introduction of lifts from ticket hall to platform (DfT's Access for All programme).

4.8.2 The extension is being designed so that it could, in principle, be extended in the future, and the station at Battersea would be constructed as a 'through' station rather than a terminus. However, no date or destination has been decided or researched in any great detail.

4.8.3 While Clapham Junction may appear to be the obvious future destination were the Northern line to be extended further, it could equally serve areas such as Wandsworth Road, Wandsworth Common, West Brompton or Chelsea. Currently there is no commitment, either as part of these proposals or in TfL's Business Plan, to extend beyond Battersea Power Station.

#### **4.9 Key issue 7: the decision to propose a Tube rather than other modes/ prefers other modes**

4.9.1 An Underground extension was identified as the only mode capable of meeting the demand for travel likely to be generated by the development set out in Revised Scenario 5 of the draft OAPF (Transport Study). Information about the development of the proposal is given in Chapter 2 of this report. However, it is by no means the case that this proposal alone is expected to meet all the transport needs of the area; and the modelling has identified complementary improvements and additions to other transport services.

4.9.2 With regard to other transport improvements identified for the area: two passenger piers at Vauxhall (St George's Wharf) and at Battersea Power Station, pedestrian and cycle walkways and Barclays Cycle Hire docking stations and improvements to urban realm are also in the package, as are improvements to bus services. In this way, the benefits of the regeneration of VNEB will extend to existing residents and businesses in and around the development area, including those who are not in close proximity to the proposed new Underground stations.

4.9.3 It should also be noted that there will be improvements made to existing transport infrastructure during the VNEB regeneration. For example, Network Rail and Southern Rail have begun improvement works at Battersea Park Station. The VNEB OAPF sets out that there will be overall improvement and integration of existing facilities with the new ones planned for the development area.

#### **4.10 Key issue 8: the 2010 consultation and consultation methodology**

4.10.1 In its analysis of comments made in the first questionnaire, SDG identified that 3% (60 respondents) had concerns on this matter.

4.10.2 As set out in section 3 above, the first formal public consultation was undertaken in summer 2010 by Treasury Holdings, although informal consultation had preceded this. During the second stage of formal public consultation in summer 2011, some people in the area said that they had not been aware of the first stage consultation due to problems with distribution of the leaflets and so had not yet commented on the route options and would now like an opportunity to do so. In response to this, TfL and Treasury Holdings produced a further information leaflet and questionnaire which was distributed from the beginning of July and extended the consultation end date from 17 June to 10 August.

4.10.3 For infrastructure projects like the proposed extension a 6 week consultation period for one particular phase of consultation is considered acceptable. In the end, the consultation period in summer 2011 lasted for just over 13 weeks. As stated in the consultation documents, there will be further consultation once the preferred route has been confirmed and the detail of that route is ready for consultation. This will take place before the TWAO application is made.

#### **4.11 Key issue 9: the funding of the proposed extension and the TfL – Mayor-Treasury Holdings relationship**

4.11.1 Section 2.6 sets out the Mayor's support of a privately-funded extension of the Northern line, and the work which continues to be undertaken in order to develop potential funding and financing solutions. As also set out in earlier sections, an extension to the Northern line has been identified as the best option to meet the demand generated by the new development planned for the VNEB Opportunity Area.

4.11.2 While there is no allocation of public funding for this project in TfL's current Business Plan, TfL is closely involved in the development of the proposals and plans to construct the extension could not progress without its endorsement. It is expected that TfL would be one of the sponsors of a joint application for a TWAO.

4.11.3 The work required to progress to a TWAO application will include developing further the funding and financing approach to the scheme.

## **4.12 Key issue 10: accessibility at new stations and links to other transport modes**

- 4.12.1 Regardless of the route option taken forward, any new stations would be required by law to be accessible, meaning they would be step-free from street to train.
- 4.12.2 The development of the proposal for a Northern line extension has been made with a consideration of how it might interact with existing services (for example, the bus services along Wandsworth Rd, close to the proposed site for Nine Elms station), as well as what further services or provision (including changes to existing services) might be required in order to maximise access.
- 4.12.3 The Public Realm & Highways Modelling Study (2010) which accompanied the Transport Study looks at the current situation in the area and considers the future vision, as set out in the draft OAPF and by the London Boroughs of Lambeth and Wandsworth. Its approach considers the options for improving urban realm in order to make cycling and walking more attractive, and proposes possible highways schemes in order to manage the impact on the roads and smooth traffic flow.
- 4.12.4 Once the proposal has progressed further, TfL will consider in more detail what specific changes might be required to public transport services, and there will be an iterative element to this, considering and responding to the various stages of development as they occur.
- 4.12.5 Network Rail have already, for example, expressed an interest in working with Treasury Holdings to enhance the potential surface linkages between Battersea Park and Queenstown Road stations and the planned new London Underground station at Battersea Power station. There is ongoing work between Treasury Holdings, TfL and the local boroughs in ensuring that the transport accessibility and connectivity of the whole VNEB area is optimised.
- 4.12.6 There is of course a balance between ensuring that the travel opportunities afforded by a new scheme are optimised by linking it to existing services, and positioning new services so that areas currently less well-served by public transport will feel the benefit. In its Preliminary Business Case (June 2009), SDG note that Route Option 3 (with an interchange at Vauxhall) would have a lower incremental benefit because this area already has high public transport accessibility (apart from the other issues around station and line crowding which would arise here).

## **5. Next steps: the final decision on preferred route; further consultation**

### **5.1 The preferred route**

- 5.1.1 In summer 2010, SDG produced a draft NATA-style appraisal, as described in section 2.5. Following this second phase formal consultation, and the further work that has now been undertaken on various aspects of the scheme, decisions on the final confirmation of the route to be taken forward will now be progressed through key stakeholder internal decision-making processes and announced shortly.
- 5.1.2 The results from the 2011 consultation were one of the key new inputs to a detailed re-appraisal of the route options. Other inputs included further technical work on the route options, including extensive transport modelling of route options using the sub-regional models. This provided refreshed information on, for example, forecast line loadings associated with each option.
- 5.1.3 TfL is also carrying out an option appraisal into the precise location of the intermediate station as part of the re-appraisal of options. This work is well underway and includes a full comparison of the costs and benefits of different options.
- 5.1.4 The Environmental Statement (ES) will address the environmental and socio-economic impacts of the proposed Northern line extension during site preparation, construction, excavation and subsequent operation. The ES is designed to inform readers of the nature of the project, the likely environmental impacts and any significant environmental effects and the measures proposed to protect the environment or render any significant adverse effects non-significant.
- 5.1.5 In summer 2011, an Environmental Assessment scoping report and a Transport Assessment scoping report were sent to statutory consultees. Both these assessments will be carried out on the preferred design with the findings reported as part of the TWAO application.

#### *The Business Case and Wider Economic Benefits*

- 5.1.6 An update of the Business Case, taking into account forecast revenues, passenger benefits and an economic appraisal has also now been prepared.

5.1.7 In September 2011, TfL and the London Boroughs of Lambeth and Wandsworth commissioned work on the likely Wider Economic Benefits of the proposal and the regeneration of the VNEB OA, for reporting to the VNEB Strategy Board. As already indicated, so far the appraisal of route options has not included an estimation of these benefits, which would include, for example, the economic growth and added value brought to the Borough areas, London and the UK by agglomeration effects and regeneration of the VNEB Opportunity Area.

#### *TfL's Strategic Assessment Framework (SAF)*

5.1.8 TfL has developed a Strategic Assessment Framework (SAF) to help ensure that strategic impacts are known and measured during decision-making at all stages of project planning and development. This tool enables planners to evaluate a potential project against the MTS goals, compare scenarios and alternative options and provide a consistent approach to project evaluation across the business.

5.1.9 A SAF appraisal of the different options for the Opportunity Area (including Routes 1, 2 and 3) as well as tram and bus options was done as part of the Transport Study. This is also being updated in autumn 2011 to inform the overall appraisal.

## **5.2 Further consultation on the proposed extension**

### *Local consultation on sites for temporary works*

5.2.1 At the beginning of October 2011, a consultation process began with local residents on the location of worksites for temporary shafts which are needed for ground treatment works near Kennington station. These temporary shafts would be required irrespective of the route option which is finally taken forward to TWAO application. The work will stabilise the ground in preparation for work that would be needed to connect the extension to the existing north and south tunnels of the Northern line on the Kennington Loop.

5.2.2 Some of the potential locations for the two worksites (one worksite each in the areas around Radcot Street and De Laune Street) were identified in discussions with residents during the recent wider public consultation. Depending upon the timing of the TWA application and subsequent approval, these temporary works are not scheduled to take place until 2014 at the earliest. However, early consultation helps

to manage the works effectively and it is necessary to set out in the TWAO application that this engagement and programming has taken place. Over 2,500 leaflets have been distributed in the local area, inviting people to state their preference for the location of the sites. A range of local meetings have already been set up, and additional local meetings on request will be held to support this consultation. Leaflet responses have been requested by 11 November.

### *Formal Third Stage Consultation in readiness for TWAO Application*

5.2.3 As this report indicates, subject to an appropriate funding and financing solution, it is anticipated that a TWAO application will be made in 2012. Prior to this application taking place, there will be a further formal stage of public consultation (the third stage) on the extension proposals. This consultation might focus on outstanding local issues for example the location of the mid-station, as well as providing a further opportunity to comment on the proposals overall. It is likely that there would be a leaflet and questionnaire with public exhibitions and meetings, as in the second phase consultation.

## **6. Conclusion**

- 6.1.1 Having completed the second formal stage of public consultation, TfL, Treasury Holdings and the Mayor will continue to take account of the issues highlighted and the responses received as the proposed extension scheme is developed further.
- 6.1.2 The previous section sets out the steps which would need to be taken in order to submit a TWAO application. Once this application is made, all those affected by the proposal will then have a legal right to take part in the process and express their views. As part of the TWAO process, it would be expected that there would be a formal Public Inquiry. Only once the process has concluded and the Secretary of State has agreed to make the Order, would the proposal have a clear legal status.
- 6.1.3 A TWAO application can be made by one or more bodies; in the case of this proposal, it would be expected that Treasury Holdings and TfL would be the project sponsors. For TfL, the decision as to whether to proceed to TWAO would be made by the TfL Board and the Mayor; for Treasury Holdings, it will be made internally with their own governance procedures.



- 6.1.4 Following on from the extensive work on scheme development, including environmental, engineering and business case, the timing of any decision to proceed with a formal TWAO application will now be largely dependent on the developing situation with regard to funding and financing of the proposed extension. As indicated early on in this report, external factors-such as national Government policy on local government finance-will also need to be taken into account. Another important consideration is the Mayor's finalisation of the VNEB OAPF.
- 6.1.5 The Mayor supports the scheme in principle, and TfL will continue to work with Treasury Holdings on the detailed development of the proposal.

**Appendix A: Report on the Consultation by Steer Davies Gleave  
(please see separate document)**

**Appendix B: Meetings with the public held during the Consultation**

<b><i>Public Exhibitions</i></b>	<b><i>Dates</i></b>
Oval Cricket Ground	20 May, 21 May and 6 July 2011
Sainsbury's Nine Elms	26 May, 27 May and 7 July 2011
Acquire Arts Gallery	18 May and 6 July
Battersea Park Station	08/07/2011
<b><i>Locally Requested Meetings</i></b>	<b><i>Dates</i></b>
Lambeth Community Forum, Lost Theatre	17-May-11
Ashmole Estate Presentation	23-May-11
Wheatsheaf Community Hall	25-May-11
Kennington Oval Vauxhall Forum	07-Jun-11
Heart of Kennington Residents Association	08-Jun-11
St George's School, Battersea	13-Jun-11
Southwark PTCF	15-Jun-11
Friends of Kennington Park	15-Jun-11
IMPACT residents association	28-Jun-11
<b><i>Locally requested informal/personal meetings</i></b>	<b><i>Dates</i></b>
Beefeater Distillery, Kennington Green	03-Mar-11
LB Wandsworth Local Community Group	29-Mar-11
Metropolitan Housing Trust (first Meeting)	05-Apr-11
Lambeth Borough Council (Chief Executives Office)	20-Apr-11
Private Resident 1	18-May-11
Oval Partnership	23-May-11
Private Resident 2	23-May-11
Private Resident 3	24-May-11
Private Resident 4	07-Jun-11
Private Resident 5	15-Jun-11
Private Resident 6	12-Jul-11
<b><i>Informal meetings continued</i></b>	
LB Lambeth Councillor Lambeth Town Hall	15-Jul-11
Banham Security, Nine Elms	23-Jul-11

Private Resident 7	25-Jul-11
Kennington Park Place Residents	25-Jul-11
Heart of Kennington Association – (second meeting)	25-Jul-11
Private Resident 8	27-Jul-11
Private Resident 9	17-Aug-11
Metropolitan Housing Trust (second Meeting)	17-Aug-11
Private Resident 10	17-Aug-11
<b><i>Personal information such as names and addresses have been redacted for publication</i></b>	