Greater London Authority, Transport for London, Wandsworth Council and Lambeth Council

Vauxhall Nine Elms Battersea Development Infrastructure Funding Study

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Final report

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CONTENTS

APPENDICES

1 INTRODUCTION

1.1 The GLA has led the preparation of a strategic planning framework for the Vauxhall Nine Elms Battersea (VNEB) Opportunity Area (OA) in partnership with the London Boroughs of Wandsworth and Lambeth. This report investigates the infrastructure required to support the delivery of Revised Scenario 5 of the Opportunity Area Planning Framework (OAPF). It was written by Roger Tym & Partners, Peter Brett Associates and GVA Grimley. The steering group we worked with included representatives from the GLA, TfL, the London Boroughs of Wandsworth and Lambeth, Real Estate Opportunities (the owners of the Battersea Power Station site) and Ballymore Group (representing the Landowners Group in the OA).

1.2 The brief states that we are to understand "the range of infrastructure that will be required to support new development in the OA...[and] identify how much will be collected in developer contributions in the OA, how much of this will be available for the proposed NLE and other infrastructure, the scale of the potential funding gap for the underground extension and a number of credible finance, funding and delivery models to close the gap and ensure viability for both development and infrastructure in the long term".[1]

1.3 In line with our brief, we take the following approach.

- Firstly, we need to understand the likely nature of new development at VNEB. The brief requires us to comment on whether the anticipated level of development is deliverable.
- We examine how developer contributions arising from growth can be best captured, and advise on the creation of a VNEB S106 Tariff that can be converted, at a later date, to a CIL or its successor.
- We then look to understand how much tariff could be payable by development in the area. It is very important to be clear that the tariff we have arrived at does not simply seek to plug an identified funding gap. Instead, our work sets a tariff level on the basis of what development in the area can reasonably afford, given policy on matters such as Code for Sustainable Homes and affordable housing, and prevailing conditions such as sales values.
- Having looked at tariff funding, we then examine other ways in which funding might be provided for the necessary infrastructure at VNEB. This includes a variety of mainstream and other, more innovative sources.
- We then examine the requirements, costs and funding of infrastructure at VNEB. We look at resulting issues, dependencies and barriers to growth.
- The results of this costs and funding exercise are summarised, and an infrastructure funding gap identified.
- We then summarise the report as a whole, and draw some conclusions.

1.4 This is necessarily a long and detailed report. However, we have tried to clarify the issues, rather than further obscure them. A quick understanding of the report can be

1 GLA Project Brief 11 February 2010 (2)

reached by simply reading the “headline” sub-titles, whilst more detail is contained in the supporting text.

2 OUR SCOPE AND APPROACH

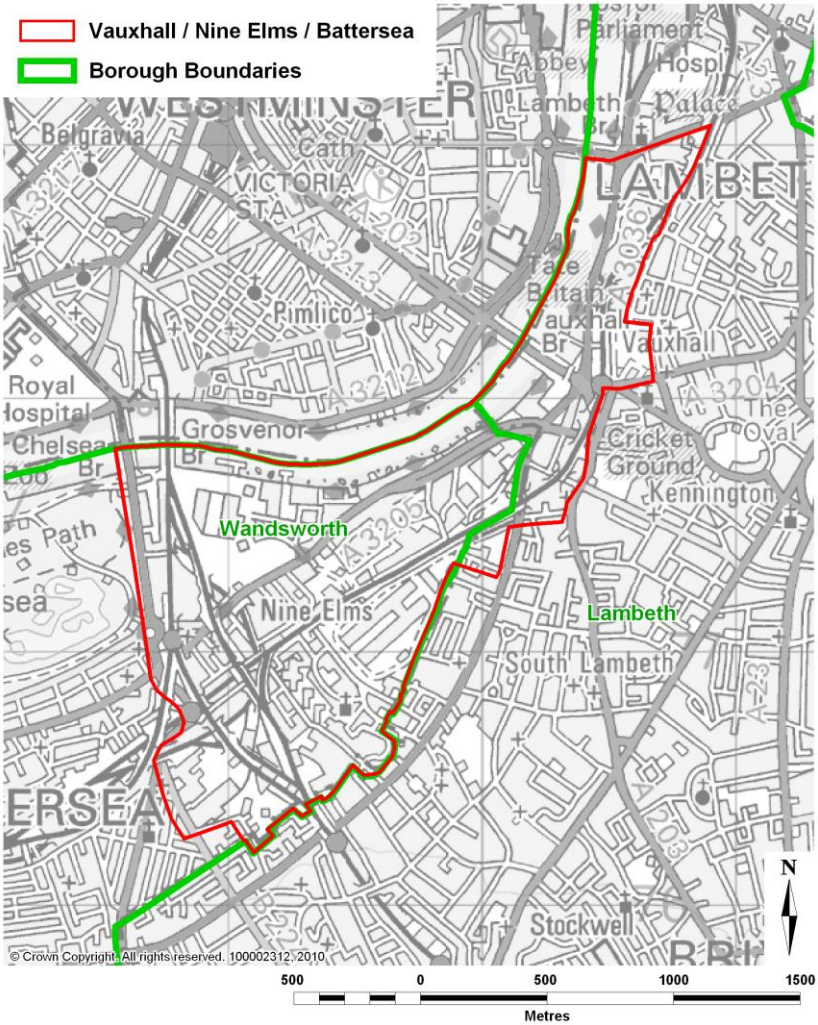
Introduction

2.1 This section defines the scope of our assessment and the approach we have taken.

The area and sites we are covering

2.2 This report covers the Vauxhall Nine Elms Battersea (VNEB) Opportunity Area (OA) defined in the Opportunity Area Planning Framework (OAPF).[2]

Figure 2.1 VNEB Opportunity Area with borough boundaries



Source: RTP. Taken from LBW Proposals Map (Wandsworth boundary) and OAPF.

2 We understand that some of the map in the OAPF shows the incorrect boundary. The boundary shown here is taken in part from the LBW Proposals Map.

The types of infrastructure we are looking at

Defining our scope

2.3 We are looking at the following types of infrastructure:

Table 2.1 Infrastructure categories

Primary infrastructure	
Ambulance	Fire
Police	Arts & cultural centres
Education	Primary health care
Public space, parks, sport and leisure	Transport
Employment and training	Community centres, libraries and youth provision
Secondary infrastructure	
Waste	Gas
Electricity	Waste water
Potable water	Flood issues

We are focusing on "primary infrastructure"

2.4 We are focusing on primary infrastructure in this study (although, as we discuss below, we will be covering secondary infrastructure). These categories are marked above in the table.

2.5 Primary infrastructure is infrastructure required to accompany development in order to allow new households and jobs to function within a wider community. This infrastructure will be largely used by the community living and working in the development but others would not be excluded from using these facilities.

2.6 It is possible that some primary infrastructure is provided outside the opportunity area. It is assumed that some developer contribution will be required to support the provision of primary infrastructure. In many instances, other mainstream central or local funding will also be used to support the delivery of primary infrastructure.

We deal with secondary infrastructure differently

2.7 Secondary infrastructure is infrastructure intended to create accessible, serviced and developable sites. Developers build these costs into their assessment of sites.

2.8 Secondary infrastructure will typically include internal access roads within their sites, and connections to the mains for drainage, sewage, gas, electricity and telecoms. Developers also generally pay for small scale open and play spaces together with on site and adjacent landscaping, and so this falls within the definition. (Note that more strategic open and play spaces are dealt with explicitly under primary infrastructure).

2.9 A separate itemisation of all secondary infrastructure costs and requirements as part of this assessment would be a) redundant and b) unacceptably complicated. However, these costs have not been ignored. We have built in generic costs of secondary infrastructure into our assessment of developer contributions.

2.10 However, there may be instances when utilities need upgrading to cope with growth. In these instances, there will be cost demands that go beyond the simple requirements of connection to the mains. It may be, for example, that utility provision is at capacity, and that further growth is impossible until further investment takes place. Often, utility can recoup the capital expenditure to meet growth from charges on new customers. However, in some (but not all) instances, part or all of these costs may fall on the developer. Our method has explicitly picked up these issues with utility companies, where information is available.

2.11 We have taken a similar approach to flood issues.

We deal with affordable housing costs through their effects on potential developer contributions

2.12 Although the point can be debated, affordable housing does not constitute infrastructure in its narrow sense. It is therefore not treated as such in this study. However, affordable housing requirements must be understood as part of an infrastructure study, because the levels of affordable housing demanded have a profound onward impact on the viability of development, and on amounts of developer contribution available from each housing site to fund infrastructure.

2.13 We take account of levels of affordable housing requirements through our assessment of viability and potential developer contributions. Our viability work is based on assumptions on levels of affordable housing to be required in the OA. Expected levels of affordable housing have been provided to us, and are explained in section 6.

Understanding the categories of infrastructure which are outside our scope

National infrastructure is beyond our scope

2.14 It is the Government's intention that developer contributions should be sought for infrastructure which is (in the words of the CIL Regulations) 'directly related to the proposed development' and 'fairly and reasonably related in scale and kind to the proposed development'. These are the same tests that are in Circular 05/05 on planning obligations, except that they have now been placed in law.

2.15 The precise limits of what this might mean in practice were debated within Government in the course of preparing the CIL Regulations. We understand that the general approach adopted was that infrastructure that is commonly seen as a core competency of national Government was to be excluded from developer contributions. This means that areas of infrastructure provision which are the core competency of national Government and their agencies (say defence infrastructure, prisons and law courts) are excluded from this assessment. The exceptions were agreed to be the infrastructure provided by the Environment Agency and the Highways Agency.

2.16 We have therefore adopted this approach in our assessment.

Private "infrastructure" is beyond our scope

2.17 We interpreted our brief as being to focus on the costs of providing the public infrastructure required to meet the growth proposals at the OA.

2.18 We note that the private market provides a number of facilities than can be interpreted as being "infrastructure" - including things such as petrol stations, shopping facilities, and (state-regulated but privately provided) pharmacists and opticians. The provision of these private-sector services can be an important component in perceptions of the quality of life in an area. However, because these will be privately provided we *will* not be quantifying infrastructure requirements or calculating the costs or funding of providing this private "infrastructure". Where this activity creates jobs, however, we take account of the infrastructure needs it generates.

2.19 So, for example, we do not calculate the costs of providing pharmacies for the new population in the OAPF, because this is privately provided. But we will calculate the transport requirements arising from the need of the pharmacy's employees to get to work.

Requirements: our approach to estimating the requirements of infrastructure for growth

2.20 This part of our work looks at the infrastructure *required* to support planned growth.

This work focuses on the infrastructure requirements of future growth from 2011 to 2031

2.21 This infrastructure assessment will focus on the infrastructure requirements of *future growth in housing and jobs* in the OAPF area. This is the growth described in the OAPF. It includes needs arising from Battersea Power Station, the US Embassy, and any redevelopment of the New Covent Garden site.

2.22 The Opportunity Area Planning Framework projections work to 2026. Some other documents concerning the Opportunity Area work to 2031.[3] We suggest in section 3 that it is more realistic to use the 2031 end date of the Replacement London Plan as the formal end date for our study.

Service providers have been consulted

2.23 Providers from London Boroughs of Wandsworth and Lambeth, the primary care trusts (PCTs) and Transport for London (TfL) were consulted through a series of face-to-face meetings. The benefit of such meetings was that providers – particularly addressing social infrastructure needs - could explore the potential for co-location of services and were able to provide a coordinated response. Where possible, providers from the two boroughs were asked to liaise in order to provide an OA-wide response where this was felt to be appropriate.

3 For example, work commissioned by Ballymore

2.24 The requisite information on infrastructure needs, costs, funding and phasing was provided by the stakeholders and collated. Clarification of any issues was provided through follow-up questioning.

2.25 In some instances, we have not been able to include all of service providers' requests for infrastructure and associated funding. This is for two reasons.

2.26 Firstly, in some instances the planning system does not oblige developers to make certain types of payments, so these have not been included.

2.27 Secondly, following the consultation process, the client and stakeholder group worked to review infrastructure requirements (and costs) to ensure that infrastructure requirements and costs were treated in the most appropriate way to maximise the deliverability of the OA. Requirements and costs presented here represent the outcome of that process.

We have avoided the "wish list" approach to infrastructure requirements

2.28 It is not desirable to load an infrastructure assessment with a gold-plated "wish list" of perceived needs. PPS12 is clear that Core Strategies need to:

- Have evidence of deliverability, with evidence strong enough to stand up to independent scrutiny;[4] and
- Have evidence of "what physical, social and green infrastructure would enable the amount of development proposed for the area, taking account of its type and distribution".[5]

2.29 The key concepts here are those of a) supporting development, and b) deliverability. In this assessment, we have tried to provide a pragmatic approach that balances deliverability with providing sufficient infrastructure to ensure the growth is properly catered for. We have tried to calibrate our method to help us gauge a realistic level of infrastructure provision, in the following ways.

- Wherever possible, our approach has been to work from first principles. We have provided service providers with a map showing the location and quantum of jobs and housing growth. We have invited them to explain what requirements they have, given this planned growth, and invited them to explain why this infrastructure is required. This process has built a realism and transparency into the approach.
- Our rough rule of thumb is that the infrastructure requirements for growth in this assessment should be broadly in line with the levels of infrastructure enjoyed by typical central London residents and workers.
- We have attempted, wherever possible, to take account of service providers' existing spare capacity. We rely on service providers' expertise here. This has the effect of reducing infrastructure requirements, and so their costs and funding requirements.

4 DCLG (2008) Planning Policy Statement 12 (17)
5 Ibid (8)

We have not formally dealt with demographic changes, but have taken these into account informally

2.30 There are two demographic issues which need to be borne in mind with this assessment.

- The changing demographic profile of the OAPF: these changes in the demographic profile might mean that, for example, less education infrastructure was required than might otherwise be the case.
- The relationship between new housing stock, and population growth. It is often the case that some of the residents of proposed new houses will already live in the same local authority area. An increase in housing stock may not result in a commensurate increase in the local population, even allowing for new occupants of the vacated houses. For example, new housing might cater for divorcees, or suppressed households, who previously lived in existing households within the area. This reduces the extra pressure on the local infrastructure as a result of the proposed development. It is therefore possible that jobs and housing growth may simply represent an alteration in the location of demand, or lower population densities.

2.31 Time and budget does not allow us to deal with these issues formally. We have relied on service providers being broadly aware of these issues in order to give us a reasonably accurate picture of the infrastructure implications of growth at the OA. In some cases, such as education, an understanding of these matters is core to their work.

Service delivery is continually being reconfigured. Strategies change. This affects levels of infrastructure required to support new growth

2.32 In this assessment, we are aiming at a moving target. Public services, and hence the infrastructure they demand for delivery, are in a constant state of flux. For example, reviews of transport policy could have big implications for infrastructure requirements. Technology is likely to affect infrastructure requirements over the next few years in ways which may be difficult to predict. In other service areas, joint use community/education/ PCT buildings infrastructure are currently being examined, all of which alter infrastructure demand. Funding levels (and, consequently, legitimate infrastructure requirements) vary with political exigencies, and are in great flux at the moment. Most service providers do not plan beyond three years, and so cannot by definition be expected to know their precise requirements in (say) ten years time.

2.33 This means that infrastructure requirements as a result of growth are difficult to predict and are necessarily subject to a considerable margin of error. In addition, there are uncertainties over the mainstream funding that is likely to be available. The public finances should recover at some point after 2016, but we are currently unable to predict the extent to which this might take place, or when. We therefore cannot rely on public funding being significant in this study.

Total precision about the required infrastructure is not possible

2.34 It is important to point out that we are dealing with infrastructure requirements at a high level. In the great majority of cases, we are working far in advance of detailed masterplanning work at the individual sites in the Opportunity Area. As infrastructure

priorities are further defined and costed this will provide more precise details which can, through an agreed review mechanism inform the longer term development of the tariff. This study – and the spreadsheet analysis that accompanies it - is designed to be updated as more information comes in over time.

Costs: our approach to estimating the costs of infrastructure for growth

2.35 Here we explain our overall approach to costs.

We have used service providers' cost estimates where possible, and "ready reckoner" figures where necessary. All costs were then reviewed by the client and stakeholder group

2.36 Where possible, we have used service providers' own estimates of the cost of their infrastructure requirements.

2.37 Where these estimates did not exist, we have used various sources including case studies, published guides and interpretations of data from cost guides such as Spons and the Building Cost Information Service (BCIS). We have also used case studies and benchmarks from elsewhere when appropriate[6].

2.38 As we explained in paragraph 2.27 above, the client and stakeholder group worked to review infrastructure requirements (and costs) to ensure that infrastructure requirements and costs were treated in the most appropriate way to maximise the deliverability of the OA. Costs presented here represent the outcome of that process.

We are costing the additional infrastructure which is required to cope with growth to 2031

2.39 Our costings cover the infrastructure requirements of *future growth in housing and jobs* in the OAPF area. This is the growth described in the OAPF. It includes needs arising from all the major development sites.

We are quoting capital costs and revenue costs separately in this study

2.40 We suggest later in this report that a S106 Tariff be set up. This would be promptly converted to a CIL, once the Government's intentions were known. Our approach to capital and revenue costs reflects this.

2.41 Although not explicit in the CIL Regulations, it is the intention that CIL be focused on funding infrastructure 'facilities', i.e. capital items. It does not appear that it is the Government's intention to use a CIL charge to fund significant revenue costs, although the CIL Regulations are implicit rather than explicit on this point.

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6 Where we have sourced costs figures, figures used do not allow for contingencies and internal project management costs but usually include professional fees (such as architects, surveyors, and so on) unless stated otherwise. We remark on how land costs are treated when it is an in-kind benefit. Costs are provided at current prices unless stated otherwise. They do not include VAT or any other tax.

2.42 As a result, we have not included large amounts of ongoing revenue charge for items such as salaries and ongoing costs, or funding for "time-lags" experienced before capitation-related Government funding catches up with population growth.

2.43 We have included small amounts of revenue charge as being allowable in some certain circumstances. We explain where in the text.

2.44 In the event that regulations are changed to allow revenue to be charged under a CIL/SULT, then these costs have been identified. Sometimes the distinction between capital and revenue is difficult to make. It is the case that some agencies meet capital costs through revenue expenditure, for instance through leasing or borrowing.

2.45 Significant capital requirements bring with them considerable revenue burdens on public bodies. We therefore flag up particular infrastructure items where service providers have expressed concerns about the revenue implications of the new provision.

We quote costs at 2010 prices

2.46 The major costs quoted in this study are at 2010 real prices. Some of the less significant costs we have used from previous consultants' reports do not make a statement of which date costs have been calculated at; we assume that they are also current costs. Uncertainty in the scale of costs is likely to be far greater than the small differences in the precise base year used in cost calculation.

2.47 No inflation is included in our cost calculations. This is because we do not know what the inflation rate will be in future, or exactly when items will be built.

Funding: our approach to estimating the funding for infrastructure for growth

2.48 Our aim in the sections on funding in this report is to show the funding available for the infrastructure at the OA. It is important to note that, as we have pointed out above, these estimates are necessarily going to be subject to a margin of error.

2.49 Below we explain our approach.

Step 1: estimating levels of mainstream public funding available

2.50 It is the Government's intention to use CIL and S106 to fund infrastructure *after* sources of mainstream Government support have been identified.

2.51 We therefore sought mainstream funding for infrastructure in the first instance. As we explain later in the study, though, mainstream funding is currently very scarce.

Step 2: estimating funding through utilities companies

2.52 Significant elements of utilities funding can be obtained from utilities companies themselves. This was included in our view of available funding.

Step 3: estimating the amount of infrastructure available through the process of site development

2.53 Work with the stakeholder and client group showed that a number of pieces of strategic infrastructure (defined as infrastructure which has a wider, cross-site impact across the OA) were to be provided through the normal process of obtaining planning permission. Technically, this infrastructure would be secured through site-specific S106/S278 agreements.

2.54 These costs would have been reasonably anticipated by developers, and so do not affect the amount of tariff which can be viably levied. An example is the Linear Park (significant amounts of which are provided through the reallocation of open space that developers would have allowed for anyway) and the riverfront walkway (the bulk of which can reasonably expected to be provided through the St James' Tideway Wharf and the BPS scheme). Clearly, the tariff should not charge again for these items, so tariff is not sought for these items.

2.55 We were instructed in this element by the client and stakeholder group. We were instructed which elements of infrastructure would be paid for this way, and the value of infrastructure this approach provided.

2.56 There was also a second category here - where we have been instructed by the client and stakeholder group to assume that sites will pay for certain infrastructure items through S106 or S278 agreements. These costs have not been explicitly accounted for in our build cost assumptions and may or may not have been anticipated by developers of those sites. (More detailed work on site-by-site costs would go far beyond our brief). We have analysed the total costs of infrastructure involved in this category, and suggest that, seen across the OA as a whole, the scale of works involved should not unduly jeopardise the viability of development.

Step 4: estimating the level of funding sought through the tariff (though not necessarily obtained)

2.57 The stakeholder and client group then turned to understand the funding that could, in theory, be properly sought through the tariff. In other words, a list of "tariffable costs" that could attract tariff funding was created.

2.58 To do this, developers and stakeholders in the client group took account of the funding identified through steps 1-3 above. They then used their judgement to make a rough estimate of the proportion of the remaining strategic infrastructure costs that were related to OA development, and so may reasonably be applied to VNEB developers and paid for through the tariff.

2.59 The NLE was the one exception here. Even though the NLE will carry passengers who are unrelated to the OA (and so generate costs that the OA need not meet) developers and stakeholders in the client group had voiced concern that it would be important to show how the NLE might be funded in its entirety. Therefore 100% of the NLE costs were listed as tariffable. This was on the instruction of the client and stakeholder group.

2.60 It should be noted that this exercise of creating a "tariffable cost" was independent of the process of understanding what development could viably afford. We have explained our

approach to estimating developer contributions in section 6, and how that work has been converted into a tariff that development in the area could reasonably afford to pay.

We have not allocated funding to any particular theme

2.61 One of the central principles of this report is that we are not making definitive statements of which of the competing infrastructure requirements (be they education, transport, open space) should be paid for the developer contribution money available via the tariff. This is a decision that should be made by elected members or their officers.

2.62 However, in providing this work it is our responsibility to understand which of the charges *could* sensibly be included in a tariff, and which more properly apply to a site-specific Section 106 agreement. In undertaking this process and identifying "tariffable" projects, though, we are *not* saying that tariff funding should necessarily be applied to a given scheme.

We have reviewed more innovative funding sources

2.63 A number of innovative funding sources have also been suggested for funding infrastructure at the OAPF. We have reviewed the available range of options, and the likely impact they will have, paying particular attention to TIF and PFI.

We take account of a number of other funding sources. Some costs do not have an identified funder – but they will need to be met

2.64 Some funding sources are currently unidentified. We have therefore noted that funding for this slice of costs would need to be sought. This is a long term strategic study, though, and it may be that after 2016 levels of public funding recover and the public sector can pay.

Funding for some service providers is related to population – so as population grows, funding grows

2.65 Some service providers have a funding formula which calculates funding by reference to population sizes. This means that as population grows as a result of new housing, their Government funding rises. However, this is not the whole picture: there are a number of components of these funding formulas (including factors such as population deprivation, and so on).

2.66 Service providers in this position include Education (which receives a local authority grant, but one ring fenced by central Government), Health / PCTs, Police, Fire Service, and the Ambulance Service.

2.67 Local authorities are also funded on a formula that includes population numbers and their characteristics. The services that local authorities provide (such as libraries and waste) can therefore be said to be at least partially funded on a per capita basis.

We need to avoid "double funding" service providers – funding them once through the development process, and again from capitation-related mainstream funding

2.68 Double funding occurs when service provider agencies that receive capitation based funding seek reimbursement from developers of the capital cost of providing facilities.

2.69 We believe that this double funding has become increasingly common practice over the past few years. Whilst house prices were rising, developers for the most part acquiesced to this in order to reduce uncertainty, expedite planning permissions and in the context of a situation in which the overall scale of demands made though Section 106 Agreements. Markets are no longer strong, and developers now tend to be unwilling to see this double funding take place.

2.70 Double funding is undesirable. In effect, one part of the economy is paying hidden subsidies to another part. This would artificially depress activity in one part of the economy (in this case the example might be house building and employment space development) and artificially inflate it in another part, possibly beyond the level anticipated by either policy or strategy.

Our approach to prioritisation

2.71 There must be a mechanism that will allow the prioritisation of investment in infrastructure.

2.72 It is our objective here to prioritise which infrastructure projects are most important in allowing planned growth at the OA to take place in a sustainable and well planned way. Please note that this prioritisation process does not intend to *sequence* infrastructure investments in time order. We deal with sequencing in Section 17.

2.73 Ultimately, it will be necessary to prioritise both within theme areas (say, prioritising the most important transport projects) and also *between* theme areas (say, deciding to invest in open space, rather than transport). There is no definitively right answer here. External consultants have little business in prescribing priorities to these differing courses of action. Properly, these decisions rest with elected representatives and their officers, in order to allow different areas and interests to express their different priorities.

2.74 However, it is our role to assist the *process* of making these decisions. We therefore have categorised different infrastructure spending into two different level of priority, in the expectation that subsequent work, outside our brief, will review the choices made.

The prioritisation categories

2.75 We have created the following categories:

- Essential requirements: this category would apply to infrastructure which would be required by legal statute or regulation, and would have to be implemented if the development was to go ahead.[7]
- Other requirements: There are a range of other infrastructure investments that could be considered. Different areas are likely to have different needs that will be reflected here. Some might be very important; others might be long term ideas or more speculative concepts. As we pointed out above, much depends on the choices of elected representatives, and the amount of money that there is available to purchase infrastructure. (Tight budgets would mean that only essential requirements were met; more funding might mean that the other projects were funded).

There are important caveats to be attached to this work

2.76 There are a number of important points which must be borne in mind when using this document.

- Infrastructure providers reserve the right to update the information provided. As might be expected, there are some gaps in knowledge and understanding of what is needed and how it might be paid for. This is a point appreciated by PPS12.[8] The estimates will need to be refined over time. This assessment can, therefore, only ever be a snapshot of current infrastructure needs, commitments, options and ideas.
- The local authorities are at different stages in the preparation of their LDFs and as such in many cases further work is needed to identify specific infrastructure requirements.
- The estimates of infrastructure requirements, costs and funding provided here involve spatial and temporal generalisation. Quite simply, it is not realistic to match resources to needs to places with the degree of precision necessary to reach sound decisions on what infrastructure is required on any one given site or with any one service provider.
- This infrastructure assessment is not itself a policy document. Information included in the assessment does not override or amend the various agreed/adopted strategies, policies and commitments which local authorities and other infrastructure providers currently have in place. In many respects the assessment reflects existing strategies, policies and commitments, but it also includes information and evidence which will help shape future policy making, the LDF evidence base and investment decisions.
- Our assessment of potential developer contributions from potential future development in the OAPF does not purport to offer a valuation of any particular piece of land. They were prepared with the objective of helping to develop a tariff and

7 Other infrastructure spending – such as water, gas and electricity connections - are clearly essential to housing and jobs development, but because these connections can be expected to happen anyway as part of a development they fall outside our prioritisation categories.

8 PPS12 states that that "the Government recognises that the budgeting processes of different agencies may mean that less information may be available when the core strategy is being prepared than would be ideal." DCLG PPS12 (9)

estimate potential overall levels of contributions that could be secured from development to help fund infrastructure. They are not suited to any other purpose.

- This work is designed to help the setting of a Section 106 tariff for development. As we note, further work after this study has closed will be necessary to prioritise infrastructure requirements. Priorities can be expected to change over the life time of the build-out of the VNEB OA. We anticipate that future prioritisation and spending decisions will occur in the context of local authority decision making responsibilities, with reference to the emerging governance for the VNEB OA Strategic Board.
- It will be important to allow sufficient flexibility around funding. In the case of the tariff, for example, there may be changes to the way that the tariff is used to pay for different infrastructure items that differ from this report.
- The level of tariff set will need to be adjusted. Although this work can be used as a high level guide, developers and Local Planning Authorities will not be able to solely rely on this work to negotiate individual Section 106 agreements. Our analysis is not at the level of accuracy that allows this function to be performed.
- Our analysis says nothing about whether a five year supply of housing is available. This would need to be determined separately.

3 PLANNED DEVELOPMENT IN THE OPPORTUNITY AREA

Introduction

3.1 In this section, we examine the level of development that is assumed in the OAPF.

3.2 This stage is important, because the amount and timing development in the OA will determine the amount of infrastructure required at a given point in time.

3.3 As requested by the brief, we then discuss how deliverable this development is.

Development proposed

3.4 The Opportunity Area Planning Framework (OAPF, Revised Scenario 5) sets out broad proposals for the new space to be developed in the OA, as follows:

- 16,000 homes across the OA
- At Battersea Power Station, 300,000 sq m (GIA) of non-resi ('employment') space comprising:
  - 60,000 sq m retail
  - 160,000 sq m offices
  - 80,000 sq m 'other employment space'
- Elsewhere in the OA, 200,000 sq m (GIA) of 'mixed employment use'.

3.5 For the avoidance of doubt, the above figures, and all our other data on future development, relate to gross additions to the stock. This means the amount of new floorspace space to be built, with no deduction for existing floorspace to be demolished and thus lost from the stock.

Different land uses

3.6 For various work streams within the study, we need a more precise understanding of how the development proposed in Revised Scenario 5 is broken down between different land uses. In particular, we need to split the non-residential elements into hotels, retail and other uses. The OAPF shows this split for the power station but not for the rest of the OA.

3.7 Work provided by the GLA was used to estimate the employment growth in VNEB and provides a finer breakdown of development by land use. The table overleaf summarises the GLA schedule and compares it with the OAPF.

3.8 The GLA's totals are slightly higher than those shown in Revised Scenario 5 – 320,000 sq m at the power station against 300,000 in Revised Scenario 5, and 230,000 sq m in the rest of the OA against 200,000 in Revised Scenario 5. To estimate a breakdown of the Revised Scenario 5 totals, we have distributed these totals across land uses (types of space) pro rata to the GLA's breakdown. The results are in the final column of the table.

3.9 Note that the GLA and OAPF projections work to 2026. However, as explained later in this section, this study takes the same quantum of development but spreads it over a longer period, to 2031. We consider that this is a more reasonable build out period.

Table 3.1 New floorspace to be developed at OAP, sq m (Gross Internal Area)

Battersea Power Station	OAPF View	Comment	GLA View	OAPF split pro rata to GLA view
Offices	160,000		160,000	150,000
Retail	60,000	60K tested in Wandsworth study	60,000	56,250
Hotels (incl serviced apts)			20,000	18,750
Other, incl food/drink, leisure etc	80,000	This figure quoted does not distinguish between hotels and "other"	80,000	75,000
Total	300,000		320,000	300,000
Elsewhere in the OA				
Offices	-	'Includes office uses in Nine Elms.'	110,500	96,087
Retail`	-	Includes retail frontage at Vauxhall (small district centre). No figures given. Policy support for the retail is the Lambeth UDP. This does not provide numbers, except mention of 2,000 sq m additional floorspace at Vauxhall Cross.	27,000	23,478
Hotels	-	No figures	65,000	56,522
Other, incl food/drink,leisure etc	-	No figures	27,500	23,913
Total	200,000		230,000	200,000

Source: OAPF; GLA; RTP

Testing Revised Scenario 5 (RS5) proposed development

3.10 The brief states that this study must "undertake an assessment of the viability of the proposed development quantum in Revised Scenario 5 (RS5) in relation to likely future market demand and supply. An assessment of whether this level of development is economically viable and deliverable given the potential future markets in residential and commercial property. It maybe that the indicative development pipeline will have to be extended beyond the current London Plan period of 2026, to the replacement plan period of 2031...it is essential that the DIF study comes to an independent view on the deliverability of RS5 development within the OA."

3.11 We have shown above that the Consultation Draft OAPF proposes the GLA's preferred option, Revised Scenario 5 (RS5). This scenario supports delivery of 16,000 new homes and new non-residential space that will house 20,000 – 25,000 new jobs in the OA.

3.12 The development proposals in RS5 were the outcome of a capacity study. This looked at the physical space available, and calculated the amount of floorspace and dwelling units possible given density standards and a chosen development mix. No work on deliverability or viability was undertaken.

3.13 Below, we make a high level assessment of the development viability of the RS5 development proposals. It should be noted that significant caveats attach to this work.

- This exercise takes a high level view only.
- In line with the task envisaged by the brief, in this exercise we are only looking at broad market conditions. There may a be range of obstacles to development (such as delays caused by shortages in utilities capacity) that means that delivery of this quantum of development might be delayed.
- Our assessment of viability does not purport to offer a valuation of any particular piece of land and is not intended to be a Red Book valuation. Our assessment is not suited to any other purpose.

3.14 Throughout this report, we assume that the NLE serving the BPS site opens in 2019, as shown in the recent reports by Colliers CRE and PWC for TfL[9].

3.15 It should be noted that our assumptions on build out of the NLE and other office, retail and residential are more pessimistic than the assumptions made in some planning applications.

How much development is deliverable in the plan period - Office

3.16 The office floorspace proposed and Timing of Development in VNEB is as follows:

- c.160,000 sq m (GIA) at Battersea Power Station
- c.100,000 sq m (GIA) in the rest of the OA (based on GLA analysis of 200,000 sq m of total employment use development in the rest of the OA - it is not clear whether this includes or excludes the US Embassy).

3.17 Total office floorspace is, therefore, c 260,000 sq m (GIA) max.

Historical analysis of office development in London

London has become a polycentric office market

3.18 London has become a polycentric office market over the last 30 years as the office market has expanded. During the 1980s, the Square Mile spread north (Cutlers Gardens and Broadgate) and east, while London Bridge and Canary Wharf provided off-centre alternatives. During the 1990s further peripheral developments challenged traditional boundaries – Paddington, Tower Bridge, Bankside and Regent's Place/Euston.

3.19 The first generation of mega schemes set a precedent for 'off-centre' developments and an enlargement of the central London office market. Indeed, as the LOPR 2009 points out "when Broadgate was mooted, half a mile from the Bank of England, it was revolutionary", although the completion of the nearby Cutlers Gardens office scheme before Broadgate was arguably even more revolutionary.

3.20 The GLA's London Office Policy Review (LOPR) 2009 shows that between 1985 and 2008, the long-term average of development completions was 545,000 sq m (NIA) pa, with sharp peaks and troughs (this is gross development rather than net addition to stock).

The number of very large schemes has been limited to a handful at any one point

3.21 What is noteworthy is the relatively small contribution that the 'mega schemes' have had to the overall rate of development. The five projects in the table below delivered 2.2 million sq m since 1985 or about 88,000 sq m per annum. 64% of this development was in Canary Wharf.

9 These reports, like the OAPF, assume that the NLE is delivered in a single phase. An alternative scenario is currently being proposed, in which the NLE is delivered in two phases. In that alternative scenario, we assume that Phase 1, serving the BPS site, opens in 2019.

Table 3.2 Very large schemes

Scheme	Size of development (sq m NIA)	Start Year	Timescale of development from start	Average development rate (sq m pa)
London Bridge City	75,000	1985	5 years	15,000
Broadgate	400,000	1985	23 years	17,400
Canary Wharf	1,400,000	1988	22 years	63,600
Paddington	150,000	2000	10 years	15,000
More London	175,000	2001	9 years	19,400

Source: GVA Grimley

To be in place by 2026, VNEB office development would need to roughly equal historical development rates at London Bridge City, Broadgate, Paddington and More London. This rate would depend on starting at 2014, three years before the planned completion of NLE. A completion date of 2031 is more reasonable

3.22 The schemes at London Bridge City, Broadgate, Paddington and More London saw a development rate of around 15-20,000 sq m (NIA) pa (see table above) from start to completion. This compares with 20,000 sq m (GIA) pa at VNEB (ie about 16,000 sq m (NIA) pa, assuming a completion date of 2026, or 14,500 sq m (GIA) pa (ie about 11,500 sq m (NIA) pa assuming a more realistic completion date of 2031, the formal end date of the replacement London Plan. Assuming a completion date of 2031, this development rate appears reasonable, although as stated above, a start date of 2014 appears to be optimistic in view of the likely completion date of the NLE of about 2019.

3.23 The outlook for office employment growth over the next 20 years is weaker than over the last 25 years, which was exceptionally strong, so we believe that the above development rate analysis may be on the high side when compared to the development rates of previous large-scale developments in new office locations, although this also depends on the amount of development likely to come forward on other sites, ie the likely competition for occupiers. The current restrictions on development finance by the banks will cause low development activity over the early years of the 20 year period being considered and the resultant shortages of new floorspace may well cause higher rates of development thereafter for a while. But over the 20 year period being considered this will even out and the weaker employment growth expected will mean a lower average development rate is likely than over the last 20 years.

GLA LOPR forecasts suggest that future growth will be slower than past growth

3.24 Forecasts for a key indicator of overall office demand (F&BS employment) in the GLA's 2009 LOPR show a growth rate over the next 20 years little more than one-third that over the last 20 years. Forecasts by Experian reinforce this growth rate differential.

Competing supply

3.25 The annual development rate may be on the high side, but the key question is whether the scale and form of development at VNEB is realistic in view of the number, size and location of competing schemes.

Proposed office development in East London

3.26 Planned East London "mega schemes" would deliver 1.6 million sq m (NIA) and possibly create a new East London office market that stretches between Stratford, Canary Wharf and north Greenwich. Details are as follows.

- Canary Wharf still has 422,000 sq m (NIA) of permitted development at North Quay (222,000 sq m), Heron Quays (155,000 sq m) and 25 Churchill Place (45,000 sq m) to develop. These schemes are due to be completed by 2013 but that date looks optimistic.
- Wood Wharf - Wood Wharf is, in effect, an eastwards extension of Canary Wharf with six new office buildings totalling 370,000 sq m (NIA) within a mixed use scheme expected to be built over the next 15 years.
- Greenwich Peninsula - This Quintain scheme is set to provide 350,000 sq m (NIA) in 14 buildings by 2025. Two are already developed, one let to TfL, the other to French contractor Bouygues.
- Stratford City – This scheme will include 465,000 sq m (NIA) of office development. Most of the office space will be on land that will be used for the Olympics and won't be developed until after 2012.

Proposed office development in rest of central London

3.27 Competing supply in central London is as follows. Together, these five central London schemes alone could potentially deliver 1.7 million sq m (NIA).

- King's Cross Central – there is planning permission for 450,000 sq m (NIA) of offices.
- Paddington – there is further potential permitted development at Span 4 Paddington Station (56,000 sq m), Merchant Square (33,000 sq m), Paddington Central (31,000 sq m) and North Wharf Road (30,000 sq m). This totals 150,000 sq m (NIA) and is due for completion by 2015.
- Euston – there are proposals for redevelopment, with the potential for 300,000 sq m (NIA) of mixed use development by 2015, although this date looks optimistic.
- Earls Court – a mixed use scheme of 1.7 million sq m has been proposed by Capital & Counties that includes 600,000 sq m (NIA) of offices. This runs counter to LB Hammersmith and Fulham's desires to replace the convention centre after the Olympics. If permission is granted construction would start after the Olympic Games.
- Waterloo – redevelopment of Elizabeth house on York Road would deliver two towers (75,000 sq m NIA). There is further potential for the redevelopment of the station concourse for 100,000 sq m (NIA) of offices.

Other proposed non-central London schemes

3.28 The following two schemes could deliver approximately 850,000 sq m (NIA) of office space between them.

- Brent Cross/Cricklewood – there are proposals for approximately 400,000 sq m of office space, due for completion by 2030. This scheme now has planning permission and will not be called in.
- White City – the umbrella scheme totals 450,000 sq m of office space including the BBC's media hub.

3.29 The aforementioned schemes are at differing points of delivery, and some may not happen in the form or size specified. However, all these schemes could potentially add about 4 million sq m (NIA) of office space to the London stock in the future. This is almost double what was provided in the five existing mega schemes over the last 25 years (2.2 million sq m NIA), during a period of very strong expansion in the London office economy.

3.30 On the assumption that the delivered space could, in theory, well exceed demand, there could potentially be strong competition for occupiers between these schemes and also with VNEB.

Schemes already planned

3.31 All of the mega schemes mentioned above need to be added to the large central London schemes already planned. These schemes include the Pinnacle, the Walky Talky, 122 Leadenhall, Bucklersbury, Heron Tower, the News International site, the Shard, and central Victoria, although these schemes will involve demolition of office apace and so the net addition will be smaller than the gross figures.

Relating the VNEB office components to the wider central London office market

3.32 To help gauge the likely demand for offices in VNEB, we have looked at the relationship of the scheme to the wider Central London office market. Recent evidence on this wider market is provided in the GLA's 2009 LOPR, published last November.

VNEB plans alone would accommodate a considerable amount of London office demand

3.33 LOPR forecasts that total demand for offices in the CAZ, in the Plan period 2011-31, will be some 2.1m sq m (NIA) of net additional space, equal to 106,000 sq m (NIA) per year. The 270,000 sq m (GIA) or about 216,000 sq m (NIA) of new space proposed in the VNEB Opportunity Area would absorb about 2 years of this demand. For London as a whole, LOPR forecasts demand of 182,000 sq m (NIA) per year; the VNEB space would absorb 1.2 years of this demand.

LOPR notes that London has a collection of office 'mega schemes', which are collectively very large by historic standards and will compete with each other

3.34 LOPR estimates that the new office space proposed at these schemes could add about 4m sq m (NIA), whereas in the last 25 years mega schemes have delivered only about 2.2m sq m (NIA). So, at the take-up rate of the last 25 years, current mega-schemes could arguably represent over 4 years supply – 'a very, very large pipeline'. LOPR concludes

that the mega schemes will be in stiff competition with each other and not all can succeed, particularly as office demand is expected to be weaker than over the last 25 years. VNEB, in terms of size, qualified as a mega scheme, although it is not listed in LOPR as such, probably because the drafting of LOPR pre-dates publication of the OAPF, and the proposed VNEB offices amount to 6% of the total megascheme pipeline.

We caution that the large number of competing schemes, which together with schemes in established locations, have the ability to produce far more new office space than London will realistically require

3.35 New office development at VNEB would potentially be competing with a large number of other schemes, and factors such as the quality of the development, the success of the transport links, the perception of VNEB as an office location and the proximity of VNEB to central London (being part of the CAZ) would be highly important in the ability to attract potential occupiers.

The office development at VNEB, much of which will be located at BPS, is located some distance from Vauxhall (a weak office location) and even further from Victoria

3.36 In our view, in view of the competition, office development at VNEB must have the critical mass to become an office location in its own right. At the moment, it can be seen as physically separate from existing office locations and without the benefit of a nearby main line station (like competing schemes at Kings Cross, Euston, Paddington, Waterloo or Stratford). The NLE supported by a wider package of transport improvements is essential, but this would arguably be a less attractive underground rail link than most of its competitors will have, given likely commuter flows. On the hand, the proximity to the river and a regenerated BPS, with excellent retail and leisure facilities in a dramatic landmark building would be a considerable attraction to occupiers, as would the lack of quality office space in the Battersea/Wandsworth area of south west London and the fact that BPS would be in the CAZ.

Completion in 2026 is not particularly realistic

3.37 Assuming a development start date of 2014 and a completion date of 2026 this gives an annual development rate of 20,000 sq m (GIA). If completion is 2031 the annual development rate is a more realistic 14,500 sq m (GIA). In our view a start date in 2014, five years before the opening of the NLE serving the BPS site, is a little optimistic for BPS, but feasible towards the Vauxhall end of VNEB; this may well limit the actual development rate in the early years. This means that the average annual development rate for much of the period could be higher than 14,500 sq m if the completion date was 2031.

How much development is deliverable in the plan period – Retail

3.38 The amount of retail floorspace proposed in the VNEB and the timing of development can be summarised as follows:

- c.60,000 sq m (GIA) at Battersea Power Station
- c.24,000 sq m (GIA) in the rest of the OA (based on GLA analysis of 200,000 sq m of total employment use development in the rest of the OA).

- Total retail floorspace is, therefore, c 84,000 sq m (GIA).

3.39 BPS refers to 2016 as an opening date. This is before much of the residential development or office development has occurred and probably before the NLE opens. No development phasing is given for retail in the rest of the OA, but it is assumed to be developed pro rata with the residential (and commercial) floorspace.

3.40 BPS has a retail capacity and impact assessment undertaken by DP9, and an independent review of this assessment by Nathaniel Lichfield and Partners (NLP), but the retail floorspace proposed in the rest of the OA has not had a retail assessment study. The BPS retail studies assume capacity and impact assessment dates of 2016 as this is the proposed opening date for the retail floorspace.

The composition of retail floorspace at the VNEB OA

BPS has two main retail areas - a "High Street" and speciality retailers in the Power Station

3.41 Retail components of the scheme are as follows:

- The High Street area (c.25,000 sq m) is intended to serve the existing local community in Battersea, workers and residents of the BPS Scheme and the future population of Nine Elms area (DP9 retail report para 3.11).
- The Power Station building will contain high quality speciality comparison retailers (c.26,000 sq m), like those at Covent Garden, Spitalfields and Carnaby Street (DP9 retail report para 3.15), plus a medium sized food hall (referred to in the plans submitted with the DP9 retail report as being like Wholefoods and a large store like John Lewis home store is also shown on the scheme plans).

3.42 The remainder of the OA contains c.24,000 sq m. This would presumably include a new and enlarged Sainsbury foodstore and other retailing catering for local needs including a local centre.

3.43 The High Street development at BPS (c.25,000 sq m) and c.24,000 sq m in the remainder of the OA will target similar types of spending from the local area (residents and workers primarily). In total this is a large amount of floorspace but the BPS scheme is intended to have a wider catchment area and not just cater for local needs.

BPS Power Station building - demand and need for proposed retail

3.44 As mentioned above, high quality speciality comparison retailers are anticipated for the Power Station building similar to those at Covent Garden, Carnaby Street or Spitalfields, plus a medium sized up-market foodstore and a mini department store selling homewares.[10]

10 DP9 retail study

Competition for speciality retailers will come from nearby established locations

3.45 Covent Garden and Carnaby Street are not far from BPS and all are in the CAZ, but are also in the central Congestion Zone, unlike Battersea Power Station. Kings Road is also not far away and contains similar retailers, including a Peter Jones (John Lewis) department store.

3.46 Would a sufficient number of retailers go to the Power Station building in view of its proximity to Kings Road and the West End and would sufficient shoppers go to the Power Station building rather than to Kings Road or Carnaby Street or Covent Garden or the West End generally, all of which will have equal or better accessibility by public transport than BPS? The Power Station building will be a destination and will appeal to tourists and London residents, but how many if it merely duplicates, at a smaller scale, the West End/Chelsea retail provision?

Our view is that the Power Station could let to high quality retailers, although the general market view is divided

3.47 GVA Grimley's retail agency view is that the Power Station would let to the type of high quality speciality retailers that the plans in the DP9 retail study indicate. However, the general agency view in the market is divided as to whether sufficient retailers would find the Power Station viable as an upmarket retail location. The Power Station scheme's viability will, in our view, be improved as a result of the High Street scheme being built adjacent to it as it would create a greater overall critical mass, which would appeal to retailers and shoppers.

BPS High Street and rest of OA - demand and need for proposed retail

3.48 The BPS High Street scheme and the retail development in the rest of the OA will cater primarily for new residents and workers in the OA but also for nearby Vauxhall, Nine Elms and Battersea residents. 16,000 new residential units will be built in the OA, ie 32,000 residents by 2031 (if DP9's assumption of 2 people per unit is correct, or 37,440 residents if the OAPF assumption is correct), or 6-7,000 residents by 2016. No study has been undertaken to assess the retail needs of all these new residents at 2031. The BPS development on its own has been assessed at 2016, when the retail element of the scheme is intended to be completed. DP9 produced an assessment to accompany the planning application and NLP have undertaken an independent review of this assessment, but these studies do not examine capacity or impact at 2026/2031, when all the development at VNEB is expected to be completed.

Catchment areas assumed in retail capacity assessments

3.49 The DP9 retail study and the review of it by NLP assume a capacity and impact date of 2016 as that is when the retail floorspace is expected to open. DP9 assume a 30 minute (off peak) catchment area of c.3.8 million in 2016 (ie about half of London, north and south of the river) for the whole BPS retail development. Their need or capacity assessment uses this whole area (ie the total expenditure growth in the entire area) to justify the total size of the BPS scheme. This is an unusually large catchment area for a c.50-60,000 sq m retail scheme, close to the West End, in part serving local residents' needs. The NLP

report shares this concern and its assessment relies on a smaller, more realistic, catchment area.

3.50 NLP, in their independent review of the DP9 assessment, voice other concerns over DP9's assumptions. Not only do NLP think the BPS scheme's catchment area would be smaller than DP9 assume, but they think the trade draw from this smaller catchment area would be greater. They also think the expenditure figures would be slightly lower in 2016 and that the potential turnover of the proposal would be higher than DP9 assume. The net result of these altered assumptions is that there would, in 2016, be less capacity to support the size of scheme proposed at BPS than the DP9 study suggests and the impact on nearby centres would be greater. NLP's assumptions appear reasonable and we agree with their view.

NLP's overall conclusions are that there is sufficient capacity to support the BPS scheme by 2016

3.51 Nevertheless, NLP's overall conclusions are that there is sufficient capacity to support the BPS scheme by 2016. Although impact levels on some nearby centres would be high (when the effect of other new developments are also taken into consideration) NLP conclude that impact levels would not be so high as to be a serious concern, as future expenditure/ turnover growth at these centres should be large enough to offset the trade diversion/impact that would result from the BPS scheme and other new developments. Nevertheless, this would mean that in some centres there would be little or no overall growth in turnover over the next six years.

3.52 NLP emphasise in their conclusions that the scale of the development is "over and above that required to serve the Nine Elms area", ie the BPS scheme will function as a centre for a wider catchment area than the immediate area close to BPS. We agree with NLP's analysis and conclusions, but consider that for the BPS scheme to be successful it needs the critical mass that is proposed, which will also make the VNEB area as a whole more attractive for a subsequent large scale residential and commercial development up to 2031.

Any concerns over capacity and impact at 2016 will lessen as new residential (and commercial) development occurs in subsequent years

3.53 It is also important to remember that the NLP (and DP9) retail capacity and impact assessments were undertaken with an end date of 2016 (when the BPS scheme is due to open). This is likely to be a year in advance of the opening of the NLE, which may be a problem initially after the scheme opens, but the growth in population locally post 2016, and the retail expenditure generated, would be substantial. Any concerns over capacity and impact at 2016 will lessen as new residential (and commercial) development occurs in subsequent years. The growth in population between 2016 and 2031, for example, in the VNEB area would be at least 25,000. This would generate a very substantial amount of additional expenditure.

3.54 No retail assessment has been made of the amount of floorspace that would be justified by the large amount of additional population that would occur in the VNEB area by 2031.

The DP9 and NLP studies only looked at the BPS scheme and only looked at it up to 2016

3.55 A high level retail assessment for 2031 using data on expenditure levels from the NLP report and household survey results of expenditure flows from different population zones contained in the NLP report, suggest that this level of population growth in the VNEB area would generate, by 2031, a significant floorspace need. If spending by the new workforce employed in new commercial buildings developed in the VNEB area is also allowed for, the total additional retail expenditure generated (and which could be retained locally) could justify the retail floorspace proposed of about 24,000 sq m GIA by 2031 in addition to the BPS retail development that would have occurred by 2016. However, the location, form and composition of this amount of development would be important to ensure that local needs are satisfied and a significant proportion of this expenditure is retainable locally.

How much development is deliverable in the plan period – Residential

The scale of residential development proposed

3.56 The proposed scale of development at VNEB is for 16,000 high-density residential units (assumed to be entirely apartments). This equates to a development rate of 1,070 units per annum on average over a 15-year period (2012-2026) or 800 units per annum over a 20 year period (2012-2031). Development is located in both the boroughs of Wandsworth and Lambeth, although a higher proportion is located in Wandsworth.

3.57 As at 2008/09 the existing residential stock in LB Wandsworth was 130,039 and in LB Lambeth it was 127,561. This gives a total of 257,600. The VNEB development represents a 6.2% addition to total stock in these two boroughs.

3.58 The scale of development proposed in VNEB is very large, with a potential population of over 30,000.

Setting proposed development rates in context

Proposed expansion rates are ambitious

3.59 Over the last decade, the combined residential development rate for the boroughs of Wandsworth and Lambeth has been just over 1,000 units per annum (589 pa and 436 pa respectively). The actual annual rate for both boroughs combined has fluctuated considerably, from a low of 443 to a high of 1,800 units as market conditions and site availability has altered. The VNEB development rate of 1,070 units pa up to 2026 is almost identical to the total annual development rate over the last 10 years for the two boroughs combined. If the development rate for VNEB is taken to 2031, at 800 units per annum, it is only 20% below the average of about 1,000 pa for the two boroughs combined. Although high development rates have been achieved in the boroughs of Wandsworth and Lambeth over short periods of time long term average annual development rates are more relevant when assessing a realistic development rate at VNEB, which has a 15 – 20 year development timescale.

3.60 Compared to other nearby boroughs with river frontage the annual average development rate over the last 10 years in Wandsworth and Lambeth was very high. In the whole of Kensington & Chelsea the average annual rate was 183 and in the whole of Hammersmith & Fulham it was just 113.

The size of the VNEB scheme is apparent when compared to recent local schemes

3.61 Comparable residential schemes along the river between Vauxhall and Putney/Fulham and on the Isle of Dogs over the last 10 years have been examined to assess the size of individual schemes, their development timescale and their annual development rate.

3.62 If the four riverside boroughs (Wandsworth, Lambeth, Westminster and Hammersmith & Fulham) are combined, 30 major schemes (of over 50 units per scheme) have been completed on the riverside and its hinterland over the last 10 years. The total number of units developed totals 7,600, with an annual completion rate averaging about 725. This is similar to, but slightly less than, what is proposed at VNEB. If the Paddington waterside schemes in LB Westminster are included the total increases to 8,500 and the annual average development rate increases to about 810.

VNEB development rates would need to be similar to those achieved at the Isle of Dogs

3.63 An alternative analysis is provided by an examination of what has happened at the Isle of Dogs over the last 10 years, where there has been strong demand and a good availability of sites. Clearly there are some differences between VNEB and the Isle of Dogs (VNEB is more central and is within the CAZ), but also some similarities (not least their size, the proximity to office development, the proximity to a new large shopping centre as well as proximity to the Thames). 7,500 residential units have been completed (in schemes of over 50 units per scheme) over the last 10 years in the Isle of Dogs, with an annual average development rate of 750 units, similar to, but slightly less than, what is proposed at VNEB.

3.64 This is a very high level of residential development given the timeframe involved. It will require a major push, and a benign economic environment if it is to be achieved.

3.65 The above analysis emphasises the huge scale of residential development proposed at VNEB compared to what has happened in nearby areas. Almost as much development is proposed each year on average for 20 years at VNEB as has happened in the whole of the boroughs of Wandsworth and Lambeth each year on average over the last 10 years. As much development, or slightly more, is proposed each year on average at VNEB for 20 years as has happened along the river and its hinterland in the boroughs of Wandsworth, Lambeth, Westminster and Hammersmith & Fulham combined, each year on average over the last 10 years. As much development is proposed each year on average at VNEB for 20 years as has happened in the Isle of Dogs each year on average over the last 10 years.

3.66 VNEB has a lot of advantages for residential development in view of its location in west central London, its proximity to the river and the potential new shopping centre at BPS. The NLE will potentially add to its advantages by providing short journey times to job/leisure opportunities in the West End and the City. It is also a large site with fewer

supply constraints than have existed in the past in west and south west London boroughs. Based on the above analysis the annual development rate anticipated over a 20 year period looks a little optimistic, but possibly achievable if market conditions were favourable. Even then a 25 year development period rather than a 20 year development period would appear to be more realistic.

3.67 A major push – demanding a very high level of effort and focus from stakeholders - would be required if this scale of change was to be delivered in the timeframes being discussed. A benign macro-economic context would also be necessary. The 2031 date of the Replacement Plan appears to be the more realistic development timeframe, rather than the 2026 end-date mentioned in the VNEB OA, but even 2031 may be a little optimistic.

The assumed trajectory

3.68 This study needs a view on a development trajectory. This is in order to obtain a) an estimate of when infrastructure might be required, and b) to understand the possible flow of developer contributions.

Principles

3.69 In order to derive a reasonable trajectory, we have adopted a 'top-down' approach, rather than building up totals from what we know about individual schemes. This is because, at this stage, it cannot be known which individual schemes will go ahead and which will either be revised or not be delivered. It is almost certain that a proportion of the existing schemes being put forward will not be delivered as proposed. The only firm commitments are:

- schemes under construction, namely Vauxhall Sky Gardens and St George's Wharf; and
- schemes with planning permission that have a high likelihood of being delivered, i.e. the US Embassy.

3.70 Given the scale of the proposals, we deal with the proposals for Battersea Power Station separately from the rest of the OA.

3.71 As before, we assume that the NLE serving the BPS site opens in 2019.

Trajectory for Battersea Power Station

Residential

3.72 The Development Pipeline Study, undertaken by CBRE in October 2009, gives a trajectory of residential completions at BPS, showing first completions in 2013 and a steady rate of development until 2031 at around 195 dwellings per annum (dpa). We consider this rate of delivery to be reasonable, based on the assumption that the current planning application is likely to receive planning permission in 2011 and that it will take two years to construct the first phase of residential units. This is a longer period of construction than on some residential schemes but the reason is that it will be 100% flatted development so can only be completed in large blocks. In reality, this will mean that

completions will be quite 'lumpy' but, with our top-down approach, we have assumed a steady rate of annual completions.

Offices

3.73 If office development is to succeed in the OA, it must become part of the Central London office market. The consensus of agents about this wider market is that, as economic growth resumes, shortages of space will emerge. This is because the current recession, unlike previous ones, is not leaving behind a massive overhang of oversupplied, new speculative space (developers and funds learned from their mistakes and built much less in the boom years than previously). However, access to bank finance for development will remain a problem.

3.74 Therefore, we expect that there will be insufficient demand for office space at the BPS until the NLE serving the site opens in 2019. This means that office development starts about 2017, when construction of the NLE is in progress, and the first completions occur in 2019. Office development is then assumed to proceed uniformly across the remainder of the development period to 2031. Based on our assessment of the total floorspace to be built (160,000sqm) the annual rate of delivery over the 12 years to 2031 creates an annual output of 13,333 sq m.

Retail

3.75 The retail floorspace is split into two types: speciality comparison space within the Power Station building and a 'high street' offer elsewhere on the BPS site. The speciality space will be a destination facility and serve a wide market. The 'high' street will serve a more local market, largely comprised of people who live and work in new development in the OA, but also the population in the surrounding area.

3.76 The demand for the speciality comparison retail space, like that for office space, will only arise once the NLE is opened. Therefore we assume that this floorspace will be completed in one single phase when the NLE opens in 2019.

3.77 The 'high street' offer provided elsewhere on the BPS site is also to be delivered in a single phase. In our trajectory, this occurs once a reasonable amount of housing has been completed, creating demand for the facilities. So we assume that the 'high street' will also open in 2019, by which time just under 1,200 housing units will have been completed.

3.78 In the CBRE trajectory, small amounts of retail floorspace are completed ahead of the bulk of the 'high street' (most likely a supermarket to support the residential development). For the sake of simplicity, we have not included such early completions, but assumed that the whole 'high street' is delivered in a single stage.

3.79 In total, therefore, we assume that 56,250sqm of retail floorspace will be completed in 2019.

Hotel and other commercial uses

3.80 Like the retail provision, this will be split between niche/up-market provision in the Power Station building and more routine provision in the 'high street' elsewhere on the BPS site.

Also like the retail provision, and for the same reasons, we assume that both elements open in 2019, when the NLE opens and some 1,200 houses on the site have been completed.

Trajectory for the Rest of Opportunity Area

3.81 Again, we adopt a top-down approach to assessing the rest of the OA and also consider it as one entity. This is to avoid complication and also because nothing definitive is known about individual schemes, apart from Vauxhall Sky Gardens, St George's Wharf and the US Embassy. Even where a 'traditional' commercial scheme (unlike the US Embassy) has planning permission (e.g. Market Towers), whether it gets built will depend on market demand.

Residential

3.82 For the schemes now under construction, we have taken the completions from the CBRE report. The rest of the residential development is then assumed to start in 2013 because, broadly, it is unlikely to get planning permission before 2011 and it will take in the order of two years to build (for the reasons discussed above relating to the nature of high density development). From 2013 onwards it is then assumed to be built out at a steady pace. The reason for this is that we consider a maximum annual completion rate for the whole OA will be in the region of 800 units.

3.83 The total number of units to be delivered outside BPS is 12,300 (16,000 units in OAPF minus 3,700 at BPS). Of this figure, 300 are under construction. This leaves a total to be delivered of 12,000 over the 19 years from 2013, equal to an annual average of 632 units.

Offices

3.84 We assume that the 50,000sqm of offices proposed at the US Embassy will be delivered on target in 2016, based on the planning application and the fact that the lease on the US Embassy's existing premises in Grosvenor Square doesn't expire until 2015.

3.85 For the remainder of the office space (46,000sqm) we have made the same assumptions as for BPS. The only difference is that office development in the rest of the area is less dependent on the opening of the NLE. Therefore we have assumed the first office completions are in 2014, because demand picks up and availability of development finance is freed gradually from about 2012 onwards, and it will take two years to build these large schemes. Therefore, the 46,000sqm of office space is delivered over 18 years, equating to 2,556sqm per annum.

Retail

3.86 The market assessment chapter was of the opinion that the retail floorspace in the rest of the OA will serve a more local market than the 'high street' offer on BPS. The assessment is also of the opinion that the total amount of retail development is justified by 2031 due to the amount of residential and commercial development that is planned, but that generally relatively small scale local shopping facilities, catering for day to day needs, is what is required outside the BPS retail scheme. There is some concern about impact of the BPS

retail scheme on nearby retail centres in the short term if the scheme was completed by 2016, but this would quickly lessen as population and employment growth grows in the VNEB area. Unlike the retail at the Power Station, the retail development in the rest of the OA will not be in a single unit; it can be built gradually as demand builds up. Therefore we assume that this retail floorspace is delivered in parallel with the residential development, with completions starting in 2013 and continuing at a steady pace until 2031.

Hotel and other commercial uses

3.87 For the same reasons, this is phased on the same basis as the retail floorspace in the rest of the OA. Therefore completions proceed from 2013 onwards at a constant annual rate until 2031.

Summary

3.88 The table below provides a summary of the proposed phasing.

Table 3.3 Proposed phasing of residential and commercial space in OAPF

BATTERSEA POWER STATION

Year of completion	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential units			190	195	195	195	195	195	195	195	195
Office (sqm)									13,333	13,333	13,333
Retail (sqm)									56,250		
Hotel & other commercial (sqm)									93,750		

Year of completion (cont)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Residential units	195	195	195	195	195	195	195	195	195	195	3,700
Office (sqm)	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,538	11,544	155,385
Retail (sqm)											56,250
Hotel & other commercial (sqm)											93,750

REST OF OPPORTUNITY AREA

Year of completion	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential units		300	632	632	632	632	632	632	632	632	632
Office (sqm)				2,556	2,556	52,556	2,556	2,556	2,556	2,556	2,556
Retail (sqm)			1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237
Hotel & other commercial (sqm)			4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232

Year of completion (cont)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Residential units	632	632	632	632	632	632	632	632	632	624	12,300
Office (sqm)	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,548	96,000
Retail (sqm)	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	23,500
Hotel & other commercial (sqm)	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	80,400

ALL OF OPPORTUNITY AREA

Year of completion	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential units	0	300	822	827	827	827	827	827	827	827	827
Office (sqm)	0	0	0	2,556	2,556	52,556	2,556	2,556	15,889	15,889	15,889
Retail (sqm)	0	0	1,237	1,237	1,237	1,237	1,237	1,237	56,250	1,237	1,237
Hotel & other commercial (sqm)	0	0	4,232	4,232	4,232	4,232	4,232	4,232	93,750	4,232	4,232

Year of completion (cont)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Residential units	827	827	827	827	827	827	827	827	827	819	16,000
Office (sqm)	14,094	14,094	14,094	14,094	14,094	14,094	14,094	14,094	14,094	14,092	251,385
Retail (sqm)	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	79,750
Hotel & other commercial (sqm)	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	4,232	174,150

Source: RTP

4 HOW CAN DEVELOPER CONTRIBUTIONS ARISING FROM GROWTH BE BEST CAPTURED?

Introduction

4.1 This section examines how local authorities can capture possible developer contributions resulting from this growth in order to ensure that the necessary infrastructure is put in place.

What is the policy context?

Section 106 contributions were previously the only way to secure developer contributions. These could be pooled into a tariff

4.2 Until recently, contributions from new development could only be secured by Section 106 Agreements. These agreements had to mitigate against impacts arising directly from the development, a requirement that was underpinned by the tests laid out in Circular 05/05 (Planning Obligations).

4.3 Circular 05/05 also stated that such contributions could be pooled in the form of a tariff where the combined impact of a number of developments created the need for infrastructure. Because this was a Circular it could provide only guidance rather than offering any legal basis which an applicant or a local authority was bound by. Whether or not an obligation was valid or material in a particular case was a matter for the Courts.

4.4 What this enabled in the past was a large degree of negotiation and flexibility between a developer and a local planning authority in agreeing what contributions could be made in respect of a particular planning application. The five policy tests that underpinned Circular 05/05 provided guidance but if agreement could be reached between the local authority and the applicant, then experience showed that their interpretation could be quite varied.

In April 2010, Community Infrastructure Levy (CIL) Regulations made significant changes to the planning contributions system

4.5 Prior to the change of government in May 2010, the previous Labour administration introduced a new mechanism – the Community Infrastructure Levy (CIL) – which seeks to pool contributions in an area in order to fund a wide range of infrastructure items. The intention is that this will work alongside planning obligations so that contributions from development can be used to fund the infrastructure required to address the full range of impacts across an area.

4.6 Section 216 of the Planning Act 2008 (as amended by CIL Regulation 63) provides a wide definition of the types of infrastructure that can be funded by CIL, including roads and other transport facilities, flood defences, schools and other educational facilities, medical facilities, sporting and recreational facilities, and open spaces. CLG has confirmed that this list is not absolute and that the definition has necessarily been left open in order to avoid having to update the Regulations on a regular basis.

4.7 Before a local authority has adopted a CIL charge (which will be subject to examination by an independent inspector) it must publish a list of the items that it wishes to include, and only these items can be charged for.

4.8 The CIL Regulations came in to force on 6th April 2010. The Regulations made a number of changes, as follows.

- The Regulations state that, after 6th April 2014, it will not be possible to pool developer contributions from more than five sites for any individual infrastructure project or type of infrastructure under Section 106. Any mechanism that attempted to fund significant strategic infrastructure across more than five sites would have to be a CIL. This effectively eliminates the potential for a tariff to be used after April 2014.
- Once a local authority has adopted a CIL charge, it will now be unlawful to charge a planning obligation for any item that could be covered by a CIL charge, which relates to most capital items (what this specifically includes is addressed later in this section). The objective here is to reduce the possibility of double charging.
- The Regulations state that Section 106 will remain, but contributions sought by this mechanism must be very directly related to the site in question. This is now underpinned by three of the five Circular 05/05 'soundness' tests which are now enshrined in law within the new CIL Regulations[11]. The degree of interpretation as to their applicability will reduce as they become increasingly bound by legal precedent. The three tests state that a planning obligation, where it can be sought, must be:
  - necessary to make the proposed development acceptable in planning terms; and
  - directly related to the proposed development; and
  - fairly related in scale and kind to the proposed development.
- Whereas in theory, a local planning authority and a developer could previously agree contributions that were legally outside the scope of these tests, this is not now likely to be permissible. Otherwise, it could be deemed to be a contribution towards 'buying' a planning permission.

4.9 The Regulations place a significant emphasis on a local planning authority to put in place a CIL charge at the earliest possible opportunity. But until 2014, this is not necessary and a tariff approach can be adopted.

A consultation document on the S106 system was also published in March 2010

4.10 In light of these changes, the previous Government published a consultation document in March 2010 entitled 'New Policy Document for Planning Obligations'. This sets out the Government's proposals for changes to the S106 system, including a draft policy annex which, when adopted, will replace Circular 05/05. It reflects the new policy basis for the three tests outlined above and also the potential to seek contributions only for items that cannot be part of a CIL charge because they do not represent capital spend (for example,

11 The other two tests were deemed to be unnecessary

revenue payments towards the upkeep of CIL infrastructure which is predominantly for the benefit of the users of the associated development).

4.11 The Consultation Document confirms that affordable housing will remain under the ambit of developer contributions rather than CIL.

4.12 The Consultation Document also confirms that the Government wishes for the position on the use of planning conditions to remain the same, i.e. where there is a choice between imposing conditions and entering into a planning obligation, conditions should be used.

Following the election of the Coalition Government, the status of the CIL and S106 consultation document is unclear

4.13 The new Conservative Government, in its pre-election Planning Green Paper (*'Green Source Planning'*, February 2010) promised to scrap the CIL and replace it with a local tariff system – a single unified local tariff, or SULT. Subsequently, it has become less clear as to whether CIL will be scrapped with a potentially more likely approach being some form of revision to it. At present, the CIL system is still in place and is therefore a possible mechanism that could be adopted for VNEB.

4.14 Given the change in Government, the current status of the S106 consultation is also is unclear. The consultation closed in June 2010.

What are the potential contribution structures at VNEB?

4.15 It is important that the DIFS sets the most appropriate form of charging mechanism to ensure that the necessary contributions are charged fairly and collected properly. Also, given the uncertainty over future Government policy, it must also be sufficiently flexible to be adapted to changing circumstances.

4.16 Firstly, the relative merits of each approach must be considered.

Option 1: Section 106 on each individual site

There are disadvantages for this approach in the funding of strategic infrastructure

4.17 The major disadvantage of this approach is how strategic infrastructure is charged for. This is the principal reason why Circular 05/05 recognised the need for pooling of contributions and why a CIL regime was put in place. Whilst negotiating an individual S106 agreement on each site will provide flexibility and will ensure that development only pays for the impacts that it creates, it is likely that there would be considerable disagreement over the contributions to be made in respect of some of the major strategic items, particularly transport.

4.18 Also, individual negotiations will be required on every site which will be time consuming and create considerable uncertainty, both for the developer and for the GLA in terms of the level of contribution that is going to be coming through the pipeline. This makes it very difficult to plan infrastructure requirements in advance.

Option 2: A Section 106 tariff approach (pooled contributions)

4.19 In simple terms, a tariff is a fixed charge on a number of developments which all create a range of common infrastructure needs. Whilst each individual development does not, in itself, justify the provision of a particular form of mitigation (including a new piece of infrastructure), the cumulative impact of a number of developments does justify it. A tariff is the simplest way of ensuring that all of these developments properly contribute towards the mitigation of these impacts.

S106 Tariffs provide greater certainty

4.20 The major advantage of a tariff is that it provides greater certainty than individual Section 106 agreement approach. This breaks into two halves. Firstly, it will be clearer for the developer in terms of what they are expected to pay; and secondly for the GLA in terms of the income that is to be expected from contributions. The tariff achieves this by providing a more explicit and transparent way of calculating how much each development should contribute, based on the proposed number and size of dwellings or on new floorspace created. Given that, once agreed, all landowners will have accepted the need to contribute towards strategic infrastructure needs, then this will provide a sound basis on which to collect contributions.

4.21 A tariff could in theory cover both capital and revenue (i.e. maintenance) items.

More certainty on funding leads to better planning, and helps overcome "free rider" problems

4.22 More certainty will help to ensure that infrastructure provision can be planned with a proper lead-in time. It will also help to overcome "free-rider" problems where in the past under a traditional S106 arrangement, for example, the first or last developers on a site have to pick up major costs for infrastructure capacity that other developments use, but have avoided having to pay for.

Like site-by-site S106s, a S106 tariff must pass the three "necessity tests" - so one of the potential issues with a tariff is the relevance to an individual development of the infrastructure costs being charged

4.23 One point about a tariff approach is that each item within the tariff must pass the three tests enshrined in law, i.e. that it must be necessary to make the proposed development acceptable in planning terms, directly related to the proposed development and fairly related in scale and kind.

4.24 Whilst ultimately these points are open to interpretation in the Courts, some developers may feel that part of the tariff that they are expected to pay will contribute towards infrastructure requirements which their proposals create no or little demand for. It would therefore be vital that the approach taken to deriving the tariff is transparent and gains the agreement of as many of the landowners as possible.

Option 3: Community Infrastructure Levy

CIL policy is in flux

4.25 At the time of writing, the Coalition Government's plans for CIL are not known. We understand that significant changes are in train, but do not know what they are.

A CIL and tariff are similar – but a CIL cannot be negotiated or challenged, and applies only to capital spending

4.26 In reality, the principles of a CIL and a tariff are broadly the same. Both seek to set a broadly fixed charge on all development in order to ensure that as many of the infrastructure items in an area – and particularly the strategic items that are often not funded where a tariff/CIL is not in place – are capable of being delivered. The main difference is that a CIL is intended to be a formal, legally binding charge. Once it has been declared sound and adopted, it cannot be negotiated or challenged by any party. In addition, unlike a tariff, it is considered that a CIL is only likely to be chargeable on capital items (this point is returned to later in this section).

A CIL charge does not have to pass the "necessity test" applied to a tariff, so can more easily provide strategic infrastructure for a wide area

4.27 A CIL does not have to require that every item passes the three tests. If an infrastructure item is included on the agreed CIL schedule that passes inspection, then it can be included in the CIL charge.

CIL charge levels can vary, depending on site circumstances

4.28 A CIL charge is unlikely to be exactly the same for all development across the OA. The CIL must be set at a level that ensures the charge is viable for all but exceptional circumstances (as required by the CIL Regulations). So where a level of charge may threaten the viability of development within a particular part of an area, then it can be varied for that location. The only restriction is that a particular level of charge cannot be set for an area that ultimately relates to just a single site.

The disadvantage is that CIL will take time to set up – during which time contributions must still be collected.

4.29 The principal problem in the short term is the need to get a CIL charge through an examination process of two local authorities. This process will inevitably take a period of time and prior to this it will still be necessary to collect contributions. A flexible approach would therefore be necessary, with a tariff used in the short term until a CIL could be put in place.

The preferred contribution structure for VNEB

We believe that a S106 tariff is most appropriate. It will work now, and could be converted into a CIL, SULT or equivalent once more is known

4.30 Having reviewed the above analysis, we believe that the most appropriate approach at present is a tariff. Given the current state of flux in policy, the main consideration here has been to choose an approach that is flexible enough to form the basis of a CIL or equivalent (such as the Coalition Government's mooted Single Unified Local Tariff, or SULT). If the Coalition Government does continue with the current CIL approach, then it will become mandatory by April 2014.

4.31 The phasing plan for the OA envisages several applications being progressed by 2012. There is little prospect of having a CIL in place by 2012, given the steps that need to be taken to achieve this. As such, there needs to be a mechanism in place to address this early delivery across a range of sites and a tariff is the most appropriate. In short, VNEB needs to start building up a "war-chest" as soon as possible in order to pay for future infrastructure requirements.

4.32 It is understood that LB Wandsworth is planning to bring forward a Planning Obligations SPD in 2011 and that LB Lambeth is going to update their existing SPD over the same timetable. It would therefore be advantageous if the requirements of these two SPDs, in terms of charges, were aligned.

4.33 It will be important for the GLA to seek advice as early as possible from CLG as to what the future of the CIL and the CIL Regulations will be, and the status of any alternative. Prior to this it is not prudent to make a clear recommendation.

There is a manageable risk with a tariff approach – but progress towards CIL should be prompt

4.34 The three tests of a planning obligation are now enshrined in legislation governing Section 106. This means that charges levied from developers must relate to the mitigation of an impact of development. But the precise attitude of the planning system and developers to the definition of what these impacts are, and what is deemed "necessary to planning" in what is a new and very much tighter market cannot yet be known.

4.35 The potential risk with the tariff comes if developers use these tests to successfully argue that charges being levied on certain infrastructure items are not related to their development. However, we think that this is not likely to cause difficulties given circumstances in VNEB. This is because the tariff is likely to be in place for a short period of time (before being replaced by a CIL or its successor, which are mandatory once agreed). In that early period, the phasing plan indicates that non-contentious items of infrastructure such as schools are to be developed. Other items which may raise greater objections from developers who perceive themselves to be not benefiting (such as NLE) will not be built during this early period. The major strategic infrastructure items such as NLE are expected until to be built under a CIL/SULT regime, meaning that there will be greater flexibility as to what pooled contributions can be spent on. A CIL/SULT should be therefore be pursued promptly.

4.36 In practice, then, we do not see grave difficulties here, but the client group may wish to seek independent legal advice on this point. Progress towards CIL should be prompt to minimise any risks.

The treatment of revenue costs may need to be reviewed when CIL/SULT regulations are clarified

4.37 Although not explicit in the CIL Regulations, it is the intention that CIL be focused on funding infrastructure 'facilities', i.e. capital items. It does not appear that it is the Government's intention to use a CIL charge to fund significant revenue costs, although the CIL Regulations are implicit rather than explicit on this point.

4.38 The Coalition Government may review this approach. In the event that this approach is changed, then revenue costs have been separately identified.

Section 106 will still be needed to cover site-by-site requirements, some revenue items and affordable housing

4.39 Although it is difficult to be certain until policy settles down, it appears that Section 106 is unlikely to make a significant contribution to the funding of strategic infrastructure, certainly once a CIL charge is mandatory in April 2014. However, we expect that S106 agreements will be still be used on a site-by-site basis, for example for

- small revenue items such as maintenance;
- affordable housing; and
- small items of infrastructure that are open for wider public use but are only needed to address the impacts arising from the development, e.g. Local Equipped Areas for Play (LEAPs).

4.40 These would be dealt with as site specific 'exceptional' items. They would have to be kept outside the tariff because they relate to a single site, so could not be charged for across all developments. In such cases, it will be necessary to separately assess the level of contribution made for those items.

Deciding whether infrastructure items are included in a tariff or left to individual Section 106 negotiations

4.41 Individual S106 agreements will still be used after a S106 tariff or a CIL is in place.

4.42 Clearly, the way in which different infrastructure items will be charged to developers will be subject to debate. Consequently, it is important that the process of tariff construction is both fair, and seen to be fair. We have therefore mapped out the process we have used to determine the way in which a given infrastructure item is charged for.

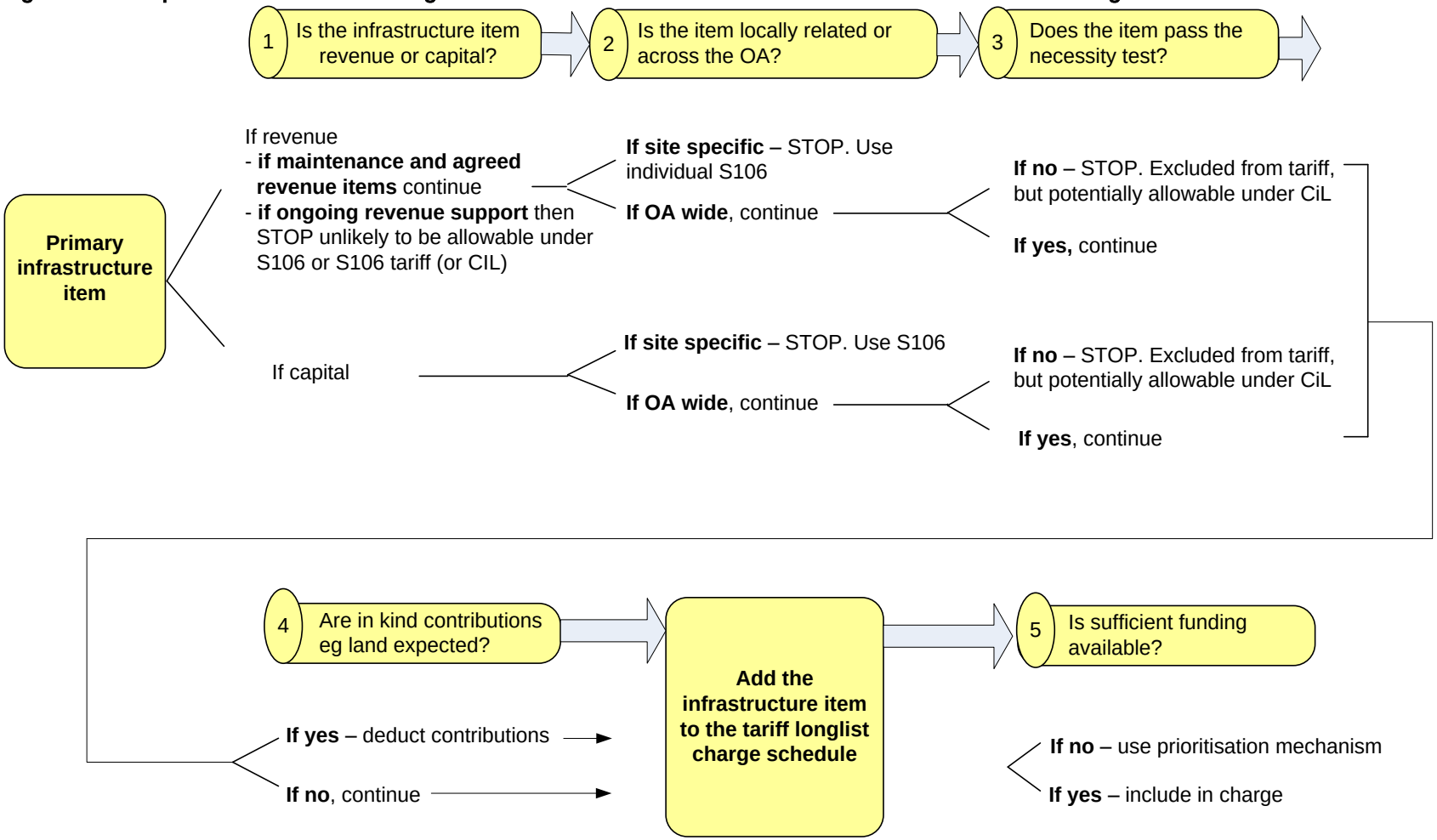
4.43 A process flow diagram has been included over page.

- Step 1: Is the infrastructure item revenue or capital? Ongoing revenue support (for items such as salaries) is unlikely to be justifiable under either Section 106 or CIL. Other agreed items (possibly such as maintenance) may be chargeable under S106 or if these items appear on an agreed CIL schedule. It is particularly important for

the OA that clarification is sought from CLG as to how revenue items will be dealt with under a CIL.

- Step 2: Is the item locally related or across the OA? If an infrastructure item is clearly site-specific in terms of its need then only the development in question should be paying for it. If the item is providing for wider needs across the OA, then it should be included in the tariff.
- Step 3: Does the item pass the necessity test? If the item clearly does not pass the three tests in Circular 05/05 then it cannot be included in a section 106 tariff or an individual S106 agreement. (Note that these tests may be quite broadly interpreted). However, items which fail a necessity test may be included in a CIL. Possibly, delivery of these items will need to be delayed until a CIL is in place.
- Step 4: Are in-kind contributions such as land expected? If a developer is expected to give their land over so that an item of infrastructure can be provided then they will need to be suitably recompensed, most likely through the tariff (or CIL). This will need to be deducted from their total tariff contribution.
- At this point the item can be added to the long list within the tariff charging schedule.
- Step 5: Is sufficient funding available? Once mainstream funding and developer contributions have been taken into account overall, there will either be a surplus or a shortfall in funding. If there is a shortfall then the way to address this is to prioritise the full list of items and to only include the most important items which can be afforded. When the tariff is reviewed, if viability has improved or more mainstream funding is available then there will be an opportunity to include more of the items on the tariff list.

Figure 4.1 The process flow – for deciding whether items are included in S106 tariff or in individual S106 agreements



5 HOW A VNEB TARIFF AND WIDER DELIVERY MECHANISMS WOULD WORK

Introduction

5.1 As considered in the previous section, it is the view of the consultant team that a tariff approach is the most suitable for ensuring that development in the OA is supported by the necessary infrastructure. This tariff must be capable of being converted into a CIL with comparative ease, not least because this will be necessary in the short term (by 2014).

5.2 It is important to understand how a tariff would work in principle. It will then consider the initial operating framework, particularly in respect of when it is converted into a CIL, and how it would be administered.

The legal tests of planning obligations

5.3 There are inherent difficulties in putting together a tariff under the legal tests of a planning obligation which relate directly to the site in question. Given these legal tests, there is an inherent risk that a developer might challenge the S106 tariff on the grounds that the charges levied were intended to pay for items that were not related to their development.

5.4 This is always a risk with tariffs, and represents one of the key advantages of the CIL approach in that there is no such facility for challenge once a CIL charge has been adopted. However, we note that main parties in the OA are signed up to a tariff-style approach to pooling development contributions – whether under CIL or under S106; and secondly, the tariff will help to deliver the comprehensive regeneration envisaged in the OAPF. This will lift the values of sites across the OAPF.

5.5 That said, whilst we are advising on the creation of the S106 tariff in this report, we do so on the basis that this is the most appropriate way of collecting adequate contributions from development that will commence shortly. It should be noted that once the refreshed CIL approach is clarified, partners should move forward quickly to adopting a CIL.

Offsets

5.6 The simplest form of tariff, working under perfect conditions, would be straightforward to apply. Each developer, once they commenced development (or at agreed trigger points once a certain amount of development had been completed), would make the agreed level of contribution to the tariff 'pot'. This money would then be used to deliver the infrastructure required to support development across the OA.

5.7 In practice, tariffs are never that simple and this is particularly the case for the OA. A very large amount of infrastructure is required to be delivered to serve a comparatively small area, with the majority of this infrastructure requiring land within the OA. As such, the competition for land is considerable and the differences in land value, depending on what is developed on that land, are vast. Only infrastructure provision located outside the OA, or not requiring additional land (e.g. station improvements) will have no impact on landowners within the OA.

5.8 For each of the landowners, it will be necessary to ensure, as far as is practicable, that each is contributing the correct level of charge for their development and is not subsidising other development. Under a simple S106 regime, this unfair subsidy issue is likely to be prevalent and a tariff is one of the most appropriate ways of addressing this.

5.9 In order to achieve this balanced approach, the actual tariff that a developer pays will have to reflect certain 'offsets'. Where a developer provides required infrastructure as part of their development, they will clearly not be expected to contribute towards the cost of providing that infrastructure. Furthermore, they will have their remaining tariff requirement reduced ('offset') to reflect the levels of contribution to such a facility by all other developments.

5.10 An offset may be required where a developer, as part of their development, provides one or more of the infrastructure items identified in the study. Commonly this may include community facilities, training facilities or open space.

5.11 More detail on offsets is given in Appendix 1 concerning tariff management.

Land contributions may reduce tariffs

5.12 The provision of land will be the most common benefit in-kind and in these circumstances, the tariff payment will be reduced accordingly. This will need to reflect the value of that land if it had been developed for the most likely alternative potential use. Given that the land to be used for infrastructure is unlikely, in most cases, to be achieving any form of return for the developer, then there is potentially a significant opportunity cost to that developer in giving that land over to the required infrastructure.

5.13 This will place the burden of delivery of most (or all) non-site specific infrastructure on the public sector. This will require significant levels of tariff payment early in a development phase and prior to the commencement of individual developments so that the delivery of infrastructure is not delayed.

5.14 Also, the developer may offer to deliver an infrastructure item themselves, so their tariff payment will have to be reduced to reflect this.

The initial operating framework for tariff/CIL

5.15 Once the tariff has been set and the forms of development it will apply to have been agreed, it can be charged on new development. This will require a coherent operating framework in order to effectively administer it.

The tariff should be converted into a CIL by 2014, and further work will need to be undertaken to do this

5.16 It will be important that the tariff is capable of being converted into a CIL charge should such an approach be adopted. In reality, by 2014 a CIL charge will be necessary because of the restrictions placed on the use of planning obligations, as discussed earlier. In order to make this proposal as easy as possible, it is proposed that many of the operating principles put forward in the CIL Regulations are applied, where possible, to the tariff. Briefly, these principles are:

- The tariff will be levied on the levels of net additional floorspace proposed to be developed, both for residential and commercial floorspace. Commercial will consist of office, retail and hotel floorspace.
- The tariff is to be paid on commencement of the development (or the relevant phase of development) unless such payments will be so high as to compromise the viability of the scheme. In such circumstances, staged payments will be agreed.
- The tariff should be paid to the charging authority which is chosen to oversee the administration of contributions from development in the OA. In reality, collected funds are likely to have to be overseen by a single charging authority which will manage the collected funds and distribute them according to the list of priorities decided upon.

5.17 It must be borne in mind that a tariff – and the three tests applied to planning obligations - will potentially result in a slightly different set of infrastructure items to a CIL. This will be relevant if a tariff is subsequently converted into a CIL charge. Whilst the structure of the tariff will make this a straightforward approach, it must be considered that this might result in a potentially differing level of charge and therefore a different overall level of contribution from development.

5.18 It is not within the scope of this study to establish a specific accounting regime for the operation of the tariff. Further work will be required to prepare detailed operating rules. The CIL Regulations provide a significant amount of detail in this respect.

A tariff can be implemented without the same level of scrutiny as a CIL

5.19 The rules in place to guide the application of a tariff are less rigorous than those of a CIL. A tariff is not subject to examination, reflecting the nature of the planning obligations process before CIL came into effect. As such, contributions were negotiated using Circular 05/05 as a guide. Local planning authorities would supplement this with planning contributions supplementary planning documents (SPD). Therefore, if a tariff was in place, this would inform those negotiations. In theory, an applicant could refuse to be bound by the terms of the tariff but in practice, the development of a tariff is in consultation with developers, hopefully therefore avoiding any disagreement, at least over what it would contain. In addition, refusal to be bound by the terms of the tariff would result in a refusal of planning permission and the need to appeal.

5.20 At VNEB, it is understood that many OA landowners are in agreement with the application of a tariff or equivalent. This study provides the foundation for the structure of that tariff and for the level of charge. Once the necessary detail has been completed, the landowners, borough councils and GLA could sign an agreement putting the tariff in place.

5.21 As stated earlier, it is considered that any tariff will need to be converted into a CIL charge at the earliest possible opportunity. After April 2014, the potential to use a tariff will be severely restricted, to the point where it will be unable to deliver the required contributions to support growth in the OA.

5.22 For a CIL charge to be in place, it must be underpinned by a CIL Charging Schedule. Once consulted upon, it will list all the infrastructure items that can be included within a charge. Any requirements for items not on the Charging Schedule could only be included once the Schedule has been reviewed, which is only likely to be periodically.

5.23 Once the Draft Charging Schedule has been published, the CIL must be independently examined. It is vital that the evidence base is full and robust. Provided the CIL has been approved by the Government inspector, it can then be adopted and put into operation.

A tariff provides more flexibility in respect of affordable housing

5.24 In difficult market conditions, the need for flexibility in approach is paramount. Under a tariff, there would be the potential for lower levels of affordable housing to be delivered in the early phases of development. Later phases would then deliver high levels to ensure that the overall requirements were met.

5.25 Under a CIL scheme, a CIL charge is not levied on affordable housing. Instead it is dealt with in the traditional way through S106 agreement. The CIL Regulations give no view on what should take precedence, CIL or affordable housing, and it is unlikely that it will be a choice of one over the other. Rather, a form of flexibility in the way that both are dealt with will be important. It is recommended that this is considered by the Strategy Board at an early stage and possible mechanisms considered.

Given that a tariff will have to become a CIL, its management and administration should be CIL-compliant

5.26 The need to review the tariff with a view to converting it into a CIL will be triggered very early in the lifetime of the VNEB tariff. There will need to be a joint approach by LBs Wandsworth and Lambeth, in conjunction with the GLA, to embed a CIL in the planning framework of the two boroughs and at the strategic London level. These partners will need to agree a charging schedule and then to produce the CIL ready for a single examination in public as a joint development plan document (DPD). More detail on how this should be taken forward is given in Appendix 1.

5.27 In light of this and the significant amount of work required for a CIL charge to be declared sound, it will be most efficient to put forward a framework for the operation of a tariff that mirrors that of a CIL charge as closely as it possibly can.

5.28 A joint administrative group, consisting of the two borough councils and the GLA should be put in place to ensure that collected contributions are appropriately distributed. Indeed, a Strategy Board has recently been set up for the OA which has been agreed by both councils and the GLA. This Strategy Board should agree the priority order of infrastructure schemes that are required at similar times. It should also provide a monitoring role in order to provide transparency in the way that developer contributions and mainstream funding are being used.

Important detail on tariff management is included as Appendix 1

5.29 There are a range of considerations of how the tariff should be practically administered. It is felt most appropriate to provide this information separately from the main body of the report. This is therefore provided in Appendix 1.

6 TOWARDS SETTING A TARIFF LEVEL FOR DEVELOPMENT

Introduction

6.1 In this section we examine what developer contribution funding could be available to plug the mainstream funding gap.

6.2 We have undertaken an analysis of the level of contribution towards infrastructure that development across the OA could viably afford to make. We have made assumptions about the Existing Use Value / Alternative Use Value (EUV/AUV) of land in the OA, and undertaken residual land value appraisals in order to determine at what level of contribution per unit development continues to be viable i.e. at or above the EUV/AUV of the land.

6.3 in order to determine what a suitable tariff would be, and how much this could bring raise in terms of total contribution to infrastructure across the OA, we have identified both the nature of development we believe will come forward across the OA, and also made a prediction as to when it is likely to occur.

6.4 Finally, we have included estimated developer contributions from Battersea Power Station, NCGM and the US Embassy to get a picture of the final development contributions total for the OA.

Important caveat

6.5 Please note that the development appraisal advice offered in this report does not constitute a valuation and can neither be regarded nor relied upon as a valuation. It does provide a guide for feasibility in line with the purpose for which the assessment is required.

Property market assessment

6.6 In order to inform the viability testing, a detailed property market assessment was carried out analysing comparable residential and commercial schemes, and prevailing sales and rental values and yields. An assessment of comparable land sales for residential and commercial uses was also undertaken.

6.7 In assessing the values of schemes we had regard to a range of data including Land Registry sale prices, Valuation Office Agency guidance, and evidence from the sale of new and second hand residential property. This was supplemented by discussions with local agents and developers, and our experience in selling, acquiring and advising on development sites throughout London. In Appendix 6, we have included a detailed residential and retail property market review.

6.8 The assumptions section below sets out the values we have used for this study based on our research.

Method and approach

The underlying principles we have used

6.9 The underlying principles for assessing the viability of a tariff contribution from development were to ensure that the assessment:

- Reflects and is based upon the character and scale of developments common in the OA both now and those likely in the future, i.e. a tariff is tested against scheme designs that while notional are realistic and reflect the current and future proposed policy environment;
- Considers the cost implications of a tariff on the assumption that proposed schemes should comply with existing required standards, as well as taking into consideration alternative scenarios;
- Considers tariff viability for the VNEB area as a whole, but is also able to distinguish differential impacts that may arise due to the range of values and costs across the OA;
- Examines the impact by reference to current market conditions and also by reference to a future date (2016-2031) when the current, difficult market conditions may have ameliorated and different policy requirements may be in place.

Our objectives

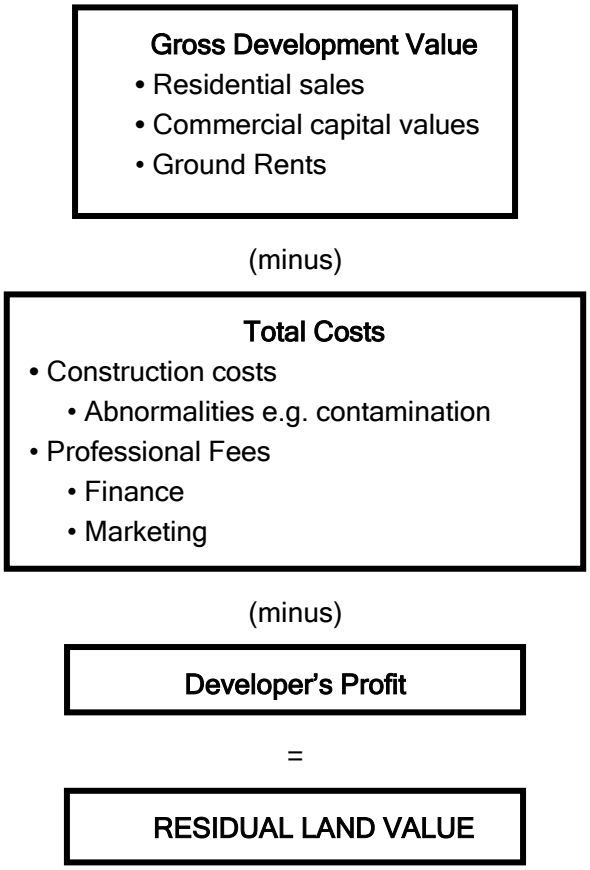
6.10 Our key objectives in assessing developer contributions are:

- To undertake a high level appraisal of developer contributions, rather than a detailed response to individual sites;
- To use this analysis to assess the potential overall level of contributions by testing key "what if" questions through varying a number of key assumptions, particularly where there is uncertainty e.g. the amount of affordable housing and the availability of NAHP grant for affordable housing;
- To use this analysis to assess potential tariff(s) for VNEB on the basis of clearly reasoned evidence.

We have used a residual development appraisal model

6.11 To determine development viability we have used a residual development appraisal model, the principles of which are in keeping with the methodology adopted by the majority of developers when purchasing development land. The residual model assumes that land value is the difference between gross development value and build costs, once an allowance for profit to the developer has been taken into account. Through the use of residual development models we are able to quantify the impact of differing levels of tariff contributions on land values and scheme viability. The gross residual value i.e. land value without any allowance made for planning contributions, is taken as a 'starting point', with the net residual land value being equal to the land value once all planning contributions, including affordable housing, having been taken into account.

Figure 6.1 Outline of Residual Development Model



Our approach to the tariff

6.12 The formulation of a tariff for the VNEB area will simplify and clarify the level of planning contributions expected to be paid in relation to development. Any tariff needs to be able to make a material contribution to the funding the infrastructure of the OA, whilst not being detrimental to the viability of the development, or reduce the residual land value to a level that runs the risk that landowners will withhold land from development or otherwise impede the proposed developments.

6.13 It should be noted that, depending on the structure of the standard charge system and area of operation, it may be beneficial, or in some cases essential, to negotiate separately the standard charges with developers. This is to ensure that exceptional conditions arising on a site or for a scheme can be properly accommodated. It is anticipated, however, that such circumstances should be limited if the charge is to be efficiently administered.

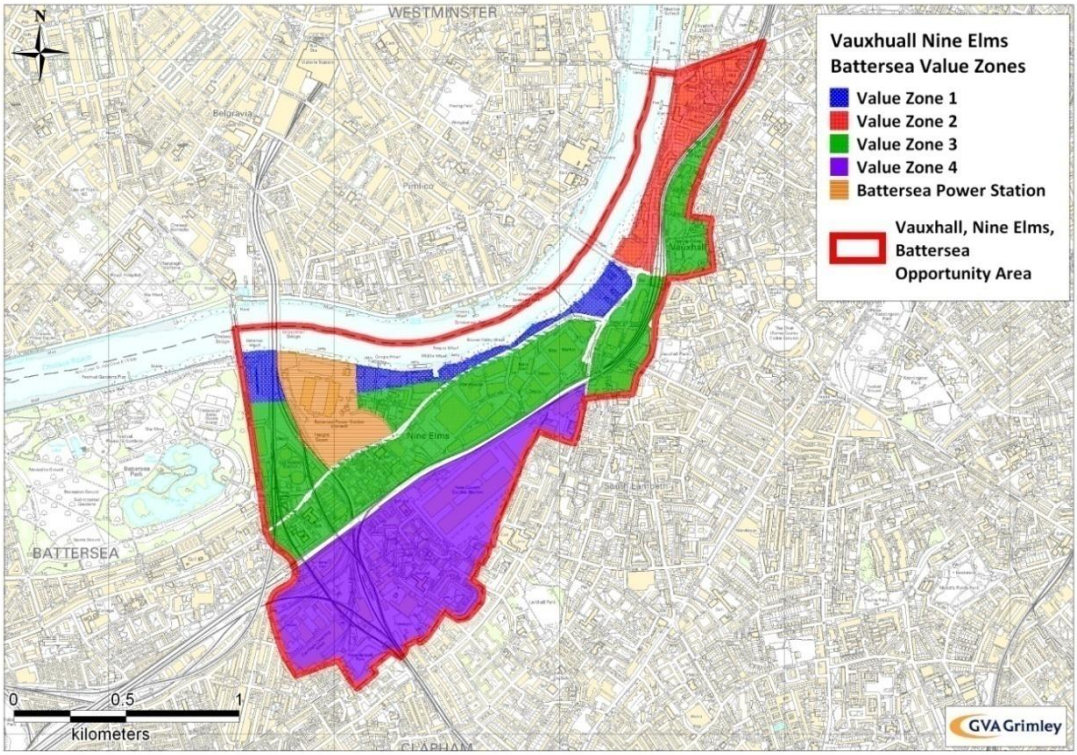
6.14 Our preferred approach to setting the level of charge is one that assesses the cost and timing of planning contributions against the residual land value and viability of the development scheme. We have undertaken this exercise using indicative development appraisal models and typologies as detailed below.

We explored the effects of different value areas on potential tariff

6.15 Market research was undertaken across the Opportunity Area to determine the appropriate value areas which these typologies would be applied to. Only the residential

and mixed use schemes (1-4) were deemed to have different value areas, four in total, which are shown on Figure 6.2 below.

Figure 6.2 Map of VNEB Residential Value Areas



Source: GVA Grimley

6.16 Based on our research and experience we concluded that there was no justification for suggesting different value areas for the proposed commercial development i.e. non residential.

The typologies we used to explore possible levels of payment

Eight London Plan-compliant schemes were used

6.17 Eight case study Schemes were identified as typical of proposals that have recently been promoted or developed in the OA. The Schemes were all taken to be compliant with the London Plan existing standards, as the intent is to establish the ability of the schemes to provide for a level of contribution above these requirements.

6.18 The case study Schemes were broken down into typologies as follows:

- Scheme 1: Medium residential (51 Dwellings)
- Scheme 2: Large residential (233 Dwellings)
- Scheme 3: Medium sized residential led mixed use scheme (40 Dwellings and ground floor retail of 370 sq m)
- Scheme 4: Large sized residential led mixed use scheme (216 Dwellings and ground floor retail of 1,020, sq m)
- Scheme 5: Medium office (10,200 sq m GIA)

- Scheme 6: Large office (37,160 sq m GIA)
- Scheme 7: Stand Alone Retail (12,295 sq m GIA)
- Scheme 8: Hotel (4,300 sq m GIA)

6.19 Further details for each Scheme are set out in Appendix 3.

6.20 The Schemes were devised and agreed with the Client Project Team. It was also agreed with the Client Project Team that we would test the Schemes to assess the consequences of:

- Varying the level of affordable housing at 40% and 15%;
- Assuming either NAHP grant at a rate agreed with HCA or No grant;
- Assessing the consequences of the values identified for each sub market residential / mixed use areas
- Varying the tariff

Scenarios

We developed two scenarios to understand the impact of different future conditions over two time periods

6.21 VNEB is a long term development project. Its success will be dependent to a great degree on future economic and policy conditions. We wished to understand how broad changes in circumstances might affect viability and tariff amounts yielded under these different circumstances.

6.22 We therefore developed two broad scenarios as follows.

- "Core Scenario": these appraisals comply with the London Plan, and see current conditions continue.
- "Alternative Scenario": these appraisals advance a broadly more optimistic view of the future. Due to a number of factors, such as the long time period over which the OA is developed, the likelihood that development circumstances will improve in the future due to the current supposed low position in a market cycle and the likelihood that policy stances may change moving forward, as well as the positive impact that 'place making' may have on the OA, we have also appraised the viability of levels of tariff assuming development is brought forward from 2016 to 2031.

6.23 Under both Scenarios we tested the consequences of for Schemes were devised and agreed with the Client Project Team. It was also agreed with the Client project Team that we would test the Schemes to assess the consequences of varying affordable housing, NAHP grant and the values arising in each submarket.

Our method in constructing the "Alternative" (more positive) Scenario

6.24 We have used data sources such as Experian, BCIS, Land Registry, Government produced guidance notes and conversations with local agents to determine our projected assumptions. We have outlined the projection assumptions we have used in the section previously. However, for additional detail and transparency, in Table 6.1 below we set out the projections we have used to reach these assumptions.

Table 6.1 Alternative Scenario: Assumptions

Land Use	Values	Costs	Regeneration 'Uplift' *
Residential & Mixed Use	c.4-5% per annum (Experian, May 2010)	CLG: 'Code for Sustainable Homes: A Cost Review'	15%
Commercial	c.2.5% per annum (Experian, May 2010)	2.5% per annum (BCIS 5 year forecast)	n/a
Retail	c.3% per annum (Experian, May 2010)	2.5% per annum (BCIS 5 year forecast)	n/a
Hotel	n/a	n/a	n/a

Source: GVA Grimley; *from discussions with local residential agents

How we have applied the two development scenarios to the different land use types

6.25 We have undertaken appraisals of the Core and Alternative Scenarios for residential, hotel, and mixed use development, both for the period 2010-15 and also the period 2016-31.

6.26 For commercial development we have only undertaken appraisals after 2016 as little or no commercial development is expected before that date; this was discussed and agreed with the Client Project Team. We have not undertaken an Alternative Scenario for commercial development as at 2016 because the proposals in Scenario 5 of the OA are predicated on strong rental growth due to a better market environment in the locality due to the changes to be brought about.

6.27 We have undertaken retail appraisals assuming values, yields and build costs both as at 2010-2015 and as at 2016-2031.

6.28 For the Hotel typology we note that the Battersea Power Station planning application includes a 300 room, 4* hotel. We have assumed that this will be developed post 2016, and that this will satisfy most or all hotel demand in the OA, particularly that arising from the opening of the US Embassy (which agents do not consider to be particularly significant). We do not believe that there will be demand before 2016, and therefore we have not forecasted a hotel typology prior to 2016.

Setting benchmark land values

Determining the benchmark land value for subsequent viability analysis

6.29 One of the important judgements that have to be made in assessing what level of contribution can be afforded by development is the base value for the land in the absence of the scheme being appraised. In London when this question arises in the context of planning applications requiring a S106 Agreement. The usual test applied is to have reference to the site's Existing Use Value (EUV) or Alternative Use Value (AUV). EUV is the market value of the site assuming a continuation of the current use with no prospect of a change of use. AUV is the market value of the site on the basis of any planning permissions may exist for alternative uses or the hope value that might be paid on the prospect of planning permission being granted.

6.30 It could be said that the AUV is both a reflection of the market value of alternative uses and also intended to provide a premium to incentivise landowners to bring land forward for development even where there is no alternative consent.

6.31 When assessing viability for proposed planning policies it is normal to apply a similar test, mindful of the requirements of PPS12, and this consideration applied to the Affordable Housing Economic Viability Assessments that BNP Paribas undertook for the Councils.

Current Existing / Alternative Use Values in the OA

6.32 Based on our research, the Benchmark values we have adopted are set out in Table 6.2 below. In comparison BNP Paribas adopted a range of base figures (£16m - £48.2m per hectare for Wandsworth and £3.35m - £22.8m per hectare for Lambeth).

Table 6.2 EUV / AUV 'Benchmark' Assumptions

Land Use		EUV/AUV (per Hectare)	EUV/AUV (per acre)
Residential	Value Area 1	£24.7m	£10m
	Value Area 2	£24.7m	£10m
	Value Area 3	£18.5m	£7.5m
	Value Area 4	£7.4m	£3m
Commercial		£18.5m	£7.5m
Retail		£9.1m	£3.7m
Hotel		£2m	£0.8m

Source: GVA Grimley

Developers may have "overpaid" for land

6.33 It is recognised that in many instances developers will seek to compare the consequences of a residual land value calculation with the price that they have actually paid. This matter has been the subject of appeals to the Secretary of State and there are decided cases. In the recent decision in respect of land at Clay Farm, Shelford (February 2010) the Secretary of State and the Inspector both refused to accept that the historic price paid for the land should result in a lower level of affordable housing being provided. There is, of course, the danger that developers, when buying land, make assumptions that planning permission will be granted that is not fully in accordance with existing or emerging policy, and effectively pay more than they might if they assumed a scheme that was fully policy compliant. It has been known for developers then to argue that they cannot afford the very same policies, although this is effectively a self serving or circular argument, and one that would then be at odds with the decision at Clay Farm.

6.34 There is further difficulty in that the purchase of residential land will also involve a judgement as to what NAHP grant, if any, can reasonably be expected in respect of any affordable housing that might be built. Given the exceptional levels of grant that have been made available in recent times by HCA, recent evidence should not be treated as a good guide to prevailing land values in a situation where no grant is likely to be available.

Higher land values are not a reason to argue that future tariff levels are unaffordable

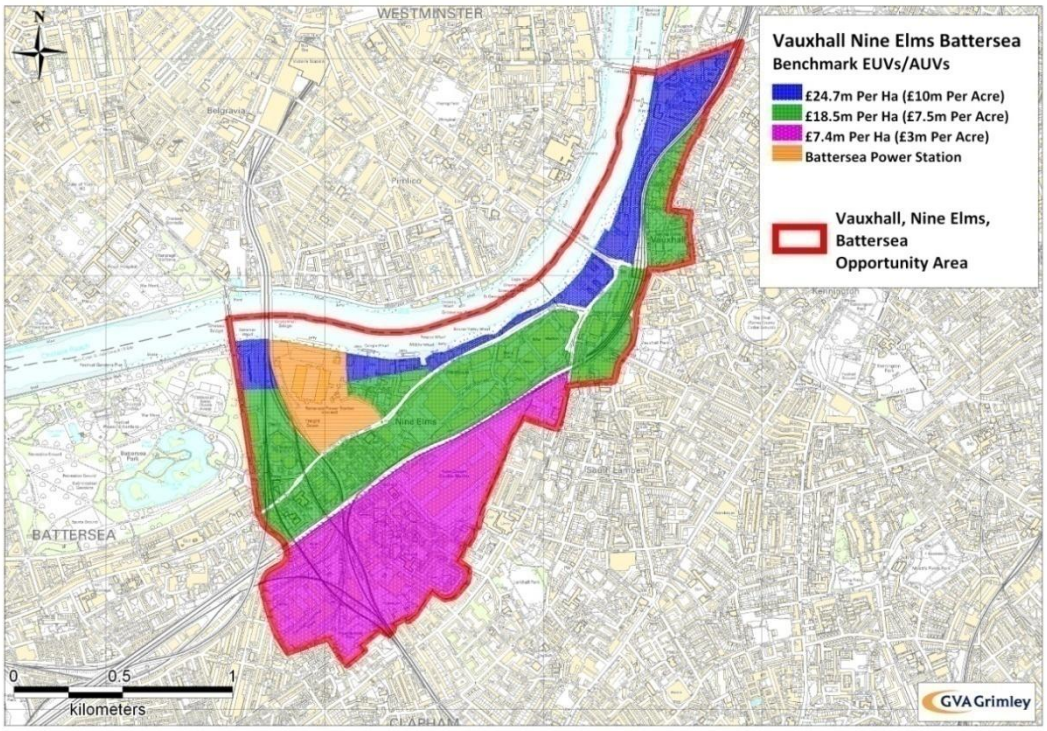
6.35 We have adopted the same benchmark values for the appraisals carried out as at 2016. On the basis of the assumptions we have made about the changes in values and in costs, and the uplift anticipated as a result of regeneration, it could be argued that the base land values as at 2016 should be higher. We consider, however, that to apply a higher base value would effectively suggest that the judgement as to what tariff may or may not be afforded in the future should vary on the basis of land prices that have not yet been paid. In effect, this would be to suggest that the tariff must always respond to land prices rather than be a matter that influences them. The same point could also be applied to the level of affordable housing. In this case the tariff is necessary to pay for the infrastructure required to underpin and deliver the masterplan and the regeneration of the OA. The base benchmark land values already, in our judgement, include in most cases a large premium above current or existing use value. By 2016 the tariff will have been in place for some time, and those who own or control land that is brought for redevelopment will have had ample opportunity to factor in the cost to their calculations and negotiations, and to ensure that their assumptions reflect fully both existing and emerging policy.

6.36 We would also note that the benchmark used in all cases is substantially in excess of EUV, and will remain so even should EUVs, say, double over the intervening period. There is, therefore, already a considerable incentive for landowners built in to the calculations, and at the present time we see no reason to seek to increase it for the purpose of this exercise. In those cases where the base land value is higher, perhaps because there is an existing building then it will be open to the applicant at the time of the planning application to argue that the scheme may not be able to afford the proposed tariff and/or affordable housing contribution.

6.37 The evidence available as to what prices have been paid for sites is thin and patchy, and it does not follow the demarcation shown for the value Areas 1, 2 and 3 (these have been drawn on the basis of anticipated sale values). We have therefore concluded that the benchmark for Value Areas 2 and 3, and for which anticipated sale values are reasonably similar, within 6%, should be taken as identical. To propose a smaller figure for Value 3, say, would be to suggest that this high level exercise can be finessed to an extent which is, we consider, beyond that which can be applied. However, by also the actual results the Project Team can appreciate the extent, for example, to which two identical schemes, one wholly within Value Area 3 and the other wholly within Value Area 2, have a different residual land value. Likewise the distinction between Value Areas 1 and 2 can be identified.

6.38 Taking the above into account, we have used the benchmark EUV/AUVs as set out in the table below. The residential benchmark areas are depicted in the map shown in Figure 6.3 below.

Figure 6.3 EUV Value Area Map



Source: GVA Grimley

How many tariff areas should there be?

6.39 The map above shows the value areas we looked at.

6.40 We then decided on what this analysis meant for the number of different tariff areas that should be created. We explain our findings below.

There should be a single tariff for non-residential development

6.41 We do not consider that there is a case for suggesting that there are different value areas for the proposed commercial development. It is recognised that office, retail and hotel development, for example, will only take place in a limited number of locations and that the ability of each use to make a significant contribution is restricted. We therefore recommend that there be a single tariff for the non-residential development.

We recommend that there should be two tariffs for residential development

6.42 We have considered whether there should be a separate tariff for each residential value area, a combination of value areas or a single tariff for the OA. Whilst there are, in our judgement, four different value areas for residential development, it is recognised that the boundaries between them may on occasion be indistinct. For example, tall buildings in Value Area 2 close to the River may have dwellings that command a price that is not dissimilar to some dwellings within Value Area 1. Further, many of the proposals within Value Area 1 are subject to current planning applications, and therefore it is questionable as to whether the tariff will apply.

6.43 We believe that there is justification for setting a different tariff for Value Area 1, on the basis of our assessment, as it can, in theory, afford a materially higher tariff than the other areas. By contrast, Value Areas 2 and 3 show results that are quite similar, whilst residential developments within Value Area 4 may find it difficult at the present time to afford to make a material contribution.

6.44 We therefore recommend that there be two residential tariffs.

6.45 In 2016 the judgement may change but this would be a matter to be kept under review.

6.46 Ultimately it will be a decision for local authorities to decide the level of tariff and whether there should be a single or multiple tariff system.

The Client Project Group asked for analysis of the implications of a single tariff for the OA

6.47 The Client Project Group has also asked for our analysis of the implications of there being a single tariff for the OA. This is intended to recognise that it will be easier administratively and, perhaps, that the result may be seen to be more equitable by some. This would also be in line with our conclusion that there be a single tariff for non-residential development.

6.48 When advising on a tariff level (be it for two areas or for the whole of the OA) we have had regard to the need to try and ensure that the figure may be afforded by the majority of the potential schemes, thus reducing the need for individual agreements to take account of viability; S106 Agreements will still be required for affordable housing and for on-site provision. This will also be the case if CIL is taken forward in its current form.

6.49 We have therefore advised as to the tariff that should apply in the event that there is a single residential tariff. In Table 6.3 the respective figures for a single tariff and two tariffs are set out. The presentation of a per unit tariff level in this table assumes that affordable housing units pay tariff. If this policy was changed to exclude affordable housing – as is envisaged under CIL Regulations – then the charge for each private dwelling will rise proportionately, but, in our judgement, the overall contribution of a scheme will not be altered.

6.50 We recommend that the local authorities decide, as part of their respective SPD processes, whether there should be a single or multiple tariff, and the level of tariff.

6.51 We recommend that, if there is to be a single tariff, it should reflect the level of contribution which is viable and deliverable across the whole area and the majority of the proposed development, and it is on this basis that we have made recommendations as to the tariffs that might apply whether they be a single tariff or two tariffs covering more than a single value area.

Summary of viable tariff contributions

6.52 In Appendix 2, we have set out in detail the results of our development viability analysis.

6.53 We are mindful of the historic levels of S106 that have been paid, and the assumptions made by BNP Paribas when carrying out the Affordable Housing Viability Studies for the Councils. This would suggest that whilst in some cases, notably Value Area 1, a

significant payment could be in theory be afforded we suspect that there may be strong resistance from landowners to what might seem a punitive rate, or one that is materially higher than elsewhere in the OA.

6.54 Equally, the appraisals for Value Area 4 suggest that in some instances schemes will find it difficult to pay even a reduced rate unless the amount of affordable housing required is substantially reduced.

6.55 The Alternative Scenario would suggest that there is potentially greater latitude to charge a higher figure for each of the Value Areas. However, we caution that this is the result of a number of assumptions, and that in reality the situation in 2015/16, or whenever the tariff is reviewed, is likely to be different.

The impact of different levels of affordable housing on tariff available

6.56 It must be recognised that there is a trade off between the level of affordable housing and the tariff. We have therefore highlighted the results based on both 40% affordable housing and on 15%. In both cases we recommend that the tariff be selected on the assumption that there is No NAHP grant. This would be the most conservative basis on which to proceed, and would also mean that any grant which is available could be applied to support affordable housing rather than to pay for the infrastructure.

Table 6.3 Summary of tariff levels which may be viably afforded by development across the OA (to 2015) (the per unit calculations assumes affordable housing is paying tariff)

Land Use	Area/Type	2010-2015			
		40% Affordable Housing No Grant (2 tariffs)	40% Affordable Housing No Grant (1 tariff)	15% Affordable Housing No Grant (2 tariffs)	15% Affordable Housing No Grant (1 tariff)
Residential (per unit)	Value Area 1	£25,000	£15,000	£40,000	£20,000
	Value Area 2				
	Value Area 3	£15,000		£20,000	
	Value Area 4				
Office (per m2)		£160	£160	£160	£160
Mixed Use Retail (per m2)		£150	£150	£150	£150
Retail (stand alone) (per m2)		£150	£150	£150	£150
Hotel & Other (per m2)		£40	£40	£40	£40

Source: GVA Grimley

The impact of different assumptions of economic recovery on tariff available

6.57 Below we illustrate the consequences for the tariff on two different bases:

- a continuation of the tariff set for 2010-15. In other words, this is the "no market recovery" scenario. This is shown in Table 6.4;
- the tariff that could arise should there be a recovery in the market in line with our assumptions explained in paragraph 6.24 and onwards. This is shown in Table 6.5.

Table 6.4 Summary of tariff levels which may be viably afforded by development across the OA (2016-31) (no market recovery)

Land Use	Area/Type	2016-2031			
		40% Affordable Housing No Grant (2 tariffs)	40% Affordable Housing No Grant (1 tariff)	15% Affordable Housing No Grant (2 tariffs)	15% Affordable Housing No Grant (1 tariff)
Residential (per unit)	Value Area 1	£25,000	£15,000	£40,000	£20,000
	Value Area 2				
	Value Area 3				
	Value Area 4				
Office		£160	£160	£160	£160
Mixed Use Retail (per m2)		£150	£150	£150	£150
Retail (stand alone) (per m2)		£150	£150	£150	£150
Hotel & Other (per m2)		£40	£40	£40	£40

Source: GVA Grimley

6.58 The following table covers the same points, but shows a market recovery scenario.

Table 6.5 Summary of tariff levels which may be viably afforded by development across the OA (to 2016-31) (market recovery)

Land Use	Area/Type	2016-2031			
		40% Affordable Housing No Grant (2 tariffs)	40% Affordable Housing No Grant (1 tariff)	15% Affordable Housing No Grant (2 tariffs)	15% Affordable Housing No Grant (1 tariff)
Residential (per unit)	Value Area 1	£35,000	£25,000	£50,000	£30,000
	Value Area 2				
	Value Area 3				
	Value Area 4				
Office		£160	£160	£160	£160
Mixed Use Retail (per m2)		£150	£150	£150	£150
Retail (stand alone) (per m2)		£250	£250	£250	£250
Hotel & Other (per m2)		£40	£40	£40	£40

Source: GVA Grimley

Total tariff contributions based on recommended tariffs

6.59 Table 6.6 below shows the potential contribution based on either a single residential tariff or two tariffs and also the consequence or potential trade-off between the level of affordable housing and the amount available to be paid as a tariff. We have also shown the impact should there be a recovery in the market along the lines we have assumed.

6.60 It should be noted that our calculations are based on an assumption as to the quantity of housing that will be delivered in each Area, and which will be subject to the tariffs. These figures are not explicitly detailed in the masterplan. Final build out may vary.

6.61 The analysis shows that the difference between a single tariff and two tariffs is in the order of £16m with 40% affordable housing and £33m with 15% affordable housing. In the context of a funding gap under the preferred scenario, the choice of a single tariff would represent an additional obstacle to delivering the requirements of the OA.

Table 6.6 Available total tariff contributions based on recommended tariffs

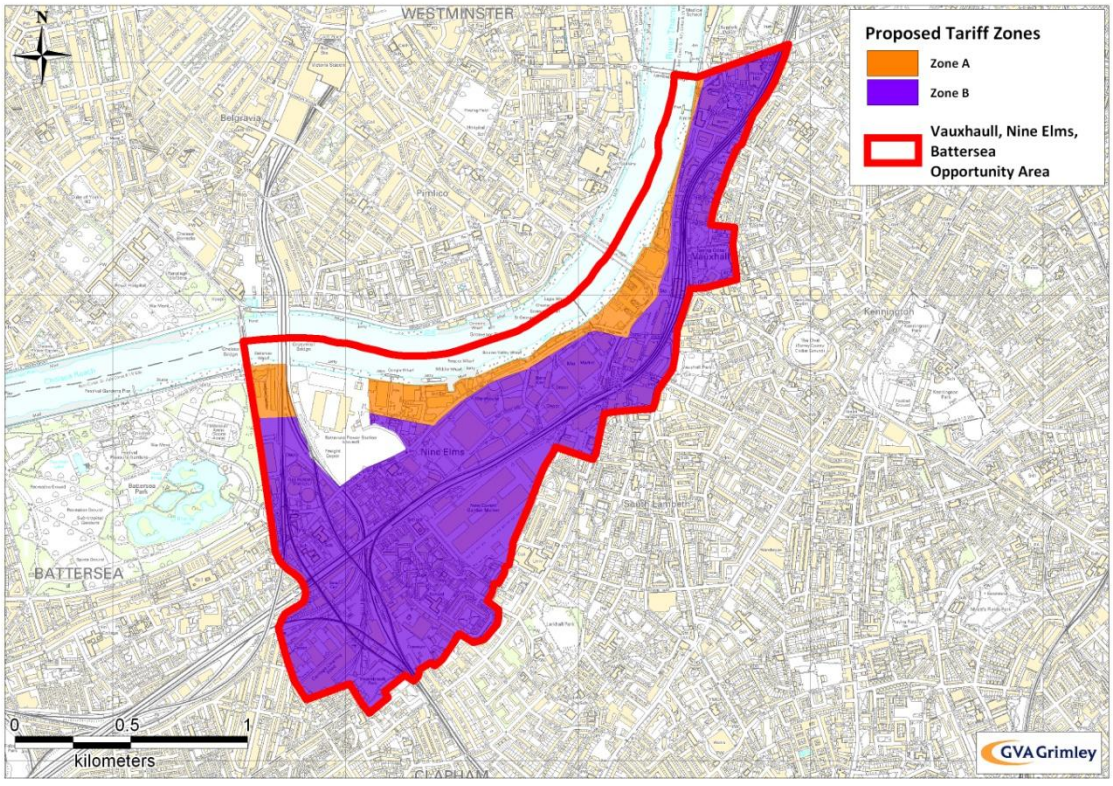
	40% Affordable Housing No Grant 2 Residential Tariffs	40% Affordable Housing No Grant 1 Residential Tariff	15% Affordable Housing No Grant 2 Residential Tariffs	15% Affordable Housing No Grant 1 Residential Tariff
Overall Tariff Total - No Market Recovery post 2015	£201m	£185m	£279m	£246m
Overall Tariff Total -Market Recovery post 2015	£296m	£279m	£374m	£341m
Uplift in 2016-31	£95m	£94m	£95m	£95m

Source: GVA Grimley

The areas over which these tariff levels are available

6.62 The areas over which these tariff levels are available are shown on Figure 6.4.

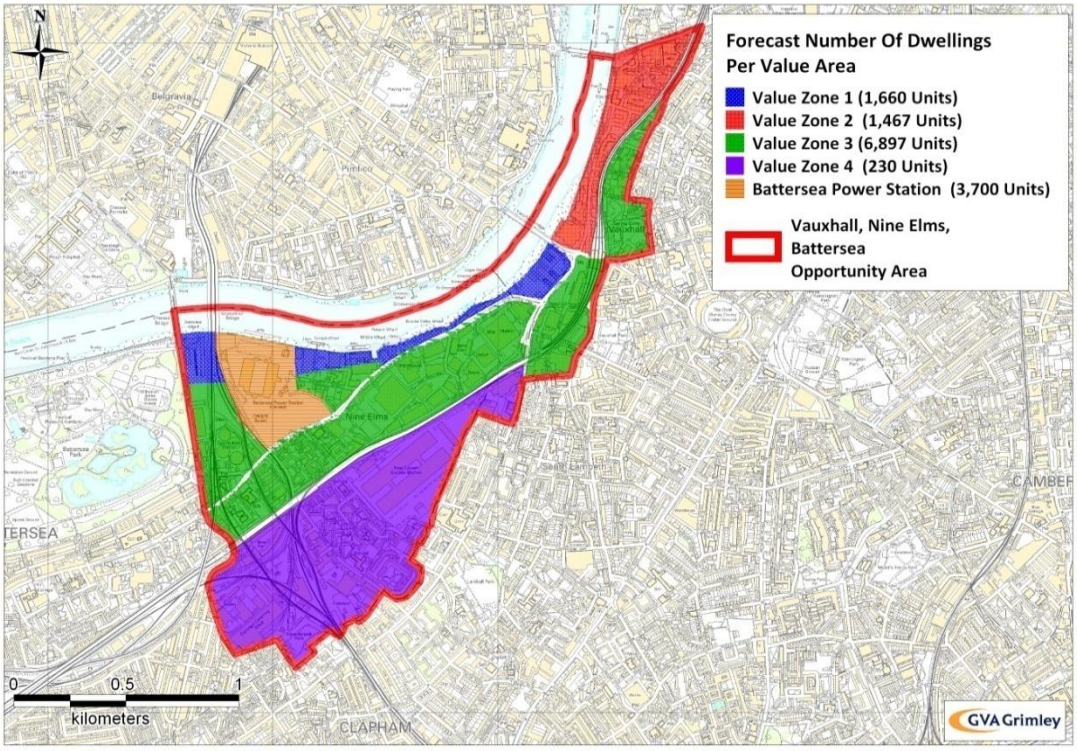
Figure 6.4 Proposed tariff zones (residential)



Source: GVA Grimley

6.63 Figure 6.5 shows the assumptions that we have made as to the number of dwellings that may be delivered in each Value Area. Again, these build out figures are not explicitly detailed in the masterplan. Final build out may vary.

Figure 6.5 New Dwellings in each Value Area



Source: GVA Grimley

Pulling together the overall developer contribution

6.64 To get a view of the total available developer contribution, we must add together

	Factor 1: Available tariff contributions
plus	Factor 2: Developer contributions already agreed (US Embassy, and Lambeth sites)
plus	Factor 3: Anticipated contributions under negotiation (BPS)
plus	Factor 4: Contributions that may be available from NGCM

6.65 We do this analysis below.

Factor 1: Available tariff contributions

Our work suggests that the following tariff contributions are available in the VNEB OA.

Table 6.7 Available total tariff contributions based on recommended tariffs (Market Recovery)

	40% Affordable Housing No Grant 2 Residential Tariffs	40% Affordable Housing No Grant 1 Residential Tariff	15% Affordable Housing No Grant 2 Residential Tariffs	15% Affordable Housing No Grant 1 Residential Tariff
Residential	£296m	£279m	£374m	£341m
Commercial	£7m	£7m	£7m	£7m
Retail	£1.7m	£1.7m	£1.7m	£1.7m
Hotel	£3m	£3m	£3m	£3m
Overall Tariff Total	**£308m**	**£291m**	**£386m**	**£353m**

Source: GVA Grimley

Factor 2: Developer contributions already agreed

6.66 We understand that out of the c.16,000 units coming forward in the OA under Revised Scenario 5, some 1,184 residential units have already been permitted, along with a significant amount of business space (the US Embassy) and some ancillary retail space.

6.67 We have accounted for the S.106 Agreements already signed as part of our further analysis on how much overall contribution could be available and when this is likely to come forward.

6.68 The table below sets out the S.106 contributions that have already been agreed:

Table 6.8 Section 106 contributions already agreed

S.106 CONTRIBUTIONS ALREADY AGREED	Scheme 1
US Embassy	£6,335,000
Lambeth (Various Sites based on the unallocated sums)	£5,300,000
TOTAL	**£11,635,000**

Source: GVA Grimley

Factor 3: Anticipated development contributions under negotiation: Battersea Power Station

6.69 The current planning application for Battersea Power Station proposes:

- 3,444 residential units.
- 160,933 sq m office floorspace.
- 66,324 sq m retail floorspace.

6.70 At the time of writing Treasury Holdings and Wandsworth were in negotiation about the level of S.106 contribution which would be forthcoming from Battersea Power Station. With this the case, we asked for direction from Treasury Holdings / Wandsworth as to the level of S.106 anticipated from the development.

6.71 It is important to recognise that planning obligation negotiations will necessarily reflect the particular circumstances of each site and development proposal. There will be instances where extraordinary costs will have a bearing on development viability and the level of financial contributions that can be justified. Restoration of Battersea Power Station is a

case in point. Similarly, some sites may promote enhanced contributions to realise priority infrastructure improvements that will benefit the wider OA. Other aspects of the development such as the target level of affordable housing being proposed may need to be adjusted following agreement of the level of enhanced contributions.

6.72 In the case of BPS, we understand that it is REO's intention to offer a section 106 contribution that will ensure a very significant contribution towards the NLE. Current negotiations with LBW are proceeding on the basis of a section 106 commitment of in the region of £210m (although we understand this number is subject to negotiation), the substantial proportion of which would go towards delivering the NLE through the private sector. As explained above, in this study we do not allocate available developer contributions to specific infrastructure measures. Making these choices would exceed our proper role.

6.73 We have therefore used the provided, £210m, in our total delivery analysis.

Factor 4: Possible contributions from New Covent Garden Market

6.74 We have not carried out a viability assessment of the proposals nor have we been supplied by either Wandsworth or the Authority as to an amount of S106 or tariff that may be available. In agreement with the Client Project Team, therefore, we have simply applied the headline tariff to what we understand to be the current proposals.

6.75 The NCGM Site spans two Value Areas (3 and 4) and covers a total area of 22.6 Hectares (55.8 acres). The Covent Garden Market Authority (CGMA) is currently advancing plans to provide a new Market on the Nine Elms site, which will become 'The Garden at New Covent Garden Market', and which will re-configure and bring up to date the existing market buildings. To fund this development, CGMA is to build new homes, shops and offices alongside the new Market, using the profits from these developments to pay for the market construction costs. New development will principally be focused on the 4 Hectare (10 acre) current Flower Market site (the Northern Site) lying to the north of the railway line, which is separated from the rest of the site, The Flower Market itself will be relocated as a dedicated flower market alongside the other market activities on the main site, south of the railway line. CGMA has recently (July 2010) announced a shortlist of six developers selected to develop its landholding.

6.76 We have taken the current scheme to comprise:

Table 6.9 Assumed Scheme for New Covent Garden

DEVELOPMENT AREA	Main Market	Northern Site	Entrance Site	Thessaly / College Site	Total
Site Area (Ha)	15.17	4.14	1.27	2.06	22.6
Fruit & Flower Market (GIA, Sq M)	48,310	n/a	n/a	n/a	48,310
Commercial (GIA, Sq M)	n/a	32,471	n/a	n/a	32,471
Residential (units)	n/a	1,740	365	230	2,335

Source: GVA Grimley

6.77 It is acknowledged that the commercial elements i.e. for sale or rent to third parties are in part being promoted in order to subsidise the costs that arise from the principal development, co-locating and updating the two markets, and to enable the development to proceed.

6.78 For the purpose of this report we have simply applied the suggested tariff to the NCGM site before deductions are made to account for the enabling costs/cross-subsidy. It should also be noted that we have assumed that there will be a single consent for the scheme that sets the tariff for the different phases, and that this will be granted before 2015, we have therefore only applied the tariffs we have recommended for the period 2010-15.

6.79 The resulting total contributions sum has been combined with our overall estimation of developer contributions in the OA in Table 6.10.

Results: the overall potential developer contribution at VNEB

6.80 Table 6.10 below pulls together the elements discussed above to show available developer contributions available at the OA.

Table 6.10 Potential total contribution from VNEB Opportunity Area (market recovery scenario)

	40% Affordable Housing No Grant		15% Affordable Housing No Grant	
	2 Residential tariffs	1 Residential tariff	2 Residential tariffs	1 Residential tariff
Extant S.106 Monies	£12m	£12m	£12m	£12m
BPS Contribution	£210m	£210m	£210m	£210m
Sub Total	**Up to £ 222m**	**Up to £222 m**	**Up to £ 222m**	**Up to £ 222m**
LAND USE - TARIFF				
Residential	£341m	£324m	£419m	£386m
Commercial	£18m	£18m	£18m	£18m
Tariff sub-total	**£359m**	**£342m**	**£437m**	**£404m**
OA Total	**Up to £581m**	**Up to £564m**	**Up to £659m**	**Up to £626m**

Source: GVA Grimley

The factors influencing tariff contributions

6.81 The ability of development across the OA to viably pay a pre-determined level of tariff is dependent on a number of factors. We have outlined the most important of these factors below:

1) Planning Requirements - Planning requirements impact on the viability of development through a number of means, such as through;

   - The requirement of a planning authority for an element of affordable housing to be provided within a scheme

- Planning requirements for levels of sustainability to be reached, for example through BREEAM or the Code for Sustainable Homes. Building Regulations will also have an impact on viability as they increase moving forwards.
- Planning authorities may have additional design codes which need to be factored into development, impacting on viability

2) Existing use values (EUVs) & Alternative Use Values (AUVs) (as set out previously)

3) Development costs and values

4) Individual site circumstances - For example, developer borrowing ability and finance costs, site specific preparation costs, site specific abnormals, e.g. contamination clean up, and individual developer/landowner requirements all have an impact on the ability of development to viably contribute to a CIL or tariff.

6.82 The tariff represents an opportunity to apply a flexible approach as necessary. One example of how this might be applied in practice is by delivering lower levels of affordable housing in the early phases in order to pump prime the infrastructure.

Converting this Section 106 Tariff to a CIL

There are a number of differences between Section 106 Tariffs and CIL

6.83 If the tariff was to be levied as a CIL then, on the basis on the current Regulations, there are certain factors that apply, but which do not if matters proceed by way of S106 Agreement.

6.84 The Regulations provide for a limited number of exemptions for CIL:

- new development below a threshold of 100 sq m
- for social housing;
- if the owner of the land is a charitable institution and the development will be used mainly for charitable purposes or a “not-for-profit” charitable purpose,
- authorities may offer relief in exceptional circumstances where the specific scheme cannot afford to pay it, but there are conditions.

6.85 The principle consequences in terms of the appraisals are:

- CIL is not negotiable;
- CIL is not paid in respect of affordable housing;
- CIL is to be paid only for net additional floor area;
- CIL is calculated per sq m based on GIA;
- S106 Agreements/Planning conditions will remain to cover Affordable Housing and matters that are to be delivered on site;
- It is paid within specified time from commencement of development;
- Where an outline planning permission permits development in phases then each payment for a phase will have to be made at the commencement of development of that particular phase.

The implications of levying a CIL charge on private housing only

6.86 As explained elsewhere in this report, we are advising that a Section 106 tariff be created for the VNEB area, with a prompt move to a CIL or its successor.

6.87 We are therefore seeking to make any subsequent process of conversion to a CIL or its successor as straightforward as possible. There are inevitably differences. In line with the usual approach to a tariff secured by way of a S106 Agreement and the Council's Affordable Housing Viability assessments, our appraisals have been carried out on the assumption that the contribution is made both by private housing and by affordable housing.

6.88 However, the CIL Regulations (April 2010) change this, and state that affordable housing will be exempt from CIL charge.

6.89 Intuitively, an observer may suppose that this change will reduce the total amount of CIL contributions available from a scheme. This is not the case. It must be borne in mind that our modelling effectively assessed the ability of a Scheme to make an overall contribution, and does not imply that the contribution should be reduced merely because it is applied to part of the development. It is simply a matter of the metric required to be used. The table below therefore shows the mathematical consequence of taking the proposed tariff and recalibrating it as a CIL. Simply put, the charge per individual housing unit would rise overall under CIL, but there would be no overall increase in the level of developer contribution per site, and no change to the viability of a scheme.

Table 6.11 Conversion of tariff to CIL

Land Use	Possible tariff charge	CIL Equivalent charge 15% Affordable Housing	CIL Equivalent charge 25% Affordable Housing	CIL Equivalent charge 40% Affordable Housing
Residential (per unit)	£40,000	£47,059	£53,333	£66,667
	£25,000	£29,412	£33,333	£41,667
	£20,000	£23,529	£26,667	£33,333
	£10,000	£11,765	£13,333	£16,667
Office (per m2)	£160	£160	£160	£160
Mixed Use Retail(per m2)	£150	£150	£150	£150
Retail (stand alone) (per m2)	£150	£150	£150	£150
Hotel & Other(per m2)	£40	£40	£40	£40

Source: GVA Grimley

The timing of payments under CIL

6.90 It should be noted that the timing of payments under CIL is potentially more onerous than under a tariff or S106 Agreement in that there is little latitude available to defray or defer

them. This would be particularly relevant for large schemes such as NCGM, which have high initial costs and potentially little or no revenue, and for which the cash flow is negative for some time. The regulations appear to offer little scope to assist developments by delaying the point at which payments have to be made. This would be a reason to proceed on a conservative basis when setting a CIL and to select a figure that is affordable for the range or scale of development anticipated.

7 OTHER FUNDING SOURCES

Introduction

7.1 Having looked at tariff funding in the sections above, in this section we examine other ways in which funding might be provided for the necessary infrastructure at VNEB.

7.2 Given the subject matter, it is inevitable that some of this work relies on our judgement of the relevance and reliability of these sources of finance. In other areas, we are able to rely on detailed technical work that has already been undertaken.

Our approach

7.3 In some instances, the funding sources covered here are not considered to be useful in raising funding for VNEB infrastructure. Where this is the case, we say so.

7.4 In other instances, there may be a role for certain types of funding. Many depend on political choices and some require the introduction of primary legislation. Others would need detailed work to reliably quantify the potential level of contributions, although we have made some assumptions in this study to broadly quantify the potential scale of contribution made.

7.5 We caution that experience suggests that the best approach is not to simply aggregate all of the possible funding sources and them match them to aggregate needs, or to simply hunt around for possible sources of funding on an opportunistic basis, but rather to identify financial problems as precisely as possible before seeking solutions from the more limited range of possibilities that are specifically suited to addressing them.

Tax Increment Financing

7.6 Tax Increment Financing (TIF) model is a method of financing whereby future increases in tax yield generated by some upfront infrastructure investment are ring fenced to pay for that investment, rather than being collected and distributed nationally by central government. The future income stream is “securitized” (i.e. converted to a capital lump sum) with repayments made from the ‘incremental’ taxes generated in the area.

7.7 Although in theory TIF could be used to fund other elements of infrastructure provision, the idea has been advanced primarily as a way of funding transport infrastructure in the OA.

7.8 We have therefore dealt with this method of funding in the transport section, with additional detail in Appendix 4. We conclude that there could be a role for TIF in financing some transport infrastructure, but that possible role, and the scale of that role, is still not clear.

7.9 We believe that it will not be possible for the NLE to be funded in its entirety through this mechanism. The amount that can be raised up front by TIF (in order to help meet the cashflow gap for the Northern Line Extension) will depend upon the willingness of financial markets to securitise the future flow of revenue received from the incremental business rates. However, this will depend upon the markets being confident that the

scheme will be delivered on time and to budget - so that the developments which produce the revenue streams to be used to repay the loan will materialise as planned. The private sector may well be reluctant to take this risk at a reasonable price.

7.10 There would remain the potential difficulty of proving that development was genuinely additional to the London economy.

7.11 However, there may be a role for TIF over the longer term, and for a smaller project – perhaps one which has less risk involved. The Coalition has recently announced further work on developing this concept. We believe that it would be beneficial to undertake further investigation into the feasibility of using TIF for the Northern Line Extension, and other infrastructure.

User charges and securitised user charges

Securitising future income streams

7.12 Securitisation is a process of raising asset backed finance through a loan or an issue of debt securities that are supported by cashflow from underlying assets (rather than the borrower's business generally). Securitisation gives the lender a prior right to income from these defined assets.

7.13 The downside is that securitisation restricts the ability to change or otherwise amend the secured assets and thus limits operational flexibility.

7.14 Below, we work through some of the possible approaches to securitisation.

Business Improvement District income could be securitised to pay for infrastructure but the amount that could be raised is not likely to prove significant

7.15 Business Improvement Districts are funded through charging local businesses an additional rate, typically an extra 1% - 2% for an agreed scheme of investment. In most places this is used to support higher standards of presentation and maintenance of the public realm. There are examples in both L.B. Lambeth (South Bank) and L.B. Wandsworth (Garrett Lane Business Park).

7.16 Local Authorities could also

- raise capital for investment in (for instance) the public realm or smaller scale transport improvements with a loan repaid by the additional rates income from a BID scheme.
- partially offset the future costs that the local authority would incur in maintaining the public realm, thus reducing the need for commuted sums for this purpose in Section 106 contributions and releasing planning contributions for use elsewhere in the programme.

7.17 Given the relatively small sums involved, though, this approach would be unlikely to raise a significant amount of capital.

Leveraging future consumer charges may fund some sustainable energy infrastructure

7.18 Financing sustainable energy infrastructure is one area in which investment can be funded by leveraging future consumer charges. This can range from large schemes such as bespoke power generation to small scale schemes. For example, in both the UK and

the USA there are companies that lease solar panels. Local schemes can sometimes make financial sense in any event, for instance the Royal Docks scheme has its own power station. But schemes like this are most easily delivered when there is a single strategic development body.

A comprehensive approach to affordable housing

Real benefits might come from a comprehensive scheme for Registered Provider Consortia borrowing

Procuring and financing affordable housing might be done more efficiently

7.19 A particular opportunity might come from procurement of the affordable housing on a strategic basis. This can create opportunities of scale and open up more efficient ways of raising and applying loan finance.

7.20 There are two forms of social rented housing that are important in this context, social rented and shared ownership homes.

7.21 The amount that a Registered Provider can pay for affordable housing is critically dependent on the terms on which it borrows money to support a purchase and the opportunities for cross subsidy between different classes of tenure.

7.22 The procurement of affordable housing by Registered Providers is partly financed by developer subsidies, HCA subsidies and the Registered Providers' own reserves. But a major element comprises loans from commercial banks that have seen this as a low risk stream of business. It follows that if other forms of support can be increased, then subsidies from developers can be reduced and, through negotiation, it might be possible to free up funds to meet other needs such as infrastructure.

7.23 We believe that no support from HCA can be relied on in the short term and Registered Providers' own funds have been depleted by the drop in house prices. But there might well be scope for increasing bank lending. The amount that an Registered Provider can borrow is usually calculated as the size of the loan that can be serviced from the net income from the properties. So if the annual interest payments are lower, a greater sum can be borrowed.

Registered Providers' borrowing charges could be reduced if index linked loans were used

7.24 Most Registered Provider loans are based on a conventional fixed interest basis. In normal times prior to the credit crunch the interest rates might have been around 6% or so depending on the borrower. Little use was made on index linked loans in spite of the fact that the annual interest on these is lower simply because part of the return to the lender comes through indexed increases in the outstanding capital.

7.25 The difference in interest payments between fixed interest and index linked loans can be gauged by the difference in interest rates on the Fixed and Index Linked Government Gilts which comprise the Government's own borrowings. It is currently around 3% or more and the passing interest on index linked gilts is under 1%. Over the past decade 2% - 2.5% was more common. Registered Providers would pay a higher rate on their borrowings

than the Government and thus, using the 6% interest they have been paying on fixed interest loans as a starting point you might expect an index linked loan to carry an annual interest payment of only 4% in normal times and even less now.

7.26 Social rented housing is an appropriate target for index linked funding because the rental income is index linked. The best comparator is the utilities whose regulated income is also index linked and who see the sense in matching the pattern of their income and liabilities and make good use of index linked loans. The Banks have been happy to finance them on that basis and we see no reason why they should respond differently to the Registered Providers. In anything the opposite might be the case. The Registered Providers have more saleable assets as security and are fact allowed to increase rents at a rather in excess of the inflation rate.

Lower interest charges on loans would allow more to be borrowed. That would mean more resources would be available for infrastructure

7.27 To measure the impact of a lower passing interest rate we can start with the assumption that a 60 sq m flat might provide a net annual income to the Registered Provider after allowing for management and maintenance of (say) £4200 p.a. This could service the interest payments at 6% per annum on a loan of £70,000. But if the interest payments were 4% it would support a loan of £105,000; an increase of £35,000 per flat and proportionately more for a house. .

7.28 What has effectively happened here, is the Registered Provider is benefiting from lower interest payments now but has foregone the chance to improve its capital position in the future unless house prices and rents increase at a higher rate than inflation. In our view, this is a subsidy for the Registered Providers at the expense of the finance available for local infrastructure in the short term.

7.29 In fact the outcome is unlikely to be as impressive as £35,000 per flat. Index Linked is not standard and this would increase arrangement fees and costs. Registered Providers (like Utilities) would probably want to mix conventional and indexed borrowings for risk management purposes.

How much these measures might raise

7.30 For the purpose of this analysis we will assume that an additional £20,000 per affordable dwelling can be raised. This might well be conservative. It ignores both the fact that the average size of dwelling might exceed 60 sq m and that the current gap between fixed and linked interest rates is nearer 3% than 2%. On this basis if 20% of the 16,000 dwellings overall, 20% are social rented an improvement of £60m could be achieved.

7.31 In the Cambridge Sub-Region Cambridgeshire Horizons has advertised for and appointed a consortia of Registered Providers to be the affordable housing providers across the sub-region. In this way it is possible to achieve savings through economies of scale in procurement and potentially negotiating loans.

7.32 The GLA and the boroughs could collectively agree a similar approach, which could create substantial benefits. This would need to be developer-led and might involve seeking specialist advice on an optimal structure for procurement and then floating a

proposal around major Registered Providers to establish any interest. There would also need to be an agreed approach to how any benefits might be (at least in part) fed back into higher planning contributions.

Monetising the value of equity stubs on shared ownership housing

7.33 This intrinsic inefficiency in affordable housing procurement goes beyond social rented housing. For instance, when a dwelling is sold to a Registered Provider as 'shared ownership' housing the receipt is determined by the proportion of its value that will typically be sold (often 50%) and the size of the loan that can be secured against the net rental income on the remaining 50%.

7.34 The capitalised value of the rent on the half of the dwelling that has not been purchased (and which is known as the 'equity stub') will be far lower than the market value of that half in the VNEB area. So when the shared owners decide to 'stair case' their share and buy the rest of their home there should be a windfall for the Registered Provider. That windfall has a current value but we cannot quantify it at present for lack of data on market pricing and typical patterns of stair casing i.e. how long do people normally take before trying to purchase the rest of the equity in their home? A provisional and conservative assumption might be that a typical 60 sq m shared ownership flat might be worth £300k today and that the equity stub could be around 20% of that value. Assuming 1200 shared ownership houses this equates to an overall value for the equity stubs of £72m.

7.35 Notwithstanding this is another element of the value created by the scheme that is usually inefficiently monetised. In this case that might be more difficult to achieve but we note that there is an active market in the reversionary interests of homes sold on an 'equity release' basis often as part of people's retirement plans. For example, Grainger plc has an interest in this field recently augmented by the purchase of Sovereign Reversions.

7.36 Neither of these approaches to value maximisation are currently mainstream but the size and value of the VNEB scheme provides options that cannot be realised elsewhere and London is a financial market of sufficient sophistication to make these approaches possible.

Private Finance Initiative

7.37 We have dealt with this method of financing in detail in Appendix 4. We conclude that there may be some PFI opportunities but only for big non-transport infrastructure packages (for example, for health and education).

7.38 We conclude that PFI has no role in funding the transport infrastructure at the VNEB OA.

Local Asset Backed Vehicle

A Local Asset Backed Vehicle will not be appropriate due to insufficient public sector assets

7.39 Local Asset Backed Vehicles marry public and private landholdings to best advantage, effectively maximising the value of public land in the context of a wider development scheme and increasing project finance opportunities. But in this instance, the lack of

significant amounts of land in public ownership suggests that while a strenuous effort to rationalise public landholdings would be worthwhile in order to maximise the value of development, the effort and complexity of setting up a Local Asset Backed Vehicle (LABV) is unlikely to be rewarded.

Government grants

The advantage of upfront payments

7.40 The advantage of an upfront payment is that it can be used immediately to meet the cost of providing the infrastructure and reduces the overall cost of the scheme. With periodic payments, a finance package of loans and equity is needed to pay for the construction of the infrastructure and then the loan is repaid using the periodic payments. This makes the total cost of the project much more expensive as the cost of the finance is added to the cost of construction. There are also the additional issues that the cost of finance has to cover the cost of the risk that the periodic payments are not paid on schedule, the cost of arranging the finance and supervising the repayments.

7.41 A second key advantage of an upfront payment from the public sector is that it provides a high degree of certainty that the scheme can be completed. The process of applying for public funding can be vigorous and time-consuming but once the monies have been approved there is a high degree of certainty that the project can be completed.

7.42 We do not anticipate a significant contribution to be made from grants and loans. Our reasoning is as follows.

Public funding for capital spend will be cut back by 60% to 2015/16. Discretionary funding will be reduced over the medium term

7.43 Following the budget, the Financial Times reported[12] that capital expenditure is set to drop by almost 60 per cent in the period between last year and 2015-16, despite the chancellor's statement in the Budget that he was not cutting it further. As a result, public sector net investment is due to fall from £49bn last year – a figure somewhat inflated by the drive to bring forward capital projects to combat the recession – to a fraction under £21bn by 2015-16.

7.44 The government is to retain Infrastructure UK, the new Treasury body aimed at finding ways of getting extra private investment to fund the £40bn to £50bn a year economic infrastructure that the Treasury says is necessary for the foreseeable future.

7.45 The reduction will be accompanied by a review of all capital spending plans, with George Osborne stating that the "absolute priority will be projects with a significant economic return to the country." It should be noted that the Benefit/Cost Ratio for the NLE is lower than many other competing transport schemes although, when taking the wider economic benefits into account, the ratio increases significantly.

12 Nicholas Timmins, *Capital spending set to fall 60% by 2016* Financial Times June 23

7.46 In advance of the Comprehensive Spending Review it is not possible to be more precise about how spending cuts will be distributed. But it is clear that public funding of any kind, whether grants or public borrowing, will be very constrained at least until the currently projected cuts conclude in 2016. Even if there are substantial increases after that date, the increases will start from a low base, and so real terms rises are likely to be modest. But it should be born in mind that the VNEB development schedule is spread over several decades and there remains the possibility that public sector upfront grants may become available again during this time. The wider economic benefits created by the infrastructure and the health benefits from increased levels of walking and cycling in the area are arguments that could be used in making the case for public sector contributions towards the transport infrastructure.

Ring fenced budgets mean greater flexibility, but this is unlikely to be offset by the overall fall in funding

7.47 A reduction in the number of 'ring fenced' budgets means that the Local Authorities will have more flexibility to use the funds available to them without constraint but this will almost certainly be more than offset by the scale in reduction in their funding as a whole as both mainstream and discretionary public funding streams are cut back. An additional uncertainty is introduced into potential private financing arrangements by the current weaknesses and risk aversion within the banking system.

Although some small opportunities might remain, this is not likely to be a strategic financing method

7.48 Many discretionary grant schemes are being reduced but some opportunities remain e.g. soft equity and small grant support for renewable energy infrastructure and some types of social infrastructure.

7.49 In South London, the South Bank and Bankside are good illustrations about the long term benefits of a widely based, concerted and long term attempt to harvest grant funding on an opportunistic basis. But here they were used to enhance the area as a whole rather than to pay for infrastructure that was critical to development.

Government loans

7.50 Some approaches to funding seek to address funding gap issues with loans.

7.51 However, there are limits to the way that loans can be used in the circumstances in the VNEB OA. These are as follows.

- A loan is not another form of so called 'gap funding'. It can only be the answer where the problem is simply limited to the timing of costs and receipts. It cannot be used to address the fundamental mismatch when the total cost of a development and infrastructure needs it generates will cost more than it is worth.
- A loan needs to be repaid with interest which will accumulate until revenues are available to start repayment. These compounding effects can significantly add to costs especially when there is a long timescale involved before payback.
- There are likely to be severe difficulties in finding lenders who are prepared to accept the risk of non-payment or delayed payment. This is an issue where the repayments

will be made from planning contributions and where lenders are in effect relying on the contributing development going ahead on schedule and generating the necessary funds. Many take the view that property development is an inherently risky, cyclical activity and highly geared activity are thus reluctant to lend without some form of underlying guarantee.

Loans from the "Public Infrastructure Bank" or "Green Bank"

7.52 Some possible new approaches have gathered momentum over the past few months. One example is the real possibility that Government will create a Public Infrastructure Bank. Variants of this idea were in each of political parties manifestos. Although the concept was not explicitly included in the Coalition Agreement, it is an idea which the Infrastructure UK group within the Treasury is likely to be working on. Infrastructure UK will produce a plan in the autumn of 2010, likely to be published alongside the Comprehensive Spending Review.[13]

Though headline interest rates will be similar to commercial providers, loans from the "Infrastructure Bank" might accept a higher degree of delivery risk than those from commercial banks

7.53 However, this is not a one stop solution to an absolute shortage of funds because no one has suggested that this will provide grant funding. The "infrastructure bank" will operate commercially. Any improvement in terms would have to be achieved by passing on the benefits of economies of scale and any Government guarantees. The best that can be hoped for is that it might be a means of providing loan finance which does not penalise delivery risk to the same extent as commercial loans. This might improve the absolute availability of funds but any softening of the financial terms obtainable might be marginal. In this respect it could be similar to the European Investment Bank.

7.54 Repayment of the loan sum and interest could come from passenger charges (if loans were for the NLE). Clearly, though, TfL would have to be closely involved with these arrangements, especially as they are likely to be expecting to use the fares revenue to contribute towards the operating costs of the NLE. These proposals do not represent any way forward agreed with TfL. TfL note that revenue generated is unlikely to exceed operating costs and so will not make any significant contribution to the repayment of the loan.

Nationally significant schemes are likely to be the first target. NLE might be seen as nationally significant, but this is not certain

7.55 It is likely that Infrastructure Bank loans will be focused at least in the first instance on identified schemes of national significance such as power generation or the trunk road and rail networks. It is possible that NLE might be considered to be of national importance.

7.56 Any loans are very unlikely to include (say) funds for public realm enhancements which are small in scale even in regional terms and which do not generate any revenue.

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13 Nicholas Timmins, *Capital spending set to fall 60% by 2016* Financial Times 23 June 2010

Local Authority Bonds

Local Authority Bonds would require central Government support which is not forthcoming

7.57 These are known as Muni Bonds in the USA where they offer a means of financing schemes of this sort and are actively traded. Municipalities in the USA have traditionally had more practical and financial independence and the Federal and State Governments have been more ready to allow them to face the consequences of a lack of financial rectitude. In Britain these schemes would need central government support and probably a change in the administrative culture at a time which is not in the offing. It would therefore be very premature to pin a funding strategy on the hope of change.

The New Homes Bonus Scheme

New Homes Bonus Scheme may form a funding stream

7.58 One of the new Coalition Government's proposals to incentivise the development of new housing is its proposed New Homes Bonus scheme. On page 2 of the Conservative Party's pre-election Open Source Planning document under the heading, *'A framework of incentives for development',* the following statement appears:

"We have already set out in a previous green paper our commitment that when your community builds more homes, central government will match pound for pound the extra money that your area gets through council tax for six years…"

7.59 A recent (July 2010) document issued by DCLG entitled Draft Structural Reform Plan indicates that the design of this new local incentives scheme began in June working jointly with the Treasury and that the scheme would be announced in July.

7.60 Applying this to the proposed 16,000 dwellings in the OA provides a significant contribution. Assuming that the properties are equally split between council tax bands F, G and H (based on the council tax bands of existing properties in and close to the OA and the waterfront), then the total receipts from this would be £91.6 million, as shown in the table below.

Table 7.1 Theoretical funding from New Homes Bonus scheme

Council Tax band	No. of dwellings (a)	Council tax contribution to borough council per property p.a. (2010 prices)[1] (b)	Total contribution from New Homes Bonus x (b) x 6yrs
Wandsworth			
F	4,763	£675.02	£19,290,722
G	4,763	£826.54	£23,620,860
H	4,763	£1,053.80	£30,115,496
Lambeth			
F	574	£1,474.23	£5,077,248
G	574	£1,748.70	£6,022,523
H	573	£2,160.40	£7,427,455
Total "theoretical" contribution from VNEB OAPF RS5 development			£91,554,304
Assumed funding available (at 33% of theoretical total)			£30,212,920

[1]This excludes the £309.82 per property which is provided to the GLA for service provision

Source: LBs Wandsworth and Lambeth

7.61 However, it is doubtful as to whether such large sums would be available for infrastructure funding for VNEB. This is because there is doubt that anticipated scale of funding is likely to be available. The Housing Minister, when announcing the plans in August 2010, said that this would cost £200m annually for the whole country. The annual requirement from VNEB would therefore account for over 7% of this. Indeed, the minister has subsequently stated that there would be cap on the amount per authority. It is not possible to know what the scale of the cap would be.

7.62 We have included the New Homes Bonus as a source of funding, but given anticipated caps on the available funding, we have assumed that only one third of the total theoretically available sum will actually be paid to local authorities.

7.63 This assumption should be reviewed in any future review of the tariff.

7.64 More information is likely to be available in the Decentralisation and Localism Bill which is due out in late 2010.

Local authority prudential borrowing

Local authorities' prudential borrowing powers could be used more aggressively – but are likely to be closely scrutinized

7.65 There is also a wider debate about the structure of Local Authority financing which is relevant to their actual as opposed to perceived capacity to support investment in VNEB. For instance, they could use their prudential borrowing powers to effectively advance funding for key elements of infrastructure in anticipation of planning contributions or other possible increases in their income.

7.66 The point was made earlier that developer's capital is expensive. In contrast, the financial cost of public sector capital is much lower. There are opportunities to improve the

economics of development by delaying the implementation of infrastructure schemes for as long as possible and using public funds to pay for what is required on an interim basis with repayment once the proceeds from development begin to materialise.

7.67 Repayment could come from the proceeds of a CIL tariff, or user charges. For example, if a district heating network was to be provided, a local authority could set up a company to provide the network, borrow money, and build the network. Developers would then be charged to connect to the District Heating Scheme, or costs could be reclaimed from the tariff, and householders would pay an ongoing charge to the local authority company. Note that this would have to be a service provided across a number of developments, or the approach could fall foul of state aid rules.

7.68 Historically Local Government' financial management practices have been conservative and in any event it possible that the Government will constrain their ability in this respect. The New Local Government Network points to the potential of the substantial and often underused asset and reserves base of Local Authorities but also says that "The indications from the Treasury are that the current latitude in the prudential borrowing regime is far from certain and that local authority asset management will be heavily scrutinised".[14]

EU JESSICA

Use of JESSICA funding could be investigated for waste and energy projects

7.69 The EC and European Investment Bank's 'Joint European Support for Sustainable Investment in City Areas' programme (JESSICA) is a potential source of funding for energy and waste infrastructure in Nine Elms. For London a £100 million fund is being created bringing together European Regional Development Funding with sources from the public and private sectors. Investments made by the fund will take the form of loan, equity or guarantee.

7.70 In London, JESSICA will be divided into two pots, called Urban Development Funds (UDFs):

- there will be £36 million for waste infrastructure projects – facilities to convert waste to energy; 'high end' recycling; converting waste to non fossil fuel etc; and,
- there will be £64 million for energy and decentralized energy systems – this is likely to focus primarily on public buildings and there is a small amount set aside for social housing. The expectation is that this will involve retro fitting etc.

7.71 Each UDF will have its own manager. Tenders have invited for the waste UDF with a view to letting the contract in autumn 2010 with a view to opening for business early 2011. For the energy UDF, the procurement process for the manager is yet to begin but they hope everything will be in place by Spring 2011. There is no maximum or minimum size of loan/guarantee, but the likelihood is that they will part fund and not fund entire projects.

14 New Local Government Network *Capital Contingences: Local capital finance in an era of high public debt*

7.72 JESSICA funding could therefore provide an opportunity to contribute to the costs of waste and energy infrastructure that meet the strategic and policy objectives of the fund. This opportunity will however only be open to worked up schemes that have an agreed delivery structure and probably an additional funding contribution in place. We have not yet identified such an 'investment ready' scheme and although the current intention is to keep recycling the funds more or less indefinitely, any project would need working up in the near future if it is to feature among the early projects to be supported.

Conclusion

7.73 Our review suggests that.

- Tax Increment Financing could make a contribution to financing infrastructure at VNEB and the Coalition government have announced their intention to introduce the necessary primary legislation.
- Private finance Initiative is not likely to make a contribution to financing infrastructure. Given the current economic climate, it is unlikely that public bodies will be willing to enter into these long tern commitments. In addition, many of the infrastructure needs of the VNEB are not, by their very nature, projects which are suited to PFI.
- In the current economic climate the likelihood of upfront grant or loan payments from the public sector is very small, although it may re-emerge slowly in the future over the life time of the VNEB.
- The private sector could undertake to make periodic payments using revenue raised from its own activities on sites such as car park charges. This is unlikely though to raise significant amounts of money each year.
- The biggest opportunity appears to be from a comprehensive scheme for procuring affordable housing, and, potentially, useful sums may be available through New Homes Bonus. We caution, though, that both these funding streams would rely to a great extent on the ability and willingness of other bodies (such as Registered Providers, Government, and local authorities) to adopt these approaches.

7.74 Incremental progress could be made to pull together grants, securitise some income streams, find efficiencies through Total Place and Total Capital, and perhaps run more active prudential borrowing programme. Together, these approaches could raise some useful finance, and these efforts would be worthwhile.

8 TRANSPORT

Introduction

8.1 The objective of this report is to undertake an assessment of the transport requirements of the proposed Revised Scenario 5 development schedule for the VNEB Opportunity Area.

8.2 We then look at the cost of that infrastructure, and how that infrastructure might be funded.

Method

8.3 In order to assess the likely transport infrastructure requirements for Revised Scenario 5 as set out in the draft OAPF (November 2009), a wide range of reports and supporting information have been reviewed and meetings held with all the relevant stakeholders. There is no one source of definitive information, and hence the available information has been assimilated to allow an overview to be taken about the transport infrastructure requirement. This includes information about the justification of transport proposals, as well as the identification and delivery of proposals associated with the OAPF.

8.4 We relied on strategic modelling work undertaken for the OA Transport Study by SKM, commissioned by Transport for London. A report on this modelling work was provided to us by TfL.

How we apportion costs and funding of transport infrastructure

8.5 Some transport infrastructure has wider, strategic benefits and is used by residents and workers who are unrelated to VNEB. Generally speaking, these costs cannot be properly ascribed to the development at VNEB. On the other hand, some of the key infrastructure elements will need to be in place to allow major development in the OA to take place.

8.6 The client and stakeholder group have reviewed the proposed infrastructure requirements and costs to ensure that these were treated in the most appropriate way in relation to current plans, and to maximise the potential deliverability of the OA. These issues are particularly important to the proposed transport provision, although they apply across all infrastructure elements. Please refer to sections 2.35 onwards (with particular reference to 2.48 onwards) for more on our approach.

Transport context

High capacity public transport is required on key corridors, and will be essential to kick-starting VNEB as an office location. Buses alone will be insufficient

8.7 The large amount of high density development will necessitate the provision of a high capacity transport system for the OA. A high capacity public transport system is essential to support the level of development envisaged in Revised Scenario 5 for the OA. Buses alone will be insufficient to cater for the number of passengers. The volume of people that have to be moved into, out of and around the area suggest the need for a high capacity dedicated public transport corridor. This could be on the surface e.g. a tram or bus rapid

transit, underneath the surface e.g. an underground line or above the surface e.g. an elevated light railway.

8.8 There is also the need to improve the capacity and interchange with the existing high capacity public transport provision near the OA, i.e. the underground network at Vauxhall and the National Rail network at Vauxhall, Battersea Park and Queenstown Road.

8.9 The extension of the Northern Line from Kennington to Battersea Power Station, with an intermediate station at Nine Elms is the preferred new high capacity transport system for the OA. Alternative options have previously been considered and ruled out for a variety of technical and deliverability reasons.

Buses will pay a vital role

8.10 The bus network will play a significant role in providing the necessary transport capacity to bring people into the area and the new high capacity system will bring them into the heart of the OA. Buses will also perform a vital role in distributing people close to their doorstep, office or retail destination. New bus routes can provide direct links in from other parts of London on corridors not served directly by rail or underground services. A well designed bus network would compliment the higher capacity system. Appropriate bus stops should be provided with shelters, seating and real time information. Vauxhall would remain the key focus of bus activity in the area, with a secondary focal point likely to emerge at the western end of the OA.

Non-motorised travel will be an important way to relieve pressure

8.11 Given the large number of people moving in the area, it is vital to relieve pressure on the capacity that needs to be provided by motorised modes of transport by encouraging high levels of walking and cycling. This will be assisted by the building of high quality public realm which provides a pleasant environment for people, wide pavements, dedicated cycle ways, safe crossing points, high quality lighting and good signage. People have a strong tendency to want to walk in the most direct route so it is important to provide new links under the railway lines and over the river to minimise the deterrence of these barriers to movement in the area.

8.12 The use of soft measures to complement the hard infrastructure provision for pedestrians and cyclists in the area will improve the use made of these modes of transport. It is therefore recommended that a joint opportunity area smarter choices package is introduced and maintained through the plan period to provide personal and workplace travel advice and pro-actively promote walking, cycling and the avoidance of unnecessary trips. An on-going programme to promote smarter choices will require revenue funding.

Highway needs will rise

8.13 With such a large scale of development there will also be a considerable increase in the demand for travel by car, bus and goods vehicles. This will require improvements to the highway network and junctions both within the OA and in the surrounding area. This is an area where further work is required to ascertain with more certainty than is provided by the current transport modelling, the scale and location of the interventions required. This

report makes use of the recent study by Burns and Nice, Colin Buchanan (hereafter referred to as BNCB) and GT.[15]

8.14 Consideration will need to be given to getting the right balance between the needs of cars and other surface modes such as buses.

What are the infrastructure requirements arising from development? What are the costs?

These requirements have been costed. They are listed in Section 17

8.15 Section 17 provides a costed list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These costs have been set against possible funding sources.

8.16 Please refer to sections 2.35 onwards for more on our overall treatment of requirements and costs for transport (and other issues).

Northern Line Extension (NLE) forms an important part of the Planning Framework

8.17 The major item of transport infrastructure required in the OA is an extension to the Charing Cross branch of the Northern Line.

8.18 The proposed extension to the Northern Line will extend the Charing Cross branch services from Kennington into the OA, with new stations at Nine Elms to serve the eastern end of the OA and a new terminus at Battersea Power Station to serve the western end.

8.19 The passenger forecasts for the Northern Line extension in Revised Scenario 5 are for 7,300 passengers northbound in the morning three hour peak period on the line between Battersea Power Station and Nine Elms and 12,000 passengers between Nine Elms and Kennington. In the southbound direction there would be 6,900 passengers between Kennington and Nine Elms and 5,000 passengers between Nine Elms and Battersea Power Station. The station at Nine Elms would be used by some existing residents as their access point onto the underground as well as by new residents in the OA development around the station and the more limited commercial development assumed in the OA for this area. It will also release significant capacity at Vauxhall underground station for use by new residents/office workers in the eastern part of the OA.

8.20 The latest costings by Corderoy for the NLE are £564m. The most recent set of costings for the extension were produced by Corderoy for Treasury Holdings, based on designs by Halcrow. Corderoy estimate the cost of the Northern Line Extension, if undertaken as a private sector project, at £564m in 2010 prices. This includes the connections at Kennington, the tunnel, the stations at Battersea and Nine Elms and the rolling stock.

[15] Burns and Nice, Colin Buchanan and GT for TfL Vauxhall Nine Elms Battersea: Public Realm & Highways Modelling Study (Draft)

Our treatment of optimism bias and risk

8.21 Our treatment of optimism bias is as follows. For the Northern Line Extension we have been instructed to use the Corderoy figures. The Corderoy costs include a contingency allowance of 5% for design, 5% for construction and 5% for an overall risk reserve.

8.22 The cost estimates provided by Corderoy do not include optimism bias as recommended by the Department of Transport. The Department of Transport guidance on project costs is provided in WebTAG Unit 3.5.9 *The Estimation and Treatment of Scheme Costs*[16]. This follows guidance from the Treasury and distinguishes between risk and optimism bias. Risk 'refers to identifiable future situations that could cause an overspend or underspend to occur'. Optimism bias is defined by the Green Book as "a demonstrated systematic, tendency for project appraisers to be overly optimistic",[17] and in effect, results in an underestimation of scheme costs'.[18] The recommended levels of optimism bias are derived from the evidence provided by *Procedures for Dealing with Optimism Bias in Transport Planning* (Bent Flyvbjerg, 2004) and *Review of Large Procurement in the UK* (Mott MacDonald, 2002). Based on these studies the Department of Transport have set the level of optimism bias at 66% for tunnel schemes at an early stage in the design process, reducing to 40% for rail schemes and 23% for tunnels as design progresses and eventually reaching 6% when full approval and all necessary powers are in place.

8.23 These optimism bias numbers can be said to apply equally to large infrastructure projects procured by both public and private sectors. The objective of adding optimism bias to initial cost estimates is to use historical evidence to indicate a more probable final cost. It could therefore be argued that a higher level of optimism bias should be applied to the Corderoy costs but, as the design process proceeds, and more of the unknown variables are worked out, then the optimism bias could be reduced.

8.24 It should be noted that the Mott MacDonald (2002) report upon which the recommended levels of optimism bias are based reported much lower levels of optimism bias for PFI/PPP projects. However, the level of optimism bias for these projects was only measured once the scheme was fully designed, tenders received and the final contract price negotiated. The level of optimism bias reported for these projects was 'measured as a percentage of the contract price'.

Who would meet a cost over run?

8.25 We have been instructed not to include any additional optimism bias to the Corderoy costings based on the assumption that the private sector will deliver the project. However,

16WebTAG Unit 3.5.9 September 2006

17 HM Treasury (2003) *Green Book* 29

18 The DfT Guidance goes on to state that "There are three main elements of a scheme cost estimate: the base cost - the basic costs of a scheme before allowing for risks, though these should incorporate realistic assumptions of changes in real costs over time, e.g. cost increases above RPI growth; adjustment for risk - which should cover all the risks that can be identified, the majority of which then need to be assessed and quantified through a Quantified Risk Assessment (QRA) and results in the risk-adjusted cost estimate; and adjustment for optimism bias - to reflect the well established and continuing systematic bias for estimated scheme costs and delivery times to be too low and too short respectively and results in the risk and optimism bias-adjusted cost estimate

the public sector has said that it has made no provision for a contribution towards the cost of the Northern Line Extension at this time.

8.26 A view will therefore need to be taken as to whether there is sufficient certainty that the private sector is able to fund the NLE extension, taking account of the potential risk associated with cost escalation.

8.27 A further consideration is that if the private sector is contributing so much financially towards one particular item of infrastructure this will limit its ability to be able to contribute towards other items that are required in the area.

Ongoing financial liabilities for maintenance and operation

8.28 The Corderoy report states that there is no allowance for funding of the NLE operating costs or the on-going maintenance costs of the tunnels. The assumption is that Transport for London will meet these costs from additional ticket revenue.

8.29 However it should be noted that the Steer Davies Gleave report on the Northern Line Extension to Battersea Preliminary Business Case Summary, June 2009 shows that these revenues are lower than the operating costs over the 60 year appraisal period. They give the present value of the operating costs as £175m in 2008 prices but the increase in public transport revenue as £63m. In our opinion these revenue estimates may be high, as they are based on an assumption of £1 per trip. It is not clear from the summary of the business case available to the Study Team whether the extension of the Northern Line ever reaches a point, over time, where it covers its operating costs. Further work will need to be done to establish this.

Northern Line extension has implications at Kennington

8.30 The London Borough of Lambeth are concerned that the extension of the Northern Line should be considered in the design work for the new interchange at Kennington which forms part of the Northern Line partial segregation scheme. The current designs for the new interchange at Kennington have not taken account of the implications of the Northern Line extension. This means that currently they are mostly dealing with one way flows at Kennington to the Charing Cross branch (all boarders) and from the Charing Cross branch (all alighters). However with onward running of the Charing Cross branch trains onto Battersea Power Station there would be a significant numbers of passengers changing at the station and two way flows would need to be accommodated in the passages. LUL believe that this will not be a significant issue, but it remains possible that the passages will need to be wider in order to accommodate the two way flows. Further work will need to be undertaken to assess this issue.

Vauxhall Station escalator capacity may need expansion after 2031

8.31 The two key issues at Vauxhall underground station are the number of ticket gates and the number of escalators down to the platforms. There is currently congestion in the ticket hall, especially around the gateline caused by heavy two-way traffic. London Underground plan to ease this by redesigning the existing ticket hall and incorporating more ticket gates. This scheme is costed by London Underground at around £18m. This work is regarded as essential to the development of the area. It is included in TfL's Business Plan

and they consider it appropriate for the VNEB development to make a contribution towards its cost. The London Borough of Lambeth would like the project to be fully funded by the VNEB development but we have taken the view that a contribution of 30% towards the cost by the OA development would be appropriate as this is a pre-existing problem in the area.

8.32 The potentially more difficult problem to solve is the constraint on the number of escalators to take people to and from the platforms. The station has a bank of three escalators. Each escalator can carry 6,000 people an hour so the maximum configuration is for 12,000 people an hour in one direction and 6,000 people in the other. It is not feasible to provide additional escalators at the current site so Halcrow, on behalf of Ballymore, have investigated alternative solutions. Their recommendation is for a new station entrance, ticket hall and escalators to the west of the current station which would supplement the capacity provided by the existing station.

8.33 The strategic modelling work undertaken by SKM has 7000 boarders and 6300 alighters at Vauxhall in the busiest hour in the 2026 reference case. In Revised Scenario 5 , with an increase in the number of buses and a pedestrian bridge over the Thames the numbers would be 7700 boarders and 6800 alighters, which would still need 4 escalators. With the addition of the Northern Line extension to Battersea Power Station and a station at Nine Elms, the modelled passenger numbers are 7000 boarders and 5800 alighters.

8.34 With these numbers, two of the existing escalators would have to be set to run down to the platforms to cater for the boarders. This would leave the capacity available for alighters very close to the forecast level of demand. As these numbers have come from a strategic model, they will be subject to a margin of error which makes this match of the number of alighters and the capacity of a single escalator uncomfortably close. It is also based on the assumption that a station is provided at Nine Elms.

8.35 As the constraint is on the number of alighters, this could pose operational difficulties at Vauxhall. Passengers do not arrive at the station evenly over the busiest hour but in bunches as the trains arrive. The queues for the escalators could extend back through the station and may make it difficult for passengers to alight at Vauxhall. It is simpler to control the number of boarders by closing a station, so with only three escalators the most likely response is to set two escalators in the up direction in order to clear the platforms. This would mean extended periods of station closure in order to limit the number of boarders to the capacity of the single remaining escalator.

8.36 The estimated costs for a scheme to build a further bank of escalators, provided by Halcrow in a study commissioned by Ballymore, are £111m. However London Underground Limited consider that the cost of the scheme could be much higher, up to around £250m, as it would include the need for line closures to address the significant interface with operational infrastructure.

8.37 However, we have been advised by TfL/ LUL that they are concerned that this upgrade to Vauxhall station could lead to additional overcrowding problems on the Victoria Line to the north of Victoria Station. Our review of the transport modelling suggests that the opening of the Northern Line Extension would reduce passenger demand on the Victoria Line, and LUL have advised that they believe that this would be sufficient to avoid the need for the

escalator works, at least in the short to medium term. In any event, TfL advise that such a scheme will not be provided until after 2031, if it is deemed to be required at that stage. We have therefore excluded the costs of this work from this study. Nevertheless, we consider that this merits further consideration, and that it would be prudent to ensure that the necessary land is safeguarded and that the conditions at Vauxhall underground station are continually monitored and reviewed.

Railway platforms will need lengthening, but only a small share of this work is caused by VNEB growth

8.38 The VNEB area is bisected by two major rail corridors, the lines going into Victoria and those into Waterloo. The two sets of lines meet at Clapham Junction, south west of the OA, where many passengers transfer between services. Most services are already crowded in the peak periods before they arrive at the three stations, Battersea Park, (Victoria lines), Queenstown Road (Waterloo lines) and Vauxhall (Waterloo lines).

8.39 Network Rail and the train operating companies have advanced plans to lengthen the platforms at the stations on these lines so that services can have up to 10 carriages, providing an extra two carriages on many services. This work will be funded by the rail industry and is planned to be completed before 2011. Battersea Park is not a mandatory station for platform lengthening and the funding for this is contingent on an underspend at other stations. If the platforms are not lengthened then selective train door opening will be used.

8.40 The OA development will increase the number of people boarding and alighting at the stations in the area. Improvements will be required at all the stations in order to provide an attractive environment for these passengers and to accommodate the flow of passengers in each station. These improvements will also benefit the existing passengers and in Vauxhall particularly, there is a strong argument that many of the changes would be required, even without the OA development plans, as a result of the train lengthening and growth in passenger numbers

Vauxhall station works are planned. Much is funded by Network Rail

8.41 Network Rail are currently proposing core works for Vauxhall Station including.

- Platform extensions, platforms 3&4 will be extended to 10 car by 2011 and platforms 7&8 by 2013.
- Platform Canopy renewals
- Access for All – lift access to all platforms
- Spacia Arch fit out – A new retail unit in the archway to the south of the former Sixt car rental office.

8.42 This is costed at £8m in 2009 prices and would be fully funded by Network Rail.

8.43 There are also well developed plans to reduce station congestion and improve public realm around the station by:

- bringing the arch to the south of the station (former Sixt car rental office) into use as an extension to the existing concourse.

- realigning the stair access into the subway to the LU station from north/south to east/west to link in better with this new circulation space.
- providing a new canopy extending between the station and subway in order to prevent congestion as people waits in the entrance in poor weather.
- building a new retail unit in the archway to the south of the former Sixt car rental office.

8.44 The total cost of this project is £2.7m.

Queenstown Road Station patronage might fall if bus services are improved

8.45 The modelling work forecasts for Revised Scenario 5 suggests an increase in passenger numbers of nearly 1,000 additional borders and 1500 alighters between 7am and 10am in 2026 Revised Scenario 5 compared to the 2026 reference case. The modelling work suggests that the actual number of additional passengers depends on the availability of bus capacity in the area, with additional services reducing the demand at the station.

8.46 The station is within walking distance of the western end of the VNEB and passengers on trains from the south west that call at Queenstown Road may choose to stay on these services rather than change at Clapham Junction for trains running to Battersea Park station. It is recommended that the usage of Queenstown Road station is monitored as the VNEB area develops, in case more work is required at the station. The table of costs currently includes a minimal amount of £0.5m to improve the appearance of the station.

Battersea Park Station will provide access to the western OA

8.47 This station would be used as an access point for the western end of the OA. The extent to which it is used is partially dependent upon the level of additional bus services provided and the construction of the Northern Line extension. The modelling suggests that there could be around 1900 more passengers boarding and 1500 passengers alighting in the morning peak period between 7am and 10am with the Northern Line extension in 2026 Revised Scenario 5 compared to the 2026 reference case. This represents a significant increase on the current patronage level and could cause problems particularly on platform 4 which could prove to be too narrow to accommodate all the waiting passengers. The latest plans for lengthening the platforms at Battersea Park will result in the stairs being moved to the middle of the platforms. The latest Network rail cost estimate for their preferred scheme at the station, provided at a meeting with the Study Team, is £14m.

Clapham Junction interchange costs are excluded

8.48 South Western trains have expressed concern at an increase in the number of passengers interchanging at Clapham Junction as a result of the OA development. No costs for mitigating this have been included in this work. This is partly because no scheme has been designed but mainly because the proportion of all the passengers interchanging at Clapham Junction that are connected with the VNEB OA will be small.

Bus use will rise anyway, but there will be particular impacts resulting from VNEB development

8.49 Buses will be a significant means of transport for people coming into, out of and around the OA. There is already an extensive network of buses coming into the area from the

south and several routes which cross north over the river. It will be necessary to provide more capacity on the existing routes and the opportunity exists to provide new bus routes through the area.

8.50 The need for more bus capacity will arise even without the OA development but the need will be much more acute with the development. The SKM modelling of the 2026 reference case i.e. the world in 2026 without the OA and with only the current level of bus provision showed that the average waiting time for passengers rose as there were more occasions when the bus was already too crowded to stop to pick up more passengers. In the SKM modelling work the proposed bus package was to increase the frequency on all existing routes by 20%, provide three new bus routes and the extension of an existing route into the OA. These service enhancements are designed to accommodate the over 1700 additional bus passengers coming into the OA in the morning peak period (7am – 10am) and over 2500 going outbound. . It is likely that the number and routes of services will be optimised over time to match the new patterns of demand.

8.51 Buses provide an opportunity to provide some relief to the Victoria line if they run north of the Thames. The attractiveness of remaining on the bus, rather than changing onto the underground, depends though on whether buses can maintain an attractive speed on the congested road network, particularly the approaches to the bridge crossings and Vauxhall Bridge Road north of the Thames.

8.52 A re-arrangement of the bus services in the area may require additional bus stands at the western end of the OA. By starting some services empty at Battersea it will be more possible for passengers from the OA to be able to get onto the buses.

8.53 The provision of the high number of additional buses required will be costly although the cost of these additional buses will be partially offset by increased fares revenue. An estimate of the net costs of running the additional bus services provided by TfL is £50m to cover up to 2031 (although we note that the iCube report commissioned by Ballymore suggested that the revenue costs would be significantly lower at £34m). It should be noted that this is a provisional figure and further work is needed on both the number of additional bus miles required and the fares revenue received.

8.54 The higher number of buses on the network may also require work to the bus station at Vauxhall to accommodate them. The extra vehicles may also exacerbate local areas of congestion on the highway network which could require the provision of additional bus priority measures to keep the buses flowing. This is particularly the case with aspirations for a new north-south bus route along Thessaly road where a signalised junction would be needed at the junction with Nine Elms Lane to enable the buses to turn onto the main road. As the buses would run through narrow residential streets further works may be needed to make this route possible.

The VNEB Transport Strategy suggests that walking and cycling should be strongly promoted. They are cheap and efficient methods

8.55 The VNEB transport strategy envisages a step change to the public realm in the VNEB area in order to make walking and cycling a more attractive option.

8.56 The costs used in this study are for Option 2 in the BNCB's work for TfL on public realm improvements for Nine Elms Lane which widens the pavement on the southern side of Nine Elms Lane and in most areas on the northern side. There are also improvements for pedestrians and cyclists at the Vauxhall Gyratory. Other improvements include landscape enhancements such as planting and the provision of street furniture. Legible London type street signs will be provided throughout the VNEB area and the cycle hire scheme extended. There will also be good levels of lighting installed and more pedestrian crossings. The scale of the works will make a real change in the area.

8.57 The increased use of Battersea Park Station will produce a need to widen the footways along the pedestrian route from the station into the VNEB area. The current footways are alongside the road over a bridge and an allowance has been made to improve this route or provide an alternative.

A pedestrian bridge will encourage walking and cycling, and so reduce infrastructure costs elsewhere

8.58 There is an unusually long stretch of the river for central London, of over 1700m without a bridge, between Chelsea Bridge and Vauxhall Bridge. This means that the river creates a real barrier on the north of the VNEB OA. As part of a package of measures to promote sustainable travel and reduce the number of trips made by car and public transport, a bridge across the river would make a significant impact. There would be considerable time savings for pedestrians and cyclists and they would be experiencing a far more pleasant environment than that provided by the current bridges. There is also the opportunity for people to access alternative transport choices north of the river. Given the high marginal cost of providing bus spaces in the peak periods there could be financial benefits to the bus operators from the impact of the provision of such a bridge on the level of demand for buses.

Demand management reduces demand for transport, so saving money

8.59 There is a growing evidence base that it can be more cost effective to influence the level of demand for transport in an area rather than fully increasing the level of capacity of the transport network. In an area such as the VNEB OA there is a need to provide substantial increases in transport capacity but it is recommended to also implement measures to reduce the level of demand for travel by motorised modes. A program of smarter travel measures would include personalised travel plans for residents, work place travel plans and other interventions to encourage car sharing, walking and cycling. The residential car park levels in the OA are set in the transport work at 0.25 parking spaces per dwelling. There are also only 250 employee parking spaces at the commercial development at Battersea Power Station so effective encouragement to use other modes will be needed.

8.60 While it is essential that the future provision of transport capacity and infrastructure is identified early in the VNEB transport assessment it has to be based on realistic demand predictions, derived from demographics, modelling and market experience. What is often underdeveloped is the contribution that demand influencing techniques can have on the level and type of travel demand generated by development. The increasing use of travel planning and "softer measures", often identified as "Smarter Choices" techniques, offers a

proven, cost effective method of maximising access and travel opportunities without increasing traffic impacts.

8.61 In London, Transport for London has supported a number of comprehensive Smarter Travel initiatives, with a particular focus on personalised travel planning across wide areas – such projects have been previously implemented in Sutton and Richmond, for example. For VNEB it is envisaged that similar techniques should be applied, with some funding of projects delivered as part of TfL's Smarter Travel programme and matched by individual development sites contributions. By raising awareness, offering information, encouraging action and influencing travel behaviour, within a community and neighbourhood context, it will be possible to further increase the acceptability and use of sustainable modes.

8.62 For these influencing techniques to work we need to ensure they are properly focused on both the new and existing residents, established workplaces and new businesses coming to the area and encouraging sustainable travel use from an early age in schools. The marketing led approach needs to be coordinated with the provision of transport infrastructure and capacity, whether at a network level or locally, such as the provision of cycle and car club facilities.

8.63 In order to maintain the efficacy of a package of 'smarter choices' measures, the programme will require sustained and energetic action over time in the area, especially if there is a turnover of residents and employees in the area. TfL have made an allowance of £2m to cover two three year 'smarter choices' initiatives in the area. Individual developments are also expected to have their own travel plans for each site. Given the need to manage the additional demand at Vauxhall underground station it is important that sufficient and effective resources are employed to reduce the demand for travel and to encourage a high proportion of local trips to be made by walking and cycling.

Strategic links have been suggested

8.64 There is also an identified need to produce more strategic links across the area and to open up some of the arches under the railway in order to reduce the barriers presented by the railway lines. A network of strategic links has been suggested in a report by BNCB. It includes new links at:

- Western end of Salamanca Road
- Tinworth Street
- Glasshouse Walk
- Miles Street
- access road to New Covent Garden Market site and links across viaducts
- a new pedestrian crossing through the New Covent Garden Market site
- new vehicular links

8.65 The total cost of providing these strategic links is estimated at £17.4m. It is assumed that a substantial element of this work will be delivered by individual developments.

River services could be extended

8.66 The current river services could be extended to serve the VNEB area if new piers were provided. The promoters of Battersea Power Station have been in discussion with operators of river services.

8.67 The table includes £2m to cover the capital cost of providing two new piers in the VNEB area. A pier is planned as part of the Battersea Power Station scheme and St George's, at the eastern end of the OA have put in an application for a new pier at Vauxhall in line with their Section 106 obligations.

Highway works are needed

8.68 There is a need to rationalize the junctions on the main strategic routes such as Nine Elms Lane and the Vauxhall Gyratory and to increase the capacity at junctions in the OA.

8.69 The SKM modelling work was of a strategic nature and is not suitable for detailed junction design work. It is therefore strongly recommended that more detailed highway modelling work is undertaken in order to assess the exact nature of the highway measures required within the OA. Without a clear list of improvements it is difficult to provide certainty on the cost of the required measures. For the purposes of this study it is assumed that the cost of local highway improvements within the OA will be met by individual developers.

8.70 Recent work by BNCB looked at a range of options for Nine Elms Lane, the Albert Embankment and the Vauxhall Gyratory. The preferred option would require works to improve the highway, improve bus priority, and enhance the public realm. At Vauxhall Gyratory, the proposals largely maintain the current form of operation, however, the London Borough of Lambeth would prefer an alternative option which would involve the introduction of full two-way working. TfL are concerned that the proposed two way scheme will result in operational difficulties. If the removal of the gyratory was considered feasible, then it is likely that costs would be substantially more than the £12m included in the table of costs for pedestrian and highways improvements.

8.71 Further discussions and decisions on the preferred solution for the Vauxhall Gyratory will be required on the publication of BNCB, and the tariff proposal for funding should be regarded as indicative at this stage.

8.72 There is also likely to be a need to enhance key junctions in the area surrounding the OA in order to help mitigate the impact of the additional vehicle trips going to/from the OA. An allowance of £5m for the monitoring and evaluation of OA development impacts on nearby junctions has been included in the table of costs.

Stewarts Road Industrial Area link roads

8.73 The Stewarts Road Industrial area lies in the south west of the VNEB area. The aim is to rationalise vehicle movements in the area in order to minimize the adverse effects of traffic. Two new link roads are proposed running from Battersea Park Road to Silverthorne Mix and from Clyston Street to Pensbury Street. A new bus route is also proposed, running north to south and linking Battersea Park Road with Wandsworth Road via Thessaly Road. Wider streetscapes and other public realm improvements have been suggested at Stewart's Road, Wandsworth Road, Portslade Road, Dickens Street,

Silverthorne Road, Queenstown road and on Battersea Park Road to enhance the area for pedestrians and cyclists.

8.74 The costs for these works provided in the URS report are £3.6 million, excluding the slewing of the railway tracks required for one of the new road links, The costs seem low for such an extensive package of measures which includes two new link roads.

How can infrastructure be funded?

Funding for these requirements is shown in Section 17

8.75 Section 17 provides a list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These costs have been set against possible funding sources.

8.76 Please refer to sections 2.35 onwards (with particular reference to 2.48 onwards) for more on our treatment of funding for transport (and other issues).

Only a small amount of mainstream public funding is assumed

8.77 The only available public funding that we can reliably identify to pay for transport infrastructure within the OAPF is the £9.4m from Network Rail for improving train capacity and lengthening platforms at Vauxhall (£8m) and improving passenger circulation (£1.4m).

8.78 This leaves a very large portion of transport costs that must be paid for by other funding sources.

We have examined other methods of funding transport infrastructure

8.79 It was apparent that other methods of raising finance for transport infrastructure were going to be necessary. These methods are discussed below.

We have identified which costs could be funded through a tariff- but we have not specifically allocated tariff funding to transport (or any other theme)

8.80 One of the central principles of this report is that we are not making definitive statements of which of the competing infrastructure requirements (be they education, transport, open space) should be paid for by the tariff money available. This is a decision that should be made by elected members or their officers.

8.81 However, in providing this work it is our responsibility to understand which of the charges *could* sensibly be included in a tariff, and which more properly apply to a site-specific Section 106 agreement. In undertaking this process and identifying “tariffable” projects, though, we are *not* saying that tariff funding should necessarily be applied to a given transport scheme.

We conclude that the role of TIF in funding NLE is still unclear, and more work is needed

8.82 We have therefore dealt with this method of funding in Appendix 4. We conclude that there could be a role for TIF in financing some transport infrastructure, but that possible role, and the scale of that role, is still not clear.

8.83 We believe that it will not be possible for the NLE to be funded in its entirety through this mechanism. The amount that can be raised up front by TIF (in order to help meet the cashflow gap for the Northern Line Extension) will depend upon the willingness of financial markets to securitise the future flow of revenue received from the incremental business rates. However, this will depend upon the markets being confident that the scheme will be delivered on time and to budget - so that the developments which produce the revenue streams to be used to repay the loan will materialise as planned. The private sector may well be reluctant to take this risk at a reasonable price.

8.84 There would remain the potential difficulty of proving that development was genuinely additional to the London economy.

8.85 However, there may be a role for TIF over the longer term, and for a smaller project – perhaps one which has less risk involved. The Coalition has recently announced further work on developing this concept. We believe that it would be beneficial to undertake further investigation into the feasibility of using TIF for the Northern Line Extension, and other infrastructure.

Our analysis shows that there is no role for PFI in the foreseeable short and medium term

8.86 At the current time, the use of PFI for transport projects is not seen as a realistic option, as the relevant public sector bodies e.g. Transport for London (TfL) and the Department of Transport are unlikely to be prepared to make the necessary long term commitment to periodic payments that would be required.

8.87 Even if the public sector had a theoretical willingness to fund PFI schemes, the NLE project would be in difficulties. The SDG Business Case shows that the NLE revenue will not cover the NLE operating costs alone. This means that the NLE will not generate the necessary income to cover the PFI payments – and the PFI payments must cover operating costs plus capital costs and interest costs.

8.88 Even if the project did generate an income stream that would fund the PFI scheme, the public sector would also have to absorb a significant degree of patronage risk. This is common to all transport projects, which are particularly prey to patronage risk. The public sector is not willing to absorb this risk.

Provision through masterplans and site specific S106/S278 contributions and could play a significant role

8.89 As the summary table shows, the stakeholder and client group expects significant amounts of provision to result from individual masterplans and through S106/S278 agreements on a site by site basis.

8.90 Our approach here is as described in paragraph 2.48 onwards.

What are the priorities?

8.91 Our prioritisation exercise seeks to indicate how important a piece of infrastructure is to the overall successful delivery of growth at the OA. This exercise does not seek to sequence schemes in time order.

8.92 We have prioritised these schemes as shown in our summary table in Section 17.

8.93 We expect that partners may wish to adjust these priorities after this report is closed.

When is infrastructure required?

8.94 The infrastructure requirements set out in the summary table are those needed to support the completed development in the OA of Revised Scenario 5. The timing of these requirements depends upon the speed of development and which sites come forward first. For example, early delivery of the Northern Line extension is needed before most of the development at the Battersea Power Station site can be built.

8.95 As a general principle though it is recommended that those measures which support non-motorised modes of travel, such as the pedestrian bridge, Legible London, cycle lanes and cycle hire, public realm improvements and smarter choices measures are provided first. This will encourage the early adoption of more sustainable travel modes and assist in easing people's journeys while the construction works associated with the highways schemes and the extension of the Northern Line take place. These will inevitably cause temporary increases in congestion and travel times by car and on buses.

8.96 The bus network can be increased in line with development. Highway works in the VNEB area will be needed as particular developments come forward. The impact of the increased traffic in the surrounding area will need to be monitored so that mitigation measures can be put in place when required.

Issues, dependencies and barriers to growth

8.97 There are a number of issues arising from this element of the work.

- We have been working in this study with the SKM transport model for the area which was developed at a strategic level to inform the OAPF process. However there are a number of technical issues such as the misunderstanding over the use of gross/net jobs in the modelling and an imbalance in the demand and supply of buses which needs to be addressed as the modelling is refined. A lack of detailed highway modelling work outside the OAPF area means that the output from this strategic model can not be used to give precise requirements for particular elements of the transport infrastructure in the area. It is recommended that further modelling work is carried out as work progresses to a more detailed level.
- Only the end state of the VNEB area has been modelled to date, so no details are available of demand at particular points in time during the delivery of Revised Scenario 5. Although these issues reduce the certainty with which the transport model numbers can be used to ascertain exactly what transport provision will be required, the transport measures proposed appear to be appropriate in nature, and allow a preliminary list of transport infrastructure proposals to be prepared and costed. Whilst this provides a strong indication of the likely final requirements for the area, it is recommended that further consideration of when particular measures will need to be delivered should be addressed in any further modelling work undertaken for the area.

- Partners may wish to commission transport modelling work that will allow a better guide to the proportion of total infrastructure costs that are ascribable to VNEB development.
- Further work is recommended to assess the extent of the revenue, operating and maintenance costs of the NLE. In particular, we do not know if there is a point in the future at which the operating costs can be covered by the revenue. This contributes to the risks that inevitably surround the provision of the Transport and Works Act Order for the Northern Line Extension.

9 EDUCATION

Introduction

9.1 In this section, we address the education needs of planned growth in the VNEB OA. Education in the OA is provided by the education authorities of the London Boroughs of Wandsworth and Lambeth.

Method

Our remit

9.2 Under the broad area of education, we address the following:

- Early Years and Childcare
- Primary education
- Secondary education

9.3 Early Years and Childcare incorporates public provision in the form of pre-schools, nursery schools and children's centres, as well as private provision, typically childminders and private nurseries. Only public provision should be included in any contribution from development.

9.4 Further education providers were questioned around their needs but felt that existing provision could cope with growth. We therefore have not pursued this area further in the report.

We exclude major revenue costs from the tariff. But they are significant and must still be addressed

9.5 We are focusing with capital costs in this section. We do not expect development to fund ongoing revenue items such as salaries. This is because we are seeking to put forward a tariff which can be converted into a CIL as simply as possible. It is generally accepted that the CIL is not intended to funding ongoing revenue costs such as salaries (although the CIL Regulations do not explicitly exclude this approach). As such, it is prudent to include as many of the same items in the tariff as would be included in a CIL charge.

9.6 Historically, developers have been successfully asked to contribute to buildings maintenance. But given competing demands on development in the VNEB OA, we have not included these in this study.

These requirements have been listed in Section 17

9.7 Section 17 provides a costed list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These costs have been set against possible funding sources.

Context

Child yields analysis is a key determinant

9.8 The key determinant of education needs is the child yield analysis undertaken by the two boroughs. In particular, this drives the demand for local primary school places because of the typically small catchment areas of primary schools. It is also a strong lead on the need for secondary school places although children aged 11-16 typically have greater cross-borough movements and a greater proportion of children in private education (which is not included in the assessment).Wandsworth and Lambeth use different child yield analysis methods

9.9 In order to assess the levels of need for education, it is important to firstly understand the projected numbers of children that will be living in the borough over the plan period. These child yields can be calculated a number of ways and LB Wandsworth and LB Lambeth adopt differing approaches.

9.10 LBW uses survey data from recent developments in the borough to understand the age profile of the new residents. This survey data was collected over the period 1997-2004 and then updated from the same developments in 2007 in order to understand how the population profile changes over time. LBL uses GLA projections (from the Data Management and Group Briefing) and data on household sizes (from the London Household Survey) to assess expected child yields.

9.11 The child yield analysis was undertaken for 16,000 dwellings at the two levels of affordable housing being tested, i.e. 15% and 40%. Affordable housing levels are important as this is one of the factors that impacts on the overall yields. Housing schemes with planning permission were then excluded and the yields calculated on the remaining dwelling requirement. The results are shown in Table 12.1 below.

9.12 The two methods used by LBW and LBL do produce differing rates of child yield. However, an assessment of the effect of adopting the LBW approach across the whole VNEB area (LBW has a lower rate of child yield) shows that the difference is minimal in terms of infrastructure need – between 80 and 98 primary school aged children over the lifetime of the development.

We have used each borough's child yield method for each borough's portion of the OA

9.13 Whilst ideally a consistent approach would be adopted across the whole area, this would require one of the two boroughs to depart from their existing method of calculating yields. This would create inconsistencies when undertaking analysis on a borough-wide scale. It is therefore considered that the most pragmatic approach is for each borough to use their own child yield calculations for their parts of the OA.

Table 9.1 Assessment of child yields across VNEB

		Wandsworth part of VNEB	Lambeth part of VNEB	VNEB Area
15% affordable housing	Total population	24,269	2,916	**27,185**
	Early Years & Childcare yield	1,700	143	**1,843**
	Primary school yield (5-10)	680	162	**842**
	Secondary school yield (11-15)	502	119	**621**
	Total child yield	**2,881**	**424**	**3,305**
40% affordable housing	Total population	25,512	2,990	**28,502**
	Early Years & Childcare yield	2,348	186	**2,534**
	Primary school yield (5-10)	1,129	230	**1,359**
	Secondary school yield (11-15)	1,057	179	**1,236**
	Total child yield	**4,534**	**595**	**5,129**

Source: LBW for Wandsworth figures and LBL for Lambeth figures

9.14 With 15% affordable housing, the expected yield created by the 16,000 dwellings envisaged in VNEB (excluding commitments) is just over 3,300 children. At 40% affordable housing, this increases to over 5,100 children.

9.15 The two methods used by LBW and LBL do produce differing rates of child yield. However, an assessment of the effect of adopting the LBW approach across the whole VNEB area (LBW has a lower rate of child yield) shows that the difference is minimal in terms of infrastructure need – between 80 and 98 primary school aged children over the lifetime of the development. It is therefore considered reasonable for each borough to use their own child yield calculations.

9.16 For the purpose of deriving a single figure for education provision, the assessment has been not been based on assessing a definitive need under each affordable housing scenario, i.e. 15% and 40% affordable housing. What the analysis does is seeks to assess a reasonable likely level of need somewhere between these 'bookends'.

Primary education: what are the infrastructure requirements arising from development? What are the costs?

Primary education infrastructure requirements

In total across the VNEB area, six forms of primary school entry are required to support the growth

9.17 In total across the VNEB area, six forms of primary school entry are required to support the growth. If only BPS was delivered, then this would reduce to two forms of entry. If everything apart from BPS was delivered, then four forms of entry would be required.

Wandsworth needs a new four-form entry primary school. This could start small, and expand

9.18 LBW Education Department's policy is to maintain a level of 5-10% surplus spaces across each of its planning areas. Their latest school roll projections show a current surplus of nearly 20%. However, this is forecast to reduce steadily and by 2015/16 to have a surplus of less than 4%. This would therefore be below the level of acceptability. Moreover, these figures do not take account of any new growth such as that planned in the OA.

9.19 LBW has therefore considered that provision of four forms of entry at primary school level is required to address the need for the 680-1,129 primary school children envisaged by the child yields in LB Wandsworth over the lifetime of the development. If only BPS was delivered, then two forms of entry would be delivered. Likewise, if everything apart from BPS was delivered, the two forms of entry would still be required.

9.20 The Wandsworth Education Department has also determined that there is no spare provision in existing schools serving the area. One option could be to expand the size of existing schools. However, many of these are single storey schools on small plots. To increase them to two-storey buildings in order to create the required additional space would put unacceptable levels of pressure on the available play space.

9.21 Therefore, it has been determined that the most appropriate approach to address these needs would be through a new primary school. Not all of these forms of entry would be needed when the school first opened. It would be possible to construct a two-form entry school and then expand it once the levels of demand required the additional two forms of entry. This would also provide flexibility if lower levels of affordable housing are achieved, so creating lower child yields.

9.22 This provision would require a total site area of just over 1.7ha (17,300m²). This would include the primary school, a large hall, outdoor sports/play provision in the form of a synthetic pitch and changing rooms (with the hall, pitch and changing rooms capable of being used by the general public outside of school hours – this is addressed later in the appropriate sections). It would also have a childrens' centre and a community centre for general use.

9.23 Whilst a precise location has yet to be determined and agreed, it is envisaged by LBW to be broadly located on the southern side of the Linear Park. This would enable the school to extend into the Linear Park and have easy access to the open space. It would also

ensure easy access to the out-of-school hours facilities proposed to be available to the general public.

Lambeth needs a two-form entry primary school

9.24 LBL Children and Young People's Service (CYPS) has considered that one or two forms of primary school entry are required to address the need for the 162-230 primary school children envisaged by the child yields in LB Lambeth. When allowing some 'slack' for additional places required throughout the school year, the overall assessed need is two forms. These two forms would not be needed if only BPS was delivered.

9.25 For the purposes of assigning needs to a tariff, it is assumed that 70% of a two-form entry school will be needed to support growth within the Lambeth part of the OA. The remaining 30% will support needs arising outside the OA.

9.26 Clearly it is not possible to be definitive as to whether development outside the OA will contribute sufficient monies to make up this 30% funding proportion. Also, it is clearly not possible to only deliver 70% of a school. As such, LB Lambeth CYPS has stated that it considers the tariff should pay for the full 100% of the costs. A final decision on how the tariff can be used to meet these costs will be needed at a later stage.

9.27 There are two Lambeth schools within the catchment of the OA, namely Herbert Morrison, a community school, and Wyvil, a foundation school. Both are currently full at reception age, so will be full in the early primary school years. There are a few vacancies at Herbert Morrison in later years but this is a trend across Lambeth and this fall off in years 4-6 is reducing dramatically. There is potential based on site capacity to expand Herbert Morrison from one to two forms of entry but this would require complete demolition and rebuild. Given the lack of available funding for such a project, it would be more efficient to build a new primary school facility. Furthermore, it is far more efficient to build a two-form entry school as this allows some slack to accommodate additional growth.

9.28 A new school would be built in a single phase, i.e. both forms of entry together. This provision would require a total site area of 0.6ha (6,000m²). This would include the primary school, a large hall (which would be capable of being used by the general public outside of school hours – this is addressed later in the appropriate section) and outdoor play provision. It would also be co-located with a community centre which would incorporate childcare, youth services, adult learning and an employment skills zone. Again, this is addressed later in the appropriate section.

9.29 A location for the school has yet to be determined. Clearly though, this would be within the LB Lambeth area.

Primary education capital infrastructure costs

9.30 The cost of providing capital build school facilities is calculated on a school place (i.e. per pupil) basis. For the OA the figure has been assessed as £19,048 per place. This is based on the recent delivery of a school in LB Lambeth and includes the cost of providing the

basic facilities expected in a school. Therefore, all additional items discussed earlier would be an extra cost. In total, for the 4-form entry school and associated facilities, this would cost £18.0m. This is broken down as follows[19]:

- 'Basic' school building for 840 pupils, i.e. 4 FE = £16m (source: recent LBL development)
- Larger sports hall = £343,000 (based on Sport England Kitbag prices, Q1 2010 – assume 50% of cost of new sports hall to reflect increased size from standard 200m² school hall to 800m² sports hall large enough to house a 4 badminton courts)
- One synthetic sports pitch/play areas = £585,000 (based on Sport England Kitbag prices, Q1 2010)
- Changing rooms = £300,000 (based on Sport England Kitbag prices, Q1 2010 – assume only a 2-team changing facility)
- Childrens' centre = £750,000 (based on experience elsewhere and using a lower cost to reflect the efficiencies in making part of an existing building).

9.31 For the 2-form entry school and associated facilities, this would cost £8.3m. This is broken down as follows:

- Basic school building for 420 pupils, i.e. 2 FE = £8m (source: recent LBL development)
- Larger sports hall = £343,000 (based on Sport England Kitbag prices, Q1 2010 – assume 50% of cost of new sports hall to reflect increased size from standard 200m² school hall to 800m² sports hall large enough to house 4 badminton courts)

9.32 This creates a total capital cost for primary education provision of £26.3m across the OA.

Primary education: how can infrastructure be funded?

There is no mainstream public funding available. Developer funding is sought

9.33 There is no mainstream public funding available for this development. Basic Needs Funding (BNF) is being used for expansion of existing schools elsewhere in the borough. However, this only lasts until March 2011 and the position after that is highly uncertain. It is important to note that BNF is specifically aimed at providing the additional spaces needed to cope with any growth in population across a local education authority. As such, whilst the restrictions on public sector funding are so significant at the moment that there is no funding available, this is unlikely to be the case for anything other than the short term. When public sector funding becomes available, BNF will be one of the earliest recipients. So whilst a zero figure has been included in the study, it will be important to review this situation and reflect it in any review of the tariff at the earliest possible opportunity.

9.34 Therefore, it is assumed that the cost of constructing the facilities will be entirely funded by the developers. The cost of the land will need to be reflected as an in-kind benefit.

19 The cost of the community centre is addressed separately in the relevant section

9.35 For the two-form entry in LB Lambeth, it has been assessed that only 70% of the need for this is related to growth arising in the OA. As such, only 70% of the cost is assigned to the tariff. This creates a difficulty if funding for the remaining 30% is not forthcoming from developments outside the OA that should be contributing. It may be necessary for the tariff to contribute towards the full cost of the school and recoup the cost over time from other developments outside the OA, or from mainstream public funding on the basis that there will be increasing levels of public funding available over the longer term.

9.36 It will also be important to monitor the needs arising from growth in the OA over time. If greater demands are placed upon the two-form entry school in LB Lambeth then a greater proportion of the costs should be assigned to the tariff. Issues such as cross-border movements of pupils will impact upon this. Primary education: when is infrastructure required?

Schools would be needed early in the phasing

9.37 Both schools would be needed early in the phasing of the development. This reflects a number of issues:

- The expected high early outputs of residential development
- The shortage of spaces in existing schools within the catchment area of the OA
- The importance of providing the other facilities that to address other needs, specifically the sports halls, the outdoor sports/play facilities and the childrens' centre.

9.38 As stated earlier, the 4-form entry school is expected to be developed in two, equal phases, with the second phase only being delivered when the existing places are moving towards being filled. This will need monitoring to assess when it is needed, but it is likely to be required by around 2021/22.

Early Years and Childcare: what are the infrastructure requirements arising from development? What are the costs?

Early Years and Childcare: infrastructure requirements

There is a need for two forms of entry for pre-school in Wandsworth

9.39 LBW Education Department has determined that there is a need for two forms of entry for Early Years (i.e. pre-school) provision. This is based on the child yield analysis and on the expectation that significant numbers of children will not go to pre-school, will go privately or will go outside the borough.

9.40 This level of provision would be included in the proposed primary school and would reduce to just one form of entry if BPS was not delivered (it would also be one form of entry if only BPS was delivered).

There is a need for one to two forms of entry for pre-school in Lambeth

9.41 LBL has also determined that there is a need for one to two forms of entry for Early Years provision. This would be expected to be provided within the proposed two form entry primary school and one form of entry would be needed even if BPS was not delivered.

9.42 Although this is not explicitly backed up by the child yield figures, the local authority is responsible for ensuring that there is a mix of provision to suit all parent and carer need. In this way, allowing for public provision through schools, as well as for private nursery provision in the wider development (who would rent and pay for their own space for nursery provision) a good mix of childcare will be provided. It also means that if the need for reception places is found further along this process, a new build or additional build is not required. It is anticipated that the school could make use of the additional space for educational provision should it not be filled.

9.43 It is expected that some of the Early Years and Childcare needs will be met by private provision, as currently there is a wealth of this in the north of Lambeth borough. However it is difficult to predict whether the market will continue to sustain this level of private provision, which is very market driven, over the course of the intervening period between now and the establishment of the development. With this in mind, it is important that the facility for reception provision as part of the school is allowed for. It is important that the wider development provides facilities that can be used for a variety of types of childcare as part of the mix of uses proposed. Some of this will be privately rented by private nursery providers, some will be made available for smaller, voluntary sector providers in the community centre proposed for the LB Lambeth part of the development (see later in this section), and the remainder will be through the reception provision in the primary school and other existing provision (e.g. children's centres).

Early Years and Childcare: infrastructure costs

9.44 The cost of the Early Years provision attached to the 4-form entry primary school in the LB Wandsworth part of the OA would be £600,000. This is based on the cost of providing primary school places, with a discount applied to reflect the lower costs of pre-school provision.

9.45 For provision attached to the 2-form entry school in the LB Lambeth part of the OA, the cost would also be £600,000.

Early Years and Childcare: how can infrastructure be funded?

Developer funding is sought

9.46 There is no mainstream public funding available for this development. Therefore, it is assumed that the cost of constructing the facilities will be entirely funded by the developers. The cost of the land will need to be reflected as an in-kind benefit.

Early Years and Childcare: when is infrastructure required?

9.47 Clearly to be part of the primary schools, the phasing would have to be as per those facilities, i.e. to support the first phase of development.

Secondary education: what are the infrastructure requirements arising from development? What are the costs?

Secondary education: infrastructure requirements

There is no need identified for new secondary schools in the OA. Existing schools can accommodate needs or be expanded if necessary

9.48 Across the VNEB area there is no need identified for new secondary school provision. However, contributions are expected in certain cases.

9.49 In LBW, it has been assessed that the existing schools are capable of supporting the additional 502-1,057 children of secondary school age, as determined in the child yield analysis. This is based on the available capacity in existing schools in LB Wandsworth as well as the fact that a proportion of children will go to schools outside the borough and a further number will be privately educated. The latter assumes to account for 25% of these needs. However, given the still considerable additional numbers of pupils that the development will create, it is expected that contributions towards secondary school provision are sought.

9.50 Whilst some children will go to schools outside the borough, it is necessarily prudent to plan for their provision, particularly as the likely level is not known. Based on guidance from LB Wandsworth, the low point of the range is taken (502 pupils) and an allowance then made for 25% being privately educated. This creates a total need for 377 places.

9.51 In LBL there is a total need, based on the child yields, for 179 additional school places at 40% affordable housing and 119 places at 15% affordable housing. Adopting a midpoint gives a total need for 149 places. All the schools in the northern half of the borough are mostly full and clearly this scale of need is insufficient to merit a new school facility being developed (commonly at least 800 places in size). Therefore it is assumed that these places would be accommodated through the expansion of existing schools.

Secondary education: infrastructure costs

9.52 Evidence from Building Schools for the Future (BSF) Phase 1 is that the expansion of schools costs £25,728 per pupil. This includes fees at 15% of the build cost but excludes ICT or site acquisition costs.

9.53 Therefore the cost of this provision would be £9.7m for LBW secondary school needs and £3.8m for LBL secondary school needs. In total, this is £13.5m.

Secondary education: how can infrastructure be funded?

BSF is no longer available. Developer funding is sought

9.54 Normally, the expansion of schools would be paid for through the Building Schools for the Future (BSF) programme. However, with the recent announcement of no more Government funding towards this, the immediate future of mainstream funding for such activities is nil. Therefore it is assumed that all the cost of this provision will be sought from the developers.

Secondary education: when is infrastructure required?

9.55 It is likely that this provision is going to be needed to accommodate the earlier phases of development. However, LBL consider that it is difficult to see at this stage which schools in the northern part of the borough could expand further. As such, further work will be required to identify this. This work is vital because, under a tariff approach, any contributions will need to be related to specific school expansion schemes.

What are the priorities?

9.56 We have ranked this infrastructure as essential on our priority list.

9.57 We anticipate that these priorities may be changed in discussions which follow our work.

Issues, dependencies and barriers to growth

Although revenue costs have been excluded from the tariff, revenue costs that will need to be addressed in order to ensure that the necessary provision for education is made

9.58 There are revenue start-up costs, as with establishment of any new provision, through the need to have in place a leadership team and teaching and support staff, prior to the opening of the school. Because the new school or schools which permanently expand will be establishing new year groups each year for seven years until the school is fully established, the start-up funding requirement will continue to exist for many years after the school takes in its first cohort of pupils, to fund classroom teaching staff and learning resources. Funding for this is not provided by the DCSF until the following financial year when the new pupils have been counted in the January school census.

A summary table

9.59 Section 17 provides a list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These requirements have been costed, and have been set against possible funding sources. The table and also show priorities and lead organisations.

10 HEALTHCARE

Introduction

10.1 This section looks at the healthcare infrastructure impact of planned growth at the VNEB Opportunity Area.

10.2 Primary health care services across the OA are commissioned by the Primary Care Trusts (PCTs) for the area, namely Wandsworth PCT and Lambeth PCT.

10.3 Accident & Emergency and Acute services for the study area are provided by St Thomas' Hospital, which is run by the Guys and St Thomas' NHS Foundation.

10.4 Section 17 provides a costed list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These costs have been set against possible funding sources.

Method

Our remit

10.5 Of the wide range of services health covers, we have focused on primary health care, acute – hospital – care, community care and mental health services.

10.6 The following areas are outside our study.

- Pharmacies and Optometrists. Whilst part of primary healthcare, PCTs do not financially support the initial provision or ongoing costs of pharmaceutical and optometric premises[20]. This is a private sector function, and so is excluded from our study. However, the PCT does have a role in advising on the optimal location of pharmacy and optometric services to ensure access and patient choice as determined by the national regulations. It should be noted that there will almost certainly be a need for new or larger premises for some of these services - there is already a gap in NHS dentistry between Vauxhall and Waterloo.
- Dental Premises. Dentists' premises are provided entirely by the private sector with no PCT involvement in provision or running costs. These costs are therefore excluded from our study. PCTs do contract with dentists to provide a specific number of treatments. For this they receive an income. If the population of an area rises a PCT would need to commission more treatments, but this is unlikely to impact on provision of premises.

Context

10.7 Our assessment needs to try to separate out a number of complex and overlapping issues. The provision of premises is broadly determined by:

20 However, the PCTs have provided capital grants for compliance works and space for confidential consultations in pharmacies

- Changes in demand – population changes and growth, and expanded patient choice and public expectations
- Changes in services – new models of care, and new clinical pathways. The size of primary healthcare facilities will need to expand significantly to expand to form 'multi-functional health centres' to accommodate increased services and facilities and facilities devolved from general hospitals. The provision of GPs surgeries from converted private housing stock is no longer seen as adequate.
- Statutory requirements – including the Disability Discrimination Act, and Health and Safety.

10.8 Clearly, all of these dimensions are important, but it is that portion of the first which concerns population growth which fundamentally concerns this report. In particular, it is important to clearly distinguish between the current reconfiguration of health service delivery (in larger, more fit-for-purpose health centres) and the expansion in demand which results from new housing development.

10.9 However, it is the case that the health services can use all of the above drivers to help them reconfigure the way that services are delivered in order to respond to changing population sizes, distributions and profiles.

What are the infrastructure requirements arising from development? What are the costs?

Infrastructure requirements

The requirements listed here arise from the HUDU model

10.10 In order to inform their preliminary response to the needs assessment, the PCTs asked the Healthy Urban Development Unit (HUDU) to run their planning contributions model which calculates the financial requirements for health resulting from the proposed housing development in the OA. This includes primary care, acute and mental health costs. Clearly these costs reflect the outputs of the model and are not explicitly supported by a list of capital projects or revenue items. It will be important for the PCTs, as part of the Health Impact Assessment analysis, to identify in detail the capital and revenue items that these sums relate to.

10.11 We have been instructed to use the HUDU model requirements and costs numbers by the PCTs. We therefore have simply reported these numbers. It is outside the remit of this study to separately audit the HUDU calculations.

10.12 The PCTs have both indicated likely capital requirements as a result of growth. However, as already indicated, these represent a preliminary response and further work is needed before a definitive response is provided.

NHS Wandsworth requirements include space for 9-10 GPs

10.13 In order to provide a response within the timescale, it has been necessary for NHS Wandsworth to make some broad assumptions. One of these was regarding the net additional population which was assumed to be 28,000 as opposed to the final agreed

population forecast of between 24,300 and 25,500. However, the additional needs created by this slight over-estimate of population is likely to be filled by the additional health requirements created by people employed in the OA (which have not been accounted for but were noted by the PCT), so is considered to be acceptable.

10.14 Analysis of the nearest GP surgeries to the OA in Wandsworth demonstrates that there is no physical capacity to deal with the additional demand from development in the OA.

10.15 The number of new premises has not been considered as their location will need to be a best fit with the transport infrastructure and proximity to other services, but GP services would need to be provided to both the north and south of the railway line. However, NHS Wandsworth estimated that there is a potential need for an additional 9-10 GPs, requiring 1,770m² of space. This is coupled with a further 1,567m² for wider primary care provision, creating a total area required of 3,337m². To maximise the efficiency of land use, it is assumed that this space is provided in a three-storey building.

NHS Lambeth requirements include space for 6 - 7 GPs

10.16 Within the OA is the Riverside Medical Centre, located at St George's Wharf, Vauxhall. It is a rapidly growing practice and the GPs in the medical centre report that that there will be no spare capacity within the centre once residential development in OA is occupied and that other factors such as removal of GP Practice registration boundaries and the Care Closer to Home agenda will use up any spare capacity in the interim.

10.17 NHS Lambeth's initial view therefore is that in order to meet the future demand from development in OA for primary and community healthcare services, a new health facility would be required in Lambeth, which could accommodate 6 – 7 GPs. This estimate is based on a similar scheme in Streatham which serves around 10,000 patients and provides space for GPs, community health services and other primary care providers such as dentistry and pharmacy. NHS Lambeth estimates a requirement for 1,200m². To maximise the efficiency of land use, it is assumed that this space is provided in a three-storey building.

The client group considers the HUDU assessment of capital needs to be an overestimate. A lower figure of 11 GPs across the OA is therefore assumed

10.18 In response to the HUDU needs assessment, the client group advised that they considered the requirement for up to 16 GPs arising from the HUDU model to be an overestimate. The limitations of the HUDU model are such that they have to be based on the current profile of residents in the two boroughs. The new development as proposed is felt by the client group to have a different profile with lower proportions of elderly and young people. This has the effect of creating lower demands on GP and other primary healthcare services.

10.19 The client group considered that a total requirement for 11 GPs across the OA would be more reflective of the likely profile. This would create an associated reduction in need for space. Adopting a pro rata approach, the current requirement for 16 GPs of 4,537m² of floorspace reduces to 3,124m² for 11 GPs. Assuming that development will be in three-

storey developments and allowing 40% of the total land take to permit for car parking and other typical allowances, gives a total land take of 0.17ha.

Infrastructure Costs

The HUDU model generates a cost for both capital and revenue. Revenue costs are significant

10.20 As stated earlier, the HUDU model assessment has derived a financial requirement for health resulting from the proposed housing development in the OA. This totals £20.8m for capital needs and £112.1m for revenue items. The revenue figure reflects the total cost of providing services for the lag in time between the arrival of the new population and their inclusion in subsequent PCT revenue allocations – this is assumed to be five years.

10.21 This is broken down as shown in the table below:

Table 10.1 HUDU model outputs for OA

Lambeth	
Total Capital Planning Contribution	£5,641,580
Total Revenue Planning Contribution	£28,678,562
Combined Financial Requirement	£34,320,142
Total Number of Housing Units	3,500
Capital Planning Contribution Per Unit	£1,612
Revenue Contribution Per Unit	£8,194
Combined Contribution Per Unit	£9,806
Wandsworth	
Total Capital Planning Contribution	£15,143,227
Total Revenue Planning Contribution	£83,435,694
Combined Financial Requirement	£98,578,920
Total Number of Housing Units	12,500
Capital Planning Contribution Per Unit	£1,211
Revenue Contribution Per Unit	£6,675
Combined Contribution Per Unit	£7,886
Combined	
Total Capital Planning Contribution	£20,784,807
Total Revenue Planning Contribution	£112,114,256
Combined Financial Requirement	£132,899,062
Total Number of Housing Units	16,000

Source: HUDU and PCTs

10.22 In order to assist in providing an understanding of what such capital monies are likely to be used for, the PCTs have provided an estimate for a development in Wandsworth and an example of a likely equivalent scheme in Streatham.

10.23 For the NHS Wandsworth requirement for a new capital facility, the total cost estimate is £12.2m. This is based on an estimated cost of £3,665 per m² which excludes the cost of

land but includes the cost of the new build, equipment and fees. There is also the need to allow a further sum of £200,000 for diagnostic equipment at one facility. This would therefore require a capital requirement in the region of £12.4m.

10.24 For the NHS Lambeth requirement, the total cost estimate of the health facility is £3.8m. This is again based on the Streatham development and represents an estimate cost of £3,133 per m².

10.25 The total cost of these identified health requirements therefore is £16.2m. The total capital figure shown in the table above is higher than this, reflecting other related capital needs. However, it will be important (through the further work that the PCTs would wish to undertake) to tie a final capital figure to the cost of the capital needs. There may be other solutions to meeting the service requirements for the OA, looking across Lambeth and Wandsworth. Further discussions will be needed with the respective councils' planning departments and with individual developers in order to obtain the level of information required to know the exact implications this development will have on the health service.

10.26 The land for these facilities is assumed to be provided as an in-kind benefit.

10.27 For the purposes of the study, the higher capital figure of £20.8m is used.

We are excluding revenue costs. Revenue costs are significant but will not be funded through the tariff

10.28 The revenue cost figure of £112.1m is excluded. This is because significant revenue payments are implicitly excluded from a CIL charge in the current (April 2010) CIL regulations.

10.29 It is unclear if Coalition Government alterations to CIL policy will change this or how revenue issues are to be dealt with.

How can infrastructure be funded?

The preferred approach is for the new facilities to be provided by a third party provider

10.30 The two key issues in the provision of healthcare within this context are:

- sites being made available for health service provision within a new development; and
- the cost of developing modern healthcare facilities on these sites.

10.31 Both must be reflected in the approach to development and any developer contributions.

10.32 Funding for health services is provided to PCTs on per capita basis. However, PCTs do not receive a specific budget for new premises *developments* as such. Funding for new facilities has to be within the confines of this budget. In practice, this mechanism creates a problem for the PCT, whose budgets are extremely tight. Firstly, facilities will need to be built in advance of the full realisation of the population increase, and secondly, as identified above, there will be a subsequent time lag before Health Service revenue funding catches up with the population growth.

10.33 Capital funding is based on spending plans submitted to the strategic health authority and the availability of national resources. This funding is not automatic and resources are likely to be extremely limited in future.

10.34 In respect of the funding and development of new facilities, there are a number of options:

- The developer could provide a shell at a peppercorn rent for conversion into a new healthcare facility, possibly with funding to fit the shell out agreed as part of the tariff or S106 agreement. This model has been used in LB Tower Hamlets.
- The developer could provide fully fitted out premises, built to NHS design standards and leased to the `Health Service' (this could be the PCT, GP practice, Community/Acute Trust). This approach has been agreed in principle in the Clapham Park regeneration scheme in LB Lambeth.
- A site could be provided (at nominal cost) and then developed either by the NHS, or more likely through a third party developer brought in by the NHS, which could include a LIFT (Local Improvement Finance Trust) partner.

10.35 In addition, there may be other permutations which can be developed in discussions with developers. Given the lack of capital funding likely to be available to provide such facilities, the preference of the PCTs is generally for a third party to provide the capital to develop new facilities, with the NHS/PCT funding the rental (revenue) implications.

10.36 It should be noted that PCT capital and revenue funding is cash limited, so it is vital that additional funding is provided through alternative means. One such way is through the tariff or S106 discussions in residential developments that increase the population.

10.37 For the purposes of the tariff, an assumption has to be made on the most appropriate way that the capital facilities will be provided. Based on models used elsewhere in London, it is therefore assumed that the developer – or a suitable partner – will provide a fully serviced facility and will then lease this to either the PCT or the GPs (who would then claim the rental costs back from the PCT). Therefore, this effectively becomes cost-neutral but for the purposes of the tariff, the costs and funding are reflected. It is noted that PCT/NHS resources for revenue funding are limited and so there may be issues, depending on the phasing of facilities (and therefore the phasing of payments), for covering the lease costs. It will be important that the further modelling work identifies the precise requirements and costs in order that the PCTs can properly plan for this in future spending plans.

10.38 It is recommended that, whichever approach is adopted, the requirement for a new health centre is secured by way of planning condition. Circular 05/05 (Planning Contributions) states that, where possible, it is preferable to use a condition rather than a planning obligation.

When is infrastructure required?

There is a need to ensure that the provision of facilities is not 'front-ended'

10.39 Neither of the PCTs is able to project population growth or forecast the timing or phasing of development. There is the need to ensure timing of the development of the facilities is not 'front ended' as the costs of the schemes would create revenue implications all the

time they are not fully utilised. A financial model should be created to calculate the optimum time to take on new premises, and a transition plan as to how services will be delivered in the interim.

10.40 However, a new surgery will most efficiently be constructed in a single phase and it will be wholly inefficient if the space is not filled as early as possible. It is therefore likely that the first new facility will not be required straight away, but still relatively early on in the development.

10.41 A rough rule of thumb used by PCTs across the country is that there should be one GP, together with supporting staff, for every 1,800 people. Applying this to development at the OA would mean that the first GP surgery (assuming approximately 6 GPs) would be needed around 2018 and the second GP surgery (assuming 5 GPs) around 2024.

What are the priorities?

10.42 We have ranked this infrastructure as essential on our priority list.

10.43 We anticipate that these priorities may be changed in discussions which follow our work.

Issues, dependencies and barriers to growth

Further analysis is required by the PCTs

10.44 The PCTs consider that further analysis is required to more fully assess the impact on healthcare services, including the following factors:

- The proportion of social housing and the mix of housing types and sizes, particularly family housing in the OA.
- The ability of people to register at GPs near their place of work, increasing demand in this area with staff of new office and retail.
- Proposals for the new primary schools will have implications for the school nursing service.
- The new population will create increased demand for emergency care, a large percentage of which could be provided for in a locally based urgent care centre within the development, if there is not to be substantial additional pressure on St Thomas' hospital.
- The expected child yield will have implications for midwifery, health visiting and child health services.

10.45 There is an integrated sexual health service at Vauxhall Riverside that is already working to capacity with limited space for expansion. The proposed developments would increase the use of this drop in service.

10.46 As part of their response, NHS Lambeth consulted the Guys and St Thomas' NHS Foundation Trust and their initial view is that the there is likely to be an impact on acute hospital services, although the exact nature of that will be dependent on the age profile of the new incoming population. In particular, there will be an increased demand for emergency care, a large percentage of which could be provided for in a locally based urgent care centre within the development. There will also be an impact on maternity

services and children's community services. The development of the OA offers an opportunity to plan for and provide community based health facilities that are co-located with other public services.

10.47 Within the timescales of the study, the PCTs have been able to form a joint response to needs across the OA. The PCTs state that the precise requirements and costs require detailed 'whole system' modelling based on future health needs and relevant care pathways set against current service and estate capacity and commissioning and investment decisions. They also state that the impact on acute hospital services, mental health and community health services requires further assessment set against the context of providing healthcare services closer to home.

10.48 The PCTs have stated that it is therefore vital to note that before a formal response to needs can be given, a detailed Health Impact Assessment is required to show the likely impact on all health care services. Information on the dwelling and tenure mix and phasing of the development will be needed for this. Without that information it is not possible to provide detailed modelling of services and premises requirements for the new population.

10.49 It is also important that, from this analysis, the opportunity for co-location with other facilities must be explored.

We exclude major revenue costs from the tariff. But they are significant and must still be addressed

10.50 We note that the revenue costs estimated by the HUDU model are significant. It is doubtful as to whether these costs can be included in a tariff. However, each case must be based on its merits, in which case this would be a matter on which legal opinion may need to be sought.

10.51 We are seeking to put forward a tariff which can be converted into a CIL as simply as possible. As such, it is prudent to include as many of the same items in the tariff as would be included in a CIL charge. This combination of reasons has led us to exclude the revenue costs associated with health from the tariff.

10.52 It is important to note that, even thought these costs have been excluded from the tariff, they are still costs that will need to be addressed in order to ensure that the necessary healthcare provision is made to support the proposed growth. Further discussion will be needed between the client group and the PCTs to determine how these costs can most appropriately be addressed.

11 EMERGENCY SERVICES

Introduction

11.1 This section looks at the police, ambulance and fire service infrastructure impact of planned growth at the VNEB Opportunity Area.

11.2 These services are run by the Metropolitan Police, the London Ambulance Service NHS Trust and the London Fire and Emergency Planning Authority (which runs the London Fire Brigade).

11.3 Section 17 provides a costed list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These costs have been set against possible funding sources.

Police

What are the infrastructure requirements arising from development? What are the costs? The Police have a range of capital requirements

11.4 The Metropolitan Police Authority (MPA) has considered that one Neighbourhood Team Base and one Transport Team Base plus contribution towards the costs of the proposed Wandsworth Custody Centre and potentially a new patrol base, will be required to support the proposed growth. This assessment uses the proposed number of dwellings and commercial floorspace to derive a need, based on the average size of a police base and the standard number of officers required, as well as the overall impact of the increase in population will have on policing and custody requirements in the wider area.

11.5 The scale of these needs reflects the current industrial nature of the OA, and therefore the fact that there is minimal police presence at present. In order to provide the necessary presence in the area, new built facilities are required. Existing facilities are not located in satisfactory locations to serve the area to an acceptable level.

11.6 The Neighbourhood and Transport Team Bases would both most efficiently be provided within secondary retail shop frontages which are to be delivered as part of the OA. As such, separate capital buildings would not be required. What the MPA assumes is that a unit is provided at a peppercorn rent; if not, then the lease costs should be included within the developer contributions. For the purpose of this assessment, it is assumed that each unit is provided at a peppercorn rent. There is therefore no land cost to be reflected, only the cost of fitting out the two team bases.

11.7 The Custody Centre is proposed to be located at the existing Wandsworth Police Station at 146 Wandsworth High Street, London and will serve the resident population in Wandsworth, including the proposed growth in the OA. This would be a new capital build facility.

11.8 The requirement for additional patrol base facilities in Wandsworth has been identified by the MPA. It is recognised that the forecasted growth in the OA will place additional pressure on existing patrol base facilities in the Borough which are located some distance away from the OA and would not provide for effective policing of the area. But the new

base would also serve a considerably wider area than just the OA. Such a base would be a new build capital facility.

The costs are considerable and need to be verified

11.9 The capital costs of providing the Neighbourhood and Transport Team Bases, assumes that the units will be provided at a peppercorn rent. If the units are not provided at peppercorn rent, there will be a cost associated with the lease of these units which must be covered. The fit out of costs for each Team Base this would be £300,000. In addition, each base would have communications equipment in the form of an Airwaves Mid Range Repeater. The acquisition and connection of each of these would be £75,000. This creates a total capital cost for the neighbourhood and transport team bases of £750,000.

11.10 The costs of the works for the planned custody centre at 146 Wandsworth High Street, as estimated by the MPA, would be approximately £17m. This assumes new build on the existing Wandsworth Police Station site.

11.11 No specific site has been identified at the time of this report but any new patrol base within proximity of the OA will be new build. The cost of a new patrol base, as estimated by the MPA, is in the region of £10-£15m.

11.12 We consider that the cost estimates of both the custody centre and the patrol base to be high. In February 2007, the MPA produced a report on the outline building/site requirements for custody centres. This stated that the minimum size that a custody centre should be is 1,685m². Even if a facility of some 2,500m² is assumed, then for a £17m facility, this works out at £6,800 per m². Whilst such a facility has specialist requirements, the average cost of an air-conditioned office is, by comparison, £1,500/m², less than 25% of the cost.

11.13 It is not appropriate at this stage to arrive at a precise cost for these facilities. The MPA will need more time to be definitive about the cost, based on a fuller needs assessment. However, for the purpose of the assessment, we assume a 33% reduction on costs, so the custody centre will cost £10.05m and the patrol base, £8.38m (taking the midpoint of the original cost range).

11.14 In addition, not all these costs are attributed to the OA alone. We discuss the share properly attributed to the OA later in this section.

11.15 Outside of the capital costs, it was stated earlier that the two team bases are assumed to be provided in shopfronts at peppercorn rents. There would therefore be a rental cost if the units were not provided at a peppercorn rent. This equates to £30,000 per annum for the neighbourhood team base and £35,000 per annum for the transport team base. Over the 15 years from when the bases are opened (see the commentary on phasing) to the end of the OA development period, the combined cost of rental for both bases would be £975,000. The cost of maintenance and management of the Airwaves Mid Range Repeaters has been assessed as costing £30,000 per annum. Over the same 15-year period as for the bases, the combined cost for both repeaters would be £900,000. This would create an additional revenue cost of £1.9m. To reiterate, it is assumed that rental premises are to be provided at peppercorn rents and therefore these costs are only relevant if such a situation is not agreed with the relevant landowner.

How can infrastructure be funded?

The cost of police facilities will need to be developer funded. A proportion of this will be funded by development outside the OA

11.16 The MPA is revenue funded by a mix of Central Government and local government funding, with the former only intended to cover national projects. It is assumed that the Police will effectively fund their capital requirements out of their revenue budget by saving, borrowing or renting. Given the cutting of budgets currently being enforced, it is not considered that there is any prospect of mainstream funding being available. It is therefore assumed that the neighbourhood and transport team bases will be 100% developer funded.

11.17 Not all of the £10.05m costs of the Custody Centre and £8.38m of the Patrol Base will be attributable to the OA[21]. This is because these facilities will also assist in the delivery of policing outside the OA. Therefore, only a percentage of the costs of development of these facilities will be paid for by development in the OA. However, it is not possible to be definitive about what this proportion of the total cost should be. If just looking at the residential requirements for LBs Wandsworth and Lambeth (1,255dpa and 1,280dpa respectively), the annual average delivery in the OA of 800 dwellings represents 32% of that total. This 32% is too high a proportion to attribute to this size of development area and does not necessarily represent the risk profile being served by the custody centre and patrol base.

11.18 Therefore for the purpose of the assessment, it is assumed that 7.5% of the cost of the custody centre and patrol base is paid for by development in the OA. This would equate to £753,750 for the custody centre and £628,500 for the patrol base. This totals £1.38m.

11.19 In total therefore, all the requirements of the MPA that are to be funded by the tariff come to £2.13m.

When is infrastructure required?

Police facilities are not needed immediately

11.20 It is generally considered important that new or enhanced police facilities are provided early on as local police need to be able to build relationships with expanded or new communities from the outset, and to react to the need for police services, demand for which will typically commence as soon as growth starts. However, this is not considered critical, so it is assumed that the police bases will not be needed until at least the first 2,000 dwellings have been completed, i.e. by 2014/15. The provision of the Custody Centre facilities is expected to be provided within similar timescales. The exact timescales for the patrol base have not been confirmed, but are estimated to be around 2015-2017.

21 The £2.5m for rental costs and the repeater stations is wholly attributable to the OA, so is dealt with separately.

Fire

What are the infrastructure requirements arising from development? What are the costs?

The Fire Brigade requires improvements to their existing fire stations

11.21 The infrastructure needs of the Fire Brigade are driven by its understanding of the nature of the risk and its impact. The Fire Brigade states that whilst it has been successful over the past decade in reducing the number of emergency incidents it has had to attend, the complexity of incidents has increased and the risks faced are more involved. The current operational strategy is mindful that this is not likely to change over the coming years.

11.22 Whilst no direct link has been found between the population size and the number of incidents attended, the location of the existing fire stations offers the required flexibility to enable the Fire Brigade to provide support and resilience to the service if and when incidents escalate – this is important as not all incidents are dealt with simply by the services provided at the nearest station.

11.23 This is likely to mean increased focus on prevention and protection requiring facilities to engage with the local community and hence upgrades to fire stations. Depending on the risk profile of the OA, these upgrades could apply to Lambeth, Brixton and Clapham and extend to Battersea and Wandsworth fire stations. It is not possible to be definitive about this at this stage and may include the requirement for an alternative site for a fire station.

Fire costs need to be verified

11.24 The estimated cost of the upgrades to fire stations which will provide the community engagement facilities to service the OA, is likely to range from £8m to £13m. This assumes some new build and/or refurbishment on the existing sites.

11.25 However, as discussed below, not all these costs are directly attributed to development at the OA.

How can infrastructure be funded?

The cost of Fire Brigade facilities will need to be developer funded. A proportion of this will be funded by development outside the OA

11.26 There is no prospect of mainstream funding being available from the LFEPA to fund the proposed requirements. Therefore, all costs will be borne by development.

11.27 Not all of the £8m to £13m improvements to the fire stations will be attributable to the OA. This is because these facilities will also assist in the delivery of firefighting facilities outside the OA. Whilst the OA represents a significant scale of development, it is one of many locations being served by these fire stations. However, it is not possible to be definitive about the proportion of the total cost that should be paid by development in the OA. If just looking at the residential requirements for LBs Wandsworth and Lambeth (1,255dpa and 1,280dpa respectively), the annual average delivery in the OA of 800 dwellings represents 32% of that total. This 32% is clearly too high a proportion to

attribute to this size of development area and does not necessarily represent the risk profile being served by these fire stations.

11.28 Therefore for the purpose of the assessment, it is assumed, as with the needs of the MPA, that 7.5% of the total cost is paid by development in the OA. Taking the midpoint of the range of costs, this totals £787,500.

When is infrastructure required?

The facilities upgrades are needed in the medium term

11.29 Having the necessary fire fighting infrastructure in place is critical to be able to effectively serve the new development. However, the existing fire stations are capable of providing an adequate service to the OA in the short term. Therefore, it is not expected that the upgraded infrastructure will be needed until at least the first 4,000 dwellings have been completed, i.e. by 2017.

Ambulance

What are the infrastructure requirements arising from development? What are the costs?

11.30 The London Ambulance Service NHS Trust has assessed that it has no specific capital needs arising from the proposed growth in the OA.

What are the priorities?

11.31 We have ranked the two police team bases as essential on our priority list. The police custody centre, police patrol base and expansion of the fire stations is given a comparatively lower priority.

11.32 We anticipate that these priorities may be changed in discussions which follow our work.

Issues, dependencies and barriers to growth

11.33 We are not aware of other issues, dependencies and barriers to growth other than those listed above.

12 COMMUNITY CENTRES, LIBRARIES/ARCHIVES AND YOUTH PROVISION

Introduction

12.1 This section looks at the infrastructure impact of planned growth at the VNEB Opportunity Area in the areas of libraries/archives and community centres and youth provision.

12.2 Libraries/archives and community centres includes space for a variety of activities, e.g. childcare, youth provision and advice and other employment support. Whilst of themselves they are not fundamental to enable the built form to function, they perform a key role within the community as places to meet, interact and develop local interests and learning.

12.3 Section 17 provides a list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These requirements have been costed, and have been set against possible funding sources.

What are the infrastructure requirements arising from development? What are the costs?

Infrastructure requirements

Two community facilities and a library/archive facility are required

12.4 Discussions with service providers at LBs Wandsworth and Lambeth have shown that two multi-use community facilities are needed:

- One in the LB Wandsworth part of the OA, to include adult learning facilities and to be co-located with the proposed primary school in the Wandsworth part of the OA.
- One in LB Lambeth part of the OA, providing flexible space that can be used for the provision of childcare, youth services, adult learning and employment skills zone. This will also be used by other voluntary sector providers and community organisations.

12.5 Separately, the need for a new library and archive facility has been identified.

12.6 We shall address each of these facilities in turn.

LB Wandsworth requires co-located community centre and adult learning provision

12.7 There is still strong demand for 'traditional' community centre uses, i.e. halls for community groups to hold meetings, put on productions, hold classes, etc. Equally there is a growing demand for social functions to be provided in 'quality' space which was previously only provided by the private sector.

12.8 In Wandsworth there is considered to be a large supply of bar and restaurant space for private functions, so it is not considered necessary to provide such space within a community centre. What the community centre would need to provide therefore is meeting space for the range of more traditional community gatherings, so would most

appropriately have one large hall and several smaller rooms. These smaller rooms could also be used by a co-located library for private study hire, therefore reducing costs and spreading the costs of management.

12.9 A large community centre would provide approximately 500m² of floorspace, which consists of a large meeting room and three small meeting rooms, small kitchen, WC and disabled facilities.

12.10 In its Committee Report of 9th June 2010, LB Wandsworth proposed that a combined primary school/community centre site should be located on sites to the south of the green link to the east of the entrance to New Covent Garden Market. For this reason, and following further guidance from officers at LB Wandsworth, the study assumes that this will be the location of the community centre, along with the primary school. The total area required for the primary school site of 17,300m² includes an allowance for a 500m² community centre. In the table in Section 17 however, the land costs are separated out.

12.11 As part of the new facility in the Wandsworth part of the OA, adult learning would be provided. This would utilise the meeting space in the community centre, as well as the learning resources at the primary school, e.g. computers with internet access, out of school hours.

A new library facility is required, to be located in the LB Wandsworth part of the OA

12.12 LB Wandsworth has also assessed that a new library facility is required. The aim is for 100% of the population to be within one mile of a library facility. Therefore, if the levels of development proposed for the OA were delivered, a new facility would be required to maintain this standard. Such a facility would need up to 1,500m² of floorspace.

12.13 It is considered most appropriate that the library facility is located towards the southern/western end of the OA, possibly in the Battersea Power Station development. From the library service's point of view, a key driver of the success of a library is its proximity to common meeting places. In particular, locating a library in a retail centre has been seen to maximise the use of the library. BPS has the best criteria for such a location.

LB Lambeth requires a community centre, with flexible space for childcare and youth services, adult learning and skills zone

12.14 The community centre required to anchor the northern/eastern end of the OA in Lambeth would provide one large hall and a series of smaller rooms along with kitchen/toilet facilities. The smaller rooms should be designed in such a way that they could be used flexibly for meetings, training/teaching sessions, or for childcare or workshop-type provision.

12.15 It is seen that one of its principal activities would be to provide space for youth activities. The hall space would therefore need to be large enough to accommodate activities such as dance and drama sessions and arts activities. This could be used at other times for community meetings, adult dance and drama classes or be made available to hire as a means of generating revenue to fund the running of the centre.

12.16 In addition, the use of smaller, private meeting rooms, or classroom sized space at certain times for classes relating to health, or visitors from various voluntary and statutory health providers would be required. Again, these spaces could be used by other providers or by community organisations during the day or at times when they are not used by young people.

12.17 The premises should have secure storage space for the equipment of youth and other providers to be stored when they are not using the space. It would also be beneficial to have some office space for the providers to share, including desks, IT connections, provision for filing, etc.

12.18 The centre would also have to have space that could be used by childcare providers including nearby nursery schools and children's centres, as well as private and voluntary sector childcare providers. Ideally the space would be as flexible as possible, allowing for older users to also access the centre, for example for tea dances and other relevant activities.

12.19 Like the Wandsworth facility, adult learning would be provided. This would need to link in to FE providers such as Morley and Lambeth College. However, it must be ensured that this works with current FE provision and does not duplicate services. In addition, a Skills Zone is required to be accommodated within the community centre. This would not be a bespoke space, but rather the space already provided would enable the following resources to be provided:

- Information, advice and guidance
- Local resident's advice services
- CV, job application, interview preparation, job searching
- Basic IT support and course
- Help and advice on childcare, housing benefit
- Benefits advice
- Job Centre Plus support

12.20 In total, it is considered that such a facility will require 1,000m² of floorspace. No specific preferred location has been identified for this facility, although it makes sense to take into account the siting of the facility proposed in LB Wandsworth in order to ensure that the two are located a suitable distance from each other, thereby allowing maximum coverage of the OA. It would also be beneficial to consider the location of the centre in relation to footfall, e.g. near to retail development, and also in relation to where affordable housing will be provided as this is most likely to house the residents who will access provision in the centre.

LB Lambeth requires its existing archive facility to be expanded; the most efficient solution is to co-locate it with the library in the LB Wandsworth part of the OA

12.21 For the LB Lambeth part of the OA, it has been assessed that no new library facilities are required. Currently there are library facilities at Kennington Cross and on South Lambeth Road which are within a 10-minute walk of the OA. This assessment also takes into account the fact that there is a new library facility proposed in the Wandsworth part of the OA.

12.22 However, Lambeth does consider that there is a need to move and expand its existing archive facility and the optimum location would be adjacent to a library facility. Therefore, the logical solution would be to locate it with the new library in the Wandsworth part of the OA, i.e. as part of the BPS development. In total, the archive facility has been assessed as requiring 1,923m² of floorspace.

12.23 The application at BPS is currently to provide 15,037m² of flexible community space. So, a library/archive requiring approximately 3,500m² could comfortably be accommodated.

Infrastructure costs

We have applied standard costings for the capital cost of community facilities

12.24 Based on experience of developments elsewhere, community centre facilities are likely to cost £1,300/m² to build.

12.25 For the facility in the Wandsworth part of the OA the total cost of the community centre element would therefore be £650,000, reflecting the fact that it would not be used as a sports facility. Such community sports facilities (e.g. badminton) are being dealt with under indoor sports provision.

12.26 Because the facility would be developed as part of the proposed primary school, it is possible that there will be cost savings. However clearly there will be some costs incurred to provide the additional space, separate entrances, facilities, etc, because the facility would be in use during school hours. Therefore it is assumed that the facility will only cost 75% of the total cost of a stand alone facility, i.e. £487,500.

12.27 For the facility at the northern/eastern end (i.e. in LB Lambeth), the cost would be £1,300,000, which would include all the other facilities discussed above.

12.28 The cost of the library facility would be £600,000. This is based on costs per square metre of £2,400, as provided by Wandsworth Library and Heritage Services. It is noted that such costs are well below the standard cost assessed by the Museums Libraries & Archives Council for South East England of £3,068/m².

12.29 If the same costs are applied to the archive facility, then this would cost £769,202. In reality there may be some cost savings in co-locating the library and archive facilities. However, as raised above, it is considered that the build cost figures per square metre are slightly low, so in terms of the total cost, this would offset the savings.

12.30 The main costs associated with adult learning and skills zone activities are revenue rather than capital costs, so the space provided as part of the community centres is deemed to be sufficient for its capital needs. Therefore, no cost has been assigned.

12.31 The total cost of the co-located facilities has been assessed as the aggregate cost of each individual activity, rather than reflecting any cost reduction in capital build based on co-location. This is because examples of such co-location are comparatively limited and each will have sufficient individual elements to be considered a ‘one off’. Therefore it is not considered appropriate to attempt to reflect this in the costings. However, any surplus created by over-charging for capital costs as a result of such an approach could be used to address the revenue requirements created.

There are revenue costs for maintenance of community centres that must be included in the tariff

12.32 Using the BCIS 2003 Review of Occupancy Costs, the typical revenue cost for cleaning, utilities, insurance and security on a community centre would be £2,910 per 100m². This would give the following revenue costs per annum:

- Community centre (Wandsworth): £14,550
- Community centre (Lambeth): £29,100

12.33 This gives a total annual revenue cost of £43,650. The responsibility for the management and maintenance of these facilities will most likely be undertaken by a body other than the borough council. As such, it is appropriate that an allowance for this is included in the tariff. Circular 05/05 permits this contribution in perpetuity so we assume that this will be for the lifetime of the development period, i.e. 20 years.

12.34 By contrast, the maintenance of a library is the responsibility of the borough councils. The boroughs have been very clear that they are unable to fund the revenue requirements of new facilities. However, unlike community centres, the funding for such items is expected to be found within borough council budgets. These budgets will increase to reflect the increase in population as new development is completed and occupied. Moreover, this funding could be shared by both local authorities, reflecting the fact that their needs will jointly be meet by the proposed facility (library services for LB Wandsworth and archive facilities for LB Lambeth). As such, it is not considered that the revenue costs of the library can be included in the tariff.

12.35 Therefore this creates a revenue cost for management and maintenance of £873,000 for the two community centres.

How can infrastructure be funded?

Community facilities will need to be developer funded. Both capital and revenue funding is sought

12.36 It is not considered likely that there will be any mainstream public funding available for such facilities. Therefore, it is assumed that they will be 100% developer funded. The cost of the land for the community facilities in LB Lambeth will need to be reflected as an in-kind benefit. The land cost of the community centre to be provided with the primary school in LB Wandsworth has already been accounted for. The library/archive facility to be provided within BPS is assumed to not accrue a land cost, being part of the development.

12.37 As stated above, the revenue costs of the two community centres are not the responsibility of the borough councils. As such, the tariff should make an allowance for funding to be provided to whichever body manages and maintains the community centres. This would most likely hold an amount in trust to cover revenue costs for the first 20 years of provision. In addition a developers' agreement should be used to ensure that the management and maintenance is handed over to the appropriate body.

12.38 In addition, there will be a need for separate revenue funding for the provision of the adult learning and skills zone and the library/archive. As stated, we consider that these costs

are part of local authority budgets which must be managed accordingly in order to ensure that the funding is available. We do not consider that an inability to fund such revenue requirements by the borough councils is sufficient to merit inclusion in the tariff. It is very difficult to predict how available this funding will be in future, although it is considered very likely there will be funding. This may be allocated to the local authority or through another provider. Where possible, the two boroughs/providers should work closely in allocating any funding that becomes available through their core budgets at the time of the development, to ensure that the area as a whole benefits from the service and it is not perceived as two separate, but lesser regarded provisions.

When is infrastructure required?

12.39 The community centre in LB Wandsworth is to be delivered as part of the school, so would be open in 2012.

12.40 As stated above, it is preferable for services such as the library to be located close to major attractors, particularly retail. Therefore the facilities are likely only needed once the shops as well as a significant proportion of the residential units are occupied. At BPS, the retail offer is not expected to be completed until 2019 so the library archive facility is expected to be required in 2019.

12.41 As will be discussed in more detail in the section on employment needs, the space could be constructed in the earliest phases and could then be used as a construction training facility until the library/archive facility is needed.

12.42 The other community facility in Lambeth would predominantly serve the needs of a large proportion of the rest of the OA. As such, it would be needed much earlier. The first 1,000 residential units in this part of the OA would be completed in 2013/14, so the community facility should be open by this date.

What are the priorities?

12.43 We have ranked the community centre and associated infrastructure as an 'other' priority.

12.44 We anticipate that these priorities may be changed in discussions which follow our work.

Issues, dependencies and barriers to growth

12.45 Discussions between the two boroughs will be instigated as a result of this research, to ensure that a broad range of provision is delivered from within the two community centres. The boroughs state that they will endeavour to work together to complement each other's provision as local residents will not always recognise borough boundaries.

12.46 One of the major issues for this and certain other pieces of social infrastructure is the value to be gained by co-location. This value will be realised in terms of cost savings, particularly if buildings are multi-functional, but also in terms of maximising the benefits to the community of clustering common activities which are engaged with by the resident and working public in the OA.

12.47 The potential advantage of co-location, particularly within a single building, is that it enables the cost of management to be spread more widely. These services have a significant revenue implication. Typically the burden for managing community centres falls on to a local community group. Most do not have the resources to be able to undertake this to any significant degree so any new provision creates an additional burden which must be addressed for such a centre to function.

13 ARTS AND CULTURAL CENTRES

Introduction

13.1 This section looks at the infrastructure impact of planned growth at the VNEB Opportunity Area in the areas of arts and cultural centres.

Our remit

13.2 Such facilities are considered separately from community centres as they serve a different purpose. Provision covers a number of areas including, but not limited to:

- Galleries (housing permanent or temporary exhibitions)
- Multi-use arts venues and theatres
- Production, rehearsal and education space for arts activity
- Museums
- Art in the Public Realm[22], covering enhancements to the built environment, public art, outdoor spaces with the potential for future community activity and opportunities to animate outdoor space through festivals, screenings, markets and other temporary ongoing arts activity.

What are the infrastructure requirements arising from development? What are the costs?

Infrastructure requirements

Requirements for arts and cultural facilities have not been formally assessed

13.3 LB Wandsworth's Arts and Planning Teams propose to undertake a GIS linked cultural mapping study across winter 2010/11. This will enable a more robust picture of current arts and cultural provision and enable gaps to be identified. The same work is not planned to be undertaken in LB Lambeth. However, officers in the Department of Adults and Community Services have reported that any cultural and/or community provision would further enhance the existing provision in the area (which is currently a mix of studios, galleries, theatres and music venues).

13.4 By way of a guideline, Arts Council England recommends a benchmark for arts space of 45m² per 1,000 population. The population in the OA is between 27,185 and 28,502, depending on whether there is 15% or 40% affordable housing. Adopting the midpoint of 27,844, this gives a total area for arts of 1,253m². Until the cultural mapping study has been undertaken, it will not be possible to be definitive about the scale and type of needs.

22 "A principle whereby the involvement and activities of artists contribute to the identity, understanding, appreciation, and enhancement of public places. This is best achieved through collaboration with artists in the conception, design development and implementation of changes to the built and managed environment." *Maggie Bolt, Public Art South West*

13.5 Some of these needs will be capable of being housed within other built facilities. Certainly it would be beneficial for newly planned or improved existing facilities) community centres, halls or rooms for hire, to be designed/enhanced to facilitate arts and cultural uses and be truly fit for multi-purpose use. However, some items will require specific bespoke spaces and/or facilities. One example is Discovery Centres with purpose built spaces attached to existing rooms.

13.6 With a view to specific types of cultural venues, consideration of future potential professional arts partnerships needs to be taken into account at this early stage. There may be existing organisations keen to expand or relocate or new organisations looking to set up home. For example, there has already been interest expressed by a charitable arts trust to move into the area and establish artists' studios and a gallery.

13.7 Where an independent arts and cultural facility is concerned, partnerships should be in place at the development phase, before planning applications are submitted, to ensure that the facilities designed are fit for purpose.

13.8 In the same way that community facilities should be designed to accommodate arts and cultural uses, bespoke arts spaces should also be made available for wider community use where possible. Demand for affordable spaces for activities as diverse as amateur theatre productions, assembly spaces for different faith groups, yoga, etc, regularly outstrips supply in LBW.

Infrastructure costs

It has not been possible to assign costs

13.9 The cost per m² varies considerably from providing a blank canvas hall to providing, for example, a gallery, theatre, recording space or photographic studio. These may be co-located with library or educational provision.

13.10 Living Places guidance on 'arts provision and sustainable communities' indicates a construction and fit-out cost estimate for cultural centres as follows:

- Type 1: galleries, housing permanent and temporary exhibitions: £3,400 per m²
- Type 2: multi-use arts venues and theatres; £3,700 per m²
- Type 3: production, rehearsal and education space for arts; £2,280 per m².

13.11 However, given the lack of clear needs identified, it is not possible to identify a cost.

How can infrastructure be funded?

The provision of cultural facilities will be included within planned developments within the OA

13.12 Cultural provision may be provided through space take-up within new developments. Certainly for example, there is a large amount of cultural space proposed within the BPS application. In addition, the assumption would be that major applications would cover costs of Art in the Public Realm through S106 contributions.

When is infrastructure needed?

13.13 It is assumed, given that most of the cultural and arts space will be provided within planned developments, that its provision will be phased in line with these developments.

13.14 It is recommended that an over-arching 'Art in the Public Realm' strategy should be developed for the OA so that any development and subsequent developer contributions for public art can feed directly into this.

What are the priorities?

13.15 Given the lack of clear needs, it has not been possible to rank this infrastructure on our ten point priority list. Clearly once items are identified, they can be given a ranking. It is not likely that they will be considered to be essential items.

Issues, dependencies and barriers to growth

13.16 We are not aware of other issues, dependencies and barriers to growth other than those listed above.

14 PUBLIC OPEN SPACE, SPORT AND PLAY SPACE

Introduction

14.1 This section covers the provision of public space, sport and leisure. It is important to be clear on what each of these broad areas covers:

- Public open space – mainly green open space, e.g. parks and public realm;
- Sport – space for both indoor and outdoor formal sports provision, i.e. sports halls and pitches; and
- Play space – both playable space, i.e. Local and Neighbourhood Equipped Areas for play (LEAPs and NEAPs), and youth space, i.e. Multi Use Games Areas (MUGAs) and skateparks.

14.2 Section 17 provides a list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These requirements have been costed, and have been set against possible funding sources.

Context

14.3 Commonly across the UK, standards are applied to the amount of open space and sports/play provision that should be made to support the population. This is no different in London although the premium on space necessarily requires a more pragmatic approach. If nationally recognised standards were applied rigidly to the requirements of the OA, then there would be insufficient space to provide anything other than minimal development. This would render delivery across the OA unviable.

14.4 The Mayor of London sought to reflect the need for this pragmatic approach in March 2008 Supplementary Planning Guidance entitled, *Planning Guidance Providing for Children and Young People's Play and Informal Recreation*. In respect of play space the SPG states that, “existing national standards are too high for application in London and do not take into account the potential for other areas of open space to be used as play spaces.” It goes on to reflect that opportunities for the multifunctional use of open space should be optimised.

14.5 A further issue relates to the mechanism for open space to be provided within an OA such as this. Clearly within a tariff, the provision of land for open space would be a benefit in kind that would need to be offset against an overall tariff requirement from the development providing it. Within any detailed masterplan for the OA, the exact location of open space – and specifically the identified Linear Park – will be precisely identified. Clearly these boundaries will dictate the amount of open space that is to be provided by each developer on their land; some will be winners and some losers in this process. In order to avoid this and reflect fairness in the provision of public open space, it is considered that some form of offsetting mechanism should be adopted. This is discussed in detail in the section which addresses the overall level of tariff.

What are the infrastructure requirements arising from development? What are the costs?

Open space: infrastructure requirements

The Linear Park and the Power Station Park will provide the main open space serving the OA. Improvements are needed to facilities in existing parks

14.6 If open space standards are applied, there is a current deficiency in open space serving the OA. This is unlikely to be resolved, given the scale of land that would need to be given over to it. The LB Wandsworth 2007 Open Space Study recommended a quantity standard for public parks of 2.15ha per 1,000 population. Based on the population yields analysis, this would create a need for between 52ha and 55ha of land.

14.7 In LB Wandsworth, the main open space serving the OA is Battersea Park. This also provides a range of sporting facilities and is considered to be at capacity by LB Wandsworth. Indeed on some busy summer days LB Wandsworth has felt it necessary to shut the park to new users at peak times.

14.8 The main piece of open space infrastructure proposed for the OA to go some way towards alleviating this deficit is the Linear Park. Although its exact size and dimensions have yet to be finalised, it is thought to be in the region of 3.5ha. Its linear nature will mean that it will not be possible to accommodate formal outdoor sports provision and only minimal play provision along with seating areas, etc.

14.9 In LB Wandsworth in addition to the Linear Park, the plans for BPS include a 2ha park – Power Station Park - which will be open for public use.

14.10 In LB Lambeth, open space provision is within a range of existing parks. Those in the vicinity of the OA are Lambeth High Street Recreation Ground (Whitgift Park), Pedlars Park, Spring Gardens, Vauxhall Park, Larkhall Park, St Paul's Churchyard and Clapham Common.

14.11 It is expected that there will be increased demand for the use of existing facilities, along with an associated increase in requirements for their management and maintenance[23].

23 For each park, a list of required improvements has been identified:

Lambeth High Street Recreation Ground (Whitgift Park) – pathway and gate restoration; removal and alternative provision of water feature; monument and wall restoration;

Spring Gardens – landscaping to Kennington Road entrance and improvements to embankment side of the park;

Vauxhall Park – heritage railings on South Lambeth boundary; pathway realignment at Lawn Lane; One o'clock Club redevelopment; safety and access improvements to park entrance;

Larkhall Park – development of plaza around existing sports facilities and café; refurbishment of Larkhall Lane entrance to improve safety and sightlines; refurbishment of Wandsworth Road entrance to improve sightlines and park connections including hardstanding for wheeled streetplay; refurbishment of Surprise Pub entrance into plaza; creation of community allotments;

St Paul's Churchyard - boundary and entrance improvements; safety and access to Matrimony Place; toilets and pathways at Eden Garden; monument restoration and stabilisation;

Clapham Common - demolish existing Battersea Woods building complex and rebuild with new changing room building incorporating toilets for team use; break out eastern margin of Mount Pond and replace and improve pond

14.12 One specific item that also creates a recognised need is allotment space. The LB Wandsworth 2007 Open Space Study recommended a standard of 0.077ha per 1,000 population, which would create a requirement for up to 2ha of land for allotments. Given that this is not likely to be deliverable, more innovative solutions are required (in addition to the community allotments planned for Larkhall Park). This includes using roof space from new developments which would be delivered by planning condition.

14.13 It should be recognised that this summary does not represent all of the open space that will be provided across the OA. Most proposed developments will provide some form of open space that will be accessible to the general public. For example, excluding the Power Station Park, the plans for BPS have 7.1ha of open space, consisting of 4.9ha of public realm throughout the scheme and 2.2ha of landscaped courtyards. In addition, the river walk will provide valuable open space for the general public.

Costs: open space

14.14 A proportion of the costs of these needs will be paid for and delivered by the developments themselves. The remainder must be addressed by the tariff or other appropriate mechanism.

The main cost of providing the Linear Park will be the land. Contributions towards improving open space in LB Lambeth are derived using a formula

14.15 The Linear Park will provide a level of open space amenity equivalent to that of an urban park. Based on the example of equivalent urban parks created elsewhere in London, and reflecting the comparatively complicated nature of brownfield sites in this location, this is likely to cost approximately £350,000 per hectare. This includes fees but excludes the cost of land. Therefore the total cost of the Linear Park is £1,225,000.

14.16 The Power Station Park is likely to be the equivalent of a neighbourhood park. Based on typical examples elsewhere of neighbourhood parks and factoring in a premium for a high quality development, the cost is expected to be £250,000 per hectare, including fees but excluding land. Therefore the total cost of the Power Station Park is £500,000.

14.17 For LB Lambeth, the cost of upgrading and improving open space and outdoor sports facilities is £4m. Clearly however not all of this should be funded by development within the OA. LB Lambeth's Planning Contributions SPD applies a formula for the provision of parks and open space, including outdoor sports facilities. For residential development, this uses the planned number of dwellings by size and applies a charge for each size of dwelling, based on the expected number of inhabitants (at £628 per inhabitant). The total charge for the OA is £1.82m for 15% affordable housing and £1.88m for 40% affordable housing. An assumed midpoint is taken of £1.85m.

14.18 It is also chargeable on commercial development. This takes the planned floorspace and applies a blanket employment density of 16m² per worker to derive a total number of workers. LB Lambeth then assumes that, on average, 20% of these workers will use the

surrounds; Long Pond bankside restoration; replace all site furniture in line with recommended designs – seats; bins; dog-bins; replace timber post and single horizontal rail barriers where needed

facilities and so applies this reduced number of workers to a flat charge of £628 per worker. This creates a total contribution of £314,000.

14.19 In total, excluding the Power Station Park and Linear Park, the contribution from development in the OA would amount to £2.16m. Set against a total requirement for £4m of improvements, this appears reasonable.

Play space and youth provision: infrastructure requirements

New neighbourhood play facilities are required but local play facilities will be provided as part of the proposed schools

14.20 Play space provision in LB Wandsworth is categorised into three types;

Type A: Doorstep spaces and facilities

- Doorstep play space and facilities: Small equipped play areas (furnished primarily for young children)
- Neighbourhood amenity green spaces (unequipped)
- Home zone or equivalent

Type B: Neighbourhood spaces and facilities

- Large equipped play areas (furnished primarily for children aged 5-11)
- Satellite parks
- Junior bike, skate and skateboard facilities, kick about areas

Type C: Local spaces and facilities for play

- Supervised
  - Adventure playgrounds
  - Open access play centres
  - Open access play schemes
  - Play ranger and outreach play projects
- No formal supervision
  - School playgrounds (open out of school hours)
  - Neighbourhood equipped play areas
  - Ball courts/multi use games areas
  - Hangout/youth shelters
  - Community parks
  - Local parks
  - Playing fields and recreation grounds freely available
  - Woodlands and natural areas

14.21 The following needs to be achieved borough-wide in terms of the number of designated playing spaces as a minimum per 1,000 children aged 0-16 years old.

- Doorstep play spaces 1.7
- Neighbourhood 1.9
- Local 2.8

14.22 Doorstep provision (Type A) would be expected to be provided as part of any planning application of sufficient size (and would be included within a developer's secondary allowances), so is excluded from this analysis given that it would not be a requirement of the tariff. It is particularly important that these informal play/recreation features are introduced within the flow of the developed landscape because of the linear nature of the development and the considerable physical barriers to access, such as railway lines and main roads.

14.23 The stated priority need for LB Wandsworth is to maintain the levels of neighbourhood playing space (Type B) available. These playable spaces are key in serving both the pre-school and primary school-aged population which correlates directly with the predicted growth in child population within these age brackets. On the basis that child yield as a total, assuming 40% affordable housing, is predicted as being 4,534, LB Wandsworth has stated that it would require a minimum of 2 neighbourhood play spaces to be provided. These are included in the tariff.

14.24 Boroughs wish to see neighbourhood play spaces which are large equipped play areas that have plenty of playable space to include landscaping and natural features, i.e. mature trees, planting, grassed areas, seating, mazes, boulders, sand, etc, alongside play equipment which is appropriate for all age ranges but focuses on the developmental needs of children aged 5-13 years old. These areas may incorporate skateboard ramps/ball games areas but they would form part of a wider landscaped area rather than being stand alone.

14.25 In terms of quantity/size of playable space available LB Wandsworth adopts a benchmark standard of 0.25ha per 1,000 children for designated equipped playing space. Therefore, the total area for the two designated play areas should be at least 1.13 ha (0.25ha per 1,000 projected child population).

14.26 In terms of local spaces and facilities for play (Type C), LB Wandsworth considers that this could satisfactorily be addressed by community access being provided to the outdoor area of the school for play/recreation purposes outside of the school day. These items have already been included in the tariff as part of the education needs.

14.27 In LB Lambeth, play space provision is mostly within the existing parks. As stated above, there are a number in the vicinity of the OA and the expected increased demand has created a list of requirements, part of which will need to be funded by development in the OA:

- Lambeth High Street Recreation Ground – play area replacement
- Spring Gardens – play area development
- Vauxhall Park - play area replacement
- Larkhall Park - playground extension including possible water play feature and trim trail equipment

- Clapham Common – trim trail, new water play facility and dedicated toilet facility at Cock Pond adjacent to Clapham Old Town, improvements to the skate park at Rookery Road.

Costs: play space and youth provision

14.28 A proportion of the costs of the basic play space needs will be paid for and delivered by the developments themselves. The remainder must be addressed by the tariff or other appropriate mechanism.

The cost of facilities is based on equivalent provision elsewhere

14.29 The total cost of two neighbourhood equipped areas for play is £160,000, based on other developments elsewhere. One of these play areas is expected to include a skateboard park or equivalent which is a themed activity typically costing around £40,000. The cost of provision of facilities at the proposed primary school has already been accounted for under those costs. The total cost of provision in the LB Wandsworth part of the OA is therefore £200,000.

14.30 The total cost of the proposed improvements and additions to the play equipment in the Lambeth parks serving the OA is £1.2m. Again, not all of this should be funded by development within the OA. LB Lambeth's Planning Contributions SPD applies a formula for the provision of children's and young persons play. This is based on the number of children expected in the development at the borough/GLA recommended standard of 10m² per child. A cost of £95/m² is then applied. This gives a cost of between £402,800 and £566,200, based on the assessed yield of 424 and 596 children, which in turn depends on whether 15% or 40% affordable housing is assumed. A midpoint of £484,500 is therefore adopted for the purpose of deriving the tariff. Based on the overall cost of £1.2m for improvements to the local parks, this appears reasonable.

Sports provision: infrastructure requirements

Indoor and outdoor sports facilities will be provided at the proposed primary schools

14.31 National Playing Fields Association Guidance is that there should be 2.4ha per 1,000 population of provision of open space for sport, which would equate to up to 68.4ha of new provision of pitches or equivalent across the OA. Clearly this level of provision is not feasible. As already reported, the available facilities at Battersea Park are already at capacity.

14.32 The required sports provision for LB Wandsworth's part of the OA will be provided at the proposed primary school. For indoor sports provision, the enlarged hall will be of sufficient size to accommodate 4 badminton courts as well as space to store equipment for a range of sports activities to serve the general public. For outdoor sports provision, a synthetic pitch will be provided that can be used for a range of formal sports. Also, the play area provided as part of the 'standard' school build will be used as a multi-use games area for informal use by youths, e.g. for informal football/basketball. There will also be some specific play equipment/features.

14.33 Both of these facilities will be for use by the general public outside of school hours. It will therefore be necessary to also provide changing facilities as these are not provided in a common primary school facility. Such facilities must provide secure storage for valuables and also ensure that other parts of the school apart from the sports hall and pitches are not accessible to the general public.

14.34 In LB Lambeth, the outdoor sports provision is within the existing parks within the vicinity of the OA. The expected increased demand has created a list of requirements, part of which will need to be funded by development in the OA:

- Vauxhall Park – games court improvement.
- Larkhall Park - re-provision of two tennis courts on Courland Grove including stopping up of Courland Grove.
- Clapham Common – resurface existing redgra pitches with new all weather surface and install drainage; and refurbishment of bowling green clubhouse.

14.35 In addition, the LB Lambeth Planning Obligations SPD identifies that the borough has a shortage of indoor sports facilities, including sports halls, local leisure facilities and swimming pools. Whilst it is accepted that such provision will rarely be made on site through an individual planning application, the SPD requires off-site contributions towards these facilities.

14.36 Part of this indoor sports requirement will be addressed by the provision of a hall at the proposed primary school which is large enough to enable out-of-school-hours use by the general public for a range of sports, such as badminton (with a 4-court facility). As with the other primary school, it will be necessary to provide changing facilities including secure storage for valuables. Again it must ensure that other parts of the school apart from the sports hall are not accessible to the general public.

Costs: sports provision

The costs are included in the schools assessment

14.37 For LB Wandsworth, the cost of provision of both the indoor and outdoor sports facilities is included in the overall cost of the proposed primary school.

14.38 For indoor sports facilities in the LB Lambeth part of the OA, the Planning Obligations SPD has a formula for contributions towards the provision of indoor sports facilities, including sports halls and swimming pools. In the case of residential development, this applies a charge of £262.68 per person to the assessed new population (2,990 persons), giving a total contribution of £785,413. For commercial development, the same charge is made per worker (with a flat employment density of 16m²/worker being applied to the 40,000m² of commercial floorspace planned across the LB Lambeth part of the OA), with only 20% of these workers assumed to use the facility. The total contribution from commercial development therefore is £131,340.

14.39 This gives a total contribution towards indoor sports provision in the LB Lambeth part of the OA of £916,753. For such contributions to be permissible, they must pass the tests of acceptability for a planning obligation which are now enshrined in law (i.e. that it must be necessary to make the proposed development acceptable in planning terms; and directly

related to the proposed development; and fairly related in scale and kind to the proposed development). To do so therefore, they will have to be used to directly fund a planned scheme which is located close enough to the OA to clearly be capable of addressing the indoor sports needs of the resident and worker population i.e. a new sports hall or swimming pool.

Revenue costs have been included

14.40 In addition, there would be significant revenue costs attached to this additional provision which the boroughs have reported would cause considerable financial problems of not addressed by the developers. In particular, the Linear Park would be provided free to the boroughs and that it would be maintained at no cost to the boroughs, most likely through a covenant.

14.41 LB Wandsworth has reported that the annual cost of maintaining parks and local green space in Wandsworth is approximately £18,000 per hectare. Applying this to both the Linear Park (3.5ha) and the Power Station Park (2ha) would mean an annual revenue cost of £99,000. It would be expected that such costs would be covered for at least the period of the development, i.e. 20 years. Some additional revenue funding is likely to be required to maintain the proposed play facilities and, to a lesser extent, the improvements to the local parks. However, the maintenance of the facilities proposed at the school has already been addressed.

How can infrastructure be funded?

The cost of facilities will need to be developer funded

14.42 Funding of all the items listed is unlikely to be contributed towards by mainstream public funding, at least in the short to medium term. It is therefore considered that 100% of the funding will come from development.

14.43 In respect of the Linear Park, the cost of the capital facilities is assumed to be covered through the individual S106 agreements for the sites on which it will be located.

14.44 In respect of the land for the Linear Park, where part of the land for the park comes from a particular developer's site, it is assumed that this provision of open space would typically be included as part of the development. As such, there is no need for this land to be considered as representing an in-kind benefit.

14.45 However, in certain circumstances the land provided by one or more developers might represent a larger proportion of the overall site area than would typically be expected to be given over to green open space. In such circumstances, the additional land taken is treated as an in-kind benefit. It has been assessed by the landowners that 20% of the total land area given over to the Linear Park will require an in-kind payment because of the 'above average' amount of any landowner land that will be required for the park. Therefore, 20% of the cost of the land needs to be reflected in the tariff.

When is infrastructure needed?

14.46 None of these items of infrastructure are critical, in themselves, to the delivery of the development. However, all of them are vital pieces of infrastructure to ensure that thriving communities are developed across the OA. Without provision of these facilities at an early stage – if not the earliest stage – of residential development, then it could serve to shape fractured and disjointed communities who are forced to look outside the OA for vital elements of support which shape community life.

14.47 Clearly though it must be recognised that the delivery of off-site improvements such as to the surrounding parks will not prevent the use of those facilities in the short term. Also, the sports facilities attached to the primary schools will be provided on the timescale for those schools. It is therefore the Linear Park that is of most relevance and it is important that this is delivered in the early stages of development.

What are the priorities?

14.48 We have ranked the Linear Park as being an essential item of infrastructure. All other items (playspace, the Power Station Park, improvements to existing facilities and contributions towards a new swimming pool) are considered to be non-essential items.

Issues, dependencies and barriers to growth

14.49 The key issue is the management and maintenance of the open space. We address this below.

Mechanism for managing the green open space

14.50 Provision of land for green open space is to be made by the developers. The developers are also to contribute towards the cost of capital facilities at the park, principally park furniture. At the point of completion, four main options are open to the Strategy Board:

- For the respective borough council to take ownership of the land and the associated management.
- For the respective borough council to take ownership of the land, but for the land to be managed by a charitable trust.
- For the landowners to keep the land in their ownership and maintain it themselves.
- For the respective borough council to take ownership of the land but the landowner retains its management.

14.51 We explore each option in turn.

Ownership and management passed to local authority

14.52 In respect of the only strategic green open space within the OA - the Linear Park - LB Wandsworth has stated that it would wish to have the park transferred to its ownership and would then seek to formally adopt the space.

14.53 If the ownership of the green open space is taken over by the borough council, then it needs to be determined as to how the space is managed. The most common scenario is

that its management would be taken in-house, to be overseen by its Parks Service. A weakness of this is that Parks Service must then compete for the retention of annual funding levels alongside other services within the council.

14.54 LB Wandsworth Parks Service has stated that its finances are such that it would be difficult to provide the full level of management services that a strategic park of this importance would need. It would therefore seek to cover the costs of maintenance of the park through the tariff. Therefore, alternative management structures could be sought.

Strengths

- Ensures that all aspects of the open space are managed and maintained to standards specified by the council designed to meet the wishes of residents of the borough.
- Ensures that changes to management and maintenance regimes "demanded" by borough residents over time are more easily responded to/achieved.
- Ensures that the Linear Park is seen by all as being a publicly owned and fully accessible open space.

Weaknesses

- All maintenance and development costs to be met from the public purse, potentially costly repairs to and replacement of furniture, play and exercise equipment and other facilities/equipment.
- Maintenance and general condition are vulnerable to future pressures on public finances; there could be a general decline in standards if treated equally with other spaces.

Ownership passed to a local authority with the management being undertaken by a charitable trust

14.55 Within the wider sphere of leisure services, many leisure trusts have now been set up that have taken over sports, museums, libraries and other leisure facilities. They are independent of the borough council and are run by a board of trustees. While prevalent in the fields of sports and leisure the incidence of trusts in the parks sector is still rare, although a growing number of local authorities are investigating this option, while there exist a number of examples where the management of a specific park has transferred to a charitable trust. Two examples are as follows:

- The Milton Keynes Parks Trust is an independent charity that cares for many of Milton Keynes' parks and green spaces - up to 4,500 acres of river valleys, woodlands, lakesides, parks and landscaped areas alongside the main roads The Trust was established in 1992 and through a 999-year lease manages all the strategic open space in Milton Keynes. At its inception it was endowed with a commercial property portfolio and other assets by the Milton Keynes Development Corporation, that were calculated to be of sufficient value to generate the income required to maintain the open space. As a consequence of this the Trust is not funded through either Council tax or business rates. The Trust is free to trade these assets as it thinks fit.

- The Wigan Leisure & Culture Trust was formed in 2003 as a charitable organisation to work on behalf of Wigan Council to manage and support the Leisure and Cultural facilities across the Wigan Borough. The Trust is responsible for 500 hectares of recreational green space (including formal parks, countryside sites and playing fields), two public golf courses, play areas, seven leisure centres (including five pools), sixteen libraries, the Turnpike art gallery, public halls and Wigan's tourist information centre. The Trust is sustained by a combination of external funding and income generation, including an annual grant from Wigan Council. The Trust is a registered charity and a social enterprise, which means that any surplus income generated must be invested in improving facilities and services for the people of the Borough. A trading arm exists for services that are deemed not to be charitable and grounds maintenance is included among these.

14.56 The strengths and weaknesses of this approach are summarised below:

Strengths

14.57 The not-for-profit organisation can focus on raising additional monies and tap additional sources of income.

- The charitable status of not-for-profit organisations can bring tax-relief benefits and make savings in areas such as business rates and VAT and so is particularly important in this regard
- Voluntary organisations can contribute time and labour.
- Partnerships between local authorities and the community and voluntary sector can access lottery and regeneration funds
- The not-for-profit sector organisation has greater flexibility with regard to debt than public organisations, and often has a strong entrepreneurial culture to access funding from a variety of sources such as other business opportunities and commercial finance
- Trusts can encourage all interested residents and stakeholders to become members or trustees
- Trusts can focus on green spaces and so would not face the competitive pressures inherent within local authorities.

Weaknesses

- The democratic accountabilities of not-for-profit organisations are not always clear
- Additional funding sourced by a non-profit organisation can lead to pressure on local authority parks teams to cut their green space budgets by an equivalent amount. However, this can work both ways: if additional funding is match-funded by the local authority, this can act as a deterrent to reducing the local authority's budget as the leverage doubles the loss.
- There could be a problem of core funding for a charitable trust. In most cases, a trust (such as in the case of Milton Keynes) has a significant commercial portfolio which generates the core income. The alternatives are a lump sum on deposit to generate

an annual return, or grants/precepts - most likely from boroughs - which would negate the point of transferring it into trust.

14.58 There is the option of the in-house service evolving into a Trust. This is unlikely to be attractive as a standalone option as the risk would need to be underwritten by the Council, unless the Trust could find a partner to provide the financial backing required.

Ownership and/or management retained by landowners

14.59 Alternatively, the landowners could retain ownership of the land and manage it themselves. They may then wish to transfer the maintenance of the parks to a private sector company. However, for many landowners the control of such facilities is seen as a positive asset, demonstrating their estate management credentials and long term commitments to sites.

14.60 Whilst the landowners may be keen to retain ownership of this land, clearly the borough councils would wish to ensure that the space was retained for its intended purpose and maintained to an acceptable standard. They would therefore likely wish to see a legally binding agreement in place that requires the landowner to maintain the land in accordance with the council's detailed specifications and any reasonable modifications to that specification that may from time to time arise. Such an arrangement would therefore in theory provide a well maintained and managed public open space that would be reasonably appropriate to the needs of local residents at no cost to the council/local residents

14.61 For the Linear Park, the LB Wandsworth may wish to adopt it because of its strategic importance. In order to ensure that it was maintained as such, a deed of covenant would need to be put in place for an acceptable period of time restricting the use of the green open space for that purpose. This is a reasonably common approach and is considered to provide the level of protection needed for a strategic piece of open space. Clearly it will be important for LB Wandsworth and the relevant landowners to agree on the appropriate approach as both have their merits. This would be done within the auspices of the VNEB General Committee.

14.62 Either of the two approaches above could be adopted and both should be subject to consideration by the Strategy Board. Whichever approach is adopted, it would make practical sense and likely deliver cost savings for the whole Linear Park to be maintained by one organisation, whether public or private. However, in the short term, because the park will be delivered incrementally, it is recommended that the landowners and developers maintain it.

14.63 For local green open space, such as the proposed Power Station Park, it is unlikely that a covenant would be acceptable to the landowners. Given its local as opposed to strategic designation, and the fact that it will not be adopted, the landowner is going to expect more flexibility in what it can do with the land, whilst retaining it as green open space. Indeed, the land is within their ownership so it would be necessary for public access to be permitted for its general use as public open space. But it is understood that the owners would wish for there to be some restrictions, for example so that part of the space can be

closed for private events. In addition, there would be a need to close the park for one day a year to prevent the establishment of a public right of way.

14.64 From the borough council's point of view, the concern is that the land is retained for use as green open space, capable of being accessed by the general public. It will be important that any legal agreement as part of the S106 agreement adequately reflects this need.

Strengths

- Provided and maintained at no cost to the council.

Weaknesses

- Potentially vulnerable to development pressure in the future.
- Doubts about responsiveness of management and maintenance to residents, of the development area and/or of the borough.
- Maintenance of open space areas likely to be the first to suffer at times of financial stringency.

15 EMPLOYMENT AND TRAINING

Introduction

15.1 This section addresses the employment and skills infrastructure requirements which arise from development at the OA, and their costs and funding.

15.2 The scale of the development proposed for the OA will provide a significant opportunity to maximise the number of local residents working on its construction and to access the longer term permanent employment opportunities which result from it.

15.3 The OA is in close proximity to some of the most deprived neighbourhoods in Lambeth and Wandsworth and there is an expectation that employment growth should support local regeneration as set out in Policy 2.13 of the draft London Plan which states that,

> "Development proposals…should…support wider regeneration and integrate development proposals to the surrounding areas especially Areas for Regeneration."

15.4 Funding through Section 106 agreements, especially on large scale regeneration schemes, has frequently been used to support such opportunities. This can take the form of capital funding of facilities to house training and employment services or revenue funding to secure or enhance their provision. Further planning conditions can also place undertakings on developers to promote local recruitment.

15.5 Section 17 provides a list of the infrastructure requirements needed to support the level of development envisaged in Revised Scenario 5. These requirements have been costed, and have been set against possible funding sources.

What are the infrastructure requirements arising from development? What are the costs?

Infrastructure requirements

There is a requirement for a construction and post-construction training facility within the OA

15.6 This would be a building from which training schemes could be run and people provide with the skills they need to be able to be part of the construction workforce or to access jobs created by the development. The facility would then also provide a job brokerage/job shop service whereby new opportunities could be filled by these newly trained local residents.

15.7 Construction training facilities are usually separate to other non-construction training centres due to their bespoke space and equipment needs, as well as the likelihood of increased wear and tear.

15.8 There is no standard for such developments. For the recent Kings Cross development, a training facility costing £2m was provided. Whilst the development of the OA is actually of a larger scale, such large investments in facilities are rare, particularly given the

significant revenue costs attached to them. Indeed, given the significant costs attached to the infrastructure required across the OA, such needs must be met through more cost-effective means.

15.9 This could be through lower cost temporary facilities that can be easily dismantled or used for other purposes as construction activity shifts across the area. It might also make sense to separate 'site-based' training and classroom based activities, with the latter capable of being housed in more standard accommodation. Such a facility could also be used to provide non-construction training after a proportion of the build is complete. This could be, for example, retail training which would enable local residents to access the large numbers of retail jobs which will be created.

15.10 One approach could be to use buildings that are to be constructed for other purposes but are not needed in the first phases of the development. For example, the library/archive facility in the LB Wandsworth part of the OA is not needed until several years into the development period. If this facility was constructed upfront, then it could be used as a training facility until such time as it was need for its intended purpose. This would restrict the cost of providing the facility to simple fit-out costs. Given that the highest demand for construction training will only be required in the first few years of the development, then it would not overlap with the library/archive uses when they are required. If there is a early need for the library use – particularly if the facility is still needed to run post-construction training and job brokerage facilities - then it could be moved to operate out of a newly constructed shopfront within a development.

15.11 The location of training facilities has yet to be determined, although LB Wandsworth is keen to see one located in or close to the BPS development, linked to the existing Job Shop in Kirtling Street adjacent to the site. Given the potential of the library/archive facility – recommended to be located in the BPS development - this would provide a good opportunity for efficient use of space.

15.12 It is also important to take into account existing facilities nearby which could support such activities. Lambeth College, for example, is located nearby.

Business support contributions are also sought

15.13 For LB Lambeth, it is felt that contributions are required towards business support. This would take two forms:

- Contributions to a Business Improvement District (BID)/business network (core costs and/or direct to projects delivered by such a body)
- Affordable, flexible start-up space for small businesses including shared meeting room hire, administrative assistance and business support functions.

15.14 A BID is currently being scoped for the Vauxhall area, so contributions would be towards that programme. The BID concept has also been recommended as a possible means of improving some parts of the Stewarts Road area of Queenstown ward.

15.15 LB Wandsworth is keen to provide flexible business space for enterprises run by young people and other start-up small businesses. It is also keen to ensure local businesses benefit from the new developments taking place in the area, through winning contracts as

part of the construction work and with the new companies moving into the complete developments. Resources to deliver business-to-business services will be sought to enable local companies to win contracts.

15.16 There are a few precedents for the provision of affordable business space in place with new developments in LB Wandsworth, including one in the Nine Elms area.

Costs

Training centre

15.17 On the assumption that Nine Elms does not follow the Kings Cross model for developing a bespoke, permanent facility, we assume a figure of £600,000 to allow for the provision of construction training facilities. As set out above, this could be offset by use of alternative space or shifting the cost of space onto training providers. Such matters are beyond the scope of this report and need to be decided amongst the partners.

Business support has not been costed

15.18 No costs have been assigned to the support of BIDs or space for young and start up businesses.

Employment and training contributions

15.19 LB Lambeth's Planning Obligations SPD has a formula for employment and training contributions. This is because of the high levels of unemployment, low incomes and high levels of deprivation that exist in Lambeth due to problems of local labour accessing job opportunities. This is particularly as a result of a lack of appropriate/transferable skills/qualifications in the local labour market.

15.20 Therefore, LB Lambeth states that where development increases employment levels – as the OA does – contributions are sought to try and ensure that access to the job opportunities are encouraged amongst the least skilled. If this is applied to the Lambeth part of the OA then the total contribution would be based on the 40,000m² of commercial floorspace expected to be provided. Based on a single employment density of 16m²/worker, this floorspace would create 2,500 new jobs. Factoring in the percentage of Lambeth residents expected to be employed as part of the workforce (32%) and the percentage of residents with no qualification requiring training support (19.7%), and applying the average cost to provide support and training to an unemployed resident so that they can access a skilled job, this creates a contribution of £551,600. In reality, this is a maximum figure as contributions can only be sought from developments of over 1,000m² or where there is a loss of at least 500m² of existing commercial floorspace. Some new developments will therefore be exempt.

15.21 For construction training, LB Lambeth will expect a developer to contribute £2,500 for every £1 million worth of construction costs, but is willing to negotiate a different rate on larger construction schemes (defined as over £30 million in construction contract value). Additionally, where a scheme is of strategic importance or is a very large development the

Council may require a financial contribution and/or seek arrangements with the developer/contractors to provide for the following:

- On site resources – recruitment centre and or employment broker
- Jobs Fairs
- New training facilities and related infrastructure
- Measures to promote environmental sustainability in the supply, production and disposal of materials and products and services related to the development
- Local supply chain initiatives.

15.22 Due to the fact that the total contribution to construction training cannot be known because the construction value is not known at this stage, no figure can be included in the tariff. Indeed, it will be preferable to include such site specific requirements as part of a S106 contribution, rather than through the tariff.

15.23 Wandsworth Council also secures contributions towards skills and employment support in a similar, albeit less structured way, but only in relation to large developments. Contributions are sought on a case by case basis. The general approach has been to try to secure 20% of the jobs for local unemployed people at an average cost of £1,800 (2010 prices). Applying this to the maximum figure of 22,500 jobs to be created in the OA gives a total contribution of £8.1m. Again, this is a maximum figure as it is only applied to large developments, so not all new commercial developments will be expected to contribute.

15.24 These funds are used largely to fund the running of the Job Shop next to the Power Station and, depending on the amount actually received, used to fund employment outreach services to deprived communities.

15.25 In total, this creates contributions of £8,651,600 for employment and training schemes.

How can infrastructure be funded?

There is some mainstream funding possibly available for capital facilities – this will need to be supported with developer funding

15.26 It is considered possible that the cost of the fit-out of the proposed training centre at BPS could be match-funded with Government training funding. Therefore, the developer funding would total £300,000 with public sector funding providing the other £300,000. However, this may become increasingly difficult, given the pressure on Central Government budgets.

15.27 The costs of facilities can be offset through rental payments via revenue support for training and employment activities. In many ways, this provides a more cost effective way of providing facilities as it shifts part of the risk of providing facilities onto providers of those services. They will be incentivised to find facilities that best reflect training demand at any one time.

15.28 This is probably a more likely means of securing government funding given relatively firm commitments towards welfare to work and apprenticeship programmes. Partners therefore may wish to consider the balance of funding to be skewed towards revenue rather than capital.

Contributions towards employment and skills initiatives are sought but are not considered to pass the tests applied to planning obligations. The needs may therefore have to be addressed by way of planning condition. The £8.7m costs have not been included in the tariff

15.29 For contributions towards employment and skills initiatives to be permissible, they must pass the tests of acceptability for a planning obligation which are now enshrined in law (as discussed above in respect of sports provision). Therefore, there will have to be an explicit scheme which such funding can contribute towards and which directly addresses the need created by the OA. No such scheme exists at present although both LBs Wandsworth and Lambeth have indicated their intention to establish one.

15.30 A further consideration is that, if the tariff is then converted into a CIL charge, it is unlikely that general contributions towards training schemes will be permissible because they do not represent capital spending. Such issues are still under consideration by CLG as the Coalition Government reviews the CIL proposals. As such, it is not possible to be definitive about whether it would be permissible; however, our advice is that it would not be.

15.31 We consider that, under the new rules relating to planning obligations, it is questionable as to whether developer contributions towards business support are permissible under a tariff arrangement. In theory, there is no statutory basis for charging for economic development, particularly now that the tests of planning obligations are enshrined in law. This is not to say however that, under the tariff arrangement, it will be impossible to make a clear case for such contributions. If a case is to be made though, it will be important that economic development officers from both borough councils provide clear evidence of exactly how these contributions will be spent.

15.32 Despite this, the point may be rendered moot. Such contributions can only be sought from commercial development and, as stated earlier in the report, it is not considered likely that there will be any significant new commercial floorspace before 2014. Yet in April 2014, the CIL Regulations place a significant restriction on what can be sought in the way of planning contributions outside of a CIL. Pooling of contributions for a similar item – such as training and skills – will only be permissible from up to five developments. This is the reason why this report recommends that the tariff is converted into a CIL charge. Yet it is apparent from the CIL Regulations that under a CIL, contributions towards non-capital items are unlikely to be permissible. It is therefore not considered possible to collect contributions towards the training and skills needs identified. As such, the costs of £8.7m identified above have not been included in the tariff.

15.33 Yet such support is considered to be important, particularly in terms of providing jobs for local people who may not otherwise be able to access such opportunities. Also, although there may be no statutory basis for these services, it is good practice to give local firms the opportunity of bidding for contracts and to ensure the best services are procured at the best price. If these needs cannot be included in the tariff, then they may have to be sought as a planning condition. This is often a complex procedure and is less than ideal. It would certainly be preferable for such needs, if at all possible, to be included in the tariff. It is

recommended that clarification on whether such requirements can be included in a CIL – the long term method by which it would be funded – is sought from CLG.

When is infrastructure needed?

15.34 As stated above, the construction training centre will be needed at the earliest possible phase of development in order to ensure that as many local people as possible are able to access construction jobs. Introducing some flexibility in the provision of facilities might generate solutions that better match construction phasing.

What are the priorities?

15.35 We have ranked the provision of the training centre as a non-essential piece of infrastructure.

Issues, dependencies and barriers to growth

15.36 We are not aware of other issues, dependencies and barriers to growth other than those listed above.

16 UTILITIES REQUIREMENTS

Introduction

16.1 In this section we are identifying utilities requirements of growth at the VNEB OA. We cover gas, electricity, potable water, waste (including energy from waste), waste water drainage, telecommunications, and surface water management.

16.2 Our objective is to identify

- whether the absence of certain types of infrastructure might mean that the housing and jobs growth at the OA might not be deliverable until later than anticipated, if at all. Long lead times for the implementation of certain types of infrastructure may be a particular problem here. Clearly, housing and jobs growth would not be possible in the absence of these basic services.
- any implications utilities infrastructure provision has for the tariff level set.
- any general issues and recommendations for the efficient planning of the site arising from our conversations with utilities companies.

16.3 Below, we have set out below the information that we have been able to ascertain from the various reports that have formed the basis of the study and through discussions with the utility providers.

Electricity infrastructure including decentralised power generation and energy from waste

Which organisation provides the service?

EDF supplies high voltages; EDF and other services companies supply lower voltages

16.4 The local electricity network that will provide electricity to the OA is owned and operated by EDF Energy PLC. They own and operate the high voltage (11kV and 33kV) and the low voltage 240V networks throughout the greater London area. The electricity supply for the OA will be fed from their network.

16.5 On voltages lower than 11kV, the new supplies within the development parcels can remain with EDF or can be laid and operated by an Energy Services Company (ESCO) or a Multi Utility Services Company (MUSCO) through an inset agreement. The latter option is usually less expensive, particularly if the ESCO/MUSCO also lays other services at the same time. This is discussed in more detail below.

The conventional electricity supply will be supplemented by the generation of electricity from the on-site energy hubs

16.6 These are currently identified as the Anaerobic Digester that is being considered as part of the NCGM redevelopment and the bio-fuel boilers that form part of the BPS development. Other hubs can be added as developments come forward and these can be linked into the grid at the appropriate stage.

16.7 These on-site facilities produce heat and electricity (and potentially cooling) and it is proposed that the heat that is generated is distributed around the OA via a district wide heating system. The subject of on-site energy production is discussed in more detail below.

16.8 Although planning requirements may mean that each development only produces part or all of the energy that it requires, connection into the DHN will ensure that the network is more robust and that there is security of supply should a particular energy hub fail.

What are the infrastructure requirements arising from development? Are costs available?

We have calculated electricity requirements for the OAPF

16.9 Through our own analysis, we have determined that the electricity requirement for the OA, based on traditional electricity loadings and not taking into account electricity generated within the development is in the order of 60MW. This correlates with the figure given in Section 5 of Appendix TA 05 of the OAPF document.

EDF have not undertaken a formal study of requirements – but there appears to be little spare capacity. A new primary sub-station may be required

16.10 We have been in discussion with network planners at EDF in order to ascertain the impact that the proposed development will have on their network and how this can be accommodated. As noted in the introduction, EDF has not undertaken a comprehensive network analysis for the entire development, primarily because they have not been asked to, or paid to.

16.11 They were aware of some of the development parcels, notably BPS, NCGM and the American Embassy. They had investigated new supplies for these on a piecemeal basis and they indicated that in the case of BPS, they had looked at several proposals over the last few years.

16.12 As they have not undertaken network analysis for the overall OA that we are considering, their comments are based on their knowledge of the spare capacity within the network and a 'gut feel' for the level of reinforcement required.

16.13 These discussions indicate that there is currently very little spare capacity in the network although EDF were unable to quantify this. They further indicated that for a development of this scale, a new primary sub-station would be required, fed from their 132kV network and providing an 11kV network for the development.

There are cost and land take implications of new capacity

16.14 Discussions took place regarding the likely cost of the provision of this facility in light of the OAPF reference to the £15m - £20m. They indicated that these figures were realistic although at this stage, the higher figure should be assumed.

16.15 Hence, for the purposes of this study, it has been assumed that a new primary sub-station is required at a cost of £20m. With the appropriate forward planning in conjunction with EDF, this strategic piece of infrastructure should be provided and funded by them to

facilitate the OA. The electricity industry works on a five year 'Distribution Price Control Review' (DPCR) cycle and this scheme would have to be included in DPCR6 that commences in 2015. Work will be required in advance of this to make sure that the OA is included and that there is sufficient certainty (through the planning process) what level of development will take place.

16.16 The other issue regarding the provision of this facility is its location and land-take requirement. The indicated size is in the order of 50m x 50m and this needs to be accommodated within the OAPF, potentially on one of the development parcels if no alternative location can be found. Further, the facility is not an ideal neighbour from an aesthetic and public perception perspective and so the location needs to be carefully planned.

16.17 As the provision of land for this facility could impact significantly on one of the development parcels, some consideration also needs to be given as to how this should be dealt with. This might include:

- compensation for the loss of developable area within that parcel through a land equalisation arrangement;
- credit to the developer against S106 Agreement contributions; or
- EDF purchase a suitable site at market rates. Given the cost of land, it is not expected that this would be a feasible option.

16.18 As part of the BPS planning application, there is land set aside for a new primary sub-station although this is only large enough to cater for the demand created by the BPS site and not the wider OA. The area included is 1135m2 which, for the purposes of comparison equates to 33.5m x 33.5m. Within the BPS application it is acknowledged that this is unlikely to be large enough to accommodate a primary sub-station large enough for the entire OA.

16.19 It is unlikely that EDF will provide two new primary sub-stations within the OA, particularly if they are funding them, because it clearly makes more sense to have one facility. Further work is therefore required to determine how this situation can be resolved. BPS are currently providing around 45% of the land required for the primary sub-station (i.e. 1135m2 out of 2500m2) and the remainder should therefore be included within the tariff at this stage.

On-site distribution networks will need to be provided by developers

16.20 If there are upgrading works required within the OA that impact on a number of plots then these should be coordinated to avoid such works being done on a piecemeal basis. Although these can be done outside of the tariff and funded by the affected developers, an Energy and Utilities working group could be set up to plan and coordinate such works.

16.21 The on-site HV and LV supply network can be laid, owned and operated by EDF or by an ESCO/MUSCO company. It is usually the case that the latter option is less expensive, particularly if the ESCO/MUSCO also provides water and gas.

16.22 On this basis, it is assumed that within each development parcel, on-site distribution costs will be funded by developers as part of the development process.

On-site electricity generation proposals exist

16.23 There are currently two proposals for the generation of electricity (and heat) within the OA although all developments will be required to provide some form of sustainable energy through planning policy. These may feed into the wider OA infrastructure.

The potential anaerobic digester at NCGM supplies a small part of demand

16.24 In relation to New Covent Garden Market (NCGM), the OAPF notes that their peak heat demand is around 2.8MW and that their peak electricity demand is around 5.5MW, giving a total energy demand of 8.3MW.

16.25 As part of the development, New Covent Garden Market are considering a range of options for providing renewable energy. As they generate around 5,000 tonnes of food waste per year, anaerobic digestion is one of the considerations. We calculate that this will provide around 75kW of energy which equates to less than 1% of the energy needs of the NCGM development. That having been said, the anaerobic digester makes good commercial sense for NCGM because they will not have to pay for the disposal of their food waste off site.

16.26 If this proposal goes ahead, NCGM would be a net importer of heat and electricity. This has an impact on the calculation of the tariff. The anaerobic digester is a key piece of infrastructure that makes a significant contribution to the development's sustainable credentials but it does not produce a significant proportion of the energy requirement for NCGM or indeed the wider OA. Thus the benefit to NCGM may have to be viewed from the waste saving perspective rather from than from that of energy production.

There are proposals for a larger digester in the OAPF

16.27 There is discussion in the OAPF regarding the provision of a larger facility capable of handling 20,000 tonnes of food waste but this would require a fundamental change to the waste collection strategy to allow food waste to be separated and collected at source. The mechanism for this within the existing waste contract needs to be understood. Even if this were built and operated, it would only provide 4% of NCGM's energy requirements.

16.28 The estimated cost of the anaerobic digester is in the region of £4m (based on a 20,000 tonne operation) and this would have an annual operating cost of £450k. This needs to be off-set however by the income generated from the sale of heat and electricity generated and savings made by not having to dispose of the food waste.

BPS plans show a bio-fuel CCHP plant

16.29 The planning application for BPS includes for the on-site generation of heat and electricity via a bio-fuel fired combined cooling heat and power (CCHP). It is noted from the briefing meeting with Treasury Holdings that they will produce a total of 30MW of energy from this plant, with space for the production of an additional 2MW to serve the wider area. The cost of this 30MW facility is indicated to be £16m. It is anticipated that a commercial

operator (ESCO/MUSCO) will build own and operate the district heating network within the OA and that they will finance the construction of this facility as part of that arrangement.

16.30 The bio-diesel will have to be delivered to site and stored in a large tank. It is indicated in the BPS application that this could be delivered via the River Thames although it is conventionally delivered by road.

The OAPF Energy Strategy discusses a district wide heating network

16.31 The OAPF Energy strategy talks about the requirement for a district heating network (DHN) across the OA. It notes the cost to be around £15m - £20m. We have carried out our own assessment and feel that this is realistic and the upper limit of £20m should be included within the tariff.

16.32 BPS will effectively be 'self sufficient' in terms of heat generation. There is only a small benefit to them of contributing to the cost of a district wide heating network (DHN) as it will provide better continuity and security of supply. They may also benefit from the sale of excess heat that cannot be used within the BPS development. Conversely, NCGM will not produce enough heat using the anaerobic digester for their own needs and will therefore need to import heat through the DHN.

There will be a shortfall in the generation of heat for the overall OA

16.33 It is worth noting that there will be a shortfall in the generation of heat for the overall OA and this will need to be addressed as more developments come forward. The benefit of a DHN is that is can have a number of energy hubs that feed into it. It is assumed that these would be excluded from the tariff unless a major facility was proposed that supplied all or most of the deficit.

16.34 As noted above, even though each development will have top provide some form of renewable energy, it makes sense that each links into the DHN so that there is continuity and security of supply should an individual hub fail.

Construction, ownership and operation of the District Heating Network is also an issue that needs to be considered

16.35 If is assumed that this will be built, owned and operated by an ESCO/MUSCO arrangement, possibly in conjunction with the local authorities. Early consideration needs to be given to this and discussions held with suitable companies. This could be one of the functions of the energy and utilities working group.

16.36 It does however need to be considered carefully because the DHN will effectively form a sealed system within which users will have no option but to buy and sell heat from it. This means that the potential income from the system is effectively guaranteed over a number of years into the future. On this basis, the local authority and the developers need to make sure that there are suitable mechanisms in place to allow some of the benefits to be recouped and that some control is retained over the operator.

16.37 The evaluation of the likely outcome of this strategy can be modelled but this is beyond the scope of this study. For the purposes of this exercise, it has been assumed that the £20m cost of the DHN will be met by a commercial operator and is therefore not included within the tariff.

What area does new infrastructure affect?

16.38 In the case of the electricity network, we envisage that the new primary sub-station will be suitably sized to cater for the OA and that is all. There is already a comprehensive electricity network around the OA and there is no indication of any off-site capacity issues that will need to be addressed through the installation of the new primary sub station to serve the OA.

16.39 The DHN could be linked in to existing networks around the OA which would greatly help to improve the robustness of the network because this will introduce a greater number of energy hubs on the network. Further work is required in order to determine the feasibility of this however and no details are currently available.

When is infrastructure needed?

The new Primary sub-station maybe required to be operational at the same time as the first occupations on site. Lead in time is four years

16.40 Based on the discussions with EDF Energy PLC, there appears to be very little spare capacity in their existing network in and around the OA although they are unable to put a figure to it. On this basis, it would seem prudent to assume that the new Primary sub-station will be required to be operational at the same time as the first occupations on site, whether these be residential or commercial. With the appropriate forward planning in conjunction with EDF, this strategic piece of infrastructure should be provided and funded by them to facilitate the OA. The electricity industry works on a five year 'Distribution Price Control Review' (DPCR) cycle and this scheme would have to be included in DPCR6 that commences in 2015. Work will be required in advance of this to make sure that the OA is included and that there is sufficient certainty (through the planning process) what level of development will take place.

16.41 EDF indicate that the timescale for the provision of the new sub-station is in the order of four years and this lead-in also needs to be considered in the overall programme.

16.42 The existing network within the OA will need to be reviewed so that any new cables can be suitably sized to cater for all future development.

The provision of the DHN will be driven by two factors

16.43 The first driver is the demand for heat and secondly by the need to install physical infrastructure as the OA is developed. On the first point, there will be no merit developing the DHN until there are end users in place that can use the heat. On the second point, if there are highway diversion works underway, then these should include provision for the DHN to avoid the need for them to be dug up again later on. This is part of the role that the Energy and Utilities working group could perform.

How can new infrastructure be funded?

EDF Energy PLC indicate that they might be prepared to fund the costs

16.44 Discussions with EDF Energy PLC indicate that they might be prepared to fund the costs of the reinforcement themselves but this would need to be well planned in advance with sufficient certainty that the development will go ahead (i.e. through the planning process) to allow EDF to include the works in their infrastructure investment plan.

16.45 As indicated above however, there is currently not enough certainty about the OA for them to make a commitment to this level of investment and further work is required with them over the coming years.

16.46 The on-site HV and LV electricity supply network can be laid, owned and operated by EDF or by an ESCO/MUSCO company. It is usually the case that the latter option is less expensive, particularly if the ESCO/MUSCO also provides other utilities. Costs associated with this will be borne directly by the developer.

JESSICA funding could be investigated

16.47 It may be worth investigating the EC and European Investment Bank's 'Joint European Support for Sustainable Investment in City Areas' programme (JESSICA) is a potential source of funding for energy and waste infrastructure in Nine Elms. We say more in paragraph 7.69.

Waste

Which organisation provides the service?

Western Riverside Waste Authority has let a contract to Cory International for the disposal of waste and this runs to 2032

16.48 The Western Riverside Waste Authority (WRWA) is a statutory body responsible for the disposal of household, commercial and industrial waste delivered to it by the London Boroughs of Hammersmith and Fulham, Lambeth, Wandsworth and the Royal Borough of Kensington and Chelsea. WRWA owns the Cringle Dock waste transfer station that is located within the OA. There is another waste transfer station owned by WRWA located at Smugglers Way in Wandsworth.

16.49 WRWA has let a contract to Cory International for the disposal of waste and this runs to 2032. Cory currently handles approximately 500,000 tonnes of waste through Smugglers Way and Cringle Dock although it is noted in the minutes of the meeting between Knight Rank and WRWA (Meeting held on 24 May 2010) that the capacity of these two waste transfer stations is roughly 600,000 tonnes per year.

16.50 Cory currently takes residual waste (i.e. after recycling) from Smugglers Way and Cringle Dock to the Mucking Landfill site at Thurrock. This is however nearly full and is due to close in 2010. Therefore, Cory is currently constructing an 'Energy from Waste' facility at Belvedere and this is due to be commissioned in early 2011.

16.51 The OAPF discusses (in Appendix TA06) various options for the modernisation and/or relocation of Cringle Dock. The minutes of the meeting between Knight Frank and WRWA (meeting held on 24 May 2010) note that Treasury Holdings (promoters of the BPS development) are in discussions with WRWA regarding possible relocation.

What are the infrastructure requirements arising from development? What are the costs?

The OA will generate in the region of 15,000 to 20,000 tonnes of waste per annum

16.52 It is estimated (reported in minutes of meeting but need to locate source) that the OA will generate in the region of 15,000 to 20,000 tonnes of waste per annum. This can be accommodated within the existing capacity of the Smugglers Way and Cringle Dock Waste transfer stations and WRWA has confirmed (at the meeting with Knight Frank on 24 May 2010) that this level of waste can be accommodated within the existing contract with Cory.

No primary infrastructure is required, so there are no costs

16.53 This means that there is no primary infrastructure required as part of the OA and no cost is therefore attributable. Each development will finance its own waste disposal costs through the existing waste operator at the appropriate stage.

Treasury Holdings are currently in discussion with WRWA regarding the options for relocating or modernising Cringle Dock waste transfer station

16.54 The modernisation or relocation of the Cringle Dock waste transfer station should be viewed separately. This primarily relates to the impact that it will have in its current condition on the new residential properties that are proposed nearby. There are also wider benefits if the waste transfer station is relocated because it currently acts as a barrier to the riverside walkway and this could be addressed through the development of an alternative facility.

16.55 As noted above, Treasury Holdings are currently in discussion with WRWA regarding the options for relocating or modernising the existing facility.

16.56 Relocation of the facility may be counterproductive for the OA overall because it will impact on other sites. Moving it away from the river frontage will cause two potential issues, firstly removing or reducing the opportunity to carry waste by barge (i.e. generating more lorry movements) and secondly by increasing the number of neighbours who will be on four sides rather then three.

16.57 As the existing facility does not have capacity issues, a sensible alternative to relocation may be to modernise it by enclosing all of the operation and reducing noise and odour issues. This approach provides a benefit to the adjoining developments but not to the OA as a whole. It is therefore assumed that the relevant developer(s) will undertake this work in direct consultation with the waste operator.

16.58 The riverside walkway severance will still have to be overcome but this will be the case even if the facility is relocated along the riverbank. As the continuity of the riverside

walkway represents a benefit to the OA as a whole, because it provides a strategic pedestrian and cycling link along the river bank and provides significant amenity benefit. This is discussed in more detail in the transport chapter.

What area does new infrastructure affect?

16.59 Waste generated within the OA will be dealt with by the WRWA who has contracted Cory International until 2032 to dispose of household, commercial and industrial waste. Within the existing facilities there is sufficient spare capacity to cater for the additional waste generated from the OA.

16.60 The waste currently goes to the Mucking Landfill site at Thurrock but will soon feed a new Energy from Waste facility at Belvedere. The new facility has already gone through due process to secure planning permission and its construction is nearly complete.

When is infrastructure needed?

16.61 There is currently sufficient spare capacity and so there are no costs generated. As each development comes forward, the developer will have to make arrangements for the disposal of waste (construction and operational) through the established waste operator.

16.62 Modernisation or relocation of Cringle Dock should be timed to suit the construction of the developments that they impact on.

How can new infrastructure be funded?

Costs are not generated so funding is not an issue. Cringle Dock modernisation and the continuation of the riverside walkway are allowed for within the tariff

16.63 The cost of the modernisation or relocation of Cringle Dock waste transfer station should be borne by the developer(s) that are affected. The cost of the riverside walkway is discussed in the transport chapter.

JESSICA funding could be investigated

16.64 Again, it may be worth investigating the EC and European Investment Bank's 'Joint European Support for Sustainable Investment in City Areas' programme (JESSICA) is a potential source of funding for energy and waste infrastructure in Nine Elms. We say more in paragraph 7.69.

Potable water

Which organisation provides the service?

Thames Water has responsibility for supply

16.65 Responsibility for the supply of potable water to the OA is with Thames Water (TW). We have had a meeting with TW to discuss the proposals and to understand the level of network analysis that has already been carried out.

16.66 As noted in the introduction, TW has had piecemeal enquiries from various developments and has undertaken some network analysis to determine the requirements for the wider

OA. This analysis was however undertaken around 5 years ago and so does not necessarily reflect the current proposal. We are currently waiting for them to compare the two.

What are the infrastructure requirements arising from development? Are costs available?

We have calculated requirements. Supply does not appear to be a problem

16.67 We have calculated that the water requirements for the development based on traditional loading requirements to be 9750m3 per day with a peak demand of 480 litres per second. It should be noted that this makes no allowance for water recycling / harvesting or potential reductions in water demand due to improved building efficiencies that will occur in the future. The aim at this point is to ensure a robust supply that can accommodate the development.

16.68 Although TW has yet to undertake network modelling for the current OA proposals, the supply of potable water to the OA does not appear to be a problem due to the amount of infrastructure that they already have in and around the OA.

16.69 The main 'hub' for this is the water treatment works located within the OA at Kirtling Street. This is where water from various sources is 'blended' and as such there are trunk sewers running along Battersea Park Road, Kirtling Street and Cringle Road. It is also understood that water is abstracted from the underlying aquifer.

16.70 In addition to this, TW's strategic water ring main runs underneath the OA. This is a 2.54m diameter circular main that serves the central London area. It is located 25m below ground level.

TW do not anticipate that off-site infrastructure reinforcement will be required

16.71 On this basis, TW do not anticipate that off-site infrastructure reinforcement will be required to serve the OA. If work is required then this should be undertaken by TW through their Asset Management Plan (AMP) process.

16.72 Within the OA, the existing water distribution network will have to be reviewed so that each part of the development can be supplied with Potable Water. No costs are currently available for this. As with the other utilities, within each development parcel, the on-site potable water network can be laid by Thames Water, thus incurring a charge 'up front' or it can be constructed owned and operated by a MUSCO via an inset agreement.

What area does new infrastructure affect?

16.73 This is not relevant because TW already has apparatus within the OA that has sufficient spare capacity to serve the development.

When is infrastructure needed?

16.74 Within each development parcel, the on-site network will need to be developed from the start so that pipes can be suitably sized to cater for the level of development within that parcel.

How can new infrastructure be funded?

16.75 If there are upgrading works required within the OA that impact on a number of plots then these should be coordinated to avoid such works being done on a piecemeal basis. Although these can be done outside of the tariff and funded by the affected developers, an energy and utilities working group could be set up to plan and coordinate such works.

16.76 The on-site water supply network can be laid, owned and operated by Thames Water or by a MUSCO. It is usually the case that the latter option is less expensive, particularly if the MUSCO also provides other utilities. Costs associated with this will be borne directly by the developer.

Waste water

Which organisation provides the service?

Thames Water is responsible for sewage

16.77 Thames Water is the sewage undertaker for the London Area. They have an existing foul sewer network within the OA that discharges to a foul pumping station that is also within the OAPF.

What are the infrastructure requirements arising from development? Are costs available?

We assume that the foul drainage network within the OA, the pumping station and the pumping main will all need to be upgraded

16.78 We have calculated that the foul drainage requirements for the development based on traditional loading requirements to be 9,750m3 daily demand and 729 litres per second peak demand. It should be noted that this makes no allowance for potential reductions in output due to sustainable techniques that may occur in the future. The aim at this point is to ensure a robust connection that can accommodate the development.

16.79 There have been extensive discussions between the promoters of BPS and TW regarding sewer capacity available to serve their development. We have also had a meeting with TW's Project Manager Andy Jankiewicz in order to understand the work that has been undertaken by TW.

16.80 TW has undertaken network modelling for the OA area although this was done 5 years ago and so the scale of development included at that stage may be different from the current proposals. Details of the current proposals have been passed to TW so that they can ascertain how closely this matches what was included in their earlier network modelling.

16.81 Discussions regarding the BPS development indicate that this will utilise all of the spare capacity that currently exists in TW's foul sewer network within the OA. .

16.82 On this basis, it should be assumed that the foul drainage network within the OA, the pumping station and the pumping main will all need to be upgraded so that they can accommodate the additional flows. There is no cost currently identified for this.

What area does new infrastructure affect?

16.83 The existing foul pumping station discharges sewage to a waste water treatment works at Beckton. There will have improvements made in order to cater with the additional flow. This will need to go through due process for planning and necessary EA consents.

When is infrastructure needed?

16.84 The upgrading works will be required at the stage that the equivalent scale of development has been built to the BPS.

How can new infrastructure be funded?

16.85 TW has indicated that as a general principle, they require advanced payment for all upgrading works. There are however two factors that need to be considered. Firstly, they indicate that they may fund the upgrading works themselves, taking a commercial view of the cost in relation to the additional new customers that they will acquire.

16.86 The second factor is that TW has a statutory obligation to provide the necessary infrastructure for all planned development through their Asset Management Plan (AMP) process. Hence, as the development progresses and the planning situation becomes more clear, the necessary upgrades will be planned and undertaken by TW through the AMP process.

16.87 On this basis, it should be assumed that TW will fund the necessary upgrade works through the AMP process and that they will not therefore form part of the tariff. Coordination and liaison with Thames Water could be part of the function of an energy and utilities working group.

Gas

Which organisation provides the service?

16.88 The gas supplier for the majority of the OA is National Grid. Southern Gas Networks' area extends up to the OA but they report no spare capacity in their network.

What are the infrastructure requirements arising from development? Are costs available?

There is sufficient infrastructure in place to cope with development

16.89 We have calculated that the gas requirements for the development based on traditional loading requirements to be 440 MWh peak demand and 530 GWh annual demand. It should be noted that this makes no allowance for renewable energy sources or potential reductions in energy demand due to improved building efficiencies that will occur in the future. The aim at this point is to ensure a robust supply that can accommodate the development.

16.90 National Grid has confirmed that is has an existing gas main within the OA that is capable of meeting the requirements of the development. There should not therefore be any off-site reinforcement costs associated with the provision of a new gas supply.

What area does new infrastructure affect?

16.91 The infrastructure proposals only affect the OA.

When is infrastructure needed?

16.92 The connection to the existing gas network can be undertaken within the development area at the appropriate stage depending on when the need for gas arises. Strategies for heating and cooking are not yet developed and so it is impossible to determine the trigger point.

How can new infrastructure be funded?

16.93 There is no off-site reinforcement to be undertaken.

16.94 If there are upgrading works required within the OA that impact on a number of plots then these should be coordinated to avoid such works being done on a piecemeal basis. Although these can be done outside of the tariff and funded by the affected developers, an energy and utilities working group could be set up to plan and coordinate such works.

16.95 The on-site gas supply network can be laid, owned and operated by National Grid or by an ESCO/MUSCO. It is usually the case that the latter option is less expensive, particularly if the ESCO/MUSCO also provides other utilities. Costs associated with this will be borne directly by the developer.

Telecommunications

Which organisation provides the service?

16.96 The provider organisation for telecommunications will be BT Openreach.

What are the infrastructure requirements arising from development? Are costs available?

Infrastructure requirements are likely to be picked up and paid for by BT Openreach

16.97 The overall demand for new telephone lines to serve the proposed development has been calculated by PBA to be in the order of 18,000. This has been calculated on the basis of one telecommunication line for each new apartment plus an allowance for the various other uses across the OA.

16.98 It is difficult to get any information regarding new supplies from BT Openreach until developments have planning permission and so there is no guidance from them regarding the existing capacity within the network. We anticipate that there will be very little capacity given that their infrastructure in this area is likely to be relatively old and it is not likely to have been upgraded.

16.99 BT Openreach has however provided a note regarding their charges for off-site infrastructure costs to provide telecommunication lines for new development.[24] This means that BT will fund the cost of off-site reinforcement works up to the value of £3,400 per plot/unit. Given the scale of this development, reinforcement works would need to total more than £54M before the developers would be asked for a contribution.

16.100 As no information is available from BT Openreach regarding the actual cost of reinforcement works, it is impossible to say whether they would or would not exceed £54M. This is however a substantial amount and we feel that reinforcement costs are unlikely to exceed this amount.

What area does new infrastructure affect?

16.101 There is no information available from BT Openreach to indicate the answer to this but the new infrastructure come from outside of the OA.

When is infrastructure needed?

16.102 New telecommunication infrastructure will certainly be needed early in the life of the project although no firm information is available from BT Openreach.

16.103 It is not anticipated that the supply of telecommunication lines to VNEB will represent a 'show stopper' given improved cable technology and the fact that BT Openreach will be making a substantial investment in their own network to serve the OA.

16.104 As with the other utilities, the key factor will be the timely dialogue with BT Openreach so that works can be planned and implemented well in advance. Clearly, the provision of thousands of new lines will require careful planning and implementation that will span years rather than months.

How can new infrastructure be funded?

BT Openreach are likely to pay for connections

16.105 As noted above, BT Openreach has indicated that the first £3,400 per unit of reinforcement costs are exempt and only costs above this are payable by the developer. As this represents approximately £54M, there is a substantial contribution being made by BT Openreach towards this.

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24 The note states the following: "Important notice As of 1 January 2008 Openreach will raise network reinforcement charges which will include all network provision activities to proactively extend Openreach line plant to the site. All costs for network reinforcement that exceed a £3400 exemption per plot/unit will be charged to the developer. Where costs fall below £3400 per plot/unit, no charge will be raised. Please note that proactive network reinforcement work will not commence until the developer has accepted the charges. In the event of the developer's refusal to pay network reinforcement charges, work will not commence until the first order for service is received via an end user's Communications Provider, when the full network reinforcement charge will be applied. Note, these charges are in addition to the standard connection charges which apply for the applicable service. In all cases when network reinforcement is required, a survey will be carried out and charges will be individually assessed based upon the Excess Construction rates found on the Openreach Service Products website at http://www.openreach.co.uk/orpg/pricing/loadPricing.do"

16.106 It is unclear whether the reinforcement works would exceed this figure but if they do then the additional amount will be payable by the developer.

16.107 If there are upgrading works required within the OA that impact on a number of plots then these should be coordinated to avoid such works being done on a piecemeal basis. Although these can be done outside of the tariff and funded by the affected developers, an energy and utilities working group could be set up to plan and coordinate such works.

16.108 The on-site telecommunication network can be laid, owned and operated by BT or by a MUSCO. It is usually the case that the latter option is less expensive, particularly if the MUSCO also provides other utilities. Costs associated with this will be borne directly by the developer.

River flooding and surface water drainage

16.109 There are several matters that need to be considered in relation to flooding within the site but these basically fall into two categories, the River Thames overtopping and flooding the OA and flooding within the site caused by rainfall that cannot discharge or be stored.

16.110 The London Boroughs of Lambeth and Wandsworth both have Strategic Flood Risk Assessments in place that will inform development within the OA and wider area. These documents will form the basis for the surface water management within the OA.

16.111 It is worth noting that the whole of the OA is within the 100 year floodplain of the River Thames, as are large parts of the City, but this it benefits from the existing flood defences that protect London from flooding. These benefits being the Thames Barrier and the river walls.

Which organisation provides the service?

A number of organisations have responsibility for dealing with flooding

16.112 Flooding in the wider sense falls under the remit of the Environment Agency (EA) and they will want to ensure that the development is not at risk of flooding (caused by any means) and that it does not result in flooding of areas out side of the OA.

16.113 In the OA, there is an existing network of surface water sewers and combined sewers that convey surface water into the River Thames. These are owned and operated by Thames Water (TW).

16.114 It is however highly unlikely that either the EA or TW will adopt any SuDS features within the OA and so these will have to either retained by the developers or offered for adoption by the local authority as part of the open space. Hence, Wandsworth and Lambeth also have a part to play in this.

What are the infrastructure requirements arising from development? Are costs available?

Flooding from the Thames (Pluvial flooding): there is at the moment no indication of costs or who will pay.

16.115 Potential flooding impacts on the OA are considered in the Strategic Flood Risk Assessments that have already been undertaken by the London Boroughs of Lambeth and Wandsworth. These are discussed in the OAPF (Appendix TA07) which indicates that the OA is located in Flood Zone 3a although it is well defended by the Thames Barrier and River Walls. Even so, there is a residual risk of flooding from overtopping or breaches in the river wall. The EA plans to raise the river defences to cater for future increases in the flood levels as part of their 'Thames Estuary 2100' project. The funding source for this needs to be understood so that contributions can be structured.

16.116 There is at the moment no indication of costs or who will pay.

Flooding within the OA (fluvial flooding): requirements will need to be incorporated into individual developments

16.117 Most of the OA is previously developed land and much of it is currently impermeable. This means that for most sites there will be an existing rate of discharge into the TW sewer system and then into the River Thames. Clearly, the OA as a whole will have an existing rate and this could be apportioned back across the OA rather than each site working independently.

16.118 As an absolute minimum, the EA will expect the redevelopment of the OA to produce the same level of run-off that is currently produces and they will probably want to see this lowered.

16.119 This will mean that there will have to be surface water 'balancing' in order to provide storage for surface water within the OA parcels so that surface water can be discharged at a controlled rate, i.e. not exceeding and probably reducing the existing discharge rate. The sensible approach to this is that each developer deals with the issue locally within their site boundary or on other land under their control. This then negates the need for one large feature that will require a large area, thus having a large impact on one or two parcels.

16.120 The EA will also want to see Sustainable Drainage Systems (SuDS) incorporated into the development in order to provide the attenuation and to improve water quality. It is anticipated that the EA will prefer a site by site approach because this will address the issue as development progresses rather than relying on certain areas to cater for others. As the EA is a statutory consultee for planning applications, they will want to be satisfied that each development caters for its own needs.

16.121 In terms of the existing surface water sewers within the OA, these could be largely re-used and the rate of discharge from each development restricted accordingly. i.e. if there is a certain sized pipe that only allows a certain flow, this could dictate the run-off rate for a particular development with the attenuated volume having to be provided on site via whatever means the development can accommodate and can agree with the EA.

16.122 Alternatively, the OA could be looked at as a whole and a level of run-off dictated for everyone. i.e. so many litres per second per hectare. That way, the same criteria applies to all. The EA would probably prefer this strategy as it is easy to understand and to apply. It is also better from the maintenance perspective because each development is responsible for maintaining their own system. In this scenario, the impact on the existing surface water sewer network would need to be assessed to see whether any upgrading is required.

16.123 It is envisaged that TW would take the opportunity to remove surface water connections into combined sewers because this puts additional unnecessary load onto their waste water treatment works. It is therefore suggested that surface water drainage and any associated SuDS features be dealt with on a site by site basis.

16.124 This is borne out by the fact that the new Thames Tideway Tunnel is required to address problems caused by Combined Sewer Overflows (Coos) that currently discharge directly into the River Thames during periods of heavy rainfall because they would otherwise flood parts of the City. This is clearly not desirable given that it is mixed with foul sewage.

16.125 It is acknowledged that the Linear Park will run through the OA and there is mention that this could be used as part of the SuDS strategy for the development.

What area does new infrastructure affect?

16.126 The London Boroughs of Lambeth and Wandsworth both have Strategic Flood Risk Assessments in place that will inform development within the OA and wider area. These documents will form the basis for the surface water management within the OA.

16.127 This approach will ensure that the impact of the development as a whole has been properly assessed and does not produce a flood risk either within or outside the OA.

16.128 Once this is in place, each development can provide a site specific Flood Risk Assessment that will address the local issues and how they will be dealt with in the context of the SFRA.

16.129 This approach will ensure that the OA does not impact on the wider area.

When is infrastructure needed?

16.130 The infrastructure will be required as the developments come forward and this therefore reinforces the view that it should be provided as part of the development and therefore funded by the developer. As noted above, the EA will want to ensure that each development parcel manages its own flood risk and is not reliant on other development over which there is no guarantee of delivery.

How can new infrastructure be funded?

16.131 SuDS responsibilities for individual sites dealt with in the first instance through developers. The infrastructure will be funded by the developers as they build out their parcels within the OA.

16.132 As noted above, it is acknowledged that the Linear Park will run through the OA and there is mention that this could be used as part of the SuDS strategy for the development. If this

is the case then the costs of the SuDS provision can be added to the Linear Park costs and distributed across the developers via the tariff.

What are the priorities?

16.133 Utilities and flooding issues listed above are essential for developments. However because we have shown above that these costs are generally picked by the private sector, they do not represent a priority for public sector investment, or application of tariff funding. Prioritisation is therefore marked as “not applicable” in the spreadsheet model.

General issues and recommendations arising from the utilities work

Utility companies wish to understand more about planned growth at the OA in order to produce a comprehensive strategy

16.134 It has become apparent from our discussions with the utility providers that they have not undertaken a comprehensive network analysis for the quantum of development that is detailed in this study. They have, in most cases, received piecemeal requests from various developers and these appear to have been dealt with on an individual basis. Without a firm commitment, demonstrated through the planning process, the utility providers are reluctant to commit to any resource to a comprehensive network review. They will however undertake such analysis if their costs are met.

16.135 There is general agreement however that such a review would be sensible so that they can properly identify and plan reinforcement and upgrading works for the entire development rather than doing ad-hoc works to cater for particular elements within it.

16.136 In order to produce a comprehensive strategy for the delivery of utilities to the site, the utility providers need a profile of demand against time so that they can understand the pressure on their network and when spare capacity will be exhausted. Further, they will then be able to plan future reinforcement and service provision to cater for the additional demand. Having undertaken these studies, there will be a better understanding of the spend profile against time. The issue of who finances such works can also take place.

16.137 These discussions have generally highlighted that there is uncertainty on their part about the level of development and a nervousness to commit time and resource to it. Beyond the Battersea Power Station, American Embassy and New Covent Garden Market developments there seems little knowledge at the utility companies about the remaining areas or about any form of coordinated approach. At present, there is a general sense of the level of infrastructure requirement in most cases but without the detailed network analysis there is no certainty.

16.138 One issue that has arisen during this work is the relationship between the drive for providing energy efficient homes against the production of heat from the on-site biomass and Anaerobic Digestion plants. As the development progresses, there may come a point where building efficiencies reach a level where connection to the district wide heating system is not required.

16.139 There are currently two competing agendas relating to this issue, the drive for more sustainable homes that reduce heat loss and the production of energy by renewable means. The London Renewable Energy toolkit provides guidance on this matter and the relationship between the two issues.

There is very little information on utilities diversion. These should be excluded from the tariff

16.140 There is currently very little information regarding the diversion of existing utilities within the OA as it is developed. Within the BPS application documents there is discussion regarding utility apparatus that needs to be diverted within their site but there is no indication of cost. The BPS application includes an existing utilities plan for their site and it is clear that there is utility infrastructure that will need to be diverted. This reflects the situation that is likely to be encountered across the whole OA.

16.141 The diversion of utilities within individual plots should be dealt with by the developer of that parcel and therefore excluded from the tariff.

16.142 If there are larger scale diversion works that impact on a number of plots then these should be coordinated to avoid such diversions being done on a piecemeal basis. Although these can be done outside of the tariff and funded by the affected developers, an Energy and Utilities working group could be set up to plan and coordinate such works.

16.143 The cost of utility diversions that are required as a result of the strategic realignment of public highway for the benefit of the OA, should be included within the cost of the highway works.

Recommendations

16.144 The recommendations of this work are as follows:

- Undertake a full demand and supply options study
- Undertake detailed utility network modelling work to determine precise impacts
- Undertake a review of the delivery options for the utility works
- Review other options for telecommunications provisions
- Implement an energy and utilities working group
- Enter into discussions with an ESCO/MUSCO for the provision of utility connections within the development
- Prepare a diversion plan and delivery strategy

A summary table

16.145 The table below summarises the utilities infrastructure requirements resulting from growth.

16.146 Table 16.1 Utilities summary table

	Total Cost	Possible Funder	Assumption for Study	Allowance in Tariff	Timing assumption	Comments and Exemptions
Electricity including decentralized power production						
Primary electricity sub-station	£20,000,000	EDF	Non-tariff	nil	In place by end of year 2 of occupation	With the appropriate forward planning in conjunction with EDF, this strategic piece of infrastructure should be provided and funded by them to facilitate the OA. The electricity industry works on a five year 'Distribution Price Control Review' (DPCR) cycle and this scheme would have to be included in DPCR6 that commences in 2015. Work will be required in advance of this to make sure that the OA is included and that there is sufficient certainty (through the planning process) what level of development will take place.
Provision of land for the Primary substation site	£3,310,000	Developers / EDF	Tariff	£1,655,000	In place by end of year 2 of occupation	Through its planning application, BPS is providing 1100m2 for their own substation to cover its own needs. This therefore approx half of the land area necessary for substation providing full OA coverage (source: OAPF). We assume half of sub-station land requirements provided through BPS planning; remaining half will need to be paid for by tariff (or offset, a land equalisation arrangement, via and credit through a Section 106 Agreement or by agreement with one of the landowners). Possibly this sum can be used to expand the BPS sub-station site. Detailed work necessary. Hence the total cost to be included within the tariff (£3,310,000 has been reduced by a rounded 50% on this basis.
On-site infrastructure	n/a	Developer/ ESCO/ MUSCO/ EDF	Non-tariff	nil		On-site costs borne by the relevant developer either directly or via an ESCO/MUSCO or via incumbent service provider
District heating network	£20,000,000	ESCO/ MUSCO	Non-tariff	nil	Cost spread across first 10 years	It is assumed that the district heating system will be laid, owned and operated on a commercial basis by an ESCO/MUSCO. Imports and Exports of heat will be managed by the operator. The network could link in with existing ones or could be extended to serve existing housing stock. At the appropriate time, this will need to be set up and it is most appropriate that this process is led by the Local Authorities, possibly in partnership with a suitable commercial organisation.
Battersea Power Station Combined Cooling Heating and Power facility	£16,000,000	ESCO/ MUSCO	Non-tariff	nil	Year 5	It is assumed that this will form part of the district heating system that will operate on a commercial basis.

New Covent Garden Market Anaerobic Digester	£4,000,000	NCGM	Non-tariff	nil		Main benefit to NCGM is to reduce waste costs rather than generate heat and electricity
Further energy hubs	n/a	Developers	Non-tariff	nil		
Waste and energy from waste						
Modernization of Cringle Dock (improve visual, odour and noise impacts)	£5,000,000	Developers	Non-tariff	nil	In place by end of year 2 of occupation	Work required to address visual/odour/noise issues of existing facility, but not capacity, to be funded by the affected Developers through Section 106 Agreement contributions.
Relocation of Cringle Dock (alternative to modernisation)	n/a	Treasury Holdings	Non-tariff	nil		If modernisation of the facility is deemed to be not feasible, then it could be relocated although there are several consequences of this. Relocation is currently being investigated by Treasury Holdings due to neighbour issues. Relocation will potentially impact on other development parcels and could reduce the ability to carry waste in barges up the river.
Potable Water						
Off-site reinforcement	n/a	n/a	Non-tariff	nil		Thames Water report that there is sufficient spare capacity existing within the OA
On-site infrastructure	n/a	Developer/ MUSCO/ Thames Water	Non-tariff	nil		On-site costs borne by the relevant developer either directly or via a MUSCO or via incumbent service provider
Waste Water						
Off-site reinforcement (pumping station and pumping main)	n/a	Thames Water	Non-tariff	nil	When the equivalent of the BPS development is occupied	Discussions with Thames Water indicate that there is currently sufficient spare capacity in the sewer network to accommodate the equivalent of the BPS development. Hence, upgrading works will be required in the future. Given the timing of when the additional capacity will be needed, such upgrading should be funded directly by Thames Water as part of their Asset Management Plan (AMP) process.
Improvements to Waste Water Treatment Works	n/a	Thames Water	Non-tariff	nil		It is assumed that any improvement works will be put in hand by Thames Water by the time that they are needed through the Asset Management Plan (AMP) process.
On-site infrastructure	n/a	Developer/ MUSCO/ TW	Non-tariff	nil		On-site costs borne by the relevant developer either directly or via a MUSCO or via incumbent service provider
Gas						
Off-site reinforcement	n/a	n/a	Non-tariff	nil		Sufficient capacity exists within the OA

On-site infrastructure	n/a	Developer/ ESCO/ MUSCO/ National Grid	Non-tariff	nil		On-site costs borne by the relevant developer either directly or via an ESCO/MUSCO or via incumbent service provider
Telecommunications						
Off-site reinforcement	n/a	n/a	Non-tariff	nil		Funded by BT Openreach
On-site infrastructure	n/a	Developer/ MUSCO /BT	Non-tariff	nil		On-site costs borne by the relevant developer either directly or via an MUSCO or via incumbent service provider
River flooding and surface water drainage						
Main flood defence upgrading	n/a	Environmen t Agency	Non-tariff	nil		Part of EA's Thames Estuary 2100 Project.
SuDS Features	n/a	Developers	Non-tariff	nil		Each developer meets their own requirements.
On-site Surface water drainage network	n/a	n/a	Non-tariff	nil		Assumed that existing network will largely be retained other than where local diversionary works are required.
Utility diversions						
Associated with development parcels	n/a	Developer	Non-tariff	nil		Diversions required for specific developments included in developer costs.
Associated with highway diversion work	n/a	Tariff	Tariff	included elsewhere		It is assumed that these costs will be included within the highway works construction costs. Utility diversions associated with strategic highway realignments are included within the tariff but those that are necessitated by particular developments are financed by the relevant developer.
Total				£1,655,000		

17 TABULAR SUMMARY OF REQUIREMENTS, COSTS AND FUNDING

17.1 We summarise all of infrastructure requirements, costs and funding in the table over page.

	Priority	Capital or revenue?	Gross cost (not specifically tailored to OA impact)	Funding via mainstream public/ agency/ third party	Funding via utility companies/ MUSCO/ ESCO	Gross costs after identified mainstream funding/utilities funding	VNEB Impact proportion: % gross costs (after funding) attributable to VNEB OA impact	VNEB Impact costs: £ costs (after funding) attributable to VNEB OA impact	Proportion VNEB impact costs sought from tariff	Funding sought via tariff	Provided through development masterplans ("cost neutral")	Funding via site-by-site S106/ S278 in OA	Funding for other possible sources (including S106 from outside OA)
Northern Line Extension	essential	capital	£563,800,000			£563,800,000	100%	£563,800,000	100%	£563,800,000			
More escalators/new entrance at Vauxhall	other	capital	£0			£0	70%	£0	0%	£0			
Increase bus capacity and pump priming new services	essential	revenue	£50,000,000			£50,000,000	85%	£42,500,000	100%	£42,500,000			£7,500,000
Enhanced bus stop/standing at western end of OA	other	capital	£75,000			£75,000	100%	£75,000	0%	£0	£75,000		
Increase train capacity and lengthen platforms at Vauxhall NR	other	capital	£8,000,000	£8,000,000		£0	0%	£0	0%	£0			
Improve circulation of passengers at Vauxhall NR	essential	capital	£2,700,000	£1,400,000		£1,300,000	100%	£1,300,000	100%	£1,300,000			
Minor improvements to Queenstown Road stn	other	capital	£500,000			£500,000	100%	£500,000	70%	£350,000		£150,000	
Improvements at Battersea Park stn	essential	capital	£14,000,000			£14,000,000	100%	£14,000,000	85%	£11,900,000		£2,100,000	
Improve pedestrian connection between Battersea Park stn and OA	other	capital	£2,000,000			£2,000,000	100%	£2,000,000	0%	£0	£2,000,000		
Improve gateline capacity at Vauxhall tube	essential	capital	£18,000,000			£18,000,000	30%	£5,400,000	100%	£5,400,000			£12,600,000
Albert Embankment Highways, pedestrian improvements, public realm and bus lanes	other	capital	£7,000,000			£7,000,000	80%	£5,600,000	100%	£5,600,000			£1,400,000
Nine Elms Lane Highways, pedestrian improvements, public realm and bus	other	capital	£12,000,000			£12,000,000	100%	£12,000,000	50%	£6,000,000		£6,000,000	
Vauxhall Gyratory Highways, pedestrian improvements, public realm and bus	other	capital	£12,000,000			£12,000,000	80%	£9,600,000	100%	£9,600,000			£2,400,000
River walk	essential	capital	£15,500,000			£15,500,000	100%	£15,500,000	10%	£1,550,000	£13,950,000		
Cringle Dock	other	capital	£2,500,000			£2,500,000	100%	£2,500,000	0%	£0	£2,500,000		
Cycle hire	essential	capital	£1,600,000			£1,600,000	100%	£1,600,000	25%	£400,000		£1,200,000	
Legible London	essential	capital	£750,000			£750,000	100%	£750,000	0%	£0		£750,000	
Strategic links	other	capital	£17,400,000			£17,400,000	100%	£17,400,000	30%	£5,220,000		£12,180,000	
Pedestrian bridge	essential	capital	£30,000,000			£30,000,000	80%	£24,000,000	100%	£24,000,000			£6,000,000
Demand management	essential	revenue	£2,000,000			£2,000,000	100%	£2,000,000	0%	£0		£2,000,000	
Stewarts Road improvments including Thessaly links	essential	capital	£3,600,000			£3,600,000	100%	£3,600,000	0%	£0		£3,600,000	
New piers for boat service	essential	capital	£2,000,000			£2,000,000	100%	£2,000,000	0%	£0	£2,000,000		
Highway improvements outside OA	essential	capital	£5,000,000			£5,000,000	100%	£5,000,000	0%	£0		£5,000,000	
Sub total			**£770,425,000**	**£9,400,000**	**£0**	**£761,025,000**		**£731,125,000**		**£677,620,000**	**£20,525,000**	**£32,980,000**	**£29,900,000**
(B) EDUCATION													
Primary school/community centre/children's centre/sports etc in LBW	essential	capital	£23,236,967			£23,236,967	100%	£23,236,967	100%	£23,236,967			
Land for primary school/community centre/children's centre/sports etc in LBW - land	essential	capital	£22,243,200			£22,243,200	100%	£22,243,200	100%	£22,243,200			
EY&C/primary school/sports LBL	essential	capital	£11,501,807			£11,501,807	70%	£8,051,265	100%	£8,051,265			£3,450,542
EY&C/primary school/sports LBL - Land	essential	capital	£6,620,000			£6,620,000	70%	£4,634,000	100%	£4,634,000			£1,986,000
Secondary school contributions LBL	essential	capital	£3,833,472			£3,833,472	100%	£3,833,472	100%	£3,833,472			
Secondary school contributions LBW	essential	capital	£9,699,456			£9,699,456	100%	£9,699,456	100%	£9,699,456			
Sub total			**£77,134,902**			**£77,134,902**		**£71,698,360**		**£71,698,360**	**£0**	**£0**	**£5,436,542**
(C) HEALTH													
Primary care - space for approx 11 GPs LBW / LBL	essential	capital	£14,289,555	£14,289,555		£0	100%	£0	0%	£0			
Primary care - space for approx 11 GPs LBW / LBL - Land	essential	capital	£4,501,600			£4,501,600	100%	£4,501,600	100%	£4,501,600			
Sub total			**£18,791,155**	**£14,289,555**	**£0**	**£4,501,600**		**£4,501,600**		**£4,501,600**	**£0**	**£0**	**£0**

	Priority	Capital or revenue?	Gross cost (not specifically tailored to OA impact)	Funding via mainstream public/ agency/ third party	Funding via utility companies/ MUSCO/ ESCO	Gross costs after identified mainstream funding/utilities funding	VNEB Impact proportion: % gross costs (after funding) attributable to VNEB OA impact	VNEB Impact costs: £ costs (after funding) attributable to VNEB OA impact	Proportion VNEB impact costs sought from tariff	Funding sought via tariff	Provided through development masterplans ("cost neutral")	Funding via site-by-site S106/ S278 in OA	Funding for other possible sources (including S106 from outside OA)
(D) OPEN SPACE													
Linear park	essential	capital	£1,644,793			£1,644,793	100%	£1,644,793	0%	£0	£1,644,793	£0	
Linear park - land	essential	capital	£46,340,000			£46,340,000	100%	£46,340,000	20%	£9,268,000	£37,072,000	£0	
Power Station Park	other	capital	£500,000			£500,000	100%	£500,000	0%	£0	£500,000	£0	
Power Station Park	other	revenue	£1,017,278			£1,017,278	100%	£1,017,278	0%	£0	£1,017,278	£0	
Power Station Park - land	other	capital	£26,480,000			£26,480,000	100%	£26,480,000	0%	£0	£26,480,000	£0	
Improvements to existing parks / outdoor sports	other	capital	£2,160,000			£2,160,000	100%	£2,160,000	100%	£2,160,000	£0	£0	
Playspace	other	capital	£684,500			£684,500	100%	£684,500	100%	£684,500	£0	£0	
Sub total			**£78,826,571**	**£0**	**£0**	**£78,826,571**		**£78,826,571**		**£12,112,500**	**£66,714,071**	**£0**	
(E) COMMUNITY													
Community Centre in LBW	other	capital	£650,000			£650,000	100%	£650,000	100%	£650,000		£0	
Community Centre in LBW	other	revenue	£291,000			£291,000	100%	£291,000	100%	£291,000			
Community Centre in LBW - land	other	capital	£662,000			£662,000	100%	£662,000	100%	£662,000		£0	
Community/children/adult learning centre in LBL	other	capital	£1,300,000			£1,300,000	100%	£1,300,000	100%	£1,300,000		£0	
Community/children/adult learning centre in LBL	other	revenue	£582,000			£582,000	100%	£582,000	100%	£582,000			
Community/children/adult learning centre in LBL - land	other	capital	£1,324,000			£1,324,000	100%	£1,324,000	100%	£1,324,000		£0	
Contrib. to swimming pool in LBL	other	capital	£916,753			£916,753	100%	£916,753	100%	£916,753		£0	
Library/archive in LBW	other	capital	£1,369,204			£1,369,204	100%	£1,369,204	100%	£1,369,204		£0	
Library/archive in LBW - land	other	capital	£4,501,600			£4,501,600	100%	£4,501,600	0%	£0	£4,501,600		
Sub total			**£11,596,557**	**£0**	**£0**	**£11,596,557**		**£11,596,557**		**£7,094,957**	**£4,501,600**	**£0**	**£0**
(F) EMERGENCY SERVICES													
Police-neighbourhood & transport base	essential	capital	£750,000			£750,000	100%	£750,000	100%	£750,000			
Police-custody centre	other	capital	£10,050,000			£10,050,000	8%	£753,750	100%	£753,750			£9,296,250
Police-patrol base	other	capital	£8,380,000			£8,380,000	8%	£628,500	100%	£628,500			£7,751,500
Fire-upgrade of stations	other	capital	£10,500,000			£10,500,000	8%	£787,500	100%	£787,500			£9,712,500
Sub total			**£29,680,000**	**£0**	**£0**	**£29,680,000**		**£2,919,750**		**£2,919,750**	**£0**	**£0**	**£26,760,250**
(G) EMPLOYMENT													
Employment/training centre in LBW and contrib. in LBL	essential	capital	£600,000	£300,000		£300,000	100%	£300,000	100%	£300,000			
Employment/training centre - land	other	capital	£1,324,000			£1,324,000	100%	£1,324,000	0%	£0		£1,324,000	
Sub total			**£1,924,000**	**£300,000**	**£0**	**£1,624,000**		**£1,624,000**		**£300,000**	**£0**	**£1,324,000**	**£0**
(H) UTILITIES													
Primary electricity sub-station	essential	capital	£20,000,000		£20,000,000	£0	100%	£0	0%	£0			
Primary electricity sub-station - Land	essential	capital	£3,310,000			£3,310,000	100%	£3,310,000	50%	£1,655,000	£1,655,000		
District heating network	essential	capital	£20,000,000		£20,000,000	£0	100%	£0	0%	£0			
BPS combined cooling, heating and power facility	essential	capital	£16,000,000		£16,000,000	£0	100%	£0	0%	£0			
NCGM anaerobic digester	essential	capital	£4,000,000		£4,000,000	£0	100%	£0	0%	£0			
Modernisation of Cringle Dock	essential	capital	£5,000,000		£5,000,000	£0	100%	£0	0%	£0			
Sub total			**£68,310,000**		**£65,000,000**	**£3,310,000**		**£3,310,000**		**£1,655,000**	**£1,655,000**	**£0**	**£0**
(I) ADMINISTRATION													
Adminstration costs of tariff and demand management staffing	**essential**	**revenue**	**£2,500,000**			**£2,500,000**	**100%**	**£2,500,000**	**100%**	**£2,500,000**	**£0**	**£0**	**£0**
TOTAL ALL INFRASTRUCTURE			£ 1,059,188,185	£ 23,989,555	£ 65,000,000	£ 970,198,630		£ 908,101,838		£ 780,402,167	£ 93,395,671	£ 34,304,000	£ 62,096,792

18 SUMMARY OF INFRASTRUCTURE REQUIREMENTS, COSTS, FUNDING AND PHASING

Introduction

18.1 This section pulls together our findings. We discuss the requirements for infrastructure to cope with growth, the resulting costs, and funding.

18.2 We then pick up some of the most important linkages between development phasing and infrastructure delivery.

Headline findings

18.3 We begin by presenting the overarching conclusions of our study.

There is a £58m-£79m infrastructure funding gap in the OA to 2031 (optimal case)

18.4 Depending on the amount of affordable housing assumed, our work suggests that there is between a £58m and £79m funding gap to 2031 across the OA. The headline figures on costs, mainstream funding and tariff are shown in the following table.

Table 18.1 Estimated headline costs and funding (15% and 40% affordable housing scenario, assuming two residential tariffs)

	Category	Definition	15% affordable housing	40% affordable housing
a.	Gross infrastructure costs	This is the total cost of all infrastructure sought at the OA. It is a "gross" cost because it creates benefits beyond the OA	-£1,059m	-£1,059m
b.	Mainstream funding	This includes grant funding from public agencies and authorities, and other recognised forms of public-private financing such as rent-back deals	+£23m	+£23m
c.	Funding anticipated through Utilities Cos, ESCOs, MUSCOs	See section on Utilities	+£65m	+£65m
d.	Gross infrastructure costs after funding	= a - b - c	-£970m	-£970m
e.	Infrastructure costs attributable to VNEB development of	These costs are that portion of the above gross costs which are tailored to ameliorating the impact of development at the OA. This would be sought through either individual S106, S278, or tariff	-£908m	-£908m
f.	Developer contributions	Given local markets and policy, this is the anticipated funding which is available through a tariff, plus contributions from NGM, BPS and extant S106. This number assumes two tariffs are used, and that property markets recover after 2015.	+£659m	+£581m
g.	Infrastructure assumed to be provided through development masterplans	This is the value of infrastructure provision which is expected through development masterplans. It will be agreed on a site-by-site basis through S106/S278. *Note: we have been instructed by the stakeholder and client group here*	+£94m	+£94m
h.	Infrastructure provided through site-by-site S106/ 278	This is the value of infrastructure provision that would be expected *Note: we have been instructed by the stakeholder and client group here*	+£34m	+£34m
i.	Innovative funding: additional bank borrowing for affordable housing which releases funding for infrastructure	See section entitled "Other Funding Sources". *Note: availability of this funding depends on wide agreement across partners. There are complexities regarding the presentation of this number (NPV may differ slightly) but this presentation suffices for these purposes*	+£33m	+£90m
j	Innovative funding: funding from New Homes Bonus	See section entitled "Other Funding Sources" .*Note: availability of this funding depends on national political decision*	+£30m	+£30m
k.	Leaves a funding gap attributable to development of		-£58m	-£79m

A different scenario could see the funding gap widen significantly

18.5 Elements of the view presented above represents an "optimal" scenario range. A number of factors may cause this funding gap to widen substantially in actuality. For example, the analysis shown above assumes

- that there will be recovery in property markets after 2015. If there is no recovery, then tariff receipts would be reduced by around £95m over the plan period for either of the affordable housing scenarios.
- that Government New Homes Bonus will be forthcoming, and that agreement can be reached on different ways of funding affordable housing. If both these could not be achieved, then the funding gap would widen by between £63m and £120m.
- that tube construction can actually be delivered at this price. If larger amounts of optimism bias were allowed for, then costs could rise very substantially. The funding gap would widen – potentially by £100m.

- we have been instructed to make assumptions around the ability and willingness of development in the OA to provide strategic infrastructure in the course of obtaining planning permission. If we did not make these assumptions, then the funding gap would widen by as much as £130m.

18.6 If all of these eventualities came to pass, then the funding gap could widen by between £388m and £445m on top of the funding gap already identified in Table 18.1.

18.7 More positively, though, there is no significant amount of public funding assumed in the above view. After 2016, public funding may recover. This would narrow any funding gap.

18.8 In the sections below, we unpack these different component parts to analyse the infrastructure information in the spreadsheet model that produces this funding gap. This helps us to draw important conclusions, and drives recommendations on how delivering the necessary infrastructure to accommodate growth in the OA can be achieved.

18.9 We start by looking at costs. We then look at mainstream and developer contribution estimates, and then pull these threads back together.

Analysing estimated infrastructure costs

Very large investment in infrastructure is required across the OA in order to facilitate growth

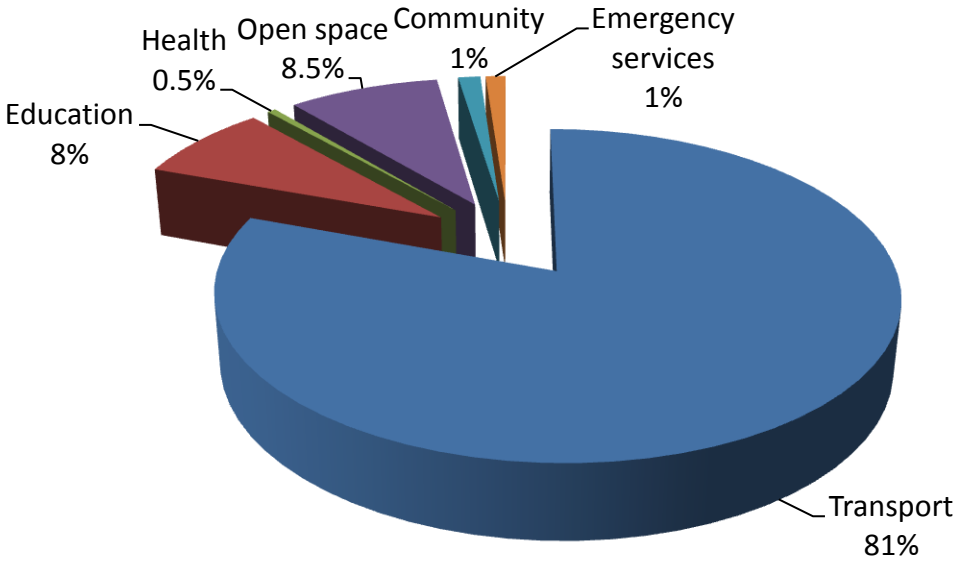
18.10 As set out above, there is an estimated infrastructure cost of approximately £908m to facilitate anticipated housing growth in the OA to 2031 after mainstream funding and utilities funding is taken into account.

Estimated infrastructure costs by infrastructure category

Transport dominates the costs attributable to VNEB development

18.11 Figure 18.1 and Table 18.2 below show estimated infrastructure costs by category. Transport dominates estimated infrastructure costs across the OA (approximately 81% of total costs), with parks and open space (including strategic green infrastructure) representing the second highest cost (approximately 8.5% of total costs). The third highest cost is education. This is consistent with other studies we have undertaken.

Figure 18.1 Estimated Infrastructure costs attributable to VNEB development by Infrastructure Category (%)



Source: RTP

18.12 Table 8.2 provides the cash figures that underpin the percentage sums provided in the figure above. Clearly, efforts to address this funding gap should most sensibly concentrate on these three main areas. Categories listed as 'other' – including emergency services, childrens' social care, and so on – are less significant when seen in this context, and over this time period.

Table 18.2 Estimated infrastructure costs attributable to VNEB development by infrastructure category

Infrastructure Category	Total
Transport	£731.1m
Education	£71.7m
Health	£4.5m
Open space	£78.8m
Community	£11.6m
Other	£10.4m

Source: RTP, PBA

A small number of big projects account for a large proportion of the infrastructure costs

18.13 There are a small number of very big ticket infrastructure projects that have been identified as required to facilitate growth. The top ten highest cost infrastructure items to be funded by the tariff are shown below.

Table 18.3 "Big ticket" projects – the top ten costs attributable to VNEB tariff

Rank	Infrastructure Item	VNEB infrastructure costs attributable to OA
1	Northern Line Extension	£563.8m
2	Increase bus capacity and pump priming new services	£42.5m
3	Pedestrian bridge	£24.0m
4	Primary school/community centre/children's centre/sports etc in LBW	£23.2m
5	Land for primary school/community centre/children's centre/sports etc in LBW - land	£22.2m
6	Improvements at Battersea Park stn	£11.9m
7	Secondary school contributions LBW	£9.7m
8	Vauxhall Gyratory Highways, pedestrian improvements, public realm and bus	£9.6m
9	Linear park - land	£9.3m
10	EY&C/primary school/sports LBL	£8.1m
	Total	**£724.3m**

Source: RTP

18.14 Large projects such as this will need to demonstrate clear value for money in project appraisals if they are to go ahead. It will be important to undertake a clear prioritisation process, both within and across thematic areas.

Costs by delivery partners (though delivery partners do not necessarily fund infrastructure)

18.15 PPS12 states that the responsible parties for different infrastructure should be clearly identified. The table below does this. It shows infrastructure costs by the assumed lead delivery partner – although it is important to point out that lead delivery status does not imply that funding from that partner has been identified, or is sought. TfL and the NLE delivery body are unsurprisingly the partners with the greatest responsibility (in costs, not funding, terms).

Table 18.4 Infrastructure costs by lead delivery partner (£m). Note: this does not imply that delivery partners are funding this infrastructure

Delivery Partner	VNEB infrastructure costs attributable to OA
NLE Delivery Company	£563.8m
TfL	£130.0m
Developer	£137.2m
Network Rail	£15.3m
LB Wandsworth	£27.7m
LB Lambeth	£22.1m
LBs Wandsworth & Lambeth	£2.4m
Specialist Provider	£0.9m
Metropolitan Police	£2.1m
London Fire Brigade	£0.8m
EDF Energy	£3.3m
ESCO/MUSCO	£0.0m
Executive Board	£2.5m
Total	**£908.1m**

Source: RTP

Estimated timing of infrastructure costs

18.16 Table 18.5 below shows the estimated timing of infrastructure costs in the OA. The two largest cost categories, transport and health, are assumed to require the majority of expenditure to provide infrastructure required to accommodate the growth in the OA.

18.17 The analysis presented here depends on the assumed phasing of development. Our assumptions are stated in section 3. However, it is important to understand that this is a high level assessment inevitably informed without access to perfect information. It is highly likely that the phasing of infrastructure items will change and, even at this stage, will need more detailed analysis to understand the full range of factors impacting on the timing of delivery.

18.18 We suggest that there should be a finer-grained phasing analysis by the authorities and strategy board.

Table 18.5 Estimated timing of infrastructure costs attributable to VNEB development by category

Infrastructure Category	2011-2015	2016-2020	2021-2025	2026-2031
Transport	£257.0m	£444.2m	£15.1m	£14.9m
Education	£38.1m	£3.4m	£26.1m	£4.1m
Health	£4.5m	£0.0m	£0.0m	£0.0m
Open space	£30.0m	£48.8m	£0.0m	£0.0m
Community	£3.7m	£3.4m	£3.4m	£1.1m
Emergency services	£1.1m	£1.7m	£0.2m	£0.0m
Employment	£1.6m	£0.0m	£0.0m	£0.0m
Utilities	£3.3m	£0.0m	£0.0m	£0.0m
Administration costs	£0.6m	£0.6m	£0.6m	£0.7m
Total	**£339.9m**	**£502.1m**	**£45.3m**	**£20.7m**

Source: RTP

Reprioritising or cost-engineering some big schemes could eliminate the funding gap

18.19 We have analysed which infrastructure items are essential to allow growth to proceed.

18.20 The table below shows that If partners were to provide only those items considered to be essential in order for development to proceed, then the funding gap is eliminated. But this is not to say that the items making up the 'other' category are not important. Essential items in this context represent items without which development could not be brought forward. More infrastructure is likely to be required in order to generate a good quality, well planned place.

18.21 It should be noted that a zero figure (such as for community uses) simply means that none of the identified items were considered to be essential based on the assessment used in the study.

Table 18.6 Infrastructure costs by priority categories

Infrastructure Category	"Essential" infrastructure costs	% of total	"Other" category infrastructure costs	% of total
Transport	£681.5m	83.9%	£49.7m	52.0%
Education	£71.7m	8.8%	£0.0m	0.0%
Health	£4.5m	0.6%	£0.0m	0.0%
Open space	£48.0m	5.9%	£30.8m	32.3%
Community	£0.0m	0.0%	£11.6m	12.1%
Emergency services	£0.8m	0.1%	£2.2m	2.3%
Employment	£0.3m	0.0%	£1.3m	1.4%
Utilities	£3.3m	0.4%	£0.0m	0.0%
Administration costs	£2.5m	0.3%	£0.0m	0.0%
Total	**£812.5m**	**100.0%**	**£95.6m**	**100.0%**

Source: RTP

Analysing estimated funding

18.22 We have analysed estimate funding available, as follows. Results are shown in section 17.

- Funding from mainstream public sources. We have assessed the potential availability of mainstream public funding to pay for the infrastructure requirements resulting from the assumed growth in the OA. We have interviewed service providers, consulted strategic documents, and undertaken our own research to get an answer here.
- Funding from additional bank borrowing for affordable housing. We have assessed the potential availability of funding released by additional bank borrowing for affordable housing, which in turn would release more funding for infrastructure. The precise impact on development finance is quite complex to model, however, and far exceeds our brief here. This presentation is adequate for the needs of this report.
- Funding from developer contributions. We have assumed that developer contributions are available through tariff, and S106 contributions from NCGM, BPS and other extant S106.
- Infrastructure assumed to be provided through development masterplans. This represents the value of infrastructure provision which we are instructed can be reasonably anticipated through the course of the masterplanning process.
- Infrastructure assumed to be provided through S106/S278. This represents the value of infrastructure provision which we are instructed will be provided through site development.
- Funding from New Homes Bonus. This is assumed (although by no means assured). This would be dependent on delivery of homes.

Putting costs and funding together

There is a funding gap of between £56m and £77m. Seeing the funding gap on a per annum basis makes the gap appear more tractable

18.23 Whilst there is a large funding gap, it should be borne in mind that this plan runs until 2031. Per annum, that equates to a funding gap of between £2.8m and £3.9m per year. The problem comes, though, in that certain costs are required to be paid up front.

There are some cashflow issues in the first five years

18.24 We used our work to look at particular cost and funding "pinch points" – for example, the times where up-front infrastructure requirements and costs ran ahead of funding.

18.25 The success of delivering the vision in the OAPF will, to a large degree, depend on the ability to deliver the infrastructure required in the first five years. One of the fundamental requirements therefore is that the necessary funding is in place to fund infrastructure required in the short term. If a development is clearly not viable in the first five years, it is unlikely that a developer will proceed. Given the greater level of uncertainty about what is likely to happen after the first five years, developers are typically less concerned with the detail of how these phases will be brought forward.

18.26 We have assumed that a proportion of contributions are made up front, with further contributions staggered over the subsequent build phases. So, in the case of BPS, we have assumed that 25% of the S106 contribution is made on grant of full planning permission and signing of Section 106 (which we assume will occur late in 2011), 25% in 2017, 25% in 2023 and 25% in 2029. These payment milestones may be optimistic in the case of the Power Station, and the actual payment milestones will need to be agreed with LB Wandsworth and Treasury Holdings. The ability of developers to make payments will depend on the commercial pressures upon them.

18.27 The table below shows the infrastructure cashflow situation for the first five years. It is important to be clear that this is not a developers' individual cashflow for their development. Rather, it is a simple view of the total capital and revenue costs, set against the available funding. The funding consists of mainstream funding, committed developer contributions, funding from the tariff and other developer contributions.

Table 18.7 Infrastructure cashflow for 2011-2015

(Cumulative)	2011	2012	2013	2014	2015
Total Costs	**£6.4m**	**£51.9m**	**£92.8m**	**£221.0m**	**£339.9m**
Estimated mainstream funding	£5.7m	£9.7m	£9.7m	£16.8m	£24.0m
Indicative developer contributions	£80.2m	£87.4m	£98.0m	£109.5m	£120.9m
Provided through development masterplans	£0.0m	£6.1m	£18.6m	£32.0m	£47.1m
Funding via site-by-site S106/S278 in OA	£1.3m	£2.9m	£4.3m	£8.6m	£13.4m
Funding from other possible sources (including S106 from outside OA)	£6.3m	£16.1m	£22.5m	£30.6m	£35.6m
Funding from other sources	£0.0m	£1.8m	£7.2m	£14.2m	£22.7m
Cumulative cashflow	**£87.1m**	**£72.1m**	**£67.5m**	**-£9.4m**	**-£76.1m**

Source: RTP (please note figures are rounded)

18.28 This shows that, based on the current phasing of development and infrastructure needs, in the first three years the cashflow is positive. However, after this the cashflow becomes negative and by 2015 total costs have exceeded available funding by over £76m.

18.29 Clearly such a situation is not viable. The scale of problems means that it would be difficult to fix this situation, but:

- the dates by which infrastructure items are required can be delayed;
- certain non-essential items could be excluded from being required to support growth;
- a higher proportion of upfront contributions could be sought; and
- the phasing of development could be brought forward, notwithstanding the demand assessment within this study which has underpinned the recommended phasing.

18.30 This is a common problem at the start of a plan period. This is because the infrastructure solutions to the specific needs of a site invariably have to be more strategic, therefore creating capacity for future growth but bringing associated higher up-front costs. Even if these contributions are pooled (as in a tariff) then there is still insufficient income because, at the start of the pooling period, there has been no opportunity to build up a cash surplus that can be used to address these needs.

18.31 It will be important that the Strategy Board seeks to reduce this cashflow deficit and then seeks forward funding solutions to address the remaining shortfall.

19 SUMMARY AND CONCLUSIONS

Introduction

19.1 **This section summarises our report. We then go on to make some recommendations**.

19.2 In broad terms, we tested the deliverability of the OAPF; we advised on the creation of a tariff, and broadly quantified the ability of development in the VNEB OA to generate developer contributions; we looked at the requirements for infrastructure and the costs of providing that infrastructure, and how that infrastructure might be paid for. Finally, we compared the costs against funding to assess how far the infrastructure necessary at the OA is deliverable.

Findings

Examining the deliverability of the OAPF

19.3 We set out the growth expected at the VNEB OA to 2026. We looked at **extending the planning period to 2031**, in line with the Replacement Plan period. We suggest that this revised timetable would be helpful.

19.4 We begin by looking at the **deliverability** of the planned office, retail and residential space at the OAPF.

- **Office development**: **the evidence suggests that future competition for occupiers will be intense.** There will be a large number of competing schemes being developed in London over this period with the ability to produce more new office space than London will realistically require. Secondly, the office development at VNEB, much of which will be located at BPS, is located some distance from Vauxhall (a weak office location) and Victoria.
- **Retail**: **our view is that the Power Station could let to high quality retailers**. However, the general agency view in the market is divided as to whether sufficient retailers would find the Power Station viable as an upmarket retail location. Regarding the BPS High Street and the retail development in the rest of the OA, we agree with previous work that has suggested that **there is sufficient capacity to support the BPS scheme by 2016**. Any concerns over capacity and impact at 2016 will lessen as new residential (and commercial) development occurs in subsequent years.
- **Residential**: the numbers involved show the remarkable scale of the plans involved. As much development is proposed each year on average at VNEB for 20 years as has happened in the Isle of Dogs each year on average over the last 10 years. **A major push would be required – demanding a very high level of effort and focus from stakeholders -** if this scale of change was to be delivered in the timeframes being discussed.

How can developer contributions be best captured?

19.5 The growth envisaged at the VNEB Opportunity Area will create developer contributions. These are a very important way of funding, and therefore delivering, the infrastructure

required to support growth. We have suggested that, **given uncertainty around the Coalition Government's plans for the Community Infrastructure Levy, the VNEB partners adopt a Section 106 Tariff**. The objective would be that this tariff would be reviewed and converted into a Community Infrastructure Levy (CIL)/Single Unified Local Tariff (SULT) when the Government published its plans. We have attempted to set this work up in such a way as to make this process as easy as possible, but we caution that the process of conversion will not be entirely straightforward.

19.6 **We have suggested how a VNEB S106 Tariff would work**. We have suggested that different rates should apply to different parts of the OA, and put forward an initial operating framework.

What developer contributions can VNEB afford?

19.7 **We then went on to suggest a tariff level for development.** The tariff level we arrive at does not pay any attention to infrastructure requirements. Instead, **our work sets a tariff level on the basis of what development in the area can reasonably afford**, given policy on matters such as Code for Sustainable Homes and affordable housing, and prevailing conditions such as sales values.

19.8 Tariff charges per square metre and per unit under different affordable housing scenarios are as follows.

Table 19.1 Proposed S106 tariff charges for the OA, by use, assuming 15% affordable housing and property market recovery post 2015

Land use	2010 – 2015 tariff charge (Per unit)	2010 – 2015 tariff charge (per m²)	2016 – 2031 tariff charge (Per unit)	2016 – 2031 tariff charge (per m²)
Residential Value Area 1	£40,000	£425	£50,000	£530
Residential Value Area 2	£20,000	£210	£30,000	£315
Office	-	£160	-	£160
Mixed use retail	-	£150	-	£150
Retail	-	£150	-	£250
Hotel	-	£40	-	£40

Source: GVA Grimley

Table 19.2 Proposed S106 tariff charges for the OA, by use, assuming 40% affordable housing and property market recovery post 2015

Land use	2010 – 2015 tariff charge (Per unit)	2010 – 2015 tariff charge (per m²)	2016 – 2031 tariff charge (Per unit)	2016 – 2031 tariff charge (per m²)
Residential Value Area 1	£25,000	£265	£35,000	£370
Residential Value Area 2	£15,000	£160	£25,000	£265
Office	-	£150	-	£150
Mixed use retail	-	£150	-	£150
Retail	-	£150	-	£250
Hotel	-	£40	-	£40

Source: GVA Grimley

19.9 It is important to reiterate that, as explained in Section 6, the per unit figures quoted in the tables above are calculated on the basis of a S106 tariff contribution from both affordable and market housing. Under a CIL regime, affordable housing will not pay CIL, meaning that the per unit charges quoted above will be levied on private housing only. The consequence will be that the per unit charge will alter, even though the total amount of developer contribution available from each development will remain unaltered.

19.10 We have been instructed to assume that Battersea Power Station can contribute £210m, and £6.3m is available from the US Embassy. Various Lambeth sites are contributing a total of around £5.3m. Also including potential contributions from NCGM, office, retail and hotel development, this suggests that **overall between £581m and £659m could be raised from development at the OA under 40% and 15% affordable housing scenarios respectively.**

19.11 In addition, we have been instructed to assume that **there will be infrastructure to the value of £94m that will be provided through the masterplans brought forward by**

developers, and a further £34m will come from contributions towards site specific infrastructure needs.

What other funding is available for infrastructure?

19.12 Having identified possible developer contributions available through a tariff, we then looked at other possible sources of funding to support infrastructure at the VNEB OA. It is apparent that (apart from a tiny fraction of already committed funding) **no mainstream public funding can be relied before 2016**. Whilst funding may recover after the point, we cannot rely on this as a funding source.

19.13 A number of other funding possibilities have been floated in the past. We looked carefully at each.

- We concluded that **it will not be possible for the NLE to be funded in its entirety through TIF**. However, there may be a role for TIF in funding infrastructure later in the development timeframe when there may be greater certainty over the timing and scale of delivery of the development in the OA. This would mean that markets may be more willing to lend against future TIF revenue. Even so, hurdles would remain, such as potential difficulties in proving that development was genuinely additional to the London economy. More work could usefully be done on this subject.
- Whilst **Private Finance Initiative (PFI) or similar privately financed schemes may have some relatively modest applications for education and health**, it also appears that there is no real role for PFI in taking on the task of helping finance transport.
- **The biggest opportunity appears to be from a comprehensive scheme for procuring and financing affordable housing**. These changes would have the effect of releasing more funding for infrastructure from developer contributions. This, though, would depend on an alteration to the way that Housing Associations were funded, which may be difficult to secure. We have roughly estimated the possible increase in funding available for infrastructure from this source to be between £33m-£90m.
- It may be possible to obtain central Government funding through the **New Homes Bonus**. Again, we have made a rough estimate of the funding available from this source of around £30m.

19.14 Standing back, then, our analysis **under an "optimal scenario" suggests that of the order of between £829m and £850m is available to 2031 to pay for infrastructure at the VNEB**. This is generated in the main by the VNEB tariff.

19.15 We then turned to examine the costs of the infrastructure required to support the growth outlined in the OAPF.

Infrastructure requirements, costs and funding sources

Transport infrastructure

19.16 Transport studies have concluded that **the scale of the proposed development requires high-capacity public transport provision,** and recommended the NLE as the major element of the preferred solution. We have reviewed these analyses and, while some modelling issues were identified, we conclude that the transport measures they propose are

appropriate in nature, although the detail of what transport provision will be required and when is not yet certain.

19.17 In our analysis, **we assume that the NLE remains the favoured option**. Buses, bikes, and walking will all be needed to relieve pressure on the transport system, and highway needs will rise.

19.18 We costed all the transport interventions required in the OA to 2031. **We were provided with capital and revenue costs of transport impacts attributable to OA development. This came to £731m.** It should be noted that this sum includes all of the NLE costs, even though employees and residents from outside the OA will use the tube. We have been instructed to treat costs this way by the client and stakeholder group.

Social infrastructure

19.19 Our review of social infrastructure requirements suggests that **a range of infrastructure is required to support the new jobs and residents at the OA**. We are bound to work with the infrastructure requirements and costs that we have been provided with by local agencies, which themselves were subject to subsequent alteration by the client and stakeholder group.

- Regarding **education**, across the OA, six forms of primary school entry are required. This requires two new primary schools – a 4-form entry school in Wandsworth and a 2-form entry school in Lambeth. There is a need for two forms of entry for pre-school in Wandsworth. There is a need for one to two forms of entry for pre-school in Lambeth. Pre-school provision can be provided at the new primary schools. No new secondary schools are required, but expansion will be required at existing secondary schools.
- Regarding **health**, the client and stakeholder group has advised that they consider 11 GPs (plus supporting healthcare services) across the OA area to realistically reflect the needs of the new population. Requirements run to a capital figure of £14m, with land requirements costing £4m. We draw partners' attention to the fact that the HUDU model operated by the PCTs generates a need for revenue funding (caused by the time lag between new populations arriving, and per capita funding increasing) of £112m. These ongoing revenue costs have not been included in our calculations.
- For the **emergency services** (Police, Fire, Ambulance), only the Police and Fire Services have needs. The Police need Neighbourhood and Transport Team bases, a Custody Centre located within an existing police station and a patrol base. The Fire Service is likely to require the upgrade of fire stations that would serve the area. We have been instructed by the stakeholder and client group to assume that the impacts from OA development are relatively small.
- Regarding **multi-use community facilities**, requirements are one in the LB Wandsworth part of the OA, to be co-located with the proposed primary school and adult learning facilities, and one in LB Lambeth part of the OA, providing flexible space that can be used for the provision of childcare, youth services, adult learning and employment skills zone. The latter would also be used by other voluntary sector providers and community organisations. A new library is required to serve the Wandsworth part of

the OA and LB Lambeth would be keen to relocate its archive facility to be co-located with the new facility.

- Regarding **arts and cultural centres**, it is expected that there will be needs. However, an assessment has yet to be undertaken.
- The amount of **open space** proposed for the OA falls far short of what is needed when applying national standards. This can partially be alleviated by the provision of high quality open space. A 3.5ha Linear Park and a 2ha park as part of the plans for Battersea Power Station are the main open space facilities being proposed. In addition, significant improvements to the facilities within the parks serving the OA are required. In terms of larger childrens' play facilities, at least two neighbourhood play space are required. For local play facilities, the provision of outdoor play facilities at the proposed schools will be the main way of addressing these needs. The schools will also provide enlarged indoor sports halls for public use outside of school hours. At the four-form entry primary school a synthetic pitch will be required, again outside of school hours.
- A **construction training facility** is required to maximise the number of local people that can access construction jobs during the build. It would be preferable to seek these through planning conditions.

19.20 Again, in previous years we would have expected mainstream public funding to pick up some of these costs. But this is not now possible, and so **we assume that development contributions are the main funding source.**

Utilities infrastructure

19.21 Our review of utilities requirements indicates that the major issues are as follows.

- A new **primary electricity sub-station** may be required to be operational at the same time as the first occupations on site. The lead in time is approximately four years. A proportion of the land for the site could be provided by the tariff.
- A **district heating network** is proposed as part of the OA and it is anticipated that this will be built, owned and operated on a commercial basis by a suitable commercial operator.
- Information provided by Thames Water indicates that the **foul drainage network** within the OA, the pumping station and the pumping main will all need to be upgraded in order to facilitate growth.
- Future **flooding issues from the Thames** will be dealt with under the EA's "Thames Estuary 2100 project. There is at the moment no indication of costs or who will pay.
- Regarding **flooding within the OA** (fluvial flooding), SuDS and surface water attenuation requirements will need to be incorporated into individual developments. It is acknowledged that the Linear Park will run through the OA and there is mention that this could be used as part of the SuDS strategy for the development.
- **Telecoms, gas, waste and potable water** appear to be more straightforward. Capacity is either existing or relatively straightforward to provide.

19.22 With one small exception, **utilities funding costs will be generally either be absorbed as individual development costs**, or be picked up by infrastructure providers themselves.

Conclusions

19.23 Under the optimal case scenario, **there is between a £58m and £79m infrastructure funding gap in the OA to 2031**, based on the provision of 15% and 40% affordable housing respectively. We have arrived at this number as follows.

Table 19.3 Summary costs and funding (optimal case scenario, showing impact of different levels of affordable housing)

	15% affordable housing	40% affordable housing
Gross infrastructure costs	-£1,059m	-£1,059m
Mainstream funding of	+£23m	+£23m
Funding anticipated through Utilities Cos, ESCOs, MUSCOs	+£65m	+£65m
Gross infrastructure costs after funding	-£970m	-£970m
Infrastructure costs attributable to VNEB development of	-£908m	-£908m
Developer contributions up to	+£659m	+£581m
Infrastructure assumed to be provided through development masterplans	+£94m	+£94m
Infrastructure provided through site-by-site S106/ 278	+£34m	+£34m
Innovative funding: additional bank borrowing for affordable housing which releases funding for infrastructure	+£33m	+£90m
Innovative funding: funding from New Homes Bonus	+£30m	+£30m
Leaves a funding gap attributable to development of	**-£58m**	**-£79m**

Source: RTP, PBA, GVA Grimley

19.24 **Elements of the view presented above represent an "optimal case" scenario. A number of factors may cause this funding gap to widen in actuality**. For example, the analysis shown above assumes that there will be recovery in property markets after 2015; that Government New Homes Bonus will be forthcoming; that agreement can be reached on different ways of funding affordable housing; and that developers are willing and able to make substantial contributions to infrastructure outside the immediate remit of the tariff. We believe that tube costs are likely to rise as the design process proceeds. Factoring in these more pessimistic views could see the funding gap widen by between £388m and £445m on top of the funding gap identified in the table above.

19.25 **More positively, though, there is no significant amount of public funding assumed in the above view.** After 2016, public funding may recover.

19.26 **A process of prioritisation and cost engineering may be considered** to close this funding gap. The gap is eliminated if only "essential" infrastructure items are required.

19.27 Whichever view is taken of costs and funding, **there are important cashflow issues to be overcome.**

19.28 **Standing back, the scale of the challenge at the VNEB OA is apparent.** Perhaps the most relevant comparable development area is Canary Wharf/ Isle of Dogs. (As we have observed, other major development sites of the last few years have been situated at existing public transport nodes). Canary Wharf was started in the mid-eighties, and is still not completed around 25 years later. Although Canary Wharf is of a different order in its scale of its office provision, it is the case that residential build out rates at VNEB would need to match those achieved on the Isle of Dogs over the last ten years. Nor was development at Canary Wharf left entirely to the market to sponsor and organise. Although there were private finance components, Canary Wharf benefited from very considerable investments of a) political energy, b) management effort through the UDC and c) public funding - not least for the DLR and Jubilee Line extension. A similar level of effort and focus will be demanded at the VNEB OA.

Recommendations

19.29 Detailed recommendations and issues have been picked up in the subject chapters; we have not reiterated those here. Instead, we have attempted to identify the overarching matters which will need to be dealt with by the Strategy Board.

- This report has provided a view of the first five years' cashflow using stated assumptions, as this will be the critical period for getting development momentum going at the OA. However, there will be a series of longer term costs which will be incurred, not least for the NLE. **We suggest that detailed, longer term cashflow be created** to set these longer term costs against possible funding. Such an exercise would show the requirements of the OA for forward funding.
- The Northern Line Extension is the single largest cost element. We have reviewed a number of funding options for NLE, but there does not appear to be one 'silver bullet' to deal with its funding in totality. However, there could be the potential for TIF to fulfil part of the solution, and the Coalition has recently announced further work on developing this concept. **We believe that it would be beneficial to undertake further investigation into the feasibility of using TIF for part-funding the Northern Line Extension, and other infrastructure.**
- We suggest that there is a need to further **refine the transport modelling evidence base** against which the transport proposals have been defined thus far. Greater certainty is needed about the balance between improvements to highways, rail, bus, and other sustainable modes. The potential for demand management to reduce the risk of escalating travel demand and consequent infrastructure requirement needs to be fully assessed.
- We suggest that **the Strategy Board may wish to work further on the economic benefits that investment, particularly in transport, may bring**. These are likely to be very substantial. This would allow the generation of a funding case to Government.
- We suggest that **the Strategy Board might remain in contact with the public and private sector infrastructure providers contacted in the course of this study**. Efficient

creation of the necessary infrastructure for the area will require public services in both Lambeth and Wandsworth to work jointly (a significant amount of infrastructure will need to be shared between service providers and boroughs). Equally, there will need to be close collaboration between the public sector and the private sector. The Strategy Board could very usefully sponsor this joint working.

- The Local Authorities may use the Strategy Board as a forum through which this report's advice can be used **to decide on a final tariff level, and whether a single or multiple tariff approach should be taken**. Final decisions on these matters will rest with the Local Authorities. Section 5 and Appendix 1 of this report are intended to assist this effort.
- We suggest that **the Strategy Board may consider the need to ensure that planning policy and strategy remains flexible** enough to cope with changing market and economic conditions. One example of how this might be applied in practice is by delivering lower levels of affordable housing in the early phases in order to pump prime the infrastructure. Ultimately, under a S106 Tariff scheme all sites will be subject to their own viability assessments and this will be important to inform the ongoing application of the tariff.
- We suggest that **the Strategy Board may need to prioritise both within theme areas (say, prioritising the most important transport projects) and also *between* theme areas** (say, deciding to invest in open space, rather than transport, or vice versa). Properly, these decisions rest with elected representatives and their officers on the basis of good quality information about what is realistically possible.
- We have made the assumption in our optimal scenario (laid out above) that significant amounts of funding are available as a result of changes to the way that affordable housing in procured and financed. **Getting agreement to this new approach will require significant amounts of effort, and decision-taking at high levels within the HCA.** We believe that these changes could require a significant push from the Strategy Board.
- We suggest that **the Planning Framework could be translated into a Delivery Framework.** If this route was taken, the Delivery Framework would need to be a very practically orientated project plan document. The Delivery Framework could do the following:
    - **Identify and help manage delivery risks**. These are substantial. Risks include cost escalation for the NLE, the provision of land and powers for proposed infrastructure projects, the assessment of the financial and business case for NLE to support the creation of a Transport and Works Order, and the identification and co-ordination of utility provision.
    - **Identify tasks on the critical path,** set dates for those issues to be resolved, and clarify delivery roles and responsibilities for different organisations and individuals;
    - **Focus on how any problems will be resolved** – in a very head-on way;
    - **Define issues in time sequence**. This would allow the focusing of resources on short term issues and a process of active planning for medium term issues.

Longer-term problems (where it is clear that fundamental changes in funding regimes or market conditions are required) could be left for future work;

- **Help the political process** by clarifying decisions that need to be taken, when they need to be taken, and what the ramifications of choices are.