LAND FOR INDUSTRY AND TRANSPORT

SUPPLEMENTARY PLANNING GUIDANCE

SEPTEMBER 2012

LONDON PLAN, 2011
IMPLEMENTATION FRAMEWORK

MAYOR OF LONDON

SUPPLEMENTARY PLANNING GUIDANCE

LAND FOR INDUSTRY AND TRANSPORT

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Foreword

Even London's increasingly service-based economy needs affordable land and premises for less high value activities. These activities include its 'high tech' and more established manufacturing as well as the distribution and logistics functions which are essential to a city which imports most of its goods. They cover 'services for the service sector' such as those needed to maintain London's offices, shops and homes, and the other small and medium sized enterprises like those involved in 'green' industries' and other emerging sectors. All of these will make important contributions to broadening London's economic base.

In addition, London needs space to accommodate activities which support its 'metabolism' – waste treatment and management, and provision for power and water supplies. Ensuring adequate capacity for a range of transport functions is particularly important. An efficient transport system is essential for London, and maintaining and improving it generates distinct land requirements. In the past, meeting these has proved challenging in London's highly pressurised land market.

My London Plan sets out policies that adopt a rigorous approach to industrial land management. They seek to provide sufficient capacity for industrial and other related uses in appropriate locations. They are also designed to ensure the carefully managed transfer of surplus industrial land to other uses, especially housing and, in appropriate locations, to provide social infrastructure and to contribute towards town centre renewal. This will help to support London's growth and secure regeneration in many of London's most needy areas, particularly the Thames Gateway.

This Supplementary Planning Guidance provides advice on how to implement these policies – the amounts of industrial land which are still required and the amounts which can be released; the most effective processes for doing this; the most appropriate places where it should take place; and how the requirements of different sectors can be addressed to enhance their competitiveness. It gives particular attention to meeting the needs of different forms of transport and to carrying forward my broader concerns to improve the overall quality of London's environment by emphasising the importance of good design for industrial development.

Providing and managing London's increasingly scarce stock of land for transport and industry is vital to the future success of our city. I look forward to working together with our partners on implementing these key policies of the London Plan.

Boris Johnson
Mayor of London

SUMMARY

Summary

i. This Supplementary Planning Guidance (SPG) provides guidance on the implementation of policies relating to land for industrial type activities and transport in the Mayor's London Plan[1] published in July 2011 (hereafter referred to as the 'London Plan'). It is focussed on the implementation of London Plan Policies 2.17 Strategic Industrial Locations, and 4.4 Managing Industrial Land and Premises; and 6.2 Providing Public Transport Capacity and Safeguarding Land for Transport. It is drawn up in the context of current national policy in the National Planning Policy Framework (NPPF).

ii. While this SPG does not have the same formal development plan status as these policies, it has been formally adopted by the Mayor as supplementary guidance. Adoption followed a period of public consultation, and a summary of the comments received and the responses of the Mayor to those comments is available on the Greater London Authority website. It will therefore be a material consideration in drawing up development plan documents and in taking planning decisions.

iii. The SPG provides guidance to:

- ensure an adequate stock of industrial capacity to meet the future needs and functional requirements of different types of industrial and related uses in different parts of London, including that for good quality and affordable space (London Plan Policy 4.4Aa);
- plan, monitor and manage the release of surplus industrial land so that it can better contribute to strategic and local planning objectives, especially those to provide more housing (including affordable housing) and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal (Policy 4.4Ab);
- ensure the provision of sufficient land, suitably located, for the development of an expanded transport system to serve London's needs (Policy 6.2C).

LAND FOR INDUSTRY

iv. Structural change in the London economy over recent decades has led to a shift in employment away from traditional manufacturing industries and into the service sector. Over the past three decades, London's employment in manufacturing has declined from over 1 million in 1971 to just 131,000 in 2010 and accounts for under 3 per cent of London's total employment. However, London's industrial areas provide for a wide range of different employment sectors, not just manufacturing, and it is estimated that they accommodate over 550,000 jobs or approximately 11 per cent of London's total employment.

[1] Mayor of London , The London Plan. Spatial Development Strategy for Greater London. GLA, 2011

v. Over the plan period for the London Plan (2011-2031) there will be increasing demand for industrial land from a range of other important industrial type functions. These include an efficient and sustainable land supply for logistics, waste management, recycling, environmental industries including renewable energy generation, transport functions, utilities, wholesale markets and some creative industries. In the highly competitive London land market, making provision for these requires positive planning to achieve outcomes that can meet the economic objectives as outlined in the London Plan and the Mayor's Economic Development Strategy in a sustainable manner.

vi. London Plan Policies 2.17 and 4.4 set out a plan-led approach to promoting and managing industrial capacity through three types of location:

- **Strategic Industrial Locations** (SILs) – a resource that must be sustained as London's main reservoir of industrial capacity but nevertheless must itself be subject to periodic review to reconcile demand and supply.
- **Locally Significant Industrial Sites** (LSIS) - protection of which needs to be reviewed regularly and justified in assessments of supply and demand for industrial land and identified in Development Plan Documents (DPD); and
- **Other smaller industrial sites** that historically have been particularly susceptible to change. In some circumstances these sites can better meet the London Plan's objectives in new uses, but in others will have a continuing local and strategic role for industry. This sub-category is likely to continue to be the area of greatest change

vii. In 2010, London had an estimated 7,433 hectares of industrial land, including 4,900 hectares of 'core uses' (industry and warehousing) and 2,500 hectares in wider industrial related uses such as waste, utilities, land for transport and wholesale markets. The 2010 total stock represents a reduction of 400 hectares since 2006 and 839 hectares since 2001. Approximately 4,175 hectares or 56 per cent of the total 2010 stock lies within allocated Strategic Industrial Locations. More than two-thirds of land in SILs is comprised of Preferred Industrial Locations (PILs) to meet the needs of industries, which to be competitive, do not place a high premium on an attractive environment, though they may require infrastructure and other qualitative improvements. The remaining third of land in SILs is comprised of Industrial Business Parks offering a higher quality environment.

viii. In planning for industrial land, boroughs are urged to provide for sufficient land and premises in industrial and related uses, including waste management, logistics, utilities and transport functions to meet future demand in London in good quality, flexible and affordable space. Having regard to the net reduction in land demand and the careful management of vacancy rates, the London Plan indicates that there is scope to release 41 hectares per annum between 2006-2026. In accordance with London Plan paragraph 4.22, this SPG has reviewed and updated this monitoring benchmark to 2031 based upon more up to date evidence of the demand for, and supply of industrial land. The revised benchmark for

planning and monitoring industrial land release in London for the period 2011-2031 is set in this SPG at **733** hectares in total, or **36.7** hectares per annum (see Figure 1 below).

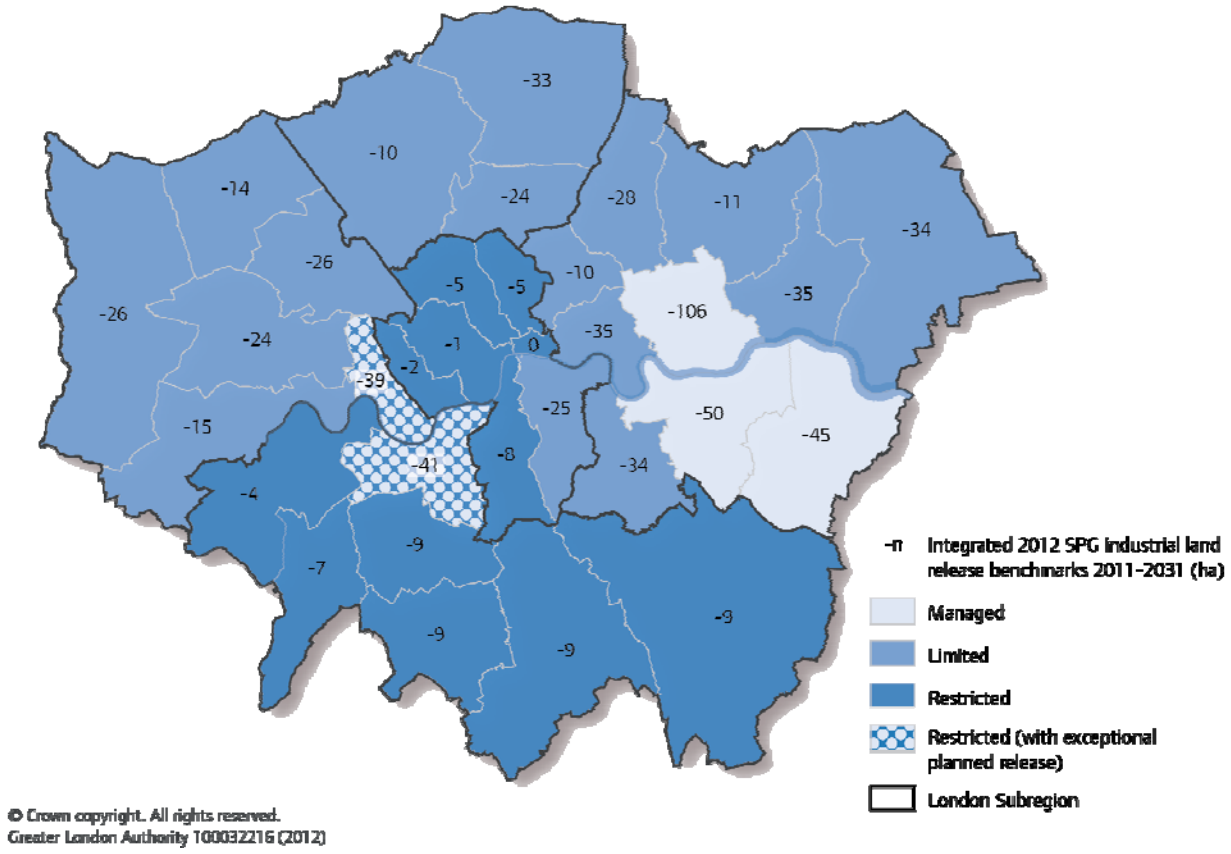
Figure 1. Industrial land change 2001-2010 and industrial land release benchmarks 2011-2031 (Hectares)

Sub Region / Inner/Outer London	Historical release 2001-2006 (Ha)	Historical release 2006-2010 (Ha)	2010 Total Industrial Land (Ha)	Industrial land release benchmark 2011-2031 (Ha)	Industrial land release annual benchmark 2011-2031 (Ha)
Central	-33	-16	448	**-46**	-2.3
East	-282	-243	2,935	**-388**	-19.4
North	-9	-4	767	**-67**	-3.4
South	-54	-12	1,169	**-88**	-4.4
West	-51	-72	2,114	**-144**	-7.2
London	**-429**	**-347**	**7,433**	**-733**	**-36.7**
Inner	-237	-133	1,952	**-361**	-18.1
Outer	-192	-214	5,481	**-372**	-18.6
London	**-429**	**-347**	**7,433**	**-733**	**-36.7**

ix. There are wide geographical variations in the demand and supply balance in different parts of London both at sub-regional and more local levels including within boroughs. Due to constraints on the quality, availability and nature of the current supply, there may be local shortfalls in quality modern floorspace and readily available development land, particularly in parts of North, West, South and Central London. Supply is less constrained in the East sub-region. The distribution of release must take full account of other land use priorities and be managed carefully to ensure that a balance is struck between retaining sufficient industrial land in appropriate locations and releasing land to other uses.

x. Based upon research and wider consultation, this SPG updates the borough groupings contained in Map 4.1 of the London Plan for the transfer of industrial land to other uses (see Figure 2 below). The SPG also provides guidance on local policy criteria and borough level monitoring benchmarks for industrial land transfer to manage the release of sites both within and outside SILs. In accordance with National Planning Policy Framework (NPPF) paragraph 22, these are to be refined by boroughs in Development Plan Documents in the light of local and strategic assessments of demand and supply.

Figure 2. SPG borough groupings for transfer of industrial land with indicative borough industrial land release benchmarks 2011-2031



xi. The spatial expression of this guidance indicates that:

- industrial land in Strategic Industrial Locations and Locally Significant Industrial Sites (where justified) should in general be protected, subject to guidance elsewhere in this SPG. In parts of East and North London in particular, there is scope for strategically coordinated release from some SILs to be managed through the London Plan, Opportunity Area Planning Frameworks and DPDs;
- release of industrial land through development management should generally be focussed on smaller sites outside of the SIL framework.

xii. In outer London, the full potential of the Strategic Outer London Development Centres (SOLDCs) with economic functions of greater than sub-regional importance in logistics, industry and green enterprise should be realised along with the need to manage and improve the overall stock of industrial capacity to meet both strategic and local needs, including those of small and medium sized enterprises (SMEs), start-ups and businesses requiring more affordable workspace. There is a need for partnership working to see that adequate provision in inner London is sustained, and where necessary enhanced, to meet the distinct

demands of the Central Activities Zone and Canary Wharf for locally accessible, industrial type activities.

xiii. Integrated action by the GLA, TfL, boroughs and other relevant agencies in the sub-regions is essential to bring forward the most attractive sites at a time when the planning process must also manage selective release of strategically surplus capacity to other uses. Where consolidation of industrial land affects SILs, the GLA group will coordinate this process through the London Plan and Opportunity Area Planning Frameworks. The Mayor will continue to work with boroughs and other partners to develop more detailed frameworks to manage the appropriate release of land in SILs to inform detailed revisions in DPDs.

xiv. Land released as a result of such consolidation exercises must be re-used to meet strategic as well as local priorities. Housing (including affordable housing) and appropriate mixed development will be the key priority. Release of surplus industrial land, in appropriate locations, can also provide capacity for social infrastructure such as education, health, emergency services, prisons, places of worship and other community facilities, and contribute to town centre renewal.

xv. In line with transport policy set out in the London Plan, Mayor's Transport Strategy and the London Freight Plan, this SPG encourages movement of goods by rail or water, including the use of inter-modal facilities and supports the sustainable movement of waste, and products arising from resource recovery, and the use of modes other than road transport when practicable.

xvi. Utilities (energy and water management) also represent established uses of industrial land. It is important that industrial land is available to ensure that related infrastructure required to accommodate growth can be provided. Future demand is difficult to quantify, although this is being explored as part of the emerging London Plan Implementation Plan. Boroughs should assess their potential local requirements in co-operation with their utility companies and not to release industrial land in DPDs prior to such an assessment.

xvii. Mixed uses and intensification can present urban design challenges. Redevelopment of surplus industrial land for higher density, mixed uses through the plan-led consolidation of a SIL or LSIS must not compromise their offer as the main strategic and local reservoirs of industrial capacity and as competitive locations for logistics, transport, utilities or waste management. Where land is released for housing or mixed-use development it must fulfil London Plan design policies and secure a complementary mix of activities.

xviii. The quality and fitness for purpose of industrial sites is an important concern of the London Plan and this SPG. Qualitative improvements in industrial locations can contribute towards the wider objectives of the London Plan to make London an exemplary city in terms of mitigating and adapting to climate change and urban design, public realm and architecture. The SPG contains design guidance for industrial development and areas together with guidance on how parking policy can be implemented to address local circumstances in industrial locations. The

effective management of industrial capacity can also play a key role in promoting social inclusion, access to employment and regeneration. Improving the quality of industrial sites including provision for Small and Medium-sized Enterprises (SMEs), will require coordinated planning, regeneration and transport actions, with cooperation between boroughs, the GLA group and other partners.

LAND FOR TRANSPORT

xix. Reflecting London Plan policy 6.2c, Part B (chapters 12-22) of this SPG seeks to ensure that there is a sufficient supply of land for transport uses in London.

xx. It is recognised in the Mayor's London Plan that transport plays an essential part in keeping the city prosperous economically and socially. Ensuring that land is available for transport functions close to the market it serves helps reduce the cost of provision, improve reliability and reduce transport's energy consumption. It may also help ensure operational staff can access their place of work more easily.

National Rail and Crossrail, Rail Freight, London Underground, Crossrail Docklands Light Railway (DLR) and Tramlink, New and improved stations and interchanges

xxi. The Government and TfL are making considerable investments in the rail and Underground network in London and the South East. Beyond that there are a number of proposals in the medium to long term. Land may be needed for line of route and stations. The alignment of Crossrail 2 is currently safeguarded. Stakeholders are encouraged to consult with TfL to find out the latest developments. Land for depots and other ancillary facilities should not be released without widespread consultation.

xxii. The potential for rail freight interchanges and more general logistics provision should be explored in conjunction with authorities in the wider metropolitan area and boroughs should safeguard rail freight sites where there is evidence that these remain viable for rail-related use and could be crucial in developing infrastructure. Railheads should be protected following the advice of the NPPF and the London Plan.

xxiii. Boroughs should, in their DPDs, safeguard land identified and required by TfL for the expansion and enhancement of the London Underground, DLR and London Overground networks and consider access and operational requirements when determining planning applications adjacent to the railway(s). Boroughs should consult TfL as to the status of any Tramlink schemes under development and, where appropriate, identify and protect sites that may be required to implement extensions to the network.

xxiv. Improvements to stations, interchange improvements and new stations should, where appropriate, be supported in DPDs and land requirements identified and safeguarded, in consultation with the relevant authorities.

Roads, River Thames crossings and congestion

xxv. TfL is developing a package of river crossing improvements in east London, including a cable car, which opened in June 2012. Statutory safeguarding remains for fixed link river crossings between Thamesmead and Beckton, and between North Greenwich and Silvertown. TfL is committed to reviewing the extent of safeguarding to ensure that it remains appropriate and does not unduly hinder the development of land no longer required.

xxvi. The Mayor wishes to see DPDs and Local Implementation Plans (LIPs) take a co-ordinated approach to smoothing traffic flow and tackling congestion and developing an integrated package of measures across a range of modes of transport. Any scheme that may have the impact of reducing road capacity for vehicles, for example to improve urban realm or provide facilities for walking and cycling, must take into account the impact on congestion and reliability for all road users, and on the bus network in particular, and the criteria set out in Policy 6.12.

Aviation

xxvii. DPDs should identify and protect any land required to support improvements of the facilities for passengers at Heathrow and other London airports and to ensure the availability of viable and attractive public transport options to access them. Land may also be required for ancillary industrial facilities for airports and airlines as well as associated logistics, and for transport improvements that increase the connectivity of London airports.

Buses: Garages, stations, passenger infrastructure, Coaches

xxviii. Protection of existing, and provision of additional, bus garaging to provide the capacity for efficient and sustainable operation of network will continue to be needed. The loss of any bus garage through redevelopment should be resisted unless a suitable alternative site that results in no overall loss of garage capacity can be found in the immediately adjacent area, or TfL agree formally that the particular garage is no longer required. DPDs should, following consultation with TfL, include policies on protection of bus garages and identify existing garages and future sites to meet any appropriate expansion needs.

xxix. Land for new bus stations or improved passenger interchange facilities should be identified in DPDs, Opportunity Area planning frameworks (OAPFs) and masterplans and supported by specific policies. Appropriate provision of facilities to serve their schemes should be made by developers, in consultation with TfL. The loss of any existing facility, or access thereto and from, should be resisted unless a suitable alternative arrangement is agreed with TfL.

xxx. DPDs and development briefs should identify sites or locations where new, improved or expanded stopping and/or stand facilities are required, both within new developments as well as elsewhere. Opportunities should be taken to

improve or provide on-street facilities and off-highway space when sites are redeveloped. Provision of bus stopping, standing and other such facilities should be subject to planning obligations and/or financial contribution from the developer, where appropriate.

xxxi. Bus priority schemes are under continuous development across London and in general these take place within highway limits. Some schemes may require small amounts of additional land and Boroughs should reflect this in their approach to DPDs, LIPs, development briefs and consideration of planning applications.

xxxii. Additional / alternate site(s) may be required to accommodate scheduled coach services in order to cater for growing demand at coach termini in the longer term; Westminster City Council should plan for the continued use and upgrade of Victoria Coach Station, in consultation with TfL.

xxxiii. Reflecting a limited supply of dedicated coach parking, DPDs should identify suitable additional locations for on-street coach bays (short term) and coach parking provision (mid to long term), particularly in Central London and in close proximity to key tourist destinations. Allowing temporary use of land for coach parking should also be considered. Promoting the shared use of existing off-street parking areas may sometimes be a possible alternative to on-street parking. TfL will work with coach operators and the private owners and tenants of suitable sites to investigate any such opportunities which arise. The loss of any existing facility for coaches or minibuses used for scheduled services and/or private hire including stations, should be resisted where possible, unless a suitable alternative arrangement is agreed with TfL.

Taxis and private hire

xxxiv. The loss of any existing taxi and private hire facility, including ranks, parking, driver facilities, pick/up and drop off areas and accesses, through a change of use or redevelopment, should be resisted unless a suitable alternative arrangement is agreed with TfL. Where appropriate, provision for taxis and private hire will be required to serve new development in accordance with details to be agreed with TfL. DPDs should support this additional provision and should protect existing provision. Furthermore DPDs should, in consultation with TfL, support provision for Dial a Ride and hospital and local authority transport services.

Walking and cycling

xxxv. New development should provide high quality, well connected provision for cyclists. Borough LIPs and DPDs should therefore provide support and, where required, safeguarding, to allow this. Consultation with TfL is recommended to determine the current status of Barclays Cycle Superhighways and Cycle Hire scheme.

xxxvi. Borough LIPs, DPD policies and development briefs should encourage development proposals that include high quality public realm and safe, convenient

and direct and accessible walking routes, supported by adequate space for the introduction of Legible London wayfinding. DPDs should also contain policies and safeguarding where necessary to allow the retention and improvement of the strategic walking network and its extension where appropriate. Consultation with TfL is recommended for further information about Legible London, the Strategic Walk London Network and other walking programmes.

xxxvii. Tools such as Pedestrian Environment Review System (PERS) and Pedestrian Comfort Guidance (PCG) can help assess the quality and capacity of pedestrian links and access to public transport stops and facilities in discussions with developers.

Parking and Electric Vehicles

xxxviii. Parking standards in DPDs (including those for Blue Badge holders) and parking provision in development should reflect the standards set out in the London Plan having regard to circumstances in which a more flexible approach would be appropriate as set out in this SPG. There may be the opportunity to release under-used, sub-standard or poorly located car parks for more valuable or sustainable land uses or to develop the air space above. Disposal of surplus parking land on specific sites should be identified through DPDs.

xxxix. A 'Guide for Developers' on the provision of EV charging infrastructure is included within this SPG. DPDs, masterplans and site development briefs should reflect this guidance.

Blue Ribbon Network (including wharves and boatyards)

xl. The London Plan contains a number of policies that seek to encourage use of the Blue Ribbon Network for passenger and freight transport.

xli. The use and re-activation of safeguarded wharves for waterborne freight transport should be promoted in line with the implementation actions proposed for each safeguarded wharf as part of the individual site assessments in the safeguarded wharves review – final publication is expected towards the end of 2012. The development of an additional boatyard facility on industrial land to address an identified shortfall should be promoted.

xlii. Passenger facilities including piers, jetties, moorings, slipways and other infrastructure should be protected and DPDs should identify locations for new and any opportunities for enhancing or extending existing facilities, especially within Opportunity Areas.

xliii. The provision of such facilities as part of waterside redevelopment, or near to major transport hubs close to the Thames and other navigable waterways, is key to extending water passenger transport. As with all transport interchanges, good access is required. Boroughs should within their DPDs identify, and safeguard where appropriate, land that would be suitable for passenger, tourist or cruise liner

facilities.

xliv. The loss of any existing facilities and accesses should be resisted unless a suitable alternative arrangement is agreed with TfL. Where appropriate, provision for river buses, ferries, river/canal cruises will be required to serve new riverside development in accordance with details to be agreed with TfL. DPDs should therefore include policies to encourage improved facilities and access to support this.

xlv. Facilities for recreational use of the Blue Ribbon Network should also be promoted.

INTRODUCTION

Purpose of the SPG

1.1 This Supplementary Planning Guidance (SPG) provides guidelines on the implementation of policies relating to industrial capacity and land for transport in the London Plan published in July 2011 (referred to hereafter as the 'London Plan'). It focuses on the implementation of London Plan Policies 2.17 and 4.4 to plan and manage the protection, release or enhancement of industrial land in the Strategic Industrial Locations (SIL), Locally Significant Industrial Sites (LSIS) and other smaller industrial sites not categorised as SIL or LSIS. The SPG also provides guidance on the implementation of London Plan policy 6.2 related to safeguarding land for transport. The approaches to the management of land for industry and transport set out in this SPG are designed to address the plan's broader concerns including those to ensure that London is a city that meets the challenges of economic and population growth; secures easy, safe and convenient access for everyone to access jobs, opportunities and facilities; improves the environment and leads the world in tackling climate change (London Plan Objectives 1, 5 and 6).

Status of the SPG

1.2 This document contains guidance supplementary to London Plan policies. While it does not have the same formal development plan status as these policies, it has been formally adopted by the Mayor as supplementary guidance. Adoption followed a period of public consultation, and a summary of the comments received and the responses of the Mayor to those comments is available on the Greater London Authority website. It will therefore be a material consideration in drawing up development plan documents and in taking planning decisions. It will also be of interest to landowners, developers, planning professionals and others concerned with the use and enhancement of land and premises in industrial and other related uses.

Objectives and Structure of the SPG

1.3 Part A of the SPG provides guidance on London Plan policy 2.17 Strategic Industrial Locations and policy 4.4 Managing Industrial Land and Premises to:

(a) adopt a rigorous approach to industrial land management to ensure a sufficient stock of land and premises to meet the future needs of different types of industrial and related uses in different parts of London, including for good quality and affordable space;

(b) plan, monitor and manage the release of surplus industrial land where this is compatible with (a) above, so that it can contribute to strategic and local planning objectives, especially those to provide more housing (including affordable housing) and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal.

1.4 The background and policy context for industrial land is set out in section 2. The plan, monitor and manage approach to industrial capacity is set out in Section 3

which is intended to reconcile the relationship between demand and supply of industrial land over the period 2011-2031. It provides a geographical framework for the boroughs and other partners to identify and promote the supply of sites of appropriate quality needed by different occupiers, as well as guiding the release of surplus land for other uses through realistic and balanced land-use policies.

1.5 Section 4 sets out the Strategic Industrial Locations Framework and highlights the importance of Locally Significant Industrial Sites and other smaller industrial sites. Sections 5 to 10 of the SPG provide guidance on a range of industrial related land uses and activities that play a major role in the efficient functioning of the London-wide, sub-regional and local economies and how these contribute to wider sustainability objectives. These uses include logistics and warehousing (Section 5), waste management and recycling (Section 6), utilities including energy and water management (Section 7), and wholesale markets (Section 8).

1.6 Section 9 applies national and London-wide policy principles to encourage more sustainable use of industrial land by fostering intensification through higher densities and, where appropriate, a wider mix of uses where these are mutually compatible and can produce a good quality environment and sustain or enhance provision for business.

1.7 Section 10 provides guidance on enhancing the quality of London's industrial capacity including the contribution that it can make to mitigating and adapting to climate change. This section also sets out how the management of industrial capacity can contribute towards social inclusion and regeneration. Section 11 provides advice on promoting a range of provision and responding to the needs of small and medium-sized industrial enterprises.

1.8 In Part B, the SPG provides guidance on London Plan policy 6.2 to identify and safeguard land for the full range of transport functions in addition to those occupying industrial land.

1.9 Land requirements to enable the development of transport route alignments, passenger facilities and supporting facilities are covered in sections 12 – 22. The background and policy context on land requirements for transport is set out in Section 12. The safeguarding of land required to support existing and new rail schemes on the National Rail network (including London Overground and Crossrail); Rail Freight, London Underground; Docklands Light Railway; Tramlink; new stations and interchange projects and upgrades is covered in Section 13. The safeguarding of alignments for proposed river crossings in east London is covered in Section 14 and requirements associated with aviation in Section 15.

1.10 Section 16 sets out a range of matters relating to buses (including garages, stations and interchanges, stops and stands and priority schemes) and issues for coaches. The needs of taxis and private hire vehicles are highlighted in Section 17. Guidance is provided in Section 18 on the need for new development to provide high quality, well connected provision for cyclists. Section 18 also highlights the role of appropriate land designation for providing a high quality public realm and safe,

convenient and direct and accessible walking routes. Matters relating to tackling road congestion, parking and electric vehicles are set out in Sections 19, 20 and 21 respectively. The need for supporting infrastructure to encourage use of the Blue Ribbon Network for passenger transport and for waterways facilities including wharves and boatyards is in Section 22.

PART A

LAND FOR INDUSTRY

2 Background and Policy Context

Definitions used in this SPG

2.1 Industrial Capacity is a general term referring to land, premises and other infrastructure (whether occupied or vacant) in industrial and related uses. For the purposes of this SPG, the expressions of 'industry and related uses' and 'industrial land' are broken down into the following categories:

(i) Light industry
(ii) General industry
(iii) Logistics, warehousing and storage
(iv) Waste management and recycling
(v) Utilities including energy and water management
(vi) Land for public transport functions
(vii) Wholesale markets
(viii) Some creative industries
(ix) Other industrial related uses not in categories (i) to (viii) above.

2.2 In broad terms, light industry and general industry comprise the types of activities defined in the Use Classes Order as B1(b)/(c) and B2 respectively. Logistics, warehousing and storage typically include those uses defined under Use Class B8. Together, the categories (i) to (iii) above, plus vacant industrial land comprise the 'core' definition for estimates of the supply of industrial land. However these Use Classes do not necessarily include all the potential users of industrial land including waste management, utilities, land for transport functions, wholesale markets and other industrial related uses, some of which, depending on the specific use, may be sui generis uses.

2.3 Conversely, some of these Use Classes can accommodate what are essentially office based rather than production activities. Definitions of industrial land are further complicated as traditional distinctions between production, assembly, distribution and office-based activities in the manufacturing sector are breaking down. Flexibility in the Use Classes and General Permitted Development Orders has in some areas led to changes from low value industrial to high value office uses or to "hybrid office/industrial uses" combining the benefits of these, and on occasion, logisitcs. In London, the SIL framework seeks to manage this balance and accommodate industries of different types (outlined in Section 4), recognizing that they will have different spatial and environmental requirements.

2.4 Recent research studies[2] on the demand for industrial land and the use of

[2] Roger Tym & Partners/King Sturge, Industrial Land Demand and Release Benchmarks in London, GLA. 2011; URS Corporation, London Industrial Land Release Benchmarks GLA, 2007 – Appendix F; Roger Tym & Partners, Ramidus Consulting Ltd, King Sturge, The Use of Business Space in London LDA; Roger Tym & Partners, Industrial Land Demand in London, GLA, 2004.

business space have investigated the relationship between industrial employment as defined in the Standard Industrial Classification (SIC) and industrial land use. These studies note that some SIC manufacturing and wholesale distribution categories uses exclude activities that occupy industrial land and conversely, include others which are highly unlikely to occupy such land, for example publishing and large manufacturing firms in central London. The latter are classified by the SIC as manufacturing but are most likely to be headquarters offices. The consensus among these research studies suggests that a refined method of selecting specific SICs for analysis is the most reliable approach when considering the demand for industrial land. Except where stated, this SPG adopts the 'wider' definition of industrial land comprising the categories (i) to (ix) in paragraph 2.1. The SICs used in assessing industrial employment are set out in recent research for the GLA[3].

Industry trends and emerging users of industrial land

2.5 Structural change in the London economy over recent decades has led to a shift in employment away from traditional manufacturing industries into the service sector. Over the past four decades, London's employment in manufacturing has declined from over 1 million in 1971 to just 131,000 in 2010[4] and accounts now for under 3% of London's total employment.

2.6 The reasons for the historic decline in manufacturing employment reflect structural change and macro economic factors exacerbated in London by higher costs and competition for land from other users. However, the process of change also entailed some restructuring among the industries that still find London a competitive location. This is partly because of accessibility to a regional market that is uniquely large, wealthy and compact. It also reflects innovation, changing techniques and specialisation as industries move towards the production of higher value goods or become more closely associated with 'services for the service sector' such as those with an emphasis on research, catering or the leisure market. The decline in manufacturing employment is anticipated to continue over the period 2011-2031 but at a reduced rate of around 4,000 jobs per annum[5].

2.7 London's industrial areas provide for a wide range of different employment sectors, not just manufacturing, and it is estimated that they accommodate over 550,000 jobs or approximately 11 per cent of London's total employment.[6] Over the plan period 2011-2031 there will be increasing demand from a range of other important users of industrial land. These include an efficient and constantly evolving logistics system, which is essential for the health and function of London and the wider regional economy. The imperative to manage as much as possible of London's

[3] Roger Tym & Partners/King Sturge (2011), Industrial Land Demand in London', GLA

[4] GLA Economics. Working Paper 51: Employment projections for London by sector and trend-based projections by borough. GLA, 2011

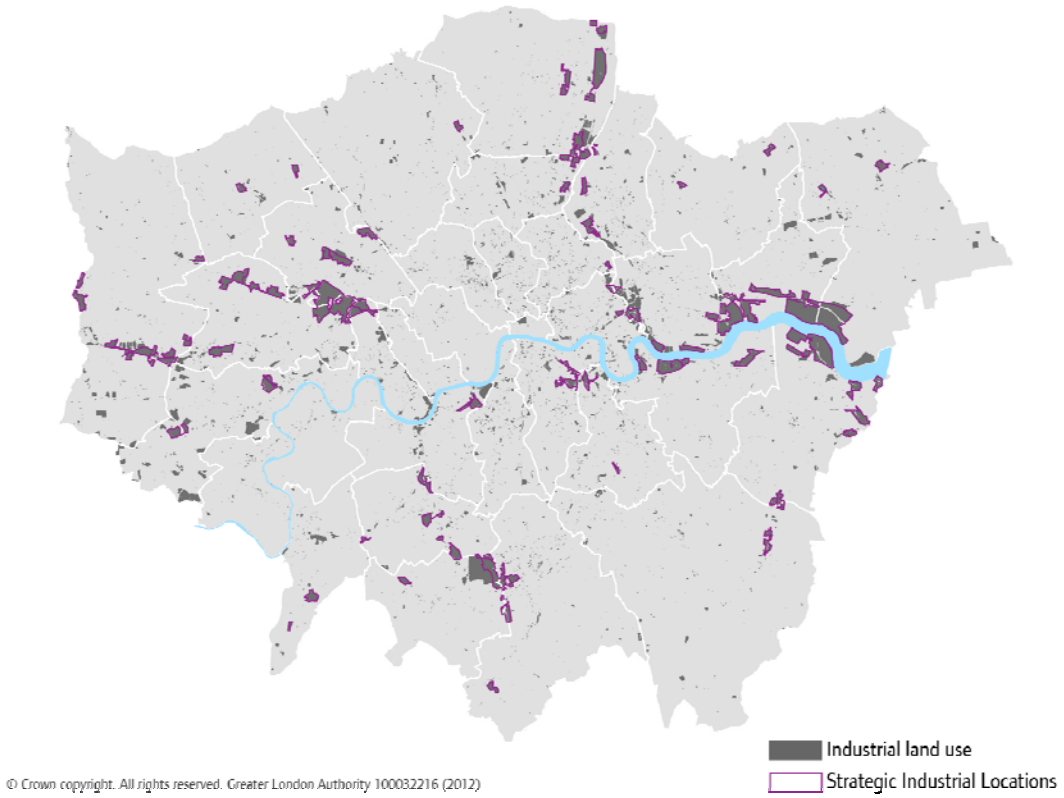
[5] Ibid

[6] URS/DTZ. London's Industrial Land Baseline. GLA/LDA, 2010

waste within London[7] will place additional demands on the existing stock of industrial land in London. Land is also required to support a growing need for public transport functions and utilities infrastructure to meet the needs of London's growing population. If planned for positively, these users of industrial land can contribute to London's overarching sustainability objectives and help respond to climate change.

2.8 On the supply side, London had an estimated 7,433 hectares of industrial land in 2010[8] including 4,900 hectares of 'core uses' (industry and warehousing) and 2,500 hectares in wider industrial related uses such as waste, utilities, land for transport and wholesale markets. The 2010 total stock represents a reduction of 348 hectares since 2006 and 780 hectares since 2001. Approximately 4,175 hectares or 56 per cent of the total 2010 stock lies within allocated Strategic Industrial Locations (see Section 4). The distribution of industrial land across London is illustrated in Figure 2.1 below. The largest share of industrial land is in East London (39 per cent) and West London (28 per cent). The majority of the stock of industrial land (63 per cent) is in outer London. Reports from the Valuation Office indicate that in 2008 London's industrial land accommodated almost 25 million sq m of industrial floorspace, broken down into 9.3 million sq m of 'factories' and 15.7 million sq m of warehousing[9].

Figure 2.1 London's Industrial Land Baseline 2010 (source: URS/DTZ)



*Indicative extent of SILs shown for illustrative purposes only. Detailed boundaries of SILs are for identification in DPDs

[7] Mayor of London. The London Plan.GLA, 2011, Policy 5.16

[8] URS/DTZ, 2010 op cit

[9] National Statistics: Commercial and Industrial Floorspace and Rateable Value Statistics, 2008.

2.9 The 2010 industrial land estimate for London includes 543 hectares of vacant land, an average vacancy rate of 10 per cent (expressed relative to the core stock of industry and warehousing land). This is a reduction from the rate of 12 per cent in 2006 and 14 per cent in 2001. The highest sub-regional rates of vacant land are found in East and North London (15 and 11 per cent respectively) and the lowest in Central London (2.5 per cent).

National Policy context

2.10 This SPG is drawn up in the context of current national policy in the National Planning Policy Framework (NPPF)[10], which sets out the Coalition Government's overarching policies on the delivery of sustainable development through the planning system. The SPG also considers how the management of industrial capacity can support sustainable economic growth, contribute towards the shaping of places with lower carbon emissions and respond to climate change.

2.11 In the NPPF, the Government sets out its expectations of the planning system to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs, while protecting and enhancing the natural and historic environment. The NPPF (paragraph 21) urges local planning authorities to plan positively for the location and promotion of clusters of business including creative and high technology industries and to identify and plan for new emerging sectors.

2.12 Paragraph 22 of the NPPF supports regular review of land allocations to ensure that planning policies avoid the long term protection of sites allocated for employment use where there is no reasonable prospect of those sites being used for that purpose. The London Plan (policies 2.17 and 4.4) and this SPG set out a rigorous approach to ensure that land allocations for industry and related uses are based upon robust, up to date and integrated strategic and local assessments of demand and supply.

2.13 Government emphasises the need for local planning authorities to prepare and maintain a robust evidence base to understand both existing business requirements and likely changes in the economic markets operating in and across their areas including:

> "…the needs for land or floorspace for economic development, including both the quantitative and qualitative needs for all foreseeable types of economic activity over the plan period… [and] …the existing and future supply of land available for economic development and its sufficiency and suitability to meet the identified needs.." (NPPF, paragraph 161).

[10] Communities and Local Government. National Planning Policy Framework, CLG, March 2012

2.14 Government planning policy places a high priority on a significant increase in the delivery of new homes. The NPPF states: “Reviews of land available for economic development should be undertaken at the same time as, or combined with, Strategic Housing Land Availability Assessments and should include a reappraisal of the suitability of previously allocated land.” When reviewing development plans, local planning authorities are urged to consider whether sites that are currently allocated for industrial or commercial use could be more appropriately re-allocated for housing or mixed-use development.

2.15 Paragraph 51 of the NPPF states that local planning authorities should normally approve planning applications for change to residential use and any associated development from commercial buildings (currently in the B use classes) where there is an identified need for additional housing in that area, provided that there are not strong economic reasons why such development would be appropriate. London Plan policies 2.17 and 4.4 and this SPG set out the strong, evidence based economic reasons why changes of use from commercial to residential in designated Strategic Industrial Locations (and locally significant sites supported by evidence based borough plans) would be inappropriate, unless they are part of a strategically co-ordinated process of consolidation through a borough plan or Opportunity Area Planning Framework. The SPG provides further guidance on this matter to ensure a sufficient stock of industrial land and premises to support sustainable economic growth, and to plan, monitor and manage release of surplus industrial land to contribute to other planning objectives including the delivery of housing.

London Plan policy context

2.16 The London Plan provides the spatial framework for the Mayor’s vision that London should excel among global cities – expanding opportunities for all its people and enterprises, achieving the highest environmental standards and quality of life and leading the world in its approach to tackling the urban challenges of the 21st century, particularly that of climate change. This SPG supports this vision by providing advice on the Mayor’s rigorous approach to industrial land management to ensure a sufficient stock of land and premises for industrial and related uses and planning carefully for the release of surplus land to other uses so that it can better contribute to strategic and local planning objectives including a significant increase in the delivery of housing.

2.17 The SPG draws on the policies set out in the London Plan. The two key policies that form the main basis for this part of the SPG are Policies 2.17 Strategic Industrial Locations and 4.4 Managing Industrial Land and Premises (see below).

POLICY 2.17 STRATEGIC INDUSTRIAL LOCATIONS

Strategic

A The Mayor will, and boroughs and other stakeholders should, promote, manage and, where appropriate, protect the strategic industrial locations (SILs) designated in Annex 3 and illustrated in Map 2.7, as London's main reservoirs of industrial and related capacity, including general and light industrial uses, logistics, waste management and environmental industries (such as renewable energy generation), utilities, wholesale markets and some transport functions.

Planning decisions

B Development proposals in SILs should be refused unless:

a they fall within the broad industrial type activities outlined in paragraph 2.79

b they are part of a strategically co-ordinated process of SIL consolidation through an opportunity area planning framework or borough development plan document

c the proposal is for employment workspace to meet identified needs for small and medium sized enterprises (SMEs) or new emerging industrial sectors; or

d the proposal is for small scale 'walk to' services for industrial occupiers such as workplace crèches or cafes.

C Development proposals within or adjacent to SILs should not compromise the integrity or effectiveness of these locations in accommodating industrial type activities.

LDF preparation

D In LDFs, boroughs should identify SILs on proposals maps and develop local policies based on clear and robust assessments of need to protect their function, to enhance their attractiveness and competitiveness for industrial type activities including access improvements.

POLICY 4.4 MANAGING INDUSTRIAL LAND AND PREMISES

Strategic

A The Mayor will work with boroughs and other partners to:
a adopt a rigorous approach to industrial land management to ensure a sufficient stock of land and premises to meet the future needs of different types of industrial and related uses in different parts of London, including for good quality and affordable space
b plan, monitor and manage release of surplus industrial land where this is compatible with a) above, so that it can contribute to strategic and local planning objectives, especially those to provide more housing, and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal.

LDF preparation

B LDFs should demonstrate how the borough stock of industrial land and premises in strategic industrial locations (Policy 2.17), locally significant industrial sites and other industrial sites will be planned and managed in local circumstances in line with this strategic policy and the location strategy in Chapter 2, taking account of:
a the need to identify and protect locally significant industrial sites where justified by evidence of demand
b strategic and local criteria to manage these and other industrial sites
c the borough level groupings for transfer of industrial land to other uses (see Map 4.1) and strategic monitoring benchmarks for industrial land release in supplementary planning guidance
d the need for strategic and local provision for waste management, transport facilities (including inter-modal freight interchanges), logistics and wholesale markets within London and the wider city region; and to accommodate demand for workspace for small and medium sized enterprises and for new and emerging industrial sectors including the need to identify sufficient capacity for renewable energy generation
e quality and fitness for purpose of sites
f accessibility to the strategic road network and potential for transport of goods by rail and/or water transport
g accessibility to the local workforce by public transport, walking and cycling
h integrated strategic and local assessments of industrial demand to justify retention and inform release of industrial capacity in order to achieve efficient use of land
i the potential for surplus industrial land to help meet strategic and local requirements for a mix of other uses such as housing and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal.

2.18 In addition to the policies above, this SPG also reflects the broader concerns of the London Plan. Of particular relevance is the need to meet the challenges of climate change to secure quality in the design and function of places. The SPG reflects economic and population growth, and provides guidance in Part A on releasing surplus industrial land for new uses and especially to meet the need for additional housing.

2.19 In considering the functionally important uses of industrial land in Part A, this SPG draws upon London Plan policies on waste and recycling (especially Policies 5.16 to 5.18); policies concerning logistics, freight, and transport functions including use of the Blue Ribbon Network (notably Policies 6.2, 6.14, 6.15, 7.26) and policies concerning utilities – energy and water management - (Policies 5.5 to 5.8 and 5.14 to 5.15). The SPG considers the needs of firms of different sizes including SMEs; new and emerging industries; measures to encourage innovation and the importance of a skilled labour supply for London's industry and related sectors (Policies 4.1, 4.10, 4.11 and 4.12).

Relationship to other Mayoral Strategies and Guidance

2.20 This SPG is related closely to other Mayoral strategies including those for Economic Development, Transport, Housing and Municipal and Business Waste, It also has close links to the Safeguarded Wharves Review 2011/12 and Supplementary Planning Guidance on Housing. Sections 5, 13 and 22 of this SPG is related closely to aspects of the London Freight Plan and the London Rail Freight Strategy.

2.21 At its centre of the Mayor's new approach to implementation of the London Plan is a suite of documents that together make up a London Planning Implementation Framework. An Implementation Plan is the overarching implementation document within this. The Implementation Framework also includes:

- Supplementary Planning Guidance (SPG), with a formal status.
- Opportunity Area/Intensification Area Frameworks, with a formal status
- Implementation guides
- The Annual Monitoring Report, with a formal status.

2.22 This SPG does not seek to duplicate the guidance in these documents but instead provides signposts and/or supplementary advice where appropriate.

3 The Plan, Monitor and Manage Approach for Industrial Capacity

3.1 This SPG has been designed around the national and London Plan approach to planning, monitoring and managing development. These components are each discussed in turn.

Planning for industrial land

3.2 London Plan Policies 2.17 and 4.4 set out a rigorous, evidence based and plan-led approach to ensure a sufficient stock of land and premises to meet the future needs of different types of industrial and related uses in different parts of London, including for good quality and affordable space. It seeks to achieve this in collaboration with the London boroughs through three types of location:

(i) Strategic Industrial Locations (SIL) – a resource which must be sustained as London's main reservoir of industrial capacity but nevertheless must itself be subject to periodic review through the London Plan and consolidated where appropriate, to reconcile demand and supply;

(ii) Locally Significant Industrial Sites (LSIS) – the protection of which in local Development Plan Documents (DPDs) needs to reviewed regularly and justified in borough Employment Land Reviews which should include an assessment of supply and demand for industrial land; and

(iii) other smaller sites that historically have been particularly susceptible to change, which in some circumstances can better meet the London Plan's objectives in new uses but in others will have a continuing local and strategic role for sustainable industrial uses. This sub-category will continue to be that most susceptible to change.

Guidance on SILs, LSIS and criteria based local policies to manage other smaller industrial sites is provided in Section 4

3.3 London Plan Policy 4.4 supports a plan, monitor and manage approach to releasing surplus industrial land so that it can contribute to other strategic and local planning objectives, and especially housing. Based upon research available at the time[11], the Plan indicates that industrial land use change should be monitored against benchmarks based upon an average, pan-London annual net release of 41 hectares 2006-2026. Map 4.1 of the London Plan illustrates the broad spatial distribution of this release by categorising boroughs into groupings according to whether they should take a *restricted, limited or managed* approach (see paragraphs 3.17-3.21 below) to transferring land to other uses.

[11] URS Corporation. London Industrial Land Release Benchmarks. GLA, 2007

3.4 The London Plan underlines the importance of keeping these benchmarks and borough groupings under review (paragraph 4.22). In accordance with the Plan this SPG updates and rolls forward the benchmarks to 2031 taking into account the latest strategic research[12]. This research fulfils the strategic evidence base requirements of the NPPF paragraph 161 and provides a comprehensive assessment of demand and supply of land in industrial and related uses in London. Specifically, the latest study is based upon a more robust estimate of the supply of industrial land in London[13]. On the demand side, the study takes into account London Plan employment projections from GLA Economics[14] and assessments of the more specific land requirements of a full range of industrial type uses and functions, most importantly logistics, waste, utilities, transport and wholesale markets[15]. The strategic assessment of industrial land is integrated with assessments of housing capacity[16] and need for additional waste facilities[17]. Further guidance on the methodology and principles for delivering such an integrated approach to industrial and housing land reviews is set out in the London Housing Capacity Study.[18]

3.5 Figure 3.1 illustrates research findings[19] of the overall projected demand from these broad uses for the period 2011-2031. Reflecting employment trends, the land demand for general industrial uses is expected to decline by some 821 hectares. However, the additional land demand for logistics (warehousing) and waste management is not directly related to employment trends and is projected to increase by 329 and 22 hectares respectively. The net balance of industrial land demand is an overall reduction of 470 hectares. This does not however include land demand for utilities, wholesale markets and land for transport, which will need to be factored in to more local assessments of demand (see Sections 7, 8 and Part B of this SPG respectively).

3.6 The estimated 543 hectares of vacant industrial land in London in 2010 represents 9.9 per cent of the core industrial and warehousing stock. For the majority of boroughs the vacancy rate is below this level. However in some boroughs, especially in East London there is significant scope to reduce this vacancy rate, recognising that to enable the industrial land market to operate smoothly it is appropriate to allow for some vacant land at any given time – known as ‘frictional vacancy’.

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[12] Roger Tym & Partners, King Sturge. Industrial Land Demand and Release Benchmarks in London. GLA, 2011.

[13] URS Corporation. London’s Industrial Land Baseline, LDA/GLA, 2010

[14] GLA Economics. Working Paper 39: Borough employment projections to 2031. GLA, 2009

[15] Roger Tym & Partners, King Sturge 2011, op cit

[16] Mayor of London. Mayor of London. The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS). GLA, 2009

[17] A broad brush indicative industrial land requirement is set out in Roger Tym & Partners, King Sturge 2011, op cit

[18] Mayor of London. The London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS), GLA, 2009

[19] Roger Tym & Partners, King Sturge 2011, op cit

3.7 Research indicates that there is an annual average take up[20] of industrial land of around 60-70 hectares or just over 1 per cent of the total industrial land stock. Allowing for time between one occupier moving out of a site and another moving in, consultants[21] estimate that a reasonable average rate of frictional vacancy for London at any given time approximates to around 5 per cent of the industrial land stock and 8 per cent for floorspace. For individual boroughs however the actual rate may vary between zero and 8 per cent depending upon local supply and demand conditions and the relationship with wider industrial and warehousing property markets. If a borough's vacancy rate is above 8 per cent (or rises above this level) this should not automatically trigger the release of designated industrial land, which should be managed through the DPD process in light of regular assessments. In preparing local assessments, boroughs are encouraged to manage vacancy rates for land and premises over a period of time factoring in wider economic cycles and taking into account the following guidelines:

- Boroughs with an **industrial land vacancy rate** less than 5 per cent are encouraged to make an allowance in DPDs and ELRs for the frictional vacancy rate to remain the same over the Plan period.

- Boroughs with an **industrial land vacancy rate** between 5 and 8 per cent are encouraged to manage this rate through DPDs and ELRs to reduce it towards 5 per cent of the total land stock.

- Boroughs with an **industrial land vacancy rate** above 8 per cent are encouraged to manage this rate through DPDs and ELRs to reduce it towards 8 per cent of the total land stock.

- With regards to vacant industrial and warehousing **premises**, all boroughs are encouraged to manage this vacancy rate to around 8 per cent of total industrial and warehousing **floorspace.**

3.8 At the London-wide level, these assumptions for the management of vacancy rates is anticipated to yield approximately 263 hectares for transfer to other uses (see Figure 3.1).

3.9 Drawing on strategic research and having regard to the net reduction in industrial land demand and the careful management of vacancy rates, this SPG indicates that there is scope to release **733** hectares between 2011-2031 or **36.7** hectares per annum (see Figure 3.1 and Table 3.1).

[20] Defined as gross new B2 general industrial / B8 storage and distribution development

[21] Roger Tym & Partners, King Sturge 2011, op cit; URS Corporation. 2007, op cit

Figure 3.1 Components of London industrial land release benchmarks, 2011-2031

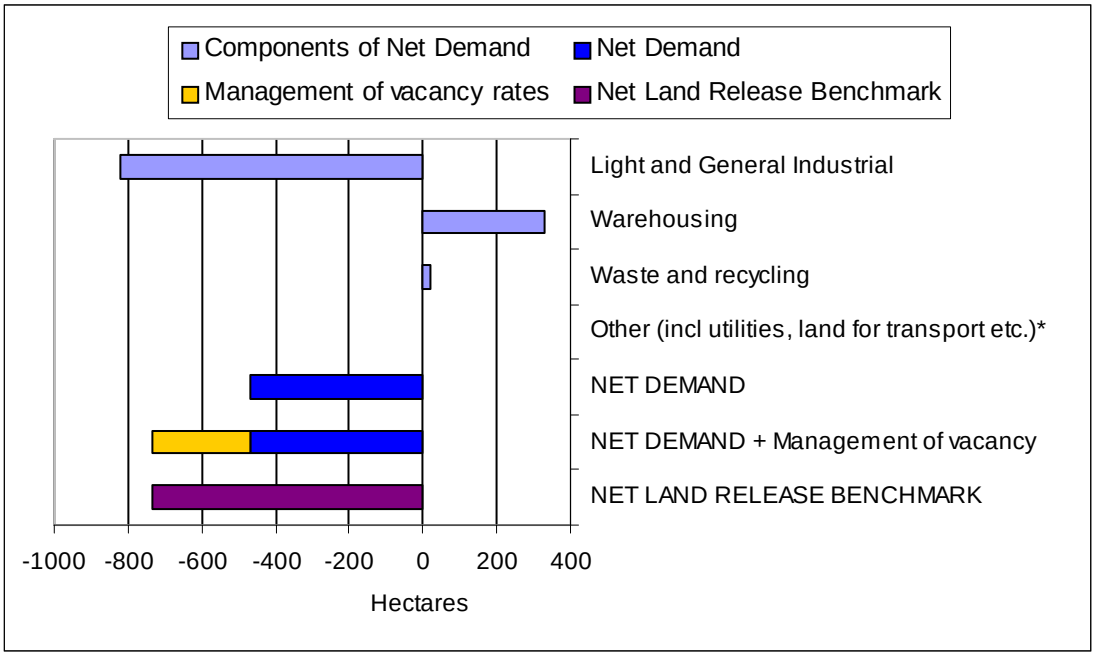


Table 3.1. Industrial land change 2001-2010 and industrial land release benchmarks, 2011-2031

Sub Region / Inner/Outer London	Historical release 2001-2006 (Ha)	Historical release 2006-2010 (Ha)	2010 Total Industrial Land (Ha)	Industrial land release benchmark 2011-2031 (Ha)	Industrial land release annual benchmark 2011-2031 (Ha)
Central	-33	-16	448	**-46**	-2.3
East	-282	-243	2,935	**-388**	-19.4
North	-9	-4	767	**-67**	-3.4
South	-54	-12	1,169	**-88**	-4.4
West	-51	-72	2,114	**-144**	-7.2
London	**-429**	**-347**	**7,433**	**-733**	**-36.7**
Average p.a.	*-86.2*	*-87.0**	--	--	--
Inner	-237	-133	1,952	**-361**	-18.1
Outer	-192	-214	5,481	**-372**	-18.6
London	**-429**	**-347**	**7,433**	**-733**	**-36.7**

Source: Roger Tym & Partners, King Sturge, 2011, URS 2010 and GLA. Figures are rounded.

**Average over 4 years 2006-2010*

Sub-regional guidance

3.10 Table 3.1 presents the monitoring benchmarks for release for London's sub-regions along with outer and inner London. The benchmarks are indicative and a guide to inform the management of industrial land and premises and to reduce vacancy

rates in London towards the frictional rates set out in paragraph 3.7 above. They provide the wider sub-regional and outer/inner London context for boroughs in preparing DPDs and will form the basis for strategic monitoring of the retention and release of industrial land in Annual Monitoring Reports.

3.11 There are wide geographical variations in the demand and supply balance across London and its sub-regions, between outer and inner London and within boroughs. Due to constraints on the quality, availability and nature of the current supply, there are local shortfalls in quality modern floorspace and readily available development land, particularly in parts of North, West, South and Central London. Supply is less constrained in the East sub-region but the distribution of release of surplus capacity must be managed carefully to ensure that sufficient industrial land is retained in locations to support sustainability objectives. Integrated action by the GLA, boroughs and other relevant agencies in outer and inner London and the sub-regions is essential to bring forward the most attractive sites at a time when strategic and local planning processes must manage selective release of strategically surplus capacity to other uses.

3.12 There is also need to coordinate the management of industrial capacity to meet the distinct needs of the Central Activities Zone (CAZ). Land used for industrial purposes outside but close to the CAZ can serve businesses and activities within the Zone, and in particular the office, leisure and retail economies of the West End, City and Canary Wharf. Demand is driven by businesses that need to be close to their customers including food and drink preparation, printing, publishing, local distribution activities such as couriers, and other ‘just-in-time’ services.

3.13 Central and inner London boroughs face strong competition from other higher value land uses, particularly commercial offices, residential and retailing. Boroughs around the CAZ should consider industrial uses servicing the needs of central London in Employment Land Reviews and determine whether it would be appropriate to safeguard land in Strategic and/or Locally Significant Industrial Sites (see Section 4). The forthcoming CAZ SPG will provide further specific guidance on this matter.

3.14 In outer London boroughs should manage and improve the stock of industrial capacity to meet both strategic and local needs, including those of small and medium sized enterprises (SMEs), start-ups and businesses requiring more affordable workspace (Policy 2.7Ai). Parts of outer London have economic functions in logistics, industry and green enterprise that are of greater than sub-regional importance. These locations are identified in the London Plan as Strategic Outer London Development Centres (SOLDCs) and include parts of Bexley, Barking and Dagenham and Havering; Enfield and the Upper Lee Valley; and Hillingdon, Hounslow and Park Royal in the West. Boroughs are urged to work with the GLA and other stakeholders to develop and implement policies, planning frameworks and other investment tools to realise the full potential of these locations.

3.15 Most release across London is expected to come from the East sub-region and

parts of North London where there is particular scope for structured release of some SILs. In line with the London Plan these should be planned and coordinated in collaboration with boroughs and other partners through Opportunity Area Planning Frameworks where appropriate, and detailed boundaries identified in DPDs Elsewhere release will be at significantly lower levels, especially in Central, West and South London (with the exceptions of White City and Nine Elms) and concentrated largely on smaller sites, outside of SILs.

Phasing

3.16 For London as a whole, it is recommended that an even approach is taken to phasingof the benchmarks in Table 3.1 over the 5 year periods from 2011-2031. This follows the rigorous approach to management of industrial land in Policy 4.4 of the London Plan. It is designed to allow plans for place-shaping and regeneration to be implemented over a sensible period of time whilst ensuring that vacancy rates are managed down to appropriate frictional levels (see paragraph 3.7). At borough level, the phasing of surplus industrial land transfer may differ from the London wide average, for example where plan implementation of the largest sites is well advanced allowing for phasing to be front loaded. By contrast, longer term physical regeneration and place-shaping proposals requiring significant investment in infrastructure may be phased in later years in the plan period.

Borough level guidance

3.17 All the boroughs are classified in Table 3.2 and Figure 3.2 into three groupings, reflecting the broad approach they should adopt to the release of industrial land.

3.18 The borough level groupings were identified first by consultants[22] in 1999 to reflect the sub-regional balance between industrial land demand and supply suggested by market experience as well as broader economic indicators. The groupings were updated in 2004[23] and 2007[24]. To implement London Plan paragraph 4.22 the groupings have been reviewed through an integrated strategic and local assessment which combines recent strategic research[25], adopted/emerging borough Core Strategies, up to date local Employment Land Reviews, and proposals contained in Opportunity Area Planning Frameworks.

3.19 The groupings have been derived taking into account the following indicators:

- Overall stock of industrial land and premises relative to the market area (see paragraph 5.13 and Annex 4)
- Current levels of vacant land derived from the 2010 industrial land baseline study
- Current rental values

[22] Roger Tym & Partners, GVA Grimley (1999), 'Industrial Land Demand in London', LPAC, 1999

[23] Roger Tym & Partners (2004), 'Industrial and Warehousing Land Demand in London', GLA

[24] URS Corporation. London Industrial Land Release Benchmarks. GLA, 2007

[25] Roger Tym & Partners, King Sturge 2011, op cit

- Property agent opinion
- Industrial land release benchmarks (paragraphs 3.23 to 3.25 and Annex 1).

3.20 Relative to those in the 2011 London Plan, the assessment suggested the following changes to the groupings:

- Barking & Dagenham to move from the 'Managed' to the 'Limited' transfer category
- Greenwich to move from the 'Limited' to the 'Managed' transfer category
- Havering to move from the 'Managed' to the 'Limited' transfer category
- Hounslow to move from the 'Restricted' to the 'Limited transfer' category
- Hammersmith & Fulham and Wandsworth to remain in the 'Restricted' category but with an allowance for exceptional planned release (see below for further details).

3.21 In developing site specific allocations, policies and criteria for the retention and release of industrial sites in DPDs, boroughs should have regard to the broad categorisations and more local differences in supply and demand in Table 3.2 and illustrated in Figure 3.2.

Table 3.2 Borough level groupings for transfer of industrial land to other uses 2011-2031

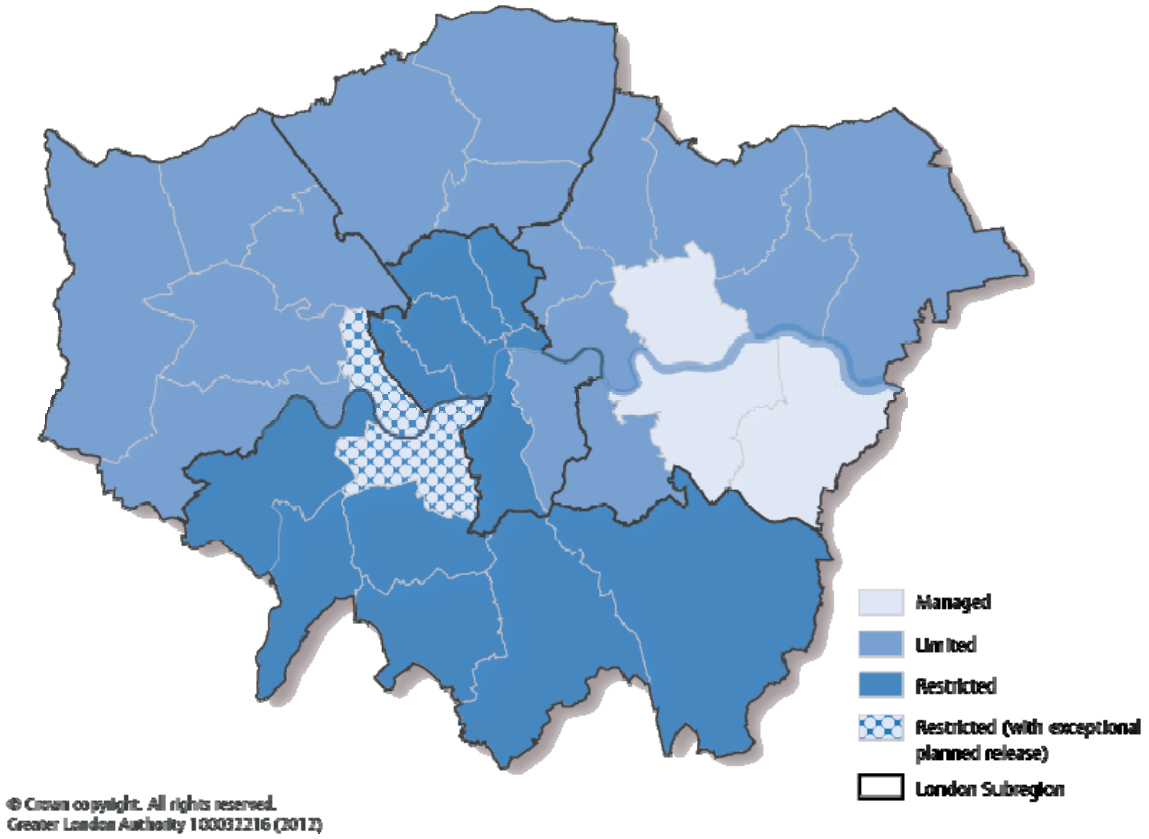
Restricted transfer of industrial sites	
Central	**Inner:** Camden, City of London, Islington, Kensington & Chelsea, Lambeth, Westminster
South	**Outer:** Bromley, Croydon, Kingston, Merton, Richmond upon Thames, Sutton **Inner:** Wandsworth*
West	**Inner:** Hammersmith & Fulham*

*(with exceptional planned release)

Limited transfer of industrial sites	
Central	**Inner:** Southwark
East	**Outer:** Barking & Dagenham, Havering, Redbridge, Waltham Forest **Inner:** Lewisham, Hackney, Tower Hamlets
North	**Outer:** Barnet, Enfield, Haringey
West	**Outer:** Brent, Ealing, Harrow, Hillingdon, Hounslow

Managed transfer of industrial sites	
East	**Outer:** Bexley, Greenwich **Inner:** Newham

Figure 3.2 Borough level groupings for transfer of industrial land to other uses 2011-2031



(i) *Managed Transfer*: Boroughs in this category generally have a greater supply of vacant industrial sites relative to demand and should generally adopt a rigorous but sensitively managed approach to transfer of surplus capacity to other uses. There may also be scope for reconfiguration of the existing industrial land portfolio to safeguard the best quality sites and secure adequate capacity for waste, logistics and other functionally important uses including land for transport, utilities, energy, water management, and wholesale markets whilst maximising the potential of land released to other uses. Planning Frameworks will play a key role in managing change in SILs in Opportunity Areas. The phasing of release should have regard to the need to reduce vacancy rates for land and premises towards the frictional rates set out in paragraph 3.7.

(ii) *Restricted Transfer*: Boroughs in this category typically have low levels of industrial land relative to demand (particularly for waste management or land for logistics) and/or low proportions of industrial land within the SIL framework. Boroughs in this category are encouraged to adopt a more restrictive approach to the transfer of industrial sites to other uses and set appropriate evidence based criteria to manage smaller non-designated sites. This should not preclude the possibility of smaller scale release where boroughs have made adequate provision for industrial land in their DPDs in particular for waste management, logistics and for SMEs/creative industries.

(iii) *Restricted Transfer with exceptional planned release.* Two boroughs, Hammersmith & Fulham and Wandsworth, though in the 'Restricted' category are implementing significant and exceptional planned releases at White City/Earls Court and Nine Elms respectively. In recognition of this, these boroughs are identified in Figure 3.2 as within a special category, 'Restricted with exceptional planned release'. Apart from these specified planned releases, the boroughs should adopt a more restrictive approach to land release elsewhere.

(iv) *Limited Transfer*: This category is intermediate between the managed and restricted categories above. Taking account of local variations of demand boroughs are encouraged to manage and where possible, reconfigure their portfolios of industrial land, safeguarding the best quality sites and phasing release to reduce vacancy rates for land and premises towards the frictional rates set out in paragraph 3.7.

3.22 Within boroughs (and the general level of demand indicated for them) there can be marked local differences in the demand and supply of industrial space. It will be for boroughs to justify and address these local departures from general market conditions prevailing in their areas.

3.23 Quantified guidance on the borough distribution of the sub-regional monitoring benchmarks is provided in Annex 1 based upon an integrated assessment which combines recent strategic research, adopted/emerging borough Core Strategies, recent local Employment Land Reviews, and proposals contained in Opportunity Area Planning Frameworks. It is stressed however that the borough level benchmarks in Annex 1 should not be interpreted too prescriptively.

3.24 The benchmarks in the strategic research for many of the Central and inner London boroughs reflect a strong trend in the loss of warehousing floorspace and competition from other higher value uses. To fulfil economic and wider sustainability objectives the benchmark for Central London has been reduced from that set out in strategic research to ensure that industrial capacity is retained in those parts of inner London outside the CAZ (see paragraphs 3.12 and 3.13), with a corresponding increase in the benchmark for East London where there are higher levels of industrial land vacancy and greater scope for regeneration. In addition, property markets do not always follow borough boundaries, and the benchmarks in Annex 1 reflect the scope for transfer of demand between boroughs in the same property market area.

3.25 Taking these considerations into account, the benchmarks in Annex 1 should be used only as starting points for more detailed local assessments of demand and supply in borough Employment Land Reviews in line with NPPF paragraph 22. Boroughs are advised to ensure that local ELRs draw upon the GLA's most up to date strategic industrial land studies and to use common data and assumptions where feasible.

3.26 In planning for industrial land in DPDs, boroughs are also encouraged to take into

account the following three-stage approach[26]:

(a) **taking stock of the existing situation**: a preliminary review of a borough's industrial land portfolio, identifying sites which are clearly no longer fit for purpose and those 'high quality' or 'strategic' sites which, subject to demand, should continue to be safeguarded for industrial and related development. Local assessments can go further than the strategic demand and supply assessments with regard to the qualitative characteristics of locations and specific sites (see paragraphs 4.14 to 4.16 and checklist in Annex 3). Local assessments should involve a structured consideration of the qualities of industrial sites in the borough in comparison with the continuing needs of the area having particular regard for waste management, logistics, utilities, transport functions and more local smaller scale requirements for industrial type activities and the sites available to meet those needs.

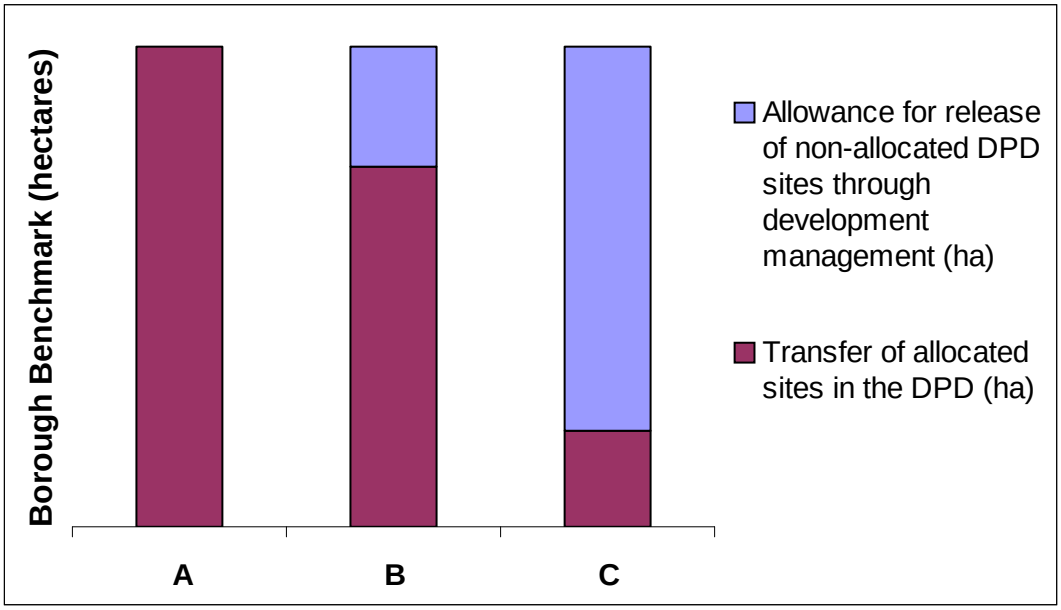
(b) **creating a picture of future requirements**: assess, by a variety of means (ie economic forecasting, consideration of recent trends and/or assessment of local property market conditions) the scale and nature of likely demand for industrial land over the plan period and the available supply in quantitative terms.

(c) **identifying a new portfolio of sites**: undertake a more detailed review of site supply and quality and identify and designate specific sites (taking into account the London Plan Strategic Industrial Locations) in order to create a balanced strategic and local industrial land portfolio. This process should be informed by qualitative site appraisal criteria (see paragraphs 4.14 to 4.16 and Annex 3). It should confirm existing sites to be retained or released, define gaps in portfolio and identify additional sites to be brought forward if appropriate.

3.27 When identifying a new portfolio of sites to retain in industrial use or the release of surplus sites to other uses, it is important to remember that the release benchmarks in Table 3.1 apply to all sites (whether designated in DPDs or not) - see schematic diagrams Figure 3.3 below. Before settling on a quantum of surplus industrial land to transfer to other uses through DPD site allocations, an allowance should be made for the release of non-designated sites through the development management process using policy criteria set out in the DPD (see guidance in paragraphs 4.14 to 4.16).

[26] See Office of the Deputy Prime Minister. Employment Land Reviews – Guidance Note, 2004

Figure 3.3 Applying the benchmarks to site allocations in Development Plan Documents and in development management



3.28 One approach might be to transfer the entire borough release benchmark through site allocations in the DPD (see approach A in Figure 3.3). Whilst this might appear to be plan-led and proactive, it does not allow for any flexibility in responding to proposals in development management during the plan period. It is more likely that it will result in the planned benchmark being exceeded – as has often been the case in practice. Towards the other extreme, approach C in Figure 3.3 transfers some surplus industrial sites through DPD allocations, but leaves a larger allowance for management through the development control process. This approach may work for those boroughs in the 'restricted' category with a very low absolute benchmark, but it is not recommended for boroughs in the 'managed' grouping for industrial land transfer.

3.29 Approach B in Figure 3.3 sets a relatively high proportion of the borough benchmark for release through site allocations in the DPD, This may be described as a proactive, plan-led approach to retention of the best quality industrial sites and the managed transfer of the poorest quality sites that are surplus to requirements but with the added flexibility of an allowance for some further transfers to take place during the plan period through the development management process. This is the recommended approach to be taken, particularly for those boroughs in the 'managed' and 'limited' groupings for transfer.

Monitoring

3.30 Accurate monitoring of the demand and supply of industrial land has a crucial role to play in a situation where overall land supply in London is finite and competing demands on it are strong. In such dynamic circumstances, timely information is essential to inform the management of land and keep policy responsive to changes in supply and demand relationships in line with NPPF (paragraph 22) requirement to review land allocations regularly.

3.31 At the London-wide, sub-regional and borough level there is a need to monitor annually the actual rate of industrial land release against the monitoring benchmarks set out in the London Plan and this SPG (Table 3.1 and Annex 1). Monitoring should include land which has changed use through DPDs and development decisions and should also consider pre-application discussions and prospective industrial land release through emerging policy and supplementary documents.

3.32 Similarly, it will be essential to check the trend in take-up of industrial land (estimated over the past decade to be about 60-70 hectares per annum for new development)[27]. These will be key monitoring benchmarks. To test them locally and strategically will require a robust understanding of both demand and supply, particularly outside the SILs where, according to policy, most of the change should be taking place.

3.33 Other appropriate sub-regional, outer/inner London and borough-level benchmarks to inform policy for industrial land include:

(i) Overall stock of industrial land and premises;
(ii) Supply of vacant industrial land and premises;
(iii) Gross/net industrial permissions, under construction and completions;
(iv) Gross/net take-up of industrial land and premises;
(v) Industrial land and property changes of use and demolitions;
(vi) Industrial rental values, land values, yields and robust marketing assessments;
(vii) Businesses' demands.

3.34 Estimates of items (i) and (ii) above for 2010 are contained within recent research[28]. Annual data for items (iii), (iv) and (v) can be monitored through a combination of the London Development Database managed by the GLA with data from the boroughs; Land Use Change Statistics[29] and the National Land Use Database[30]. Up to date information on industrial rental values, land values, yields, market perceptions and business' demands are often reflected in property market press and in more local assessments.

3.35 The sub-regional, outer/inner London and borough level benchmarks in Table 3.1 above and Annex 1 can be monitored periodically through ongoing strategic and local assessments of industrial land supply and demand. Progress towards the indicative monitoring benchmarks for industrial land release shown in Table 3.1 can be identified in Annual Monitoring Reports.

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[27] Roger Tym & Partners, King Sturge 2011, op cit; URS Corporation (2007), 'London Industrial Land Release Benchmarks' op cit; Roger Tym & Partners (2004) op cit

[28] URS Corporation. London's Industrial Land Baseline, LDA/GLA, 2010

[29] Communities and Local Government, Land Use Change Statistics. Available at: http://www.communities.gov.uk/planningandbuilding/planningbuilding/planningstatistics/landusechange/

[30] The National Land Use Database of Previously Developed Land is now managed by the Homes and Communities Agency: http://www.homesandcommunities.co.uk

3.36 Monitoring data on the industrial land stock, vacancy and transfers of surplus land at London, sub-regional and borough level, can be assessed against the benchmarks and borough categorisations in the London Plan and as updated in this SPG. This process can inform the management of industrial land accordingly by the Mayor, boroughs and other stakeholders (see below). Cumulative assessment of the changes suggested by these monitoring indicators will inform longer term reviews of the SIL, Locally Significant Industrial Sites and other smaller non-designated industrial sites.

Managing industrial land

3.37 London Plan policy 4.4A(a) sets out a rigorous approach to industrial land management to ensure a sufficient stock of land and premises to meet the future needs of different types of industrial and related uses in different parts of London, including for good quality and affordable space. Further guidance on the different types of industrial and related uses is provided in Sections 5-8 and Part B.

3.38 London Plan policy 4.4A(b) sets out a plan, monitor and manage approach to the release of surplus industrial land where this is compatible with Policy 4.4A(a). This approach is designed to contribute to other strategic and local planning objectives, especially those to provide more housing (including affordable housing) and, in appropriate locations, to provide social infrastructure and to contribute to town centre renewal.

3.39 In managing and reviewing industrial capacity, including SILs, account should be taken of the scope for consolidating industrial capacity at particularly appropriate locations. This should be considered in the light of strategic and local assessments of industrial land demand and supply (quantitative and qualitative) and must be informed by a robust appreciation of short and longer term market trends and policy guidance (see Section 4). It must also be cast in the context of robust and sensitive relocation arrangements, which ensure that London jobs, and Londoners' access to them, are not compromised. This exercise must be coordinated strategically (and structured to minimise 'hope value'[31]) taking account of transport and regeneration as well as planning objectives to ensure that London's overall future industrial needs are addressed including in particular for waste management, logistics, utilities and land for public transport functions.

3.40 Where the consolidation of industrial land involves the release of land from a SIL the new uses must not compromise the operational integrity of the industrial land remaining as SIL (London Plan policy 2.17C). The GLA group will coordinate the consolidation process in collaboration with boroughs and other partners through the London Plan and in more geographically specific detail through Opportunity Area Planning Frameworks and DPDs. The Mayor will continue to work with boroughs and other partners to develop frameworks to manage the appropriate release of land where it affects SILs. The Lower and Upper Lee Valley OAPFs and Olympic Legacy SPG provide examples of good practice in this regard. These frameworks

[31] Hope value is a term that refers to situations where land is either being held vacant or out of productive industrial use in the 'hope' that the land use designation will change use to a higher value use.

can inform detailed boundary reviews of SILs through the formal DPD process.

3.41 Land released as a result of such consolidation exercises must be re-used to meet strategic as well as local priorities. Housing, including affordable housing, and appropriate mixed development will be the key priority. Borough experience has shown that with proper planning and management procedures and given the link between population and employment, new housing generates rather than crowds out local jobs[32]. Policy 4.4 of the London Plan recognises that surplus industrial land release, in appropriate locations, can also provide capacity for social infrastructure. This may include education, health, emergency services, prisons, places of worship and other community facilities. Increasing capacity for town centre related development in accordance with London Plan Policies 2.5, 4.6-4.7 is also an important consideration.

3.42 This guidance for industrial consolidation in no way weakens the objective of London Plan Policies 2.17 and 4.4 to secure an adequate supply of industrial capacity. Boroughs, developers and landowners must take this as a clear statement of policy principle. Attempts to realise 'hope value' through proposals for unacceptable alternative development within SILs will be strongly resisted.

Development Management

3.43 The approach taken to the transfer of surplus industrial land through the plan-led transfer of sites through site allocations in DPDs and an allowance for the release of smaller, non-designated sites (see paragraphs 3.27-3.29 above) both need to be carefully managed through the development management process. Proposals for non-industrial uses on non-designated industrial sites should be considered carefully against London Plan policy 4.4; the borough grouping (Map 4.1 in the London Plan, as updated in Figure 3.2 of this SPG); policy criteria set out in this SPG and the DPD; and strategic and local evidence including borough ELRs.

3.44 The cumulative impact of transfers of designated and non-designated land through development management should be taken into account by monitoring change against the borough benchmarks (to be set out in DPDs/ELRs having regard to guidance in this SPG). The cumulative impact of transfer should also consider any other sites which have been given planning permission and those sites given 'in principle' acknowledgement of their potential for transfer in pre-application discussions.

[32] GLA Economics (2003). Spreading Success? How London Is Changing. GLA. GLA Economics (2005), 'More Residents More Jobs? The Relationship between Population, Employment and Accessibility in London', GLA Michael Batty (2007), 'More Residents More Jobs? A review of the report from GLA Economics', CASA/UCL

SPG 3 – Industrial Capacity and the Plan, Monitor and Manage Approach

In implementing London Plan Policies 2.17 and 4.4, the Mayor will and TfL, boroughs and other partners should:

(i) adopt a positive 'plan-monitor-manage' approach to planning for industrial land in London to bring demand and supply into closer harmony;

(ii) undertake regular integrated strategic and local assessments of the quantitative and qualitative supply and demand for industrial land having regard to the range of industrial type activities indicated in paragraph 2.1 of this SPG to inform the retention of industrial land in DPDs and the release of surplus capacity to other uses. These assessments should be integrated with assessments of housing capacity and need for new waste facilities, utilities and land for transport;

(iii) take into account the broad phasing and sub-regional distribution of the London-wide monitoring benchmark for industrial land release set out in Table 3.1;

(iv) take account, when developing borough benchmarks, site specific allocations and policies in DPDs, of the qualitative borough categorisations for Restricted, Limited and Managed transfer of industrial land to other uses in Table 3.2 and Figure 3.2, and the indicative monitoring release benchmarks outlined for boroughs in Annex 1;

(v) take a proactive, plan-led approach having regard to the monitoring release benchmarks, to retain the best quality industrial sites and to manage the transfer of the poorest quality sites that are surplus to requirements through DPD site re-allocations whilst maintaining an allowance for some further transfers to take place during the plan period through the development management process;

(vi) test the cumulative impact of transfers against the borough benchmarks, including planned transfers of designated sites in DPDs and transfers of non-designated industrial land through the development management process including those agreed in principle in pre-application discussions;

(vii) consider in light of strategic and local assessments the potential to consolidate and intensify industrial uses in appropriate locations and establish effective re-location arrangements in the context of national and regional policy. The GLA group will work with boroughs and other stakeholders to coordinate this process as it affects SILs;

(viii) coordinate changes to the SILs so that these can be considered in a future review of the London Plan and where appropriate, develop frameworks including OAPFs to manage the release of land and inform detailed reviews of SIL boundaries through the DPD process;

(ix) ensure that sites released from industrial use meet strategic as well as local needs. The priority should be to meet the need for housing, including affordable

housing, and appropriate mixed development. Increasing capacity for social infrastructure and town centre related development will also be important in appropriate locations;

(x) monitor industrial land and policy development benchmarks having regard to those indicators set out in paragraph 3.33 of this SPG and coordinate this on a London-wide and sub-regional basis.

The spatial expression of this guidance is that:

(xii) industrial land in Strategic Industrial Locations and strategically recognised Locally Significant Industrial Sites should in general be protected, subject to guidance elsewhere in this SPG. In parts of the East and North sub-regions there is particular scope for structured release of some SILs. In line with the London Plan these should be planned and coordinated in collaboration with boroughs and other partners through the London Plan, Opportunity Area Planning Frameworks where appropriate, and detailed boundaries identified in DPDs;

(xiii) release of industrial land through development management should generally be focussed on smaller sites outside the SIL framework;

(xiv) in outer London, boroughs should manage and improve the stock of industrial capacity to meet both strategic and local needs, including those of small and medium sized enterprises (SMEs), start-ups and businesses requiring more affordable workspace;

(xv) boroughs are urged to work with the GLA and other stakeholders to develop and implement policies, planning frameworks and other investment tools to realise the full potential of the Strategic Outer London Development Centres (SOLDCs) with economic functions of greater than sub-regional importance in logistics, industry and green enterprise;

(xvi) there is need for partnership working to see that adequate provision in inner London is sustained, and where necessary enhanced, to meet the distinct demands of the Central Activities Zone for locally accessible, industrial type activities.

4 Strategic Industrial Locations and other industrial provision

4.1 London Plan Policies 2.17 and 4.4 set out a plan-led approach to promoting and managing industrial capacity through three types of location which are considered in turn in this section.

(i) Strategic Industrial Locations
(ii) Locally Significant Industrial Sites
(iii) Other smaller industrial sites.

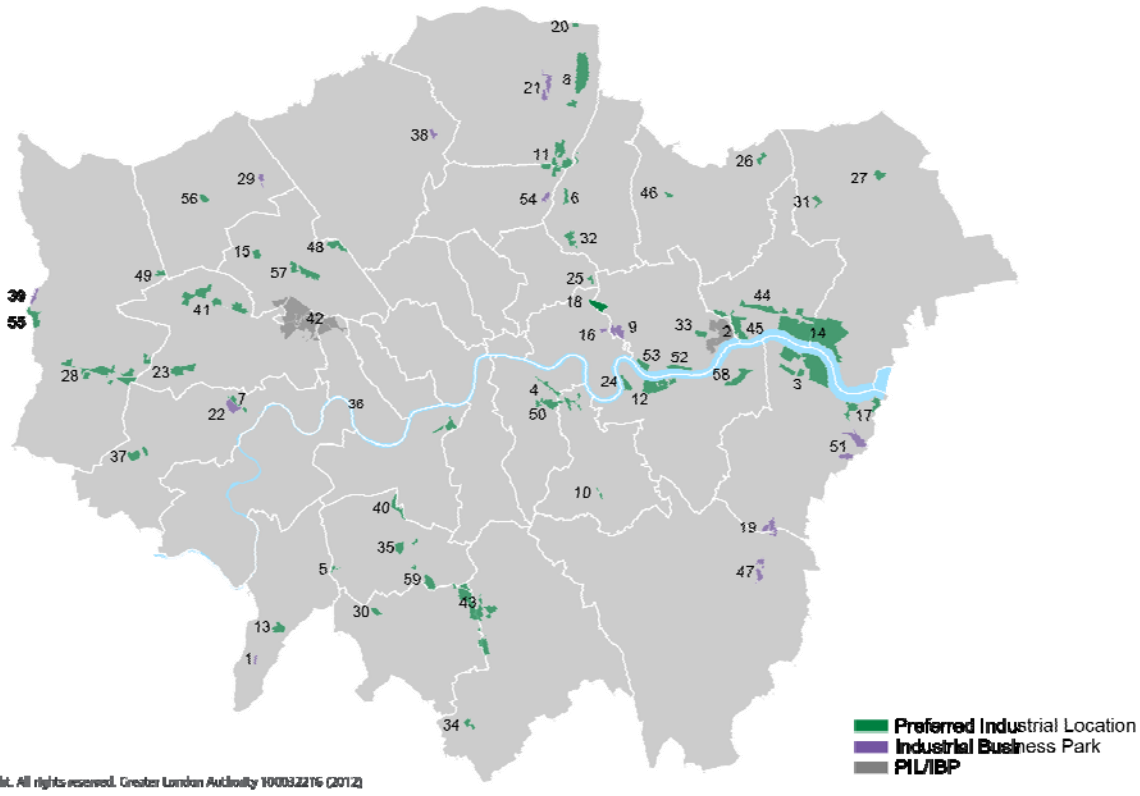
Strategic Industrial Locations

4.2 The Strategic Industrial Locations (London Plan Policy 2.17 and Annex 3) are illustrated in Figure 4.1. They are London's main reservoir of land for industry and warehousing and related capacity for waste, energy generation, transport and utilities. The total area of the SILs identified in the 2011 London Plan is 4,150 hectares covering approximately 50 per cent of London's total industrial land supply[33].

4.3 Most of London's SILs are over 20 hectares in size although in some areas, especially parts of West and South London where there is particular pressure on industrial land (see paragraph 3.11), smaller locations, for example of 10 hectares, can be of strategic importance. Typically, SILs are located in close proximity to the strategic road network and many are well located with respect to rail, river and canals and safeguarded wharves. The relationships between industrial land and sustainable transport modes for logistics and waste are considered in more detail in Sections 5 and 6. SILs also provide capacity to accommodate land for some transport functions, utilities, energy generation, police and other community safety infrastructure and new emerging industries such as can be found in the Thames Gateway Green Enterprise District. SILs can also provide affordable space for Small and Medium-Sized Enterprises in industrial and related business uses.

[33] According to URS Corporation's London's Industrial Land Baseline 2010, the SILs included approximately 3,715ha of land in industrial and related uses, which is 50% of the total 7,433ha in 2010.

Figure 4.1 Strategic Industrial Locations*



*Indicative extent of SILs shown for illustrative purposes only. Detailed boundaries of SILs are for identification on DPD proposals maps

Ref	Name
1	Barwell Business Park
2	Beckton Riverside
3	Belvedere Industrial Area (part)
4	Bermondsey
5	Beverley Way Industrial Area
6	Blackhorse Lane
7	Brentford (part) – Transport Avenue
8	Brimsdown
9	British Gas Site / Cody Road (Part)
10	Bromley Road
11	Central Leaside Business Area (parts)
12	Charlton Riverside (parts)
13	Chessington Industrial Estate
14	Dagenham Dock / Rainham Employment Area
15	East Lane
16	Empson Street (part)
17	Erith Riverside (part)
18	Fish Island / Marshgate Lane (parts)
19	Foots Cray Business Area
20	Freezywater / Innova Park (part)
21	Great Cambridge Road (part)
22	Great West Road (Part)
23	Great Western (Part)
24	Greenwich Peninsula West
25	Hackney Wick (Part)
26	Hainault Industrial Estate
27	Harold Hill Industrial Estate
28	Hayes Industrial Area
29	Honeypot Lane, Stanmore (part)
30	Kimpton Industrial Area

Ref	Name
31	King George Close Estate, Romford
32	Lea Bridge Gateway
33	London Industial Park
34	Marlpit Lane
35	Morden Road Factory Estate and Prince George's Road
36	Nine Elms (part)
37	North Feltham Trading Estate
38	North London Business Park, Brunswick Road
39	North Uxbridge Industial Estate
40	North Wimbledon (part)
41	Northolt, Greenford, Perivale (parts)
42	Park Royal (part)
43	Purley Way and Beddington Lane Industrial Area
44	Rippleside
45	River Road Employment Area
46	Southend Road Business Area
47	St Marys Cray
48	Staples Corner
49	Stonefield Way / Victoria Road
50	Surrey Canal Area/Old Kent Road (part)
51	Thames Road, inc Crayford Industrial Area
52	Thameside East
53	Thameside West
54	Tottenham Hale (part)
55	Uxbridge Industial Estate
56	Wealdstone Industrial Area
57	Wembley (part)
58	West Thamesmead / Plumstead Industrial Area
59	Willow Lane, Beddington and Hallowfield Way

4.4 The SIL framework has proved a valuable tool in promoting and protecting London's principal industrial locations. Over 80 per cent of the historic change 2006-2010 from industrial to other uses has been among smaller sites outside the SIL framework. The area contained within the 2011 London Plan SILs represents an 8 per cent contraction on the 2006 framework and a 10 per cent contraction on the 2000 framework[34]. The main transfers over this period have arisen from the consolidation of SILs in the Lower Lea Valley as part of the proposals for the Olympic and Paralympic Games; in London Riverside (Rainham Marshes); Wood Lane (White City), Wood Green (Haringey) and parts of Nine Elms. One new SIL has been identified in the 2011 London Plan in Havering (King George Close Estate, Romford).

4.5 To meet the needs of different types of industries, the London Plan (paragraph 2.79) identifies two broad categories of SIL:

(i) **Preferred Industrial Locations (PILs)** are suitable for firms that have less demanding environmental requirements and typically fall within the light industrial, general industrial and storage and distribution Use Classes (B1(c), B2 and B8 respectively). They are also suitable for waste management, recycling, environmental uses (including renewable energy generation), utilities and some transport-related functions such as rail and bus depots and inter-modal freight facilities. PILs will not normally be suitable for B1(a) office and B1(b) uses, although some ancillary B1(a) use is acceptable and some transfer between these classes may be inevitable under the General Permitted Development Order. PILs will not normally be suitable locations for large scale B1(a) office development. Nevertheless, they may be appropriate for other uses of an industrial nature, including some of those classified as *sui generis* such as car breaking, metal re-cycling, aggregate processing, iron and steel pre-fabrication. However, this cannot be taken as a general policy position, not least because, by their nature, *sui generis* uses must be treated on their individual merits.

(ii) **Industrial Business Parks (IBPs)** are for firms that need better quality surroundings and typically include activities such as research and development (B1b), light industrial (B1c) and high value-added general industrial (B2). Generally they require significantly less heavy goods access and are able to relate more harmoniously with neighbouring uses than those in PILs. IBPs are not intended for primarily B1(a) office development. Where B1(a) office development is proposed on an IBP, this should not jeopardise local provision for B1(b) and B1(c) accommodation, where there is demand for these uses, or alter the industrial character of these areas. Any B1(a) proposal, including redevelopment of existing offices, should comply with the London Plan office policy 4.2, particularly in terms of location and public transport access.

4.6 Recent investments in some SILs suggest that the character and composition of some PILs are changing into IBPs. Where appropriate changes to the character of

[34] Source: URS Corporation. London's Industrial Land Baseline, LDA/GLA, 2010 and GLA analysis

these SILs can be assessed in Employment Land Reviews and considered for reclassification in future reviews of the London Plan.

4.7 If the pan-London approach to industrial capacity is to be effective, it must be implemented and sustained by boroughs consistently. Departures from it will send confused messages to developers and tend to increase the 'hope value' of land making it uncompetitive for industry or even lead to it being kept vacant and out of productive, industrial use. In line with Policy 2.17, changes to the SIL framework in the London Plan and individual SIL boundaries in DPDs should therefore only be undertaken through a plan-led approach in the light of strategic and local reviews of industrial demand and supply (including qualitative assessments) (see Section 3).

4.8 Planning applications in SILs for uses contained in London Plan paragraph 2.79 will be supported, whereas applications for non-industrial uses should be determined rigorously in accordance with London Plan Policy 2.17B. Industrial and related uses often generate noise, dust, odours and heavy vehicle movements that make them particularly incompatible with sensitive uses such as housing. From an economic perspective, the success of many industrial locations, and particularly SIL and LSIS (see below), relies on the physical separation from housing and the ability to operate efficiently 24 hours a day. Inappropriate redevelopment or changes of use even in parts of industrial sites can compromise the offer of wider areas as competitive locations for industry, logistics, transport, utilities or waste management. In this context therefore there are strong economic (as well as amenity) reasons why the provisions of NPPF paragraph 51 for local planning authorities to normally approve planning applications for change to residential use from commercial buildings would be inappropriate in SIL and LSIS unless they are part of a strategically co-ordinated process of consolidation through a borough plan or Opportunity Area Planning Framework.

Locally Significant Industrial Sites

4.9 Boroughs may designate as Locally Significant those industrial sites which lie outside the SIL framework but which robust demand assessments and the criteria set out in paragraphs 4.14 to 4.16 show to warrant protection because of their particular importance for local industrial type functions. Inner London sites providing sustainable distribution services for the Central Activities Zone and Canary Wharf may be particularly appropriate for this designation. Providing they are in other respects in general conformity with the London Plan they will be accorded the same degree of strategic protection as SILs in line with London Plan Policy 4.4. Boroughs should make explicit in DPDs the types of uses considered appropriate in Locally Significant Industrial Sites.

Other industrial sites

4.10 Strategic policy cannot and should not cover other individual small sites that are not designated in DPDs as SIL or LSIS - this must be a borough matter. However, 'other industrial' sites combined with Locally Significant Industrial Sites provided 50 per cent of industrial land in 2010 and cumulatively are of strategic importance in meeting London's industrial requirements and, if surplus to demand, in meeting other land use needs. Non-designated industrial sites which accommodate uses

providing services to the service sector or direct to residents, play an important strategic as well as local economic role, particularly where they are not 'bad neighbours' in terms of environmental externalities. Recent research highlights the importance of clear policies in DPDs backed by strong evidence in ELRs to ensure a coordinated approach to managing their future. Given the cumulative economic importance of non-designated sites, boroughs are advised to consider the circumstances (through their criteria-based policies) where the application of NPPF paragraph 51, which supports change of use from commercial to residential, would not be appropriate for economic reasons. Strategic criteria to inform local DPD policies to manage these 'other' non-designated sites, are provided in paragraphs 4.14 to 4.16 below. These may be refined in light of local circumstances in line with London Plan Policy 4.4.

Industrial Site Retention/Release Criteria

4.11 Three sets of criteria are set out in paragraphs 4.14 to 4.16. They can be used alongside London Plan policies 2.17 and 4.4 when considering site specific allocations for industrial land in DPDs (as SIL or LSIS) and when developing criteria based policies to manage other smaller non-designated sites.

4.12 The criteria are based on general economic and land use factors and indicators of industrial demand. In developing criteria-based policies, boroughs should seek to retain those sites in industrial use that are functionally the most important for industrial and related users. These will generally include the better quality industrial sites, but may also include sites that provide scope for low cost accommodation for which there is evidence of demand. The quality of industrial sites is determined having regard to all the criteria. Failure to meet any one criteria does not necessarily imply that an industrial site is of low merit.

4.13 The criteria should be used in the context of the broader strategic and local indicators of industrial demand and then in the context of policies which guide changes to priority uses for surplus industrial land. The criteria should be used in conjunction with the demand-based land release guidance provided in Section 3.

4.14 *Economic criteria*, including whether a site:

(i) meets demonstrable local short term demand for industrial development, and / or strategic long term demand;

(ii) offers potential for the in-situ expansion of existing industrial businesses;

(iii) supports local or strategically important clusters of employment or industrial activity;

(iv) is viable for industrial development having regard to other criteria in paragraphs 4.14 to 4.16 and the value of the land in its existing (industrial) use;

(v) meets demand and addresses the particular needs of waste management, recycling, utilities (energy and water management) and land for transport (see

Sections 6, 7 and Part B of this SPG);

(vi) meets demand for new or emerging industries including green industries and those which support innovation and research (London Plan Policy 4.10);

(vii) is well located to take advantage of existing or proposed infrastructure or economic development / regeneration funding;

(viii) offers potential for the provision of industrial units for creative, knowledge-based, high technology and Small and Medium Sized Enterprises (SMEs) serving local residential and commercial areas, particularly where there is little alternative provision in the local area;

(ix) is needed to accommodate provision for transport in terms of London Plan policy and Mayoral guidance on provision for transport and safeguarding river related uses, for example, bus garages, rail depots, interchanges and terminals, wharves, boat yards and inter-modal sites;

(x) provides lower cost industrial accommodation suitable for small, start-up, or lower-value industrial uses or other industrial related businesses important to the local economy.

4.15 *Land use criteria*, including whether a site:

(i) is well located in relation to the strategic highway network or local highway network, in particular causing minimal traffic impact in residential areas;

(ii) is well located in relation to the rail, river or canal network including inter-modal rail heads and safeguarded wharves, offering potential for transport of goods by rail and/or water transport;

(iii) is well located in relation to the Central Activities Zone, town centres and/or public transport facilities, recognising that many industrial activities have relatively low trip generation and that other land uses (such as offices, leisure and retail) may be more appropriate in locations with high public transport accessibility;

(iv) is part of a larger cluster of existing industrial activity, or area designated for industrial protection including SILs and LSIS, where re-designation of the industrial site would alter the industrial character of the area or inhibit the operations of nearby industrial uses;

(v) offers potential for 24-hour working, or provides facilities for ‘bad neighbour uses’ (by virtue of issues including, for example, noise, access, traffic generation, hours of operation, lighting and air quality) without detriment to residential amenity, being well screened from neighbouring uses, particularly residential areas;

(vi) offers potential for waste management or recycling uses;

(vii) offers potential for space intensive activities which do not fall within the ambit of this SPG and would not, in this location, compromise wider planning objectives;

(viii) provides sufficient space for adequate operational parking and turning space for goods vehicles (see London Plan Policy 6.13 and Part B of this SPG).

4.16 *Demand based* criteria including whether a site

(i) has been adequately marketed through a commercial agent at a price that reflects market value for industrial use for a reasonable period (normally at least two years), with appropriate lease terms and offered with potential for redevelopment of derelict or obsolete industrial premises where this is required to meet the needs of modern industrial users;

(ii) has been vacant for a considerable period (normally at least two years, and up to five years in areas of generally strong demand), without realistic prospect of industrial re-use.

4.17 For LSIS and other non-designated sites, boroughs may wish to adopt different marketing criteria according to local circumstances.

SPG 4 – Strategic Industrial Locations, Locally Significant Industrial Sites and other industrial provision

Strategic Industrial Locations:

In implementing London Plan Policies 2.17 and 4.4, the Mayor will and TfL, boroughs and others partners should:

(i) promote the SILs as the main strategic reservoir for industrial and related activity in London;

(ii) assess the quality of industrial land within SILs in Employment Land Reviews taking into account strategic and local factors (see paragraphs 4.14 to 4.16 of this SPG) to inform strategies for planning, investment, improvement and development;

(iii) define the detailed boundaries of London Plan SILs in DPDs and associated Proposals Maps taking into account strategic and local assessments, Employment Land Reviews and relevant Opportunity Area Planning Frameworks;

(iv) identify the components of the SIL framework (namely the Preferred Industrial Locations and Industrial Business Parks) in strategies, DPDs and other plans;

(v) manage the differing offers of PILs and IBPs through coordinated investment, regeneration initiatives, transport and environmental improvements and the use of planning agreements, and provide local planning guidelines to meet the needs of different types of industry appropriate to each having regard to paragraph 4.5;

Locally Significant Industrial Sites:

(vi) To implement London Plan Policy 4.4 outside the SIL framework, boroughs are encouraged to designate Locally Significant Industrial Sites in DPDs and associated Proposal Maps for enhancement and protection, subject to robust strategic and local evidence of demand and taking into account the criteria set out in paragraphs 4.14 to 4.16;

Other Industrial Sites:

(vii) In implementing London Plan Policy 4.4 to develop policies and criteria in DPDs to manage the release or retention of other smaller industrial sites outside the SIL framework and not designated on Proposals Maps, boroughs should take account of strategic and local assessments of supply and demand (see Section 3) and have regard to the qualitative criteria in paragraphs 4.14 to 4.16.

5 Logistics and Warehousing

5.1 Efficient logistics systems and supporting infrastructure to distribute goods to, from and within London are essential to the competitive offer of almost all London's economic sectors and to sustain future economic and demographic growth. London will need to accommodate a projected 15 per cent increase in Light Goods Vehicle demand by 2031 (on a 2006 baseline) with stabilizing levels of Heavy Goods Vehicle movement.[35] Directly and indirectly logistics and supporting infrastructure also have implications for Londoner's quality of life. They are an essential component in the London economy, bringing goods from manufacturers and wholesalers to other businesses, retailers and ultimately customers. Modern logistics lowers distribution costs and improves the supply of goods and economic output. They can provide modern, economically sustainable employment opportunities. In the right location and especially when associated with appropriate transport management and modal choices they can also mitigate traffic generation and reduce atmospheric pollution, so contributing to broader sustainability and climate change objectives (see Section 10).

5.2 Policy 4.4 of the London Plan underscores the need to make provision for logistics functions serving the city region. The London Plan also emphasises the interrelationships with neighbouring regions and the need for a coordinated approach to logistics provision across the wider metropolitan area (Policy 2.2 and paragraph 2.81). Guidelines on the relationship between transport and freight are set out in the London Plan, particularly Policies 6.14 and 6.15, the Mayor's Economic Development[36] and Transport Strategies,[37] and the London Freight Plan[38].

Logistics trends

5.3 The nature of wholesale distribution has changed considerably over the last 30 years as logistics have become more sophisticated in response to global trends and to meet the needs of the large and complex London market. The industry is particularly affected by customer requirements for 'just in time delivery', the growth in internet-driven home deliveries and concerns of the wider public about the environmental impact of freight distribution.

5.4 Warehouses are the main property type supporting logistics functions although yards for open yards can perform similar functions as covered constructions for the storage of some materials (for example in construction). Warehouses can perform a wide variety of roles including[39]:

- Material stockholding points

[35] Mayor of London. Mayor's Transport Strategy, 2010

[36] Mayor of London. The Mayor's Economic Development Strategy for London, 2010

[37] Mayor's Transport Strategy, op cit: See Policies: 12, 9 and 24, Proposals: 97, 99, 119 and 126

[38] Transport for London. London Freight Plan. Sustainable Freight Distribution. A Plan for London.

[39] For details see Roger Tym & Partners, King Sturge, 2011 op cit

- Finished goods warehouses
- Break-bulk consolidation centres
- Make-bulk consolidation centres
- Cross-docking points
- Inter-modal transfer
- Assembly facilities
- Value added service centres
- E-fulfilment centres
- Logistics hubs
- Reverse logistics goods centres

5.5 In the past there has been a view that warehouse development in general industrial areas should be resisted on the ground that employment opportunities are fewer and inferior to those provided by manufacturing firms. However, the London logistics sector's output was £8bn in 2007 (3.4 per cent of London's total output), it directly employed 220,0000 people (over 5 per cent of London's employees)[40] and wage levels can be attractive[41]. Some warehousing employment densities can approach those of some manufacturing industries, especially when associated with related assembly, packaging or office employment[42]. They typically comprise a mix of professional, skilled, semi-skilled and unskilled jobs.

5.6 The just-in-time model relies upon high volumes of warehouse stock being pulled through the supply chain, spending little or no time in storage. Flows of goods increase with demand, rather than storage space. Consequently warehouses can be considered to be transit points for transfer between different links in the chain. Some temporary storage areas are required for palletised goods, but equally important are cross-docking facilities and vehicle circulation space.

5.7 Owing to the complexity of supply chains and the need to tailor solutions to a variety of different needs, it is difficult to generalise whether inventories are rising or falling; this will vary according to sector. Plot ratio and warehouse design too will vary by sector. Some will require low-rise warehouses which enable easy picking and sorting of goods into the consignment for the final leg of delivery; e-fulfilment centres for online food shopping may be a good example of this type of need. Others with a higher density of products, which spend longer in storage, may rely upon mechanised and computerised picking systems using a longer lead-in time. The range of goods in transit will increase as a result of increases in sales, product line expansions and global product sourcing with longer lead times. At the same time, self-storage facilities have emerged strongly in recent years in response to consumer demand. These facilities typically seek prominent sites on major roads in

[40] GLA Economics Working Paper 37: London's Logistics Sector. GLA, 2009

[41] Ibid

[42] Arup Economics and Planning (2001), 'Employment Densities: A Full Guide' A report for English Partnerships and the Regional Development Agencies, 2001

close proximity to the markets that they serve.

5.8 Since the introduction of just-in-time working practices in many distribution companies, with an emphasis on throughput rather than storage, access to an efficient transport network has become a more critical locational factor. Faster throughput is enabling the reduction of some storage inventories through the use of consolidation, merge-in-transit and cross-docking centres and stockless warehouses, with the emergence of large, high-bay, modern warehouses close to major transport arteries. Urban Consolidation Centres (UCCs) and break-bulk facilities can bring together a number of supply chains, improving storage efficiencies and reducing traffic congestion.

5.9 TfL has investigated the potential role and benefits of UCCs in the construction industry[43], which could be applied to other customer sectors. A number of trial schemes are now in place in London and elsewhere in the UK to test their feasibility for retail and office deliveries. TfL is exploring a number of consolidation and procurement practices which could result in more efficient use of vehicles on their final deliveries.

Land demand for logistics

5.10 Traditionally, demand for warehousing land was assessed in terms of the relationship between projected employment and employment density within the sector. However, research indicates that the demand for logistics and warehousing is poorly correlated with employment growth[44]. Recent research[45] has demonstrated that annual average growth in warehousing floorspace over the period 1998-2008 (estimated at 0.4% per annum) provides the most reliable basis to forecast future demand for warehousing land. Taking into account the scope for some transfer of demand both within and outside London (see paragraph 5.16), there is projected additional demand for over 329 hectares of land for warehousing and logistics functions in London between 2011 and 2031.

Spatial distribution and logistics property market areas

5.11 Most of this additional demand is anticipated in the outer East, West and North sub-regions. An appropriate balance needs to be struck between making provision for logistics and warehousing development in inner London, outer London and the surrounding regions to help minimise increases in vehicle miles and carbon emissions and to promote alternative sustainable modes for logistics and reduce congestion.

5.12 The broad industrial land release benchmarks set out in the London Plan and the sub-regional, outer/inner London and borough guidelines in Sections 3 and 4 of this SPG take into account the need for this balance including the scope to

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[43] Peter Brett Associates for Transport for London (2007), 'Construction Consolidation Centres. An Assessment of the Potential for London wide use. Final Report.' TfL

[44] See URS Corporation (2007), 'London Industrial Land Release Benchmarks' op cit

[45] Roger Tym & Partners, King Sturge 2011, op cit; URS Corporation (2007), 'London Industrial Land Release Benchmarks' op cit

accommodate some demand for logistics functions outside London's boundary. To fulfil economic and wider sustainability objectives, there is a need to retain some capacity for responsive 'just in time' logistics in proximity to the Central Activities Zone and Canary Wharf to support the financial and business services sector and growth in other services, including culture, leisure, tourism and hospitality.

5.13 Research[46] has identified six principal property market areas (see diagram in Annex 4) for industry and logistics in London including:

- Thames Gateway – extending through Newham, Barking and Dagenham and Havering and into Essex on the north side of the Thames, and from Greenwich/Charlton to Belvedere/ Erith and into Kent on the south side;
- Lee Valley – including parts of the Lower Lee, Haringey and Enfield;
- Park Royal/A40/M4/A4 corridors – including parts of Brent, Ealing, Hammersmith and Fulham, Hillingdon and Hounslow;
- Heathrow – around the airport and overlapping with the Park Royal/A40/M4/A4 corridor market;
- Wandle Valley – including Wandsworth, Merton, Sutton and Croydon
- Around the Central Activities Zone – including parts of Camden, Islington, Hackney, Tower Hamlets, Lewisham, Southwark, Lambeth, Wandsworth and Hammersmith and Fulham.

5.14 The London Plan (paragraph 2.82) highlights the particular importance of making strategic provision for logistics in East London (north and south of the Thames); in West London especially at Park Royal and to serve Heathrow; in North London in the Upper Lee Valley and the Purley Way/Beddington area in South London. To ensure conformity with the London Plan, boroughs are advised to take account of the strategic logistics needs associated with these market areas.

5.15 SILs in these property market areas that may provide particular scope for logistics and opportunities for consolidation of loads include Beckton Riverside, River Road, Barking Rippleside, Dagenham Dock/Rainham Employment Area, Plumstead Industrial Area and Belvedere in the Thames Gateway; Brimsdown, Freezywater/Innova Park and Central Leaside in the Upper Lee Valley; Park Royal in the north west of London; Northolt, Greenford and Perivale on the A40 corridor; North Feltham Trading Estate and Hayes Industrial Area with a particular focus on Heathrow and the A30/M3 and M4/A4 corridor respectively; Purley Way/Beddington Lane in the Wandle Valley; and British Gas Site/Cody Road, Surrey Canal Area and Bermondsey close to the Central Activities Zone.

5.16 The extent to which demand is mobile within and between these property market areas varies between business sectors and organisational size. Time sensitive food and office support functions often seek to locate closer to the centre of London. Logistics serving the major supermarkets, general retailers and other industrial sub-sectors tend to consider locations in outer London and beyond the M25, particularly

[46] Roger Tym & Partners, King Sturge 2011, op cit; URS Corporation (2007), 'London Industrial Land Release Benchmarks' op cit

those with a wider south east regional market. Balancing price and the availability of land and labour, suppliers are holding stocks further back in the supply chain and often outside London. Close cooperation with planning authorities in the wider metropolitan area to address the spatial distribution of logistics serving London and the south east region is essential. The Mayor will work with relevant authorities to explore ways in which this can be carried forward for the benefit of the wider region as a whole.

5.17 London's airports are important drivers of demand for warehousing and other high value-added business space on industrial land in the vicinity and associated market areas, particularly around Heathrow. Matters regarding airport-related land for storage, maintenance and warehousing functions are identified in Section 15. Strong demand for land may lead to more intensive forms of warehousing development including airport-related freight, which can include multi-storey accommodation.

5.18 To respond to these dynamics, planning policy must take a positive approach to provision for logistics in the context of the overall objectives of the London Plan, the Economic Development and Transport Strategies and the London Freight Plan. Heavy traffic generators should be steered away from environmentally sensitive locations to those where their impacts can be minimized and opportunities for sustainable modes of distribution maximised, usually in PILs with easy access to the strategic road, rail, river and/or canal network. These locations, or parts of these locations, could be formally identified as Logistics Parks especially those in West London (particularly near Heathrow), and north and south of the Thames to the east.

5.19 At a strategic level, review of SILs through the London Plan has provided an opportunity to coordinate logistics and warehousing provision to more effectively meet distribution needs across London. Where boroughs do seek to restrict the development of warehousing facilities within more local industrial areas they should provide a robust justification for this restriction.

5.20 The London Lorry Control Scheme restricts heavy goods vehicle movements during evenings and weekends on selected road networks to minimise the impact of freight traffic on London's residents. Ahead of the Olympic Games, TfL has been encouraging operators to make a greater proportion of deliveries overnight and at other quieter times on the road network to make better use of available capacity.

5.21 To help reduce the impact of parked HGVs on the highway network and also to reduce theft from lorries, there is a need to safeguard existing sites and identify additional secure parking facilities for HGVs. These should be in locations which are:

- Close to the strategic road network;
- Preferably where there will not be an issue of 'bad neighbour' use;

- Where facilities are provided, consideration must be given to providing rest facilities for drivers; this is particularly important to ensure drivers can take their required breaks.

5.22 These sites should be identified and safeguarded in the relevant borough UDPs/LDFs, where needs are greatest.

5.23 London Plan parking policy provides sufficient flexibility to support the recommendations from the Outer London Commission on industrial parking. In SIL and LSIS in particular, implementation of London Plan parking policy should take into account local circumstances, to ensure that:

- the particular operational requirements of heavy goods vehicle are met, including ensuring that sufficient space is available to turn around, with adequate provision to cater for occasions when more goods vehicle are present than generally anticipated
- there is scope to accommodate ‘overnighting’ and ’parked up’ trucks
- there is adequate provision for work force parking recognising that many major industrial areas have poor public transport particularly to support late/early shift patterns and where businesses operate 24 hours.

5.24 In accordance with the Mayor’s Transport and Air Quality Strategies, virtually the whole of Greater London is a Low Emission Zone (LEZ). Within the LEZ, the most polluting diesel engine trucks, buses, coaches, large vans and minibuses are required to meet specified Euro emissions targets or pay a charge. London’s LEZ has been strengthened to increase the range of commercial vehicles covered by the scheme and the engine emissions standards of vehicles already subject to LEZ control. The LEZ may encourage the uptake of newer, cleaner vehicles and shifts to more sustainable modes of logistics including rail and water.

5.25 In line with sustainable transport policy set out in the London Plan (Policy 6.14), Transport Strategy and the London Freight Plan, boroughs are encouraged to promote facilities at locations that allow the movement of goods by rail or water. The London Plan (Policy 5.17) urges waste planning authorities to consider the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, and to maximise the potential use of rail and water, including for consolidation, break-bulk facilities and inter-modal transfer. Rail freight facilities are considered in Section 13 of this SPG and waterways facilities including wharves and boatyards are covered in Section 22.

SPG 5 – Logistics and warehousing

In implementing London Plan policies the Mayor will and boroughs, the LDA, TfL and other partners should:

(i) take particular account of the need for logistics provision in the market areas outlined in paragraph 5.13 and especially in outer East, North and West London;

(ii) encourage logistics and distribution facilities which will promote the movement of goods including waste and aggregates by water or rail;

(iii) ensure that provision is made for large scale distribution activities and urban consolidation centres in the light of local and strategic assessments of demand, particularly in environmentally acceptable Preferred Industrial Locations with good access to the strategic road network, existing and potential inter-modal rail freight (see Section 13), river and/or canal related facilities including wharves (see Section 22);

(iv) accommodate smaller scale logistics, warehouse and storage facilities within SILs and LSIS in line with strategic road capacity. Provision on industrial sites outside the SILs should not compromise the local environment, access or road capacity or broader concerns to secure intensification at appropriate locations;

(v) in accordance with London Plan policy 6.14, developments that are likely to generate high numbers of freight movements should be located close to major transport routes and make use of rail and water freight opportunities wherever possible. Appropriate loading and unloading facilities should be provided to reduce impacts on the highway;

(vii) consider whether all or parts of SILs and LSIS, where there are existing or potential opportunities for sustainable modes of distribution, should be formally promoted as Logistics Parks.

6 Waste management and recycling

6.1 It is imperative for London to manage its waste more sustainably and for communities to take more responsibility for their own waste. The Mayor's Municipal and Business Waste Strategies set out the framework for reducing the amount of waste London generates, significantly increase recycling and composting performance, and generating energy from the remaining waste in the greenest way possible.

6.2 London's municipal and business waste arisings are forecast to rise to approximately 11.7 million tonnes in 2031 from a total of 10.6 million tonnes recorded in 2008. Policy 5.16 in the London Plan sets challenging objectives to manage as much of this waste, along with construction, demolition and excavation waste, within London as practicable, working towards managing the equivalent of London's waste within London by 2031. The policy also sets targets to exceed recycling or composting levels in municipal solid waste of 45 per cent by 2015, 50 per cent by 2020 and aspiring to achieve 60 per cent by 2031; and to exceed recycling/ composting rates of 70 per cent by 2020 for commercial and industrial waste, and a rate of 95 per cent by 2020 for construction, excavation and demolition waste.

6.3 National policy in PPS10 states that when searching for sites and areas suitable for new or enhanced waste management facilities, waste planning authorities should consider opportunities for on-site management of waste where it arises and a broad range of locations including industrial sites, looking for opportunities to co-locate facilities including complementary activities. The draft NPPF does not contain specific waste policies. Government intends to publish national waste planning policy alongside the National Waste Management Plan for England and until then PPS10 will remain in place.

6.4 Policy 4.4 in the London Plan emphasises the need to make strategic and local provision for waste management on industrial sites. Such a distribution reflects the already strong correlation between waste recycling and recovery facilities and allocated industrial land in London. Policy 5.17F requires boroughs (individually and/or in collaboration with other boroughs) to allocate sufficient land and identify waste management facilities to provide capacity to manage the waste tonnages identified in the Plan. Policy 5.17G of the London Plan identifies broad locations suitable for recycling and waste treatment facilities including SILs (both Preferred Industrial Locations and Industrial Business Parks), local employment areas (including Locally Significant Industrial Sites), existing waste management sites and safeguarded wharves with an existing or future potential for waste management. Policy 5.17B sets out the spatial policies for waste management and criteria for the selection of sites, including locational suitability; proximity to the source of waste, the nature and scale of the activity proposed; a positive carbon outcome of waste treatment methods and technologies; the environmental impact on surrounding areas and the full transport impact of all movements maximizing the potential use of rail and water transport.

Estimated land requirements for waste treatment facilities

6.5 The additional land requirement for waste management purposes in London over the period 2011-2031 is dependent upon a wide range of factors, not least the projected growth and spatial distribution of waste arisings to 2031; the rate of improvement in net self-sufficiency; the re-use of surplus waste transfer capacity; and the type and efficiencies of the waste management methods adopted. Consultants have estimated this additional land requirement for London as a whole to be around 22 hectares. The majority of this provision is expected to come from sites in industrial use. However this does not include land that may continued to be required for waste transfer, pre treatment or fuel preparation activities as these operations are not accounted for in the London Plan apportionment.

6.6 Based on the borough waste apportionment outputs in the London Plan and making allowance for re-use of surplus waste transfer capacity, consultants have produced indicative estimates of the likely future land requirement for new waste facilities in each borough 2011-2031 and these are set out in Annex 2 of this SPG for information. The actual land requirement in any given borough will inevitably depend on a number of factors including, not least, the number, type, scale and location of waste treatment and recycling facilities selected to manage the apportionment in collaboration with neighbouring boroughs where appropriate.

A proactive approach to accommodate new waste facilities

6.7 Boroughs should assess how they will accommodate new waste management facilities. These assessments should cover local quantitative and qualitative appraisals of vacant and occupied industrial land. A proactive approach may be required, particularly in boroughs with low levels of industrial land. This may include facilitating the redevelopment and intensification of use of existing occupied industrial land for waste management purposes. Boroughs and other stakeholders may need to consider the scope to purchase sites currently in other employment uses where there is a viable prospect of delivering a facility for waste management and recycling use in the future.

6.8 Design can play a key role in determining appropriate locations for new facilities and their compatibility with neighbouring land uses. Policy 5.17G of the London Plan indicates that certain types of facility might be most appropriately located in PILs or on existing waste management sites. Nevertheless, evidence from best practice[47] suggest that certain types and scale of facilities can co-exist with other land uses, including in some circumstances, residential (such as at Lough Road in Islington).

6.9 The Waste Electronic and Electrical Equipment (WEEE) Directive came into force in 2007 and requires the recovery of different categories of waste electrical equipment. This is one of the fastest growing waste streams in London and the UK. It can however be a relatively clean activity carried out increasingly under cover with stringent controls and is not necessarily a ‘bad neighbour’.

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[47] Enviros Consulting Limited (2003), ‘Best practice for waste and recycling in London - scoping report’ GLA.

6.10 The GLA's waste team led a conceptual design project in conjunction with Design for London on the integration of waste infrastructure into London's urban fabric. The report 'Rubbish In Resources Out' is available to download from the GLA website[48]. DEFRA prepared a design guide for new waste infrastructure which provides practical examples of best practice in planning, procurement and design[49]. Section 10 of this SPG provides further guidance on design challenges for industry.

SPG 6 – Waste management and recycling

In implementing London Plan policies, the Mayor will and TfL, boroughs and others partners should:

(i) take into account the need to accommodate additional waste management and recycling facilities in assessments of supply and demand for industrial land and make sufficient provision in DPDs to meet the waste apportionment targets set out in the London Plan;

(ii) have regard to the indicative land requirements for additional waste management and recycling facilities 2011-2031 set out in Annex 2;

(iii) take a proactive approach to accommodate additional waste management and recycling facilities, make efficient use of available sites and facilitate the redevelopment and intensification of existing occupied industrial land for waste management purposes;

(iv) consider existing and emerging best practice in the design of new waste management facilities (see paragraphs 6.8 to 6.10) and explore opportunities for co-location of waste treatment facilities with other forms of development;

(v) take account of the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, and to use modes other than road transport when practicable.

[48] Dow Jones Architects and Arup. Rubbish In, Resources Out, GLA. Available at http://www.london.gov.uk/priorities/environment/waste-resource/energy-recovery

[49] http://archive.defra.gov.uk/environment/waste/localauth/facilities.htm

7 **Utilities** (energy and water management)

7.1 The growth in London's population and employment places demands on energy and water infrastructure including energy generation, transmission and distribution; water supply and treatment and telecommunications (see London Plan Policies 5.5-5.8, 5.14-5.15, 4.11). In 2010, over 1,000 hectares of industrial land was occupied by energy and water infrastructure such as large electricity sub-stations, water supply schemes and sewage treatment works. Research indicates that telecommunications infrastructure has minimal land take. The draft London Plan Implementation Plan[50] provides further detail about the different types of infrastructure than summarised below. Further updates will appear in the adopted Implementation Plan expected in Autumn 2012.

Energy

7.2 Energy infrastructure on industrial land includes power stations, cableways and transformer stations for the distribution of electricity; gas transportation and storage facilities. The demand for such infrastructure will depend upon peak demand of an area for gas and electricity from the respective networks. This demand is influenced by factors such as density, economic activity, energy prices, the weather, energy efficiency of appliances and decentralised and micro-generation in that area.

7.3 The Mayor supports a reduction in energy demand through his Climate Change Mitigation and Energy Strategy ('Securing London's Energy Future')[51] setting out principles to secure a low carbon energy supply for London using less energy, supplying energy efficiently and using renewable energy (see Section 10). The Mayor's Low Carbon Strategy seeks to develop area wide district heating networks – with the London Heat Map[52] helping to identify potential key locations - and to provide land to accommodate energy centres. London Plan policy is supportive of this infrastructure being located on industrial land. New combined heat and power (CHP) schemes will generally be integrated within new developments and as such are likely to have minimal effect on industrial land. The following specific CHP-led district energy schemes are currently established or emerging: Olympic Park and Stratford City, Citigen, the Pimlico District Heating Undertaking (PDHU), Barkantine Heat and Power, Whitehall District Heating Scheme, the Bunhill Energy Centre, King's Cross Central and the University College London and Bloomsbury CHP. There may be further potential in particular in the Opportunity Areas. Energy from waste plants are also gaining importance.

7.4 For gas no major reinforcement works to increase capacity are required in the light of declining demand, except where significant new development may trigger reinforcement to serve an energy centre, for example a gas-fired CHP. However, for electricity demand is forecast to increase in the light of growth and an increasing use

[50] http://www.london.gov.uk/publication/implementation-plan

[51] http://www.london.gov.uk/who-runs-london/mayor/publication/climate-change-mitigation-energy-strategy

[52] http://www.londonheatmap.org.uk/Content/home.aspx

of electrical appliances requiring network reinforcement and the upgrading / construction of new substations, in particular in Central London and in Opportunity Areas such as Vauxhall, Nine Elms, Battersea (VNEB). According to London's major Network Distribution Operator UK Power Networks, such substations typically require a footprint in excess of 1,000 sq.m, but they will generally be integrated within new developments and as such are likely to have minimal effect on industrial land. National Grid's new substations for electricity transmission as planned at Kensal Green and Finsbury Park to support Crossrail and demand in Central London are significantly larger (25,000 sq.m).

7.5 There are around a dozen active low-pressure gasholder sites in London. It is expected that most of these will be decommissioned. Some of these may be on industrial land and should be verified locally.

Water

7.6 Water infrastructure typically found on industrial land includes water treatment works and water supply/storage facilities.

7.7 The majority of London's public water supply is abstracted from the rivers Thames and Lee and is stored in reservoirs located in west London and the Lee valley. Thames Water supplies approximately 75 per cent of London's water. The other water companies that supply London include Sutton and East Surrey Water, Veolia Water Central and Essex and Suffolk Water. Every five years the water companies produce Water Resource Management Plans, which set out the current water supply-demand balance and proposed resource development schemes and demand management actions to address any supply demand deficit.

7.8 The Mayor's Water Strategy ('Securing London's Water Future')[53] promotes demand management in particular, as London and the South East are classified as areas under serious water stress[54] and climate change impacts and environmental legislation could exacerbate this in the future. The Water Resource Management Plans may still include some new resource schemes. In the longer term, such requirement will be determined in part by the extent of reductions in abstraction volumes to meet environmental sustainability requirements. These are currently being determined by the Environment Agency and will be included in the next Water Resources Management Plans, to be published for public consultation in 2013.

7.9 It is likely that any new resources in London will be built on their existing sites, with the possible exception of an aquifer recharge scheme in South London, which may require additional land for new water treatment facilities. The longer term implications for industrial land-take by Thames Water and the other water supply companies will need to be verified locally.

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[53] http://www.london.gov.uk/priorities/environment/vision-strategy/water

[54] Environment Agency, Water for people and the environment - water resources strategy for England and Wales, 2009: http://publications.environment-agency.gov.uk/PDF/GEHO0309BPKX-E-E.pdf

7.10 With regards to water treatment, Thames Water is the sewerage undertaker for almost the whole of London[55]. Its London Tideway Improvement Programme will help address legally required water quality improvements. The programme includes the Lee and the Thames Tunnel, designed to capture significant combined sewer overflows. Some of the required construction shafts are on industrial land. The improvement programme also includes upgrades and/or capacity extensions to Crossness, Beckton, Mogden, Long Reach and Riverside sewage treatment works due to be completed in 2014. A major upgrade of Deephams sewage treatment works is also being planned. Beyond 2021 Thames Water may have to increase its overall sewage treatment capacity further. These upgrades/expansions may well require additional land, potentially industrial land. This depends to a large extend on the scale of the upgrade/expansion and the treatment technologies that would be used: Traditional technologies tend to require more land, more innovative ones tend to be more expensive and more risky in terms of the treatment results, however, they may require less land.

SPG 7 – Utilities (Energy and water management)

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) take into account land requirements for new energy and water management infrastructure, particularly in areas where growth in homes and jobs is anticipated;

(ii) engage with relevant energy and water companies at an early planning stage to ensure that potential capacity issues are identified and potential land requirements can be addressed;

(iii) ensure that industrial land policy takes these land requirements into account in DPD allocations and before considering the use and/or transfer of land to other non-industrial uses in development management decisions.

[55] A small part of Havering is served by Anglian Water.

8 Wholesale markets

8.1 Wholesaling remains a key component of supply of some of London's food. London's five wholesale markets at New Covent Garden, New Spitalfields, Western International, Smithfield and Billingsgate together occupy 54 hectares of industrial land. They have experienced changes to their historic roles. Demand for wholesaling capacity has been reduced by competition from efficient retail distribution systems and supermarkets. This has, however, partly been offset by new demand associated with the catering and food-service sector particularly in central London which has provided trade for the markets through direct supply or via food distributors. It is also associated with an increase of eating out, consumption of 'whole-foods' and the specific dietary requirements of London's Black, Asian and minority ethnic communities. Accordingly, the markets can help reduce the distance food and other commodities travel to its final destination and meet business needs for a wide range of food available close by.

8.2 The London Plan sets out the Mayor's strategic objectives to ensure that London has an efficient, modern wholesale market function to meet its changing requirements. The Plan makes clear that redevelopment of any of London's five wholesale markets should not compromise long term opportunities to consolidate composite (meat, fish and vegetables) market functions at Western International, New Covent Garden Market and New Spitalfields.

8.3 Following a commitment in the Mayor's 2004 London Plan an independent review of wholesale markets was commissioned. This was complemented by a TfL freight assessment of the contribution of wholesaling to a more sustainable transport system, and coordinated with the on-going appraisal for a London Sustainable Food Hub as part of the Mayor's Food Strategy.

8.4 The Wholesale Markets Review 2007 tested the scale and nature of likely future demand and the optimum distribution of wholesaling capacity in terms of overall London Plan objectives. It assessed these options against a range of factors including strategic and local objectives. Based upon this appraisal, the review provided recommendations to secure an efficient food wholesaling function; ensure sites are used effectively and contribute to strategic objectives; and deliver a sustainable approach to related transport logistics.

8.5 Overall, the review anticipated that consolidation of London's wholesale markets would result in the transfer of industrial land to other uses. This outcome is dependent on the nature and extent of any consolidation and any proposed transfers should be taken into account in local assessments of demand and supply of industrial land (see Section 3) and incorporated into monitoring against the London Industrial Land Release Benchmarks presented in Table 3.1, Section 3 and Annex 1.

8.6 The wholesale markets sector also has the potential to make more efficient use of scarce land resources and to contribute to the Mayor's other broader objectives for

different parts of London. The consolidation of part of the SIL at Nine Elms in the London Plan will provide scope for the intensification and redevelopment of New Covent Garden Market and will contribute to the wider objectives of the CAZ and the Vauxhall Nine Elms Battersea Opportunity Area. This is being progressed through an Opportunity Area Planning Framework for the area. The Mayor will work with partners to explore scope for consolidation of Smithfield and Billingsgate and for expansion of capacity at New Spitalfields. Consolidation and modernisation has already been supported at Western International.

8.7 The industrial land demand study[56] notes that the scope to expand, relocate or redevelop the markets poses considerable legal, planning, viability and other challenges and that more detailed research would be necessary to investigate these further.

SPG 8 –Wholesale markets

In implementing London Plan policies, the Mayor will and TfL, boroughs and others partners should:

(i) ensure that London has an efficient, modern wholesale market function to meet its changing requirements including the needs of Black, Asian and minority ethnic (BAME) communities, the restaurant sector and demand for 'whole-foods';

(ii) ensure that redevelopment of any of London's five wholesale markets does not compromise long term opportunities to consolidate composite (meat, fish and vegetables) market functions at Western International, New Covent Garden Market and New Spitalfields;

(iii) investigate the legal, planning, viability and other challenges posed by expansion, relocation or redevelopment of the markets.

[56] Roger Tym & Partners, King Sturge 2011, op cit

9. Redevelopment of surplus industrial land for non-industrial uses

Policy context

9.1 The redevelopment of surplus industrial land and premises (as defined in borough assessments and ELRs) can help meet strategic and local requirements including the delivery of housing and in appropriate locations, social infrastructure and contribute to town centre renewal (London Plan Policy 4.4Ab).

9.2 Mixed use redevelopment of surplus industrial land in SILs and LSIS for non-industrial related uses should only be considered through a plan-led approach and be consistent with Policy 4.4Aa to ensure an adequate stock of industrial land and premises to meet the future needs of different types of industrial and related uses in different parts of London, including for good quality and affordable space.

9.3 The potential for mixed-use intensification of industrial areas for non-industrial related uses is not a solution to be adopted universally. The success of many industrial locations, and particularly SIL and LSIS, relies on the physical separation of uses and it may not always be appropriate to promote mixed use development. Inappropriate redevelopment of even parts of industrial sites can compromise the offer of wider areas as competitive locations for industry, logistics, transport, utilities or waste management. This is particularly important in areas where industrial capacity is in short supply (see paragraph 3.11).

9.4 Redevelopment for higher density, mixed uses must not compromise the offer of SILs and LSIS as the main strategic and local reservoirs of industrial capacity. Where the consolidation of industrial land (including for mixed-use redevelopment) involves the release of land from a SIL, the GLA group will coordinate this process with boroughs and other stakeholders in the context of London Plan policy and in more geographically specific detail through Opportunity Area Planning Frameworks and DPDs.

9.5 Mixed use redevelopment of non-designated sites may be appropriate where the existing industrial stock no longer fit for purpose and viability issues means that the only reasonable prospect for continued use on the site would be through mixed use development with large proportion of good quality, fit for purpose workspace. Account should be taken of employment capacity potential based upon floorspace and actual deliverable employment levels on such sites. The need for particular types of workspace, including for new emerging industries and for small and medium sized enterprises (SMEs) and for affordable industrial space should also be considered. Boroughs are encouraged to develop local criteria based policies to manage this process (see Section 4).

9.6 Adopting a plan-led approach, properly coordinated through assessments of demand and supply, planning frameworks and DPDs, redevelopment of surplus industrial land can deliver more homes, more jobs, a better urban environment and improve the quality of remaining industrial capacity.

9.7 Release of surplus industrial land through redevelopment should be accounted for against the benchmarks for monitoring. Where mixed use redevelopments include both industrial and non-industrial components, the equivalent land area (footprint) transferred into the non-industrial uses should be assessed and accounted for against the monitoring benchmark. For example, a 10 hectare industrial site is redeveloped for industry (4 hectares) and a mix of housing and social infrastructure (6 hectares). For the purposes of monitoring against the industrial land release benchmark, this site would contribute 6 hectares.

Approaches to redevelopment of surplus industrial land

9.8 Despite moves towards 'cleaner' industry, geographical separation of uses will still be required by many of London's industrial enterprises if they are to remain competitive. Many do not need and cannot afford a high quality environment and would not benefit from being mixed with other activities. Lower density, single use areas with good 24-hour vehicle access offer these activities the greatest scope for viability in London. Preferred Industrial Locations and some appropriately located sites outside the SIL framework will continue to provide the most sustainable home for such activities.

9.9 The external, environmental costs of other types of industrial activities, including some creative and cultural industries (see the Mayor's Culture Strategy) and some waste management uses, can be less onerous on potential neighbours. With careful design and branding of sites backed by clear planning briefs and agreements, provision for these firms can offer greater scope for more intensive forms of development with a mix of industrial and non-industrial uses.

9.10 In the context of the strategic London-wide industrial demand study, local assessments of industrial land demand and supply should identify surplus industrial land, after taking into account the need to accommodate logistics, waste management, utilities and transport functions. In drafting policies and site allocations in DPDs, boroughs are encouraged to prioritise the release of poorer quality industrial land, with the greatest potential for becoming a successful place when redeveloped with housing and social infrastructure for example.

9.11 Good public transport access is an essential pre-requisite for non-industrial redevelopment of surplus industrial land. TfL can advise on existing and future public transport accessibility of different locations, including PTAL scores. Those locations where such redevelopments can be closely integrated with a wider mix of surrounding uses and social infrastructure, such as on the edge of town centres will be particularly appropriate.

9.12 It is anticipated that most industrial land identified as surplus for release to other uses will come from smaller sites outside SILs and LSISs. However, where consolidation of SILs is considered appropriate in the light of assessments, the release of land for mixed-use development should be coordinated through mechanisms including, where appropriate, Opportunity Area Planning Frameworks

and more formally through the DPD process. Complementary, sensitive relocation arrangements are likely to be necessary to avoid loss of industrial employment of different types through the redevelopment process.

9.13 Though the higher environmental quality of Industrial Business Parks would seem to make them inherently more suitable for such development, there may be scope to redevelop and upgrade parts of some Preferred Industrial Locations in appropriate locations. Where land associated with a SIL is determined to be surplus to requirements in strategic and local assessments, mixed-use consolidation should be focussed on the periphery of the SIL near to public transport nodes or town centres, especially where there is a barrier separating the area from the rest of the SIL. These could enable consolidation of more environmentally sensitive, existing PIL tenants while maintaining the integrity of a local business cluster.

9.14 While vehicular access may still be needed, this does not have to be as intrusive or exclusive as that associated with more traditional types of industry. Those activities that place a higher premium on added value rather than volume are particularly likely to fall into this category. Those with higher employment densities may obtain greater benefit from better public transport provision, which itself can only be viable in higher density areas.

Resolving design challenges in mixed-use redevelopments

9.15 The London Plan supports development that respects local character, promotes inclusive access and which creates a cohesive urban environment. In most redevelopments of surplus industrial land, the remaining industrial uses will be integrated with but physically separate from sensitive non-industrial uses such as housing. Careful design of access arrangements and selection of materials are essential to ensure that the mix of uses is able to co-exist without bad neighbour issues or conditions on hours of operation being imposed on users.

9.16 The Industry in the City study[57] sets out innovative approaches to intensification and mixing of industrial and other uses.

9.17 Housing, including affordable housing, is the Mayor's key priority on permissible mixed-use redevelopments. Leisure, retail, social infrastructure and other town centre uses will also be appropriate if the mixed-use development can be integrated with broader proposals for town centre renewal. However, other than to provide small scale, local convenience services, retail and leisure uses will not be appropriate outside town centres. Provision should be made to improve access to small scale, 'walk to' amenities and services including crèches, which serve the needs of people working within industrial areas. Such provision is likely to be particularly important in SIL and LSIS.

9.18 Where land is released for housing or mixed-use development it must fulfil stringent design criteria for sustainable buildings, a complementary mix of activities and a safe,

[57] Urhahn Urban Design. Industry in the City. 2006

attractive environment for all uses including access to services, facilities, open space and children's play space (see in particular London Plan policies 3.6, 3.16, 4.8 and 7.18). Some former industrial buildings and structures make a valuable contribution to local character and distinctiveness, which should be taken into account in proposals for mixed-use redevelopment (see London Plan Policies 7.4-7.6, 7.8 and 7.9). Issues relating to potential contamination, air quality, ambient noise, and biodiversity should also be addressed in mixed-use developments of industrial areas (see London Plan Policies 5.10, 5.11, 5.21,7.14, 7.15 and 7.19).

9.19 Policies relating to the location of establishments where hazardous substances are used or stored and the development of land within the vicinity of establishments where hazardous substances are present are set out in London Plan Policy 5.22. Such establishments are typically located within industrial areas in London. The Health and Safety Executive (HSE) is reviewing its strategy on Land Use Planning around major hazard installations to responding to the changing context. As a way of setting out clear expectations, the Mayor will produce Supplementary Planning Guidance on Hazardous Installations for boroughs and developers on the process to follow to determine development proposals potentially affected by hazardous installations in London.

SPG 9 – Redevelopment of surplus industrial land for non-industrial uses

In implementing London Plan Policies 2.17 and 4.4 the Mayor will and TfL, boroughs and others partners should:

(i) consider through strategic and local demand and supply assessments and DPDs whether industrial areas that have, or will have, good public transport accessibility, especially those within or on the edge of town centres, would be appropriate for higher density, mixed-use redevelopment. This redevelopment should be consistent with London Plan policy 4.4Aa and must not compromise the offer of wider areas as competitive locations for industry, logistics, transport, utilities or waste management;

(ii) where this affects SILs this consolidation should be managed sensitively using the process set out in London Plan Policy 2.17 and SPG3. Consolidation through this process should be focused on the periphery of SILs near to public transport nodes or town centres, especially where there is a barrier separating the area from the rest of the SIL and enable consolidation of more environmentally sensitive, existing PIL tenants while maintaining the integrity of a local business cluster;

(iii) establish robust and sensitive industrial relocation arrangements to support redevelopment where necessary.

10 Quality of Industrial Capacity

10.1 The quality and fitness for purpose of industrial sites is an important concern in Policy 4.4 of the London Plan. Qualitative improvements in industrial locations can also contribute towards the wider objectives of the London Plan to make London a city taking the lead in mitigating and adapting to climate change and which seeks quality in its buildings and the public realm. The effective management of industrial capacity can also play a key role in promoting social inclusion, facilitating regeneration and increasing access to employment opportunities.

Mitigating and adapting to climate change

10.2 The London Plan sets out the imperative to use energy and resources more efficiently and to mitigate the effects of, and adapt to climate change. The Mayor has published a Climate Change Mitigation and Energy Strategy and a Climate Change Adaptation Strategy to support this objective. Industrial buildings and developments should consider climate change adaptation and mitigation measures, including energy and water efficiency, renewable energy and flood resilient building design.

10.3 The spatial distribution and quality of industrial capacity can in many ways contribute towards mitigation and adaptation to climate change. The London Plan stresses that new developments should achieve higher environmental standards, promote energy efficiency and decentralised energy supply and achieve a reduction in carbon dioxide emissions by at least 20 per cent from onsite renewable energy generation (which can include sources of decentralised energy) wherever feasible[58]. At a broader level, this will include increasing the roll-out of combined cooling, heat and power energy supply and developing mechanisms to produce energy from waste.

10.4 Overheating is a critical issue for warehouses, especially in the food and pharmaceutical industries, with lighting, operating equipment and mezzanines all contributing to higher internal temperatures. Evidence[59] indicates that in practice evaporative air-cooling is cheaper to operate and consumes less than a quarter of the energy compared to more traditional refrigerant based air-conditioning systems.

10.5 The location of industrial development can help to reduce the need to travel by private vehicles where it can be supported by integrated public transport access for staff and customers. Measures to promote safe, accessible, attractive access by walking or cycling should be essential components of new industrial development and bring qualitative improvements to the permeability of existing industrial areas. Consolidation centres for logistics, particularly at rail, river and canal connected sites, can also contribute to sustainability objectives. The implementation of travel plans for staff and Delivery and Servicing Plans for goods

[58] The London Plan, 2011, op cit. paragraph 5.42

[59] Logistics Manager (Sept 2007) Article: ‘Time to make your warehouse greener’

can help minimise the impact of distribution activities. Quieter vehicles may enable greater scope for 24-hour operations but noise impacts associated with loading and unloading are a key consideration. The London Plan (Policy 6.1Ah) promotes the use of low emissions technology so that carbon dioxide and other contributors to global warming are reduced. In this respect, logistics and waste management operations have potentially a substantial contribution to make.

10.6 The risk of flooding, particularly in the context of climate change, is a major issue for London. In the context of London Plan Policies 5.12/13 and national policy in PPS25, boroughs and other stakeholders in London should have regard to the Regional Flood Risk Appraisal produced alongside the London Plan, which examines the nature and implication of flood risk in the capital and how the risk should be managed. At the micro level, industrial and warehousing developments often contain large areas of hard standing and roof areas and are well placed to make significant contributions to sustainable drainage (London Plan Policy 5.13). Permeable surfaces on areas of hard standing, such as parking areas for example, can assist in the management of surface water run-off. Practical examples of warehouses with a grass roof designed to harvest rainwater are available[60]. The Mayor's Water Strategy and Sustainable Design and Construction SPG provide further advice on these matters.

10.7 London Plan Policy 5.3 seeks to deliver improvements in the overall environmental performance of new developments (including industrial and warehousing) and adaption to the effects of climate change over their lifetime. Minimum standards are set out in the Sustainable Design and Construction SPG which should be demonstrated clearly in a design and access statement.

Improving quality in industrial locations

10.8 The poor quality of some sites and premises allocated for industrial development is a major concern in many parts of London. Some vacant industrial land and premises in London are unavailable for development because of various forms of constraint, or because they are unsuitable for modern industrial purposes. Typical constraints in older stock include insufficient clear internal ceiling heights (typically 6 metres plus for modern units), poor loading facilities such as lack of on-site loading and/or dock loading, and inadequate yard space and parking. Other vacant or underused land may be held back from productive use by landowners holding out for a realisation of 'hope value' (see paragraphs 3.39 and 4.7).

10.9 Much of London's industrial land may be contaminated by past land use practices. Where industrial land has been affected by contamination it may present a risk of pollution to a wide range of receptors including humans, eco-systems, water quality, property, crops and animals. The real or perceived costs of treatment of land can act as significant barriers to successful regeneration, particularly if the contamination issues and their solutions are not identified early and integrated into the scheme for redevelopment of a site. Risks and uncertainty regarding land contamination may inhibit the redevelopment of brownfield land

[60] Logistics Manager (Sep 2007) quotes the Adnams Brewery, Southwold, Suffolk

and in some cases this may contribute to long term dereliction.

10.10 London Plan policy 5.21 supports the remediation of contaminated sites and the Mayor will work with strategic partners to ensure that the development of brownfield land does not result in significant harm to human health or the environment and to bring contaminated land to beneficial use. Early assessment of potentially contaminated brownfield industrial land is particularly beneficial for large, multi use master planned, industrial brownfield areas. This enables decisions related to remediation or clean up to be better planned and delivered using more sustainable methods. This approach was successfully adopted for the 2012 Olympic Park. By establishing a Global Remediation Strategy (GRS) for the Park the land contamination constraints were identified early in the master planning process and the GRS established a framework to deal with any risks early in the planning process. This brought many social, environmental and economic benefits and savings to the brownfield redevelopment.

10.11 Improving the quality of industrial sites will require integrated planning, regeneration and transport actions, with cooperation between boroughs, the GLA, Transport for London, the private sector and other partners including the sub-regional partnerships and the police. Coordinating the investigation and, where appropriate, the remediation of sites will reduce costs and timescales, promote sustainable design and construction, reduce waste generation and increase the attractiveness of investment. Despite challenges such as low land values and limited accessibility, there are several examples in London of successful investment in sites, redevelopment of out-dated premises for modern fit for purpose industrial accommodation and the achievement of sustainable development such as the Sustainable Industries Park at Dagenham Dock, and the White Hart Triangle in Greenwich.

10.12 Business Improvement Districts (BIDs) offer another potential mechanism to secure investment in the business environment including the fitness and purpose of sites, safety and security measures. BIDs are supported in the London Plan (Policies 2.7Af) in recognition of their value as a partnership based approach to deliver improvements to business areas and there are already at least five such BIDs formally adopted in industrial locations in London:

- London Riverside (Havering)
- Hainault Business Park (Redbridge)
- Kimpton Industrial Estate (Sutton)
- Willow Lane (Sutton)
- Garratt Business Park (Wandsworth)

Industrial design guidance

10.13 With some notable exceptions, industrial development has been little affected by wider objectives to enhance the quality of the urban environment. While development costs must be a concern for industries which find London to be only a marginally competitive business location, good design does not have to incur these, especially if it is incorporated from the outset of the development process. The GLA's Design for London team may have some capacity to advise on this.

10.14 The following design guidance for developments in industrial areas should aid in promoting high quality design for buildings and landscape. Some of these principles may not be applicable to more complicated manufacturing or waste treatment uses, where other operational processes, such as resource use, emergency plans and waste management issues identified at the outset of the design process may become overriding factors. However good design can contribute to a sense of place and orientation, safety, accessibility, and sustainability. It is important that principles are closely followed in both outline and detail design in order to create a coherent and attractive area.

10.15 Design policies are set out in Chapter 7 of the London Plan. Design should respect local context, history and character while not preventing or discouraging appropriate innovation[61]. It should complement surrounding uses, taking into account noise, light and air quality impacts. The quality of development that will be expected for an area should be based upon an understanding and evaluation of its defining characteristics[62]. Maximising the attractiveness of industrial areas, uplifts the land values of nearby, higher value or more attractive surroundings. Industrial locations, buildings and facilities should be designed with inclusivity in mind in order that they are usable safely, easily and with dignity by all regardless of disability, age, gender, ethnicity or financial circumstances.

10.16 Access

(a) Maximise the use of sustainable transport modes for distribution of goods including by rail, river and canal; and

(b) enhance the permeability and access by public transport, cycling and walking for staff and visitors.

10.17 Site layout

(a) Context and orientation: Buildings should be integrated into their context. Orientation and layout of buildings can have significant bearing on climate change adaptation, mitigation and flood risk management.

(b) Security: Site layout and design should minimise the potential for crime drawing

[61] NPPF, paragraph 58

[62] Ibid

on principles in government guidance such as Safer Places and police design advice to address lighting, circulation and security issues

(c) Street frontage: Buildings should provide a consistent built elevation that creates a strong relationship with the road and the public realm. The purpose of this is to:

- Maximise plot usage for workspace in order to achieve appropriate densities.
- Create an attractive urban edge and define a clear and consistent spatial relationship with the street and the public realm.
- Avoid ambiguous and undefined areas of off-site landscaping which will be prone to misuse and antisocial behaviour, i.e. fly tipping and vandalism.
- Reduce the visual and noise impact of parking, service areas and open storage.
- Where buildings are set back from the development site boundary, the resulting space should have a designated use that relates to the street entrance and the office accommodation, i.e. visitor and disabled parking. This is to ensure activity and natural surveillance of the space and a clear definition between the public realm and the private development.

(d) Entrances: Buildings on a street should provide direct access from the pavement in order to support a pedestrian and cycle friendly environment. Entrances should be clearly legible, marked and lit.

(e) Vehicular access, yard space and parking: Parking areas should be located close to the site entrance from the main road. They should be clearly separated from service yards and be positioned in proximity to building entrances. Where possible, adjacent business units should share parking areas. Design of operational requirements and parking must take into consideration the changing roles of warehouses including sortation, cross-docking and break-bulk facilities.

The Mayor seeks an appropriate balance between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use (London Plan policy 6.13). Road traffic is a strategic issue in London and parking bears on this and other planning matters. The London Plan contains parking standards that provide flexibility to ensure they can be tailored at a local level to meet the needs of industrial areas. The Outer London Commission has drawn on this flexibility to provide guidance on how parking policy can be implemented to address local circumstances in industrial locations:

To meet the distinct needs and locational characteristics of industrial businesses, many of which are located in areas with poor public transport accessibility, consideration should be given to the need for:

- adequate yard space to accommodate turning circles for HGVs and

operational car parking (including provision for ‘over-nighting’/’parked up’ trucks/statutory rest periods and work force parking)

- appropriate loading and unloading facilities should be provided to meet the needs of modern businesses and reduce impacts on the highway and neighbouring land uses

- adequate clear internal ceiling/eaves heights and loads

- improved linkages between local and strategic roads.

(f) Boundary treatments: The use of fences should be kept to a minimum, instead using building edge to define the edge of a site. Fences for security do not have to sit on ownership boundaries. It may be preferable to provide landscaping on the public side of a fence even when this is within the ownership boundary. Where fences are used, high quality fine mesh fences are preferred to crude alternatives such as palisade fencing.

(g) Landscaping: Modest investment in landscaping can provide benefits for enhanced security, the environment and biodiversity. It is preferable to design landscaping in tune with the ‘natural signature’ of a place. Sustainable Urban Drainage systems combined with green or brown roofs can also contribute towards flood resilient design and more energy efficient solutions.

10.18 Building form

(a) Footprint and scale: Buildings should be based on a simple orthogonal plan layout that should seek to maximise plot usage for workspace. Where possible, smaller units should be combined and arranged in bigger blocks or terraces.

(b) Building height: Building heights should be consistent across each development site. Elements of the buildings may exceed this uniformed building height if a specific industrial use requires this, for example to meet modern industrial and warehousing requirements.

(c) Roof form: It is preferable for buildings to have a continuous horizontal parapet line. Pitched roofs may be used as an alternative, if the gable end elevations are expressed. In this option, all buildings should have the same pitch and eaves height. The utilisation of green or brown roof systems should be considered in all new developments.

(d) Offices and lobbies: Offices, lobbies and other ancillary accommodation should be entirely arranged within the main building volume. Where this is not possible, the arrangement options above should be closely followed. Extravagant building features that are in contrast to the rest of the building should be avoided.

10.19 Cladding

(a) Imaginative use of new industrial cladding materials (including green roofs) can have significant and cost effective environmental and climate change benefits, the quality of materials can also impact on the robustness of the development making them easier to maintain and add to the longevity of a building.

(b) Different approaches to cladding and colour will be used for different development sites. However it is important that there is a clear strategy consistently followed within each development. As a general principle, cladding should emphasise and celebrate the scale of the industrial buildings. This can be achieved by:

- The application of a single colour for all cladding system components throughout the development.

- The use of a bold, repetitive graphic pattern that is flexible with regards to different building dimensions and strong enough to provide a unified identity to the development.

- The use of a camouflage pattern from a range of familiar colours in locations where a more sensitive approach might be appropriate.

(c) It may be possible to combine these approaches in larger estates, for example differentiate between the inside and outside of an estate development. This could be beneficial to the overall quality of urban space.

(d) A random and inconsistent variety of patterns and colours should be avoided. Forced or false articulation of corners and building elements that attempt to visually ‘break down’ the scale of the buildings should also be avoided.

10.20 Signage

(a) An area-wide signage system for employment areas could be developed by Local Authorities or Business Improvement Districts.

(b) Additional individual company signage should be carefully considered in conjunction with the detail design of the building. Like the approach to cladding and building colour, signage should emphasise and celebrate the scale of the industrial buildings. Therefore it will need to be of an equivalent scale. Small signboards attached to a large façade should be avoided. Signs should form integral part of the design of the buildings considered early on. Logos and lettering painted directly onto cladding is preferred to boards fixed to the façade.

(c) Signs should be clearly visible and legible, in particular from distributor roads and the public realm. This will need to be considered in particular for larger developments in multiple occupancy. Parapet-mounted signage of appropriate dimensions should be considered. These could be signage on a full length of an

extruded parapet, signage on a full length mesh fence, or billboard type signage. Lighting of signage should be considered.

10.21 In improving the quality of industrial provision, account should also be taken of the needs of firms that make important contributions to the London economy but which have negative environmental impacts. The integration of waste infrastructure into London's urban fabric is considered in Section 6 including links to design guides and best practice. Boroughs are encouraged to ensure that there is adequate capacity for 'bad neighbour' uses in locations where they will not detract from the environment of other activities. These will usually be in PILs. Many of the difficulties that such industries have traditionally caused can be avoided through careful design of facilities and their relationship with surrounding areas. Notwithstanding the above, although firms in PILs do not necessarily place a high premium on environmental quality, this does not remove the need for action to improve the quality of these locations.

10.22 To implement London Plan Policy 4.4, boroughs are encouraged through their detailed local assessments of supply and demand to consider qualitative as well as quantitative factors and to retain in industrial use both higher quality industrial sites and those that meet a demonstrable need for low cost accommodation.

Innovative approaches to intensification

10.23 It is important to make more efficient use of land wherever feasible taking into account operational requirements. Qualitative improvements to industrial locations can come about through the intensification of industrial uses and, where appropriate, through mixed-use redevelopment of surplus industrial land (Section 11).

10.24 Intensification in industrial development may come about through innovative solutions to operations and storage, or through greater use of hot-desking and homeworking, particularly in hybrid industrial/office space. Examples of intensification in warehousing developments are emerging and include the development of a two-storey warehouse by Brixton Estates at Hatton Cross with full HGV access to the upper floors. Similar examples exist in Japan and Hong Kong. In the logistics sector, intensification can also be achieved through high eaves heights and the incorporation of mezzanines. Intensification of industrial uses may also provide scope to deliver other industrial related uses such as waste management and recycling (see Section 6).

10.25 Innovative approaches may be needed to improve industrial areas and meet the varied needs of key sub-sectors as well as new forms of production and working. A pro-active approach to enabling development through planning agreements both within and outside the SIL framework is likely to be important. The London Plan provides the strategic context for planning agreements in London (Policy 8.2).

10.26 Depending on the circumstances of individual developments, planning agreements may be used to secure affordable workspace as well as adequate e-

infrastructure (see London Plan Policy 4.11), transport provision including 'car clubs', contributions towards site assembly and de-contamination and provision for emerging industries highlighted in the London Plan and the Economic Development and Culture Strategies. Planning obligations may also be necessary to secure relocation arrangements and a balance of uses in mixed-use developments and the consolidation processes indicated in Section 3.

Promoting inclusion, access to employment and regeneration

10.27 Businesses operating on industrial land account for over 550,000 jobs or around 11% of London's total employment[63]. Against a backdrop of declining employment in traditional manufacturing industries, there is modest projected growth in most other industrial related sectors, and in particular logistics, environmental industries and waste management. Some enterprises in the creative and food-related sectors also find industrial land a competitive location. A selection of construction-related activities also typically take place on industrial land and although projected to decline in employment terms 2011-2031, will still be of strategic importance after the 2012 Olympic and Paralympic Games with several major infrastructure projects in the pipeline alongside other forms of urban development.

10.28 Ensuring that Londoners are able to access these and other employment opportunities is a key concern of the London Plan (Policy 4.12) and is essential to deliver benefits to areas in need of regeneration (Policy 2.14). It is also critical for London's competitiveness that enterprises are able to draw on an adequate supply of labour with appropriate skills.

10.29 The Economic Development Strategy for London sets out the Mayor's vision with respect to the economy. Within it the Mayor pledges to 'give all Londoners the opportunity to take part in London's economic success, access sustainable employment and progress within their careers.' This vision is supported by a number of actions which aim to ensure that the business and skills challenges facing the capital can be met.

10.30 In addition to this the Mayor has recently established the London Enterprise Panel which is made up of senior business leaders and Borough leaders. A key priority of the panel is the promotion of enterprise and Innovation and the acquisition of skills for sustained employment in London. The Panel's initial priorities will also include on how best to maintain the momentum created by the work of the London Skills & Employment Board and strategic actions to increase the number of Londoners in employment and close London's skills gaps. On the latter action, the Panel will work principally through the Skills and Employment Working Group.

10.31 The London Plan and the Economic Development Strategy (EDS) address the needs and relationship between SMEs and Black, Asian and Minority Ethnic enterprises, women's enterprises, disabled entrepreneurs and local community enterprises and promote assistance through business support, training, innovation

[63] DTZ/URS. London's Industrial Land Baseline, GLA 2010

and regeneration initiatives. Many women are restricted in accessing jobs due to the lack of affordable childcare, particularly those in lone parent families. Alongside other measures, developments in industrial locations can contribute to removing this barrier to employment by providing adequate and affordable childcare facilities. This may be facilitated through intensification or mixed-use redevelopment proposals. Planning agreements may be used to secure learning, skills and training opportunities and childcare provision.

10.32 Many of London's SILs lie within broad regeneration and growth areas including the Thames Gateway, the Lea Valley (part of the London-Stansted-Cambridge-Peterborough growth area), the Wandle Valley, the Western Wedge and the London-Luton-Bedford corridor. Although the main strategic sources of employment opportunities in these corridors are in the business services and other (leisure and retail related) employment sectors focused on the Opportunity Areas and town centres, there will be locally significant sources of employment within the SILs, LSIS and smaller industrial sites.

10.33 This SPG supports improved access to these employment opportunities including targeting appropriate skills to those industrial sub-sectors anticipated to grow (including environmental and creative industries), improving public transport access to industrial locations and promoting inclusive design principles within them. The SPG also supports a structured and managed approach to the transfer of surplus industrial land to other uses to contribute to wider regeneration initiatives and the delivery of a range of housing types, including affordable housing, and social infrastructure.

SPG 10 – Quality of Industrial Capacity

In implementing London Plan policies, the Mayor will and boroughs, TfL and other partners should:

(i) ensure that development of land in, and provision and refurbishing of premises for, industrial and related uses contribute to strategic climate change mitigation and adaptation objectives (see Sustainable Design and Construction SPG);

(ii) encourage the redevelopment of London's industrial areas to enhance their offer as competitive locations attractive to modern industry;

(iv) seek imaginative, sensitive design and investment solutions which do not entail a net loss of industrial capacity, which make more efficient use of space and enhance the environment within and around industrial areas;

(v) take into account the industrial design guidance set out in paragraphs 10.13 to 10.22;

(vi) provide on site provision for the particular operational requirements of heavy goods vehicles, including sufficient turning space, capacity to accommodate more goods vehicles than generally anticipated, 'parking up' space, rest space

facilities, work force parking, improved linkages between local and strategic roads and the particular issues facing older industrial areas;

(vii) consider how planning agreements might be used in light of local circumstances to secure London Plan objectives, including premises for different types of industrial occupier, transport, training, e-related and other infrastructure, contributions towards site assembly and decontamination and meeting the needs of specialist industries;

(viii) make provision for demand for 'bad neighbour' industrial uses in environmentally acceptable locations, normally within PILs, and through good design ensure that they do not compromise the viability of other activities or the regeneration potential of the wider area;

(ix) promote access to employment and target skills investment taking into account the London Employment Action Plan and the London Skills and Employment Board (LSEB) Strategy.

11 Variety of industrial capacity and provision for small and medium sized industrial enterprises

Variety of industrial capacity

11.1 The need to provide a range of workspaces of different types, sizes and costs to meet the requirements of different sectors of the economy is recognised in the London Plan (Policy 4.1). Analysis of London's industrial property markets[64] indicates current strong demand for premises above 10,000 sq.m in the Thames Gateway, Park Royal, Upper Lea Valley and locations in close proximity to Heathrow. For premises below 10,000 sq.m demand is strong across all of London's property market areas (illustrated in Annex 4) whilst for smaller premises below 2,000 sq.m demand is evident in most locations but strongest in Park Royal, Heathrow and the Wandle Valley.

11.2 Capacity for industrial use includes the mainstream property market, managed workspace, railway arches, innovation centres, science parks, incubators and start-up space. Adequate provision of a range of these types of space is particularly important for the entry, survival and expansion of SMEs.

11.3 The demand for warehousing land and premises for logistics is also complex. Three broad categories have been identified in research[65]: Warehouses (including general storage space); Distribution Centres (variable in size and requirements but generally characterised by larger yard spaces to accommodate more transport movements, and more assembly and packaging than traditional warehouses); and Large Scale Distribution Centres (often with sophisticated loading, storage and cross docking facilities).

11.4 The demand for new waste management facilities is similarly varied. The type and scale of facilities selected to manage the tonnages of waste apportioned in the London Plan will depend on a range of factors including locational suitability, proximity to the source of waste, the waste treatment methods and the full transport and environmental impacts of the facilities, collection, transfer and disposal movements (see London Plan Policy 5.17).

11.5 In their local assessments of demand for industrial use, boroughs are encouraged to take into account these market sensitivities and anticipated space requirements, both land and floorspace, of existing and potential new industrial occupiers including provision to accommodate sectors where demand is anticipated to grow including logistics, waste management, utilities and transport functions.

Provision for small and medium sized industrial enterprises

11.6 The London Plan and Economic Development Strategy recognise that most industrial firms in London are small and many may suffer from inadequate or

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[64] Roger Tym & Partners, King Sturge, 2011 op cit

[65] URS Corporation (2007), 'Demand and Supply of Land for Logistics in London', GLA, Section 7

inappropriate accommodation. To implement London Plan Policies 4.1 and 4.4, this SPG seeks to protect viable industrial sites that can accommodate small industrial units and managed workspace suitable for start-ups and for small and medium sized enterprises (SMEs)[66] including those self-employed in the industrial, creative and related sectors. The majority of space suitable for SMEs may be in undesignated 'other industrial sites', highlighting the importance for boroughs to carry out research through ELRs to guide policy and development management.

11.7 SMEs represent about 48 per cent of London employment. They constitute a significant part of the capital's entrepreneurial base and provide important local services often as part of supply chains supporting higher order activities and they can gain a competitive advantage from a London location. Pension funds and other large property investors have traditionally been reluctant to invest in certain types of SME workspace, particularly those with short or flexible tenures. This may be because space for SMEs is perceived to be a higher risk investment and the additional costs associated with building smaller workspaces and managing multiple units.

11.8 The Mayor's Economic Development Strategy (EDS) notes that the public sector should only intervene where it can show there is a need and where intervention is likely to be effective[67]. Although the public sector alone does not have the resources required to resolve this problem it can work with the private sector to address barriers and stimulate market provision of business accommodation. This might include joint venture arrangements, providing time-limited funding to cover letting risks until sustainable occupancy rates are achieved, bringing forward public sector-owned sites at affordable rates, or assistance with site assembly. Where large, higher value schemes are proposed and there is demonstrable need for smaller or affordable industrial premises, boroughs may draw on national and regional mixed-use policy to seek planning agreements to secure provision of these as part of mixed-use schemes.

11.9 Research was undertaken in 2007 into the supply of and demand for SME premises[68], filling a significant gap in market knowledge. Through the EDS[69] the Mayor will encourage cost effective business support programmes for London's businesses, and especially for SMEs and entrepreneurs. Such programmes should be cost-effective and provide support appropriate to a business's stage in its life cycle.

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[66] SME is defined by the European Union: Medium, Small and Micro enterprise categories include firms that employ 250, 50 and 10 people or less respectively, and have an annual turnover not exceeding €50 million, €10 million and €2 million respectively, and/or an annual balance sheet total not exceeding €43 million €10 million and €2 million respectively.

[67] Mayor of London. The Mayor's Economic Development Strategy for London, 2010. para 2.13

[68] Roger Tym & Partners and King Sturge. The Demand for Premises of London's SMEs

[69] Ibid. Action 2B

SPG 11 – Variety of industrial capacity and provision for small and medium sized industrial enterprises

In implementing London Plan policies, the Mayor will and boroughs, TfL and other partners should:

(i) manage the stock of industrial premises so that it provides a competitive offer for different types of occupier including logistics, utilities, waste management, transport functions and other related industrial activities. This will entail both improving the quality of provision to meet users' different needs, including those of SMEs and clusters of related activities, and maintaining lower cost capacity or making provision for those requiring affordable business premises to meet local needs;

(ii) protect industrial sites and premises which meet demonstrable demand for lower cost industrial accommodation;

(iii) promote the provision of small industrial units and managed workspaces suitable for small and medium sized enterprises (SMEs) and start-up companies;

(iv) encourage design of industrial premises that enables easy subdivision at a later date as the space requirements of different occupiers change;

(v) secure provision of small and affordable industrial units in appropriate locations as part of larger mixed-use schemes, including commercial developments and residential schemes where careful siting, design and access arrangements can satisfactorily overcome environmental concerns. New workshop and industrial space may be secured by legal agreement to ensure its long term retention.

PART B

LAND FOR TRANSPORT

12 Background and policy context

12.1 The Mayor recognises that transport plays a fundamental role in supporting economic growth and addressing a whole range of his spatial planning, economic and social priorities. One of the six objectives of the London Plan is that London should be:

- **A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities** with and efficient and effective transport system which actively encourages more walking and cycling and makes better use of the Thames, and supports delivery of all the objectives of the Plan.

12.2 London has a particularly urgent need for new and improved transport infrastructure. Protecting and providing the land required for an efficient and effective transport system is therefore vital to support the delivery of the London Plan. Consideration is needed in particular for public transport (and access thereto and from), walking and cycling and schemes that will improve the physical accessibility of the network.

12.3 The need to provide sufficient appropriately located capacity for the development of London's transport functions is set out in London Plan Policy 6.2, the Mayor's Transport Strategy (MTS)[70] and Sub Regional Transport Plans. Guidance is provided in the following sections on requirements for a range of passenger and freight transport uses. Some of these additional land demands for transport functions will be linked to specific projects, such as Crossrail, and safeguarding of land is often dealt with on an individual project basis.

12.4 London Plan paragraph 6.13 recognises that safeguarding and protecting land can be difficult in London, with particular pressures in areas where land is most required and existing transport sites and facilities can come under pressure from higher value development. In accordance with NPPF paragraph 41, boroughs should identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice. Boroughs with all or part of the transport schemes identified in the London Plan (Table 6.1) should refer to the MTS, Sub Regional Transport Plans and check their status with TfL before they bring forward relevant DPDs so they can assess what degree of safeguarding they should put in their plans.

12.5 This section of the SPG provides further guidance on the types of uses that should be protected in borough development plan documents (DPDs), included in site development briefs and planning frameworks and provided within new developments. It focuses on passenger and freight transport including rail freight, water-borne freight and safeguarded wharves.

12.6 The opportunity to make most effective use of land for transport purposes will often be through the negotiation of section 106 agreements as part of the management of planning applications. It is essential that the boroughs involve

[70] Mayor of London, Mayor's Transport Strategy, TfL, Policy 9d and paragraph 148.

transport agencies in these negotiations and that the latter ensure that they make their needs known at an early stage so that they can form part of the agreement; Agencies are often engaged too late in these discussions which can result in inadequate provision for transport purposes. In addition, boroughs now have the power to raise money via their own Community Infrastructure Levy (CIL). The legislation does not prescribe what areas CIL money can be used for so borough are entitled, if they consider it appropriate, to raise money for transport infrastructure.

12.7 The demand for additional land for transport arising from a development needs to be addressed within a Transport Assessment accompanying a planning application. Transport for London (TfL) has published a guidance document[71] on best practice in preparing Transport Assessments for planning applications that are referred to the Mayor to give developers a clear picture of TfL's requirements.

Key Policy

POLICY 6.2 PROVIDING PUBLIC TRANSPORT CAPACITY AND SAFEGUARDING LAND FOR TRANSPORT

Strategic

A The Mayor will work with strategic partners to:

a improve the integration, reliability, quality, accessibility, frequency, attractiveness and environmental performance of the public transport system

b co-ordinate measures to ensure that the transport network, now and in the future, is as safe and secure as reasonably practicable

c increase the capacity of public transport in London over the Plan period by securing funding for and implementing the schemes and improvements set out in Table 6.1.

Planning decisions

B Development proposals that do not provide adequate safeguarding for the schemes outlined in Table 6.1 should be refused.

LDF preparation

C Boroughs and any other relevant partners must ensure the provision of sufficient land, suitably located, for the development of an expanded transport system to serve London's needs by:

a safeguarding in DPDs existing land used for transport or support functions unless alternative facilities are provided that enables existing transport operations to be maintained

b identifying and safeguarding in DPDs sites, land and route alignments to implement transport proposals that have a reasonable prospect of provision, including those identified in Table 6.1.

[71] http://www.tfl.gov.uk/assets/downloads/businessandpartners/transport-assessment-best-practice-guidance.pdf

13 Rail: National Rail, Crossrail, Rail Freight, London Underground, Docklands Light Railway (DLR), Tramlink, new and improved stations and interchanges

National Rail and Crossrail

13.1 Policy 6.4 Enhancing London's transport connectivity and Table 6.1 sets out the range of rail schemes required to support the London Plan. Of these, the Mayor's priorities in the short to medium term are to deliver Crossrail (by 2018) and the Tube upgrades. Other schemes being delivered are the Surrey Quays to Clapham Junction extension to London Overground (opening 2012), Network Rail's Thameslink upgrade (due to be completed by 2018) and committed platform (and train) lengthening being undertaken under the High Level Output Specification (HLOS) for 2009-2014.

13.2 With specific regard to Crossrail, the scheme under construction is protected by Act of Parliament. The Crossrail Act 2008 requires local planning authorities to consult Crossrail Limited on any planning application within the safeguarded areas. This allows Crossrail Limited to ensure that all relevant planning applications are approved in a way which does not impact on the construction of the scheme. Borough DPDs should continue to include policies on the safeguarding and delivery of Crossrail.

13.3 TfL is currently developing proposals for a new northeast to southwest rail line as this remains a highly congested corridor. London Plan Table 6.1 identifies this as scheme for implementation later in the Plan period. Statutory safeguarding is in place for the Chelsea-Hackney Line and it is essential that this safeguarding remains whilst route options are being developed and this should be reflected in the relevant borough DPDs. Boroughs that could benefit from this scheme should have policy support in their DPDs. Beyond the statutory safeguarding limits, it may be appropriate for relevant borough DPDs to identify and safeguard specific sites that could be required in future to enable delivery of the line. Consultation with TfL is recommended to determine the latest status of this project.

13.4 TfL is working with the Department for Transport (DfT) and rail industry to identify what is required of the rail network and services to meet London's transport and development needs over the next 20 years. Network Rail's Route Utilisation Strategy (RUS) for London and the south east indicates the likely service and infrastructure changes on most routes. In the medium term Network Rail funding and DfT's requirements for the period 2014-2019 will be set out in the HLOS process (HLOS2). TfL has submitted its recommendations to the DfT for HLOS2 in the document 'Delivering the Mayor's Transport Strategy: National Rail in London' (August 2011).

13.5 Table 6.1 sets out a number of schemes that are required to deliver the expected growth in rail demand in London. Boroughs should identify the schemes (and any additional schemes in the London and South East RUS and 'Delivering the

Mayor's Transport Strategy: National Rail in London' where appropriate) that may have implications for land in their boroughs and should provide policy support and, where appropriate, safeguarding within their DPDs. Consultation with TfL and other authorities (including those outside London where appropriate) is recommended at an early stage to determine current scheme status. The Airtrack scheme in Table 6.1 of the London Plan is not being taken forward.

13.6 The Mayor supports the principle of high speed rail for a number of reasons; it will increase capacity on the commuter lines into London, it will help to improve London's connectivity, and it will help to reduce demand at London's airports for short haul flights. Last year, the DfT consulted on an initial route alignment for High Speed 2 (HS2) linking London and Birmingham, which would form the first part of a high speed rail network. In the Mayor's response to the consultation, he expressed his support for the scheme in principle, but this support is subject to certain mitigation measures being implemented; in particular, there is a need for appropriate measures to accommodate the forecast additional passengers arriving at Euston. The Mayor has asked the DfT to include plans for Crossrail 2 at Euston station, as well as a link from Crossrail to the West Coast Mainline, which would free up space for HS2 passengers at Euston. The Mayor would also like to see further connectivity at the proposed Old Oak Common interchange station, with provision for London Overground services to call at the station. Finally, the Mayor has called for a robust link between HS2 and HS1 that does not impact on the operation of the North London Line, as well as offering the potential to enhance regional and international high speed rail connectivity. In January 2012, the Secretary of State for Transport announced plans to proceed with the project, with a hybrid bill for the first phase of High Speed 2 to be deposited in October 2013. Later in 2012 there will be a further public consultation on the 'red line boundary' for the scheme. Following this consultation, relevant borough DPDs should identify and safeguard land, where this has been identified, that may be required to deliver this supporting infrastructure, in consultation with TfL. Phase 2 of the project would see the line extended to Manchester and Leeds, as well as a dedicated spur to Heathrow. Provision for the second phase will be subject to a separate bill.

13.7 More generally, operational land in the ownership of Network Rail, including that leased to Train Operating Companies and Freight Operating Companies is protected from sale and development for alternative uses by the Office of Rail Regulation (ORR). ORR's objective is to protect land that may be required for future development of the railway network and to prevent the disposal of that land against the public interest. Accordingly, Network Rail must seek ORR consent for any disposal not covered by a general consent. ORR's procedures include consultation with TfL and local authorities regarding the disposal of land in Greater London. It is unlikely that ORR would consent to the disposal of land by Network Rail where there is evidence of funded plans for a site for future development of the railway network or where the DfT or TfL provides evidence that the site is needed for future development of the railway network or for the development of integrated transport facilities.

Rail freight

13.8 Rail freight can play a significant role in some distribution sectors, in particular: aggregates, waste and automotive. Rail is particularly advantageous for bulky, heavy loads which are not easily divisible such as stone for use in construction. Reflecting the economic, social and environmental benefits to London of this mode of distribution, when compared to road, measures should be taken to safeguard these facilities if they remain viable for rail-related use, should any further protection be required beyond that provided by the Office of Rail Regulation (ORR) as described in paragraph 13.7.

13.9 By 2031, it is estimated that passenger rail demand will increase by 35 per cent (from a 2006 base) and that nationally freight tonnage by rail is expected to approximately double between 2006 and 2030[72]. Industrial land is often used to accommodate depots for stabling (including overground rail, DLR, underground and Tramlink); rail freight facilities (including Strategic Rail Freight Interchanges and local rail terminals); and sidings for loading/unloading goods and other materials including waste.

13.10 The Government believes that an expanded network of Strategic Rail Freight Interchanges (SRFI), complemented by other freight interchanges and terminals, is needed to support longer-term development of efficient rail freight distribution logistics[73]. Whilst SRFIs operate to serve regional and cross regional catchment areas, they are also key components in national and international networks. The development of SFRI is vital for growing rail freight and in ensuring UK businesses have access to robust and efficient supply chains. Such facilities also generate large numbers of jobs, both during construction and in operation. The NPPF (paragraph 31) recognises the important role of rail freight interchanges as part of a viable infrastructure necessary to support sustainable development.

13.11 SRFI are particularly important to the efficient and sustainable operation of the logistics sector in London and the south east of England. London Plan Policy 6.15 supports the provision of SFRI to enable modal shift from road to rail, and to enable the potential of the Channel Tunnel Rail Link to be exploited.

13.12 SRFI require good access by rail and road and sufficient land to accommodate associated warehousing and loading/unloading facilities. The former Strategic Rail Authority (SRA) advice that a network of SFRI within or near to the M25 would meet the required capacity for London and the wider South East still applies. These sites may or may not be within the GLA area.

13.13 The availability of local terminal sites in central, inner and outer London is also crucial to rail freight mode share. Road and rail access, and land availability, all constrain the number of existing and potential sites and all suitable sites should be

[72] http://www.fta.co.uk/export/sites/fta/_galleries/downloads/rail_freight/rail_freight_forecasts_2030.pdf

[73] Department for Transport. Strategic Rail Freight Interchange Guidance, November 2011

protected if they remain viable for rail-related use.[74]

13.14 TfL undertook an assessment of potential local terminal sites, or existing rail freight sites with development potential that updates work undertaken by the SRA. TfL assessed the operational, technical, planning and policy issues for the potential rail freight development sites. Further details can be found within Sub-regional Transport Plans or on request to TfL.

Railheads for the Aggregate Industry

13.15 The Aggregates Annual Monitoring report 2009 shows that London relies on the importation of marine dredged sand and gravel by boat and crushed rock (mainly from the south west and the east midlands) by train to meet the needs of the construction industry. London provides approximately 6 per cent of its needs - see Table 13.1 below.

Table 13.1 Sources of Primary Aggregate Production 2009 (million tonnes)

Total	Marine Dredged	Crushed Rock	Land won	Land won from London
9.4	3.8 (40%)	4.1 (44%)	1.5 (16%)	0.6 (6%)

13.16 One obvious consequence of this dependence is the need for facilities to receive, unload and move the aggregates on to their final destination. However, there is a substantial difference between the treatment - in planning policy terms - of wharves and railheads. Whereas wharves have a safeguarding direction from the Secretary of State (see section 22 of this SPG), railheads have no similar level of protection.

13.17 In the London Plan the Mayor of London recognized the importance of railheads and as such included policy wording to prevent their loss. In Policy 5.20 Aggregates Fb "*To reduce the environmental impact of aggregates, LDFs should safeguard wharves and/or railheads with existing or potential capacity for aggregate distribution."* This is reinforced in the freight policy 6.14C *"DPDs should promote sustainable freight transport by: A safeguarding existing sites and identifying new sites to enable the transfer of freight to rail and water… [and] C safeguarding railheads for aggregates distribution."*

13.18 The NPPF contains similar advice in paragraph 30 "Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport." In paragraph 143 they are encouraged to "safeguard: – *existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for*

[74] Government policy guidance on rail freight interchanges and terminals can be found at: Department for Transport. Strategic Rail Freight Interchange Guidance, November 2011 op cit.

the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials;"

13.19 Those boroughs with railheads (see Annex 5) should follow the advice of both the NPPF and the London Plan in protecting railheads.

London Underground

13.20 There are significant upgrades occurring to the London Underground network (listed in London Plan Table 6.1) that require additional infrastructure such as electricity sub-stations, ventilation shafts, cooling projects, staff/train crew accommodation, lifts etc. It is likely that these will be sited on a mixture of operational and newly acquired land. Local planning authorities should consider these requirements, in light of information from TfL, when determining planning applications adjacent to the London Underground network and should provide policy support/safeguarding within DPDs where appropriate.

13.21 In addition to the Tube upgrades, a proposal to extend the Northern Line to Battersea Power Station (associated with redevelopment of the power station) is being progressed towards a Transport & Works Act Order submission. Development work is also being carried out to investigate the potential for a south eastwards extension of the Bakerloo Line. Consultation with TfL is recommended to determine the latest status of these projects and the level of policy support/safeguarding appropriate for DPDs.

Docklands Light Railway (DLR)

13.22 The DLR network has been significantly expanded in recent years. The 3-car upgrade and extension to Stratford International have recently been completed. These support the London 2012 Olympic and Paralympic Games and contribute towards accommodating an expected growth in patronage on the DLR network from current (2011) 77 million passenger per annum to almost 104 million in 2015.

13.23 London Plan Table 6.1 identifies further network enhancements that will be required towards the end of the Plan period. Consultation with TfL is recommended to determine the latest status of any scheme and the level of policy support/safeguarding appropriate for DPDs.

13.24 More generally boroughs should, in their DPDs, safeguard land identified and required by TfL for the expansion and enhancement of the London Underground, DLR and London Overground networks, as well as that required for existing services and facilities. This should be supported by policy that ensures the necessary safeguarding is in place to protect future sites and routes, as identified by TfL.

Tramlink

13.25 London Plan Policy 6.7 Better streets and surface transport states that the Mayor will work with TfL and boroughs to implement London-wide improvements to the quality of tram services for all.

13.26 Use of Tramlink has been growing since it opened in 2001, with 26 million passengers using the network in 2009/10. It is particularly important in providing orbital journeys in outer south London and supporting Croydon town centre, which is an Opportunity Area. Ten additional trams are being leased by TfL to provide extra capacity to meet demand growth in the short to medium term.

13.27 In addition to Policy 6.7, Policy 6.4 Enhancing London's transport connectivity states that the Mayor will work with strategic partners to improve the public transport system in London and increase public transport capacity by enhancing the Tramlink network.

13.28 Table 6.1 supports the further enhancement of the Tramlink network. Early assessment has been undertaken to ascertain where extension of the system offers merit and should be explored further. Boroughs that could benefit from extensions to Tramlink should include specific policy support within their DPDs. In addition, DPDs should, where appropriate, identify and protect sites that may be required to implement extensions to the Tramlink network. These boroughs should consult TfL as to the status of any schemes under development.

New and improved stations and interchanges

13.29 A number of new rail stations have been opened recently in London, such as Shepherd's Bush and Imperial Wharf on the West London Line, Wood Lane on the Hammersmith & City Line and Langdon Park on the DLR. These support new developments as well as improving access to areas of London that have rail lines but no stations in the vicinity.

13.30 Interchanges in particular are very important to improve connectivity and TfL is developing the concept of the strategic interchange to facilitate orbital journeys by rail and reduce pressure on central London termini. To maximise the effectiveness of new stations and rail interchanges they should be designed with regard to the wider interchange zone so as to create effective interchange with non-rail forms of sustainable transport such as buses, cycling and walking. TfL's Interchange Best Practice Guidelines[75] should be consulted.

13.31 In order to accommodate increases in rail passengers, and to provide better facilities including improved access for people with mobility impairments, improvements to stations, interchange improvements and new stations should, where appropriate, be supported in DPDs and land requirements identified and safeguarded. This should take place in consultation with the relevant authorities.

[75] http://www.tfl.gov.uk/microsites/interchange/

SPG 13 – Rail: National Rail, Crossrail, Rail Freight, London Underground, Docklands Light Railway (DLR), Tramlink, new and improved stations and inter-changes

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) include, or continue to include, policies on the safeguarding and delivery of Crossrail, Crossrail 2, High Speed 2 and other National Rail schemes within Development Plan Documents (DPDs);

(ii) explore the potential for rail freight interchanges and more general logistics provision in conjunction with authorities in the wider metropolitan area and safeguard rail freight sites where there is evidence that these remain viable for rail-related use and could be crucial in developing infrastructure;

(iii) protect railheads following the advice of both the NPPF and the London Plan and taking into account Annex 5 of this SPG;

(iv) where relevant, safeguard land identified and required by TfL for the expansion and enhancement of the London Underground, DLR, Tramlink and London Overground networks and consider access and operational requirements when determining planning applications adjacent to the railway(s);

(v) design new stations and rail interchanges in order to create effective interchange with non-rail forms of sustainable transport, in keeping with TfL Best Practice Guidance;

(vi) new stations and improvements to stations should, where appropriate, be supported in DPDs and land requirements identified and safeguarded.

14 River Thames crossings

14.1 TfL is developing a package of river crossing improvements in London, elements of which are identified in Table 6.1. A cable car linking North Greenwich and the Royal Docks opened in June 2012. Statutory safeguarding remains for fixed link river crossings between Thamesmead and Beckton, and between North Greenwich and Silvertown. It is essential that this safeguarding remains whilst options are being developed but TfL is committed to reviewing the extent of safeguarding to ensure that it remains appropriate and does not unduly hinder the development of land no longer required.

14.2 Consultation with TfL is recommended to determine the latest status of any new or improved river crossings. Recently, the Mayor, has stated, subject to full analysis, his preference for a ferry crossing between Thamesmead and Beckton. The MTS proposes consideration of a new vehicle ferry at Gallions Reach and consideration of a fixed link there in the longer-term. Once a preferred alignment and technology has been agreed, there will be a need to ensure sufficient land is available for ferry terminals, maintenance and other ancillary facilities.

SPG 14 - River Thames crossings

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should retain safeguarded alignments for proposed river crossings and consult with TfL to determine the latest status of any such crossings.

15 Aviation

15.1 London Plan Policy 6.6 Aviation states the Mayor's opposition to further expansion of aircraft movements at Heathrow. The policy does however support improvements of the facilities for passengers at Heathrow and other London airports and to ensure the availability of viable and attractive public transport options to access them. Borough DPDs should therefore identify and protect any land required to facilitate this, in consultation with the relevant authorities.

Airport-related land for storage, maintenance and warehousing functions

15.2 The three airports within London's boundary (Heathrow, London City and Biggin Hill) all contain ancillary land within their curtilage that includes storage of planes, maintenance, terminal support facilities, warehousing and logistics associated with aircraft servicing, in-flight meals and cargo. Most of this land is designated as 'airport-related' rather than 'industrial' in London's industrial land baseline report[76]. The London Plan (Policy 6.6) recognizes that adequate airport capacity

[76] URS Corporation. London's Industrial Land Baseline, LDA/GLA, 2010

serving a wide range of destinations is critical to the competitive position of London in a global economy. Airport capacity serving the capital and wider south east of England must be sufficient to sustain London's competitive position. However, the Mayor strongly opposes any further expansion at Heathrow involving an increase in the number of aircraft movements there due to the adverse noise and air quality impacts already being experienced by residents and others living in the vicinity and its environs. The Government intends to undertake a consultation exercise on its proposed aviation strategy during 2012.

15.3 Within this context it is likely that any changes to ancillary land for aeroplane storage, maintenance and cargo will take place within the curtilage of the airports and additional land-take on 'industrial land' is less likely. London's airports are important drivers of demand for warehousing and other business space on industrial land in the vicinity and associated market areas, principally around Heathrow (see Section 5) and on key corridors throughout west London.

SPG 15 - Aviation

Where relevant, DPDs should identify and protect any land required to improve facilities for passengers using London's airports including ancillary services/facilities and to ensure the availability of viable and attractive public transport options to access them, in consultation with the relevant authorities.

16 Buses and Coaches

16.1 Over the past decade, bus kilometres operated in London have increased by over 30 per cent from 365 million-km to 486 million-km and bus ridership has increased by around two-thirds. TfL's current Business Plan aims to maintain the current level of vehicle-km, with a reduced subsidy arising from contract savings. Buses are the dominant mode of public transport in London, carrying 2.3 billion passengers a year, playing an important role in providing access to jobs and services.

16.2 London Plan Policy 6.7 Better Streets and Surface Transport states that the Mayor will work with TfL and boroughs to implement London-wide improvements to the quality of bus services for all. Buses offer a flexible and accessible mode of passenger transport, and are particularly well suited to improvements in capacity and connectivity in lower density suburban areas. Indeed they are, and are likely to remain, the main mode of public transport in London, particularly in Outer London.

16.3 In order to allow for continued provision and further development of the bus network to support London's growth, it is important that existing and additional land is safeguarded where required. To ensure that land is not safeguarded

inappropriately, and to ensure that any new infrastructure can be used effectively it is important that TfL agreement is obtained on both the principle and the detailed design of any proposed new bus access, infrastructure or facilities as well as development or proposals which may affect existing provision be this on public or private land. Coach services are also an important part of London's overall transport provision, as set out in London Plan policy 6.8.

Bus Garages

16.4 Protection of existing, and provision of additional, bus garaging to provide the capacity required for efficient and sustainable operation of network will continue to be required. Loss of garaging can result in longer 'empty' running which in turn adds unnecessarily to cost, congestion and emissions.

16.5 Most bus garages are owned by bus operating companies. Although TfL control over their disposal is often limited, it will continue to take an active role to work with operators, boroughs and landowners to secure and retain suitable garage sites for the future.

16.6 The loss of any bus garage through redevelopment should be resisted unless a suitable alternative site that results in no overall loss of garage capacity can be found in the immediately adjacent area, or TfL agrees formally that the particular garage is no longer required. Borough DPDs should, following consultation with TfL, include policies on protection of bus garages and identify existing garages and future sites to meet any appropriate expansion needs where appropriate.

Industrial land and bus garages

16.7 Industrial land provides space for bus garages and depots, which need sites on which they can operate for extended hours without disturbing their neighbours and with good access to the strategic road network. They provide space for overnight storage of vehicles, fueling, cleaning, maintenance, driver facilities and operational management. Bus garages can be significant local employers. It is estimated that each bus kept at a site represents around 3.5 jobs.

16.8 Although there is scope for more intensive use of existing bus garages, there will be demand for additional sites within London in the long term to 2031, in keeping with demand growth arising from increases in employment and population. The spread of new and more intensively-used garages is likely to follow sub-regional growth trends.

16.9 Local planning authorities, in collaboration with TfL, need to ensure that sufficient sites are available in appropriate locations to accommodate bus garages and depots and enable bus operators to respond to growth in the network. Flexibility is important. These requirements should be taken into account when planning for industrial land site allocations in DPDs. The needs of the bus network should be considered carefully before transferring industrial land to other uses and existing bus sites protected against change of use unless capacity can be better provided in suitable alternative locations. The effect of changes to neighbouring land uses should also be taken into consideration, in order to prevent sterilisation of sites that would otherwise be suitable for use as garages.

16.10 A typical bus garage has an average land requirement of about one to two hectares, although the actual requirement will depend on the scale of the operation on a case by case basis. Sites should be rectangular or 'L'-shaped to enable the most efficient use of land for storing vehicles. Good access to the strategic road network can make a site more attractive and reduce the economic, social and environmental costs of operation.

Bus stations and passenger interchanges

16.11 Land for new bus stations or improved passenger interchange facilities should be identified in DPDs, Opportunity Area Planning Frameworks (OAPFs) and masterplans and supported by specific policies. Many of these are likely to come forward in connection with major transport or regeneration schemes (either private or public sector led or a partnership of the two). The status of any scheme and likelihood of delivery should be clearly identified and agreed with TfL. Appropriate provision of facilities to serve their schemes should be made by developers, in consultation with TfL.

16.12 The loss of any existing bus station or passenger interchange, or access thereto and from, through a change of use or redevelopment should be resisted unless a suitable alternative arrangement is agreed with TfL.

Bus stops and stands

16.13 There are around 18,000 bus stops in London. Design criteria exist and are designed to ensure that buses can draw up parallel with the kerb, to maximise accessibility, and to allow for provision of appropriate high-quality passenger facilities. In order to achieve this, the following are recommended: Clearway markings and time plates to prevent obstructive parking and enable buses to manoeuvre close to the kerb; suitable kerb heights[77] to enable access for mobility-impaired persons (in combination with low-floor bus equipped with access ramp); and removal of footway obstructions at the boarding and alighting areas. Standing spaces allow buses to recover from variable traffic delays encountered en route to the terminus and are essential to reliable operation.

16.14 Development proposals must consider land provision for bus stopping and standing facilities, particularly where:

- There are existing bus operations and passenger interchange facilities which are adjacent, or may serve the site;
- Proposals require the alteration to existing passenger interchange facilities (this includes moving individual bus stops);
- A site is not directly served by a bus service and it would be appropriate to introduce a bus service into the site;
- A development may place significant additional demands on the bus

[77] Data reveals that 73 per cent of bus stops throughout London meet the standard for required kerb height, 78 per cent have a clearway and time plate and 81 per cent have an unobstructed area

network and additional stopping and standing facilities will be required, particularly where existing facilities may already be constrained.

16.15 Borough DPDs and development briefs should identify sites or locations where new, improved or expanded stopping and/or stand facilities are required by TfL, both within new developments as well as elsewhere. Consultation with TfL is therefore important. Where new development places significant additional demands on the bus network beyond London, consultation should be undertaken with the relevant neighbouring authorities. Opportunities should be taken to improve or provide on-street facilities and off-highway space when sites are redeveloped. Drivers' toilet facilities either stand alone or within a building, should also be provided in consultation with TfL, to serve existing or new stands and where there is demand for mess facilities. The provision of drivers' toilets and mess facilities has a significant impact on the ability of the bus operators to recruit and retain staff, especially female employees as well enabling a reliable bus service. Provision of bus stopping, standing and other such facilities should be subject to planning obligations and/or financial contribution from the developer, where appropriate.

16.16 It is vital that existing facilities are protected. As with garaging, the loss of standing in particular can result in longer 'empty' running which in turn adds unnecessarily to cost, congestion and emissions. The loss of existing bus stops, standing or driver facilities, or access thereto and from, through a change of use or redevelopment should therefore be resisted unless suitable alternative provision is agreed with TfL.

Bus priority schemes

16.17 Bus priority schemes are under continuous development across London and in general these take place within highway limits. However, schemes with high levels of priority may require small amounts of additional land and Boroughs should reflect this in their approach to DPDs, development briefs and consideration of planning applications. Boroughs should consider LIP funded corridor schemes, carrying out monitoring to determine the impacts on buses and other users.

16.18 Some schemes have a higher level of priority on a certain route, using bus only roads, bus lanes, and priority at traffic signals. For example, the East London Transit Phase 1a (ELT1a) was completed by TfL in 2009. This has high levels of bus priority coupled with improved urban realm to rejuvenate areas of east London. The next phase will support the Barking Riverside development and the 10,800 new homes to be built within it and TfL's element of the infrastructure is intended to be complete by 2013.

16.19 Boroughs and developers are encouraged to include features such as 'bus only' roads within major developments where they are agreed by TfL and would improve access by, and attractiveness of, public transport. Good examples of this are the Greenwich Millennium Village on the Greenwich Peninsula and the Barking Riverside development.

Coaches

16.20 Coach services are an important part of London's overall transport network and are broadly split into two categories: (a) scheduled such as commuter services / long distance scheduled services, that offer an important option for those travelling to, from and within London and (b) private hire such as day trip, charter tourist coaches, that support London's vitally important visitor economy. In addition, they have different requirements in terms of stopping and parking facilities. Buses operating under the London Service Permit system would have similar requirements to scheduled coach services.

16.21 Many scheduled services terminate and, where possible, stand at Victoria Coach Station (VCS) and the coach terminal in Bulleid Way. VCS is managed directly by TfL. Demand at VCS has been growing steadily in recent years; however no increase in the footprint of VCS is possible due to the constrained nature of the land in the immediate vicinity. TfL manages coach departures at VCS to ensure maximum operational capacity to meet demand.

16.22 Policy 6.8 Coaches states that the Mayor will work with all relevant partners to investigate the feasibility of developing a series of coach hubs or the potential for alternative locations for coach station facilities to provide easier access to the coach network, while retaining good access to central London for coach operators. Additional / alternate site(s) may be required in order to increase the capacity of London's coach termini however current demand forecasts predict this requirement is unlikely in the short to medium term. Westminster City Council should, therefore, plan for the continued use and upgrade of Victoria Coach Station, in consultation with TfL.

16.23 Many coach services, particularly private hire coaches, require on-street set down and pick up facilities close to key destinations, such as hotels, leisure and tourist attractions, as well as parking while waiting for passengers visiting a particular site, for drivers taking legally required break, and/or overnight parking. There are only a limited number of dedicated parking facilities in London and a number of key tourist, leisure and employment destinations have very limited on-street stopping and standing facilities. Borough DPDs should therefore identify suitable additional locations for on-street coach bays (short term) and coach parking provision (mid to long term), particularly in Central London and in close proximity to key tourist destinations. As land for permanent facilities is in short supply, allowing temporary use of land for coach parking should be considered, particularly in Central London.

16.24 Promoting the shared use of existing off-street parking areas such as those at sports stadia, market sites or bus and coach depots may sometimes be a possible alternative to on-street parking. TfL will work with coach operators and the private owners and tenants of suitable sites to investigate any such opportunities which arise.

16.25 Where appropriate, provision for coaches and minibuses used for scheduled services or private hire will be required to serve new development in accordance with details to be agreed with TfL and in line with London Plan parking standards.

In particular, development including major employment, tourist destination, hotels or leisure where significant numbers of visitors to the site are likely to arrive and leave by coach, should ensure that there is adequate on-site provision available for coach set down and pick up facilities and standing. On particularly constrained sites, and if it is found that there is no practical way of accommodating coach parking, alternative land or funding towards such facilities should be provided as part of any planning permission.

16.26 The loss of any existing facility for coaches or minibuses used for scheduled services and/or private hire including stations, passenger interchanges, depots, ticket offices, passenger or vehicle waiting areas and facilities, pick up and set down areas, accesses, repair and servicing facilities through a change of use or redevelopment should be resisted, unless a suitable alternative arrangement is agreed with TfL.

SPG 16, Buses: Garages, stations, passenger infrastructure, Coaches

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) safeguard existing land and identify future requirements for additional land, for bus operations (including depot storage and maintenance) in agreement with TfL;

(ii) resist the loss of any bus garage through redevelopment unless a suitable alternative site that results in no overall loss of capacity can be found in the immediately adjacent area, or TfL agrees formally that the particular facility is no longer required;

(iii) make adequate provision of land for transport functions in relevant DPDs, including where appropriate on industrial land, in response in particular to the demand for additional bus garages and depots;

(iv) identify within DPDs, Opportunity Area planning frameworks (OAPFs) and masterplans land for new bus stations or improved passenger interchange facilities, supported by specific policies. Appropriate provision of facilities to serve their schemes should be made by developers, in consultation with TfL;

(v) resist the loss of any existing bus station or passenger interchange, or access thereto and from, unless a suitable alternative is agreed with TfL;

(vi) reflect bus priority requirements in DPDs, LIPs, development briefs and consideration of planning applications and consider features such as ‘bus only’ roads within major developments where they are agreed by TfL and would improve public transport accessibility, capacity and connectivity;

(vii) take into account, the impact on wider road user journey time reliability, the bus

network, and wider environmental impacts such as air quality that may arise from road network improvement programmes. Any proposals for new network capacity should accord with London Plan Policy 6.12. Land should be safeguarded within DPDs to support the development, if appropriate;

(viii) resist the loss of existing bus stops, standing or driver facilities, or access thereto and from, unless suitable alternative provision is agreed with TfL. Borough DPDs and development briefs should identify sites or locations where new, improved or expanded stopping and/or stand facilities (including facilities for drivers) are required by TfL, taking opportunities to improve or provide on-street facilities and off-highway space when sites are redeveloped;

(ix) resist the loss of any existing facility used to support the operation of coaches or minibuses used for scheduled services and/or private hire where possible, unless a suitable alternative arrangement is agreed with TfL. Additional facilities for coaches and minibuses should be provided in agreement with TfL and in line with London Plan parking standards;

(x) give careful consideration to the location of on-street coach parking to ensure that the additional noise and traffic created does not adversely affect the amenity of existing residents and/or neighbouring uses;

(xi) Westminster City Council should plan for the continued use and upgrade of Victoria Coach Station, in consultation with TfL. Borough DPDs should identify suitable additional locations for on-street coach bays (short term) and coach parking provision (mid to long term) in close proximity to key tourist destinations. Allowing temporary use of land for coach parking should be considered, particularly in Central London.

17 Taxis and Private Hire

17.1 Taxis provide a door-to-door service that complements the public transport network and makes a significant contribution to London's economy. The Mayor, through TfL, is committed to maintaining standards of service and ensuring they meet London's present and future needs. The loss of any existing taxi and private hire facility, including ranks, parking, driver facilities, pick/up and drop off areas and accesses, through a change of use or redevelopment, should be resisted unless a suitable alternative arrangement is agreed with TfL.

17.2 Where appropriate, provision for taxis and private hire will be required to serve new development in accordance with details to be agreed with TfL. Borough DPDs should support this additional provision and should protect existing provision.

17.3 In addition to taxis and private hire, Dial-a-Ride and hospital and local authority transport services are important means of transport for those who can not or find

it difficult to use public transport. Borough DPDs should, in consultation with TfL, support provision for such services within new development and protect existing facilities.

SPG 17 - Taxis and private hire

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should resist the loss of any existing taxi and private hire facility unless a suitable alternative arrangement is agreed with TfL. Additional provision should be supported where appropriate, in accordance with details to be agreed with TfL.

18 Walking and Cycling

Walking

18.1 The Mayor's 'Making Walking Count' programme aims to increase walking's overall mode share of transport to 25 per cent by 2031, through better information, active travel programmes and physical improvements to the urban realm.

18.2 Policy 6.10 Walking seeks to encourage walking by emphasising the quality of pedestrian and street space, completing the strategic walking network identified on London Plan Map 6.1, developing key walking routes and promoting 'Legible London' to improve wayfinding.

18.3 Borough LIPs, DPD policies and development briefs should encourage development proposals that include high quality public realm and safe, convenient and direct and accessible walking routes, supported by adequate space for the introduction of Legible London wayfinding. DPDs should also contain policies and safeguarding where necessary to allow the retention and improvement of the strategic walking network and its extension where appropriate. This is especially applicable to riverside sites where pedestrian access can be limited and fragmented. Consultation with TfL is recommended for further information about Legible London, the Strategic Walk London Network and other walking programmes[78].

18.4 Pedestrian Environment Review System (PERS) is a 'walking audit' tool which TfL uses to assess our pedestrian spaces. It helps to prioritise investment in walking improvement schemes. Pedestrian Comfort Guidance (PCG) is a tool that measures the capacity of pedestrian spaces, such as pavements and footpaths, for the number of pedestrians who use them. It basically tells us whether pavements are wide enough and where pavements need to be widened

[78] For more information please see: http://www.tfl.gov.uk/gettingaround/walking/default.aspx.

to cope with pedestrian flow.

18.5 When considering planning applications boroughs should seek assessment of pedestrian links and access to public transport stops and facilities and whether pavements are wide enough to cope with increases in pedestrian numbers. The use of PERS and pedestrian comfort guidance is recommended for this purpose[79].

Cycling

18.6 The Mayor is seeking to increase cycle trips by 400 per cent by 2026, against the 2001 baseline, taking cycling's overall mode share from two to five per cent.

18.7 Policy 6.9 *Cycling* states that the Cycle Superhighway network shown in London Plan Map 6.2 should be completed and that potential extensions of Barclays Central London Cycle Hire scheme or new stand alone schemes should be identified. Developments should therefore facilitate Barclays Cycle Superhighways and appropriate forms of cycle hire scheme where there is sufficient demand. New development should also provide high quality, well connected provision for cyclists based on a street layout that is permeable and with good links into the surrounding network. They should include facilities to encourage cycling, such as cycle changing facilities and safe and secure cycle parking in line with the minimum standards contained with Table 6.2 of the London Plan. The Mayor has published for public consultation proposals for early minor alterations to the London Plan[80]. These include changes to parts of Chapter 6 to reflect updated cycle parking standards, following a review carried out by Transport for London.

18.8 More widely, the adequate provision of cycle parking, both in terms of quantity and quality and in particular at high demand locations such as town centres, stations and termini and the provision of high quality cycle facilities , such as cycle lanes, entry treatments, traffic calming, appropriate to the location and local environment, should be encouraged.

18.9 Borough LIPs and DPDs should therefore provide support and, where required, safeguarding, to allow this. Consultation with TfL is recommended to determine the current status of Barclays Cycle Superhighways and Cycle Hire scheme.

18.10 Incorporation of 20mph speed limits in residential areas can be considered as part of a package of interventions to encourage walking and cycling. The MTS makes clear that 20mph zones have a role to play in improving road safety. Accordingly, TfL has long supported the boroughs in implementing 20 mph zones. TfL funds the introduction of many of these zones through the £147.8m per annum financial assistance that is provided through the Local Implementation Plan (LIP) process.

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[79] These can be found at http://www.tfl.gov.uk/businessandpartners/20953.aspx

[80] Mayor of London. The London Plan. Early Minor Alterations. GLA, February 2012

18.11 The decision on whether strategically important roads are appropriate for 20mph speed limits will be dependent upon a number of factors, including consideration of potential safety benefits, the design of the road, whether the speed limit would be self-enforcing and impacts on the wide range of road users.

18.12 Current guidance to local authorities on speed limits is provided in Department of Transport (DfT) Circular 01/2006 – 'Setting Local Speed Limits'. This guidance is intended to support developing safer environments for all road users, within a road system which aids wider economic and environmental objectives in a sustainable way. The guidance advises:

- *"The standard speed limit in urban areas is 30 mph, representing a balance between mobility and safety of road users...."*
- *"20mph speed limits should not be implemented on roads with a strategic function or on main traffic routes."*

"Alternative speed management options should always be considered before a new speed limit is introduced."

SPG 18 - Walking and Cycling

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) seek to incorporate, within new development, layouts and facilities to encourage cycling, providing secure cycle parking in line with the minimum standards contained with Table 6.2 of the London Plan;

(ii) provide support and, where required, safeguarding, within LIPs and DPDs to enable improved provision of facilities for cycling;

(iii) encourage development within LIPs, DPD policies and development briefs with proposals that include high quality public realm and safe, convenient and direct and accessible walking routes supported by adequate space for the introduction of Legible London wayfinding. DPDs should also contain policies and where necessary, safeguarding, to allow the retention and improvement of the strategic walking network and its extension, where appropriate. Assessment of pedestrian links, access to public transport stops and facilities and the potential to overcome barriers to movement, should be undertaken, using agreed methodologies where appropriate.

19 Tackling road congestion

19.1 The London Plan (Policy 6.11) and Mayor's Transport Strategy (Chapter 5.6) set out measures to tackle road congestion.

19.2 Policy 6.11 Smoothing traffic flow and tackling congestion states that the Mayor wishes to see DPDs and Local Implementation Plans (LIPs) take a co-ordinated approach to smoothing traffic flow and tackling congestion and developing an integrated package of measures across a range of modes of transport. Any proposals for new network capacity should accord with Policy 6.12 (road network capacity) and this should be reflected in DPDs.

19.3 Any scheme that may have the impact of reducing road capacity for vehicles, for example to improve urban realm or provide facilities for walking and cycling, must take into account the impact on congestion and reliability for all road users, and on the bus network in particular, and the criteria set out in Policy 6.12.

19.4 London Plan Table 6.1 identifies a number of major schemes on the Transport for London Road Network (TLRN). Boroughs should, in consultation with TfL, safeguard within their DPDs any land required for these or other schemes. Development briefs should safeguard any land required for highway expansion to support the development, if appropriate.

19.5 Where land is being safeguarded in TfL or borough ownership for potential future schemes in the long term, TfL/boroughs should make best use of the land in the medium term. This should be done, for example, by agreeing temporary land use for, say, a ten year period. The intention would be to generate income from the land and avoid blight, while not prejudicing the ability of TfL / boroughs to deliver potential schemes in the longer term. The exact planning horizons would need to be determined on a strategic basis, reflecting, for example, corridor strategies set out in sub-regional transport plans.

Strategic highways maintenance depots

19.6 Boroughs should be aware of the current and future requirement for strategic highways maintenance depots and include policies in their LDFs that protect these sites. LDF policy should also promote the siting of depots close to the point of use, in order to reduce the impact of maintenance vehicles on the road network.

SPG 19 Tackling road congestion

In implementing London Plan policies to tackle congestion, the Mayor will and boroughs, TfL and other partners should:

(i) safeguard within DPDs and development briefs the necessary land required for

major schemes on the Transport for London Road Network (TLRN), and other schemes as appropriate;

(ii) consult each other with regard to any development of vacant land adjacent to strategic road corridors to ensure that inappropriate development does not impede potential future proposals for improvements to the road network (subject to Policy 6.12). To avoid blight and to generate income for the improvement of other transport services, TfL and boroughs should explore opportunities for high quality temporary uses for vacant land in the medium term;

(iii) dispose of any land which, following consultation, is agreed to be surplus to current and future operational or strategic requirements;

(iv) safeguard sites required for highway maintenance.

20 Parking and Park and Ride

20.1 Parking standards in borough DPDs and parking provision in development should reflect the policies of the London Plan as a whole, including those for outer London, to provide the context for the more specific requirements at the local level. This provides the flexibility boroughs may need to address local circumstances (see Policy 6.13E and also paragraph 5.23 and 10.17e of this SPG regarding provision in industrial areas). The requirements for 'Blue Badge' parking for disabled people in development are set out in paragraphs 6A.2 and 6A.3 and Table 6.2 of the Plan.

20.2 London Plan policy 5.8 (Innovative energy technologies) seeks to stimulate the uptake of electric vehicles (EVs). Policy 6.13 (Parking) and Table 6.2 set, for the first time, requirements for the provision of EV charging infrastructure in new developments. In response to requests for further guidance from boroughs and developers, a 'Guide for Developers' on the provision of EV charging infrastructure has been produced and is appended to this SPG (Annex 6). Borough DPDs, masterplans and site development briefs should reflect this guidance.

Parking and other land surplus to requirements

20.3 There may be the opportunity to release under-used, sub-standard or poorly located car parks for more valuable or sustainable land uses or to develop the air space above. Disposal of surplus parking land on specific sites should be identified through DPDs. Consideration should also be given to whether surplus land is suitable or appropriate to be used for temporary construction sites for major transport schemes before it is released for development. Consultation with TfL or appropriate authority is encouraged at an early stage.

20.4 TfL is assessing its own car parks such as those at stations and will identify sites suitable for disposal or where development could be combined with parking.

Boroughs should, in consultation with TfL, take account of this in their DPDs and LIPs.

20.5 A number of sites that were acquired or safeguarded for transport schemes are no longer required, for example sites along the A40. In other cases surplus land may exist following delivery of a transport scheme such as that associated with the East London Line extension. While some sites could be suitable for operational uses, other sites will have redevelopment potential for residential, commercial, community or other uses. DPDs should be updated to reflect the status of these schemes.

20.6 Where TfL considers that it no longer requires land for transport purposes it will consider options for its release and, where appropriate, disposal. Details can be provided by TfL.

'Park and Ride'

20.7 London Plan policy 6.13 Parking supports park and ride schemes in outer London where it can be demonstrated they will lead to overall reductions in congestion, journey times and vehicle kilometres.

20.8 Further information and guidance is set out in Transport for London's Park and Ride Assessment Framework (2008), this encompasses a strategic approach to Park and Ride schemes across London.

20.9 Cross boundary impacts of any park and ride schemes should be taken into account and consulted upon with the relevant neighbouring authorities, including those outside of London.

SPG 20 Parking and Park and Ride

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) reflect the parking policies of the London Plan as a whole, including those for outer London, to provide the context for the more specific requirements and to address local circumstances;

(ii) reflect relevant London Plan guidance cars covered by a Blue Badge sticker and all other parking and loading issues within DPDs, masterplans and site development briefs;

(iii) take account, in DPDs and LIPs, relevant parking and other surplus transport land disposal strategies and consult with TfL to establish the latest information;

(iv) take into account guidance in Transport for London's Park and Ride Framework.

21 Electric Vehicles

21.1 Electric vehicles[81] and associated charging infrastructure is an area where technology, standards and best practice are evolving particularly rapidly. Policy 6.13 and Table 6.2 of the London Plan set out the minimum requirements for the provision of electric charging points as a proportion of total car parking at new developments. Determination of total car parking provision should be undertaken independently from consideration of EV charging infrastructure.

21.2 A 'Guide for Developers' on the provision of EV charging infrastructure is included in Annex 6 of this SPG. It is aimed at developers who will be submitting planning applications for new developments in London and constructing those developments.

21.3 DPDs, masterplans and site development briefs should reflect this guidance. The purpose of the guidance document is to provide further detail on expectations in terms of specification and management of electric vehicle charging infrastructure including pragmatic, clear guidance on a variety of issues that may need to be taken into consideration.

21.4 The 'Guide for Developers' document is intended to record best-practice in terms of the specification and management of electric vehicle charging infrastructure. It is the intention that the document is updated regularly in order to reflect emerging best practice and industry standards.

SPG 21 - Electric Vehicles

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should reflect relevant London Plan guidance for electric vehicles within DPDs, masterplans and site development briefs.

[81] For the purposes of this document, an Electric Vehicle (EV) is considered as any road vehicle with a battery that is intended to be charged from mains electricity. Therefore, plug-in hybrid, extended range EVs and pure electric EVs are all included under the definition of EV used in this document.

22 Blue Ribbon Network including wharves and boatyards

22.1 The London Plan contains a number of policies that seek to encourage use of the Blue Ribbon Network for passenger and freight transport.

22.2 Policy 7.25 Increasing the use of the Blue Ribbon Network for passengers and tourism states that existing facilities should be protected and locations for new facilities identified and provided where possible through development. The policy also supports the principle of additional cruise liner facilities on the Thames.

22.3 Policy 7.27 Blue Ribbon Network: supporting infrastructure and recreational use states that waterway support infrastructure such as boatyards, moorings and jetties should be protected and DPDs should identify locations of facilities and any opportunities for enhancing or extending facilities, especially within Opportunity Areas.

22.4 Policy 7.29 The River Thames and Policy 7.30 London's Canals and Other Rivers and Waterspaces provide additional policy support for increasing the use of these waterways for transport.

22.5 The provision of passenger facilities including piers, jetties, moorings, slipways and other infrastructure as part of waterside redevelopment, or near to major transport hubs close to the Thames and other navigable waterways, is key to extending water passenger transport. As with all transport interchanges, good access is required to these facilities, for example pedestrian and cycle routes or coach drop off/pick up, depending on the nature and scale of the facility. More specifically, the lack of facilities for cruise ships to support London's visitor economy has been identified[82]. Boroughs should within their DPDs identify, and safeguard where appropriate, land that would be suitable for passenger, tourist or cruise liner facilities.

22.6 The loss of any existing river bus, ferry, river/canal cruise facility including piers, ticket offices, passenger or vehicle waiting areas and facilities, handling and storage areas, repair and servicing facilities, accesses, through a change of use or redevelopment should be resisted unless a suitable alternative arrangement is agreed with TfL. In particular, there is a shortage of boat repair facilities on the Thames where boats and pontoons can be slipped or dry-docked for inspection and repair. There is a need for at least one new site for a dry dock or slipway to be identified and protected to serve the river boat operators and pontoon owners on the Thames (see paragraph 22.20).

22.7 Where appropriate, provision for river buses, ferries, river/canal cruises will be required to serve new riverside development in accordance with details to be agreed with TfL. Borough DPDs should therefore include policies to encourage developers to include improved access to, and provision of facilities supporting the use of, the Blue Ribbon network for passengers and recreation within

[82] see an assessment of current and future cruise ship requirements in London: http://www.london.gov.uk/archive/mayor/publications/2009/docs/lda-cruise-ships-030709.pdf)

development proposals.

22.8 Facilities for recreational use of the Blue Ribbon Network should also be promoted.

22.9 Any new services or facilities should avoid or mitigate conflicts in line with London Plan Policy 7.26.

Wharves and Boatyards

22.10 Within London the maritime industry (wharves, boatyards and passenger facilities) is projected to grow over the London Plan period (to 2031). Some of these activities take place on strategic industrial land, and some of them, such as loading and unloading cargo at wharves and boatyards, can involve noisy operations and, due to the tidal cycle of the Thames, can also require working outside normal business hours.

Policy context

22.11 London Plan Policy 7.26 promotes waterborne freight and the protection and re-activation of safeguarded wharves to facilitate this. Conflicts with adjacent/opposite developments should be minimised, and water transport for demolition/construction material should be maximized for development close to navigable waterways. Boroughs should identify in their LDF locations suitable for additional waterborne freight.

22.12 Existing wharf capacity and its safeguarding for potential future uses is considered as essential, especially given the pressures for redevelopment along the Thames. The viability test in the supporting text (paragraph 7.77) sets out the criteria to determine the viability of a wharf.

22.13 Other relevant polices in the new London Plan include the waste management policies (5.17 and 5.18) and the aggregates policy (5.20), which emphasise that waterborne transport should be maximised.

22.14 Policy 7.27 promotes waterway support infrastructure including boatyards. The supporting text (paragraph 7.81) highlights that there is a particular shortage of boatyard facilities to inspect, maintain and repair larger passenger craft on the Thames.

Wharves

22.15 In January 2005 the Mayor published the London Plan Implementation Report Safeguarded Wharves in the River Thames. A total of 50 wharf sites are currently safeguarded by the Secretary of State through a Direction made under Article 10(3) of the Town and Country Planning (General Development Procedure) Order 1995. This requires the Mayor to be consulted before planning permission can be granted. The demand for water freight and the need to facilitate this through the safeguarding of wharves is driven by policies to promote sustainable development and to reduce road freight as a major contributor of CO2 emissions.

22.16 The Mayor is currently reviewing the safeguarded wharves in co-operation with Transport for London, the Port of London Authority and British Waterways. A consultation draft was produced in October 2011[83] including long term water freight trade forecasts and associated wharf capacity requirements and distribution to 2031. The work on capacity was complemented by an assessments of the existing wharves based on the viability test set out in the London Plan. The document concluded with an overview of proposed ways to address identified future capacity surpluses and deficits. Overall, the draft recommends nine safeguarded wharves for release and one additional wharf for safeguarding. This is based on the following demand-capacity balance for broad cargo types for three sub-regions (West, South East and North East[84]):

- West: Construction material (deficit of 0.2 mt), waste (deficit of 0.3 mt), vacant (0.5 mt)
- South East: Construction material (surplus of 1.3 mt), waste (deficit of 0.2 mt), other cargo (surplus of 0.1 mt), vacant (0.7 mt)
- North East: Construction material (deficit of 0.8 mt), waste (surplus of 0.3 mt), other cargo (surplus of 1.3 mt), vacant (2.4 mt).

22.17 Whilst the tonnage capacity is not strictly proportionate to the land area of a wharf, a rough illustration of the scale of how the tonnage surpluses and deficits roughly translate into land areas involved is given below. It is important to note that these average figures do not take into account detailed site-specific aspects.

- The total area of land for safeguarded wharves is 224 ha - 7 ha in the West, 68 ha in the South East and 149 ha in the North East, 70 ha of which are at one site - Ford Dagenham.
- The land area for the safeguarded wharves individually varies roughly between 0.1 and 10 ha with Ford being the exception.
- Average land areas of a wharf appear to vary from sub-region to sub-region with 0.7 ha in the West, 3.3 ha in the North East (excluding Ford) and 4.5 ha in the South East.

22.18 The final new safeguarded wharves document is expected towards the end of 2012 after the Secretary of State has made the required changes to the Safeguarding Direction based on the Mayor's recommendations.

22.19 Figure 22.1 illustrates the close spatial relationship between the safeguarded wharves and the SILs, reflecting their complementary functions. This SPG supports the implementation of London Plan Policy 7.26 to protect safeguarded wharves and associated land required.

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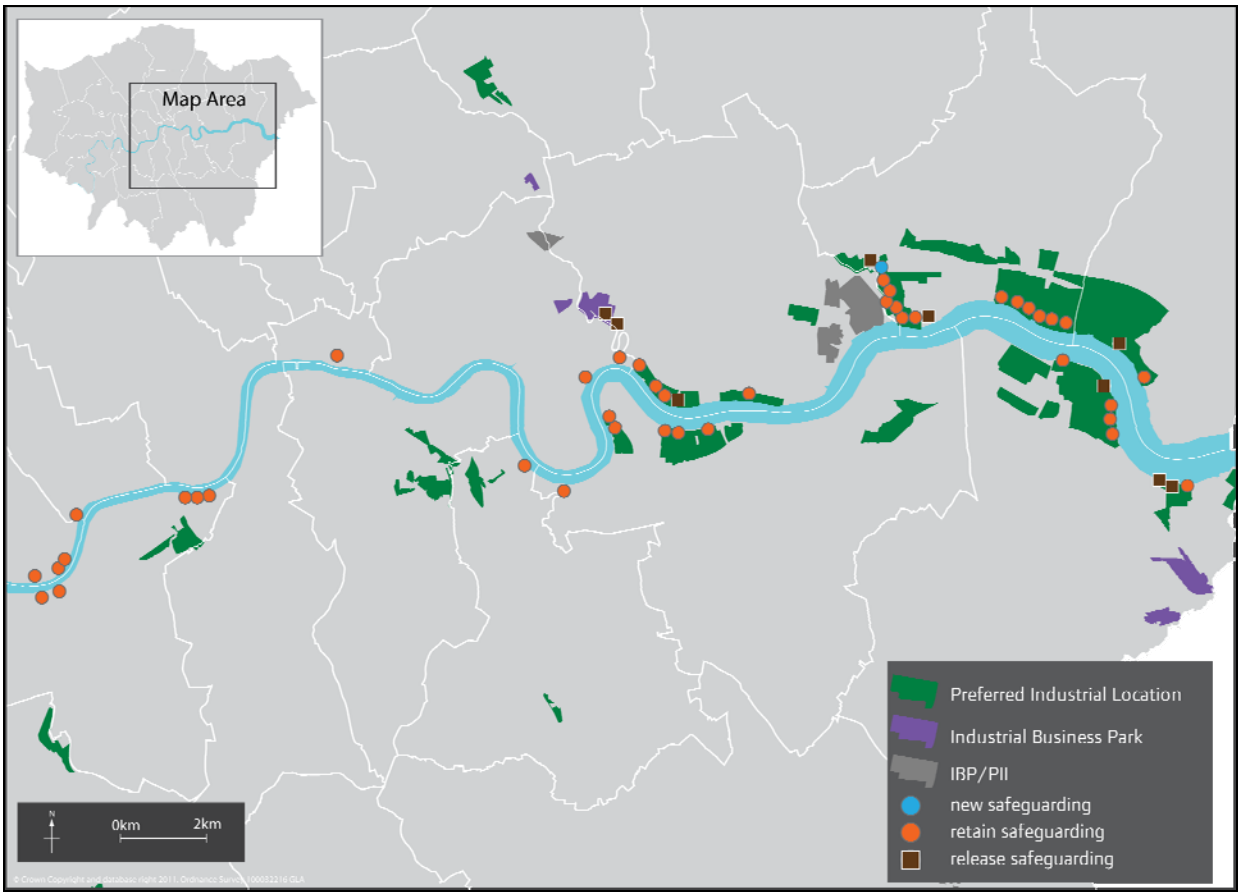
[83] Consultation took place between 7 Oct 2011 and 7 Jan 2012

[84] with the north-south divide through the Thames and the City of London westwards representing the West

Figure 22.1 Relationship between safeguarded wharves (as per safeguarded wharves review consultation draft) and Strategic Industrial Locations*



*Indicative extent of SILs shown for illustrative purposes only. Detailed boundaries of SILs are for identification on DPD proposals maps.

Boatyards

22.20 A new boatyard is due to be operational in Greenwich in the near future and a further new boatyard is being sought of 1-1.5 ha. This follows research commissioned by the GLA[85] which demonstrated a significant shortfall in boatyard facilities, particularly for those capable of maintaining the larger passenger vessels now operating on the Thames where passenger trips have doubled over the past 10 years. The research also considered how the needs of boatyards might change in future and what measures may be needed to ensure that the Thames can sustain a viable passenger and freight transport service.

[85] Adams Hendry Consulting Ltd. Assessment of Boatyard Facilities on the River Thames for the Greater London Authority – Final Report. GLA 2007: http://legacy.london.gov.uk/mayor/planning/docs/boatyard-report.pdf

SPG 22 - Blue Ribbon Network (including wharves and boatyards)

In implementing London Plan policies the Mayor will and boroughs, TfL and other partners should:

(i) resist the loss of any existing facility used by, or to support the operations of passenger services on the Blue Ribbon Network, unless a suitable alternative arrangement is agreed with TfL. DPDs should include policies to encourage developers to include improved access to and provision of facilities supporting the use of the Blue Ribbon network for passengers and recreation within development proposals;

(ii) promote the use and re-activation of safeguarded wharves for waterborne freight transport in line with the implementation actions proposed for each safeguarded wharf as part of the individual site assessments in Annex 5 of the safeguarded wharves review *(once its final version is published towards the end of 2012)*;

(iii) promote the development of an additional boatyard facility to address the identified shortfall.

ANNEXES

ANNEXES

Annex 1. Indicative industrial land release benchmarks 2011-2031

Outer/ Inner	Borough	Historic release 2001-2006 (Ha)	Historic release 2006-2010 (Ha)	2010 Total Industrial Land Baseline (Ha)	Industrial land release benchmark 2011-2031 (Ha)	Annual industrial land release benchmark 2011-31 (Ha)	Integrated 2012 SPG borough grouping
I	Camden	-2	4	61	**-5**	-0.3	**Restricted**
I	City of London	0	0	5	**0**	0.0	**Restricted**
I	Islington	-15	4	70	**-5**	-0.3	**Restricted**
I	Kensington & Chelsea	-2	0	28	**-2**	-0.1	**Restricted**
I	Lambeth	-4	-1	96	**-8**	-0.4	**Restricted**
I	Southwark	-5	-24	167	**-25**	-1.3	**Limited**
I	Westminster	-5	1	20	**-1**	-0.1	**Restricted**
	Central Sub-region	**-33**	**-16**	**448**	**-46**	**-2.3**	
O	Barking & Dagenham*	-36	-60	475	**-35**	-1.8	**Limited**
O	Bexley	-7	1	527	**-45**	-2.3	**Managed**
I	Greenwich*	-29	-14	238	**-50**	-2.5	**Managed**
I	Hackney	-9	-17	74	**-10**	-0.5	**Limited**
O	Havering	-37	-43	498	**-34**	-1.7	**Limited**
I	Lewisham	-12	-11	137	**-34**	-1.7	**Limited**
I	Newham	-93	-43	529	**-106**	-5.3	**Managed**
O	Redbridge	-4	-10	69	**-11**	-0.6	**Limited**
I	Tower Hamlets	-36	-34	175	**-35**	-1.8	**Limited**
O	Waltham Forest	-19	-12	213	**-28**	-1.4	**Limited**
	East Sub-region	**-282**	**-243**	**2,935**	**-388**	**-19.4**	
O	Barnet	-6	-1	115	**-10**	-0.5	**Limited**
O	Enfield	-3	0	485	**-33**	-1.7	**Limited**
O	Haringey	0	-3	167	**-24**	-1.2	**Limited**
	North Sub-region	**-9**	**-4**	**767**	**-67**	**-3.4**	
O	Bromley*	-15	-5	135	**-9**	-0.5	**Restricted**
O	Croydon	-6	-9	181	**-9**	-0.5	**Restricted**
O	Kingston-u-Thames	-7	1	116	**-7**	-0.4	**Restricted**
O	Merton	-10	-1	177	**-9**	-0.5	**Restricted**
O	Richmond-u-Thames	-2	0	48	**-4**	-0.2	**Restricted**
O	Sutton*	-3	0	334	**-9**	-0.8	**Restricted**
I	Wandsworth	-11	2	179	**-41**	-2.1	**Restricted with exceptions**
	South Sub-region	**-54**	**-12**	**1,169**	**-88**	**-4.4**	

Outer/ Inner	Borough	Historic release 2001-2006 (Ha)	Historic release 2006-2010 (Ha)	2010 Total Industrial Land Baseline (Ha)	Industrial land release benchmark 2011-2031 (Ha)	Annual industrial land release benchmark 2011-31 (Ha)	Integrated 2012 SPG borough grouping
O	Brent	-4	-37	411	**-26**	-1.3	**Limited**
O	Ealing	-6	-12	533	**-24**	-1.2	**Limited**
I	Hammersmith & Fulham	-14	0	172	**-39**	-2.0	**Restricted with exceptions**
O	Harrow	-1	-7	71	**-14**	-0.7	**Limited**
O	Hillingdon	-2	-9	430	**-26**	-1.3	**Limited**
O	Hounslow	-24	-7	496	**-15**	-0.8	**Limited**
	West Sub-region	**-51**	**-72**	**2,114**	**-144**	**-7.2**	

London	**-429**	**-347**	**7,433**	**-733**	**-36.7**

Inner	-237	-133	1,952	**-361**	-18.1
Outer	-192	-214	5,481	**-372**	-18.6
London	**-429**	**-347**	**7,433**	**-733**	**-36.7**

Note: Borough level benchmarks are indicative only and are subject to ongoing review in local Employment Land Reviews as required by NPPF paragraph 22 having regard to the London Plan and guidance in this SPG. The benchmarks of those boroughs indicated with an asterisk (*) are those most likely to be reviewed in the near future through forthcoming local Employment Land Reviews.

Annex 2. Indicative land demand for waste management and recycling

Borough	Waste Apportionment to 2031 (LP2011) tonnes per annum	Gross Additional Indicative Land Requirement for Waste Apportioned to 2031 (ha)	Indicative distribution of Capacity at WTS tonnes per annum	Indicative Land take of Capacity at WTS (ha)	Net Additional Indicative Land Requirement for Waste Apportioned to 2031 (ha)
Barking & Dagenham	708,000	18.9	1,297,099	34.6	-15.7
Barnet	313,000	3.7	202,514	2.4	1.3
Bexley	640,000	8.0	1,120,000	14.0	-6.0
Brent	400,000	7.4	86,116	1.6	5.8
Bromley	343,000	4.3	74,100	0.9	3.4
Camden	264,000	3.1	170,810	2.0	1.1
City of London	100,000	1.3	0	0.0	1.3
Croydon	353,000	6.0	13,400	0.2	5.8
Ealing	507,000	9.4	109,151	2.0	7.3
Enfield	426,000	5.1	275,626	3.3	1.8
Greenwich	470,000	5.9	217,100	2.7	3.2
Hackney	289,000	3.4	186,986	2.2	1.2
Hammersmith & Fulham	348,000	4.4	470,000	5.9	-1.5
Haringey	264,000	3.1	170,810	2.0	1.1
Harrow	254,000	4.7	54,683	1.0	3.7
Havering	467,000	12.5	855,573	22.8	-10.4
Hillingdon	426,000	7.9	91,713	1.7	6.2
Hounslow	412,000	7.6	88,699	1.6	6.0
Islington	284,000	3.4	183,751	2.2	1.2
Kensington & Chelsea	284,000	3.6	0	0.0	3.6
Kingston-upon-Thames	203,000	3.4	0	0.0	3.4
Lambeth	313,000	3.9	0	0.0	3.9
Lewisham	293,000	3.7	482,400	6.0	-2.4
Merton	339,000	5.7	149,400	2.5	3.2
Newham	572,000	15.3	1,047,939	27.9	-12.7
Redbridge	218,000	5.8	399,389	10.7	-4.8
Richmond-upon-Thames	251,000	4.6	54,038	1.0	3.6
Southwark	343,000	4.3	452,600	5.7	-1.4
Sutton	281,000	4.8	281,800	4.8	0.0
Tower Hamlets	439,000	8.1	364,150	6.7	1.4
Waltham Forest	283,000	3.4	183,104	2.2	1.2
Wandsworth	442,000	5.5	85,000	1.1	4.5
Westminster	178,000	2.2	0	0.0	2.2
London Total	**11,707,000**	**194.2**	**9,167,950**	**171.8**	**22.3**

Source: RTP, 2012 / GLA. Note: These estimates are approximate and indicative only. They are based upon assumptions of the average throughput of different mix of facilities as reported by relevant waste authorities. Actual requirements will depend on a range of factors not least the types of facilities used to manage waste and agreements between boroughs to manage each others' waste . Boroughs, waste authorities and other partners, in collaboration with the GLA, should determine actual requirements of industrial land needed to manage waste apportioned in the London Plan.

Annex 3. Industrial Land Qualitative Assessment Checklist

(see also detailed criteria in Section 4, paragraphs 4.14 to 4.16)

- Site Area (ha)

- Existing Uses
- Existing Neighbouring uses
- Existing Access to strategic and local road network
- Existing Access to Waterways and wharves
- Existing Access to Railhead
- Existing Access to Public transport (Public Transport Accessibility Level)
- Existing Policy Designation (SIL, LSIS, other non-designated)
- Existing servicing for businesses – including loading and unloading
- Existing parking facilities – on-site/off-site provides sufficient space for adequate operational parking and turning space for goods vehicles? Condition of buildings and quality relative to modern requirements
- Local facilities/amenities – eg café, crèche, small shop

- Proximity to Town Centres and/or Central Activities Zone

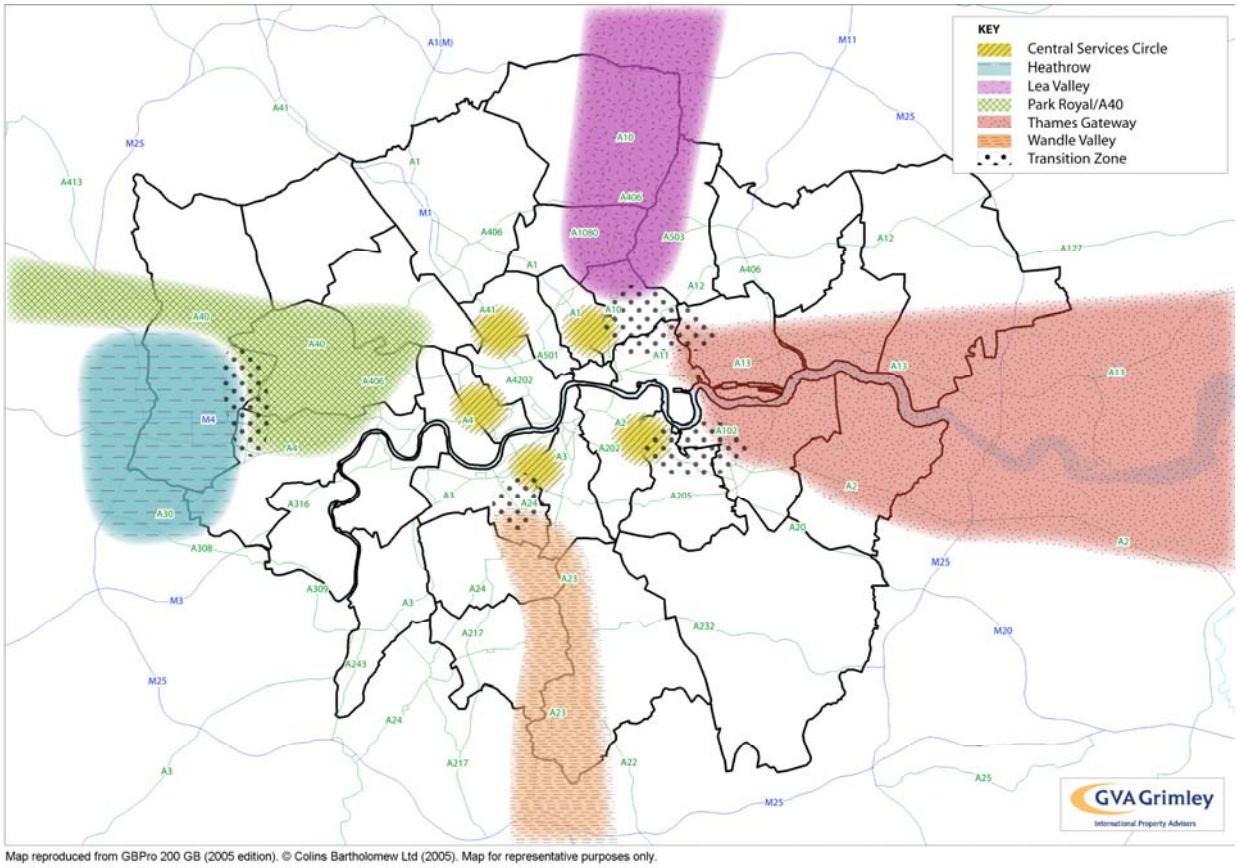
- Quality of existing buildings, infrastructure and the environment
- Impacts on-site and off-site (noise, dust, odours, air quality, lighting, vehicle movements, 24 hour operations, potential hazards etc)
- Existing sensitive receptors (eg. Residential, schools..)

- Potential for 24 hour working
- Potential for in-situ business expansion
- Potential to support local or strategically important clusters of industrial activity
- Potential for logistics/warehousing
- Potential for waste management and recycling
- Potential for utilities (including energy and water management)
- Potential for movement of goods by rail or water, intermodal facilities, consolidation centres, break-bulk etc.
- Potential to accommodate land for transport functions
- Potential for wholesale markets
- Potential to accommodate new emerging industries, innovation, research
- Potential to provide lower cost industrial accommodation suitable for small, start-up, or lower-value industrial uses or other industrial related businesses important to the local economy
- Potential to accommodate provision of industrial units for SMEs

- Vacancy – area (ha), floorspace (sqm), period of vacancy

- Marketing – Is site/property on the market? through commercial agent? Has the site been marketed for industry and with potential for redevelopment of derelict/obsolete premises? Period of time on the market? Reasonable asking price/ rental offer?

Annex 4. Principal property market areas for industry and warehousing



Source: URS

Annex 5. Aggregate Rail Depots

Borough	Location	Operator	Aggregate	Grid Ref
LB Barking & Dagenham	Dagenham	Hanson Aggregates	Crushed rock	51 811 491
LB Brent	Park Royal	Tarmac Ltd	Marine	51 195 826
LB Brent	Wembley	Bardon Aggregates	Crushed rock	51 207 857
LB Camden	Kings Cross	Tarmac Ltd	Marine	51 300 838
LB Camden	Kings Cross	Hanson Aggregates	Marine* and crushed rock	51 300 839
LB Croydon	Purley	Day Aggregates	Crushed rock and marine*	51 315 615
LB Ealing	Acton	Yeoman Aggregates	Sand & gravel and crushed rock	51 197 811
LB Greenwich	Angerstein	Bardon Aggregates	Crushed rock	51 404 790
LB Hillingdon	West Drayton	Network Rail	Crushed rock	51 078 799
LB Hillingdon	West Ruislip	Yeoman Aggregates	Crushed rock	51 089 865
LB Hillingdon	Hayes	Tarmac Ltd	Crushed rock	51 106 795
LB Hounslow	Brentford	Day Aggregates	Crushed rock and sand & gravel	51 163 782
LB Kingston upon Thames	Tolworth	Day Aggregates	Crushed rock and marine	51 198 655
LB Tower Hamlets	Bow	Bardon Aggregates	Crushed rock and marine	51 375 835
LB Wandsworth	Battersea	Day Aggregates and Tarmac Ltd	Crushed rock and marine*	51 289 773 29
LB Westminster	Paddington	Tarmac Ltd	Marine	51 260 816

* transported from wharf

Annex 6. Electric vehicle charging infrastructure at new London developments

A Guide for Developers

Contents

1. INTRODUCTION

1.1. Who should use this document?

1.1.1 This guide is aimed at developers who will be submitting planning applications for new developments in London and constructing those developments.

1.2. Purpose of this document

1.2.1. Electric vehicles and associated charging infrastructure is an area where technology, standards and best practice are evolving particularly rapidly. The London Plan (Policy 6.13 and Table 6.2) sets out minimum requirements in terms of quantity of provision of electric vehicle charging infrastructure at new developments. The purpose of this guidance document is to provide further detail on expectations in terms of specification and management of electric vehicle charging infrastructure including pragmatic, clear guidance on a variety of issues that may need to be taken into consideration.

1.2.2. This document is intended to record best-practice in terms of the specification and management of electric vehicle charging infrastructure. It is the intention that this document is updated regularly in order to reflect emerging best practice and industry standards. This document will, where appropriate, direct readers to linked documents which provide greater detail on some topics.

1.3. What is an electric vehicle?

1.3.1. For the purposes of this document, an Electric Vehicle (EV) is considered as any road vehicle with a battery that is intended to be charged from mains electricity. Therefore, plug-in hybrid, extended range EVs and pure electric EVs are all included under the definition of EV used in this document.

2. LONDON PLAN EV CHARGING INFRASTRUCTURE POLICY

2.1. Interpretation of London Plan EV charging infrastructure policy

2.1.1. Policy 6.13 and Table 6.2 of the London Plan set out the minimum requirements for the provision of electric charging points as a proportion of total car parking at new developments. Determination of total car parking provision should be undertaken independently from consideration of EV charging infrastructure. The intended interpretation of requirements for EV charging infrastructure are outlined in Table 1.

Table 1 – Summary of minimum requirements for electric vehicle charging infrastructure at new developments as detailed in the London Plan.

Parking spaces intended for:	Residents	Employees	Visitors / shoppers / clients
Active (per cent of total parking spaces)	20%	20%	10%
Passive (per cent of total parking spaces)	20%	10%	10%
Total (active + passive as per cent of total parking spaces)	40%	30%	20%

2.1.2. London Plan EV charging infrastructure policy has been consistent since the draft replacement London Plan was published for public consultation in October 2009. Since then a number of demonstration projects have been undertaken to examine EV user behaviour and national Government, through the Office for Low Emissions Vehicles, have published a Plug-in Vehicle Infrastructure Strategy . Both the demonstrator schemes and the Plug-in Vehicle Infrastructure Strategy highlight the predominance of home charging and the reassurance that charging facilities at other locations provides. The Mayor is eager to ensure that as many car owners as possible have the option to switch to using an EV. Therefore, especially at residential developments, a higher than minimum provision of EV charging infrastructure is encouraged, possibly primarily passive for the coming years.

2.1.3. Developments currently going through the planning process will be used for many decades to come. The London Plan EV charging infrastructure policy is intended to future proof development in London by enabling greater future choice in terms of EV ownership and usage. EVs are not currently a common sight on the streets of London. However, that is set to change as almost all major vehicle manufacturers bringing EVs to market and the Committee on Climate Change in their Fourth Carbon Budget report predict that by 2020 sixteen percent of new car and van sales will be EVs, rising to sixty percent by 2030. Uptake of EVs could be higher in London than the rest of the UK because London has a range of incentives to encourage a switch to EVs (e.g. 100 per cent discount from congestion charge and discounted residents parking permits), London is at the forefront of implementing a network of publically accessible EV charge points (Source London) and typical car trip distances in London are shorter (better suited to EVs).

3. SPECIFICATION OF EV CHARGING INFRASTRUCTURE

3.1. Active / Passive charging infrastructure definitions

3.1.1. Active provision requires fully wired and connected 'ready to use' charge points at parking spaces. Passive provision requires the necessary underlying infrastructure (e.g. capacity in the connection to the local electricity distribution network and electricity distribution board, as well as cabling to parking spaces) to enable simple installation and activation of a charge point at a future date.

3.1.2. Passive charging infrastructure future-proofs new developments for the projected increase in take-up of EVs over the longer term. It is significantly cheaper and less disruptive to install the underlying infrastructure for EV charge points during construction than to retrofit later. Passive charging infrastructure enables future users of that development to not only choose whether or not to own an EV, but also provides future choice as to which charging point best suits their requirements.

3.2. Standard / Fast / Rapid charge infrastructure definitions and applications

3.2.1. Three levels of capability are identified: standard, fast, and rapid. Standard charge points can provide a typical full charge in approximately 5-7 hours, fast in approximately 2-3 hours and rapid in around 30 minutes. The technology for rapid charge points is still under development. Table 2 lists some typical technical standards for the different charge capability.

Table 2 – Typical charge points technical standards.

	Voltage (V)	Current (Amps)	Nominal charge power (kW)	Typical application
Standard	230 AC	13-16, single phase	3	Residents' parking Employees' parking
Fast	230AC	32, single phase	7	Retail / leisure parking Residential & employ-ment visitor parking
Rapid	400 AC and 500-600 DC	32-63A three phase and up to 125 DC	20-50	Specialist applications

3.2.2. The minimum current rating recommended for 'standard' EV charging infrastructure is 16 Amps. Three-pin 13 Amp domestic sockets are not endorsed for EV charging because they are not designed for continuous full power operation. Indeed, EV manufacturers generally limit charging from a 13 Amp supply to 10-11 Amps in order to protect standard circuits. The additional power capability of a 16 Amp supply will ensure a full charge can be delivered in the approximate 6-hour overnight period of low background electricity demand.

3.2.3. In determining the appropriate power capability to install at a given parking space the main consideration is how long cars would typically be expected to park at that location. For example, parking spaces at residential developments that are intended for use by residents could reasonably be fitted with 'standard' charge points as it is expected that vehicles would be parked overnight. In a similar manner, 'standard' charging infrastructure would generally suffice at employee parking spaces where cars would typically be parked for a number of hours. However, charging infrastructure at visitor parking at residential and employment developments, as well as retail parking would generally be expected to provide an element of 'fast' charge capability due to the shorter amount of time a vehicle would typically be parked for.

3.2.4. It is not generally expected that 'rapid' charge points would be required at new developments in London, other than in specialist circumstances. For example, a distribution hub may require 'rapid' charging for delivery vehicles whilst they are being loaded / unloaded.

3.3. Publically accessible and private charge points

3.3.1. Charge points at public parking spaces, for example at retail car parks or visitor parking at residential and employment locations, must be accessible to the general public. One way of achieving public accessibility is by linking the charge point to the Source London network. Benefits of integration with the Source London network include recognisable branding, contributions towards maintenance of charging infrastructure and inclusion in widely available database and maps of Source London charge point locations.

3.3.2. Match funding of up to 50 per cent of installation cost is available for publically accessible charging points up until March 2013. Please email electricvehicles@tfl.gov.uk for further information.

3.3.3. It is recognised that not all publically accessible charge points will be linked to the Source London network. For example, retailers such as supermarkets may choose to provide charge points in car parks that can be used as part of promotions in a similar manner to petrol stations today.

3.3.4. Management and maintenance arrangements for charge points in private car parks should be determined on a site by site basis to meet the needs of the users in question. A wide variety of options exist to control access to charge points and allocate electricity charges to individual users. These range from high-tech, such as access cards or PIN codes, to low-tech such as locking devices. It is the intention that future versions of this document provide detail on various options to control access to charge points and allocate charges. It is expected that maintenance and safety checking of charge points would be arranged and undertaken alongside the regular maintenance and safety certification of other electrical equipment in the development.

3.4. Electricity supply infrastructure

3.4.1. The connection to the local electricity distribution network, the electricity distribution board within the development and any other necessary electricity

supply infrastructure should have sufficient capacity to enable all active and passive EV charging points to operate simultaneously at the full power they are designed for. At residential development it is strongly encouraged that the underlying electricity supply and distribution infrastructure is adequately specified to enable simultaneous charging at all parking spaces, not only those with either active or passive EV infrastructure. This would enable long term flexibility in the deployment of EV charging infrastructure given that the initial cost of upgrading the underlying infrastructure at time of construction is typically a small fraction of the cost of retrofitting additional capacity.

3.4.2. A full cabling network should be installed in the car parking area to support all active and passive charging points. Even if it is the intention that the charge points will operate at 16 Amp it is encouraged to install cabling rated 32 Amp in order to enable future flexibility.

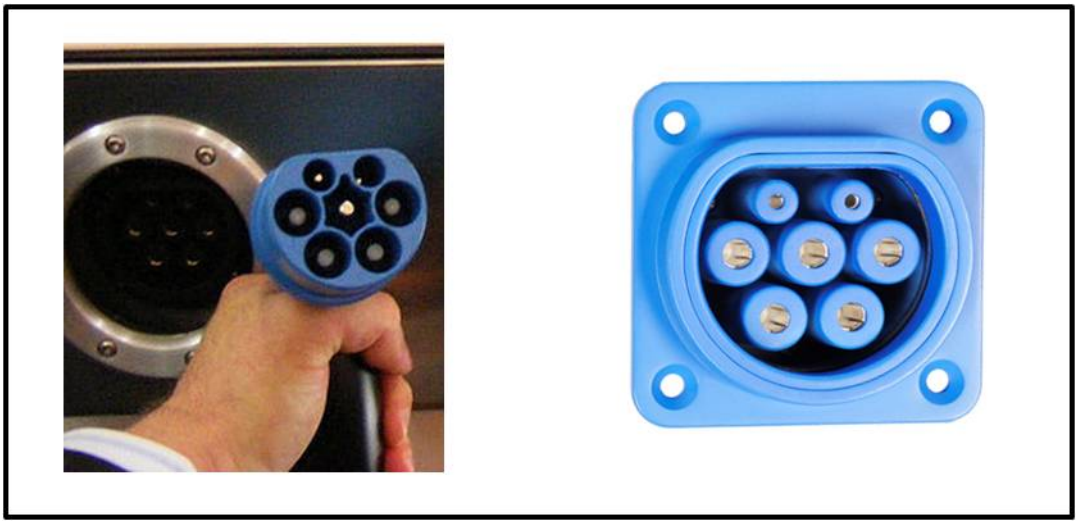
3.4.3. In some isolated instances the local electricity distribution network may be operating at or near capacity. Therefore, costly sub-station upgrades may be required in order to accommodate new development that will add to demands on the local distribution network. In order to ensure that sub-station costs do not inhibit development viability developers could consider introducing particularly strong incentives for EV charging to take place at times of low demand from other uses in the development. For example, at residential sites the management arrangements could include particularly strong incentives for EV owners to recharge their vehicles at night. Smart meters could be used to enable and enforce such incentives. Large developments with dedicated electricity sub-stations should specify the sub-station to a sufficient capacity to fully cater for all EV charging requirements. At large residential developments it is encouraged to specify the sub-station with sufficient capacity to cater for EV charging at a greater proportion of parking spaces than the minimum requirement.

3.5. Charge points and connector types

3.5.1. In line with guidance from the Office for Low Emissions Vehicles and the European Automobile Manufacturers' Association, the default socket type to install at 'active' charge points should be the Type 2 IEC62196-2 connector (see images below).

3.5.2. In order to reduce clutter in parking areas the installation of charge points with two outputs could be considered, i.e. one charge post with an outlet on either side to serve two active parking spaces.

3.5.3. Installation of smart meter enabled EV charge points is encouraged to facilitate off-peak charging and use of off-peak electricity tariffs.



4. CARPARK AND EV CHARGING INFRASTRUCTURE MANAGEMENT

4.1. Electricity payment arrangements

4.1.1. It is preferable that users pay according to the amount of electricity they use and, in the future when smart meters allow, the time of day at which they charge in order to tailor demand to periods of low demand from other electricity consumers. However, it is recognised that until smart meters becomes widespread it may be simpler and more cost effective to simply charge a flat fee (e.g. an annual fee) for charge point access.

4.1.2. At private parking spaces it is the responsibility of the freeholder or management company to install and operate appropriate charging mechanisms. There are a vast number of alternative approaches that could be taken and equipment that could be used in order to allocate electricity bills to individuals. As of yet there is little experience that has been gained in the practicalities of alternative arrangements. Further details on the pros and cons of alternative approaches are intended to be included in future versions of this document, once further practical experience has been gained. At private parking areas a key consideration is fairness to all users, e.g. non EV owners should not be subsidising the electricity used by EVs and those who charge their EVs more than others should pay proportionally more.

4.1.3. Payment arrangements for public charge points are likely to require more complex systems than for private charge points. Linking public charge points to the Source London network is one solution to the issue of how to charge users for electricity. See sections 3.3.1 & 3.3.2 for more details relating to the Source London network of charge points.

4.1.4. Some public car park owners and/or operators, for example retailers, may wish to operate stand-alone charge point networks. In such cases careful consideration needs to be given to ensure the charge points are publically available and access can be arranged in a straightforward manner. Ultimately, it would be desirable to see price competition amongst operators of publically accessible charge points. However, over the short and medium term the priority is interoperability between charge point networks to ensure all charge points are available to all EV users.

4.2. Location and access restrictions to EV parking spaces

4.2.1. It is expected that 'active' EV parking spaces will be located in prominent positions in car parks in order to contribute to raising the profile of EVs. In public parking areas it would generally be expected that parking spaces with 'active' charging provision are dedicated to EVs, with appropriate penalties in place to deter the space being taken by other vehicles. However, in a large car park with multiple charge points it could be reasonable that only a proportion of 'active' parking spaces are dedicated to EVs at the outset and that this is reviewed regularly through a travel plan or equivalent process. For example, if a new retail development with 100 public car parking spaces (and therefore 10 'active' spaces) is to be constructed in the near future, then 3 or 4 spaces could be dedicated to EVs in the short term with others available to all cars. The proportion of 'active' EV spaces that are reserved for EVs would be regularly reviewed based on demand at the existing dedicated EV parking spaces through a travel plan document, or equivalent.

4.2.2. In private parking areas, predominantly resident's and employee's parking, it is important that there is flexibility with regards to the allocation of spaces to allow the spaces with EV charging points to be used by EV owners. This should be considered in the Car Park Management Plan.

4.3. Parking charges for EVs

4.3.1. The Mayor's Transport Strategy supports the introduction of emissions based parking charges (Proposal 125). In car parks where charges are levied, the introduction of emissions based charges that include incentives for EVs are encouraged.

4.4. EV charging at Blue Badge, car club, motorcycle and pedal cycle parking

4.4.1. EV charging infrastructure should be provided at Blue Badge parking spaces in the same proportion as it is provided across all spaces in the car park. In very small car parks it maybe necessary for a charge point to be shared between a Blue Badge and 'regular' parking space.

4.4.2. A large potential has been identified for car clubs to take a leading role in the introduction of EVs. Therefore, car club parking spaces should be prioritised for provision of EV charging infrastructure, especially with regards provision of

passive charging infrastructure that would ideally cover all car club parking spaces.

4.4.3. Although no particular requirement exists for motorcycle parking or provision of charging facilities for electric motorcycles, it is encouraged to provide 16 Amp charging infrastructure at a similar proportion of motorcycle parking spaces as car parking spaces to enable the future charging of electric motorcycles.

4.4.4. In the case of electrically assisted pedal cycles it is envisaged that the vast majority of such bicycles will be designed with a removable battery that can be taken indoors and plugged into a regular domestic socket for charging. Therefore, the provision of charging infrastructure at cycle parking areas is not considered a priority.

4.5. EV charging infrastructure at off-site parking

4.5.1. Developments that intend to make use of existing on-street parking, or create new streets with on-street parking, should ensure EV charging infrastructure is provided to the standards in Table 1. Developers, in negotiation with local planning authorities, may wish to make a contribution to the provision of on-street EV charging infrastructure (through a section 106 agreement or equivalent) in order to demonstrate adherence with the required standard.

4.5.2. Section 278 agreements for off-site provision of car club facilities should consider the provision of EV charging infrastructure for the car club spaces.

4.6. Activation of passive charging infrastructure

4.6.1. At private car parking spaces, for example resident's parking and employee parking, the onus of responsibility to activate the passive EV charging infrastructure is expected to sit with those private individuals who own and use the car park. It is expected that EV manufacturers and electricity companies will offer competitive packages to activate passive EV charging infrastructure. Private individuals will have the opportunity to choose a charger that best suits their needs and the cost of chargers is anticipated to fall significantly once the technology is standardised and economies of scale are realised.

4.6.2. At public parking spaces, such as at retail developments and visitor parking at employment and residential developments, it is recommended that regular review procedures are put in place to trigger conversion of passive capability. For example, a travel plan document could include a review procedure to trigger conversion of passive to active charging provision in advance of capacity being exhausted at existing parking spaces.

4.7. Securing charging points through the planning process

4.7.1. The principal of provision for charging of electric vehicles parking provision is outlined in London Plan Policy 6.13 which states that 'developments must ensure that 1 in 5 spaces (both active and passive) provide an electrical

charging point to encourage the uptake of electric vehicles'. Further guidance is also provided in London Plan table 6.2 (car parking standards) which identifies various requirements for electric vehicle charging for different land uses.

4.7.2. The Local Planning Authority should when considering applications for planning permission, take account of the provision of electrical vehicle charging points amongst other material considerations. Where appropriate, the provision of EVCPs should be secured by planning condition and enforced by the local planning authority.

4.7.3. The Mayor additionally assesses all referable planning applications and will request that a condition is attached to secure the spaces. Both processes ensure that every application considered is in compliance with the Parking Standards in the London Plan.

Annex 7 List of Abbreviations

BAME	Black, Asian and Minority Ethnic
CAZ	Central Activities Zone
DPD	Development Plan Document
EiP	Examination in Public
ELR	Employment Land Review
EV	Electric Vehicle
GLA	Greater London Authority
GVA	Gross Value Added
IBP	Industrial Business Park
LDF	Local Development Framework
LIP	Local Implementation Plan (transport)
LSIS	Locally Significant Industrial Site
NPPF	National Planning Policy Framework
OAPF	Opportunity Area Planning Framework
ORR	Office of Rail Regulation
PDL	Previously developed land
PIL	Preferred Industrial Location
PPS	Planning Policy Statement
PTAL	Public Transport Accessibility Level
SIC	Standard Industrial Classification
SIL	Strategic Industrial Location
SMEs	Small and medium sized enterprises
SOLDC	Strategic Outer London Development Centre
SPG	Supplementary Planning Guidance
Sq.m	Square metres
TfL	Transport for London
UCC	Urban Consolidation Centre

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Chinese

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Hindi

यदि आप इस दस्तावेज की प्रति अपनी भाषा में चाहते हैं, तो कृपया निम्नलिखित नंबर पर फोन करें अथवा नीचे दिये गये पते पर संपर्क करें

Vietnamese

Nếu bạn muốn có văn bản tài liệu này bằng ngôn ngữ của mình, hãy liên hệ theo số điện thoại hoặc địa chỉ dưới đây.

Bengali

আপনি যদি আপনার ভাষায় এই দলিলের প্রতিলিপি (কপি) চান, তা হলে নীচের ফোন্ নম্বরে বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

Greek

Αν θέλετε να αποκτήσετε αντίγραφο του παρόντος εγγράφου στη δική σας γλώσσα, παρακαλείστε να επικοινωνήσετε τηλεφωνικά στον αριθμό αυτό ή ταχυδρομικά στην παρακάτω διεύθυνση.

Urdu

اگر آپ اِس دستاویز کی نقل اپنی زبان میں چاھتے ھیں، تو براہ کرم نیچے دئے گئے نمبر پر فون کریں یا دیئے گئے پتے پر رابطہ کریں

Turkish

Bu belgenin kendi dilinizde hazırlanmış bir nüshasını edinmek için, lütfen aşağıdaki telefon numarasını arayınız veya adrese başvurunuz.

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى الاتصال برقم الهاتف أو مراسلة العنوان أدناه

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਦੀ ਕਾਪੀ ਤੁਹਾਡੀ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੀਦੀ ਹੈ, ਤਾਂ ਹੇਠ ਲਿਖੇ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ ਹੇਠ ਲਿਖੇ ਪਤੇ 'ਤੇ ਰਾਬਤਾ ਕਰੋ:

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

MAYOR OF LONDON