GLAECONOMICS

London employment sites database – Technical Paper 1

Transport for London

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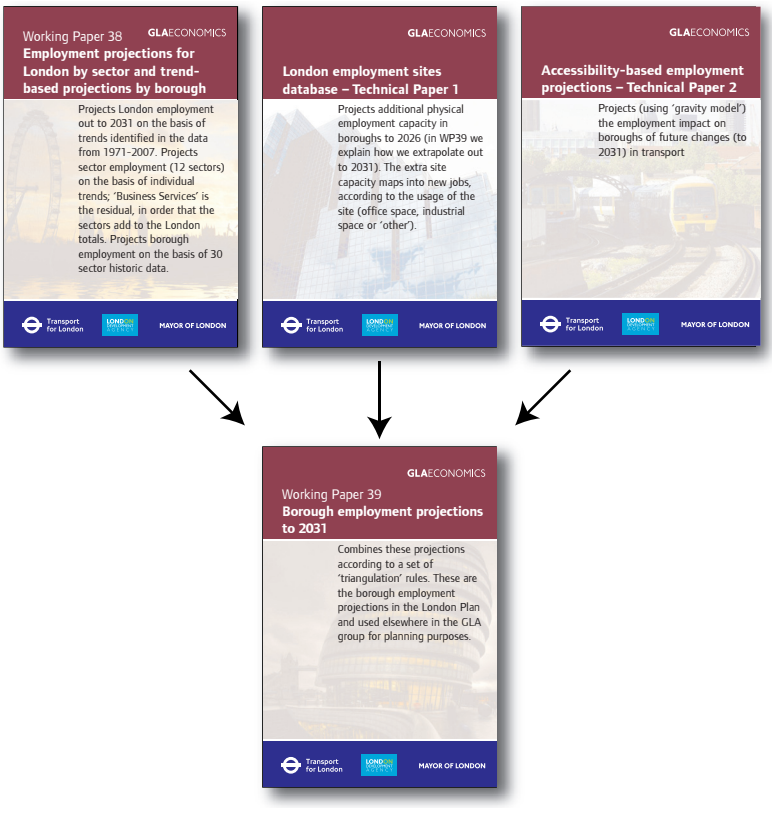

Greater London Authority

LONDON EMPLOYMENT SITES DATABASE 2009

ROGER TYM & PARTNERS
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Technical Report

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APPENDICES

1 INTRODUCTION

1.1 Roger Tym and Partners (RTP) were commissioned by the Greater London Authority (GLA) to develop the London Employment Sites Database (LESD) for 2009. The database presents employment developments in the pipeline that may influence the future of London's economy and in particular the spatial pattern of employment in each of London's Boroughs.

1.2 The LESD has two current applications

- It constitutes one leg of the triangulation data used for the GLA's Borough level employment projections
- At the more detailed level it provides inputs to Transport for London forecasting models at various zonal levels such as LTS, LATS and RailPlan. The

1.3 But the database has potentially many other applications. For example:

- It gives a rapid overview of proposed development patterns across London. The figure below illustrates this from the previous database.
- It can be cross-referenced with other data, such as the London Housing Capacity Database to help determine competing land uses.

1.4 Past versions of the database can be compared to track how change in development over time relates to proposals and applications. This would help to provide a better understanding of the planning and development process in London and could be used to improve the spatial forecasting model.

1.5 In this report we present the method (section 2), assumptions (section 3) and the data summaries (section 4) for the LESD 2009. In the final section of the report we also discuss how the database can be used and developed further. We believe that an accessible and user-friendly LESD can provide a very useful and powerful day to day planning tool.

2 PRODUCING THE LESD 2009

Introduction

2.1 In this section we set out the method used to produce the LESD.

Data Audit

2.2 The first stage of developing the LESD was the data audit where we identified and collected information from key data sources. The main information sources are shown in the table below.

Table 2.1 Data Sources

Source	Description
London Development Database (LDD)	The LDD records the progress of planning permissions in the London Boroughs. It contains information including location, floorspace, planning status, site description amongst other fields. LDD contains information on all planning permissions granted in London since 1 April 2004 that propose: a loss or gain or new build of any residential units, 10 new bedrooms for hotels, hostels or residential homes, 1,000m2 of new floor space in any other use class, a loss or gain of open space. The LDD is a quality assured database which is updated quarterly by the boroughs and GIS information exists for some sites. In total there were 1322 employment sites that are fed into the database.
London Brownfield Sites Review (LBSR)	The LDA have undertaken the Brownfield Sites Review which replaces the previous years' National Land Use database (NLUD). The database has found a significantly greater number of brownfield sites compared to NLUD and has removed a large number of NLUD sites that have now come forward. In total there area 1386 employment sites that are fed into the database. All site boundaries are digitised.
Unitary Development Plans (UDP)	The UDPs provide employment site allocations for existing sites and also provide proposals maps for future. UDPs or successor Local Development

	Frameworks (LDFs) are of varying age and were validated through the borough consultations. The UDP site allocations were all digitised.
Emap's Glenigan information system	Glenigan tracks construction and civil engineering projects and planning applications. RTP receive weekly updates regarding new developments including those in London. This data source picks up on any of the latest developments not included in LDD. In total there were 234 sites that fed into the LESD.
Think Retail	This is a small database provided by Think London showing major new retail developments in London. In total there were 21 retail developments that fed into the database
GLA Experian	The Greater London Authority (GLA) appointed Experian to develop a comprehensive picture of current and future comparison goods floorspace needs throughout London. The project factors in major retail pipeline developments in and around the capital to 2016. In total there were 239 sites from this source.
DevPlan	This is a weekly local authority update showing any statutory and supplementary policies that have been amended or any new documents issued.
Property Press	We monitored recent property articles in both paper and on-line versions for information on current development plans and proposals
The Canary Wharf Group	We also consulted with key stakeholders from the Canary Wharf Group and received their latest information.

2.3 Information was collected from each of the above sources and inputted into one very large spreadsheet "the master spreadsheet". As a starting point all information from the individual data source was included in the format the data was recieved in. This ensures that each site's information is traceable back to the source.

2.4 Each site in the master was given a **unique 'RTP' ID number** which never changed through the various stages of refining the database. Any work in the Master was accompanied by a validation check to ensure that this RTP ID hadn't changed compared to previous versions.

2.5 Any new data was added to the Master and a unique ID given.

Standardising the Raw Data

2.6 In addition to the raw fields of each database we developed RTP fields which standardise the raw data from the different sources. The key fields are shown in the table below

Table 2.2 RTP standardised fields

Field	Use
RTP ID	Site ID
Data Source	Site ID
Borough Name	Location
Site Name	Location
Site Address	Location
Post Code	Location
Easting	Location
Northing	Location
Site/Project Status	Timing
Planning Status	Timing
Planning applic./ permission no.	Timing
End Date (2008, 2011, 2016, 2021, 2026,	Timing
Description	
Net A1 Floorspace	Scale
Net A2 Floorspace	Scale
Net A3 Floorspace	Scale
Net A4 Floorspace	Scale
Net A5 Floorspace	Scale
Net B1 Floorspace	Scale
Net B2 Floorspace	Scale
Net B8 Floorspace	Scale
Net C1 Hotel Bedrooms	Scale
Net C2 Floorspace	Scale
Net D1 Floorspace	Scale
Net D2 Floorspace	Scale
Net SG Floorspace	Scale
Total Floorspace	Scale
Site Area	Scale
Site Use	Type of employment

2.7 The RTP fields used to standardise the data were organised into five key categories needed to estimate employment:

- Site ID: a very strict monitoring system was put in place to ensure that the database is transparent and we can trace back to individual source data. Therefore a unique ID was created for each and every site from the data audit stage.
- Location: this is important for identifying sites and identifying duplicates. As the database was digitised this information was vital for the digitisation process.
- Timing: the status of the site was used to estimate a time for the sites coming forward for development and eventually for employment.

- Scale: the scale of the development is important as it correlates with the potential scale of employment on site
- Type of employment: the employment assumptions used to estimate employment vary by use class.

2.8 In addition to the above we used GIS to assign each site to the following geographies

- Wards
- Opportunity areas and areas of intensification
- London Transport zones (LTS)
- Sub-area (CAZ, other Inner London and Outer London)
- and PTAL ratings.

Refining the database

2.9 The refining process was undertaken using the following rules:

- Rule 1: if the site does not contain an employment element it is excluded
- Rule 2: if the site is smaller than 1,000 sq m or 0.25 ha it is excluded
- Rule 3: if the sites is a duplicate it is excluded
- Rule 4: if the site has a gross increase but no net increase in employment it is excluded
- Rule 5: school and hospital redevelopments are not included
- Rule 6: some sites were excluded as a result of consultations with the Boroughs

Note that excluded sites were identified in the database for removal but were not actually taken out. This was again to ensure that there was a quality assurance process and that sites are traceable in the future.

Rule 1 no employment use

2.10 The data sources collect information on all development sites in London including sites with no employment element. This was identified from the use class or planned floorspace and description.

Rule 2 size

2.11 It was agreed that a threshold of 1,000 sq m or 0.25 ha would be added to the database for a number of reasons:

- the major data sources we used in the database do not pick up on small sites, with the exception of the LBSR database which has a threshold of 0.1 ha. Therefore the data for small sites is not comprehensive and will be dated quickly as smaller sites have a much higher turnover than large sites and are likely to come forward and be taken up quickly;
- Local authority monitoring systems often do not capture data on small sites accurately, especially for non-housing land, because they are in the main not required to. For example, the Government guidance note on employment land

reviews advises local authorities to use a threshold of 0.25ha when recording employment sites;

- Value added: the resources required to monitor and collect small site data is unlikely to produce a significant added value. For example RTP recently undertook a study in Lewisham and found that in 2006/07 the gains to employment land consisted of 24 sites, all smaller than 0.25ha. However the total employment land gains from these sites was only 0.55ha. Putting this in context, NLUD 2007 for Lewisham shows 81 ha of land identified for mixed uses and employment. The small sites comprise only 0.7 percent of this total.

2.12 For non B-space uses a higher threshold of 5,000 sq m was used.

Rule 3 Duplicates

2.13 Because of the number of different datasets used to construct the database there were inevitably overlapping site boundaries. In particular we found:

- the data from Think London and Experian already existed in LDD and/or LBSR
- the data from Glenigan had a significant number of duplications with the LDD data
- the LBSR and UDP data had significant overlaps

In each of these cases we prioritised the information held within LDD then the LBSR which are both quality assured datasets controlled by the GLA and LDA respectively but with significant data input from boroughs.

2.14 There are two methods used to refine the database to remove duplications, the first is using GIS and the second through consultations with the Boroughs.

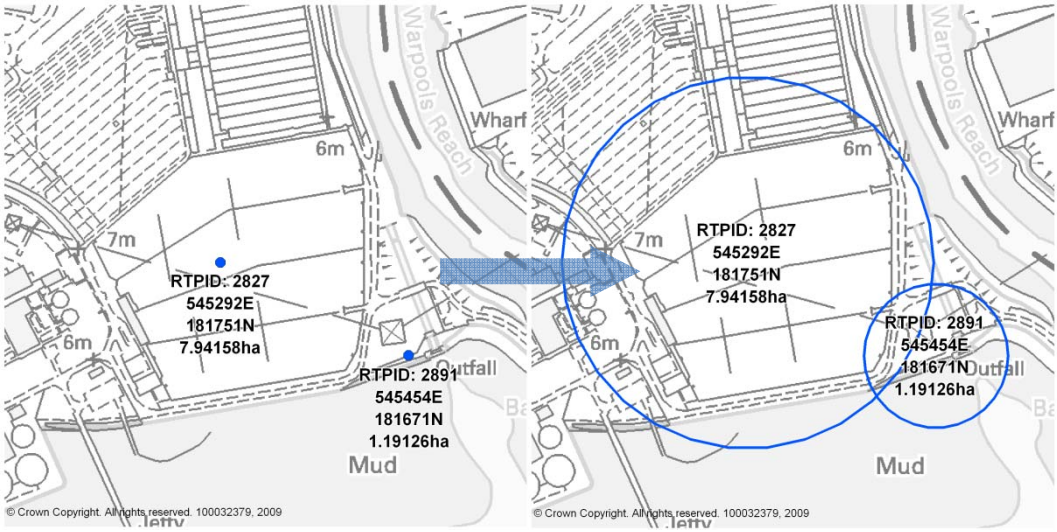
GIS duplications

2.15 Because of the number of different datasets used to construct the database, there were inevitably duplicate sites. A batch process was constructed using GIS to identify all sites with a significant amount of overlap for closer inspection. Many of the identified sites were exact duplicates whilst others were slight variations resulting from several planning applications. Once the duplication was confirmed, one of them was marked as being a duplicate for removal later on. This was usually the older site boundary.

2.16 It is important to note that when a duplicate site was identified and ‘removed’ all the information for that site was used to populate missing fields in the remaining site. Removed sites were kept in a separate database for the purposes of auditing.

2.17 Not all of the sites had boundaries in a GIS format. However there was a grid coordinate and a site area for most. Using this information it was possible to create an approximate area that the site covered. These approximations were used and replaced with accurate boundaries once they were determined and digitised. The approximate site boundaries were also used to identify potential duplicates (See figure 2.1).

Figure 2.1 – Site Boundary Approximation



Site centroids can be mapped using grid coordinates. Approximate site boundaries based on the site area can then be created.

Borough Consultation

2.18 RTP commenced consultations with each London Borough in mid – February and completed in April 2009. The objective of the Borough Consultations was to collect further information and to validate the data including identify duplications.

2.19 Each Borough was assigned a Borough Manager from within RTP assigned with managing the data and undertaking the consultations. The Borough consultations were undertaken with key members of the planning and economic development departments of each Borough. On average there were 3 Borough consultees in attendance. We received a 100 percent response rate.

2.20 The Borough Consultations also provided another step in the Quality assurance process and a qualitative understanding of the study areas.

Rule 4 Net employment change

2.21 A large number of the sites from the various data sources were redevelopments and changes of use. The LESD attempts to record net employment therefore exclude sites with no net change in employment.

2.22 The net increase was identified in the following ways:

- the source data: this may identify the gross and net change in floorspace as in the LDD
- the site description: indicates whether sites are redevelopments or change of use
- the consultations: a large number of sites were eliminated following the consultation with the Borough as no net change in employment was expected.

Rule 5: school and hospital redevelopments

2.23 The source data included a number of school and hospital redevelopments which are excluded from the database. The reason is that no significant net change in employment is expected.

Rule 6: Borough Consultation exclusions

2.24 There was wide variation in the reasons a site may be excluded as a result of the borough consultation, for example:

- The site is expected to be lost to housing
- a car park that is expected to remain
- pumping station to be demolished and rebuilt; no net gain in employment expected
- gasworks or sewage works not expected to come forward even in the long run
- built and occupied pre-2007
- occupied site; no net change expected.

Other Consultations

2.25 We also consulted with other key stakeholders including

Organisation
Canary Wharf Group
Central London Forward
Invest in Thames Gateway
London Councils
London First
London Thames Gateway Development Corporation
North London Business
Thames Gateway Partnership
The North London Strategic Alliance
Think London
West London Alliance
South London Business
South London Partnership

Digitising the database

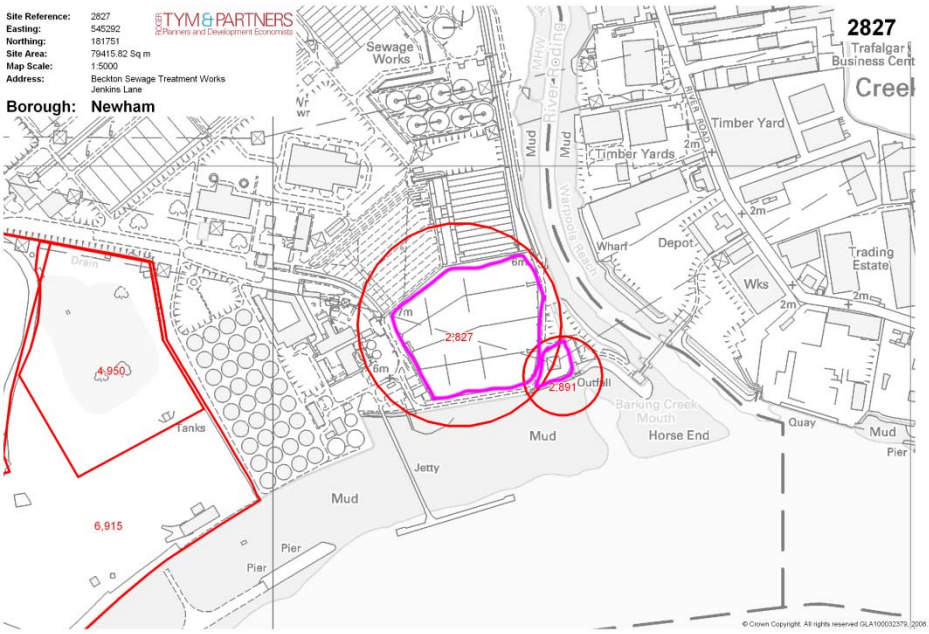
2.26 All the sites of the final database were digitised as part of this commission. In many cases the site boundaries we provided by the site data source however for approximately one third of the database a site boundary was required. It was therefore necessary to collect boundary information directly from the boroughs as part of the borough consultation process.

Missing Site Boundaries

2.27 Some boroughs were able to supply the missing site boundaries in a GIS format. Many boroughs were not in a position to do this so were provide with a large scale map showing the approximate location of the site on which they could draw the site boundaries.

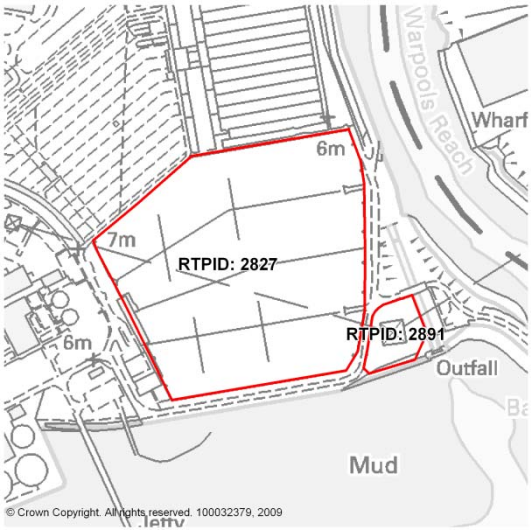
2.28 We created a bespoke program that produced and printed these maps in batches. Using the grid coordinate of the site and the approximate size, a suitable scaled map was produced with useful information such as RTP ID, address, description and size.

Figure 2.2 – Example printed map with planning officer's markings in pink



2.29 Once the boundaries had been marked on the maps, they were returned to us and digitised using another bespoke program we created to make the manual job of digitising very simple. The program automatically entered the RTP ID number for each site being digitised (which reduced human error) and automatically panned to the correct location of the site to be digitised.

Figure 2.3 – Digitised boundaries in GIS taken from printed map

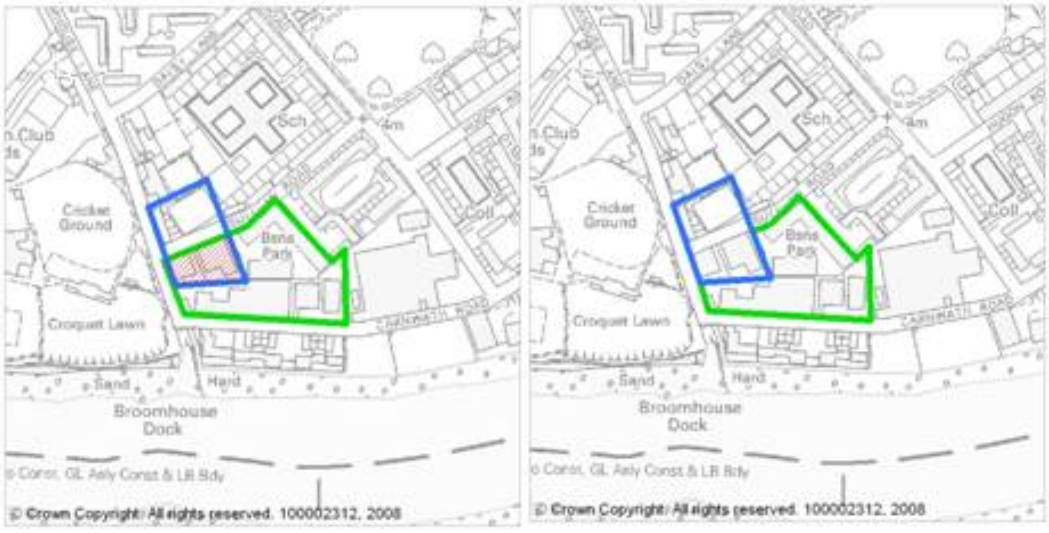


2.30 Once the site boundaries were digitised it was necessary to make a final check for duplicate sites and take action as outlined previously.

Overlapping sites

2.31 Some sites were not straight forward duplicates but were overlapping slightly. For example, a site identified by LDD may overlap a site identified by LBSR as illustrated below.

Figure 2.4 – Example of overlapping sites



2.32 Overlaps were identified and corrected within the GIS. The appropriate sections were 'cut out' of one of the sites (usually the one with the older source or the less reliable boundary). A record of sites that were amended in this way was produced.

3 ESTIMATING EMPLOYMENT

3.1 In this section we present the method and assumptions used to estimate the employment in the LESD. There are three key outputs:

- the number of jobs
- the type of jobs
- and the time period the jobs are estimated to come forward.

3.2 The method used to estimate employment varies as a result of the information available for each site. For example the LDD provides a net floorspace figure by use class, however the LBSR only provides a site area. We detail how these are dealt with below.

Key requirements

3.3 In order to estimate employment we required some important information for each site including:

- the site location by sub area: whether the site is located in CAZ, Inner or Outer London. This is important as the employment density and plot ratio assumptions differ for these three key sub areas of London.
- the proposed uses: the employment assumptions also vary by the type of employment proposed on a site. For example an office has a different employment density compared to a leisure development.

We present these differences in more detail below.

Estimating employment using employment densities

3.4 The first stage of the employment calculations was to estimate employment for sites where the net floorspace was provided.

3.5 The employment density assumptions were taken from the previous LESD with some exceptions. The LESD 2006 densities are based on information from the RTP study carried out for SERPLAN in 1996 (which remains one of the most comprehensive data sources), a review of evidence by Arup Economic and Planning for English Partnerships (which recommended employment densities for use for different types of activity and location) and a survey by DTZ Pieda for SEERA. In addition we supplement this information with newer data emerging from the RTP study of 2006 (RTP, Ramidus, King Sturge, 2006 "The use of business space in London).

3.6 The assumptions used are presented in the Table below.

Table 3.1 Employment densities

Floorspace per Worker	CAZ ward	Inner London	Outer London	*Source*
B1	*14.4*	*14.7*	*20.6*	*RTP, Ramidus, King Sturge, 2006 "The use of business space in London"*
B2	33	39	44	*LESD 2006*
B8	33	39	44	*LESD 2006*
A	21	21	21	*LESD 2006*
Other	45	45	45	*LESD 2006*
Mixed	see mixed use rules below			

Mixed use developments

3.7 A large number of sites are identified as mixed use developments including a housing element. Where the total floorspace for a sites was provided but not the distribution by use we made the following assumptions:

- firstly 25 percent of the site goes to employment uses
- secondly the distribution of employment is on the following basis:

Table 3.2 Mixed use assumptions

	proportion of employment floorspace
A class	18%
Office	63%
Industrial	4%
Other	15%

3.8 The above assumptions are based on case study evidence undertaken of mixed use developments in the Borough of Hackney. We used Hackney as a case study for the following reasons:

- there are a significant number of mixed use developments
- the mixed use developments in the Borough are a typical representative of mixed use developments in London

Using data of the different employment and housing developments we estimated an average mixed use development.

Estimating employment using plot ratios

3.9 RTP have undertaken some analysis of the LDD dataset to examine the relevance of the plot ratio assumptions used in the LESD 2006. See Appendix 1. The analysis showed that the plot ratio assumptions used in the 2006 LESD still hold.

Table 3.3 Plot ratio assumptions

All Filter 17	CAZ wards	Inner Wards	Outer Wards	*Source:*
Plot Ratios				
B1	77,000	18,500	9,000	*LESD 2006*
B2	9,000	***6,500***	***3,800***	*LESD 2006;* ***URS Industrial Land research 2007***
B8	9,000	***6,500***	***3,800***	*LESD 2006;* ***URS Industrial Land research 2007***
Other	9,000	***6,500***	***3,800***	*LESD 2006;* ***URS Industrial Land research 2007***
Mixed	see mixed use rules tab			

3.10 For consistency purposes it was agreed that we would use the same assumptions as in the LESD 2006 but taking into account the emerging findings from the London Industrial Land review of 2007.

Mixed use assumptions

3.11 As with the employment density assumptions above we estimated mixed use employment using a different criterion. We assume that 25% of the site goes to employment uses and that the remaining site area is distributed as in Table 3.2.

Estimating the site timing

3.12 One of our queries during the consultations with the Boroughs was an estimate of the time period a site may be expected to come forward. This showed that there is a lot of uncertainty particularly within the current economic climate. For this reason we have adjusted some of the assumptions regarding timings from the LESD 2006. Where no end date is provided we make the following assumptions based on the planning status:

Table 3.4 Timing of sites coming forward

	Planning status
2008-2011	Completed
	Started
2011-2016	Full PP; Detailed PP
2016-2021	Outline Planning permission
2021 -2026	Allocated in local plan
	Sites with no planning status

3.13 The assumptions were applied to the identified sites. The results of the employment capacity estimations are presented in the next section.

4 SUMMARY TABLES

4.1 In the following section we summarise the data from the LESD 2009. In total the LESD identifies 1,140 sites.

Total employment

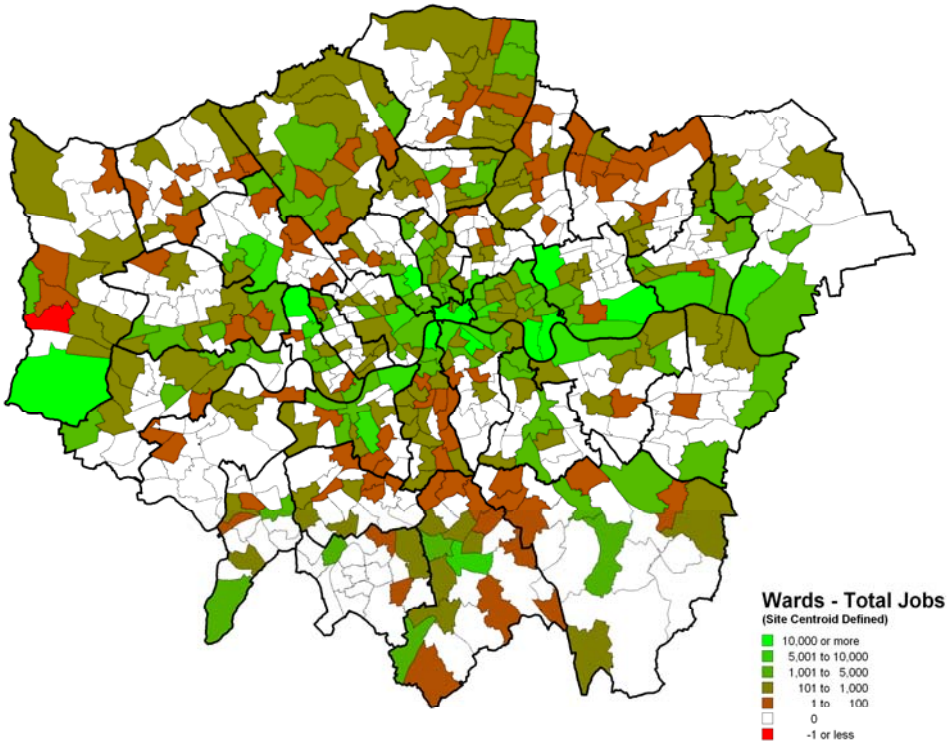
Table 4.1 Total jobs by Borough

Total	2008	2011	2016	2021	2026	Sum
Barking and Dagenham	1,006	326	1,999	5,045	7,076	15,453
Barnet	107	-	1,935	738	9,040	11,820
Bexley	1,143	1,630	668	6,656	623	10,721
Brent	2,404	11,002	3,528	1,007	2,747	20,688
Bromley	115	-	952	81	3,777	4,924
Camden	173	435	607	-	1,033	2,248
Camden CAZ	-	26,491	15,299	-	8,368	50,158
City of London	-	-	-	-	-	-
City of London CAZ	16,998	32,382	27,788	-	-	77,168
Croydon	217	635	9,842	301	3,190	14,186
Ealing	131	394	1,857	787	7,252	10,420
Enfield	465	1,225	1,356	334	2,692	6,072
Greenwich	-	6,956	4,447	27,962	3,410	42,776
Hackney	137	1,047	1,015	-	218	2,417
Hackney CAZ	299	1,660	3,103	-	52	5,114
Hammersmith And Fulham	4,449	7,593	8,543	537	7,991	29,113
Haringey	-	29	3,204	-	5,011	8,243
Harrow	-	86	47	-	1,241	1,374
Havering	2,861	4,883	246	-	5,741	13,732
Hillingdon	12,489	189	2,463	1,048	1,939	18,128
Hounslow	807	4,044	1,317	634	6,113	12,915
Islington	666	1,727	3,115	180	2,070	7,757
Islington CAZ	139	3,302	4,892	-	985	9,318
KENSINGTON AND CHELSEA	171	2,101	1,303	-	917	4,492
Kensington and Chelsea CAZ	-	-	291	-	-	291
Kingston upon Thames	-	-	93	165	3,164	3,422
Lambeth	-	487	1,691	-	2,054	4,232
Lambeth CAZ	141	66	9,347	-	10,062	19,616
Lewisham	-	74	826	1,401	10,390	12,692
Merton	68	819	511	-	-	1,399
Newham	471	17,552	23,358	17,048	24,211	82,639
Redbridge	-	-	474	124	714	1,311
Richmond upon Thames	-	151	157	-	149	457
Southwark	-	682	1,045	188	3,884	5,799
Southwark CAZ	2,486	5,987	17,145	-	4,295	29,913
Sutton	151	268	406	961	425	2,212
Tower Hamlets	27	30,292	35,722	189	51,241	117,471
Tower Hamlets CAZ	-	1,371	5,586	4,140	2,794	13,891
Waltham Forest	396	-	178	413	1,223	2,211
Wandsworth	734	1,647	15,323	419	3,812	21,935
Westminster	-	-	-	-	1,030	1,030
Westminster CAZ	617	5,606	4,992	-	7,281	18,496
	49,869	**173,140**	**216,670**	**70,358**	**208,218**	**718,255**

4.2 The sites of the 2009 LESD are estimated to have an overall employment capacity of 718,300 jobs. The distribution over time is shown in the table above with only 7 percent of the capacity is expected to come forward in the short term. The Boroughs of Tower Hamlets, Newham and City of London have the largest estimated employment capacities.

4.3 The figure illustrates the above data on a ward basis.

Figure 4.1 LESD 2009 total jobs by ward



4.4 The figure shows that the wards with largest employment capacity include Heathrow in Hillingdon; the White City area in Hammersmith and Fulham; Kings Cross in Camden; a large proportion of the City of London; the Waterloo area of Lambeth; the London Bridge area in Southwark; the Isle of Dogs in Tower Hamlets; the Stratford City area and areas around London City Airport in Newham.

Office employment

Table 4.2 Office Jobs by Borough

Office	2008	2011	2016	2021	2026	Sum
Barking and Dagenham	618	238	422	2,543	2,127	5,949
Barnet	-	-	1,101	23	5,384	6,508
Bexley	674	281	143	762	51	1,911
Brent	123	5,636	1,426	626	1,007	8,818
Bromley	-	-	365	55	2,312	2,731
Camden	68	357	455	-	651	1,530
Camden CAZ	-	19,674	15,817	-	5,272	40,762
City of London	-	-	-	-	-	-
City of London CAZ	17,756	29,353	26,845	-	-	73,955
Croydon	217	363	6,500	- 30	1,273	8,324
Ealing	91	394	1,268	596	3,504	5,853
Enfield	444	471	398	-	557	1,870
Greenwich	-	3,544	3,954	24,330	793	32,621
Hackney	127	929	309	-	-	1,365
Hackney CAZ	287	1,641	3,001	-	-	4,930
Hammersmith And Fulham	-	4,839	8,230	537	4,234	17,841
Haringey	-	-	1,628	-	2,556	4,184
Harrow	-	-	-	-	429	429
Havering	168	3,922	158	-	1,678	5,926
Hillingdon	-	101	1,533	865	637	3,137
Hounslow	516	2,505	1,093	728	5,105	9,948
Islington	93	589	173	167	959	1,981
Islington CAZ	139	2,997	4,266	-	99	7,501
KENSINGTON AND CHELSEA	175	1,919	376	-	578	3,048
Kensington and Chelsea CAZ	-	-	380	-	-	380
Kingston upon Thames	-	-	93	104	1,558	1,756
Lambeth	-	152	1,172	-	952	2,275
Lambeth CAZ	147	-	8,550	-	6,082	14,779
Lewisham	-	-	206	527	5,634	6,367
Merton	-	-	162	-	-	162
Newham	464	8,127	17,727	16,347	12,211	54,876
Redbridge	-	-	69	-	306	375
Richmond upon Thames	-	-	86	-	94	181
Southwark	-	285	974	188	1,873	3,320
Southwark CAZ	2,238	5,626	15,275	-	2,555	25,693
Sutton	-	139	197	279	25	639
Tower Hamlets	-	29,938	33,112	119	39,535	102,704
Tower Hamlets CAZ	-	1,365	3,350	3,885	1,547	10,147
Waltham Forest	73	-	- 12	207	590	859
Wandsworth	493	556	9,297	353	2,402	13,100
Westminster	-	-	-	-	94	94
Westminster CAZ	618	5,386	5,213	-	4,546	15,763
	25,528	**131,328**	**175,314**	**53,211**	**119,208**	**504,589**

4.5 The vast majority of the estimated capacity is for office employment - over 70 percent of the total estimated employment. Again the London Boroughs of Tower

Hamlets, City of London, Newham and Camden have the largest estimated capacity.

Industrial employment

Table 4.3 Industrial jobs by Borough

Industrial	2008	2011	2016	2021	2026	Sum
Barking and Dagenham	214	-	1,041	127	135	1,517
Barnet	-	-	157	-	342	499
Bexley	408	1,239	66	-	3	1,717
Brent	-	- 748	408	-	64	- 276
Bromley	53	-	359	26	136	575
Camden	-	- 24	- 16	-	41	2
Camden CAZ	-	- 1,283	15	-	335	- 934
City of London	-	-	-	-	-	-
City of London CAZ	-	-	12	-	-	12
Croydon	-	31	- 11	-	81	101
Ealing	- 26	-	742	-	154	869
Enfield	- 10	399	338	198	35	961
Greenwich	-	2,447	- 87	-	50	2,411
Hackney	-	-	247	-	-	247
Hackney CAZ	-	-	15	-	-	15
Hammersmith And Fulham	319	137	- 283	-	269	441
Haringey	-	29	172	-	162	363
Harrow	-	-	-	-	27	27
Havering	188	459	88	-	107	842
Hillingdon	-	-	521	- 43	40	519
Hounslow	520	255	86	- 94	25	793
Islington	-	- 499	8	-	61	- 431
Islington CAZ	-	- 107	87	-	6	- 13
KENSINGTON AND CHELSEA	-	-	15	-	37	52
Kensington and Chelsea CAZ	-	-	-	-	-	-
Kingston upon Thames	-	-	-	7	21	27
Lambeth	-	98	338	-	60	496
Lambeth CAZ	-	-	17	-	386	403
Lewisham	-	-	149	33	358	540
Merton	-	-	157	-	-	157
Newham	-	99	895	-	775	1,769
Redbridge	-	-	19	-	19	38
Richmond upon Thames	-	151	30	-	6	187
Southwark	-	-	8	-	119	127
Southwark CAZ	-	- 38	- 1	-	162	123
Sutton	151	130	209	682	2	1,174
Tower Hamlets	27	- 124	240	8	533	683
Tower Hamlets CAZ	-	- 109	213	23	98	225
Waltham Forest	101	-	- 28	13	37	123
Wandsworth	209	108	356	- 12	152	813
Westminster	-	-	-	-	6	6
Westminster CAZ	-	-	49	-	289	338
	2,154	**2,650**	**6,629**	**968**	**5,135**	**17,536**

4.6 Industrial capacity in London is relatively low in employment terms with only 3 percent of the total estimated employment of the LESD. Greenwich, Newham, Bexley and Barking and Dagenham have the highest overall industrial capacities.

Retail employment

Table 4.4 Retail jobs by Borough

Retail	2008	2011	2016	2021	2026	Sum
Barking and Dagenham	123	88	2	1,428	608	2,248
Barnet	107	-	273	135	1,585	2,101
Bexley	61	-	304	1,405	15	1,785
Brent	-	1,305	1,135	280	288	3,008
Bromley	61	-	169	-	614	845
Camden	105	102	79	-	186	472
Camden CAZ	-	851	68	-	1,506	2,425
City of London	-	-	-	-	-	-
City of London CAZ	- 1,024	1,130	258	-	-	364
Croydon	-	305	1,703	304	840	3,152
Ealing	41	-	17	119	692	869
Enfield	-	183	308	-	159	650
Greenwich	-	529	631	1,417	227	2,804
Hackney	-	31	333	-	-	364
Hackney CAZ	-	19	97	-	-	116
Hammersmith And Fulham	2,950	2,020	150	-	1,210	6,329
Haringey	-	-	931	-	730	1,661
Harrow	-	-	-	-	122	122
Havering	452	501	-	-	1,796	2,750
Hillingdon	-	87	-	36	182	306
Hounslow	-	943	106	-	113	1,162
Islington	7	165	2,607	-	821	3,600
Islington CAZ	-	47	362	-	28	437
KENSINGTON AND CHELSEA	-	73	69	-	165	307
Kensington and Chelsea CAZ	-	-	-	-	-	-
Kingston upon Thames	-	-	-	30	278	308
Lambeth	- -	14	96	-	272	354
Lambeth CAZ	-	48	398	-	1,738	2,184
Lewisham	-	48	417	150	2,888	3,504
Merton	68	527	193	-	-	788
Newham	5	6,979	1,315	206	3,489	11,993
Redbridge	-	-	335	-	87	422
Richmond upon Thames	-	-	-	-	27	27
Southwark	-	398	34	-	727	1,159
Southwark CAZ	77	244	1,121	-	730	2,172
Sutton	-	-	-	-	7	7
Tower Hamlets	-	158	1,062	34	2,397	3,650
Tower Hamlets CAZ	-	37	957	143	442	1,579
Waltham Forest	-	-	115	59	169	343
Wandsworth	-	158	1,499	-	686	2,344
Westminster	-	-	-	-	27	27
Westminster CAZ	75	105	636	-	1,299	2,115
	3,109	**10,400**	**17,780**	**12,412**	**27,150**	**70,852**

4.7 The estimated retail employment capacity accounts for 10 percent of the total. The Boroughs that have the largest retail capacities include Newham, Tower Hamlets and Hammersmith and Fulham.

Other employment

Table 4.5 All other jobs by Borough

Other	2008	2011	2016	2021	2026	Sum
Barking and Dagenham	51	-	535	947	4,206	5,739
Barnet	-	-	403	580	1,729	2,713
Bexley	-	110	156	4,489	554	5,308
Brent	2,281	4,809	558	102	1,389	9,138
Bromley	- 0	-	58	-	714	773
Camden	-	-	89	-	155	244
Camden CAZ	-	7,250	- 600	-	1,255	7,905
City of London	-	-	-	-	-	-
City of London CAZ	266	1,898	672	-	-	2,837
Croydon	-	- 64	1,650	28	995	2,610
Ealing	25	-	- 171	73	2,903	2,830
Enfield	31	171	312	137	1,941	2,592
Greenwich	-	436	- 52	2,215	2,340	4,940
Hackney	10	87	127	-	218	442
Hackney CAZ	11	-	- 11	-	52	52
Hammersmith And Fulham	1,180	597	447	-	2,278	4,502
Haringey	-	-	473	-	1,563	2,036
Harrow	-	86	47	-	663	796
Havering	2,053	-	-	-	2,160	4,214
Hillingdon	12,489	-	408	189	1,081	14,167
Hounslow	- 228	340	31	-	870	1,013
Islington	566	1,473	327	13	228	2,608
Islington CAZ	-	365	176	-	851	1,392
KENSINGTON AND CHELSEA	- 5	109	842	-	138	1,084
Kensington and Chelsea CAZ	-	-	- 89	-	-	- 89
Kingston upon Thames	-	-	-	25	1,306	1,331
Lambeth	-	252	86	-	770	1,107
Lambeth CAZ	- 6	18	383	-	1,856	2,250
Lewisham	-	26	55	691	1,510	2,281
Merton	-	292	-	-	-	292
Newham	2	218	3,422	2,623	7,736	14,002
Redbridge	-	-	51	124	302	476
Richmond upon Thames	-	-	41	-	22	63
Southwark	-	-	29	-	1,165	1,194
Southwark CAZ	171	155	750	-	848	1,924
Sutton	-	-	-	-	392	392
Tower Hamlets	-	321	1,308	28	8,777	10,434
Tower Hamlets CAZ	-	79	1,066	88	707	1,940
Waltham Forest	222	-	103	134	427	886
Wandsworth	33	824	4,171	77	572	5,678
Westminster	-	-	-	-	903	903
Westminster CAZ	- 76	115	- 907	-	1,148	281
	19,077	**19,967**	**16,946**	**12,563**	**56,724**	**125,278**

4.8 Other employment refers to any employment space other than B1 office, B2 and B8 industrial and A1 retail. Overall this type of space accounted for some 18 percent of all employment capacity of the LESD 2009.

Opportunity areas and areas of intensification

Table 4.6 Employment by Opportunity area

AOI/OA	Name	Jobs LESD 2009	London Plan aspiration
Area for Intensification	Arsenal/Holloway	1,830	1,500
Area for Intensification	Canada Water/Surrey Quays	2,335	2,000
Area for Intensification	Colindale	926	500
Area for Intensification	Farringdon/Smithfield	1,730	2,000
Area for Intensification	Haringey Heartlands/Wood Green	2,073	1,500
Area for Intensification	Holborn	128	2,000
Area for Intensification	Kidbrooke	868	400
Area for Intensification	Mill Hill East	1,860	500
Area for Intensification	South Wimbledon/ Colliers Wood	217	2,000
Area for Intensification	West Hampstead Interchange	87	500
Opportunity Area	Bexley Riverside	7,420	4,900
Opportunity Area	City Fringe	42,266	80,000
Opportunity Area	Cricklewood/Brent Cross	4,329	20,000
Opportunity Area	Croydon	9,665	5,500
Opportunity Area	Deptford Creek/ Greenwich Riverside	3,658	4,000
Opportunity Area	Elephant and Castle	4,966	4,200
Opportunity Area	Euston	7,730	5,000
Opportunity Area	Greenwich Peninsula & Charlton Riverside West	32,479	7,500
Opportunity Area	Heathrow	8,741	11,000
Opportunity Area	Ilford	720	200
Opportunity Area	Isle of Dogs	95,216	110,000
Opportunity Area	King's Cross	37,463	25,000
Opportunity Area	Lewisham-Catford-New Cross	6,704	3,500
Opportunity Area	London Bridge/ Bankside	24,924	30,000
Opportunity Area	London Riverside	24,761	14,000
Opportunity Area	Lower Lea Valley including Stratford	77,380	50,000
Opportunity Area	Paddington	2,931	23,200
Opportunity Area	Park Royal/Willesden Junction	14,308	11,000
Opportunity Area	Royal Docks	13,259	5,500
Opportunity Area	Tottenham Court Rd	2,171	5,000
Opportunity Area	Upper Lea Valley (including Tottenham Hale)	9,479	15,000
Opportunity Area	Vauxhall/Nine Elms/Battersea	13,095	8,000
Opportunity Area	Victoria	3,752	8,000
Opportunity Area	Waterloo	15,774	15,000
Opportunity Area	Wembley	11,282	5,500
Opportunity Area	White City	11,576	24,400
Opportunity Area	Woolwich, Thamesmead & Charlton Riverside Eas	8,680	9,000
Winder Hinterland - Opp Area	Heathrow- Wider Hinterland	14,704	-
		521,487	517,300

4.9 The table above presents the sites capacity in the opportunity areas (OA) and areas of intensification(AOI) in comparison to the London Plan aspirations for those areas. In general we find that the total estimates are relatively similar (the LESD 2009 total is 4 percent less than the London Plan aspiration). However at the individual OA area there is some variation as may be expected.

4.10 It is interesting to note that the OAs and AOIs capture a very significant share of the London wide estimated employment capacity (73 percent).

5 COMPARISONS WITH LESD 2006

5.1 We undertook a very brief comparison between the 2006 and 2009 LESD as part of the database validation. There are some differences between the LESD 2009 and LESD 2006 that are notable.

The number of sites

5.2 In the LESD 2006 there were over 2,400 sites identified compared to approximately 1,140 sites in LESD 2009. We have examined the reasons for this:

- the main reason is the vast number of sites that were due to come forward in the short term to 2006 in the LESD 2006. Over 1,300 sites or over 56 percent of all sites were expected to come forward by 2006. We would not expect to pick these sites up in this round of the database.
- a large number of sites were removed as a result of the Borough consultation which did not occur for LESD 2006.

Table 5.1 Number of sites

Year	LESD 2006 no. of sites	LESD 2009 no. of sites
2006	1,312	-
2008	-	84
2011	169	153
2016	371	408
2021	501	47
2026		449
Grand Total	**2,353**	**1,140**

5.3 It is important to not that while a large number of sites are removed from the LESD 2009, the total employment estimate does not reduce significantly (71 percent of employment remains).

Number of jobs

5.4 In total there are 718,300 jobs in LESD 2009 compared to almost 977,000 jobs in LESD 2006. Recall that there are some changes in the assumptions used to calculate employment, however overall the methods are very similar.

5.5 Our checks indicate that the LESD 2006 had a significantly large proportion of employment in the short term. By 2006 there were approximately 497,000 jobs expected to come forward. This compares with only 49,900 jobs by 2008 in the LESD 2009.

Table 5.2 Employment LESD 2006 and LESD 2009

Year	LESD 2006	LESD 2009
2006	496,864	-
2008	-	49,869
2011	121,886	173,140
2016	216,501	216,670
2021	141,599	70,538
2026		208,218
Grand Total	**976,851**	**718,255**

5.6 As we noted this comparison analysis is very brief and there is potentially some very interesting detailed analysis that could be conducted. In the next section we discuss some further comparisons that could be undertaken.

6 THE FUTURE OF THE DATABASE

Updating the database

6.1 There has been a significant change over time illustrated in a brief comparison analysis of the 2006 LESD and the 2009 LESD. Clearly there is a lot to be gained by a continuous updating process for the database. This may be done

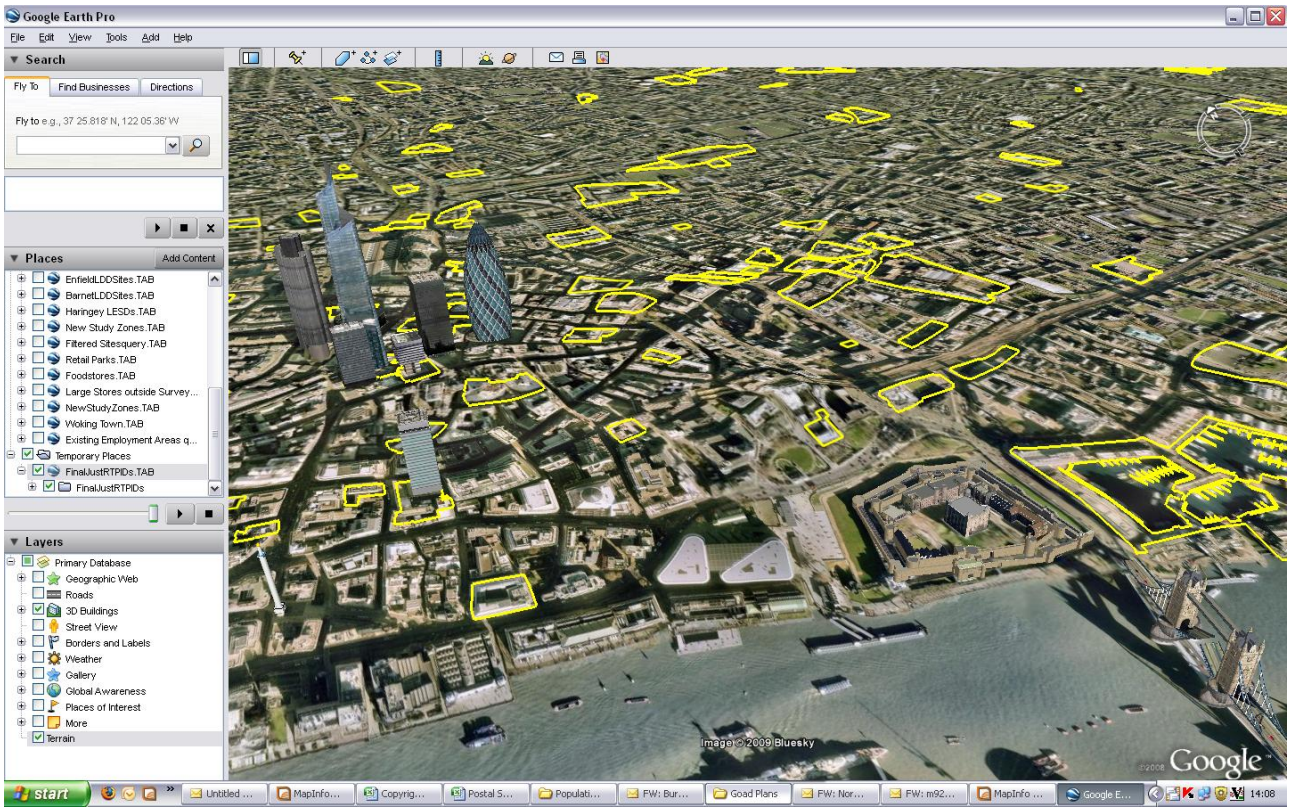
- linked to a quarterly update of the LDD
- linked to the updates of the LBSR
- an annual Borough consultation

6.2 The Borough consultations undertaken as part of this work indicate that the Boroughs would also benefit significantly from having the database to hand which they can subsequently take ownership of for their own uses and update internally. We believe that by making the database accessible and user-friendly it is likely that such a process could be very successful particularly give that each site in the database has been digitised.

Presenting the database

6.3 One way of increasing the accessibility of the database would be by displaying the database against Google aerial photography. This proved a particularly useful tool during the preparation of the database as we were able to check the location of site; the status of the site; the relation of the site to other identified sites. The figure below provides a snapshot of what this looks like.

Figure 6.1Google Earth and LESD 2009



6.4 The fantastic thing about presenting the data in Google Earth is that the user does not have to have significant GIS skills and does not have to have any particular IT programmes other than downloaded Google Earth.

6.5 We envision the future of the database as an everyday working tool used by GLA group to analyse sites, run queries, confirm information and present data.

Linking the database with other socio-economic databases

6.6 There are many potential very interesting datasets that can be used and appended to the Google earth and GIS files that would make the LESD as a planning tool more efficient:

- for example for retail developments it would be useful to visually present the sites proximity to other similar retailers or to transport links. Using GIS, distances can also very simply be estimated and presented;
- socio-economic data can also be appended including census data, ABI data, IMD data, VOA data amongst others. This would very simply allow the user to click on a site to get information such as
  - population (resident or working population) in a specified geography;
  - number of retail/ office/ industry jobs in the geography;
  - levels of deprivation in the local area ;
  - number of parking spaces;
  - the amount of floorspace in nearby properties;
  - the rateable values of properties in close proximity to the site.

6.7 We have very recently come across publicly available detailed VOA data which similarly to IDBR data provides a breakdown of each property's floorspace, by use, rateable value and other indicators including car parking spaces. We believe that this data would be very useful in connection with the database.

6.8 Clearly, there is a vast amount of information that can be appended to the database but the value depends on the users requirements. For example transport planning and development planning may require different datasets. A customised database can be produced based on a users requirements.

Loss of industrial land

6.9 At the Borough consultations there were a number of sites that were eliminated as they had been lost or were expected to be lost to housing. This proved to be a relatively common issue in all the consultations. However while there is evidence that this is happening in all boroughs it is very unclear regarding the scale of this loss of employment land.

6.10 An estimate of the lost land could be done using the database to analyse the sites that we know have gone to housing including looking at numbers of sites, scale of the loss and the key characteristics of lost sites. It would also be possible to examine sites that were in the previous LESD but that have not come forward for employment in this round of the LESD. A proposal would be to pilot the research on a sample of Boroughs to see the key trends. The London Thames Gateway Development Corporation were particularly keen on this type of research in their areas.

6.11 As we have stated in the LESD smaller sites are particularly difficult to capture, but there may be losses of small sites which accumulate to a large employment loss. One way around this would be to examine LDD housing data. The LDD does not systematically pick up on employment sites under 0.25 ha but would pick up all housing applications. This change of use would be registered in the planning permission description and could be the basis for estimating small site losses.

What has happened to completed sites?

6.12 In order to validate the database it would be useful to undertake a number of case studies. These would be used to estimate the variation between the planned and actual employment capacity of a particular site. Planned in this case refers to the calculated employment capacity from the LESD 2006.This would be a particularly effective way of validating the assumptions used to calculate employment.

APPENDIX 1

Plot ratio research

RTP have undertaken some research into the plot ratio assumptions used in the LESD. We use the London Development Database (LDD) to examine plot ratio assumptions as the database provides floorspace and site areas from planning submissions.

We identify sites with a B-space element from the LDD. Because most of the sites are mixed use sites, a threshold for the site's proportion of B-space was applied. Only sites with more than 75% of either B1, B2 or B8 were used to determine the plot ratio in those categories. In general we find

- There are over 550 sites with a B-space element greater than 75% of all employment on site;
- A very low sample sizes for B2 sites (5 in the whole of London);
- Average plot sizes grossly exceed the median plot ratios, indicating a large distribution;
- Standard deviation values are very high; the average results are not good indicators of the likely plot ratios for any one site.

Figure 1 B1 Space plot ratios scatter graph

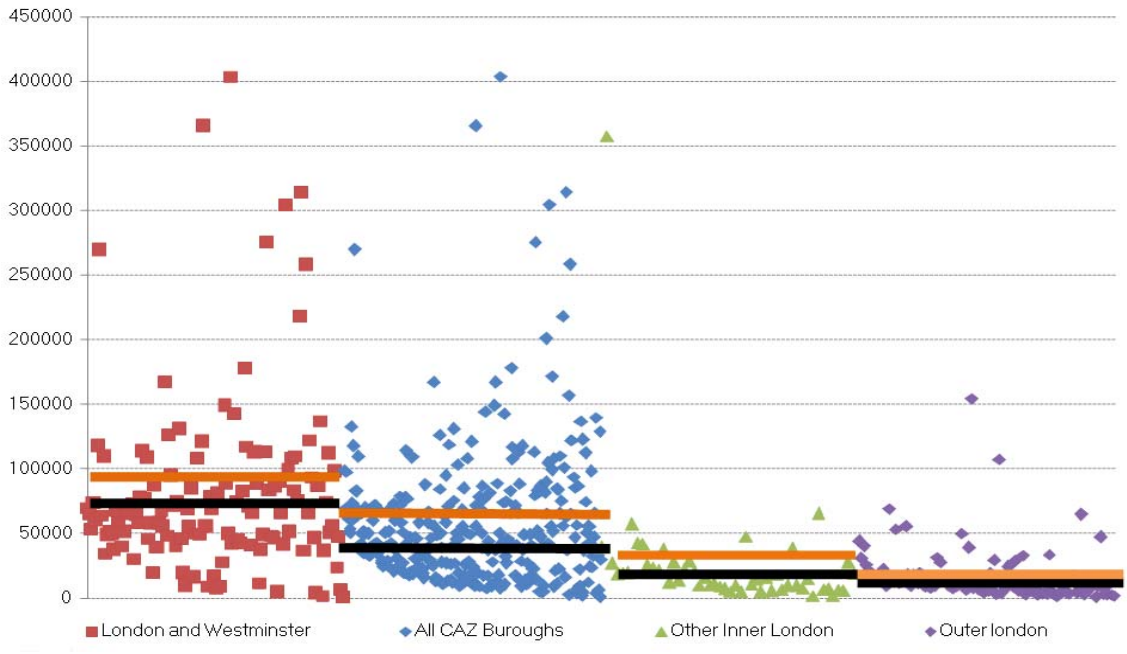


Table 1 Plot ratio analysis by area

	London and Westminster			CAZ Boroughs			Other Inner London			Outer London		
Plot ratios	B1	B2	B8	B1	B2	B8	B1	B2	B8	B1	B2	B8
Count	126	0	1	307	0	14	50	1	11	110	4	74
Average	84,946	0	12,500	61,017	0	13,339	26,098	6,544	15,569	17,353	26,206	7,060
Median	66,461	0	12,500	46,972	0	12,356	15,872	6,544	9,510	10,748	17,405	5,928
Standard Deviation	78,536	0	n/a	60,688	0	9,381	50,043	n/a	16,399	20,865	29,037	5,788

Figure 1 above shows the plot ratios for B1 office space represented in a scatter plot. In Figure 1 the orange bar represents the average plot ratios while the black bar represents the median. In every instance the average is significantly higher than the median.

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liên hệ theo số điện thoại hoặc địa
chỉ dưới đây.

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.

Turkish

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edinmek için, lütfen aşağıdaki
telefon numarasını arayınız
veya adrese başvurunuz.

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:

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

Bengali

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(কপি) চান, তা হলে নীচের ফোন্ নম্বরে
বা ঠিকানায় অনুগ্রহ করে যোগাযোগ করুন।

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

Arabic

إذا أردت نسخة من هذه الوثيقة بلغتك، يرجى
الاتصال برقم الهاتف أو مراسلة العنوان
أدناه

Gujarati

જો તમને આ દસ્તાવેજની નકલ તમારી ભાષામાં
જોઈતી હોય તો, કૃપા કરી આપેલ નંબર ઉપર
ફોન કરો અથવા નીચેના સરનામે સંપર્ક સાધો.

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