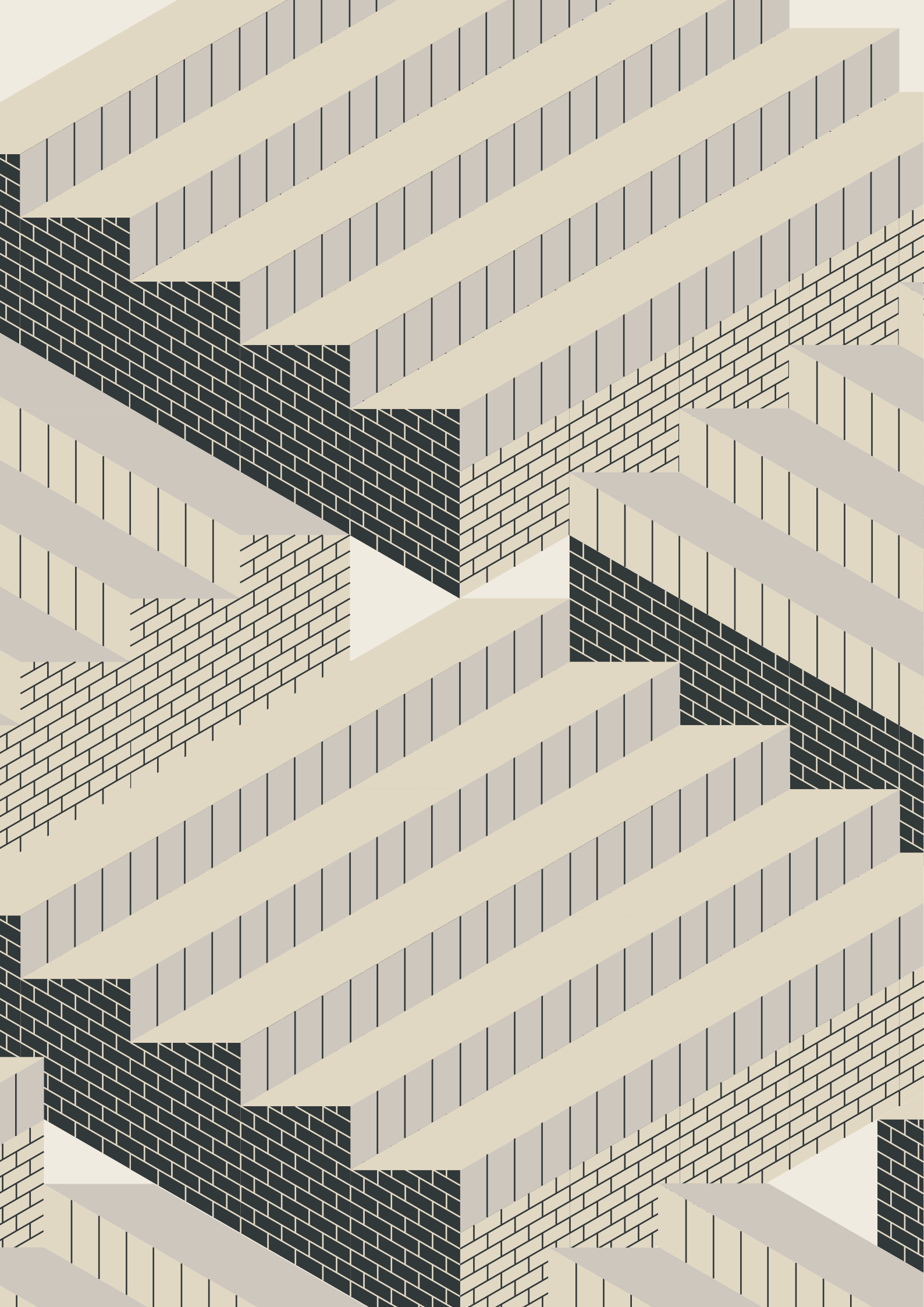


**London
Industrial
Land Supply
& Economy
Study
2015**



Prepared for:
Greater London Authority

Prepared by:
– Rory Brooke, Gregory Openshaw, Jon Howells,
Patrick Deshpande, James Tindale, Simon Baldwin
of AECOM

in association with
– Tim Johnson and Richard Syddall of
Cushman & Wakefield
– Holly Lewis, Melissa Meyer and Alex Turner of
We Made That
– Alfie Maddison and Edward Maddison of
Maddison Graphic

Approved by:
Rory Brooke, AECOM

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AECOM Infrastructure and Environment UK Limited
6-8 Greencoat Place
London
Victoria
SW1P 1PL
+44 (0) 207 798 5000
www.aecom.com

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Abbreviations

ABI	Annual Business Inquiry
AAP	Area Action Plan
BIS	Department for Business Innovation & Skills
BRES	Business Register and Employment Survey
CAZ	Central Activities Zone
CLG	Department for Communities and Local Government
FALP	Further Alterations to the London Plan
GLA	Greater London Authority
ha	hectares
HGV	Heavy Goods Vehicle
HMRC	HM Revenue & Customs
LB	London Borough
LDD	London Development Database
LSOA	Lower Super Output Area
LSIS	Locally Significant Industrial Site
m ²	Square meters
MSOA	Middle Super Output Area
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
OAPF	Opportunity Area Planning Framework
ONS	Office for National Statistics
PAYE	Pay As You Earn
PMA	Property market area
SIC	Standard Industrial Classification
SIL	Strategic Industrial Location
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
Sqft	Square feet
VAT	Value Added Tax
VOA	Valuation Office Agency

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Executive Summary

Introduction and Context

AECOM Infrastructure and Environment UK Limited (AECOM) have been commissioned by the Greater London Authority (GLA) to undertake a comprehensive review of the supply of industrial land in London and an assessment of the implications of future restricted supply of industrial land for the London economy. Cushman & Wakefield have supported this study by providing property market data. Concurrently, We Made That has been commissioned by the GLA to provide additional analysis and visual communication, with graphic identity provided by Maddison Graphic.

The study builds on a number of previous studies including the London Industrial Land Baseline (London Development Agency and Greater London Authority, 2010) undertaken by URS (now AECOM) and DTZ (now Cushman & Wakefield).

The London Plan¹ and associated Supplementary Planning Guidance (SPG)² underscore the Mayor's established approach to industrial land management to plan for a sufficient stock of land and premises to meet future needs of different types of industrial and related uses (such as logistics / distribution, waste management, utilities and land for transport functions), including for good quality and affordable space.

The key objectives of the London Industrial Land Supply and Economy Study are:

- to update the 2010 London industrial land baseline to 2015
- to estimate industrial businesses within London and their employment; and
- to provide a high-level assessment of the economic impacts of reduced supply of industrial land.

The outputs of the study will inform industrial land policy making including:

- the next full review of the London Plan and its associated Land for Industry and Transport Supplementary Planning Guidance (SPG)
- borough local plans
- Opportunity Area Planning Frameworks, Area Action Plans (AAPs) and supplementary planning documents, and
- co-ordination of industrial land policy with local planning authorities in the wider South East of England.

Industrial Land Supply in London

Definitions

The study uses the following definitions for types of industrial land:

- 'Core' industrial uses comprise of general industry, light industry, warehouses, open storage and self-storage. This is considered to cover most types of industrial business activity.

- 'Wider' industrial uses comprise wholesale markets, waste management and recycling facilities, utilities, land for rail, land for buses, airport related land, and other industrial land. Such uses are industrial in nature and support the functioning of London for instance by way of providing space for infrastructure.
- Vacant industrial land comprises sites which are vacant and cleared, land with derelict buildings and / or land with vacant buildings capable of occupation.

Sub-regions are as defined in the London Plan:

- Central: Camden, City of London, Kensington and Chelsea, Islington, Southwark, Westminster, Lambeth
- North: Barnet, Enfield, Haringey
- East: Barking and Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge, Tower Hamlets, Waltham Forest
- South: Bromley, Croydon, Kingston upon Thames, Merton, Richmond upon Thames, Sutton, Wandsworth
- West: Brent, Ealing, Hammersmith and Fulham, Harrow, Hillingdon, Hounslow

Industrial Land and Floorspace

The stock of industrial land in London is recorded in the following three tables:

- by broad land use category (Table 0-1)
- by broad land use designation (Table 0-2)
- by the years 2001, 2006, 2010 and 2015 (Table 0-3)

As shown in *Table 0-1*, in 2015 there is an estimated 6,976 hectares (ha) of industrial land in London of which 4,553ha is of core industrial use (65%), 1,877ha is of wider industrial uses (27%) and 547ha is vacant land (8%).

Of this 6,976ha, Outer London contains approximately 5,296ha or 76% of the total, of which 68% is in use for core industrial activities. Of Inner London's 1,681ha of industrial land, 57% is in core use. The East sub-region contains the most land in industrial use at 2,807ha, or 40% of London's total, 64% of which is in core use. The Central sub-region accounts for the least industrial land at 328ha, or 5% of London's total. The highest concentration of land in wider industrial use proportionally is in the South sub-region where it accounts for 39% of the industrial land stock. The proportion of vacant industrial land within each sub-region ranges from 2% in the Central sub-region to around 12% in the East.

Industrial Land can be designated as a Strategic Industrial Location (SIL) or Locally Significant Industrial Sites (LSIS). The breakdown of industrial land by designation is shown in Table 0-3. Of the total industrial land (core and wider industrial land plus vacant land) in London 3,534ha (51%) lies within Strategic Industrial Locations (SIL), 947ha (14%) lies within Locally Significant Industrial Sites (LSIS) and 2,496ha (36%) is on non-designated land. It should be noted that some LSIS allow

mixed use. The distribution of the various industrial land uses / activities defined across sub-regions is illustrated in *Table 0-1*. *Table 0-2* records the breakdown of industrial land by designation.

Vacant land, which constitutes sites which are vacant and cleared for redevelopment, comprised approximately 547ha in London in 2015, which equates to 11% of land in core industrial use and 8% of land in core and wider industrial land use. The East sub-region contains the highest proportion of vacant industrial land relative to stock, 16% of core industrial and 12% in core and wider industrial use, with the Central sub-region containing the lowest at 3% of core industrial land and 3% of core and wider land.

The stock of vacant industrial land has decreased over the past decade or more, from 16% in 2001 to 14% in 2006, 12% in 2010 and 11% in 2015. Higher than the frictional vacancy rate of 5% recorded in the Land for Industry and Transport SPG. ' to 'The stock of vacant industrial land has decreased over the past decade from 10% in 2006, 9% in 2010 and 8% in 2015. The rate of vacant industrial land is higher than the frictional vacancy rate of 5% recorded in the Land for Industry and Transport SPG³.

This suggests that over the years the policy of managed release has been effective in making better use of vacant industrial land. However, there is need for caution: the rate of vacant land across London is approaching the frictional vacancy rate and loss beyond that rate would lead to difficulties market operation.

There was approximately 21 million m² of industrial floorspace in London in 2012, with the Outer London area accounting for the majority of this at 69%.

Comparison with Industrial Land Baseline 2001, 2006 and 2010

Table 0-3 shows breakdown of industrial land in London across the years 2001, 2006, 2010 and 2015. From 8,282ha recorded in 2001, the stock of industrial land has declined steadily to 7,841ha in 2006, 7,505 in 2010 and 6,976ha in 2015. This is a 16% contraction over the whole period and a 7% contraction since 2010. The total area of industrial land in SILs has contracted by 5% since 2010 whilst the total area of SILs, once non-industrial uses are included, contracted by 7%. For LSIS, rates of decline since 2010 are more marked at 23% for industrial land and 25% for their total area. The change in the supply of industrial land in London since 2001 can be seen in *Figure 0-1*.

All sub-regions have witnessed a contraction in the supply of industrial land over each of the reporting timeframes dating back to 2001, with the Central sub-region witnessing the largest reduction in supply over the whole period at 35% (170ha). Since 2010 there has been a 25% contraction in the supply of industrial land in the Central sub-region, with all other sub-regions recording more modest declines of around 6%.

Time series data on industrial floorspace shows that there was a 17.9% decline in the amount of floorspace found London-wide over the period 2001 to 2012 (and 15.1% decline for 2001 to 2010). Several boroughs recorded an increase in industrial floorspace over the period however; Bexley, Sutton, Bromley and Barking and Dagenham. Trends in floorspace decline show higher rates of decline compared to land. This may be due to a broad trend towards development of larger single storey distribution facilities or open storage and loss of premises used more intensively by manufacturing.

Comparison of Release with GLA Land for Industrial and Transport SPG

Past trends in industrial land release show an accelerated rate of release significantly above the GLA's Land for Industry and Transport SPG benchmark rates of release. The trend rate of release for 2010 to 2015 is 105ha per annum, compared with the SPG recommended rate of release of 37ha per annum. If these trends continue then the total stock of industrial land in London will decline from around 6,980ha in 2015 by a further 2,300ha to around 4,700ha in 2041, a 33% decline over this period. This is around 1,900ha more than the SPG 2031 industrial land benchmark projected to 2041 (around 6,500ha). Overall if the trend release for the period 2010 to 2015 continues in the future then the SPG target will be reached by around 2017 and exceeded significantly by 2031. The total scale of industrial land release will be as illustrated in *Figure 0-1* alongside.

Industrial Land in Development Pipeline and Areas of Change

Review of emerging policy and permissions suggests there will be a continued significant release of industrial land. The Industrial Land Baseline 2015 contains land and floorspace in industrial and related uses that could potentially change to non-industrial uses in the coming years, including through: development pipeline (unimplemented planning permissions); additional planned release through local plans, OAPFs and local frameworks; and Housing Zones.

The quantum of industrial land subject to known development or within such areas of change which could be released in future is shown in *Table 0-4* alongside. Sites and allocations associated with areas of change are subject to varying degrees of certainty as to whether and when industrial land within them is likely to be released or redeveloped.

1 London Plan (consolidated with alterations since 2011), GLA, March 2015
2 Land for Industry and Transport Supplementary Planning Guidance (SPG), GLA, 2012
3 Non-industrial uses on industrial land were not recorded in 2001 and therefore a similar calculation of vacant industrial land cannot be made.

Industrial land within areas of change associated with OAPFs could account for the largest release of industrial land (363ha) within the total identified potential release (834ha). The release associated with the development pipeline (189ha) is anticipated to mostly occur within five years.

Geographically, Outer London accounts for the large majority of potential release, with the East and West sub-regions in-turn accommodating the majority of release at 205ha and 187ha respectively. At a borough level, several boroughs account for a large amount of potential release; Barking and Dagenham (London Riverside OA and unimplemented permissions); Tower Hamlets (Lower Lea Valley OA and Housing Zones); Hillingdon (proposed rationalisation of SIL / LSIS); Hammersmith and Fulham (Old Oak Common and White City OAs and South Fulham Riverside SPD); Enfield (Upper Lea Valley OA) and; Ealing (Park Royal, Old Oak Common and Southall OAs).

There is approximately 83,227m² of office (B1a) floorspace in designated industrial areas in London with prior approval for office to residential conversion. There is recognised to be a potential for areas containing prior approvals for such conversions to experience a loss or erosion of their functionality as designated industrial land through introduction of land use incompatible with industrial uses. Over time, land adjacent to these sites of conversion to non-industrial uses could be prone to further release of industrial land.

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Table 0-1: Industrial Land in London by Categorisation

Area		Core industrial uses (ha)			Wider industrial uses (ha)
		Industry (general & light industry)	Warehouses, self storage & open storage	Sub-total	
London		2,029.7	2,522.8	4,552.5	1,877.0
CAZ		16.5	26.4	42.9	47.3
Inner London		470.9	489.2	960.1	558.5
Outer London		1,558.8	2,033.6	3,592.4	1,318.5
Central sub-region		121.7	102.5	224.1	95.9
	Camden	13.0	19.5	32.5	6.9
	City of London	-	-	-	3.4
	Kensington & Chelsea	4.5	2.3	6.8	10.0
	Islington	9.6	14.0	23.6	11.2
	Southwark	51.1	50.1	101.2	40.8
	Westminster	1.6	2.6	4.2	7.2
	Lambeth	42.0	13.9	55.9	16.4
East sub-region		906.4	883.3	1,789.7	672.3
	Barking & Dagenham	258.7	157.6	416.3	39.5
	Bexley	167.1	160.1	327.2	128.2
	Greenwich	60.4	121.4	181.8	33.1
	Hackney	37.3	7.3	44.5	9.2
	Havering	88.7	193.6	282.4	96.0
	Lewisham	28.5	41.0	69.6	32.1
	Newham	92.9	109.4	202.2	206.9
	Redbridge	33.9	16.1	50.0	12.1
	Tower Hamlets	68.9	28.8	97.6	36.6
	Waltham Forest	70.0	48.1	118.1	78.6
North sub-region		209.7	292.9	502.6	175.5
	Barnet	27.1	40.2	67.3	28.8
	Enfield	146.5	169.4	316.0	122.4
	Haringey	36.0	83.3	119.3	24.2
South sub-region		264.8	366.5	631.3	426.1
	Bromley	38.7	45.3	84.0	41.9
	Croydon	50.0	72.9	122.9	30.5
	Kingston upon Thames	27.8	34.4	62.2	53.1
	Merton	56.5	82.4	138.9	19.3
	Richmond upon Thames	17.3	8.1	25.4	12.3
	Sutton	32.0	80.3	112.3	205.9
	Wandsworth	42.7	43.0	85.7	63.0
West sub-region		527.1	877.7	1,404.8	507.2
	Brent	168.8	151.2	320.0	98.0
	Ealing	167.1	229.9	397.0	97.3
	Hammersmith & Fulham	18.6	35.9	54.5	81.6
	Harrow	20.4	31.7	52.2	7.5
	Hillingdon	96.5	187.6	284.1	73.0
	Hounslow	55.7	241.3	297.1	149.9
Central Services Circle		256.3	179.5	435.9	173.8
Lea Valley		299.0	355.5	654.5	328.6
Thames Gateway		694.0	748.7	1,442.7	454.3
Wandle Valley		208.8	313.1	522.0	371.8
Park Royal / A40 / Heathrow		571.6	925.9	1,497.5	548.4

*Vacancy rates calculated as vacant industrial land as % of industrial land by use type + vacant industrial land (eg. Vacancy rate (core) = Vacant land / Sub total for core uses + Vacant land)

Total core & wider uses (ha)	Vacant industrial land (ha)	Total industrial land (ha)	Vacancy		
			Vacancy rate (core)	Vacancy rate (wider)	Vacancy rate (total)*
	Incl. cleared sites, derelict industrial buildings & land with vacant buildings				
6,429.5	546.8	6,976.3	10.7%	22.6%	7.8%
90.2	3.5	93.7	7.5%	6.9%	3.7%
1,518.6	162.0	1,680.6	14.4%	22.5%	9.6%
4,910.9	384.7	5,295.7	9.7%	22.6%	7.3%
320.1	8.3	328.3	3.6%	7.9%	2.5%
39.5	0.3	39.8	0.9%	4.3%	0.8%
3.4	-	3.4	n/a	n/a	n/a
16.7	1.5	18.2	17.7%	12.8%	8.0%
34.8	0.2	34.9	0.7%	1.5%	0.5%
142.0	2.0	144.0	2.0%	4.8%	1.4%
11.4	0.7	12.1	14.5%	8.9%	5.9%
72.3	3.6	75.9	6.0%	17.9%	4.7%
2,462.0	345.0	2,807.0	16.2%	33.9%	12.3%
455.8	61.5	517.3	12.9%	60.9%	11.9%
455.4	67.7	523.1	17.1%	34.6%	12.9%
214.9	18.0	233.0	9.0%	35.2%	7.7%
53.7	2.2	55.9	4.7%	19.3%	3.9%
378.4	59.9	438.3	17.5%	38.4%	13.7%
101.7	5.6	107.3	7.5%	14.9%	5.2%
409.1	104.5	513.6	34.1%	33.5%	20.3%
62.1	3.7	65.8	6.8%	23.3%	5.6%
134.3	19.6	153.8	16.7%	34.9%	12.7%
196.7	2.3	198.9	1.9%	2.8%	1.1%
678.1	41.9	719.9	7.7%	19.3%	5.8%
96.2	6.2	102.3	8.4%	17.7%	6.0%
438.4	24.3	462.7	7.2%	16.6%	5.3%
143.5	11.3	154.9	8.7%	31.9%	7.3%
1,057.4	45.5	1,102.9	6.7%	9.6%	4.1%
125.9	9.2	135.1	9.9%	18.0%	6.8%
153.4	9.6	163.0	7.2%	23.9%	5.9%
115.3	0.9	116.2	1.4%	1.6%	0.8%
158.2	9.4	167.5	6.3%	32.7%	5.6%
37.7	0.7	38.4	2.6%	5.2%	1.8%
318.2	15.1	333.3	11.8%	6.8%	4.5%
148.7	0.7	149.4	0.8%	1.1%	0.5%
1,912.0	106.2	2,018.2	7.0%	17.3%	5.3%
418.0	8.1	426.0	2.5%	7.6%	1.9%
494.3	16.9	511.2	4.1%	14.8%	3.3%
136.1	3.2	139.3	5.6%	3.8%	2.3%
59.6	4.9	64.5	8.6%	39.6%	7.6%
357.1	38.5	395.6	11.9%	34.5%	9.7%
447.0	34.6	481.6	10.4%	18.8%	7.2%
609.7	35.7	645.3	7.6%	17.0%	5.5%
983.1	90.2	1,073.3	12.1%	21.5%	8.4%
1,897.1	272.3	2,169.4	15.9%	37.5%	12.6%
893.8	35.6	929.4	6.4%	8.7%	3.8%
2,045.9	113.1	2,158.9	7.0%	17.1%	5.2%

Source: AECOM

Table 0-2: Industrial Land in London by Designation

Area		Designated Industrial Land (ha)								
		SIL					LSIS			
		Industrial	Vacant industrial land*	Non-industrial	Sub-Total	Vacant Land as a % of SIL	Industrial	Vacant industrial land*	Non-industrial	Sub-Total
London		3,254.6	279.3	357.7	3,891.6	6.7%	878.3	68.5	210.1	1,156.9
CAZ		-	-	-	-	7.0%	-	-	0.8	2.5
Inner London		604.6	41.8	53.0	699.3	5.6%	181.7	4.2	46.0	231.9
Outer London		2,650.1	237.6	304.7	3,192.3	6.9%	696.6	64.2	164.1	925.0
Central sub-region		56.9	1.6	5.6	64.1	2.5%	89.4	2.9	26.1	118.5
	Camden	-	-	-	-	n/a	14.4	-	2.1	16.5
	City of London	-	-	-	-	n/a	-	-	-	-
	Kensington & Chelsea	-	-	-	-	n/a	10.8	1.4	6.7	18.9
	Islington	-	-	-	-	n/a	9.9	0.1	4.0	14.0
	Southwark	56.9	1.6	5.6	64.1	2.5%	17.7	-	1.1	18.8
	Westminster	-	-	-	-	n/a	-	-	-	-
	Lambeth	-	-	-	-	n/a	36.6	1.4	12.3	50.3
East sub-region		1,457.8	191.9	127.3	1,777.0	9.7%	230.0	30.8	42.9	303.7
	Barking & Dagenham	338.1	40.3	25.8	404.2	9.1%	50.9	18.0	7.3	76.2
	Bexley	386.4	58.2	26.2	470.8	11.0%	33.7	7.5	10.4	51.7
	Greenwich	116.3	12.1	11.2	139.6	8.0%	-	-	-	-
	Hackney	-	-	12.0	12.0	0.0%	3.7	-	8.2	12.0
	Havering	218.1	53.8	29.2	301.1	15.2%	28.8	1.8	0.6	31.3
	Lewisham	36.5	-	0.5	37.0	0.0%	15.9	0.4	2.8	19.1
	Newham	257.5	26.0	10.5	294.0	8.1%	34.9	0.7	2.7	38.3
	Redbridge	26.1	1.5	4.0	31.6	4.4%	7.8	0.5	4.0	12.4
	Tower Hamlets	18.5	-	1.5	20.0	0.0%	5.3	0.3	0.2	5.7
	Waltham Forest	60.3	0.0	6.5	66.7	0.0%	48.9	1.7	6.6	57.2
North sub-region		342.0	19.9	35.7	397.6	4.8%	106.3	8.9	22.2	137.3
	Barnet	0.0	-	13.9	13.9	0.0%	19.4	0.4	11.4	31.2
	Enfield	300.1	18.7	20.2	339.0	5.2%	33.6	1.3	0.8	35.7
	Haringey	41.8	1.3	1.6	44.7	2.8%	53.3	7.1	9.9	70.4
South sub-region		423.7	21.5	70.7	515.9	4.0%	135.0	7.5	28.4	170.9
	Bromley	34.0	5.8	9.1	48.9	10.6%	34.3	1.6	6.7	42.6
	Croydon	82.2	6.5	29.9	118.6	5.2%	20.3	1.9	5.4	27.7
	Kingston upon Thames	38.7	-	3.4	42.1	0.0%	16.1	0.9	8.0	25.0
	Merton	105.9	6.0	15.3	127.2	4.5%	27.6	2.5	1.7	31.8
	Richmond upon Thames	-	-	-	-	n/a	-	-	-	-
	Sutton	120.6	3.2	10.8	134.7	2.3%	4.2	0.6	0.6	5.4
	Wandsworth	42.2	-	2.2	44.4	0.0%	32.4	-	6.0	38.4
West sub-region		974.3	44.3	118.4	1,137.0	3.7%	317.6	18.3	90.6	426.6
	Brent	281.3	7.7	27.7	316.8	2.4%	46.7	0.3	10.7	57.7
	Ealing	337.0	9.4	43.1	389.5	2.3%	67.3	3.8	13.4	84.5
	Hammersmith & Fulham	76.7	2.0	9.6	88.2	2.2%	-	-	-	-
	Harrow	14.1	0.0	1.4	15.5	0.1%	20.1	-	4.3	24.4
	Hillingdon	178.6	18.9	25.4	222.9	7.8%	23.9	1.0	53.7	78.7
	Hounslow	86.6	6.3	11.2	104.2	5.7%	159.7	13.2	8.5	181.3
Central Services Circle		111.9	1.6	19.6	133.1	1.2%	114.4	3.5	37.3	155.2
Lea Valley		531.0	32.9	33.5	597.5	5.2%	153.3	10.4	18.7	182.3
Thames Gateway		1,247.8	184.7	110.7	1,543.1	10.7%	173.0	29.8	30.4	233.2
Wandle Valley		389.6	15.7	61.7	467.0	3.3%	100.7	5.9	21.7	128.3
Park Royal / A40 / Heathrow		0.0	-	13.9	13.9	0.0%	19.4	0.4	11.4	31.2

*vacant industrial land includes vacant cleared sites, land with derelict industrial buildings and land with vacant buildings

					Non-Designated Industrial Land (ha)		Total Designated + Non-Designated (ha)				
SIL + LSIS											
Vacant Land as a % of LSIS	Industrial	Vacant industrial land*	Non-industrial	Sub-Total	Industrial	Vacant industrial land*	Industrial	Vacant industrial land*	Non-industrial	Total	Vacant Land as % of Total Designated & Non-Designated Total
5.6%	4,132.9	347.8	567.8	5,048.5	2,296.6	199.0	6,429.5	546.8	567.8	7,544.1	7.2%
7.0%	1.6	-	0.8	2.5	-	3.5	91.6	3.5	0.8	94.5	2.3%
1.8%	786.2	46.0	99.0	931.2	732.4	116.0	1,518.6	162.0	99.0	1,779.6	9.1%
6.5%	3,346.7	301.8	468.8	4,117.3	1,564.2	82.9	4,910.9	384.7	468.8	5,764.5	6.7%
2.4%	146.3	4.5	31.8	182.6	173.8	3.7	320.1	8.3	31.8	360.1	2.3%
0.0%	14.4	-	2.1	16.5	25.1	0.3	39.5	0.3	2.1	41.9	0.7%
n/a	-	-	-	-	3.4	-	3.4	-	-	3.4	0.0%
6.7%	10.8	1.4	6.7	18.9	6.0	0.1	16.7	1.5	6.7	24.9	5.8%
0.9%	9.9	0.1	4.0	14.0	24.8	0.0	34.8	0.2	4.0	38.9	0.4%
0.0%	74.6	1.6	6.7	82.9	67.4	0.4	142.0	2.0	6.7	150.7	1.4%
n/a	-	-	-	-	11.4	0.7	11.4	0.7	-	12.1	5.9%
2.7%	36.6	1.4	12.3	50.3	35.7	2.2	72.3	3.6	12.3	88.1	4.1%
9.2%	1,687.8	222.8	170.1	2,080.7	774.2	122.2	2,462.0	345.0	170.1	2,977.1	11.6%
19.1%	389.0	58.3	33.1	480.4	66.8	3.2	455.8	61.5	33.1	550.4	11.2%
12.7%	420.1	65.7	36.6	522.4	35.3	2.0	455.4	67.7	36.6	559.7	12.1%
n/a	116.3	12.1	11.2	139.6	98.7	5.9	214.9	18.0	11.2	244.1	7.4%
0.0%	3.7	-	20.2	23.9	49.9	2.2	53.7	2.2	20.2	76.1	2.9%
5.6%	247.0	55.6	29.8	332.4	131.4	4.3	378.4	59.9	29.8	468.2	12.8%
2.1%	52.4	0.4	3.3	56.1	49.3	5.2	101.7	5.6	3.3	110.6	5.1%
1.7%	292.4	26.7	13.2	332.3	116.7	77.8	409.1	104.5	13.2	526.8	19.8%
4.2%	33.9	2.0	8.1	44.0	28.2	1.7	62.1	3.7	8.1	73.8	5.0%
4.6%	23.8	0.3	1.6	25.7	110.5	19.3	134.3	19.6	1.6	155.5	12.6%
2.8%	109.2	1.7	13.1	123.9	87.5	0.6	196.7	2.3	13.1	212.0	1.1%
6.1%	448.2	28.8	57.8	534.9	229.8	13.1	678.1	41.9	57.8	777.7	5.4%
1.4%	19.4	0.4	25.3	45.1	76.8	5.8	96.2	6.2	25.3	127.6	4.8%
3.6%	333.7	20.0	21.0	374.7	104.6	4.4	438.4	24.3	21.0	483.7	5.0%
9.2%	95.1	8.4	11.6	115.1	48.4	3.0	143.5	11.3	11.6	166.5	6.8%
4.2%	558.7	29.1	99.1	686.6	498.8	16.4	1,057.4	45.5	99.1	1,202.0	3.8%
3.7%	68.3	7.4	15.7	91.5	57.6	1.8	125.9	9.2	15.7	150.9	6.1%
6.5%	102.5	8.5	35.3	146.3	50.9	1.1	153.4	9.6	35.3	198.3	4.8%
3.4%	54.7	0.9	11.4	67.0	60.6	-	115.3	0.9	11.4	127.6	0.7%
7.2%	133.5	8.4	17.1	159.0	24.6	0.9	158.2	9.4	17.1	184.6	5.1%
n/a	-	-	-	-	37.7	0.7	37.7	0.7	-	38.4	1.8%
10.4%	124.9	3.9	11.4	140.2	193.3	11.2	318.2	15.1	11.4	344.7	4.4%
0.0%	74.7	-	8.2	82.9	74.1	0.7	148.7	0.7	8.2	157.6	0.4%
4.1%	1,292.0	62.6	209.0	1,563.6	620.0	43.6	1,912.0	106.2	209.0	2,227.2	4.8%
0.5%	328.0	8.0	38.4	374.5	89.9	0.0	418.0	8.1	38.4	464.4	1.7%
4.3%	404.3	13.2	56.5	474.0	90.0	3.7	494.3	16.9	56.5	567.7	3.0%
n/a	76.7	2.0	9.6	88.2	59.4	1.3	136.1	3.2	9.6	148.9	2.2%
0.0%	34.1	0.0	5.7	39.9	25.5	4.9	59.6	4.9	5.7	70.2	7.0%
1.3%	202.5	19.9	79.1	301.5	154.6	18.6	357.1	38.5	79.1	474.7	8.1%
6.8%	246.3	19.5	19.7	285.5	200.7	15.1	447.0	34.6	19.7	501.3	6.9%
2.2%	226.2	5.2	56.9	288.3	383.5	30.5	609.7	35.7	56.9	702.2	5.1%
5.4%	684.3	43.4	52.2	779.8	298.9	46.8	983.1	90.2	52.2	1,125.5	8.0%
11.3%	1,420.8	214.5	141.1	1,776.4	476.3	57.8	1,897.1	272.3	141.1	2,310.5	11.8%
4.4%	490.3	21.6	83.4	595.4	403.5	14.0	893.8	35.6	83.4	1,012.8	3.5%
1.4%	19.4	0.4	25.3	45.1	76.8	5.8	96.2	6.2	25.3	127.6	4.8%

Source: AECOM

Table 0-3: Industrial Land in London: Years 2001, 2006, 2010 and 2015

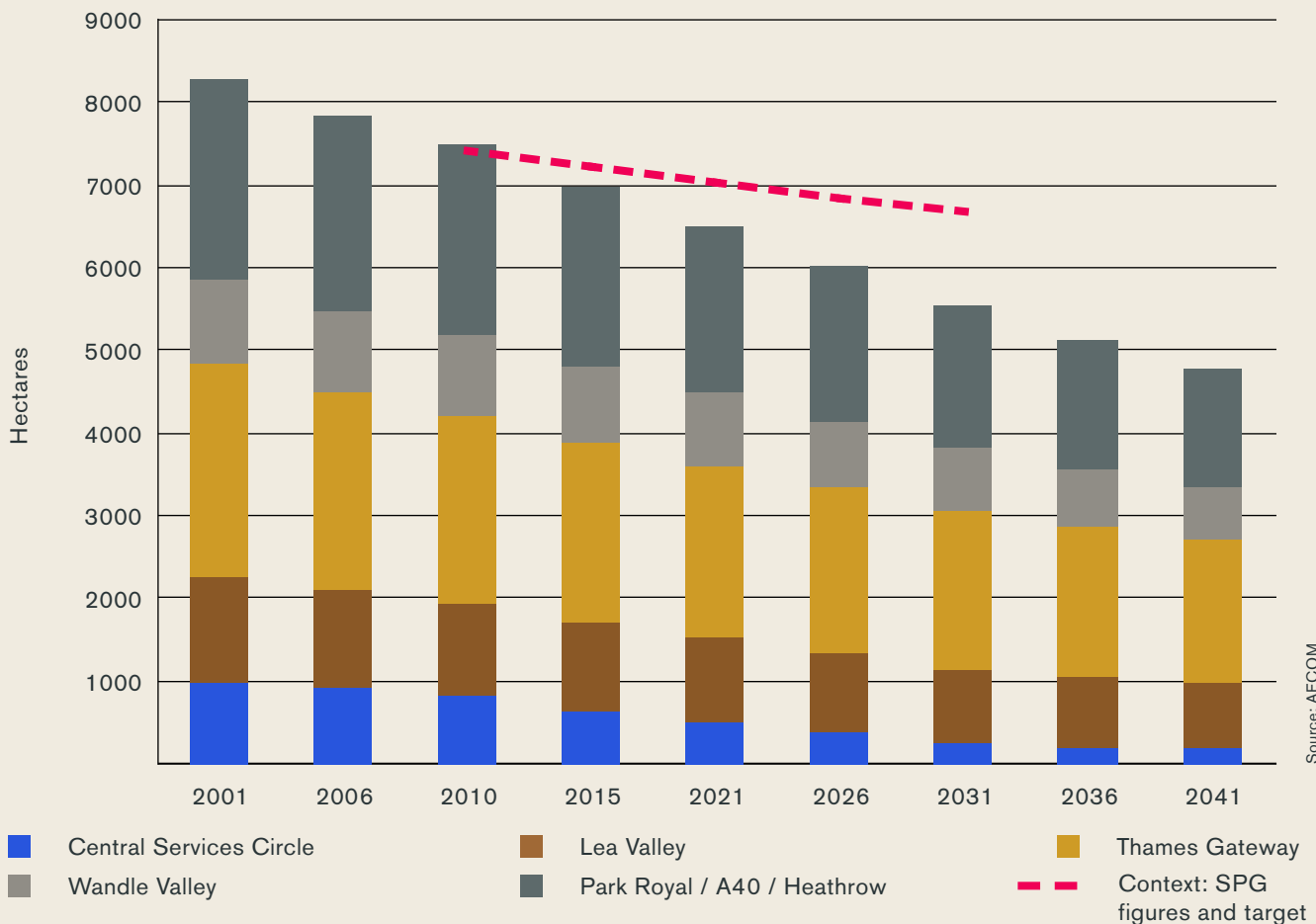
GLA land use categorisations		2001					2006	
		Designated employment land (ha)			Non-designated employment land (ha)	Total	Designated employment land (ha)	
		SIL	LSIS	Total			SIL	LSIS
Industrial uses								
Core industrial uses								
	Light industry	n/a	n/a	n/a	239.2	239.2	131.1	81.4
	General industry	n/a	n/a	n/a	2623.9	2623.9	1111.7	329.4
	Warehouses	n/a	n/a	n/a	2333.1	2333.1	1386.6	465.5
	Self storage	n/a	n/a	n/a	42.3	42.3	19.1	20.7
	Open storage	n/a	n/a	n/a	111.0	111.0	61.1	14.6
	Sub total	n/a	n/a	n/a	5349.5	5349.5	2709.5	911.6
Wider industrial uses								
	Wholesale markets	n/a	n/a	n/a	53.7	53.7	22.0	16.3
	Waste management and recycling	n/a	n/a	n/a	281.4	281.4	122.4	37.1
	Utilities	n/a	n/a	n/a	1109.0	1109.0	283.8	51.9
	Land for rail (including DLR)	n/a	n/a	n/a	347.7	347.7	249.4	56.9
	Land for buses	n/a	n/a	n/a	46.0	46.0	21.4	12.7
	Airport related land and freight	n/a	n/a	n/a	33.4	33.4	0.0	3.4
	Docks	n/a	n/a	n/a	40.4	40.4	1.1	0.1
	Other industrial	n/a	n/a	n/a	7.2	7.2	7.7	0.0
	Sub total	n/a	n/a	n/a	1918.9	1918.9	707.8	178.3
Vacant								
	Vacant industrial land*	n/a	n/a	n/a	874.4	874.4	365.7	82.4
	Land with vacant building(s)	n/a	n/a	n/a	138.8	138.8	53.8	12.0
	Total industrial	n/a	n/a	n/a	8281.5	8281.5	3836.8	1184.3
Non-industrial uses								
	Office	n/a	n/a	n/a	n/a	n/a	103.6	124.5
	Retail	n/a	n/a	n/a	n/a	n/a	165.4	47.6
	Residential	n/a	n/a	n/a	n/a	n/a	13.9	37.1
	Recreation and leisure	n/a	n/a	n/a	n/a	n/a	39.9	33.9
	Community services	n/a	n/a	n/a	n/a	n/a	29.7	18.2
	Defence	n/a	n/a	n/a	n/a	n/a	0.4	0.0
	Agriculture and fisheries	n/a	n/a	n/a	n/a	n/a	5.5	0.0
	Mixed-use (non industrial only)	n/a	n/a	n/a	n/a	n/a	33.8	26.9
	Other non-industrial	n/a	n/a	n/a	n/a	n/a	51.1	19.2
	Total non-industrial	n/a	n/a	n/a	n/a	n/a	443.3	307.3
	Total	n/a	n/a	n/a	n/a	n/a	4280.1	1491.6

*vacant industrial land includes cleared sites and land with derelict industrial buildings

			2010					2015					
	Non-designated employment land (ha)	Total	Designated employment land (ha)			Non-designated employment land (ha)		Designated employment land (ha)			Non-designated employment land (ha)		Total
Total			SIL	LSIS	Total			SIL	LSIS	Total			
212.5	25.4	237.9	131.3	77.9	209.2	28.0	237.2	128.8	72.9	201.7	56.2	257.9	
1441.1	871.7	2312.8	1034.2	310.7	1344.9	788.5	2133.4	933.5	252.9	1186.5	585.3	1771.8	
1852.2	565.2	2417.4	1418.7	479.4	1898.1	497.1	2395.3	1410.0	395.7	1805.7	438.3	2244.0	
39.8	7.0	46.7	23.4	21.0	44.3	13.6	57.9	36.0	24.1	60.1	22.5	82.7	
75.7	26.7	102.3	100.8	19.3	120.2	33.2	153.4	94.7	14.0	108.7	87.4	196.2	
3621.1	1496.0	5117.1	2708.4	908.3	3616.7	1360.5	4977.2	2603.1	759.7	3362.8	1189.8	4552.5	
38.3	14.9	53.2	2.5	37.0	39.4	14.9	54.3	2.2	14.4	16.7	39.0	55.6	
159.5	117.6	277.1	125.0	42.2	167.2	113.1	280.3	160.3	20.1	180.5	99.4	279.8	
335.7	766.4	1102.1	264.8	54.6	319.3	751.5	1070.8	243.5	41.3	284.8	763.1	1047.9	
306.3	44.5	350.8	232.8	60.6	293.4	44.6	337.9	211.9	26.4	238.3	100.2	338.5	
34.1	11.9	46.0	19.6	14.2	33.8	9.5	43.2	32.5	12.0	44.5	27.6	72.1	
3.4	30.0	33.4	0.0	3.4	3.4	30.0	33.4	0.0	3.4	3.4	43.0	46.4	
1.2	39.0	40.2	1.0	0.0	1.0	30.9	31.9	0.9	0.1	1.0	31.4	32.4	
7.7	0.0	7.7	3.7	12.8	16.5	0.1	16.6	0.1	1.0	1.1	3.2	4.3	
886.1	1024.3	1910.4	649.2	224.8	874.0	994.5	1868.4	651.5	118.6	770.2	1106.9	1877.0	
448.1	270.8	719.0	316.8	75.5	392.3	180.6	572.9	240.0	36.5	276.4	138.3	414.7	
65.8	29.0	94.8	60.6	20.6	81.1	5.1	86.2	39.4	32.0	71.4	60.7	132.0	
5021.2	2820.2	7841.4	3735.0	1229.1	4964.1	2540.7	7504.7	3533.9	946.8	4480.7	2495.6	6976.3	
228.1	n/a	228.1	106.9	140.5	247.4	n/a	247.4	85.8	109.6	195.4	n/a	195.4	
213.0	n/a	213.0	163.1	54.5	217.6	n/a	217.6	128.5	28.4	156.9	n/a	156.9	
50.9	n/a	50.9	22.6	36.6	59.2	n/a	59.2	22.2	33.0	55.3	n/a	55.3	
73.8	n/a	73.8	35.5	38.4	74.0	n/a	74.0	33.0	10.9	43.8	n/a	43.8	
47.8	n/a	47.8	28.6	18.8	47.3	n/a	47.3	16.3	5.2	21.5	n/a	21.5	
0.4	n/a	0.4	0.0	0.0	0.0	n/a	0.0	0.0	0.1	0.1	n/a	0.1	
5.5	n/a	5.5	5.2	0.0	5.3	n/a	5.3	0.0	0.0	0.0	n/a	0.0	
60.7	n/a	60.7	19.0	15.9	34.9	n/a	34.9	24.9	11.5	36.4	n/a	36.4	
70.3	n/a	70.3	69.2	14.7	83.9	n/a	83.9	47.0	11.4	58.5	n/a	58.5	
750.6	n/a	750.6	450.3	319.3	769.6	n/a	769.6	357.7	210.1	567.8	n/a	567.8	
5771.8	n/a	8592.0	4185.2	1548.5	5733.7	n/a	8274.4	3891.6	1156.9	5048.5	n/a	7544.1	

Source: AECOM

Figure 0-1: Implications of Continued Trends in Industrial Land Release



Source: AECOM

Table 0-4: Potential Industrial Land Release

Industrial land identified for release via:	1. Total potential release ind. land release (ha)	2. Discounting overlap between types of release (ha)	3. Cumulative (ha)
Development Pipeline (LDD applications)	188.9	188.9	188.9
Areas of Change			
Opportunity Area Planning Frameworks	373.1	363.1	552.0
Local Plan Policies - Reg 19+ stage	78.6	75.5	627.5
Local Plan Policies - Reg 18 stage	88.2	80.8	708.4
Housing Zone Sites	154.0	126.0	834.4
Total	882.7	834.4	-

Source: AECOM

Businesses and Employment

Employment in Industrial Activities

According to estimates from the Business Register and Employment Survey (BRES) 347,000 people are employed in industrial activities in London, of which nearly 80% is associated with core industrial activities. This represents around 7.3% of all employment in London. The majority of employment is focused in Outer London locations, most notably within the East and West sub-regions.

Using BRES data it is estimated that almost half (46%) of all industrial employment is located at designated locations, of which approximately half is on SILs. In addition, it is estimated that approximately 130,000 jobs in non-industrial activities may be located at designated locations.

While the number employees in industrial activities declined across the period 2001 to 2010, this pattern has reversed from 2010 to 2015 with a 4% growth in industrial employment being recorded.

Businesses Engaged in Industrial Activities

Using Office for National Statistics (ONS) Business: Activity, Size and Location data, in 2015 there were approximately 75,900 industrial local units in London, associated with 68,900 industrial enterprises. As the number of units represent approximately 15% of all local units in London, the proportion of industrial local units is lower than the equivalent industrial share of enterprises (16%), suggesting that industrial businesses are more likely to occupy one premises than businesses in other sectors.

It is estimated that 62% of industrial businesses are located within designated industrial land, which contrasts markedly with employment whereby only half of industrial jobs are found within designated areas. This difference is probably at least in part due to issues over definitions and use of different data sets. For example the headquarters of large businesses engaged in industrial activities may be located in Central London offices employing a large number of people. In terms of size, 90% of industrial businesses employ less than ten people (micro in size) with 2% employing greater than 50 (medium or large in size).

Intensity of Use

On average each hectare of industrial land supports the employment of 68 individuals across both industrial and non-industrial activities. The intensity of use is greater in Inner London areas. The East sub-region has a relatively low intensity of use, while the intensity of use is on average higher in the West sub-region, where industrial land values are higher than other parts of outer London.

Property Market Areas and Indicators

Property Market Areas

Defined by strategic transport hubs and routes through which products and services move, property market areas (PMAs) have been defined by AECOM and Cushman & Wakefield in consultation with the GLA and supporting literature, including the London Plan, for use in this study. The PMAs are: Central Services Circle; Lea Valley; Thames Gateway; Wandle Valley; and Park Royal / A40 / Heathrow.

Floorspace and Availability

There is approximately 2 million m² of industrial floorspace available on the market in London in 2015, mostly concentrated in Outer London (89%) and within the Park Royal / A40 / Heathrow (42%), and Thames Gateway (33%) PMAs. Total available floorspace represents around 10% of total industrial floorspace in London. This is slightly higher than the GLA guideline frictional vacancy rate of 8% for effective operation of the market. Floorspace availability as a percentage of total floorspace is highest in the Thames Gateway (14.5%) and lowest in the Central Services Circle (2.7%) and the Wandle Valley (4.0%). There is some indication that larger premises have higher availability rates, although this could be due in part to under-reporting of availability of smaller premises.

Rental and Value Indicators

London-wide rental values for industrial property average £110 per m², peaking at an average of £123 per m² in the Park Royal / A40 / Heathrow and Wandle Valley areas and falling to £91 per m² in the Thames Gateway.

Industrial land values average £4.9m per ha London-wide, with the Wandle Valley having the highest average industrial property values at around £6.2m per ha. Reflecting rents, the Thames Gateway has the lowest average land values at £1.0m per ha.

Residential land values reflect a similar pattern to that of industrial land with the highest values recorded in the South and West sub-regions / property market areas and lowest in those in the East and North. The ratio of industrial land values to residential land values is, as would be expected, lowest in the Central Services Circle averaging 0.13 and highest in the Park Royal / A40 / Heathrow PMA at 0.38, with the Lea Valley recording a similar ratio of 0.36.

Change in Rental Values

Average industrial rental values in London have increased steadily over the last five years by around 15-18% in all PMAs except the Central Services Circle where these have remained largely unchanged since 2010. There is limited variance at borough level within PMAs except within the Central Services Circle e.g. Lewisham recording a 17% increase, Kensington & Chelsea recording a 18% decrease.

Industrial Capacity in the Inner South East (outside London)

To identify industrial capacity in the Inner South East the industrial property market outside London in the inner South East has been divided into four quadrants – north, east, south and west – comprised of local authority areas on the periphery of London. The quadrants include major freight hubs such as Gatwick Airport, Heathrow Airport and London Gateway port as well as major strategic road and rail freight routes into London.

The inner South East area is estimated to contain 4,882ha of industrial land in 2012. The quadrant with the highest supply of industrial land in the Inner South East is the north quadrant accommodating 40% of the total industrial land in the inner South East, while the south quadrant has the lowest at 15%. The total supply of industrial land in the inner South East equates to around 70% of supply in London. When compared with their adjacent London PMAs, the north quadrant is the only quadrant to contain a higher amount of industrial land than its adjacent London property market.

London has seen a higher rate of industrial land release than the inner South East. Data from the Valuation Office Agency indicates industrial stock in the inner South East (outside of London) declined by 4% during the years 2001 to 2012 whereas London lost 16% of stock over a similar time period (2001 to 2015)⁴.

Economic Impacts of Reduced Supply

Context of Decline

If recent rates of decline in industrial land are projected forward then the total stock of industrial land in London will contract significantly. If trends for the period 2010-2015 continue⁵ then by 2031 there would be 5,450ha of industrial land and 4,720ha remaining by 2041, representing a 31% reduction over the 2015 figure.

Evidence on Market Failure and Flexibility

We have reviewed what evidence there is to suggest what the impact of continued decline in industrial land will have on industry and the London economy. Our research and conclusions on possible factors that could cause market failure and / or affect the flexibility and ability of industrial businesses to respond to a reduced supply of industrial land are as follows:

- Generally there does not appear to be strong evidence so far to suggest that local reductions in the availability of industrial land and property have led to increases in rents (although there are indications that there may be increases in rents across property markets in London as a whole).
- Case studies suggest that at a local level significant shifts to non-industrial uses can undermine the integrity of industrial areas, and care is needed in planning for and managing

change in industrial areas.

- There is some evidence to suggest that industrial activities may be responding to increased rents and reduced supply by increasing employment densities.
- Our analysis of changes in employment in recent years in industrial sectors suggests that there could be an emerging pattern of sectors that are more sensitive to London and / or central London locations tending to remain or grow in London, and other sectors that are less sensitive to location will tend to leave London.
- In particular it is possible that the scale of a number of industrial activities will tend to be positively correlated to London's overall population as they directly serve the population.
- Data on rates of change of industrial businesses in London suggests that they are less flexible than the economy more generally, although there is still a significant amount of churn in the industrial sector specifically that may not have been appreciated previously.
- Our broad-brush analysis suggests that industrial capacity just outside London has not been lost at the same rate as within London, and there may be potential for the adjacent South East region to (continue to) accommodate overspill demand from London (or demand transferring to the area as supply contracts in London).
- It is likely that if activities servicing core London markets are forced to relocate from central to outer London or out of Greater London, either to the adjacent South East or further afield, then the distance goods are moved and consequent carbon emissions will increase.
- Some industrial businesses require space for small-scale production and prototyping and rely on access to a skilled workforce, specialist manufacturing activities and agglomeration benefits found in London. These businesses may find it harder to be economically viable if forced to relocate outside London.

The research carried out for this report, together with other data and information, suggests that overall there is some flexibility in the industrial land market and industrial activities to respond to contractions in industrial land supply.

Key mechanisms allowing this include potential for some industry to (continue to) relocate to the wider adjacent South East and probably to a lesser degree there may be potential for some industrial activities to be intensified on existing land.

Supply Scenarios

To explore supply scenarios supply needs to be set in the context of demand. Demand forecasts will be the subject of future research and to illustrate possible situations we have drawn up demand projections for industrial land in London.

These are illustrated in *Figure 0-2* which shows how these projections relate to historic data and the GLA's SPG target from 2010 onwards. These projections assume that demand equates to the

above variations in trends of total stock of industrial land in London.

The conceptual relationship between demand, supply and market mechanisms are based on the principles illustrated in *Figure 0-3*. This shows that:

- Where there is high demand and low supply then too little land is available
- Where there is low demand and high supply then too much land is retained for industrial use
- Where demand and supply match then the right amount of industrial land is available, and
- If market mechanisms are effective then this gives more scope for reduced supply in London, and where market mechanisms are ineffective then this gives less scope for reducing supply in London.

Findings from this exercise include:

- The excess demand and not enough supply combinations pose questions as to whether excess demand can be accommodated outside London and / or absorbed via mechanisms such as intensification, thus raising policy questions.
- There is little evidence to suggest that employment densities have been increasing until recently and thus a prudent approach is to suggest such a mechanism can only accommodate, say, 5-10% of excess demand
- There appears to be some potential for industry to (continue to) relocate to the adjacent South East region.
- Comparison of total supply in London and the South East suggests that the total potential requirement for additional industrial land outside London are fairly modest compared to the total stock in the adjacent South East region in at least some areas / scenarios.
- Any release in the South East could thus potentially be retained for the overspill demand from London, though would depend on local authorities visions / co-operation and the future course of structural industrial change in the two regions.

Conclusions

Implications for Industrial Land Policy

This review of context, market failure and market mechanisms suggests that if sufficient industrial land can be provided / protected within and around London, continued release of industrial land in London may be possible. However the rates of release seen over the last five years appear to be excessive and a more cautious rate of release is probably more appropriate.

London appears to be heading towards a situation in which most of its activities located in industrial areas will be associated with servicing the rest of London's economy and population. With the projected significant growth in London's population and economy over coming decades and the likely strong positive correlation between these activities and

London's population it appears likely that at some point, potentially within the life of the current London Plan, there will be a case to switch from releasing industrial land to retaining most of the remaining land. Whether such a shift is appropriate will depend upon the value placed upon these activities.

Care is needed at a local level to be clear on what industry is being protected and to ensure that policies are sufficiently robust and unambiguous, and then are protected with vigour, to reduce the potential for blight, hope values and issues over bad neighbour activities with other sensitive land uses damaging industrial activities and viability.

Research Recommendations

This report has covered much new ground and analysis, and highlighted a number of potential trends and factors that have not generally been the focus of attention. It is clear though that much of the analysis presented only provides a hint of what may be going on. Further work may suggest a more subtle context and / or change the (tentative) conclusions we have drawn. Our research has also further highlighted some issues / questions associated with reliability of data sources and appropriateness of definitions. Suggestions on further research are given at the end of the report.

⁴ The Valuation Office Agency Business Floorspace (Experimental Statistics) latest provides a time series of statistics on the floorspace, with 2012 being the latest year for which data is known. There are no statistics on floorspace or land stock in 2015.

⁵ It has been assumed that the decline in the Central Service Circle will level off at 200ha otherwise total stock in this area would decrease to 0ha.

Figure 0-2: Industrial Land in London Demand Projections

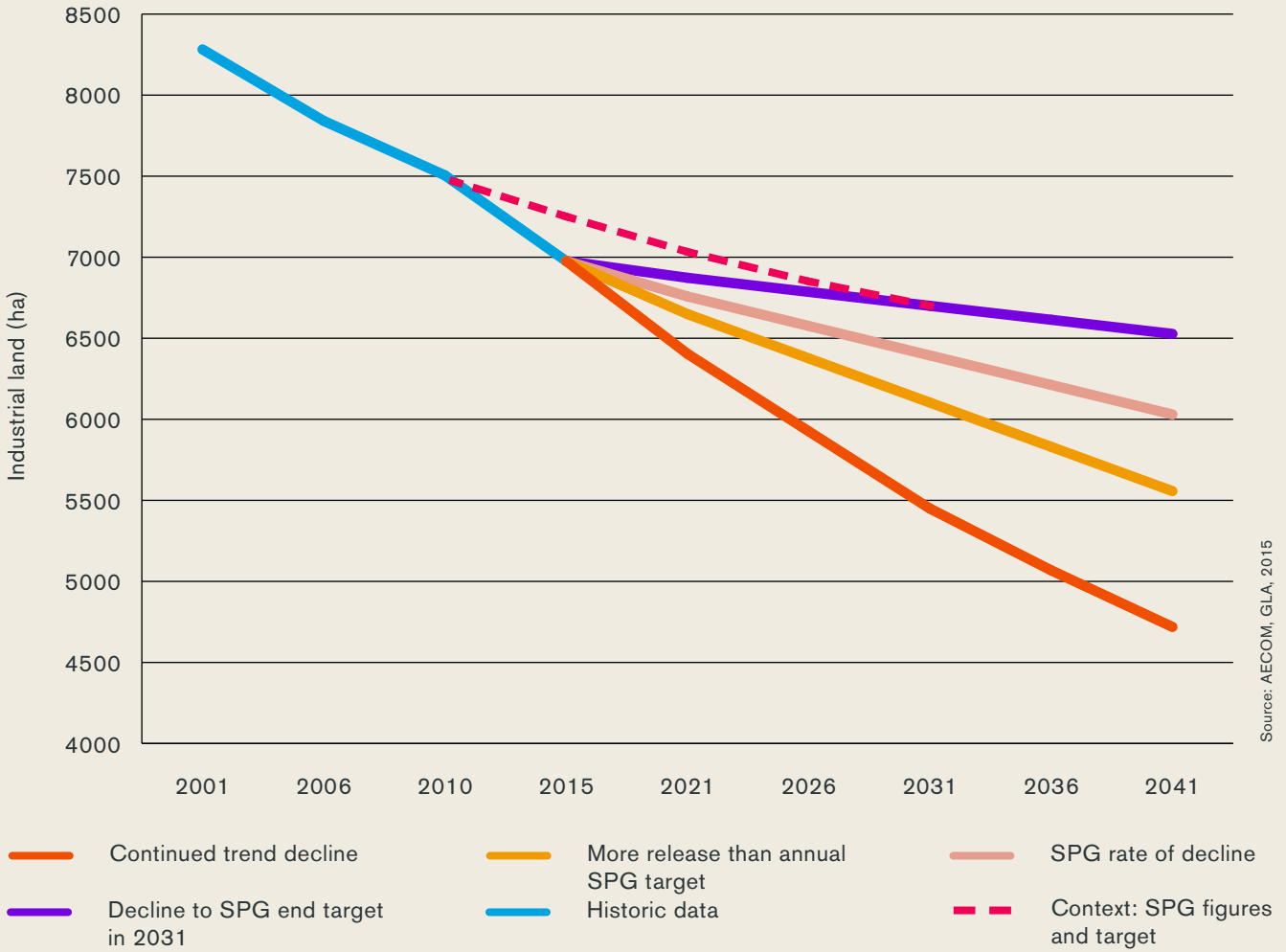


Figure 0-3: Demand, Supply and Market Mechanisms Matrix

Demand scenario	Planning policy supply scenario	Ineffective market mechanisms	Effective market mechanisms
High demand	Extra low supply	Too little land	Too little land
High demand	Low supply	Too little land	Too little land
High demand	Medium supply	Too little land	In balance?
Medium demand	Low supply	Too little land	In balance?
High demand	High supply	In balance	In balance
Medium demand	Medium supply	In balance	In balance
Low demand	Low supply	In balance	In balance
Extra low demand	Extra low supply	In balance	In balance
Low demand	Medium supply	Too much land	Too much land
Medium demand	High supply	Too much land	Too much land
Low demand	High supply	Too much land	Too much land
Extra low demand	High supply	Too much land	Too much land

Source: AECOM

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1.

Introduction

1. Introduction

1.1 Context

1.1.1 AECOM Infrastructure and Environment UK Limited (AECOM) have been commissioned by the Greater London Authority (GLA) to undertake a comprehensive review and update of the supply of industrial land in London. Cushman & Wakefield have supported this study by providing property market data. Concurrently, We Made That has been commissioned by the GLA to provide additional analysis and visual communication, with graphic identity provided by Maddison Graphic. The study builds on the London Industrial Land Baseline (London Development Agency and Greater London Authority, 2010) undertaken by URS (now part of AECOM).

1.1.2 The importance of informing the preparation of development plans with robust assessments of the existing and future supply of land available for economic development is set out in the Government's National Planning Policy Framework (NPPF)⁶ and associated practice guidance⁷.

1.1.3 The London Plan⁸ and associated Supplementary Planning Guidance (SPG)⁹ underscore the Mayor's established approach to industrial land management to ensure a sufficient stock of land and premises to meet future needs of different types of industrial and related uses (such as logistics / distribution, waste management, utilities and land for transport functions), including for good quality and affordable space.

1.1.4 London Plan policies 2.17 and 4.4 set out a plan-led and evidence based 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 local plans; and
- Other smaller industrial sites that 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 industry.

1.1.5 The London Plan supports a 'plan, monitor and manage' approach to the release of surplus industrial land so that it can contribute to strategic and local planning objectives. It is important to review how the provision of industrial land in London, whether designated as SIL or LSIS, or as smaller non-designated industrial sites, is changing over time and this study represents a complete update to the 2010 Industrial Land Baseline.

1.1.6 The study and a parallel demand-side study will inform a full review of the London Plan and the preparation of local plans / Opportunity Area Planning Frameworks (OAPFs) and support co-ordination of industrial land supply with the wider South East.

1.2 Research Objectives

1.2.1 The key objectives of the London Industrial Land Supply and Economy Study are to:

- update to the London industrial land baseline
- estimate businesses, employment and rental values, and
- provide a high-level assessment of the economic impacts of reduced supply of industrial land.

1.2.2 The outputs of the study will inform industrial land policy making:

- the next full review of the London Plan and its associated Land for Industry and Transport Supplementary Planning Guidance (SPG)
- the preparation of borough local plans
- work on Opportunity Area Planning Frameworks, Area Action Plans (AAPs) and Supplementary Planning Guidance, and
- co-ordination of industrial land policy with local planning authorities of the wider south east of England.

The study will also support the work of the GLA in addressing its growth and regeneration agenda.

1.3 Definitions

1.3.1 The study makes reference to three categorisations of industrial land by type of use:

- Core industrial uses comprise of general industry, light industry, warehouses, open storage and self-storage. Core uses cover most types of industrial business activity.
- Wider industrial uses comprise wholesale markets, waste management and recycling facilities, utilities, land for rail, land for buses, airport related land and other industrial land. Such uses are industrial in nature and support the functioning of London for instance by way of providing space for infrastructure; and
- Vacant industrial land comprises sites which are vacant and cleared, land with derelict buildings and / or land with vacant buildings capable of occupation.

1.3.2 Relevant definitions of sub-regions and property market areas are given in *Figure 1-1* and *Figure 1-3* overleaf.

1.3.3 The definition and boundaries of Inner and Outer London and the Central Activities Zone (CAZ) are shown in *Figure 1-2* overleaf.

6 Department for Communities and Local Government (CLG). National Planning Policy Framework (NPPF), 2012, paragraph 161

7 National Planning Policy Guidance (NPPG), CLG, 2014, ID:2a

8 London Plan (consolidated with alterations since 2011), GLA, March 2015

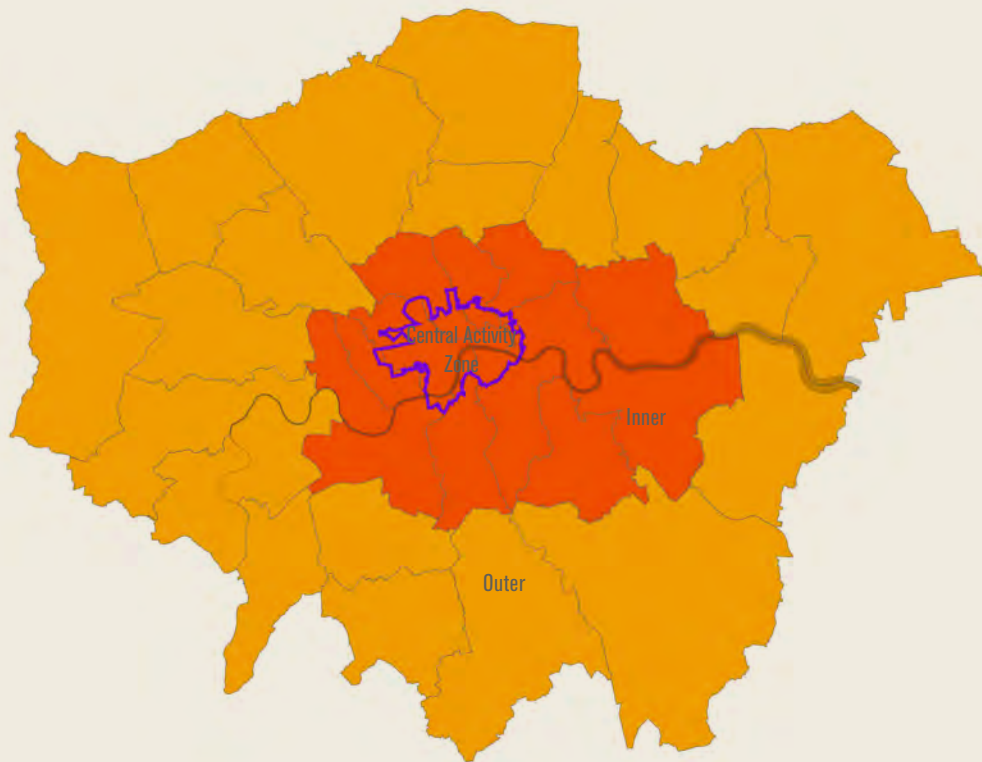
9 Land for Industry and Transport Supplementary Planning Guidance (SPG), GLA, 2012

Figure 1-1: London Sub-Regions (2015)



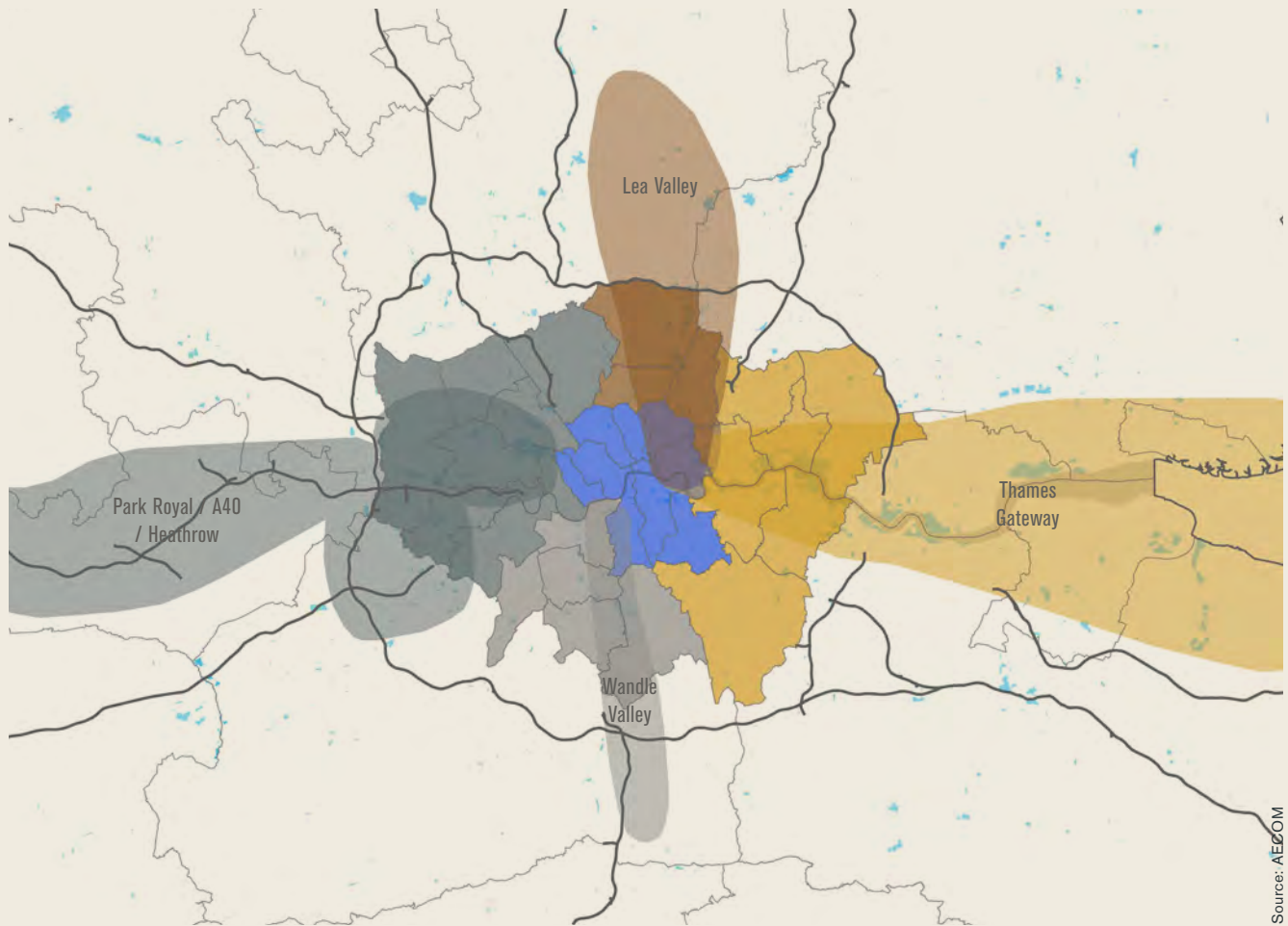
Source: AECOM

Figure 1-2: Inner and Outer London, and Central Activities Zone



Source: AECOM

Figure 1-3: Property Market Areas



Source: AECOM

Sub-regions are as defined in the London Plan:

- Central: Camden, City of London, Kensington and Chelsea, Islington, Southwark, Westminster, Lambeth
- North: Barnet, Enfield, Haringey
- East: Barking and Dagenham, Bexley, Greenwich, Hackney, Havering, Lewisham, Newham, Redbridge, Tower Hamlets, Waltham Forest
- South: Bromley, Croydon, Kingston upon Thames, Merton, Richmond upon Thames, Sutton, Wandsworth
- West: Brent, Ealing, Hammersmith and Fulham, Harrow, Hillingdon, Hounslow

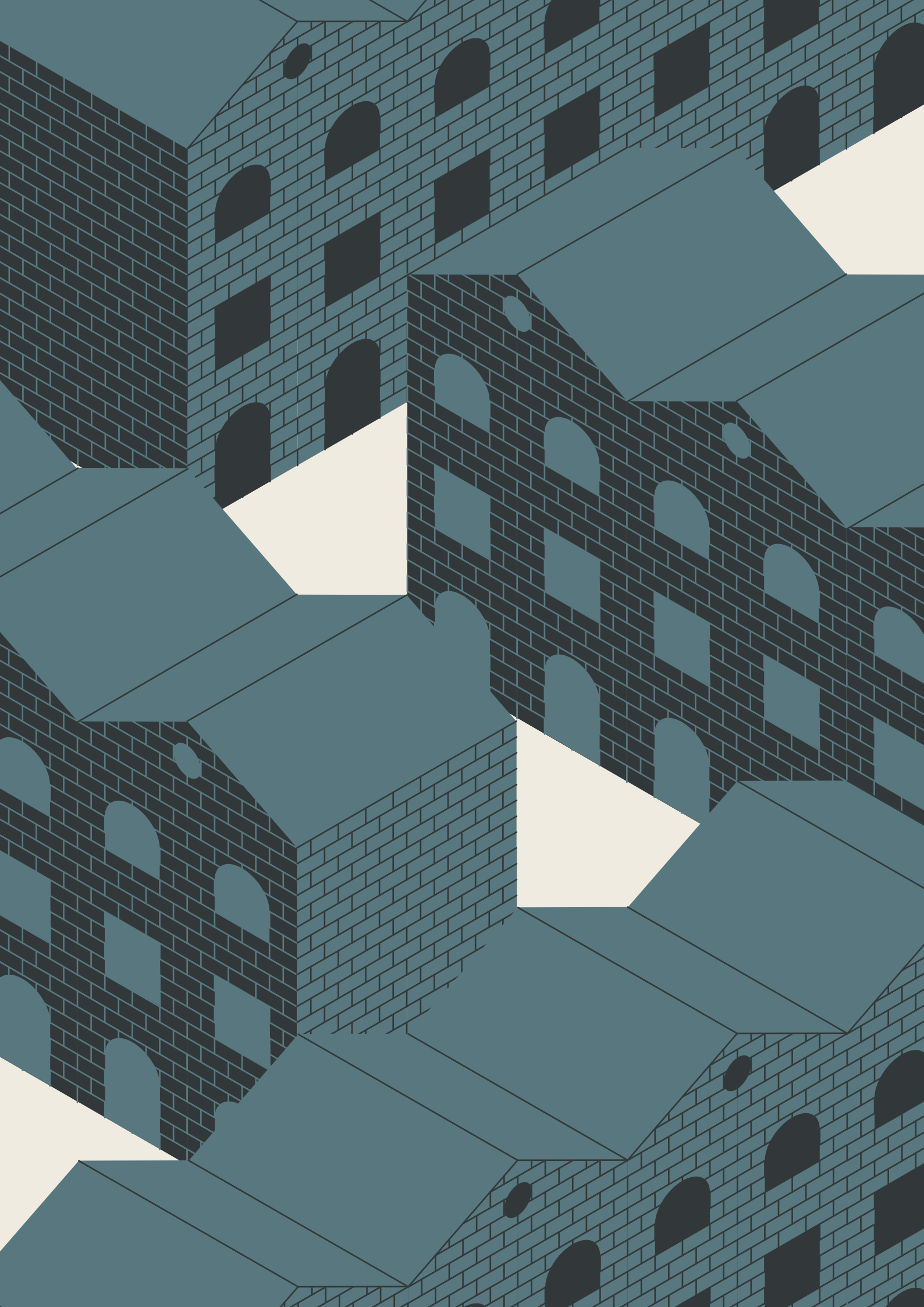
Property market areas:

- Central Services Circle: City of London, Lambeth, City of Westminster, Islington, Camden, Kensington and Chelsea. Southwark, Lewisham, Tower Hamlets, Hackney
- Lea Valley: Haringey, Enfield, Waltham Forest, Newham (assumed to include half of Newham)
- Thames Gateway: Bexley, Havering, Redbridge, Barking and Dagenham, Greenwich, Bromley, Newham (assumed to include half of Newham)
- Wandle Valley: Croydon, Kingston upon Thames, Merton, Sutton, Wandsworth
- Park Royal / A40 / Heathrow: Barnet, Hammersmith and Fulham, Brent, Richmond upon Thames, Ealing, Harrow, Hillingdon, Hounslow

1.4 Report Structure

1.4.1 Following this introduction the report is structured as follows:

- Chapter 2 provides a synopsis of the key data and findings of the 2015 industrial land baseline including vacant industrial land.
- Chapter 3 estimates the number of businesses whose primary activity is industrial in nature and employment associated with these businesses.
- Chapter 4 presents data on industrial rental values, land values and floorspace availability.
- Chapter 5 provides a high level estimate of the industrial land capacity of the wider South East, which informs thinking on the functioning of the capital in the future.
- Chapter 6 considers the implications for different rates of future industrial land supply contraction on the functioning of London's economy.
- Chapter 7 concludes the study by summarising the key findings and implications for policy making.
- Appendix A includes details of the approach to updating the industrial land use baseline; Appendix B lists the SICs which comprise the definition of industrial activities; and Appendix C presents tables on the quantity of industrial land across the different geographies of London.



2.

London's Industrial Land 2015

2. London's Industrial Land 2015

2.1 Introduction

2.1.1 The purpose of this chapter is to:

- Update and extend the 2010 London Industrial Land baseline study, providing an estimate for 2015 of land and floorspace in industrial and related uses and vacant industrial land, broken down by borough and London plan sub-regions
- Identify land in industrial uses in the planning pipeline that is potentially changing to non-industrial use

2.1.2 A comparison is provided with previous iterations of the baseline in 2001, 2006 and particularly 2010, to give a perspective on the degree and nature of change over time and to highlight any trends or patterns in the supply of industrial land.

2.1.3 Details of the approach used to assessing the quantity of industrial land are given in Appendix A.

2.2 Industrial Land Supply

2.2.1 The purpose of this section and section 2.3 and section 2.4 is to update and extend the 2010 London Industrial Land study, providing an estimate of land and floorspace in industrial and related uses and vacant industrial land, broken down by borough and London Plan sub-region for 2015.

2.2.2 Industrial land can be categorised as core, wider or vacant land. It can also be categorised as designated, including Strategic Industrial Locations (SIL) and Locally Significant Industrial Sites (LSIS), or other non-designated sites.

Industrial Land Categorisations

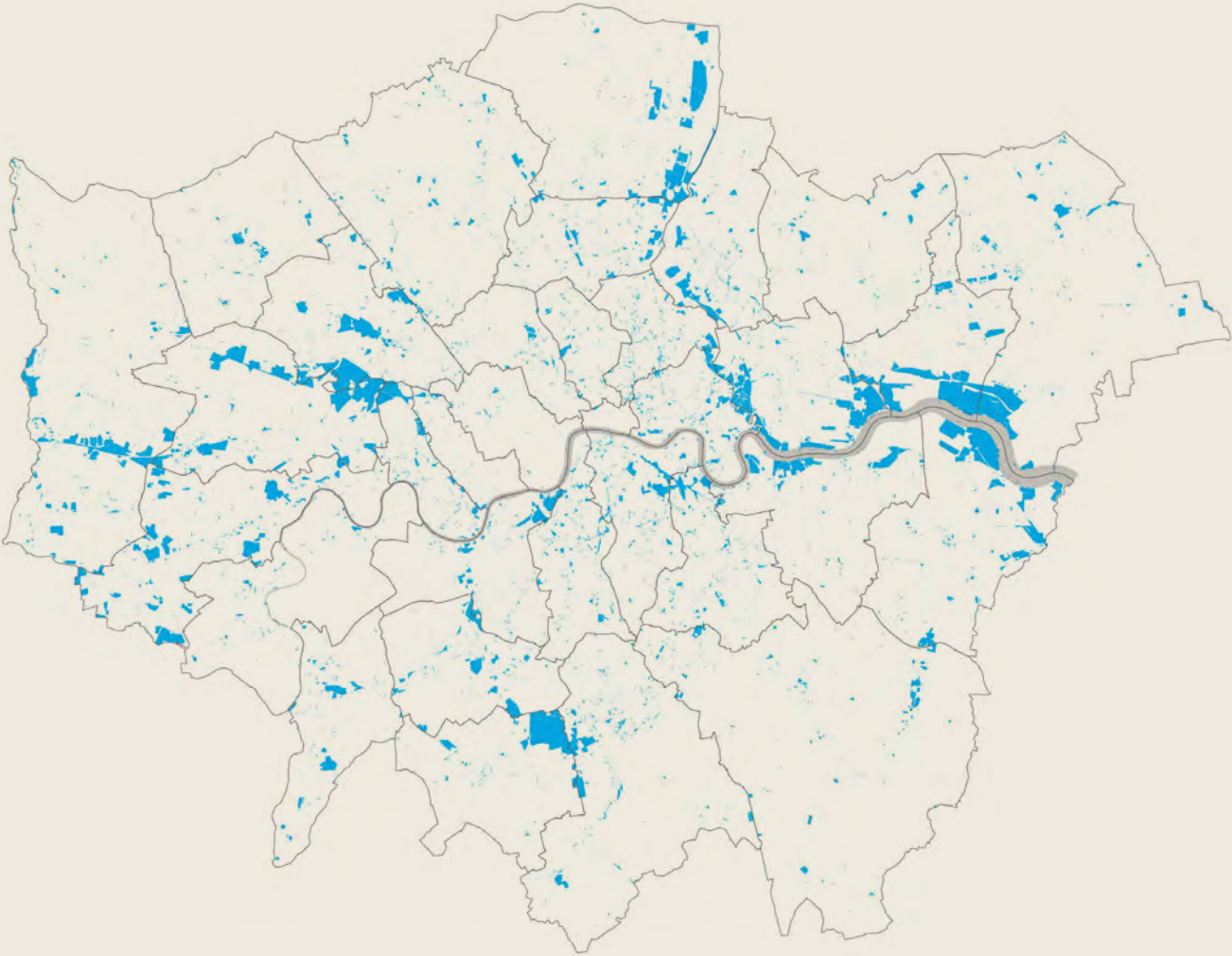
2.2.3 As shown in *Table 2-1* in 2015 there is 6,976 hectares (ha) of industrial land in London of which 4,553ha is core industrial use (65%); 1,877ha is in wider industrial use (27%) and 547ha is vacant land (8%).

2.2.4 *Figure 2-1* maps industrial land across London. The highest concentration of land in wider industrial use proportionally is in the South sub-region where it accounts for 39% of the stock of industrial land. The sub-region with the lowest proportion of wider industrial land as a component of total stock is the North at 24%, with the East sub-region accounting for the highest amount of such land in absolute terms (672ha also representing 24% of its total stock). In the Central sub-region it accounts for 96ha or 29% of its total stock and 507ha or 25% of stock in the West sub-region.

Industrial Land within Designated Areas

2.2.5 As shown in *Figure 2-2* and *Table 2-2* of the total industrial land (including both land in industrial use and vacant land designated for industrial use) in London (6,976ha), 3,534ha (51%) lies within SIL, 947ha (14%) lies within LSIS and 2,496ha (36%) is on non-designated land. If non-industrial uses lying within designated areas are included, SIL areas comprise a total of 3,892ha of land with LSIS comprising 1,157ha. It should be noted that some LSIS allow mixed use.

Figure 2-1: Geographic Distribution of Industrial Land in London



Source: AECOM

Table 2-1: Industrial Land in London by Categorisation

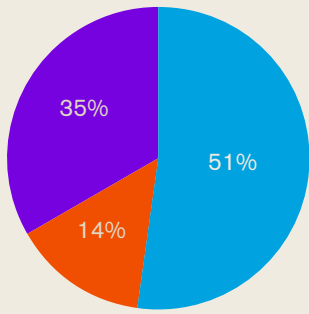
Area		Core industrial uses (ha)			Wider industrial uses (ha)
		Industry (general & light industry)	Warehouses, self storage & open storage	Sub-total	
London		2,029.7	2,522.8	4,552.5	1,877.0
CAZ		16.5	26.4	42.9	47.3
Inner London		470.9	489.2	960.1	558.5
Outer London		1,558.8	2,033.6	3,592.4	1,318.5
Central sub-region		121.7	102.5	224.1	95.9
	Camden	13.0	19.5	32.5	6.9
	City of London	-	-	-	3.4
	Kensington & Chelsea	4.5	2.3	6.8	10.0
	Islington	9.6	14.0	23.6	11.2
	Southwark	51.1	50.1	101.2	40.8
	Westminster	1.6	2.6	4.2	7.2
	Lambeth	42.0	13.9	55.9	16.4
East sub-region		906.4	883.3	1,789.7	672.3
	Barking & Dagenham	258.7	157.6	416.3	39.5
	Bexley	167.1	160.1	327.2	128.2
	Greenwich	60.4	121.4	181.8	33.1
	Hackney	37.3	7.3	44.5	9.2
	Havering	88.7	193.6	282.4	96.0
	Lewisham	28.5	41.0	69.6	32.1
	Newham	92.9	109.4	202.2	206.9
	Redbridge	33.9	16.1	50.0	12.1
	Tower Hamlets	68.9	28.8	97.6	36.6
	Waltham Forest	70.0	48.1	118.1	78.6
North sub-region		209.7	292.9	502.6	175.5
	Barnet	27.1	40.2	67.3	28.8
	Enfield	146.5	169.4	316.0	122.4
	Haringey	36.0	83.3	119.3	24.2
South sub-region		264.8	366.5	631.3	426.1
	Bromley	38.7	45.3	84.0	41.9
	Croydon	50.0	72.9	122.9	30.5
	Kingston upon Thames	27.8	34.4	62.2	53.1
	Merton	56.5	82.4	138.9	19.3
	Richmond upon Thames	17.3	8.1	25.4	12.3
	Sutton	32.0	80.3	112.3	205.9
	Wandsworth	42.7	43.0	85.7	63.0
West sub-region		527.1	877.7	1,404.8	507.2
	Brent	168.8	151.2	320.0	98.0
	Ealing	167.1	229.9	397.0	97.3
	Hammersmith & Fulham	18.6	35.9	54.5	81.6
	Harrow	20.4	31.7	52.2	7.5
	Hillingdon	96.5	187.6	284.1	73.0
	Hounslow	55.7	241.3	297.1	149.9
Central Services Circle		256.3	179.5	435.9	173.8
Lea Valley		299.0	355.5	654.5	328.6
Thames Gateway		694.0	748.7	1,442.7	454.3
Wandle Valley		208.8	313.1	522.0	371.8
Park Royal / A40 / Heathrow		571.6	925.9	1,497.5	548.4

*Vacancy rates calculated as vacant industrial land as % of industrial land by use type + vacant industrial land (eg. Vacancy rate (core) = Vacant land / Sub total for core uses + Vacant land)

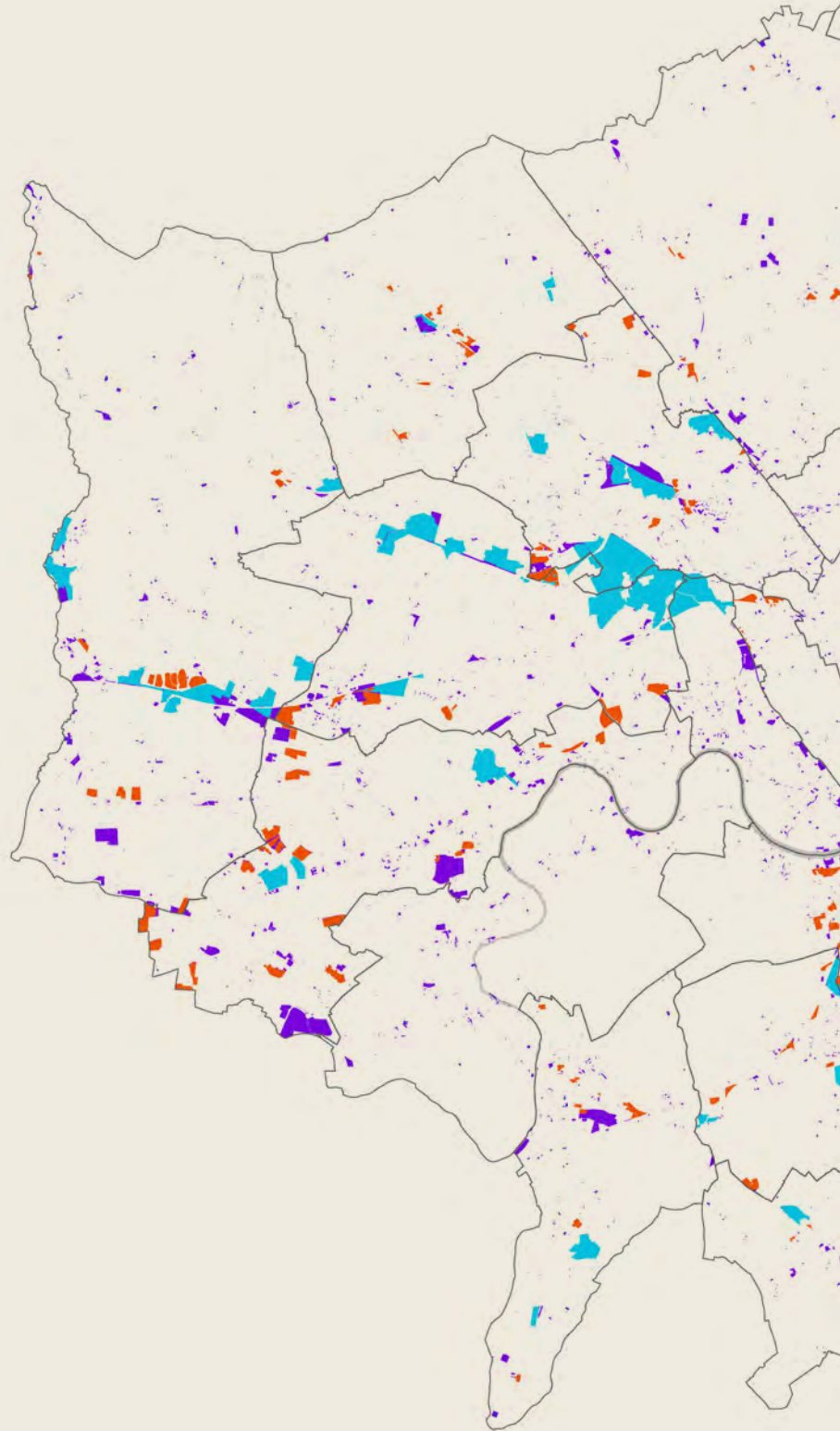
Total core & wider uses (ha)	Vacant industrial land (ha) Incl. cleared sites, derelict industrial buildings & land with vacant buildings	Total industrial land (ha)	Vacancy		
			Vacancy rate (core)	Vacancy rate (wider)	Vacancy rate (total)*
6,429.5	546.8	6,976.3	10.7%	22.6%	7.8%
90.2	3.5	93.7	7.5%	6.9%	3.7%
1,518.6	162.0	1,680.6	14.4%	22.5%	9.6%
4,910.9	384.7	5,295.7	9.7%	22.6%	7.3%
320.1	8.3	328.3	3.6%	7.9%	2.5%
39.5	0.3	39.8	0.9%	4.3%	0.8%
3.4	-	3.4	n/a	n/a	n/a
16.7	1.5	18.2	17.7%	12.8%	8.0%
34.8	0.2	34.9	0.7%	1.5%	0.5%
142.0	2.0	144.0	2.0%	4.8%	1.4%
11.4	0.7	12.1	14.5%	8.9%	5.9%
72.3	3.6	75.9	6.0%	17.9%	4.7%
2,462.0	345.0	2,807.0	16.2%	33.9%	12.3%
455.8	61.5	517.3	12.9%	60.9%	11.9%
455.4	67.7	523.1	17.1%	34.6%	12.9%
214.9	18.0	233.0	9.0%	35.2%	7.7%
53.7	2.2	55.9	4.7%	19.3%	3.9%
378.4	59.9	438.3	17.5%	38.4%	13.7%
101.7	5.6	107.3	7.5%	14.9%	5.2%
409.1	104.5	513.6	34.1%	33.5%	20.3%
62.1	3.7	65.8	6.8%	23.3%	5.6%
134.3	19.6	153.8	16.7%	34.9%	12.7%
196.7	2.3	198.9	1.9%	2.8%	1.1%
678.1	41.9	719.9	7.7%	19.3%	5.8%
96.2	6.2	102.3	8.4%	17.7%	6.0%
438.4	24.3	462.7	7.2%	16.6%	5.3%
143.5	11.3	154.9	8.7%	31.9%	7.3%
1,057.4	45.5	1,102.9	6.7%	9.6%	4.1%
125.9	9.2	135.1	9.9%	18.0%	6.8%
153.4	9.6	163.0	7.2%	23.9%	5.9%
115.3	0.9	116.2	1.4%	1.6%	0.8%
158.2	9.4	167.5	6.3%	32.7%	5.6%
37.7	0.7	38.4	2.6%	5.2%	1.8%
318.2	15.1	333.3	11.8%	6.8%	4.5%
148.7	0.7	149.4	0.8%	1.1%	0.5%
1,912.0	106.2	2,018.2	7.0%	17.3%	5.3%
418.0	8.1	426.0	2.5%	7.6%	1.9%
494.3	16.9	511.2	4.1%	14.8%	3.3%
136.1	3.2	139.3	5.6%	3.8%	2.3%
59.6	4.9	64.5	8.6%	39.6%	7.6%
357.1	38.5	395.6	11.9%	34.5%	9.7%
447.0	34.6	481.6	10.4%	18.8%	7.2%
609.7	35.7	645.3	7.6%	17.0%	5.5%
983.1	90.2	1,073.3	12.1%	21.5%	8.4%
1,897.1	272.3	2,169.4	15.9%	37.5%	12.6%
893.8	35.6	929.4	6.4%	8.7%	3.8%
2,045.9	113.1	2,158.9	7.0%	17.1%	5.2%




Source: AECOM

Figure 2-2: Industrial Employment Land in London by Designation



Total industrial land by designation



-  Strategic Industrial Land
-  Locally Significant Industrial Sites
-  Non-designated sites

Scale



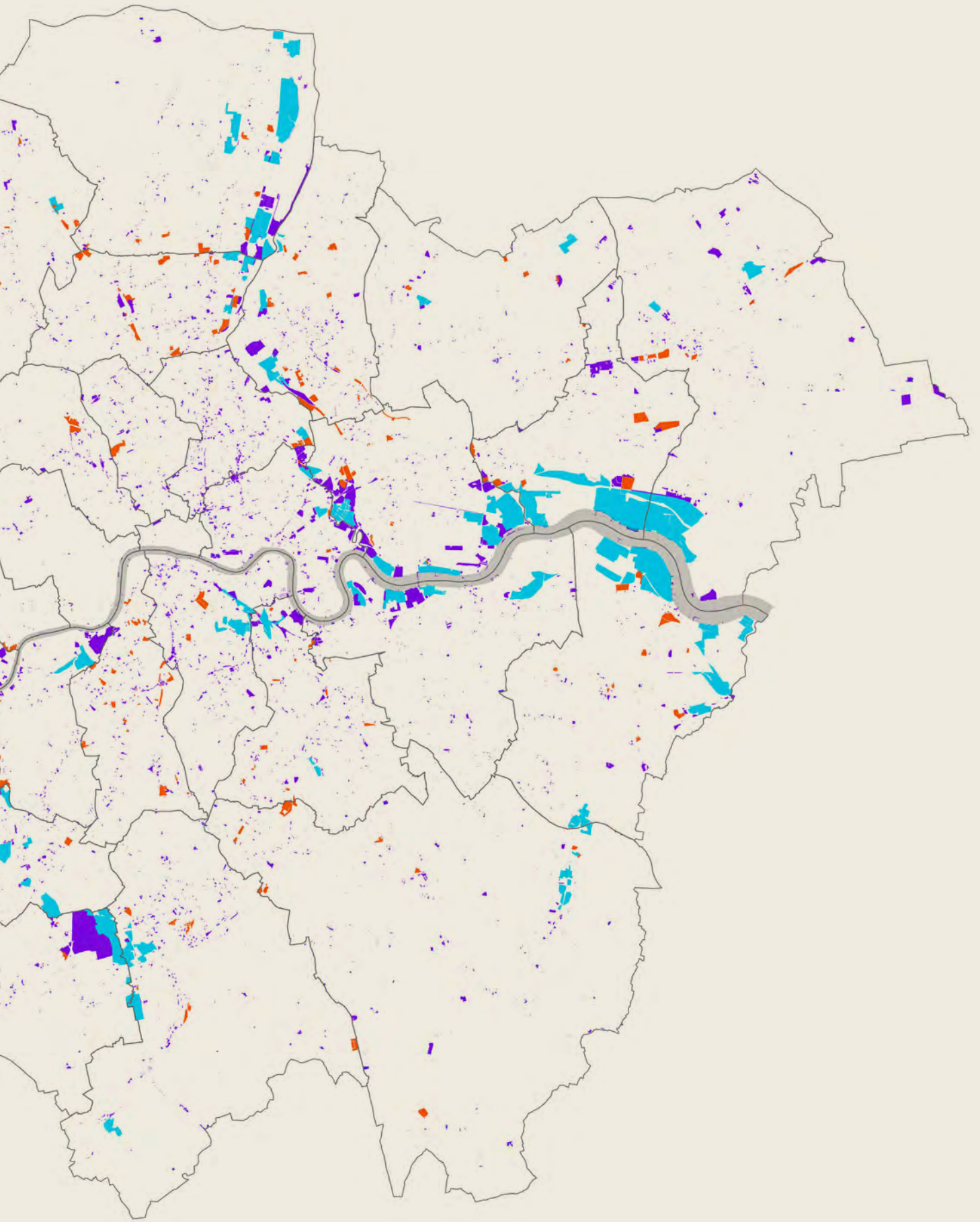


Table 2-2: Industrial Land in London by Designation

Area		Designated Industrial Land (ha)								
		SIL					LSIS			
		Industrial	Vacant industrial land*	Non-industrial	Sub-Total	Vacant Land as a % of SIL	Industrial	Vacant industrial land*	Non-industrial	Sub-Total
London		3,254.6	279.3	357.7	3,891.6	6.7%	878.3	68.5	210.1	1,156.9
CAZ		-	-	-	-	7.0%	-	-	0.8	2.5
Inner London		604.6	41.8	53.0	699.3	5.6%	181.7	4.2	46.0	231.9
Outer London		2,650.1	237.6	304.7	3,192.3	6.9%	696.6	64.2	164.1	925.0
Central sub-region		56.9	1.6	5.6	64.1	2.5%	89.4	2.9	26.1	118.5
	Camden	-	-	-	-	n/a	14.4	-	2.1	16.5
	City of London	-	-	-	-	n/a	-	-	-	-
	Kensington & Chelsea	-	-	-	-	n/a	10.8	1.4	6.7	18.9
	Islington	-	-	-	-	n/a	9.9	0.1	4.0	14.0
	Southwark	56.9	1.6	5.6	64.1	2.5%	17.7	-	1.1	18.8
	Westminster	-	-	-	-	n/a	-	-	-	-
	Lambeth	-	-	-	-	n/a	36.6	1.4	12.3	50.3
East sub-region		1,457.8	191.9	127.3	1,777.0	9.7%	230.0	30.8	42.9	303.7
	Barking & Dagenham	338.1	40.3	25.8	404.2	9.1%	50.9	18.0	7.3	76.2
	Bexley	386.4	58.2	26.2	470.8	11.0%	33.7	7.5	10.4	51.7
	Greenwich	116.3	12.1	11.2	139.6	8.0%	-	-	-	-
	Hackney	-	-	12.0	12.0	0.0%	3.7	-	8.2	12.0
	Havering	218.1	53.8	29.2	301.1	15.2%	28.8	1.8	0.6	31.3
	Lewisham	36.5	-	0.5	37.0	0.0%	15.9	0.4	2.8	19.1
	Newham	257.5	26.0	10.5	294.0	8.1%	34.9	0.7	2.7	38.3
	Redbridge	26.1	1.5	4.0	31.6	4.4%	7.8	0.5	4.0	12.4
	Tower Hamlets	18.5	-	1.5	20.0	0.0%	5.3	0.3	0.2	5.7
	Waltham Forest	60.3	0.0	6.5	66.7	0.0%	48.9	1.7	6.6	57.2
North sub-region		342.0	19.9	35.7	397.6	4.8%	106.3	8.9	22.2	137.3
	Barnet	0.0	-	13.9	13.9	0.0%	19.4	0.4	11.4	31.2
	Enfield	300.1	18.7	20.2	339.0	5.2%	33.6	1.3	0.8	35.7
	Haringey	41.8	1.3	1.6	44.7	2.8%	53.3	7.1	9.9	70.4
South sub-region		423.7	21.5	70.7	515.9	4.0%	135.0	7.5	28.4	170.9
	Bromley	34.0	5.8	9.1	48.9	10.6%	34.3	1.6	6.7	42.6
	Croydon	82.2	6.5	29.9	118.6	5.2%	20.3	1.9	5.4	27.7
	Kingston upon Thames	38.7	-	3.4	42.1	0.0%	16.1	0.9	8.0	25.0
	Merton	105.9	6.0	15.3	127.2	4.5%	27.6	2.5	1.7	31.8
	Richmond upon Thames	-	-	-	-	n/a	-	-	-	-
	Sutton	120.6	3.2	10.8	134.7	2.3%	4.2	0.6	0.6	5.4
	Wandsworth	42.2	-	2.2	44.4	0.0%	32.4	-	6.0	38.4
West sub-region		974.3	44.3	118.4	1,137.0	3.7%	317.6	18.3	90.6	426.6
	Brent	281.3	7.7	27.7	316.8	2.4%	46.7	0.3	10.7	57.7
	Ealing	337.0	9.4	43.1	389.5	2.3%	67.3	3.8	13.4	84.5
	Hammersmith & Fulham	76.7	2.0	9.6	88.2	2.2%	-	-	-	-
	Harrow	14.1	0.0	1.4	15.5	0.1%	20.1	-	4.3	24.4
	Hillingdon	178.6	18.9	25.4	222.9	7.8%	23.9	1.0	53.7	78.7
	Hounslow	86.6	6.3	11.2	104.2	5.7%	159.7	13.2	8.5	181.3
Central Services Circle		111.9	1.6	19.6	133.1	1.2%	114.4	3.5	37.3	155.2
Lea Valley		531.0	32.9	33.5	597.5	5.2%	153.3	10.4	18.7	182.3
Thames Gateway		1,247.8	184.7	110.7	1,543.1	10.7%	173.0	29.8	30.4	233.2
Wandle Valley		389.6	15.7	61.7	467.0	3.3%	100.7	5.9	21.7	128.3
Park Royal / A40 / Heathrow		0.0	-	13.9	13.9	0.0%	19.4	0.4	11.4	31.2

*vacant industrial land includes vacant cleared sites, land with derelict industrial buildings and land with vacant buildings

					Non-Designated Industrial Land (ha)		Total Designated + Non-Designated (ha)				
SIL + LSIS											
Vacant Land as a % of LSIS	Industrial	Vacant industrial land*	Non-industrial	Sub-Total	Industrial	Vacant industrial land*	Industrial	Vacant industrial land*	Non-industrial	Total	Vacant Land as % of Total Designated & Non-Designated Total
5.6%	4,132.9	347.8	567.8	5,048.5	2,296.6	199.0	6,429.5	546.8	567.8	7,544.1	7.2%
7.0%	1.6	-	0.8	2.5	-	3.5	91.6	3.5	0.8	94.5	2.3%
1.8%	786.2	46.0	99.0	931.2	732.4	116.0	1,518.6	162.0	99.0	1,779.6	9.1%
6.5%	3,346.7	301.8	468.8	4,117.3	1,564.2	82.9	4,910.9	384.7	468.8	5,764.5	6.7%
2.4%	146.3	4.5	31.8	182.6	173.8	3.7	320.1	8.3	31.8	360.1	2.3%
0.0%	14.4	-	2.1	16.5	25.1	0.3	39.5	0.3	2.1	41.9	0.7%
n/a	-	-	-	-	3.4	-	3.4	-	-	3.4	0.0%
6.7%	10.8	1.4	6.7	18.9	6.0	0.1	16.7	1.5	6.7	24.9	5.8%
0.9%	9.9	0.1	4.0	14.0	24.8	0.0	34.8	0.2	4.0	38.9	0.4%
0.0%	74.6	1.6	6.7	82.9	67.4	0.4	142.0	2.0	6.7	150.7	1.4%
n/a	-	-	-	-	11.4	0.7	11.4	0.7	-	12.1	5.9%
2.7%	36.6	1.4	12.3	50.3	35.7	2.2	72.3	3.6	12.3	88.1	4.1%
9.2%	1,687.8	222.8	170.1	2,080.7	774.2	122.2	2,462.0	345.0	170.1	2,977.1	11.6%
19.1%	389.0	58.3	33.1	480.4	66.8	3.2	455.8	61.5	33.1	550.4	11.2%
12.7%	420.1	65.7	36.6	522.4	35.3	2.0	455.4	67.7	36.6	559.7	12.1%
n/a	116.3	12.1	11.2	139.6	98.7	5.9	214.9	18.0	11.2	244.1	7.4%
0.0%	3.7	-	20.2	23.9	49.9	2.2	53.7	2.2	20.2	76.1	2.9%
5.6%	247.0	55.6	29.8	332.4	131.4	4.3	378.4	59.9	29.8	468.2	12.8%
2.1%	52.4	0.4	3.3	56.1	49.3	5.2	101.7	5.6	3.3	110.6	5.1%
1.7%	292.4	26.7	13.2	332.3	116.7	77.8	409.1	104.5	13.2	526.8	19.8%
4.2%	33.9	2.0	8.1	44.0	28.2	1.7	62.1	3.7	8.1	73.8	5.0%
4.6%	23.8	0.3	1.6	25.7	110.5	19.3	134.3	19.6	1.6	155.5	12.6%
2.8%	109.2	1.7	13.1	123.9	87.5	0.6	196.7	2.3	13.1	212.0	1.1%
6.1%	448.2	28.8	57.8	534.9	229.8	13.1	678.1	41.9	57.8	777.7	5.4%
1.4%	19.4	0.4	25.3	45.1	76.8	5.8	96.2	6.2	25.3	127.6	4.8%
3.6%	333.7	20.0	21.0	374.7	104.6	4.4	438.4	24.3	21.0	483.7	5.0%
9.2%	95.1	8.4	11.6	115.1	48.4	3.0	143.5	11.3	11.6	166.5	6.8%
4.2%	558.7	29.1	99.1	686.6	498.8	16.4	1,057.4	45.5	99.1	1,202.0	3.8%
3.7%	68.3	7.4	15.7	91.5	57.6	1.8	125.9	9.2	15.7	150.9	6.1%
6.5%	102.5	8.5	35.3	146.3	50.9	1.1	153.4	9.6	35.3	198.3	4.8%
3.4%	54.7	0.9	11.4	67.0	60.6	-	115.3	0.9	11.4	127.6	0.7%
7.2%	133.5	8.4	17.1	159.0	24.6	0.9	158.2	9.4	17.1	184.6	5.1%
n/a	-	-	-	-	37.7	0.7	37.7	0.7	-	38.4	1.8%
10.4%	124.9	3.9	11.4	140.2	193.3	11.2	318.2	15.1	11.4	344.7	4.4%
0.0%	74.7	-	8.2	82.9	74.1	0.7	148.7	0.7	8.2	157.6	0.4%
4.1%	1,292.0	62.6	209.0	1,563.6	620.0	43.6	1,912.0	106.2	209.0	2,227.2	4.8%
0.5%	328.0	8.0	38.4	374.5	89.9	0.0	418.0	8.1	38.4	464.4	1.7%
4.3%	404.3	13.2	56.5	474.0	90.0	3.7	494.3	16.9	56.5	567.7	3.0%
n/a	76.7	2.0	9.6	88.2	59.4	1.3	136.1	3.2	9.6	148.9	2.2%
0.0%	34.1	0.0	5.7	39.9	25.5	4.9	59.6	4.9	5.7	70.2	7.0%
1.3%	202.5	19.9	79.1	301.5	154.6	18.6	357.1	38.5	79.1	474.7	8.1%
6.8%	246.3	19.5	19.7	285.5	200.7	15.1	447.0	34.6	19.7	501.3	6.9%
2.2%	226.2	5.2	56.9	288.3	383.5	30.5	609.7	35.7	56.9	702.2	5.1%
5.4%	684.3	43.4	52.2	779.8	298.9	46.8	983.1	90.2	52.2	1,125.5	8.0%
11.3%	1,420.8	214.5	141.1	1,776.4	476.3	57.8	1,897.1	272.3	141.1	2,310.5	11.8%
4.4%	490.3	21.6	83.4	595.4	403.5	14.0	893.8	35.6	83.4	1,012.8	3.5%
1.4%	19.4	0.4	25.3	45.1	76.8	5.8	96.2	6.2	25.3	127.6	4.8%

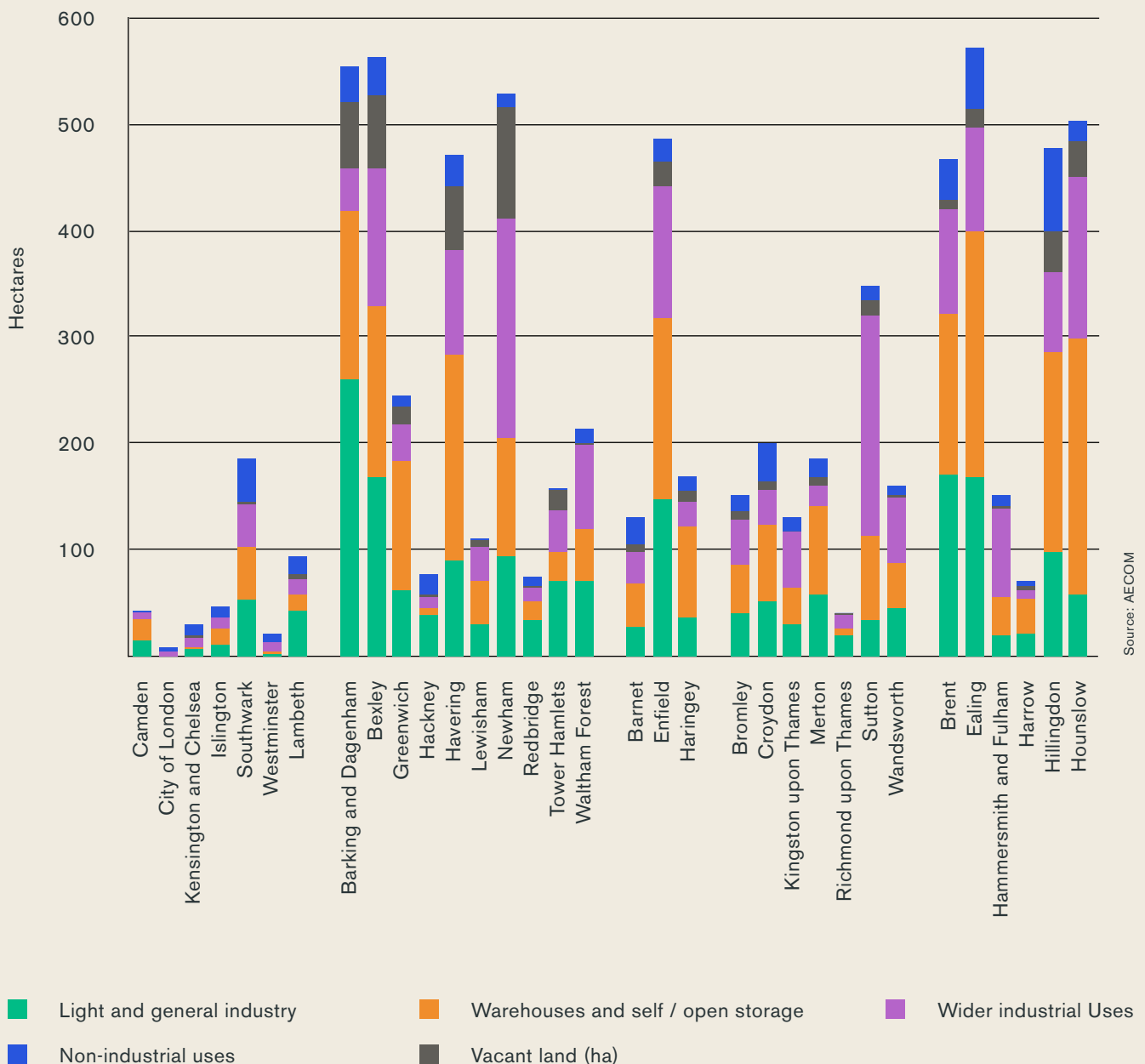
Source: AECOM

Industrial Land Uses by Borough and Sub-Region

2.2.6 The distribution of industrial land in London by borough is shown in *Figure 2-3* and mapped in *Figure 2-5*, with core uses broken down into Industry (light and general) and Warehouses (including open and self-storage). This shows that several boroughs within the East London sub-region account for a large proportion of total industrial land supply, namely Barking and Dagenham, Bexley, Havering and Newham, and, in absolute terms, the largest amounts of vacant land. Brent, Ealing, Hillingdon and Hounslow in West London also account for large proportions of total industrial land in London, as does Enfield in the North sub-region.

2.2.7 The distribution of the various industrial land uses / activities across sub-regions is illustrated in *Figure 2-4* which shows and gives a perspective on the relative absolute amount of land occupied by these uses / activities.

Figure 2-3: Core, Wider and Vacant Industrial Land by London Borough



Source: AECOM

Figure 2-4: Industrial Activities by Sub-Region

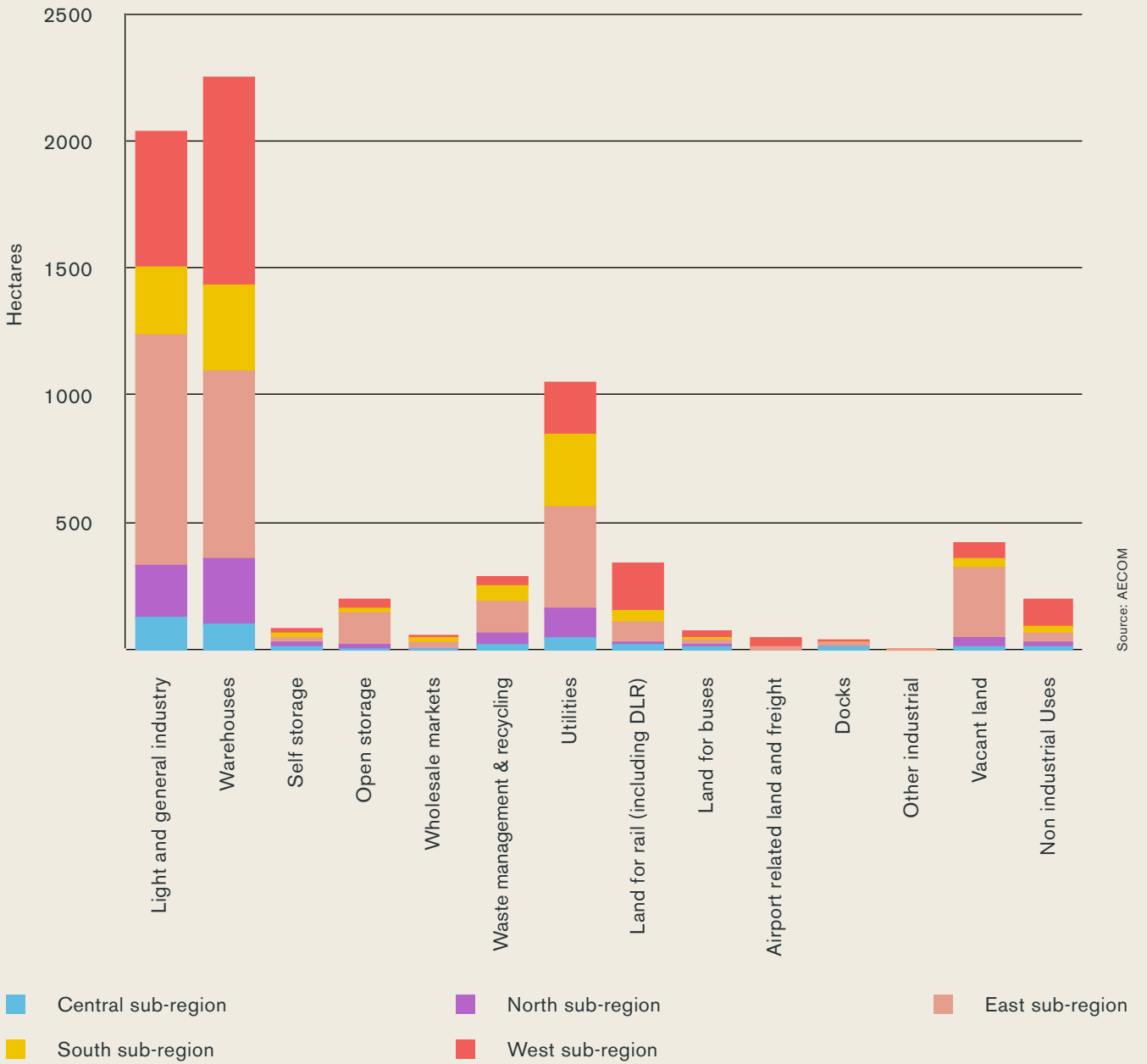
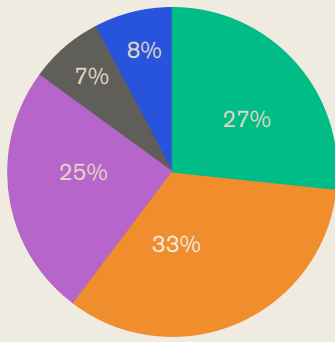
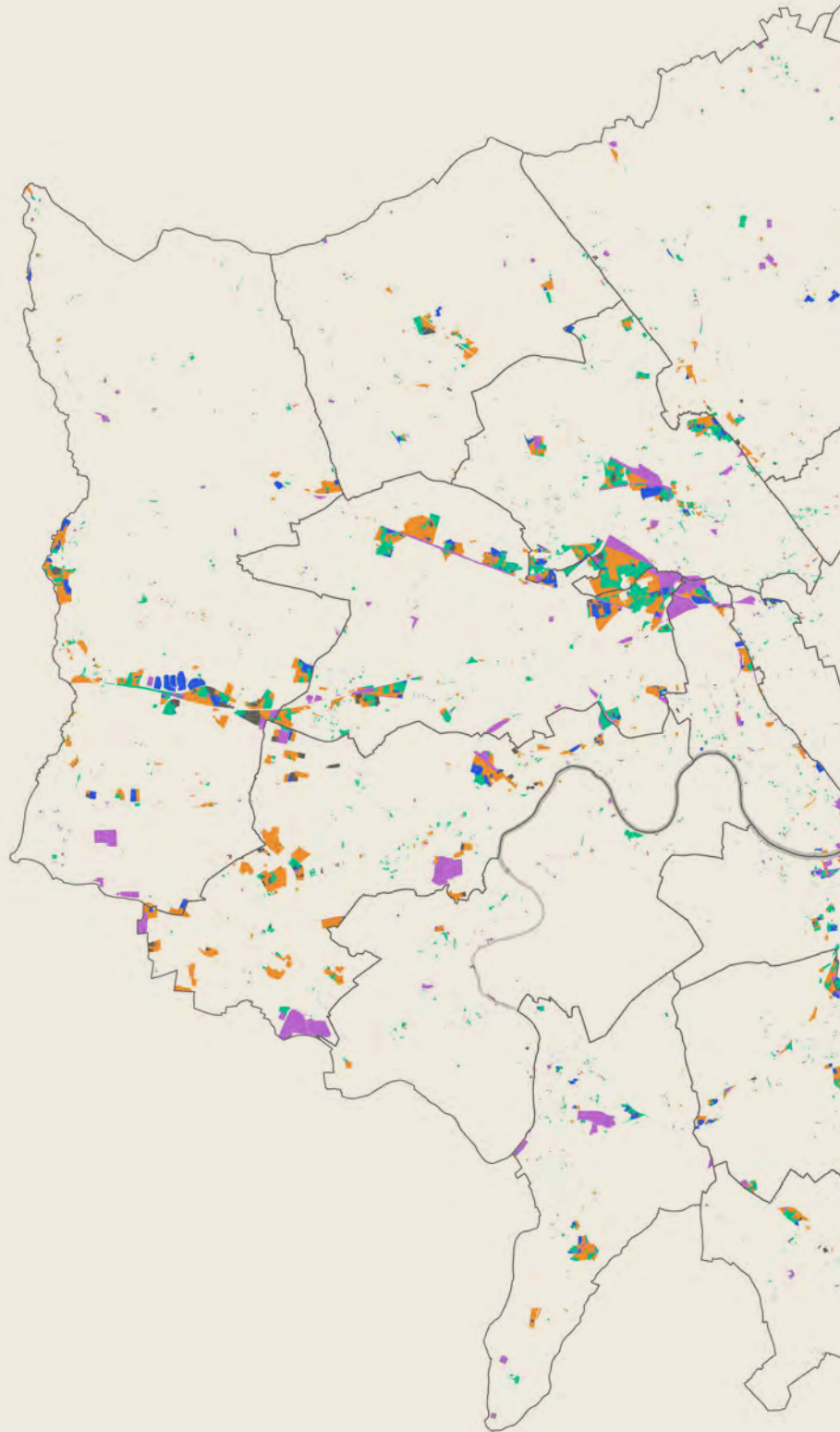


Figure 2-5: Industrial Land in London by Activity

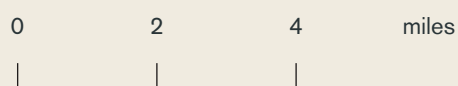


Total industrial activities



-  General & light industry
-  Warehouse & open storage
-  Wider industrial uses
-  Vacant land & land with vacant buildings
-  Non industrial uses

Scale



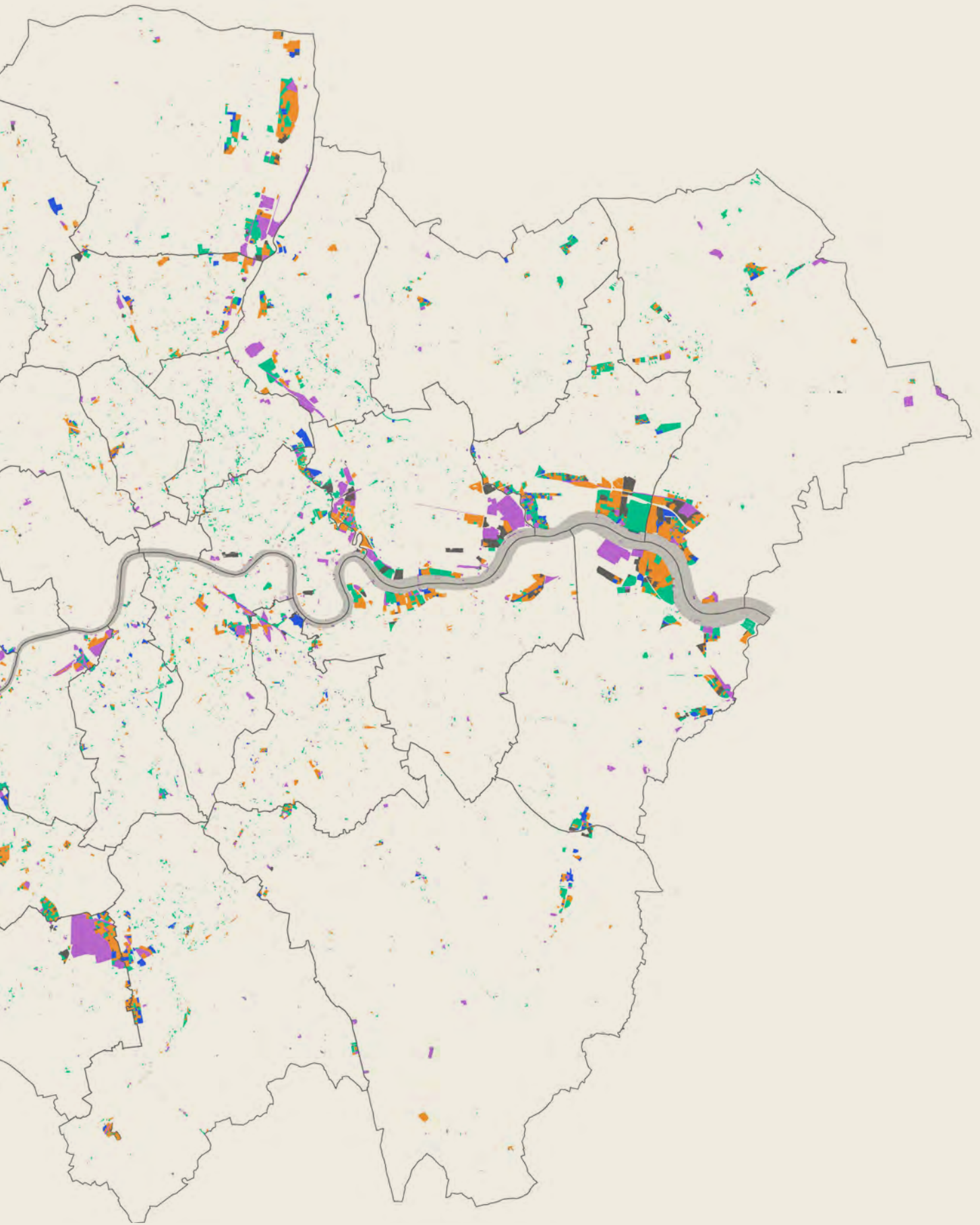


Table 2-3: Industrial Land in London: Core, Wider and Non-industrial Activities

Area	Core industrial uses (ha)							Wider industrial uses (ha)							
	Light industry	General industry	Warehouses	Self storage	Open storage	Core Sub-Total	Wholesale markets	Waste management & recycling	Utilities	Land for rail (including DLR)	Land for buses	Airport related land & freight	Docks	Other industrial	
London	257.9	1771.8	2244.0	82.7	196.2	4552.5	55.6	279.8	1047.9	338.5	72.1	46.4	32.4	4.3	
CAZ	0.1	16.3	25.5	0.8	0.1	42.9	23.9	0.4	10.6	5.7	0.4	0.0	6.3	0.0	
Inner London	68.3	402.6	427.2	21.6	40.4	960.1	29.7	82.0	249.0	151.8	19.8	5.4	19.9	1.0	
Outer London	189.6	1369.2	1816.8	61.1	155.8	3592.4	26.0	197.9	798.9	186.7	52.3	41.1	12.4	3.3	
Central sub-region	26.8	94.9	94.6	5.1	2.8	224.1	3.0	17.0	42.3	21.0	8.0	0.0	4.6	0.0	
Camden	0.0	13.0	18.8	0.3	0.4	32.5	0.0	0.2	6.2	0.1	0.0	0.0	0.4	0.0	
City of London	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	
Kensington & Chelsea	2.2	2.3	1.7	0.6	0.0	6.8	0.0	0.0	4.9	4.3	0.5	0.0	0.3	0.0	
Islington	1.7	7.9	11.8	1.0	1.1	23.6	0.0	0.8	7.2	0.6	1.8	0.0	0.7	0.0	
Southwark	5.2	45.9	48.6	0.3	1.2	101.2	0.0	14.0	11.0	12.8	1.0	0.0	2.0	0.0	
Westminster	0.0	1.6	2.6	0.0	0.0	4.2	0.0	0.0	5.8	0.0	0.5	0.0	0.9	0.0	
Lambeth	17.7	24.2	11.1	2.8	0.0	55.9	0.0	2.0	6.9	3.2	4.2	0.0	0.2	0.0	
East sub-region	53.5	852.9	737.0	18.6	127.6	1789.7	19.0	124.7	400.2	81.8	20.7	5.4	20.5	0.1	
Barking & Dagenham	14.3	244.4	147.5	3.4	6.7	416.3	0.0	17.7	6.6	8.4	4.0	0.0	2.6	0.1	
Bexley	11.5	155.6	154.3	1.0	4.8	327.2	0.0	33.2	85.7	7.2	0.7	0.0	1.4	0.0	
Greenwich	1.5	59.0	113.3	3.6	4.4	181.8	0.0	13.8	14.6	0.0	2.0	0.0	2.7	0.0	
Hackney	2.0	35.2	6.0	1.0	0.3	44.5	0.0	1.5	5.9	0.3	1.3	0.0	0.2	0.0	
Havering	3.0	85.8	113.6	0.0	80.1	282.4	0.0	14.1	73.9	6.3	0.7	0.0	1.0	0.0	
Lewisham	0.7	27.8	37.4	1.5	2.2	69.6	0.0	6.8	7.3	15.0	3.0	0.0	0.0	0.0	
Newham	15.0	77.9	84.8	2.5	22.0	202.2	0.0	21.6	147.0	25.5	3.6	5.4	3.8	0.0	
Redbridge	0.3	33.6	15.2	0.1	0.8	50.0	0.0	0.2	10.2	0.3	1.3	0.0	0.0	0.0	
Tower Hamlets	1.8	67.1	19.8	2.5	6.5	97.6	5.6	10.6	11.9	0.2	0.7	0.0	7.6	0.0	
Waltham Forest	3.5	66.5	45.2	2.9	0.0	118.1	13.4	5.3	37.0	18.5	3.3	0.0	1.1	0.0	
North sub-region	6.7	203.0	263.7	18.2	10.9	502.6	0.0	42.9	115.5	7.5	9.4	0.0	0.2	0.0	
Barnet	5.6	21.5	31.2	0.9	8.0	67.3	0.0	6.7	20.0	0.4	1.7	0.0	0.0	0.0	
Enfield	0.0	146.5	158.3	9.7	1.4	316.0	0.0	32.2	81.6	4.3	4.2	0.0	0.0	0.0	
Haringey	1.1	34.9	74.2	7.6	1.5	119.3	0.0	4.0	13.8	2.8	3.4	0.0	0.2	0.0	
South sub-region	59.6	205.2	330.5	20.2	15.8	631.3	23.7	63.7	285.5	39.2	8.8	0.0	4.2	1.0	
Bromley	2.1	36.6	41.5	3.0	0.8	84.0	1.0	3.0	35.2	0.9	1.9	0.0	0.0	0.0	
Croydon	7.8	42.2	63.9	4.4	4.6	122.9	1.2	5.0	18.6	5.6	0.1	0.0	0.0	0.0	
Kingston upon Thames	15.9	11.9	33.6	0.8	0.0	62.2	0.5	34.2	16.4	1.8	0.0	0.0	0.1	0.0	
Merton	7.4	49.1	72.2	3.5	6.7	138.9	0.0	9.4	7.5	0.0	2.4	0.0	0.0	0.0	
Richmond upon Thames	0.1	17.2	5.6	0.1	2.3	25.4	0.0	1.7	4.5	0.0	2.6	0.0	3.6	0.0	
Sutton	7.8	24.1	76.0	4.3	0.0	112.3	0.0	6.6	193.9	4.0	1.3	0.0	0.0	0.0	
Wandsworth	18.5	24.1	37.6	4.1	1.4	85.7	21.1	3.8	9.3	26.9	0.5	0.0	0.6	1.0	
West sub-region	111.2	415.9	818.1	20.6	39.0	1404.8	9.9	31.6	204.4	189.1	25.1	41.1	2.8	3.2	
Brent	2.5	166.3	139.5	6.1	5.6	320.0	0.0	6.0	13.6	70.5	7.8	0.0	0.0	0.0	
Ealing	10.0	157.1	220.9	6.4	2.6	397.0	0.0	4.4	22.9	52.5	14.2	0.0	0.1	3.2	
Hammersmith & Fulham	2.0	16.6	33.7	1.3	0.9	54.5	0.0	6.9	10.7	62.9	0.6	0.0	0.4	0.0	
Harrow	16.4	4.0	30.7	0.3	0.7	52.2	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	
Hillingdon	49.5	46.9	166.2	1.5	19.9	284.1	0.6	3.9	22.6	1.4	1.7	41.1	1.8	0.0	
Hounslow	30.8	24.9	227.1	4.9	9.4	297.1	9.3	10.4	127.1	1.7	0.9	0.0	0.5	0.0	
Central Services Circle	31.3	225.0	157.8	10.0	11.7	435.9	8.6	35.9	67.4	36.5	13.1	0.0	12.4	0.0	
Lea Valley	12.1	286.9	320.1	21.4	13.9	654.5	13.4	52.3	206.0	38.4	12.8	2.7	3.2	0.0	
Thames Gateway	40.1	653.9	627.8	12.5	108.5	1442.7	1.0	92.7	299.8	35.9	12.5	2.7	9.7	0.1	
Wandle Valley	57.4	151.4	283.4	17.1	12.7	522.0	22.8	59.0	245.7	38.3	4.3	0.0	0.7	1.0	
Park Royal / A40 / Heathrow	116.9	454.6	854.9	21.6	49.4	1497.5	9.9	40.0	228.9	189.4	29.4	41.1	6.4	3.2	

*vacant industrial land includes cleared sites and land with derelict industrial buildings

	Vacant land (ha)		Non-industrial uses (ha)										Total Core + Wider (ha)	Total Core + Wider + Vacant Land (ha)	Grand total (ha)
Wider Sub-Total	Vacant industrial land*	Land with vacant buildings	Office	Retail	Residential	Recreation & leisure	Community services	Defence	Agriculture & fisheries	Mixed-use (non-industrial only)	Other non-industrial	Non-industrial Sub-Total			
1877.0	414.7	132.0	195.4	156.9	55.3	43.8	21.5	0.1	0.0	36.4	58.5	567.8	6429.5	6976.3	7544.1
47.3	2.1	1.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	90.2	93.7	94.5
558.5	126.8	35.2	29.6	18.0	9.3	25.7	8.3	0.0	0.0	4.1	4.0	99.0	1518.6	1680.6	1779.6
1318.5	287.9	96.8	165.8	138.8	45.9	18.1	13.2	0.1	0.0	32.3	54.5	468.8	4910.9	5295.7	5764.5
95.9	6.0	2.3	13.5	7.0	4.0	0.1	1.3	0.0	0.0	4.0	2.0	31.8	320.1	328.3	360.1
6.9	0.3	0.0	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.1	39.5	39.8	41.9
3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4	3.4
10.0	1.4	0.1	2.0	0.9	0.7	0.0	0.0	0.0	0.0	2.8	0.2	6.7	16.7	18.2	24.9
11.2	0.0	0.1	2.3	0.0	0.4	0.0	0.6	0.0	0.0	0.1	0.6	4.0	34.8	34.9	38.9
40.8	2.0	0.0	0.2	4.3	0.7	0.1	0.2	0.0	0.0	1.1	0.0	6.7	142.0	144.0	150.7
7.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	12.1	12.1
16.4	1.5	2.1	7.6	1.6	2.1	0.0	0.4	0.0	0.0	0.0	0.5	12.3	72.3	75.9	88.1
672.3	271.4	73.6	30.6	32.4	23.0	27.3	9.6	0.1	0.0	10.0	37.0	170.1	2462.0	2807.0	2977.1
39.5	30.2	31.3	1.4	4.4	0.2	2.2	1.0	0.0	0.0	9.1	14.7	33.1	455.8	517.3	550.4
128.2	61.1	6.6	9.8	11.4	12.8	0.7	0.6	0.1	0.0	0.0	1.1	36.6	455.4	523.1	559.7
33.1	17.8	0.3	2.4	1.8	0.0	6.7	0.3	0.0	0.0	0.0	0.0	11.2	214.9	233.0	244.1
9.2	1.5	0.6	2.4	0.0	1.4	15.9	0.0	0.0	0.0	0.0	0.5	20.2	53.7	55.9	76.1
96.0	57.2	2.8	7.9	6.2	0.0	0.0	0.2	0.0	0.0	0.7	14.8	29.8	378.4	438.3	468.2
32.1	4.1	1.5	2.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.9	3.3	101.7	107.3	110.6
206.9	90.1	14.4	0.5	0.1	3.9	1.8	6.5	0.0	0.0	0.1	0.2	13.2	409.1	513.6	526.8
12.1	1.7	2.0	2.9	1.4	3.6	0.0	0.1	0.0	0.0	0.0	0.2	8.1	62.1	65.8	73.8
36.6	5.8	13.8	0.0	1.1	0.1	0.1	0.0	0.0	0.0	0.0	0.4	1.6	134.3	153.8	155.5
78.6	1.9	0.4	1.3	5.8	1.1	0.0	0.8	0.0	0.0	0.0	4.1	13.1	196.7	198.9	212.0
175.5	41.1	0.7	17.1	13.8	1.0	4.2	1.8	0.0	0.0	19.6	0.3	57.8	678.1	719.9	777.7
28.8	5.8	0.4	8.0	0.8	0.0	0.0	0.0	0.0	0.0	16.5	0.0	25.3	96.2	102.3	127.6
122.4	24.0	0.3	5.2	11.3	0.3	4.1	0.0	0.0	0.0	0.0	0.0	21.0	438.4	462.7	483.7
24.2	11.3	0.0	3.8	1.7	0.7	0.1	1.8	0.0	0.0	3.1	0.3	11.6	143.5	154.9	166.5
426.1	34.1	11.4	28.8	47.7	9.6	2.6	2.6	0.0	0.0	1.4	6.2	99.1	1057.4	1102.9	1202.0
41.9	8.9	0.3	4.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0	1.1	15.7	125.9	135.1	150.9
30.5	7.4	2.2	7.4	15.2	8.1	0.0	0.8	0.0	0.0	1.4	2.4	35.3	153.4	163.0	198.3
53.1	0.2	0.7	6.5	2.7	0.6	0.3	0.5	0.0	0.0	0.0	0.7	11.4	115.3	116.2	127.6
19.3	4.2	5.2	2.8	12.0	0.6	0.5	1.3	0.0	0.0	0.0	0.0	17.1	158.2	167.5	184.6
12.3	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	38.4	38.4
205.9	12.6	2.5	1.3	7.1	0.4	0.6	0.0	0.0	0.0	0.0	2.0	11.4	318.2	333.3	344.7
63.0	0.3	0.4	6.1	0.9	0.0	1.2	0.0	0.0	0.0	0.0	0.0	8.2	148.7	149.4	157.6
507.2	62.2	44.0	105.4	55.9	17.6	9.5	6.2	0.0	0.0	1.5	12.9	209.0	1912.0	2018.2	2227.2
98.0	8.1	0.0	7.0	27.5	0.0	0.9	0.0	0.0	0.0	0.8	2.2	38.4	418.0	426.0	464.4
97.3	14.9	2.0	24.1	12.5	3.4	7.6	5.5	0.0	0.0	0.0	3.5	56.5	494.3	511.2	567.7
81.6	1.3	2.0	2.6	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	136.1	139.3	148.9
7.5	4.3	0.5	1.7	0.3	3.4	0.0	0.4	0.0	0.0	0.0	0.0	5.7	59.6	64.5	70.2
73.0	16.4	22.1	60.8	6.8	10.9	0.0	0.0	0.0	0.0	0.7	0.0	79.1	357.1	395.6	474.7
149.9	17.1	17.5	9.2	2.0	0.0	1.0	0.3	0.0	0.0	0.0	7.2	19.7	447.0	481.6	501.3
173.8	17.4	18.3	17.9	8.3	5.4	16.1	1.4	0.0	0.0	4.0	3.8	56.9	609.7	645.3	702.2
328.6	82.3	7.9	10.6	18.8	4.1	5.2	5.9	0.0	0.0	3.2	4.5	52.2	983.1	1073.3	1125.5
454.3	221.9	50.4	29.4	35.2	18.5	10.5	5.4	0.1	0.0	9.9	32.1	141.1	1897.1	2169.4	2310.5
371.8	24.7	10.9	24.0	37.9	9.6	2.6	2.6	0.0	0.0	1.4	5.1	83.4	893.8	929.4	1012.8
548.4	68.5	44.6	113.4	56.7	17.6	9.5	6.2	0.0	0.0	17.9	12.9	234.3	2045.9	2158.9	2393.2

Source: AECOM

2.3 Vacant Industrial Land

2.3.1 Vacant industrial land constitutes sites which are either (i) vacant and cleared, and have land with derelict industrial buildings or (ii) have vacant buildings capable of occupation. Vacant land has been identified as part of the industrial land supply update process and is measured in terms of hectares.

2.3.2 As shown in *Table 2-4* there is approximately 547ha of vacant industrial land in London in 2015. This equates to 10.7% of land in core industrial use i.e. land used for industrial business activities and 7.8% of core and wider industrial land stock in London, where wider comprises city infrastructure and functions. This contrasts with the GLA guidance of a 5% rate of frictional vacancy for core industrial land¹⁰. The East sub-region contains the highest proportion of vacant industrial land relative to stock, equating to 16.2% of land in core industrial use and 12.3% of land in core and wider industrial use. The Central sub-region contains the lowest proportion, with vacant land accounting for 3.6% of core industrial land and 2.5% of core and wider land (i.e. below the frictional vacancy benchmark). The North, South and West sub-regions rank 2nd, 3rd and 4th respectively in terms of the proportion of land which is vacant compared to core / core and wider stock.

2.3.3 Boroughs containing the largest proportions of vacant industrial land relative to core industrial land are located in the East sub-region and include Newham (34%), Havering (18%), and Bexley (17%).

2.3.4 There are a number of sites which have planning consent for non-industrial redevelopment that are currently vacant or unoccupied but have not as yet undergone redevelopment. These sites have been categorised as containing Land with Vacant buildings, which as a whole accounts for 132ha of industrial land. Examples of these sites include: Minoco Wharf (Newham); the former News International site at Tobacco Dock; and the former Westferry Printworks (both Tower Hamlets). Land which would be lost if such planning permissions were implemented has been accounted for in this study as pipeline release, which is discussed in section 2.5 below.

2.3.5 *Figure 2-6* below sets out the change of the core industrial land vacancy rate in London over the period 2001 to 2015. A steadily declining trend is visible which, although slowing slightly over time, indicates that land vacancy levels are continuing to fall towards frictional rates (5%) and would be expected to reach 8% over the next five years if the existing known development pipeline is implemented and completed.

¹⁰ See Land for Industry and Transport SPG, p31, para 3.7, GLA, 2012.

Figure 2-6: Change in Core Industrial Land Vacancy Rate 2001 to 2015

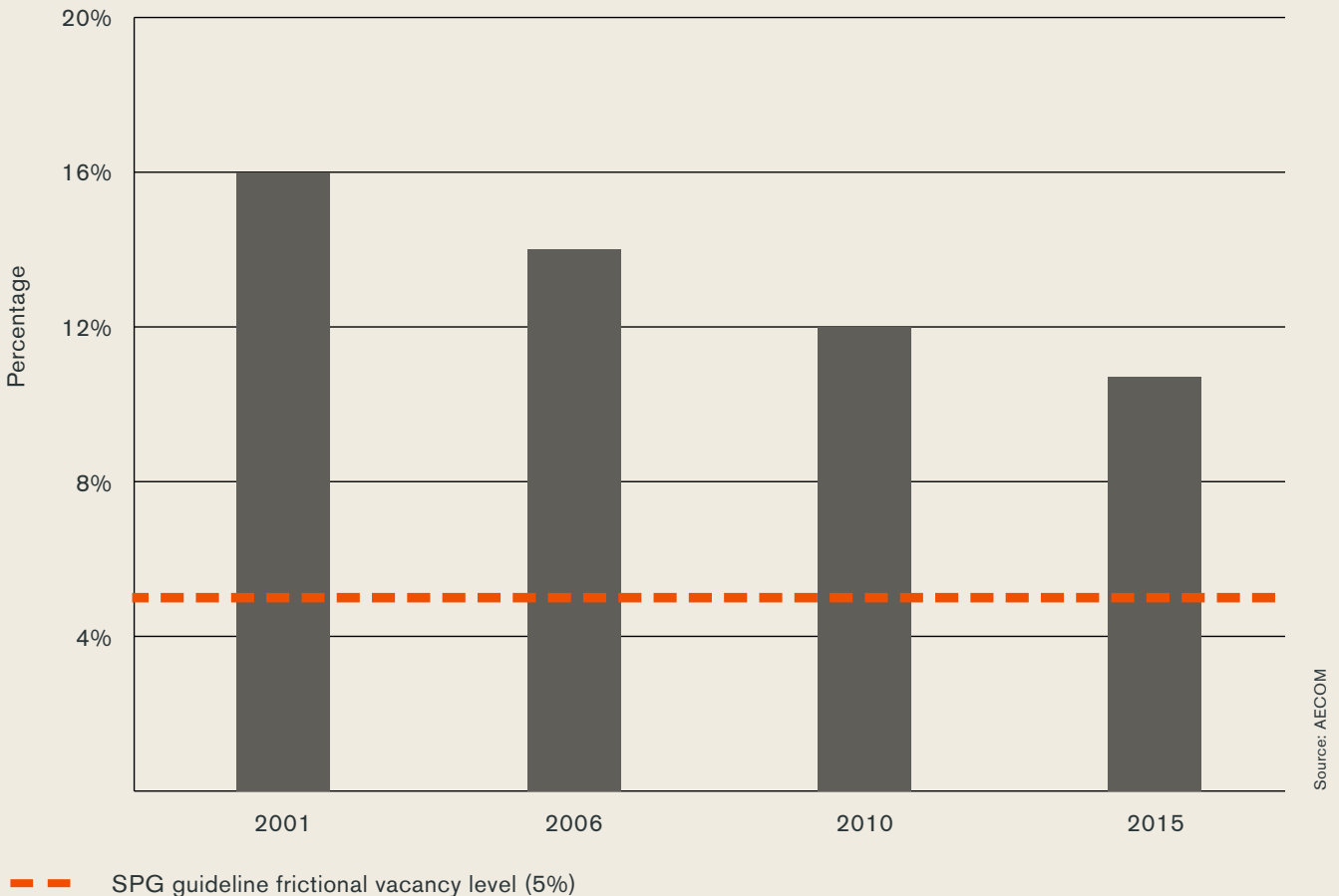


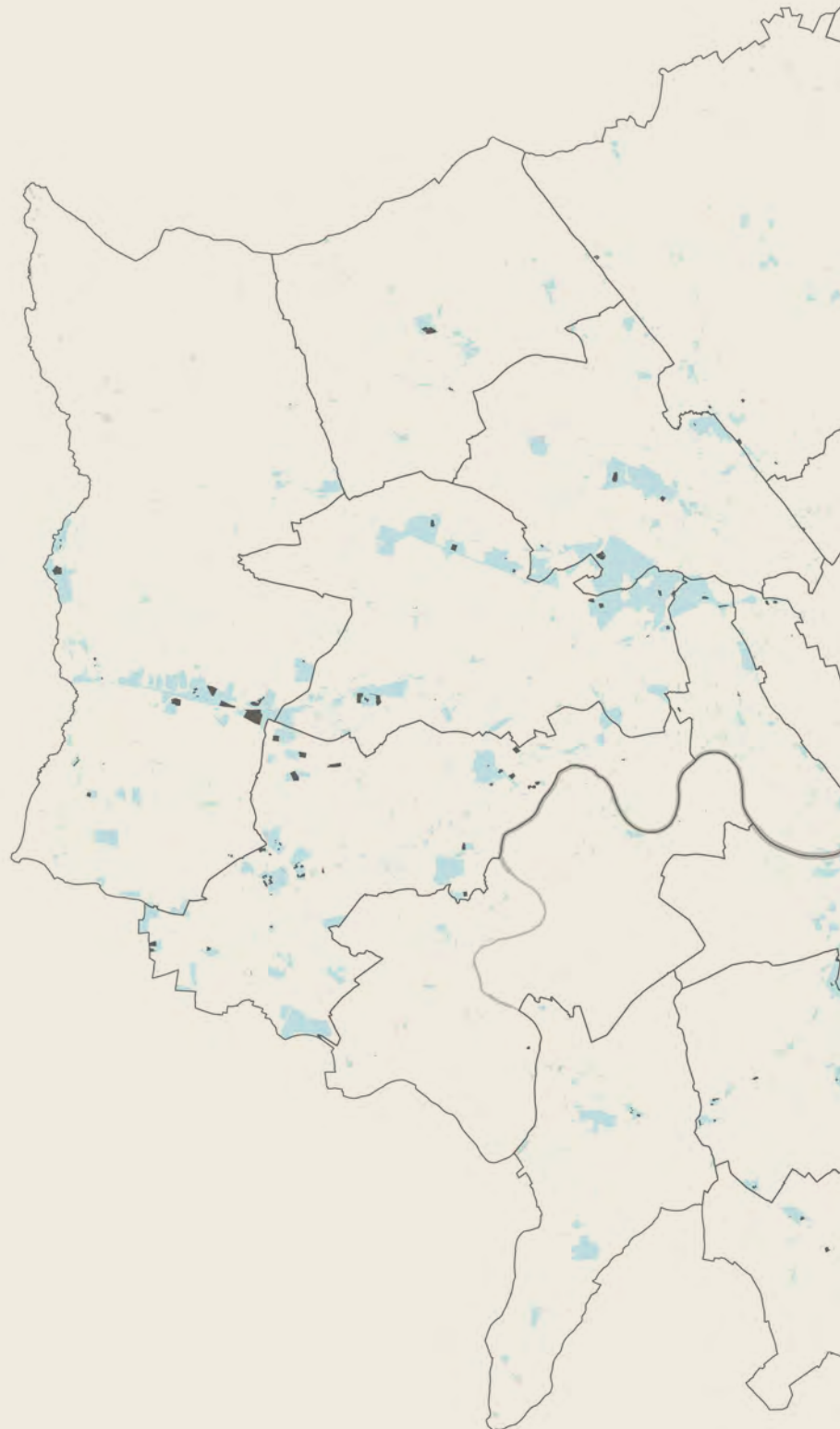
Table 2-4: Vacant Industrial Land in London

		Vacant cleared sites and derelict industrial buildings (ha)	Industrial land with vacant buildings (ha)	Total vacant industrial land (ha)	Vacant industrial land as % of all core uses	Vacant industrial land as % of all core and wider uses
London		414.7	132.0	546.8	10.7%	7.8%
CAZ		2.1	1.4	3.5	7.5%	3.7%
Inner London		126.8	35.2	162.0	14.4%	9.6%
Outer London		287.9	96.8	384.7	9.7%	7.3%
Central sub-region		6.0	2.3	8.3	3.6%	2.5%
	Camden	0.3	-	0.3	0.9%	0.8%
	City of London	-	-	-	n/a	n/a
	Kensington & Chelsea	1.4	0.1	1.5	17.7%	8.0%
	Islington	0.0	0.1	0.2	0.7%	0.5%
	Southwark	2.0	-	2.0	2.0%	1.4%
	Westminster	0.7	-	0.7	14.5%	5.9%
	Lambeth	1.5	2.1	3.6	6.0%	4.7%
East sub-region		271.4	73.6	345.0	16.2%	12.3%
	Barking & Dagenham	30.2	31.3	61.5	12.9%	11.9%
	Bexley	61.1	6.6	67.7	17.1%	12.9%
	Greenwich	17.8	0.3	18.0	9.0%	7.7%
	Hackney	1.5	0.6	2.2	4.7%	3.9%
	Havering	57.2	2.8	59.9	17.5%	13.7%
	Lewisham	4.1	1.5	5.6	7.5%	5.2%
	Newham	90.1	14.4	104.5	34.1%	20.3%
	Redbridge	1.7	2.0	3.7	6.8%	5.6%
	Tower Hamlets	5.8	13.8	19.6	16.7%	12.7%
	Waltham Forest	1.9	0.4	2.3	1.9%	1.1%
North sub-region		41.1	0.7	41.9	7.7%	5.8%
	Barnet	5.8	0.4	6.2	8.4%	6.0%
	Enfield	24.0	0.3	24.3	7.2%	5.3%
	Haringey	11.3	-	11.3	8.7%	7.3%
South sub-region		34.1	11.4	45.5	6.7%	4.1%
	Bromley	8.9	0.3	9.2	9.9%	6.8%
	Croydon	7.4	2.2	9.6	7.2%	5.9%
	Kingston upon Thames	0.2	0.7	0.9	1.4%	0.8%
	Merton	4.2	5.2	9.4	6.3%	5.6%
	Richmond upon Thames	0.5	0.2	0.7	2.6%	1.8%
	Sutton	12.6	2.5	15.1	11.8%	4.5%
	Wandsworth	0.3	0.4	0.7	0.8%	0.5%
West sub-region		62.2	44.0	106.2	7.0%	5.3%
	Brent	8.1	-	8.1	2.5%	1.9%
	Ealing	14.9	2.0	16.9	4.1%	3.3%
	Hammersmith & Fulham	1.3	2.0	3.2	5.6%	2.3%
	Harrow	4.3	0.5	4.9	8.6%	7.6%
	Hillingdon	16.4	22.1	38.5	11.9%	9.7%
	Hounslow	17.1	17.5	34.6	10.4%	7.2%

Source: AECOM

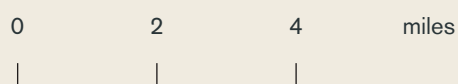
Figure 2-7: Vacant Industrial Land and Land with Vacant Buildings, 2015

There are approximately 547ha of vacant industrial land in London in 2015, equating to 10.7% of land in core industrial use. This contrasts with the GLA guidance of a 5% rate of frictional vacancy for core industrial land.



- Industrial land 2015
- Vacant industrial land + land with vacant buildings

Scale



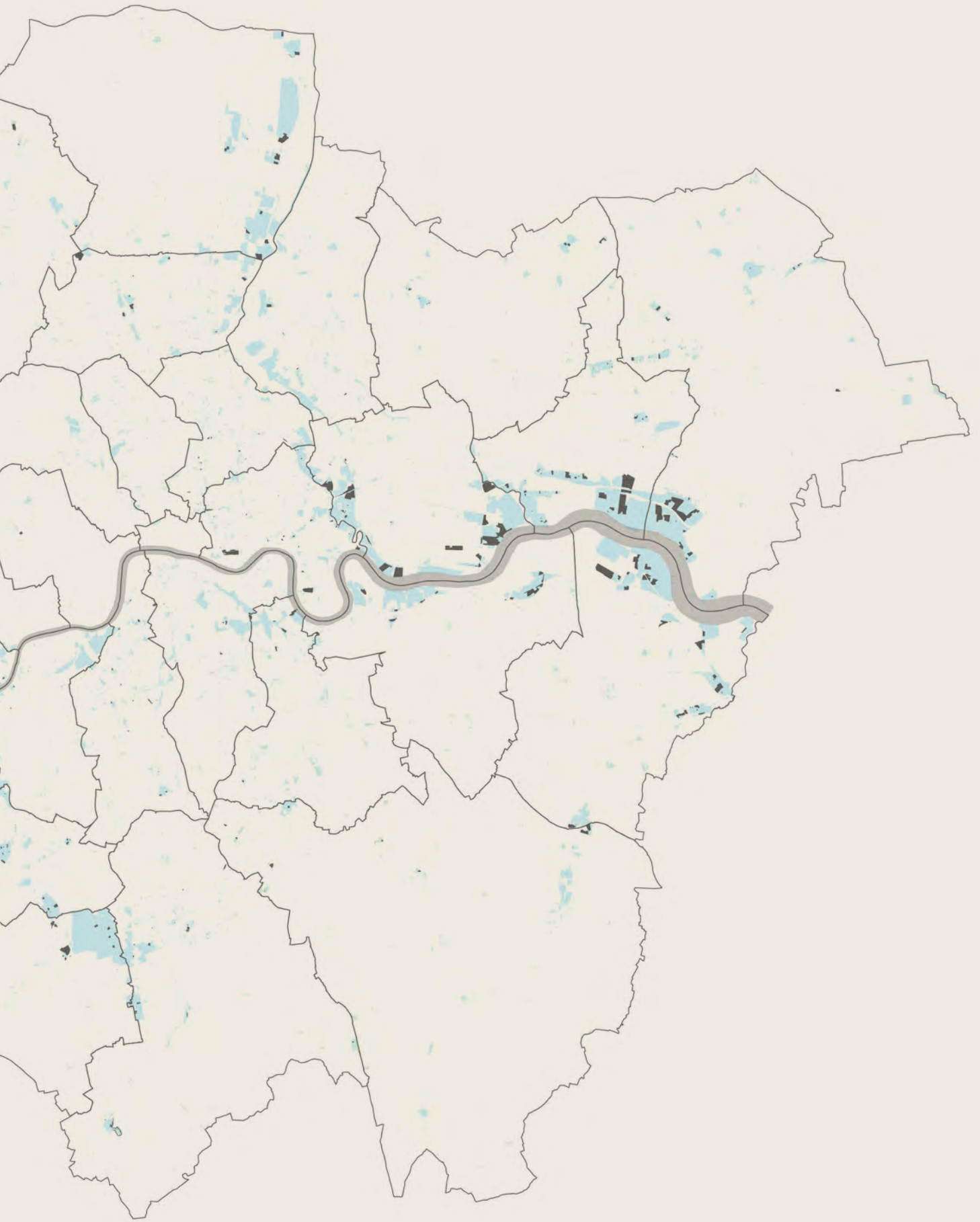
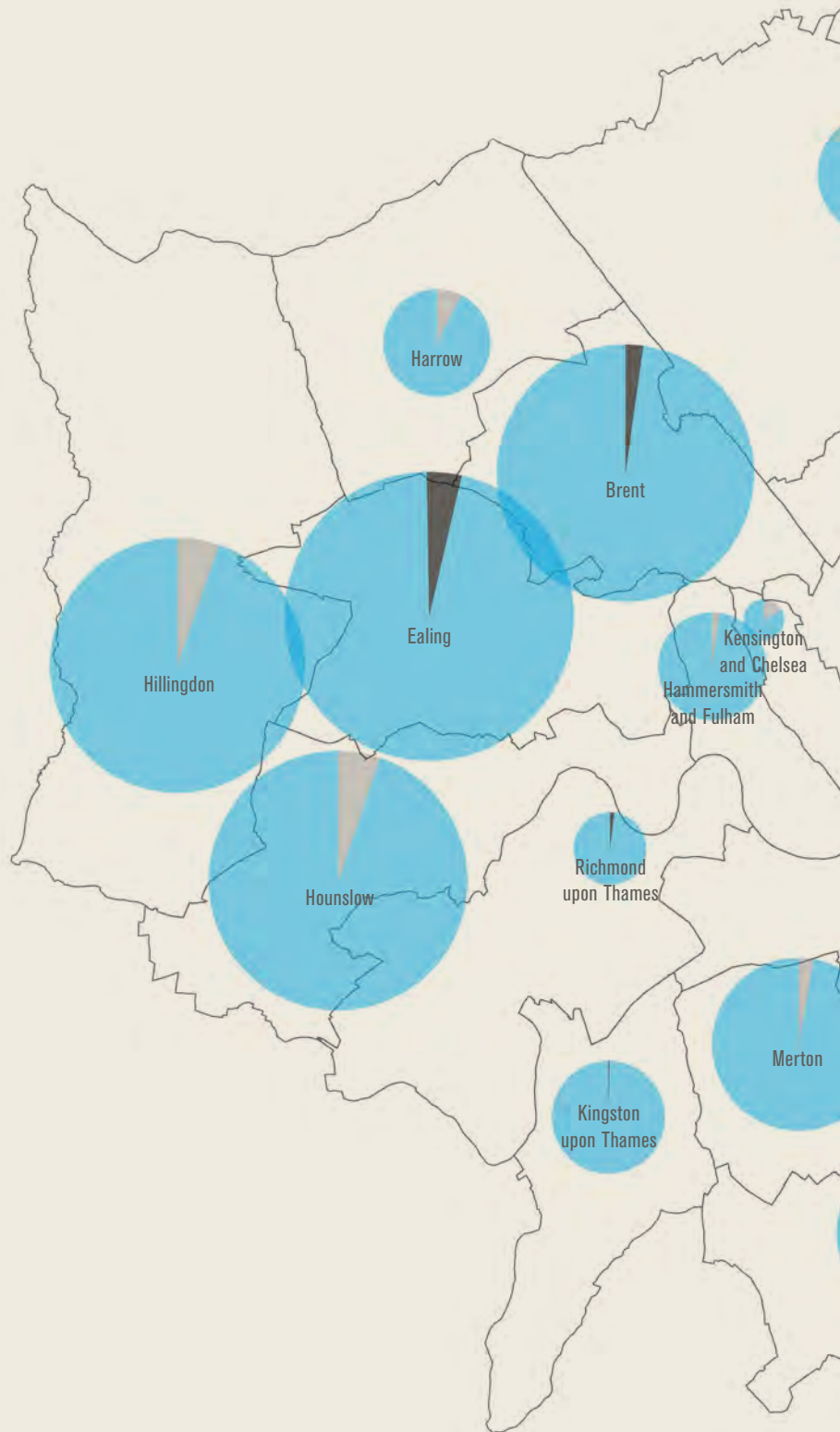


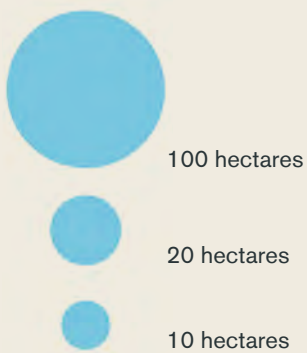
Figure 2-8: Vacant Stock as a Proportion of Core Industrial Land Stock, 2015

The Central subregion contains the lowest proportion of vacant land relative to stock, equating to 3.6% of land in core industrial use.



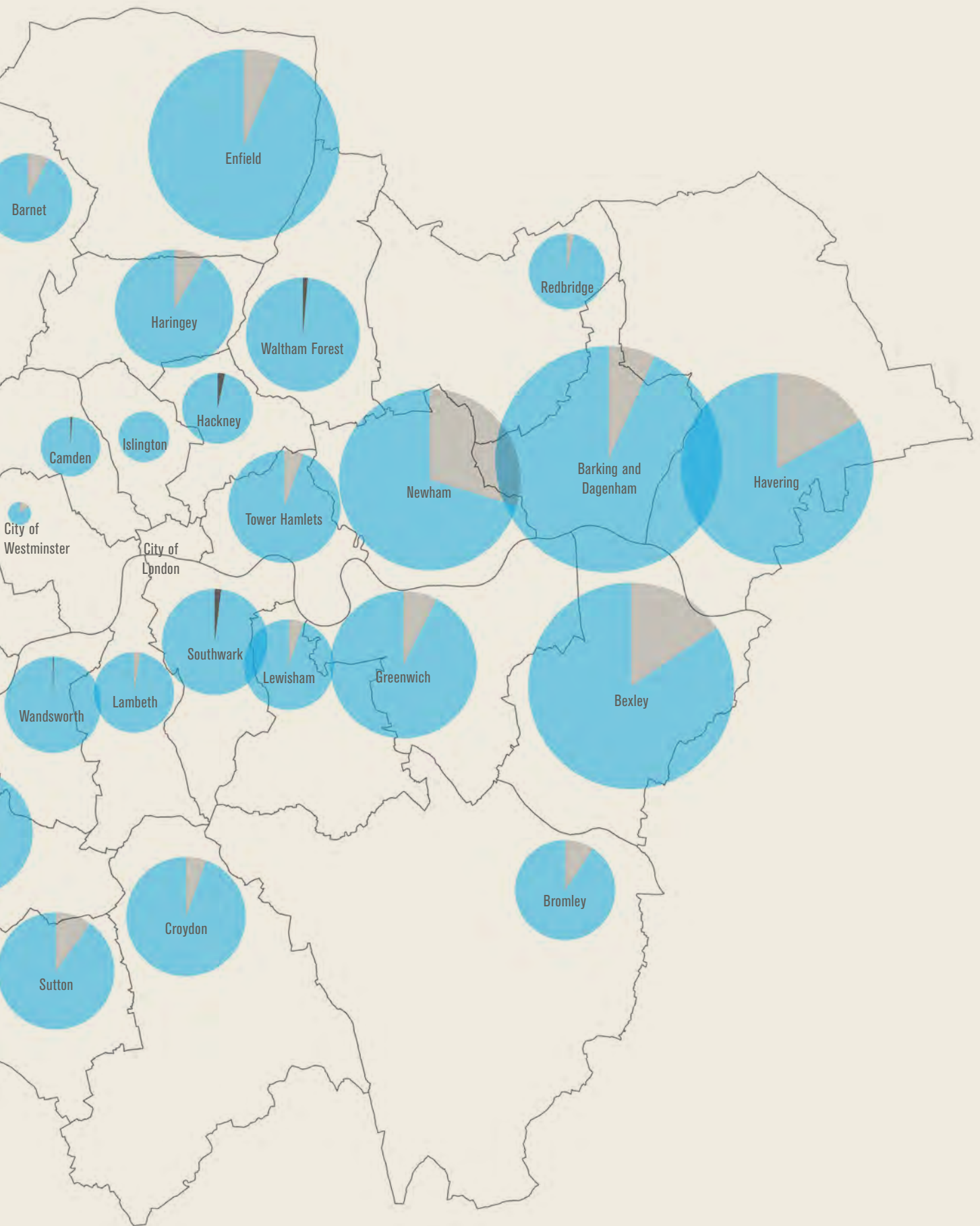
- Industrial land in use
- % of vacant industrial land <math><5\%</math>
- % of vacant industrial land >math>>5\%</math> (SPG guideline frictional vacancy rate = 5%)
- Vacant industrial land >math>>8\%</math>

Scale



Scale





2.4 Industrial Floorspace

2.4.1 Following on from understanding the supply of industrial land, this section presents the industrial floorspace by borough and sub-region within London. Industrial floorspace, as presented throughout the study, is defined as floorspace within uses B1c, B2 and B8 as per the Use Classes Order, which is considered to be representative of the 'core' industrial uses defined in Chapter 1.

2.4.2 Complete and detailed floorspace information was published by the Valuation Office Agency (VOA) in 2012¹¹ and this is the latest available data available regarding floorspace. This is presented in *Table 2-5* overleaf.

2.4.3 This shows there is approximately 21 million m² of industrial floorspace in London in 2012. The Outer London area accounts for the majority of this floorspace at 69%.

2.4.4 The boroughs containing the largest proportions of London's industrial floorspace are in the West sub-region, including Ealing which contains 10%, Brent with 7% and Hounslow with 6%. Elsewhere, Enfield in the North accommodates 6% and Bexley and Newham, in the East, each accommodating 5%.

2.4.5 Time series data on industrial floorspace by PMA is presented in *Figure 2-9*. This shows a 17.9% decline over the period 2001 to 2012 (and 15.1% decline for 2001 to 2010). Although there is an overall pattern of decline in industrial floorspace in London between 2001 and 2012 the boroughs of Bexley, Sutton, Bromley and Barking and Dagenham have all experienced increases in the stock of industrial floorspace (by 6.4%, 3.0%, 1.9% and 1.7% respectively).

11 VOA (2012); Business Floorspace (Experimental Statistics)

Figure 2-9: Industrial Floorspace Time Series Data – Relative Comparison by Property Market Area

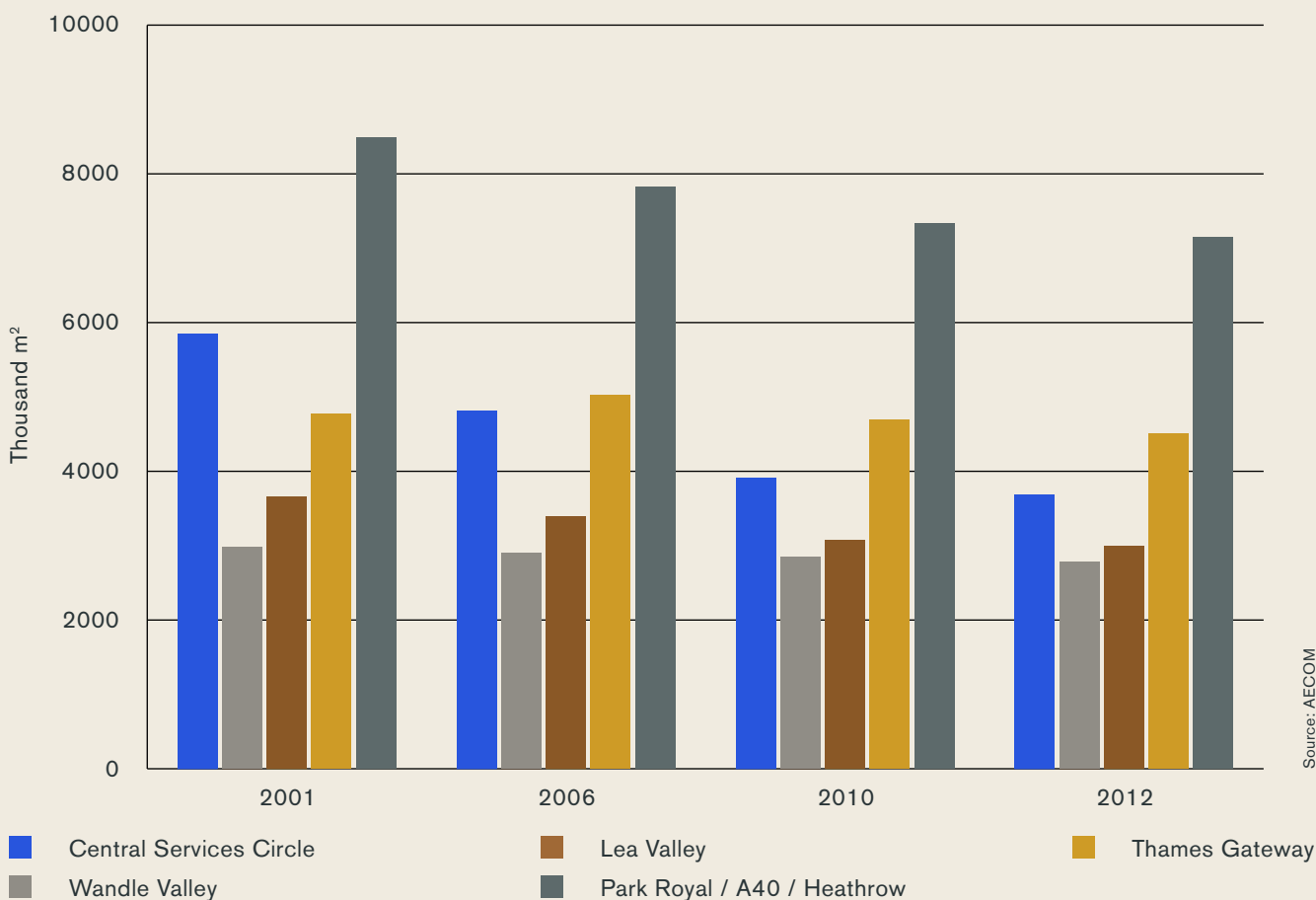


Table 2-5: Industrial Floorspace in London 2012

		Estimated industrial floorspace (000s m²)	Estimated proportion of industrial floorspace in London
London		21,114	100%
Inner London		6,135	29%
Outer London		14,979	71%
Central sub-region		2,381	11%
	Camden	334	2%
	City of London	106	1%
	Kensington & Chelsea	116	1%
	Islington	374	2%
	Southwark	798	4%
	Westminster	155	1%
	Lambeth	498	2%
East sub-region		6,797	32%
	Barking & Dagenham	928	4%
	Bexley	1,001	5%
	Greenwich	649	3%
	Hackney	462	2%
	Havering	670	3%
	Lewisham	386	2%
	Newham	496	2%
	Redbridge	301	1%
	Tower Hamlets	833	4%
	Waltham Forest	575	3%
North sub-region		2,257	11%
	Barnet	338	2%
	Enfield	1,264	6%
	Haringey	655	3%
South sub-region		3,419	16%
	Bromley	466	2%
	Croydon	776	4%
	Kingston upon Thames	313	1%
	Merton	633	3%
	Richmond upon Thames	176	1%
	Sutton	442	2%
	Wandsworth	613	3%
West sub-region		6,260	30%
	Brent	1,389	7%
	Ealing	2,015	10%
	Hammersmith & Fulham	330	2%
	Harrow	283	1%
	Hillingdon	1,080	5%
	Hounslow	1,163	6%
Central Services Circle		3,688	19%
Lea Valley		2,990	12%
Thames Gateway		4,511	19%
Wandle Valley		2,777	13%
Park Royal / A40 / Heathrow		7,148	32%

Source: AECOM

2.5 Comparisons and Summary

Comparison with Industrial Land Supply 2001, 2006 and 2010

2.5.1 The total stock of industrial land in London has been declining over the past decade or more, as can be seen in *Table 2-6, Table 2-7, Figure 2-10, Figure 2-11 and Figure 2-12*. The total stock in 2001 is estimated to be 8,282ha. Over the years, the stock of industrial land has declined to 7,841ha in 2006, 7,504 in 2010¹² and 6,976ha in 2015. This means that 1,305ha of industrial land has been lost to non-industrial uses over a 14 year period. This equates to a 16% contraction in the stock of industrial land from 2001. The rate of decline between years 2001 to 2006 was 5.3% (440ha in total or 88.0ha per annum on average), 4.3% (337ha or 84.2 per annum) between 2006 to 2010 and 7.0% (528ha or 105.7 per annum) between 2010 and 2015. Change in stock by property market area is shown for reference in *Figure 2-12*.

2.5.2 The total area of land designated in SILs has contracted from 4,280ha in 2006¹³ to 3,892ha in 2015 or a decline of 9%. The area of industrial land lying within SILs, once non-industrial land within SIL areas are discounted, has reduced from 3,837ha in 2006 to 3,534ha in 2015, representing a decline of around 8%.

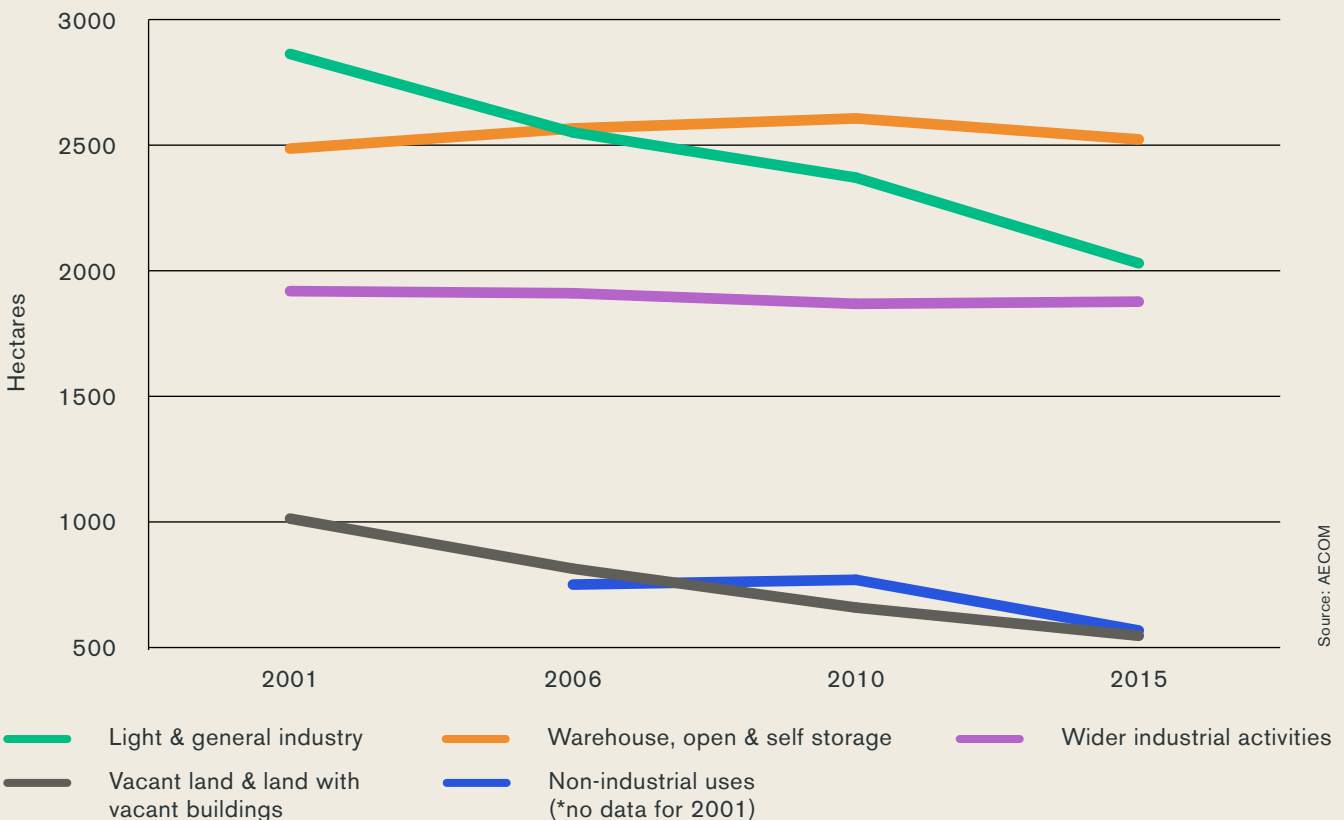
The area of land designated as LSIS in London has decreased from 1,492ha in 2006 to 1,157ha in

2015, representing a contraction of 22%. The area of industrial land lying within LSIS, increased from 1,184ha in 2006 to 1,229ha in 2010 before declining markedly to 947ha in 2015; a fall of 23% over five years. There has been a greater decline in LSIS designated areas than SIL designated areas. This suggests that the higher level of protection offered by SIL has been somewhat effective. Non-designated industrial land declined from 2,820ha in 2006 to 2,496ha in 2015, a fall of 12% over this period.

2.5.3 In *Table 2-7* the change in the quantity of land by use and designation over time is shown. This shows that between 2010 and 2015, the area of non-designated land recorded in London reduced by 45.1 ha compared to a reduction of 201 ha in the area of SIL and 282.4 ha for LSIS. The comparatively modest reduction in the total area of non-designated industrial land can be attributed to SIL and LSIS land being de-designated and not yet subsequently redeveloped for other uses, resulting in it being recorded as non-designated land until such time it is redeveloped.

2.5.4 Between 2010 and 2015 the quantity of industrial land designated as SIL has fallen by 5.4% and the quantity of land designated as LSIS has fallen by 23%. The differing rates of SIL and LSIS decline are however primarily attributable to boundaries being changed / reduced to account for land which was either already in non-industrial use; land which became allocated for non-industrial redevelopment; or, in some instances, allocations whose designation was between SIL and LSIS

Figure 2-10: Change in Industrial Land Stock by Core and Wider Uses 2001 to 2015



or SIL / LSIS to non-designated land between 2010 and 2015. Therefore calculating the amount of industrial land within SIL and LSIS which has become non-industrial is not straightforward.

2.5.5 At the sub-regional level all regions have witnessed a contraction in the supply of industrial land over each of the reporting timeframes dating back to 2001. Over the entire timeframe, 2001 to 2015, the Central sub-region has witnessed the largest reduction in supply, contracting by 34% (169ha). The East sub-region contracted by 20% (721ha). Supply contracted by 8% (63ha) in the North sub-region, 11% in the South (134ha) and 10% in the West (220ha) sub-regions respectively. In terms of vacant land, the stock of vacant industrial land across London has decreased over the past decade from 10% in 2006, 9% in 2010 and 8% in 2015. The rate of vacant industrial land is higher than the frictional vacancy rate of 5% recorded in the Land for Industry and Transport SPG.¹⁴

2.5.6 Between 2010 and 2015 the Central sub-region recorded the largest proportionate release of / decline in industrial land at 25%, with decreases recorded across each of the other sub-regions being consistent at around 6% in each case.

2.5.7 The amount of land in some industrial land uses has increased over the period 2010 to 2015, particularly self-storage (58ha in 2010 to 83ha in 2015), open storage (153ha to 196ha) and land for buses (43ha to 72ha). Other uses have experienced significant decreases in the land they occupy, notably general industry (2,133ha to 1,772ha), warehousing (2,395ha to 2,244ha) and vacant industrial land (incl. vacant cleared sites) (659ha to 547ha).

2.5.8 A comparison with floorspace figures shows that over the period 2001 to 2010 core and vacant industrial land together reduced by 9.4% and industrial floorspace reduced by 15.1%. This is a surprising result as we would expect land release / loss, including vacant land, to be higher than floorspace release.

2.5.9 The rate of change in the supply of industrial land to non-industrial land across London between 2010 and 2015 and 2001 and 2015 is mapped in *Figure 2-13*, *Figure 2-14* and *Figure 2-15* respectively below. A borough level comparison of this change is shown in *Figure 2-16*, with change from 2001 to 2015 shown by property market area.

¹² The figure of the total stock of industrial land in 2010 presented here differs from that presented in the London Industrial Land Baseline (2010), which recorded 7,433ha of land in industrial use. The reason for this is that the 2015 study has included a borough engagement exercise which has refined land use mapping and measurements of industrial land supply in 2010 (as well as land in 2015).

¹³ Analysis relating to land designations preceding 2006 is not possible as the London Plan and SIL Framework were not in existence and as such no comparable SIL / LSIS designations are available from this time period.

¹⁴ Non-industrial uses on industrial land were not recorded in 2001 and therefore a similar calculation of vacant industrial land cannot be made.

Figure 2-11: Total in Industrial Land Stock 2001 to 2015

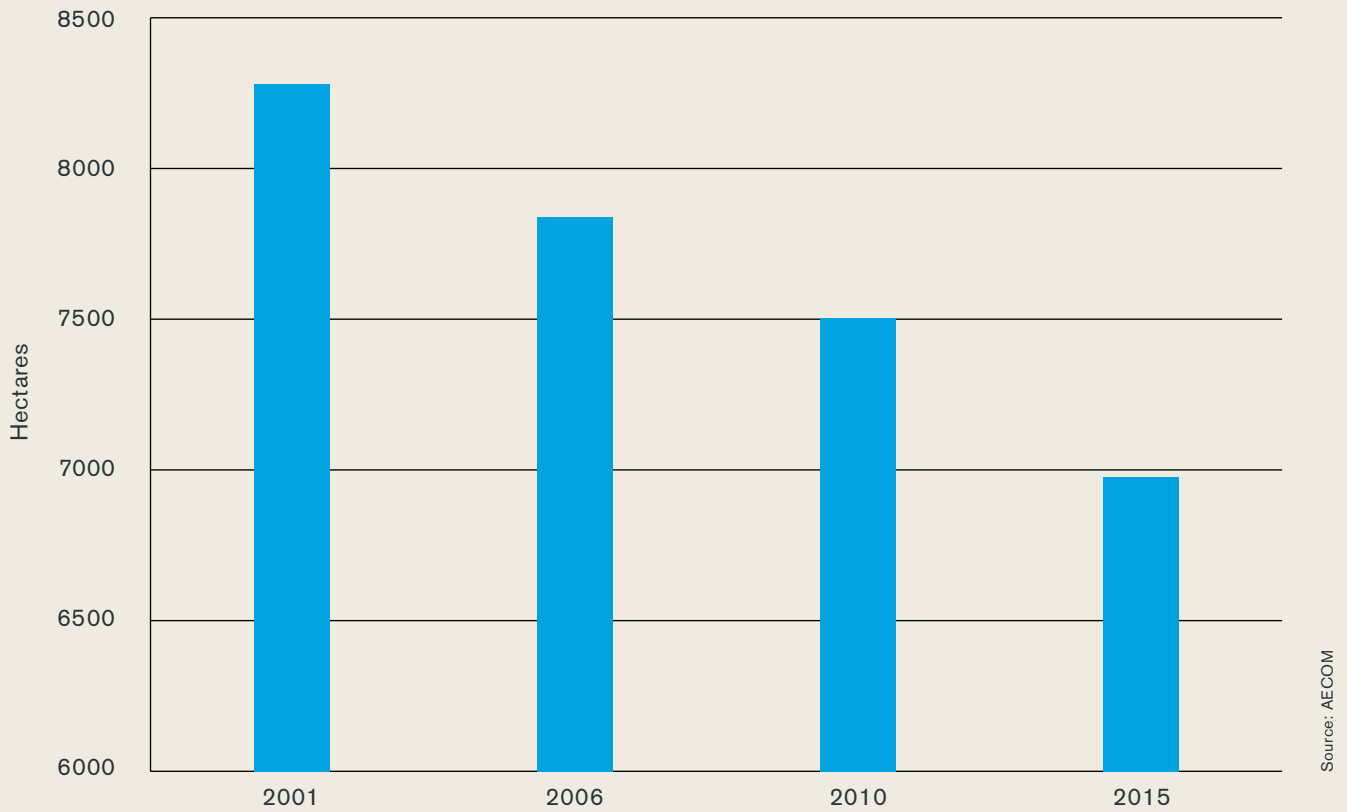
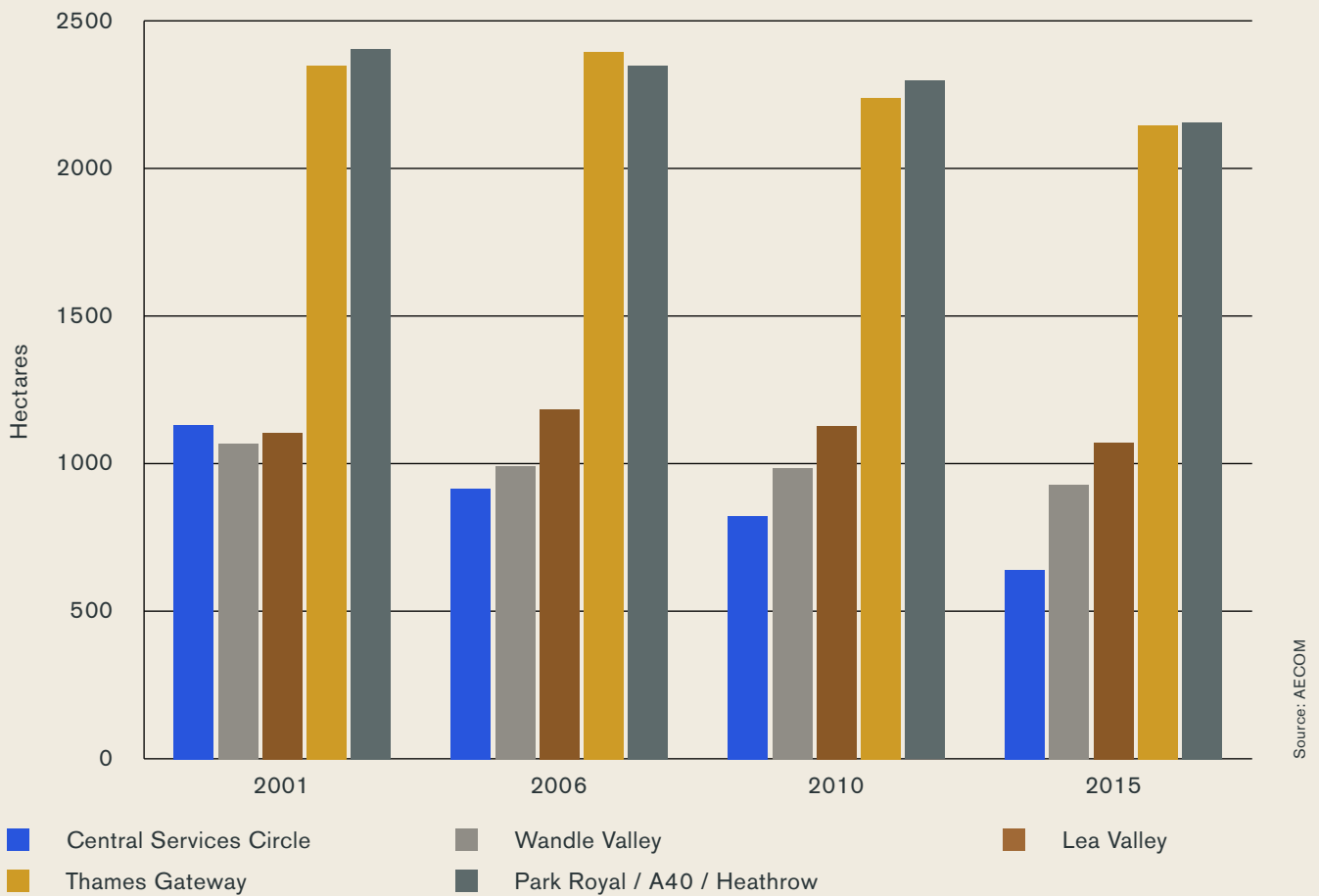


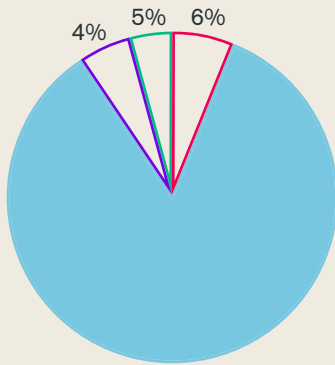
Figure 2-12: Change in Industrial Land Stock 2001 to 2015 by Property Market Area



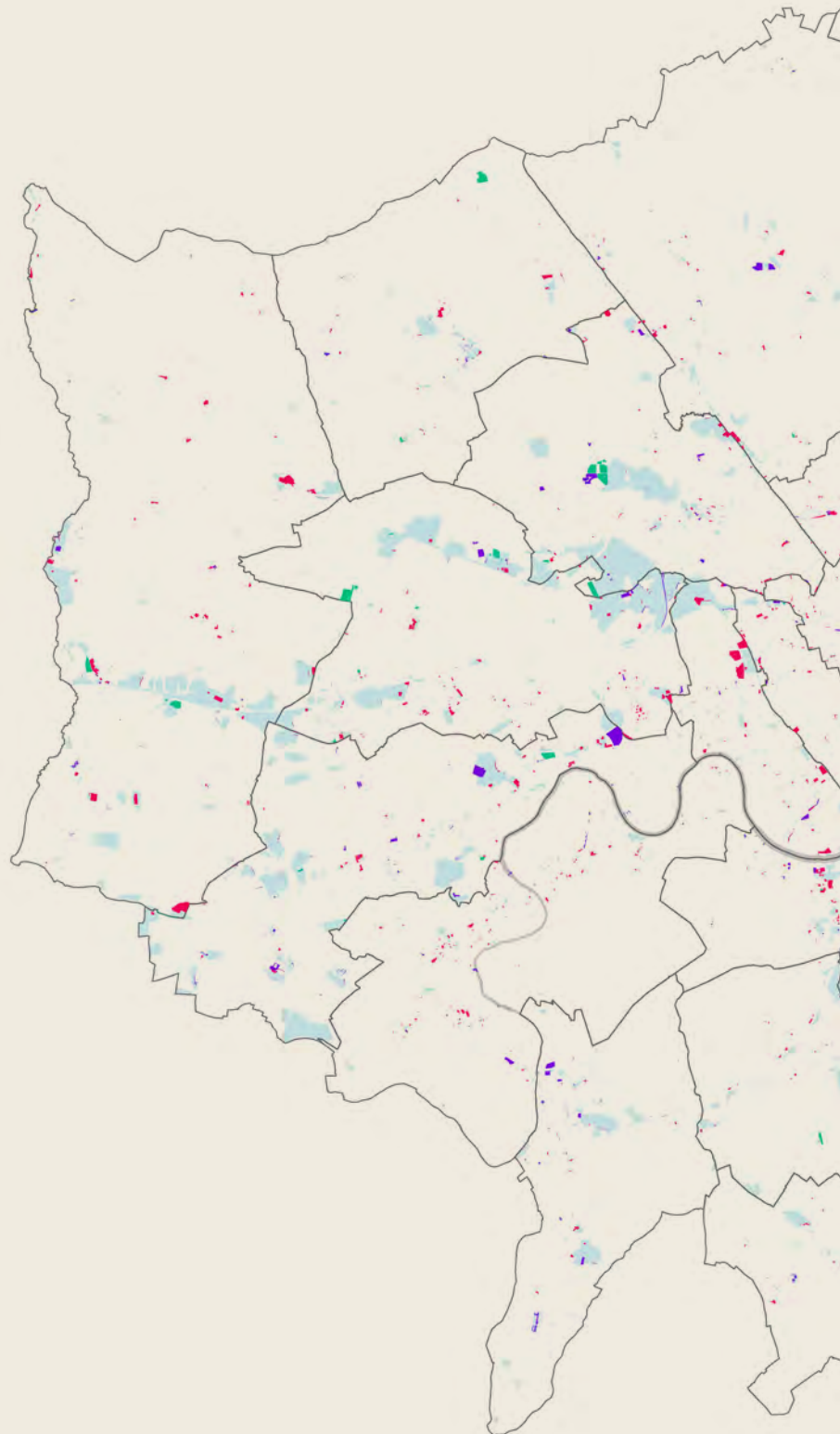
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Figure 2-13: Industrial Land Change:
Release to Non-Industrial, 2001-2015

**1,305ha of industrial
land has been released
to non-industrial uses
over a 14 year period.**

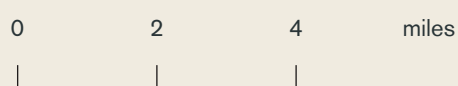


Percentage of total 2001 industrial land stock released 2001-2015 by time period.



-  Industrial land released 2001-2006
-  Industrial land released 2006-2010
-  Industrial land released 2010-2015
-  Industrial land remaining

Scale



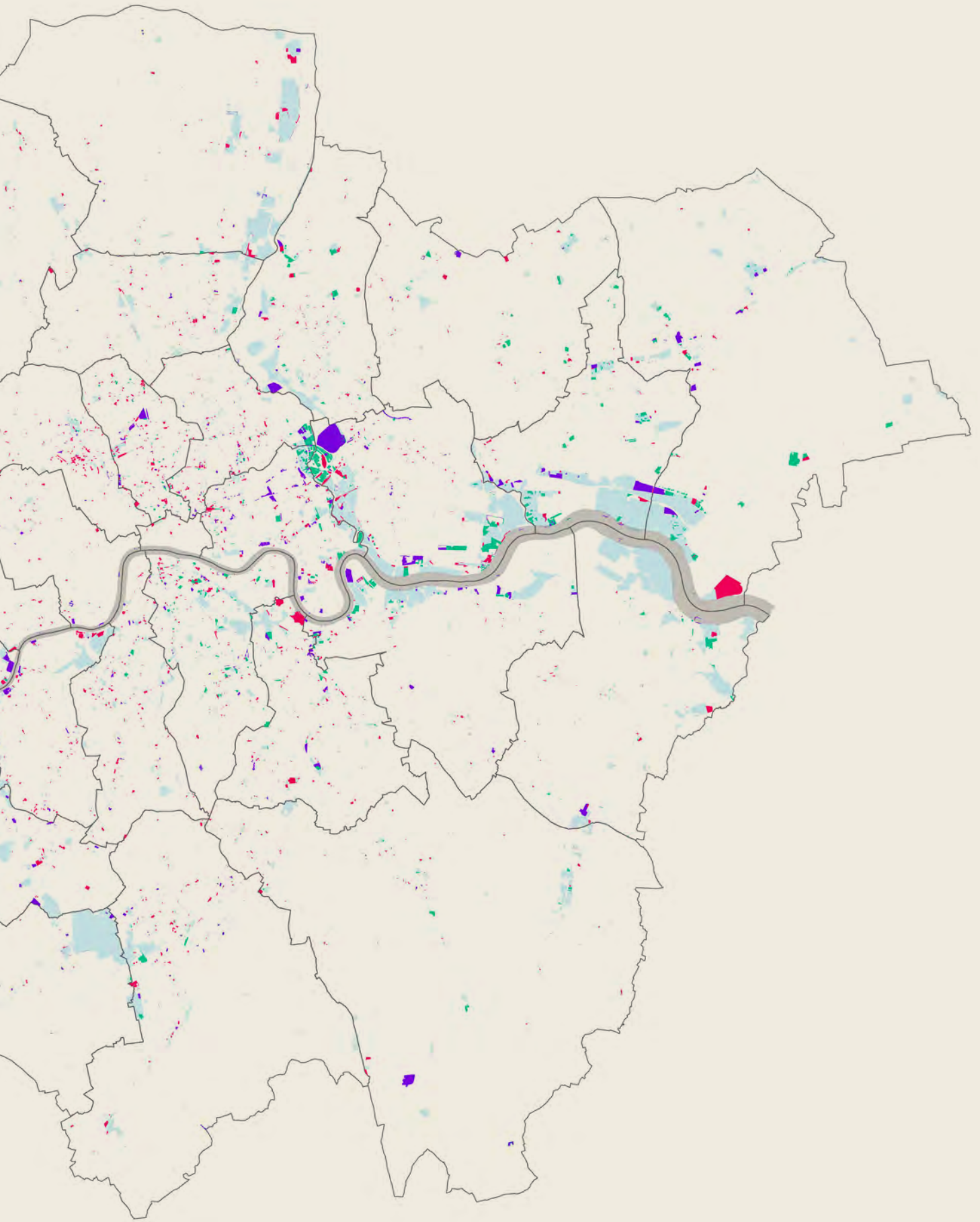
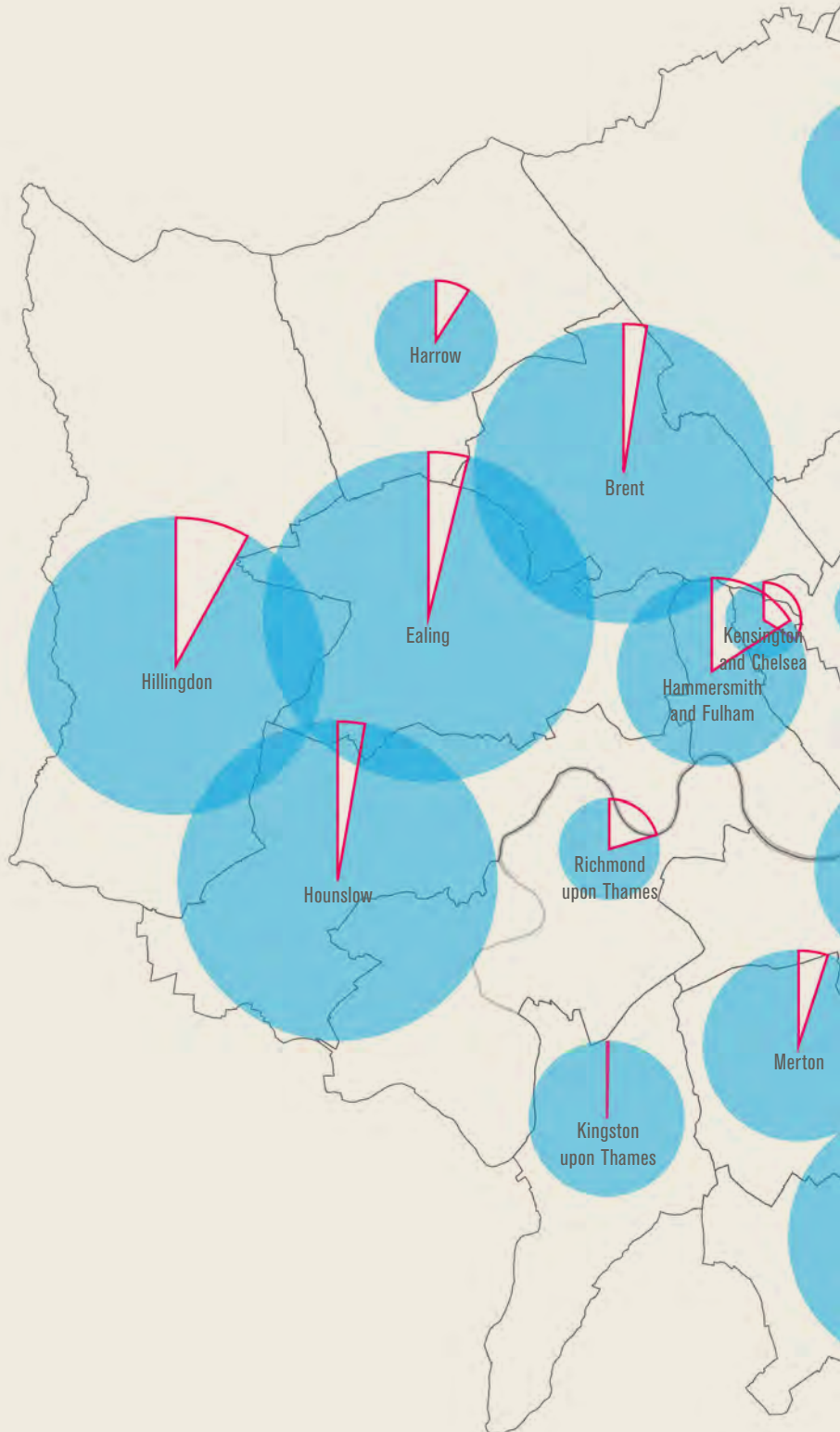
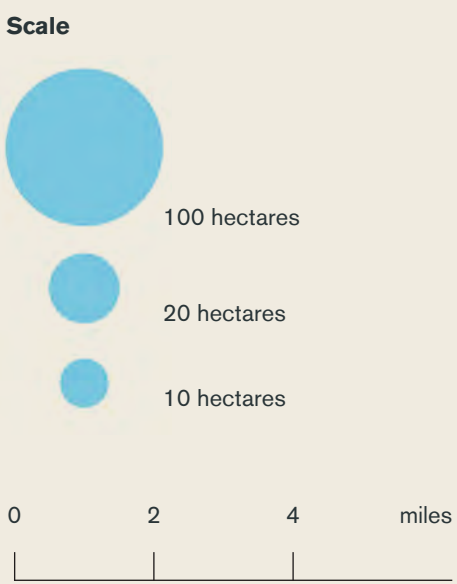


Figure 2-14: Industrial Land Change, 2010-2015

Since 2010, 528ha of industrial land has been released to non-industrial uses; a 7% contraction in the stock of industrial land.



- Industrial land remaining
- Industrial land released 2010-2015
- Industrial land gained



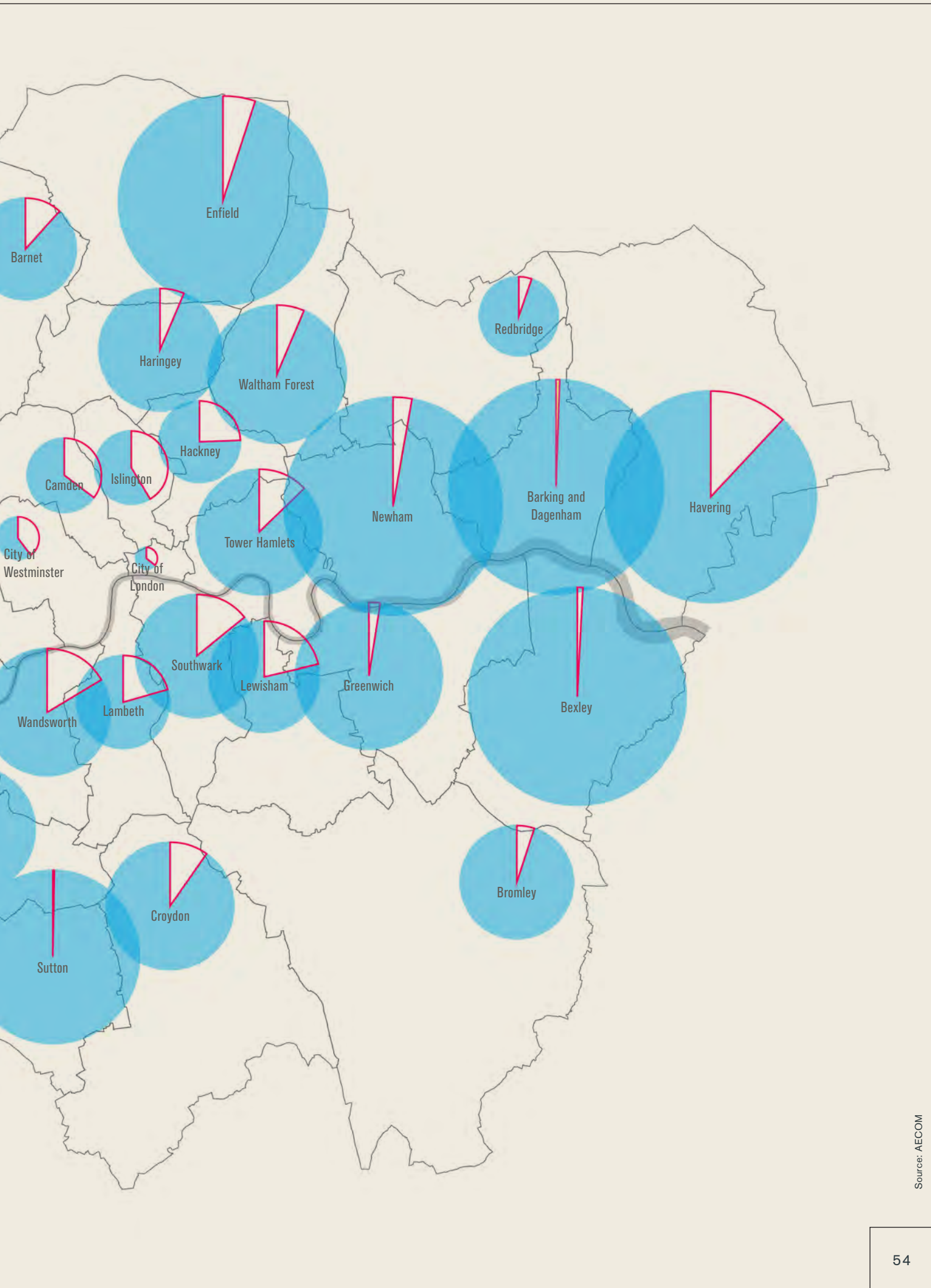
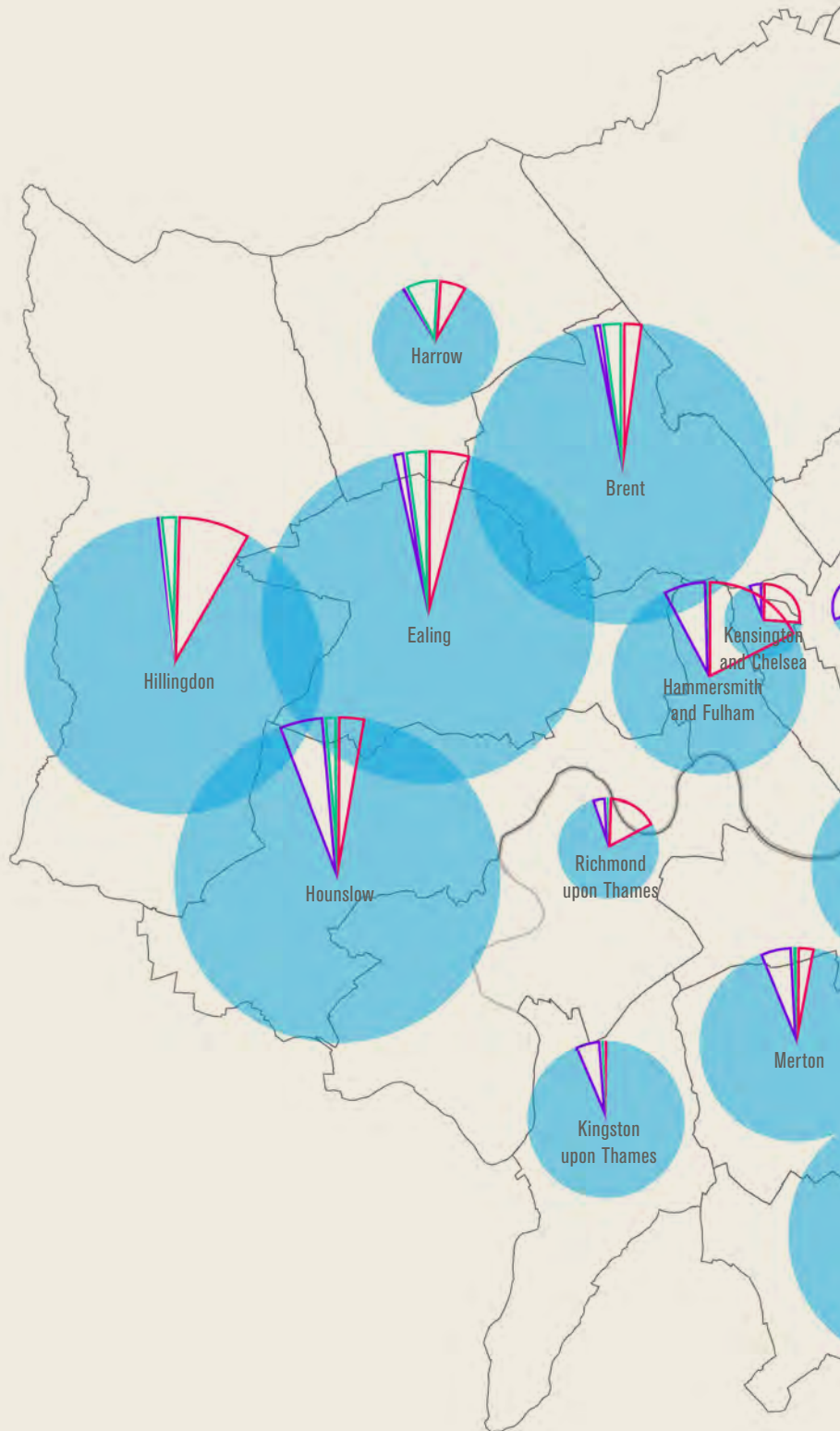


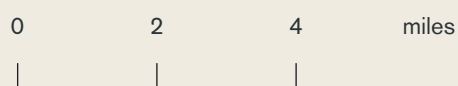
Figure 2-15: Industrial Land Change, 2001-2015

Since 2001, 1,305ha of industrial land has been released to non-industrial uses; a 16% contraction in the stock of industrial land.



- Industrial land remaining
- Industrial land released 2001-2006
- Industrial land released 2006-2010
- Industrial land released 2010-2015
- Industrial land gained

Scale



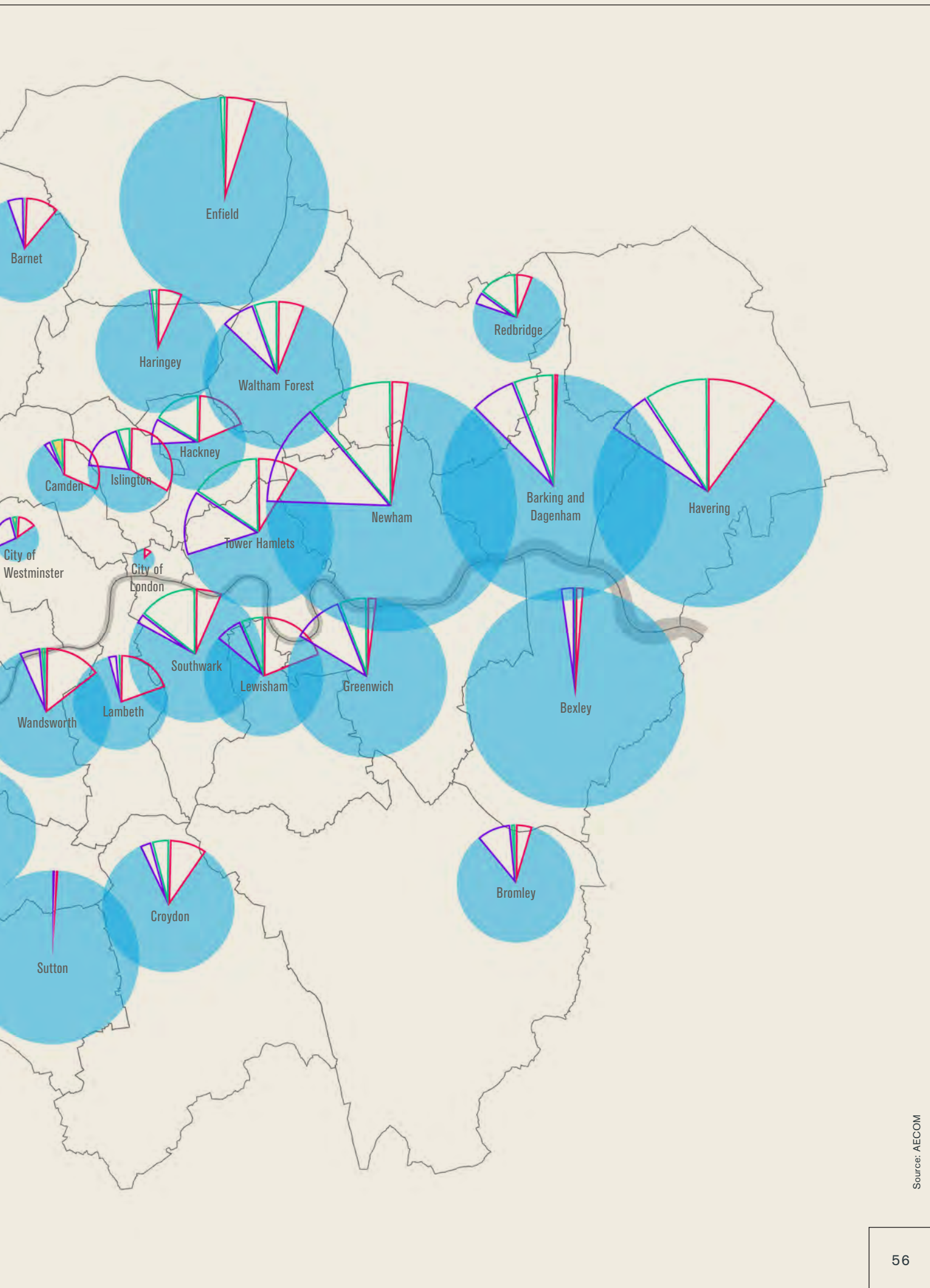
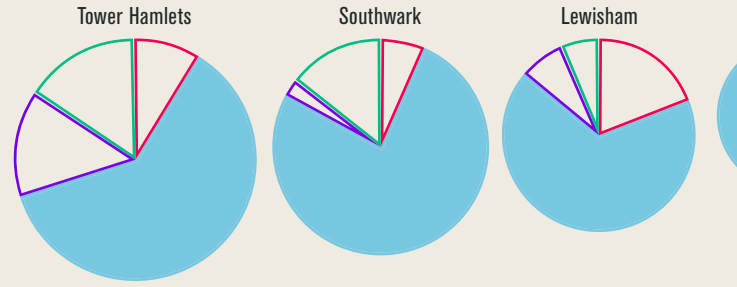
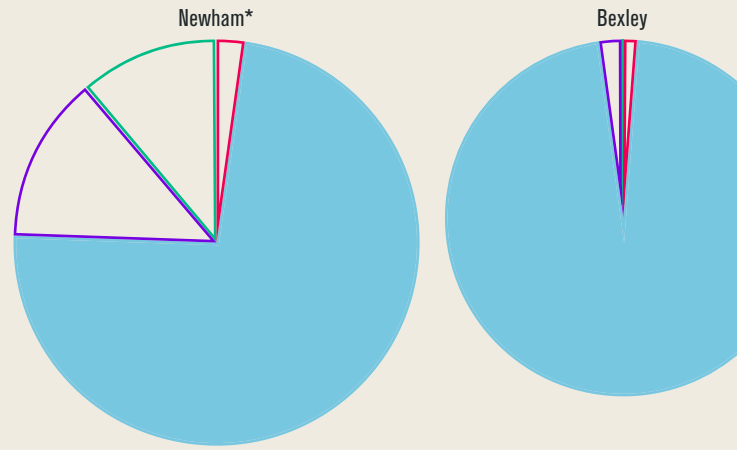


Figure 2-16: Industrial Land Change by Property Market Area, 2001-2015

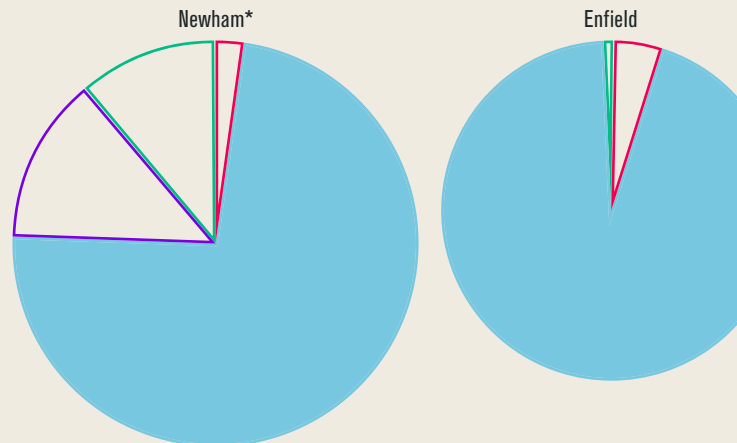
Central Services Circle



Thames Gateway



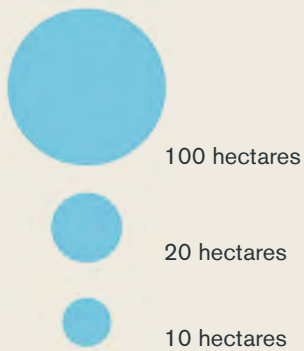
Lea Valley



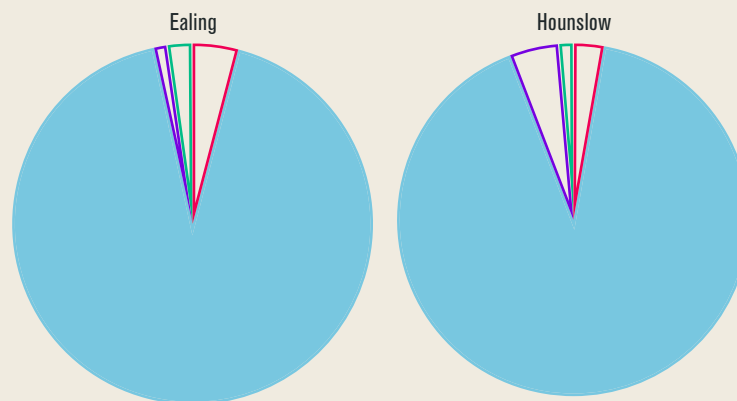
Arranged in descending order of total industrial land stock 2001 (ha)

- Industrial land remaining
- Industrial land released 2001-2006
- Industrial land released 2006-2010
- Industrial land released 2010-2015
- Industrial land gained

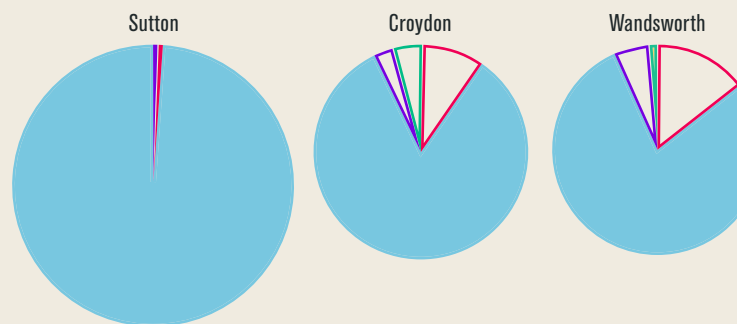
Scale



Park Royal / A40 / Heathrow



Wandle Valley





*Newham is split between the Thames Gateway and Lea Valley property market areas

Table 2-6: Industrial Employment Land in London: Years 2001, 2006, 2010 and 2015

GLA land use categorisations		2001					2006	
		Designated employment land (ha)			Non-designated employment land (ha)	Total	Designated employment land (ha)	
		SIL	LSIS	Total			SIL	LSIS
Industrial uses								
Core industrial uses								
	Light industry	n/a	n/a	n/a	239.2	239.2	131.1	81.4
	General industry	n/a	n/a	n/a	2623.9	2623.9	1111.7	329.4
	Warehouses	n/a	n/a	n/a	2333.1	2333.1	1386.6	465.5
	Self storage	n/a	n/a	n/a	42.3	42.3	19.1	20.7
	Open storage	n/a	n/a	n/a	111.0	111.0	61.1	14.6
	Sub total	n/a	n/a	n/a	5349.5	5349.5	2709.5	911.6
Wider industrial uses								
	Wholesale markets	n/a	n/a	n/a	53.7	53.7	22.0	16.3
	Waste management and recycling	n/a	n/a	n/a	281.4	281.4	122.4	37.1
	Utilities	n/a	n/a	n/a	1109.0	1109.0	283.8	51.9
	Land for rail (including DLR)	n/a	n/a	n/a	347.7	347.7	249.4	56.9
	Land for buses	n/a	n/a	n/a	46.0	46.0	21.4	12.7
	Airport related land and freight	n/a	n/a	n/a	33.4	33.4	0.0	3.4
	Docks	n/a	n/a	n/a	40.4	40.4	1.1	0.1
	Other industrial	n/a	n/a	n/a	7.2	7.2	7.7	0.0
	Sub total	n/a	n/a	n/a	1918.9	1918.9	707.8	178.3
Vacant								
	Vacant industrial land*	n/a	n/a	n/a	874.4	874.4	365.7	82.4
	Land with vacant building(s)	n/a	n/a	n/a	138.8	138.8	53.8	12.0
	Total industrial	n/a	n/a	n/a	8281.5	8281.5	3836.8	1184.3
Non-industrial uses								
	Office	n/a	n/a	n/a	n/a	n/a	103.6	124.5
	Retail	n/a	n/a	n/a	n/a	n/a	165.4	47.6
	Residential	n/a	n/a	n/a	n/a	n/a	13.9	37.1
	Recreation and leisure	n/a	n/a	n/a	n/a	n/a	39.9	33.9
	Community services	n/a	n/a	n/a	n/a	n/a	29.7	18.2
	Defence	n/a	n/a	n/a	n/a	n/a	0.4	0.0
	Agriculture and fisheries	n/a	n/a	n/a	n/a	n/a	5.5	0.0
	Mixed-use (non industrial only)	n/a	n/a	n/a	n/a	n/a	33.8	26.9
	Other non-industrial	n/a	n/a	n/a	n/a	n/a	51.1	19.2
	Total non-industrial	n/a	n/a	n/a	n/a	n/a	443.3	307.3
	Total	n/a	n/a	n/a	n/a	n/a	4280.1	1491.6

*vacant industrial land includes cleared sites and land with derelict industrial buildings

			2010					2015				
	Non-designated employment land (ha)	Total	Designated employment land (ha)			Non-designated employment land (ha)	Total	Designated employment land (ha)			Non-designated employment land (ha)	Total
Total			SIL	LSIS	Total			SIL	LSIS	Total		
212.5	25.4	237.9	131.3	77.9	209.2	28.0	237.2	128.8	72.9	201.7	56.2	257.9
1441.1	871.7	2312.8	1034.2	310.7	1344.9	788.5	2133.4	933.5	252.9	1186.5	585.3	1771.8
1852.2	565.2	2417.4	1418.7	479.4	1898.1	497.1	2395.3	1410.0	395.7	1805.7	438.3	2244.0
39.8	7.0	46.7	23.4	21.0	44.3	13.6	57.9	36.0	24.1	60.1	22.5	82.7
75.7	26.7	102.3	100.8	19.3	120.2	33.2	153.4	94.7	14.0	108.7	87.4	196.2
3621.1	1496.0	5117.1	2708.4	908.3	3616.7	1360.5	4977.2	2603.1	759.7	3362.8	1189.8	4552.5
38.3	14.9	53.2	2.5	37.0	39.4	14.9	54.3	2.2	14.4	16.7	39.0	55.6
159.5	117.6	277.1	125.0	42.2	167.2	113.1	280.3	160.3	20.1	180.5	99.4	279.8
335.7	766.4	1102.1	264.8	54.6	319.3	751.5	1070.8	243.5	41.3	284.8	763.1	1047.9
306.3	44.5	350.8	232.8	60.6	293.4	44.6	337.9	211.9	26.4	238.3	100.2	338.5
34.1	11.9	46.0	19.6	14.2	33.8	9.5	43.2	32.5	12.0	44.5	27.6	72.1
3.4	30.0	33.4	0.0	3.4	3.4	30.0	33.4	0.0	3.4	3.4	43.0	46.4
1.2	39.0	40.2	1.0	0.0	1.0	30.9	31.9	0.9	0.1	1.0	31.4	32.4
7.7	0.0	7.7	3.7	12.8	16.5	0.1	16.6	0.1	1.0	1.1	3.2	4.3
886.1	1024.3	1910.4	649.2	224.8	874.0	994.5	1868.4	651.5	118.6	770.2	1106.9	1877.0
448.1	270.8	719.0	316.8	75.5	392.3	180.6	572.9	240.0	36.5	276.4	138.3	414.7
65.8	29.0	94.8	60.6	20.6	81.1	5.1	86.2	39.4	32.0	71.4	60.7	132.0
5021.2	2820.2	7841.4	3735.0	1229.1	4964.1	2540.7	7504.7	3533.9	946.8	4480.7	2495.6	6976.3
228.1	n/a	228.1	106.9	140.5	247.4	n/a	247.4	85.8	109.6	195.4	n/a	195.4
213.0	n/a	213.0	163.1	54.5	217.6	n/a	217.6	128.5	28.4	156.9	n/a	156.9
50.9	n/a	50.9	22.6	36.6	59.2	n/a	59.2	22.2	33.0	55.3	n/a	55.3
73.8	n/a	73.8	35.5	38.4	74.0	n/a	74.0	33.0	10.9	43.8	n/a	43.8
47.8	n/a	47.8	28.6	18.8	47.3	n/a	47.3	16.3	5.2	21.5	n/a	21.5
0.4	n/a	0.4	0.0	0.0	0.0	n/a	0.0	0.0	0.1	0.1	n/a	0.1
5.5	n/a	5.5	5.2	0.0	5.3	n/a	5.3	0.0	0.0	0.0	n/a	0.0
60.7	n/a	60.7	19.0	15.9	34.9	n/a	34.9	24.9	11.5	36.4	n/a	36.4
70.3	n/a	70.3	69.2	14.7	83.9	n/a	83.9	47.0	11.4	58.5	n/a	58.5
750.6	n/a	750.6	450.3	319.3	769.6	n/a	769.6	357.7	210.1	567.8	n/a	567.8
5771.8	n/a	8592.0	4185.2	1548.5	5733.7	n/a	8274.4	3891.6	1156.9	5048.5	n/a	7544.1

Source: AECOM

Table 2-7: Change in the Industrial Employment Land Quantity, 2001 to 2015

GLA land use categorisations		2001 to 2006					2006 to 2010	
		Designated employment land (ha)			Non-designated employment land (ha)	Total	Designated employment land (ha)	
		SIL	LSIS	Total			SIL	LSIS
Industrial uses								
Core industrial uses								
	Light industry	n/a	n/a	n/a	n/a	-1.4	0.2	-3.5
	General industry	n/a	n/a	n/a	n/a	-311.0	-77.5	-18.7
	Warehouses	n/a	n/a	n/a	n/a	84.3	32.1	13.9
	Self storage	n/a	n/a	n/a	n/a	4.4	4.3	0.3
	Open storage	n/a	n/a	n/a	n/a	-8.7	39.8	4.7
	Sub total	n/a	n/a	n/a	n/a	-232.3	-1.1	-3.3
Wider industrial uses								
	Wholesale markets	n/a	n/a	n/a	n/a	-0.5	-19.5	20.7
	Waste management and recycling	n/a	n/a	n/a	n/a	-4.3	2.6	5.1
	Utilities	n/a	n/a	n/a	n/a	-6.9	-19.0	2.7
	Land for rail (including DLR)	n/a	n/a	n/a	n/a	3.0	-16.7	3.7
	Land for buses	n/a	n/a	n/a	n/a	0.0	-1.8	1.5
	Airport related land and freight	n/a	n/a	n/a	n/a	0.0	0.0	-0.0
	Docks	n/a	n/a	n/a	n/a	-0.2	-0.1	-0.0
	Other industrial	n/a	n/a	n/a	n/a	0.5	-4.0	12.8
	Land with vacant building(s)	n/a	n/a	n/a	n/a	-44.0	6.7	8.6
	Sub total	n/a	n/a	n/a	n/a	-8.5	-58.5	46.4
Vacant	Vacant industrial land*	n/a	n/a	n/a	n/a	-155.4	-48.9	-7.0
Total industrial		n/a	n/a	n/a	n/a	-440.2	-101.9	44.8
Non-industrial uses								
	Office	n/a	n/a	n/a	n/a	n/a	3.3	16.0
	Retail	n/a	n/a	n/a	n/a	n/a	-2.3	6.9
	Residential	n/a	n/a	n/a	n/a	n/a	8.8	-0.5
	Recreation and leisure	n/a	n/a	n/a	n/a	n/a	-4.4	4.6
	Community services	n/a	n/a	n/a	n/a	n/a	-1.1	0.6
	Defence	n/a	n/a	n/a	n/a	n/a	-0.4	0.0
	Agriculture and fisheries	n/a	n/a	n/a	n/a	n/a	-0.3	0.0
	Mixed-use (non industrial only)	n/a	n/a	n/a	n/a	n/a	-14.8	-11.0
	Other non-industrial	n/a	n/a	n/a	n/a	n/a	18.1	-4.6
Total non-industrial		n/a	n/a	n/a	n/a	n/a	7.0	12.0
Total		n/a	n/a	n/a	n/a	n/a	-94.9	56.8

*includes vacant cleared sites & derelict industrial buildings

			2010 to 2015					Percentage Change		
	Non-designated employment land (ha)	Total	Designated employment land (ha)			Non-designated employment land (ha)	Total	Total Industrial Land		
Total			SIL	LSIS	Total			2001-2006	2006-2010	2010-2015
-3.3	2.6	-0.6	-2.5	-5.0	-7.5	28.1	20.7	-1%	-0%	9%
-96.2	-83.2	-179.4	-100.6	-57.8	-158.4	-203.2	-361.6	-12%	-8%	-17%
46.0	-68.1	-22.1	-8.6	-83.7	-92.4	-58.9	-151.3	4%	-1%	-6%
4.6	6.6	11.2	12.7	3.1	15.8	8.9	24.7	11%	24%	43%
44.5	6.5	51.0	-6.2	-5.3	-11.4	54.2	42.8	-8%	50%	28%
-4.4	-135.5	-139.9	-105.3	-148.6	-253.9	-170.7	-424.7	-4%	-3%	-9%
1.2	0.0	1.2	-0.2	-22.5	-22.8	24.1	1.3	-1%	2%	2%
7.7	-4.5	3.2	35.4	-22.1	13.3	-13.8	-0.5	-2%	1%	-0%
-16.3	-15.0	-31.3	-21.2	-13.3	-34.5	11.6	-22.9	-1%	-3%	-2%
-12.9	0.1	-12.8	-20.8	-34.2	-55.1	55.6	0.6	1%	-4%	0%
-0.3	-2.4	-2.7	12.9	-2.2	10.7	18.2	28.9	0%	-6%	67%
-0.0	0.0	-0.0	0.0	-0.0	-0.0	13.0	13.0	0%	-0%	39%
-0.1	-8.2	-8.3	-0.1	0.0	-0.0	0.5	0.5	-1%	-21%	1%
8.8	0.1	8.9	-3.6	-11.8	-15.4	3.1	-12.3	7%	115%	-74%
15.3	-24.0	-8.6	-21.2	11.4	-9.8	55.6	45.8	-32%	-9%	53%
-12.1	-29.8	-41.9	2.3	-106.1	-103.8	112.4	8.6	-0%	-2%	0%
-55.9	-90.2	-146.1	-76.8	-39.0	-115.8	-42.3	-158.1	-18%	-20%	-28%
-57.1	-279.6	-336.6	-201.0	-282.4	-483.4	-45.1	-528.4	-5%	-4%	-7%
19.3	n/a	19.3	-21.1	-30.9	-52.0	n/a	-52.0	n/a	8%	-21%
4.6	n/a	4.6	-34.6	-26.1	-60.7	n/a	-60.7	n/a	2%	-28%
8.3	n/a	8.3	-0.4	-3.5	-4.0	n/a	-4.0	n/a	16%	-7%
0.2	n/a	0.2	-2.6	-27.6	-30.1	n/a	-30.1	n/a	0%	-41%
-0.5	n/a	-0.5	-12.3	-13.5	-25.8	n/a	-25.8	n/a	-1%	-55%
-0.4	n/a	-0.4	0.0	0.1	0.1	n/a	0.1	n/a	na	na
-0.3	n/a	-0.3	-5.2	-0.0	-5.3	n/a	-5.3	n/a	-5%	na
-25.8	n/a	-25.8	5.9	-4.4	1.5	n/a	1.5	n/a	-42%	4%
13.5	n/a	13.5	-22.2	-3.2	-25.4	n/a	-25.4	n/a	19%	-30%
19.0	n/a	19.0	-92.6	-109.2	-201.8	n/a	-201.8	n/a	3%	-26%
-38.1	n/a	-317.6	-293.6	-391.6	-685.2	n/a	-730.2	n/a	-4%	-9%

Source: AECOM

Comparison of Release with GLA Land for Industry and Transport SPG

2.5.10 The Land for Industry and Transport Supplementary Planning Guidance (SPG) (2012) established targets or benchmarks for the release of industrial land over the period 2011 to 2031, taking account of the findings of the 2010 URS / DTZ Industrial Land Baseline study, the 2011 Industrial Land Demand Study by Roger Tym & Partners and analysis of borough employment land reviews.

2.5.11 A comparison of the industrial land use change within London for all base years against the industrial land release targets set out in the SPG is given in *Table 2-8*. Changes in the supply of 'utilities', 'land for rail' and 'docks' have been removed from the analysis as the release targets are predicated on the stock of such land uses remaining constant over time, in light of them being fixed infrastructure items which would not readily be redeveloped for other uses.

2.5.12 Between 2010 and 2015 the total amount of industrial land in London decreased by 528ha, equivalent to 106ha per annum. When changes in the supply of 'utilities', 'land for rail' and 'docks' have been removed from the analysis the total amount of industrial land in London decreased by 506ha over the same period (see *Table 2-8*), equivalent to 101ha per annum. This rate of release is 2.7 times that of the target rate of release set out in The Land for Industry and Transport SPG (2012).

2.5.13 The amount of industrial land release in each of the five sub-regions has exceeded the target / benchmark rate of release per annum established in the SPG over the period 2010 to 2015. The Central sub-region recorded the largest difference between the target and actual release of land, with 90.6ha of land redeveloped for non-industrial uses compared with a five-year equivalent release target of 11.5ha. Of the other sub-regions the next largest disparity between actual and target release occurred in the West sub-region.

2.5.14 Comparison of target and actual rates of release should be viewed in light of the individual contexts regarding the supply of land in the sub-regions, with relevant factors including: the relative quantum of core and wider industrial land uses as a component of total stock; the proportion of land which is designated and not designated; and the relative presence of Opportunity Areas and other regeneration initiatives which have the potential to bring about large scale changes in levels of supply. It should also be viewed in light of Public Transport Accessibility (PTAL) as shown in *Figure 2-20*.

2.5.15 For example, whilst the South sub-region recorded the second lowest difference between target and actual release between 2010 and 2015, wider industrial uses account for 40% of total industrial stock, greater than any other sub-region, with these uses being less subject to redevelopment than core uses. Similarly, whilst the Central sub-region has recorded the largest proportionate release

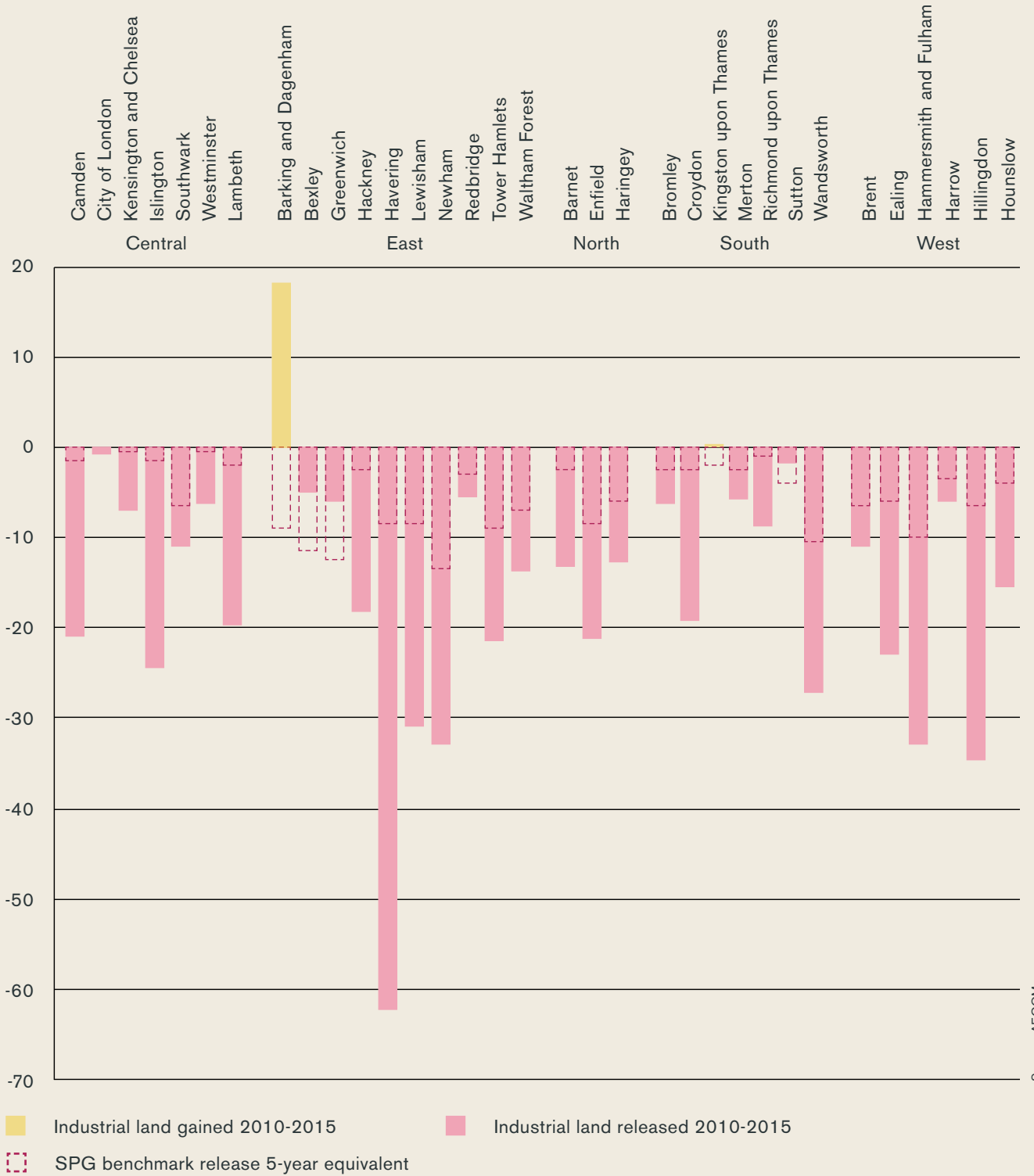
and difference between target and actual, it has a greater level of fragmentation of industrial land than elsewhere, and the absolute and relative proportion of industrial land which is designated is lower than other sub-regions. This means that the ability of planning policy to inhibit loss / release is more muted here in comparison to other areas.

2.5.16 Overall if a similar pace of release to the actual quantum of release between 2010 and 2015 is maintained to 2031 the SPG target will be reached by around 2017 and exceeded significantly by 2031 (see Chapter 6 below). The implications of continued trends in industrial land release is shown in *Figure 2-21*.

2.5.17 The scale of release of industrial land at a borough level in absolute terms is presented in *Figure 2-17*, *Figure 2-18* and *Figure 2-19* overleaf. Boroughs within East London, namely Havering¹⁵, Lewisham, and Newham, account for the largest absolute proportions of land released along with Hillingdon in the West sub-region. With the exception of Lewisham these boroughs account for the largest proportions of industrial land stock of any boroughs and thus proportional rates of release of land within these areas are lower. Borough level comparison by property market area between SPG and actual rates of release is shown in *Figure 2-18*.

¹⁵ A large proportion of land released within Havering relates to a managed contraction in the extent of the Rainham Landfill Site and thus of waste management and recycling land use recorded in the borough.

Figure 2-17: Change in Quantity of Industrial Land: SPG Industrial Benchmark Release Five Year Equivalent Compared to Actual Release 2010 to 2015



Source: AECOM

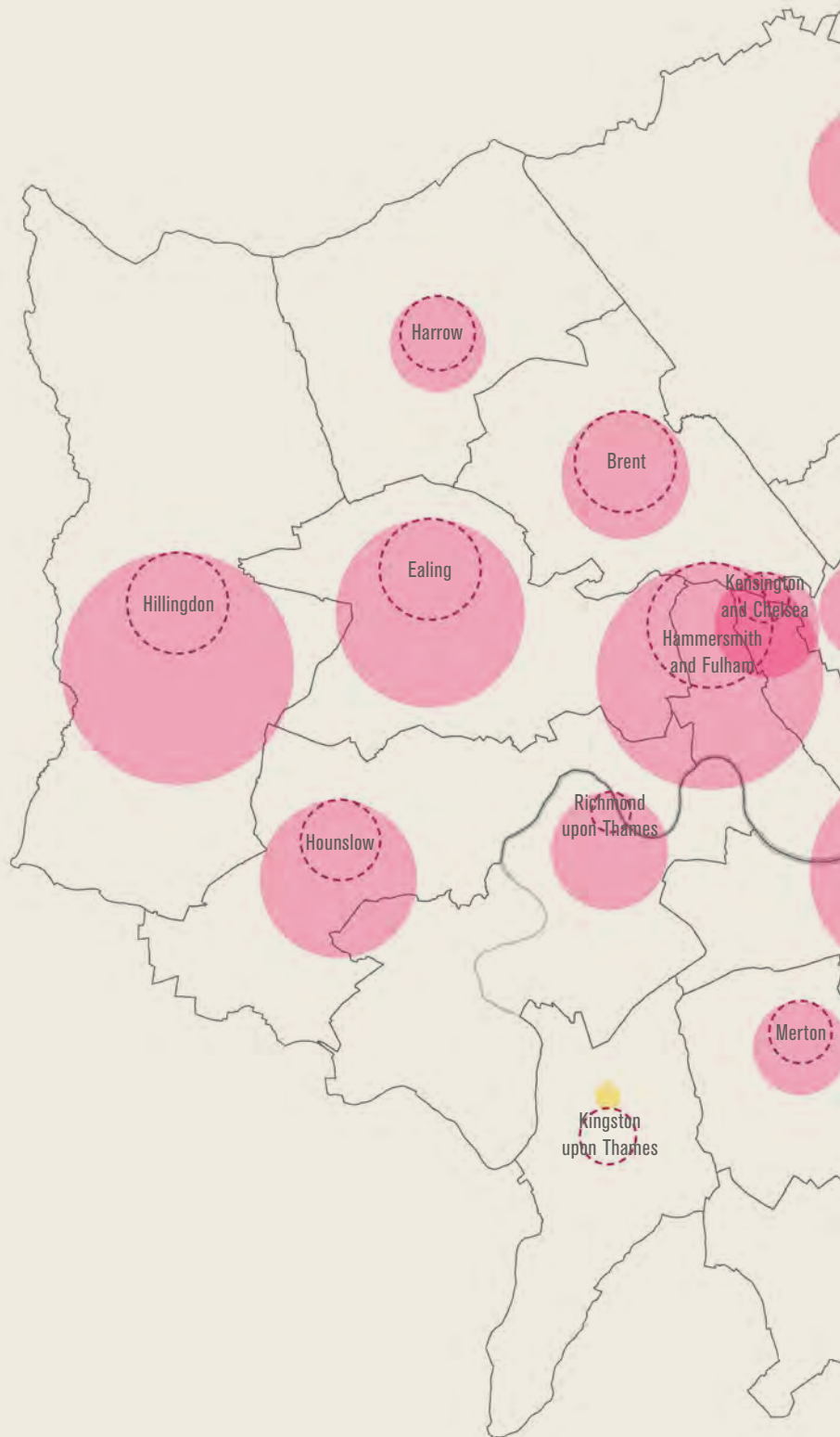
Figure 2-18: SPG Industrial Land Benchmark Release: 5-Year Equivalent Compared to Actual Release 2010-2015

The rate of release between 2010 and 2015 was 101ha¹⁶ per annum - 2.7 times the equivalent SPG target rate of release for the same period.

¹⁶ With changes in the supply of utilities, land for rail and docks discounted.

- SPG benchmark release 5-year equivalent
- Industrial land released 2010-2015
- Industrial land gained 2010-2015

Scale



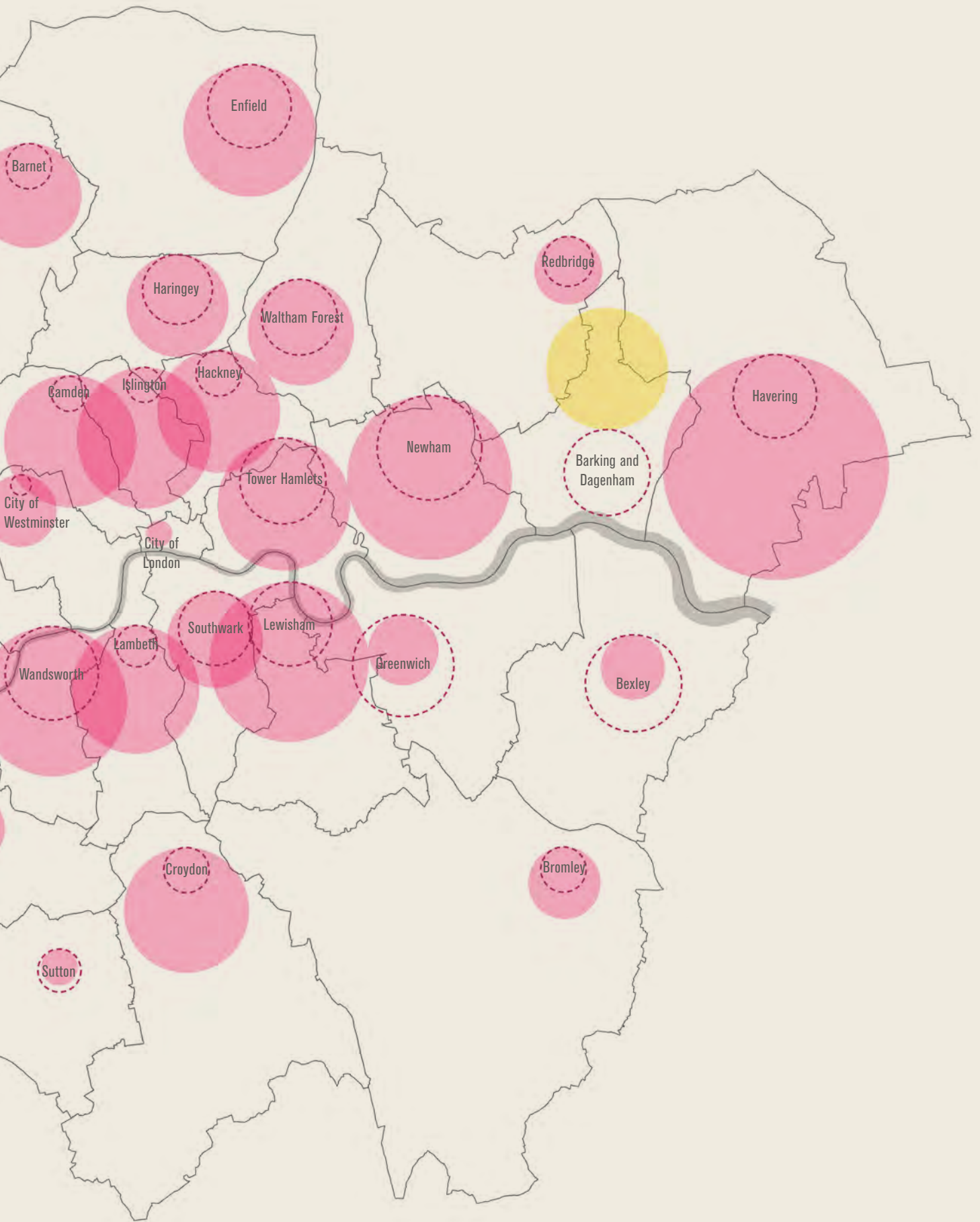


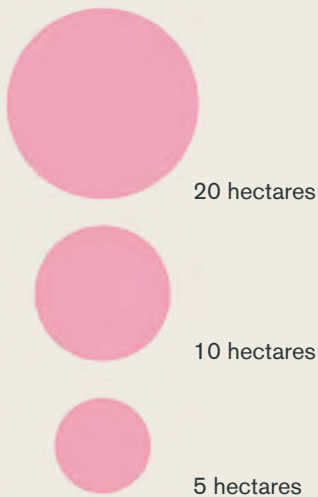
Figure 2-19: SPG Industrial Land Benchmark Release - 5-Year Equivalent Compared to Actual Release 2010-2015

If a similar pace of release to the actual quantum of release between 2010 and 2015 is maintained to 2031 the SPG target will be reached by around 2017 and exceeded significantly by 2031.

Arranged in descending order of differential between benchmark and actual release.

- SPG benchmark release 5-year equivalent
- Industrial land released 2010-2015
- Industrial land gained 2010-2015

Scale



Central Services Circle

Thames Gateway

Lea Valley

Park Royal / A40 / Heathrow

Wandle Valley

Islington

Lewisham

Camden

Havering

Newham*

Newham*

Enfield

Haringey

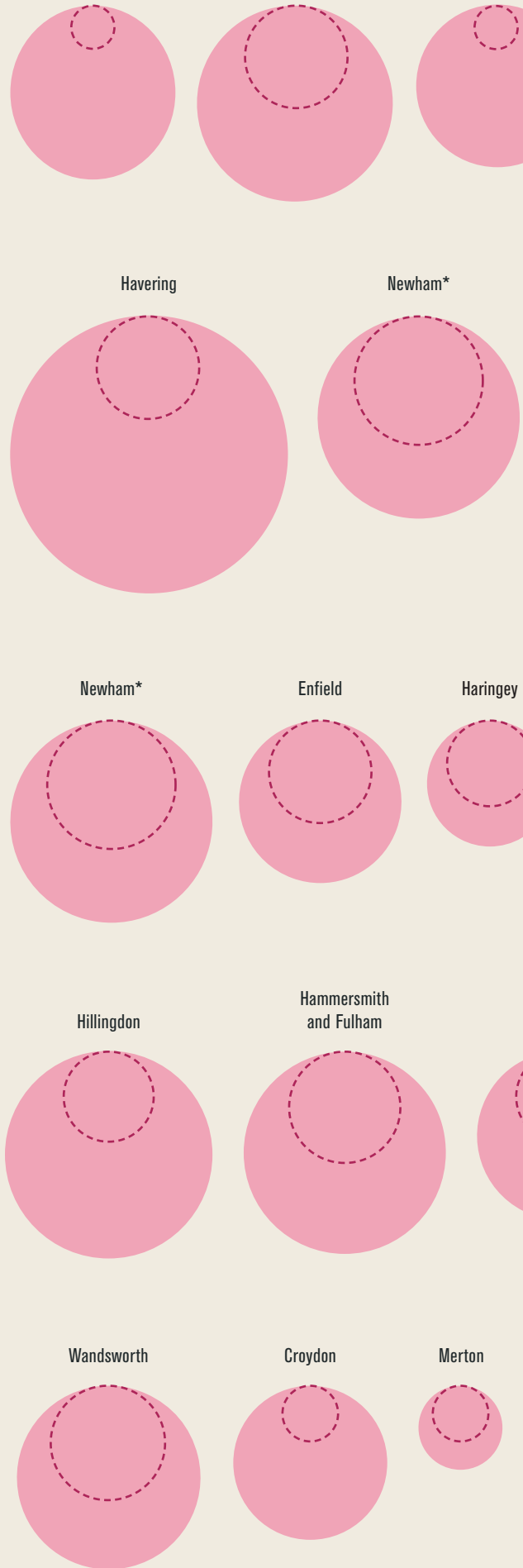
Hillingdon

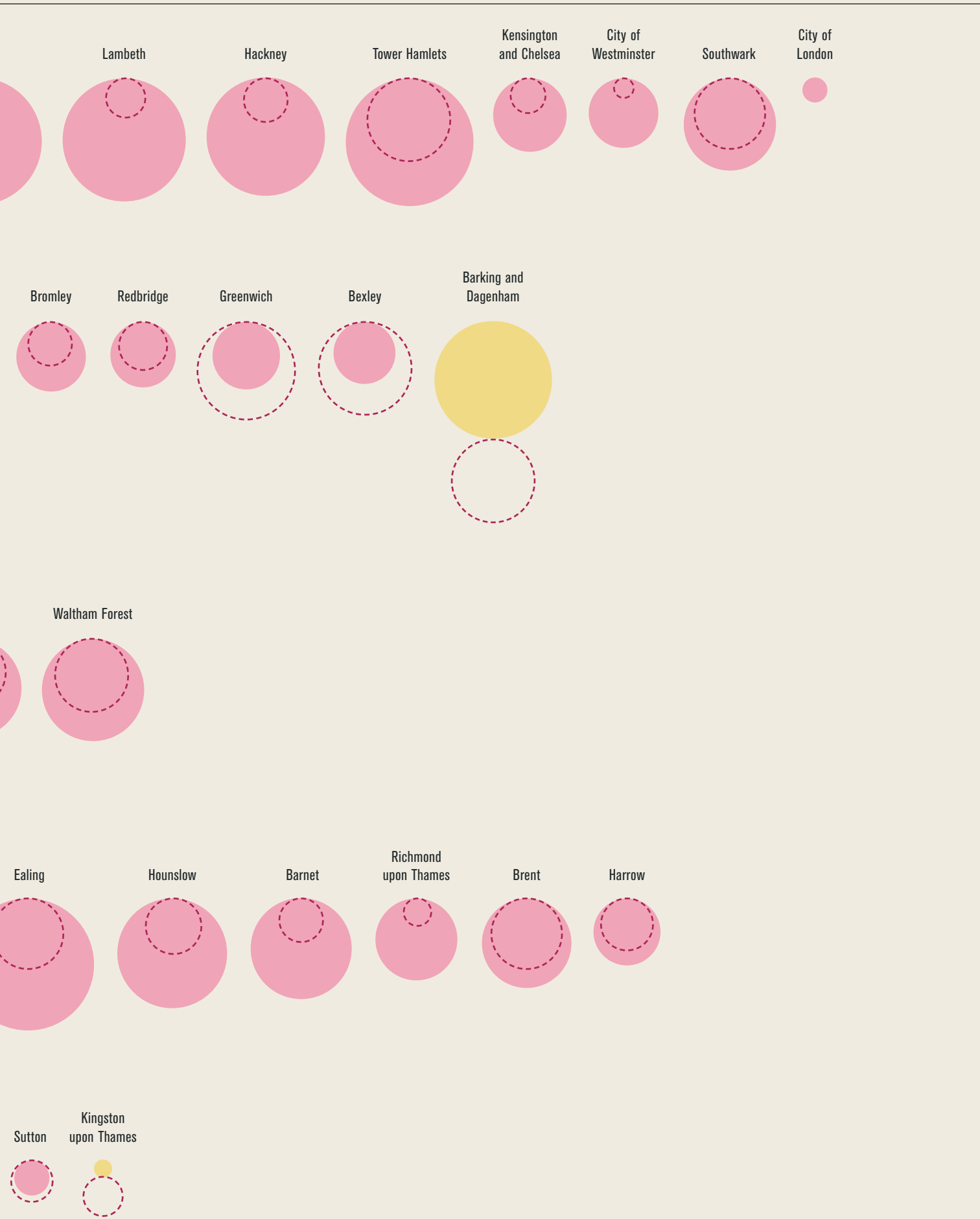
Hammersmith and Fulham

Wandsworth

Croydon

Merton





*Newham is split between the Thames Gateway and Lea Valley property market areas

Table 2-8: Change in Quantity of Industrial Land: SPG Industrial Benchmark Release Five Year Equivalent Compared to Actual Change 2010-2015

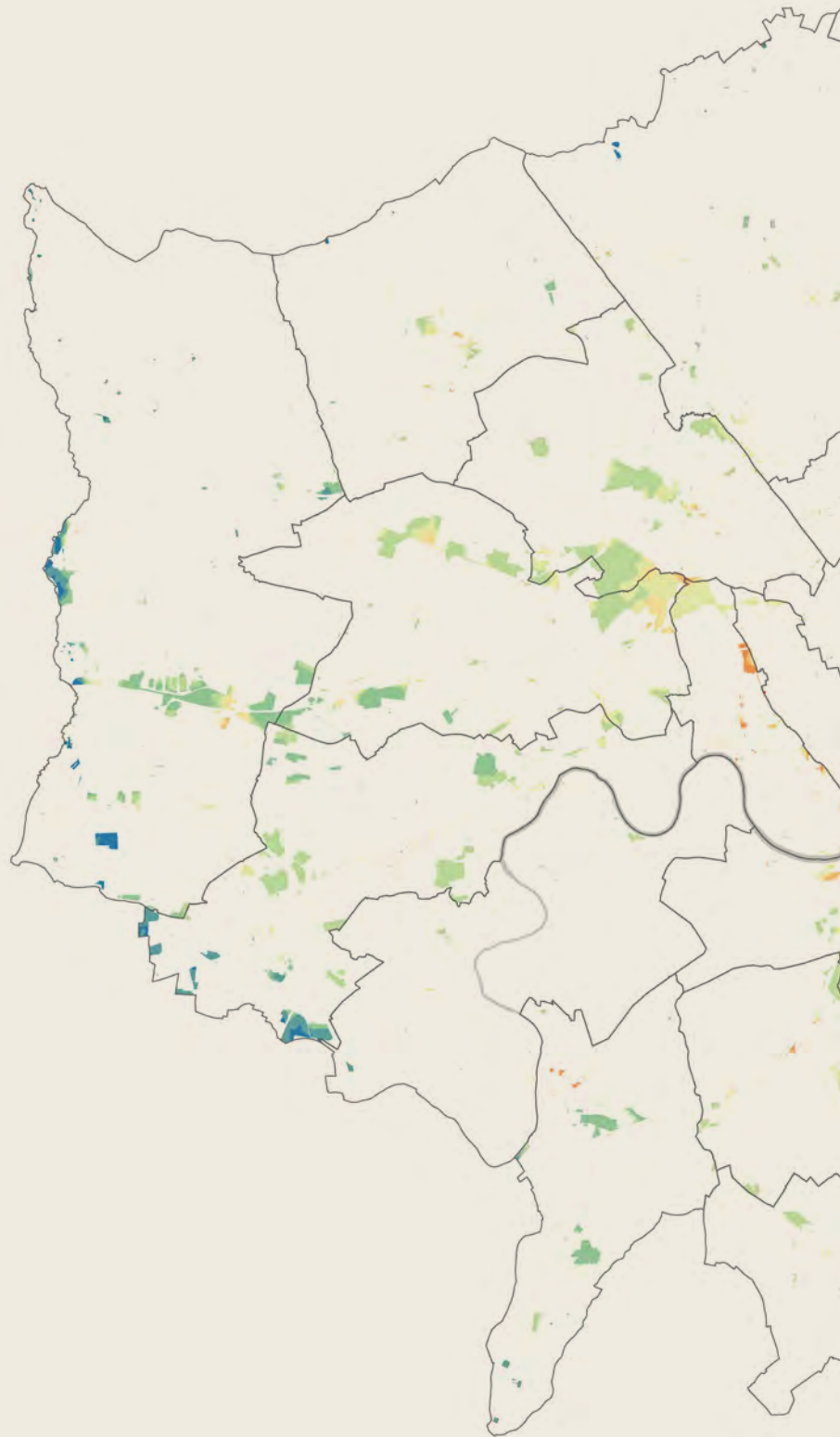
		Annual industrial land release benchmark 2011-31 (ha) SPG	Total industrial land release benchmark 2011-31 (ha) SPG	SPG 5yr release (ha)
London		-36.7	-733.0	-183.3
Inner London		-15.4	-308.0	-77.0
Outer London		-21.3	-425.0	-106.3
Central sub-region		-2.3	-46.0	-11.5
	Camden	-0.3	-5.0	-1.3
	City of London	-	-	-
	Kensington & Chelsea	-0.1	-2.0	-0.5
	Islington	-0.3	-5.0	-1.3
	Southwark	-1.3	-25.0	-6.3
	Westminster	-0.1	-1.0	-0.3
	Lambeth	-0.4	-8.0	-2.0
East sub-region		-19.4	-388.0	-97.0
	Barking & Dagenham	-1.8	-35.0	-8.8
	Bexley	-2.3	-45.0	-11.3
	Greenwich	-2.5	-50.0	-12.5
	Hackney	-0.5	-10.0	-2.5
	Havering	-1.7	-34.0	-8.5
	Lewisham	-1.7	-34.0	-8.5
	Newham	-5.3	-106.0	-13.3
	Redbridge	-0.6	-11.0	-2.8
	Tower Hamlets	-1.8	-35.0	-8.8
	Waltham Forest	-1.4	-28.0	-7.0
North sub-region		-3.4	-67.0	-16.8
	Barnet	-0.5	-10.0	-2.5
	Enfield	-1.7	-33.0	-8.3
	Haringey	-1.2	-24.0	-6.0
South sub-region		-4.4	-88.0	-22.0
	Bromley	-0.5	-9.0	-2.3
	Croydon	-0.5	-9.0	-2.3
	Kingston upon Thames	-0.4	-7.0	-1.8
	Merton	-0.5	-9.0	-2.3
	Richmond upon Thames	-0.2	-4.0	-1.0
	Sutton	-0.5	-9.0	-2.3
	Wandsworth	-2.1	-41.0	-10.3
West sub-region		-7.2	-144.0	-36.0
	Brent	-1.3	-26.0	-6.5
	Ealing	-1.2	-24.0	-6.0
	Hammersmith & Fulham	-2.0	-39.0	-9.8
	Harrow	-0.7	-14.0	-3.5
	Hillingdon	-1.3	-26.0	-6.5
	Hounslow	-0.8	-15.0	-3.8
Central Services Circle		-6.3	-125	-31.3
Lea Valley		-6.9	-138	-34.5
Thames Gateway		-11.9	-237	-59.3
Wandle Valley		-3.8	-75	-18.8
Park Royal / A40 / Heathrow		-7.9	-158	-39.5

Note: Does not include change in land used by utilities, land for rail or docks, and so the London wide industrial land release figure of 506.6ha does not match the figure of 528.4ha in Table 2-7

Actual release 2010-2015 (ha)	Difference 2010-2015 (ha)	Difference: Actual release 2010-2015 and total industrial land release benchmark (ha)	Actual release as % of total SPG release
-506.6	-323.3	226.4	69%
-259.9	-182.9	48.1	84%
-246.6	-140.4	178.4	58%
-90.6	-79.1	-44.6	197%
-21.0	-19.8	-16.0	421%
-0.8	-0.8	-0.8	>100%
-7.1	-6.6	-5.1	353%
-24.3	-23.1	-19.3	486%
-11.1	-4.9	13.9	45%
-6.3	-6.1	-5.3	634%
-19.8	-17.8	-11.8	248%
-177.7	-80.7	210.3	46%
18.1	26.8	53.1	-52%
-5.0	6.2	40.0	11%
-6.0	6.5	44.0	12%
-18.3	-15.8	-8.3	183%
-62.1	-53.6	-28.1	183%
-30.9	-22.4	3.1	91%
-32.9	-19.6	73.1	31%
-5.6	-2.8	5.4	51%
-21.4	-12.6	13.6	61%
-13.7	-6.7	14.3	49%
-47.3	-30.6	19.7	71%
-13.3	-10.8	-3.3	133%
-21.2	-13.0	11.8	64%
-12.8	-6.8	11.2	53%
-68.3	-46.3	19.7	78%
-6.3	-4.1	2.7	70%
-19.1	-16.8	-10.1	212%
0.4	2.2	7.4	-6%
-5.7	-3.4	3.3	63%
-8.8	-7.8	-4.8	219%
-1.8	0.5	7.2	20%
-27.1	-16.9	13.9	66%
-122.7	-86.7	21.3	85%
-11.0	-4.5	15.0	42%
-22.8	-16.8	1.2	95%
-32.9	-23.1	6.1	84%
-5.9	-2.4	8.1	42%
-34.6	-28.1	-8.6	133%
-15.5	-11.7	-0.5	103%
-161.1	-129.8	-36.1	129%
-80.6	-46.1	57.4	58%
-66.9	-7.7	170.1	28%
-53.2	-34.5	21.8	71%
-144.8	-105.3	13.2	92%

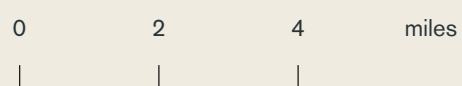
Source: AECOM

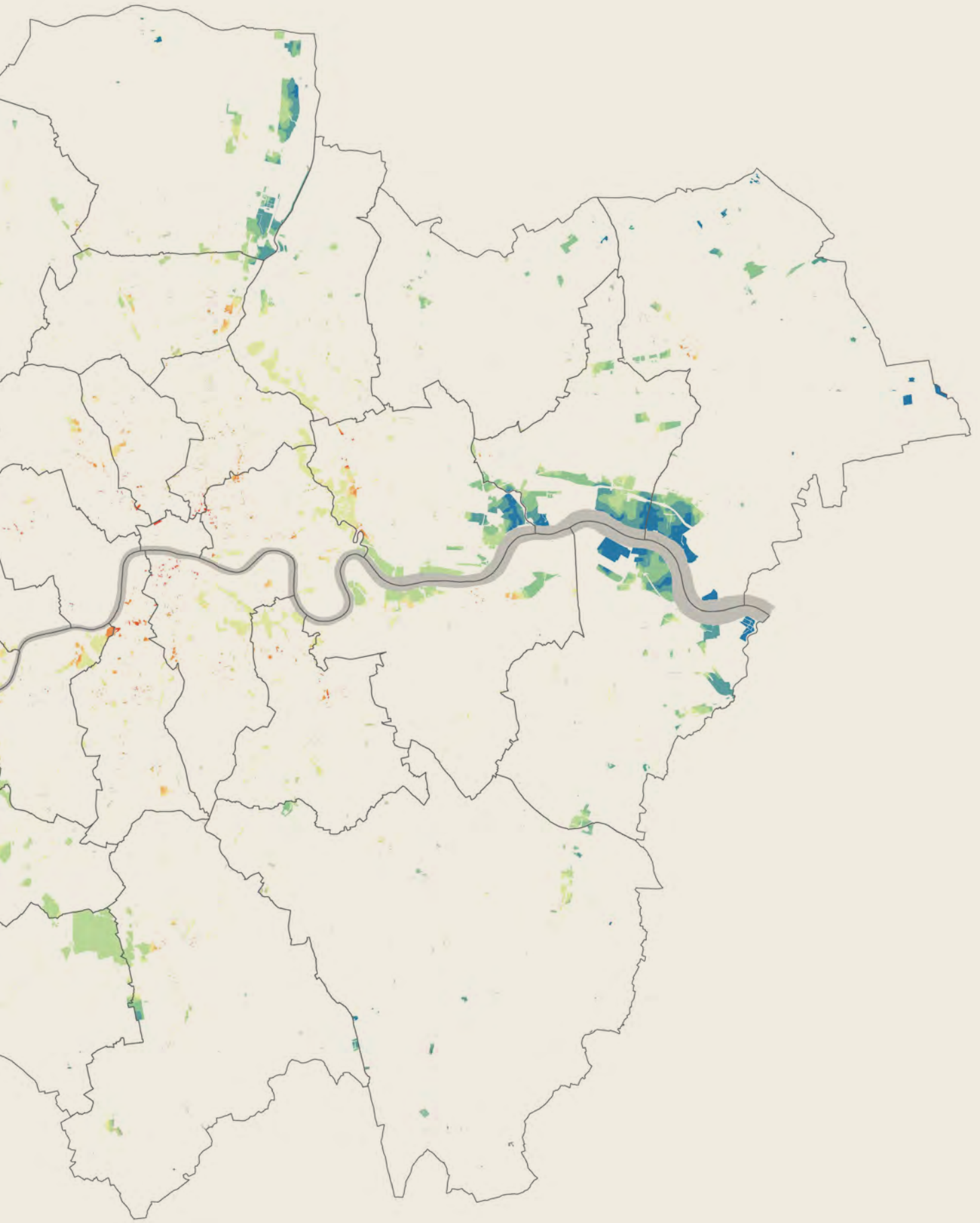
Figure 2-20: PTAL Ratings of Industrial Land in London



- Level 0 – low accessibility
- Level 1a
- Level 1b
- Level 2
- Level 3
- Level 4
- Level 5
- Level 6a
- Level 6b – high accessibility

Scale





Source: AECOM. Note: Central trend assumed to stabilise at 200ha.
If trend continued then would go below 0ha.

2.6 Industrial Land in Development Pipeline and Areas of Change

2.6.1 The purpose of this section is to identify land and floorspace in industrial and related uses that could potentially change to non-industrial uses, including: development pipeline (unimplemented planning permissions); additional planned release through local plans, OAPFs and local frameworks; Housing Zones; and approval data on office to residential permitted development conversions.

Development Pipeline, Local Plans and Frameworks

2.6.2 *Table 2-9* sets out the quantum of industrial land subject to known development or within areas of change which could arise related to each of the categories of change as defined in our approach:

- Development pipeline (unimplemented planning permissions)
- Areas of change:
 - Opportunity Area Planning Frameworks (OAPFs)
 - Emerging (not yet adopted) local plan policy proposals, including proposed changes in industrial site allocations (SILs / LSISs), AAPs and SPDs, separated out into Regulation 19-21 proposals; and Regulation 18 proposals¹⁷, and
 - Housing Zones (including specific housing sites) as defined by the boroughs / GLA.

2.6.3 Sites and allocations associated with areas of change are subject to varying degrees of certainty as to whether, when and precisely how much industrial land within them is likely to be released or redeveloped. As such the quantum of loss may not accurately reflect the actual loss of industrial land recorded within these areas once change has been realised.

2.6.4 In *Table 2-9* the potential industrial land release values are shown for each category individually (in column 1) and then amended to eliminate double counting, i.e. sites that lie within two or more potential release categories have only been recorded within one category in column 2. The figures in column 3 allocate the release to a cascade of the most likely category to result in release (e.g. with LDD / planning application pipeline being the most likely and so forth).

2.6.5 Industrial land which comprise areas of change within Opportunity Areas, local plan policy areas and housing sites includes both core and wider uses, with the exception of land for rail which has not been identified as having the potential to be released owing to it being essential infrastructure.

2.6.6 Industrial land within areas of change associated with OAPFs, once discounting overlap between types of release has been factored in, could account for the largest release of industrial land (363.1ha) within the total identified potential release (834.4ha). Although no practical analysis of likely timeframes for this release is possible, the scale of release associated with the

development pipeline (188.9ha) is likely to occur within five years (indicatively, 37.8ha per annum), though some planning permissions will likely lapse. If realised such a rate would already match (and slightly exceed) the SPG rate of industrial land release (36.6ha per annum).

2.6.7 *Table 2-10* presents the distribution of potential industrial land release by category for the various geographies covered by the study and eliminating double counting. Outer London accounts for the large majority of potential release, with the East and West sub-regions in-turn accommodating the majority of release at 205ha and 187ha respectively. At a borough level, several are identifiable as focuses of release including; Barking and Dagenham (London Riverside OA and unimplemented permissions); Tower Hamlets (Lower Lea Valley OA and Housing Zones); Hillingdon (proposed rationalisation of SIL / LSIS); Hammersmith and Fulham (Old Oak Common and White City OAs and South Fulham Riverside SPD); Enfield (Upper Lea Valley OA) and; Ealing (Park Royal, Old Oak Common and Southall OAs). Also notable are Havering and Haringey which contain Housing Zone sites where proposed industrial land release is significant.

2.6.8 Viewed within the context of the analysis in section 2.5 on potential loss of industrial land through the development pipeline and areas of change, it can be seen that even taking only the most certain category and quantum of likely loss / release of 188.9ha (development pipeline, illustrated in *Figure 2-22* and *Figure 2-23*), this would amount to a 3% reduction in the existing stock of industrial land in London (6,976ha) if realised, or broadly equivalent to the target rate of release for 2010-2015 as set out in the SPG. Adding in the quantum of land associated with other categories (illustrated in *Figure 2-24*) of potential release would increase this reduction further, e.g. if land associated with Opportunity Area Planning Frameworks is included alongside the development pipeline this would equate to a loss of 8%, albeit over an uncertain timeframe.

2.6.9 Overall if the trend release for the period 2010 to 2015 continues in the future then the total scale of industrial land release will be as illustrated in *Figure 2-22*. This shows that by 2041 the total stock would have reduced to around 4,700ha, a 23% reduction over the 2015 levels, or a 38% reduction over the 2010 levels. The implications of continuing with recent trends are explored further in Chapter 6.

¹⁷ Regulation stages relate to the stage at which the progress of emerging Local Plan or SPD policies has reached. Regulation 18 relate to policies / proposals at consultation stage, and Regulation 19-21 relate to proposed submission through to proposed adoption draft plans or SPDs.

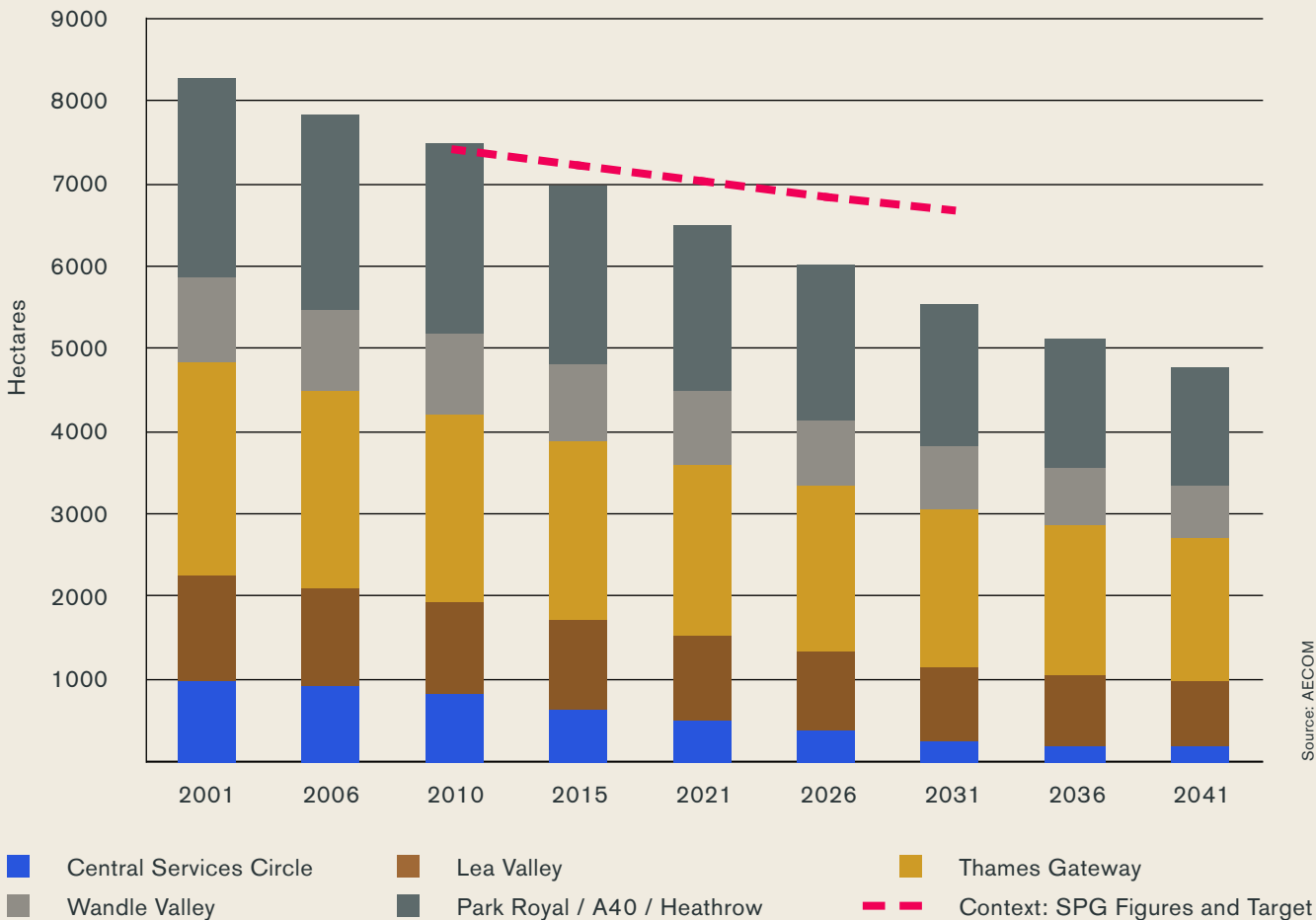
Table 2-9: Potential Industrial Land Release¹⁸

Industrial land identified for release via:	1. Total potential release ind. land release (ha)	2. Discounting overlap between types of release (ha)	3. Cumulative (ha)
Development Pipeline (LDD applications)	188.9	188.9	188.9
Areas of Change			
Opportunity Area Planning Frameworks	373.1	363.1	552.0
Local Plan Policies - Reg 19+ stage	78.6	75.5	627.5
Local Plan Policies - Reg 18 stage	88.2	80.8	708.4
Housing Zone Sites	154.0	126.0	834.4
Total	882.7	834.4	-

Source: AECOM

¹⁸ Land potentially released through Development Pipeline (LDD application) has been calculated based on net changes in floorspace which have been converted into hectares using plot ratios. Land potentially released in Areas of Change has been directly identified in hectares through the industrial land dataset. 'Double counting' between the two categories can therefore result in over / under estimation in cases where this occurred.

Figure 2-21: Implications of Continued Trends in Industrial Land



Source: AECOM

Table 2-10: Potential Industrial Land Release Distribution

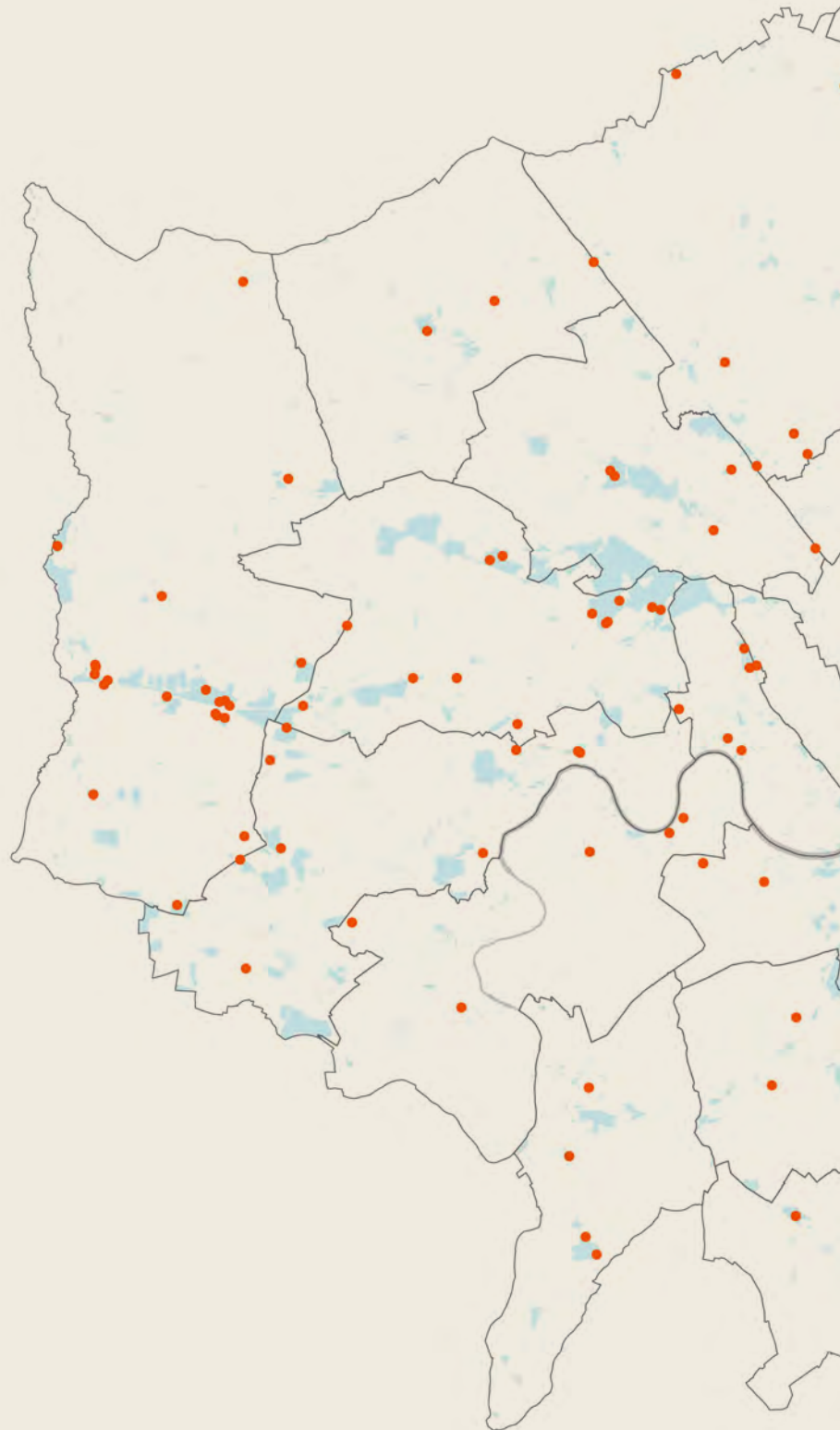
		Development pipeline (LDD)	OA Planning Frameworks	Local Plan Reg 19+	Local Plan Reg 18	Housing Zone sites	Total
London		188.9	363.1	75.5	80.8	126.1	834.4
CAZ		n/a	n/a	n/a	n/a	n/a	n/a
Inner London		80.4	106.4	15.9	35.5	44.1	282.4
Outer London		108.5	256.7	59.6	43.7	81.9	550.5
Central sub-region		13.6	5.2	0.0	0.0	5.2	24.0
	Camden	1.0	0.0	0.0	0.0	0.0	1.0
	City of London	0.0	0.0	0.0	0.0	0.0	0.0
	Kensington & Chelsea	0.7	0.5	0.0	0.0	0.0	1.2
	Islington	5.1	0.0	0.0	0.0	0.0	5.1
	Southwark	5.4	0.0	0.0	0.0	0.1	5.5
	Westminster	0.1	0.0	0.0	0.0	0.0	0.1
	Lambeth	1.3	4.7	0.0	0.0	5.1	11.0
East sub-region		71.7	0.0	1.4	79.3	52.2	204.6
	Barking & Dagenham	14.6	96.7	0.0	0.0	0.0	111.3
	Bexley	2.1	0.0	0.0	43.7	0.1	45.9
	Greenwich	9.0	0.0	0.0	35.5	7.8	52.3
	Hackney	1.6	0.5	0.0	0.0	0.0	2.1
	Havering	5.4	0.0	0.0	0.0	15.6	21.0
	Lewisham	4.6	0.0	0.0	0.0	5.6	10.2
	Newham	19.7	31.1	0.0	0.0	0.0	50.7
	Redbridge	0.9	0.0	1.4	0.0	0.0	2.3
	Tower Hamlets	8.9	24.9	0.0	0.0	23.1	57.0
	Waltham Forest	4.9	21.9	0.0	0.0	0.0	26.9
North sub-region		9.6	0.0	2.0	0.0	8.6	20.1
	Barnet	0.8	0.0	0.0	0.0	1.0	1.8
	Enfield	1.5	62.9	2.0	0.0	0.9	67.3
	Haringey	7.3	17.3	0.0	0.0	6.7	31.2
South sub-region		21.7	0.0	0.0	0.0	9.8	31.4
	Bromley	1.3	0.0	0.0	0.0	0.2	1.4
	Croydon	1.3	0.0	0.0	0.0	0.0	1.3
	Kingston upon Thames	0.6	0.0	0.0	0.0	0.0	0.6
	Merton	0.7	0.0	0.0	0.0	0.1	0.8
	Richmond upon Thames	0.7	0.0	0.0	0.0	0.0	0.7
	Sutton	10.2	0.0	0.0	0.0	7.5	17.7
	Wandsworth	6.9	31.2	0.0	0.0	2.0	40.0
West sub-region		68.3	0.0	72.2	0.0	46.7	187.2
	Brent	5.7	0.0	10.3	0.0	22.3	38.4
	Ealing	4.3	36.7	0.0	0.0	13.1	54.1
	Hammersmith & Fulham	12.1	39.2	15.9	0.0	0.4	67.5
	Harrow	15.4	0.0	0.0	0.0	5.2	20.6
	Hillingdon	23.8	0.0	46.0	0.0	0.0	69.8
	Hounslow	7.0	0.0	0.0	0.0	5.7	12.8

Source: AECOM

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Figure 2-22: Potential Industrial Land Release Through LDD Planning Approvals

The development pipeline suggests the potential for 188.9ha of land to be lost / released from industrial uses. This is equivalent to 3% of the existing stock of industrial land in London.



- Industrial land 2015
- Sites of potential industrial land release through LDD / planning applications

Scale



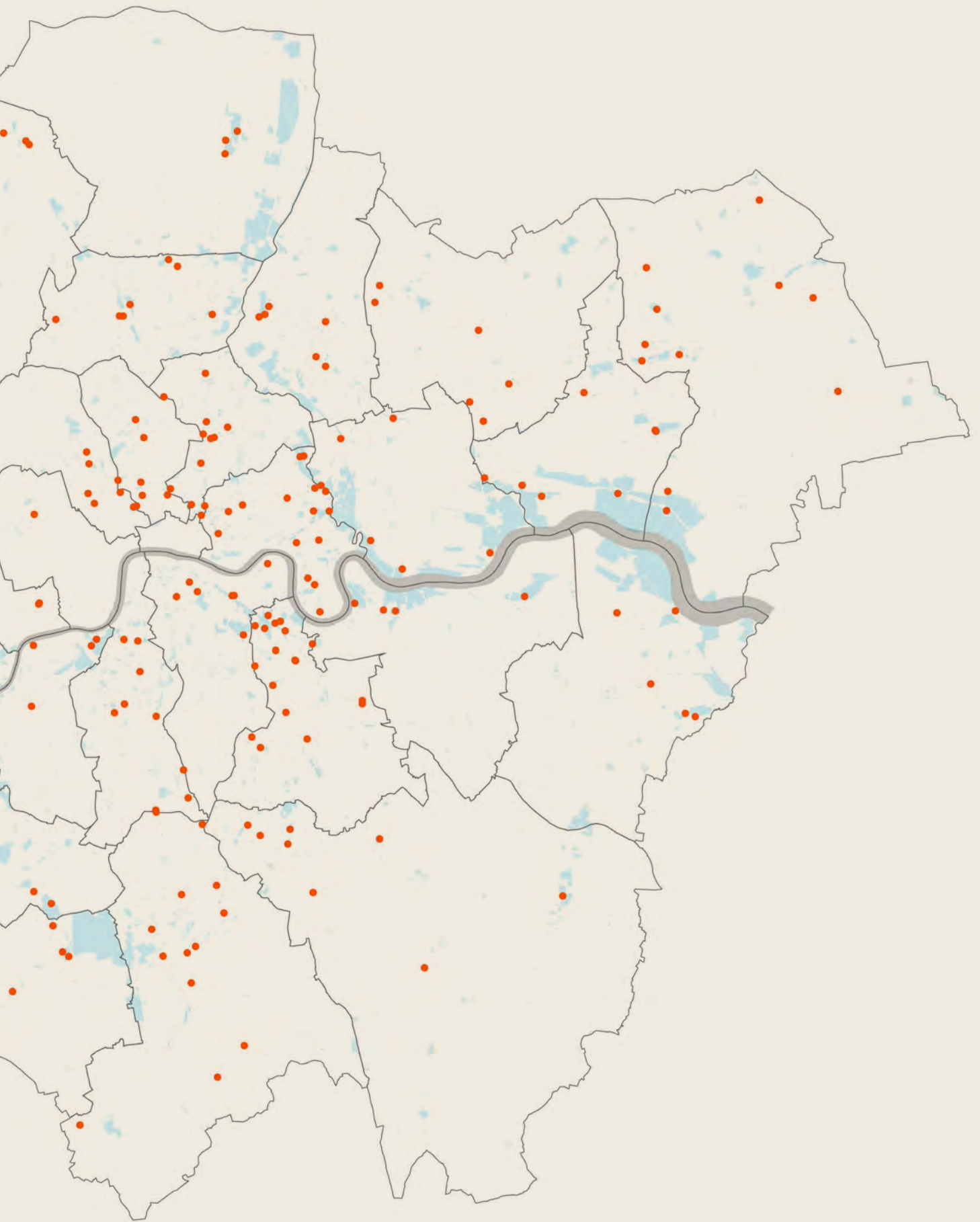
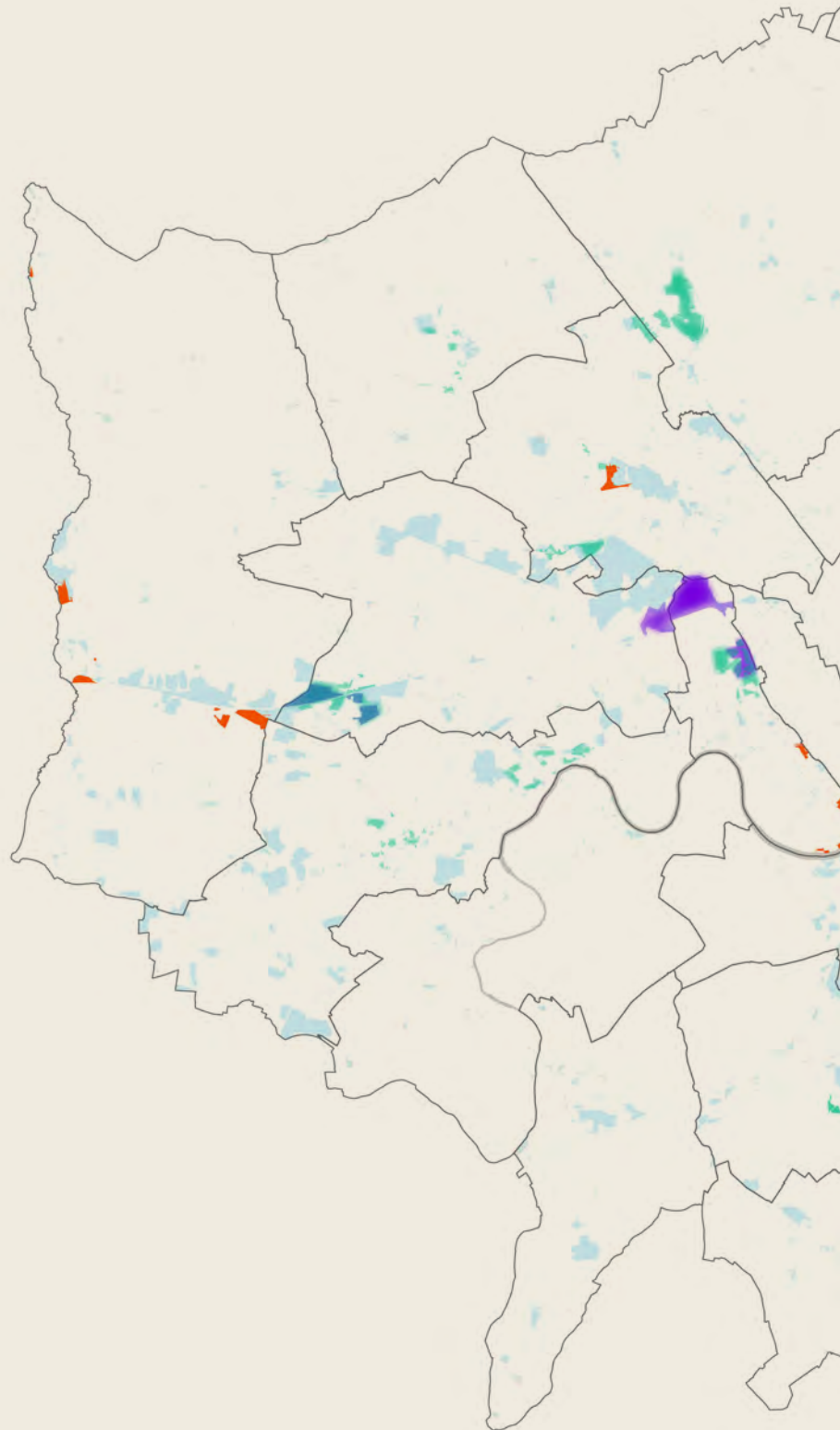


Figure 2-23: Potential Industrial Land Release Local Plan Policies, Housing Zones Sites and OAPF Sites

The total quantum of land associated with all potential pipeline release amounts to a loss of 8% of the total supply of industrial land in London.



- Industrial land 2015
- Sites of potential industrial land release through Local Plan policies
- Potential industrial land release through Housing Zone sites
- Potential industrial land release through OAPF sites

Scale

0 2 4 miles

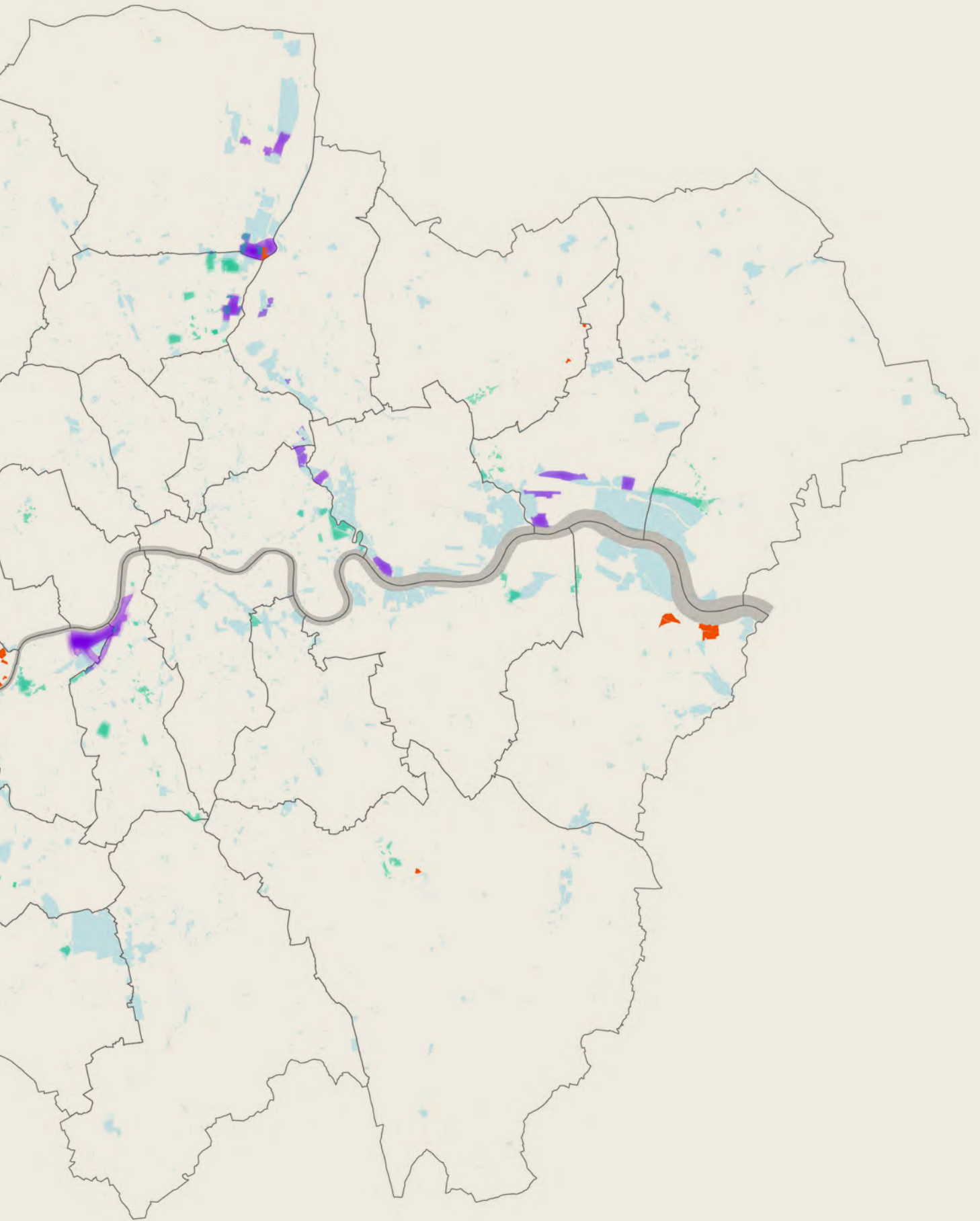


Figure 2-24: SPG Benchmark Release Compared to Actual Release and Potential Pipeline Release

Much of the potential pipeline release of industrial land captured here is likely to occur within the next 20 years. If realised, such a rate would exceed the SPG rate of industrial land release for the 2010-2031 period in most boroughs.

Arranged in descending order of differential between benchmark and actual + potential release.

- SPG benchmark 2011-2031 release target
- Industrial land released 2010-2015
- Industrial land gained 2010-2015
- Industrial land change 2010-2015 + potential pipeline release over the next 20 years

Scale



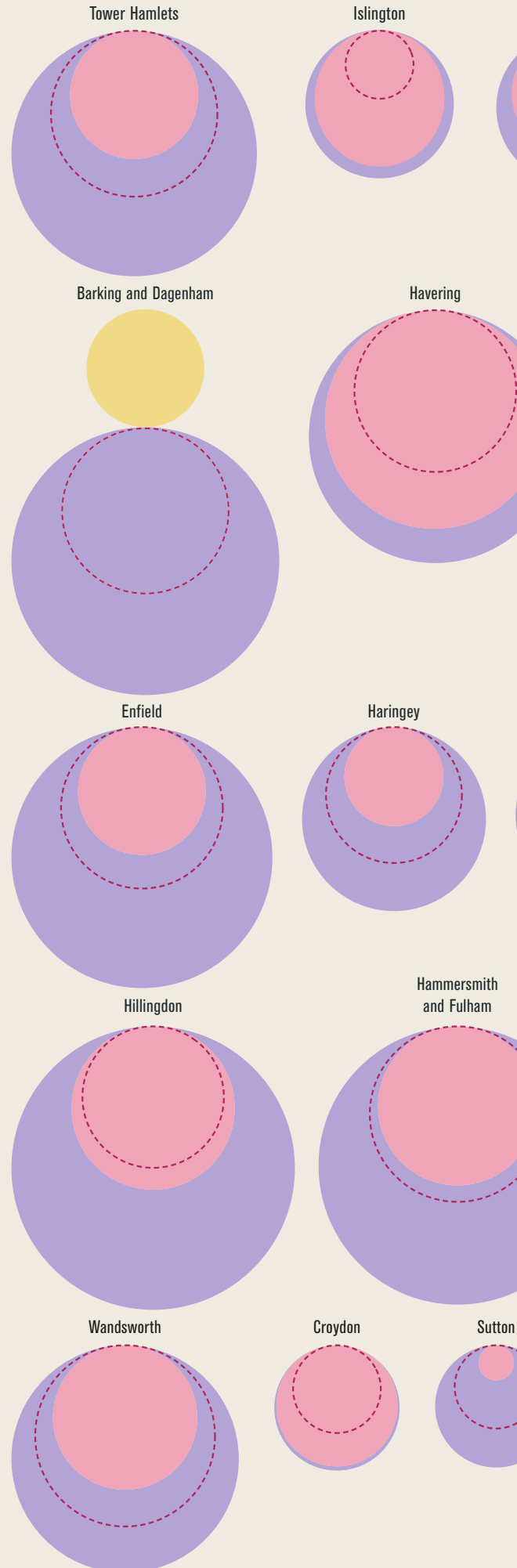
Central Services Circle

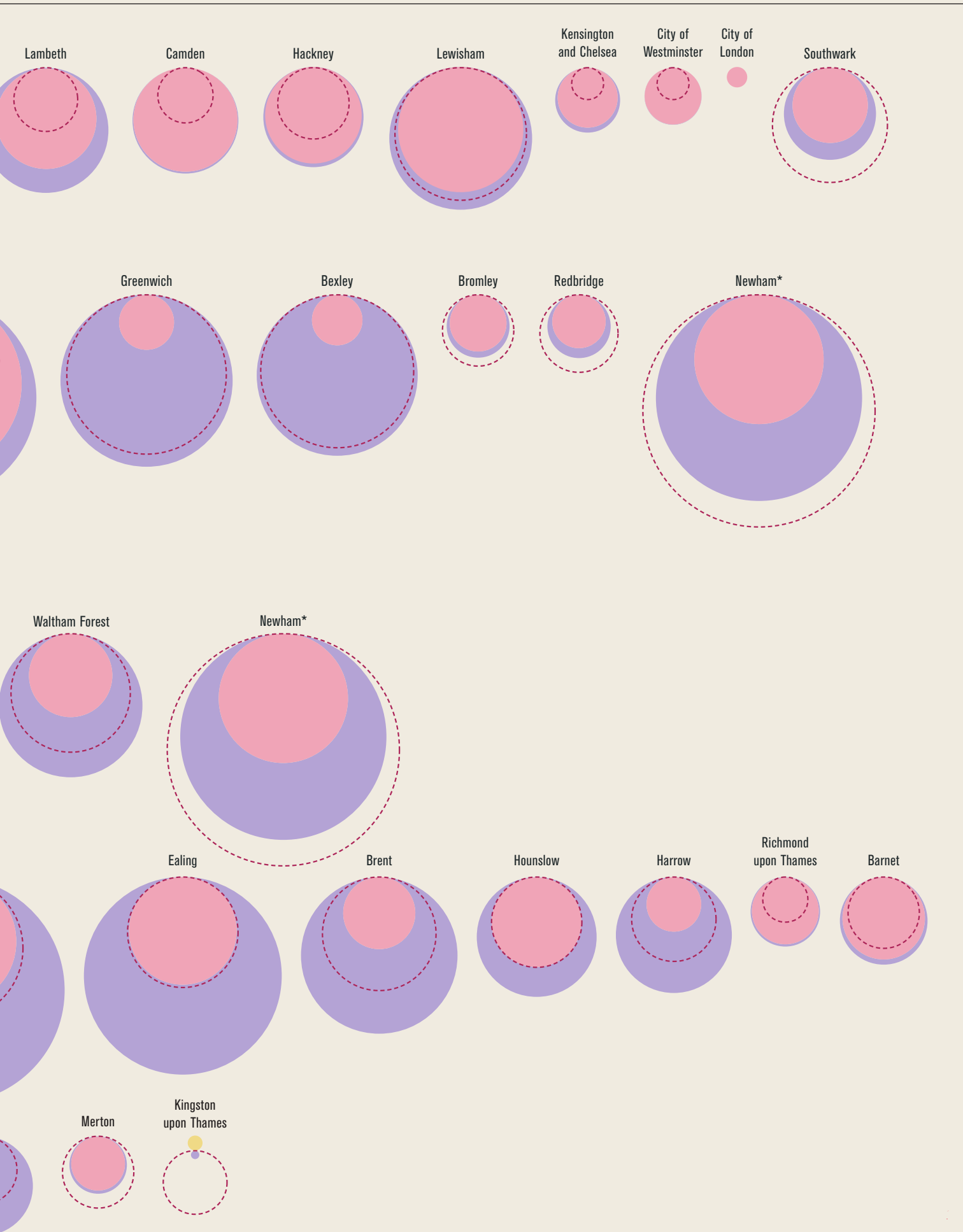
Thames Gateway

Lea Valley

Park Royal / A40 / Heathrow

Wandle Valley





*Newham is split between the Thames Gateway and Lea Valley property market areas

Permitted Development Rights Conversions – Office to Residential Uses

2.6.10 Of particular relevance to an appreciation of how the future supply of industrial land and floorspace could change is the identification of designated industrial employment areas (SILs and LSISs) where office floorspace could or is being converted for residential use through use of Permitted Development Rights. This is relevant primarily owing to the potential for industrial areas containing 'prior approvals' for such conversions to experience a loss or erosion of their functionality as designated industrial land through introduction of neighbouring incompatible land uses.

2.6.11 *Table 2-11* presents the number of prior approvals / notifications and quantum of office floorspace subject to prior approval within designated industrial areas in London as of March 2015. *Figure 2-25* shows the London-wide distribution of these approvals.

2.6.12 The table shows that there is approximately 83,227m² of office floorspace in designated industrial areas in London with prior approval for office to residential conversion. Using a standard employment density assumption, this would approximate to space for 5,895 jobs¹⁹. The Outer London area accounts for the majority of this floorspace at 75%. The South sub-region contains the highest sub-regional proportion of such floorspace at 39%, with the West, at 37%, also containing a significant proportion. The East sub-region contains the lowest proportion at 9%, with the East sub-region accommodating 9%. The Central sub-region accommodates 12% of such floorspace which contrasts with it housing only 3% of London's supply of designated industrial land.

2.6.13 The boroughs containing the largest proportion of London's office floorspace in designated industrial areas with prior approval are in the West sub-region, including Brent which contains 16% and Ealing with 13%. Elsewhere, Croydon and Sutton in the South accommodate 13% and 10% respectively with Lewisham in the East sub-region accommodating 7% and 5% in Camden in the North.

¹⁹ Assuming an average conversion ratio of gross internal floor space to net internal floor space of 0.85 and an average density of 1 office job to 12m² as per Employment density Guide (HCA; November 2015, 3rd edition).

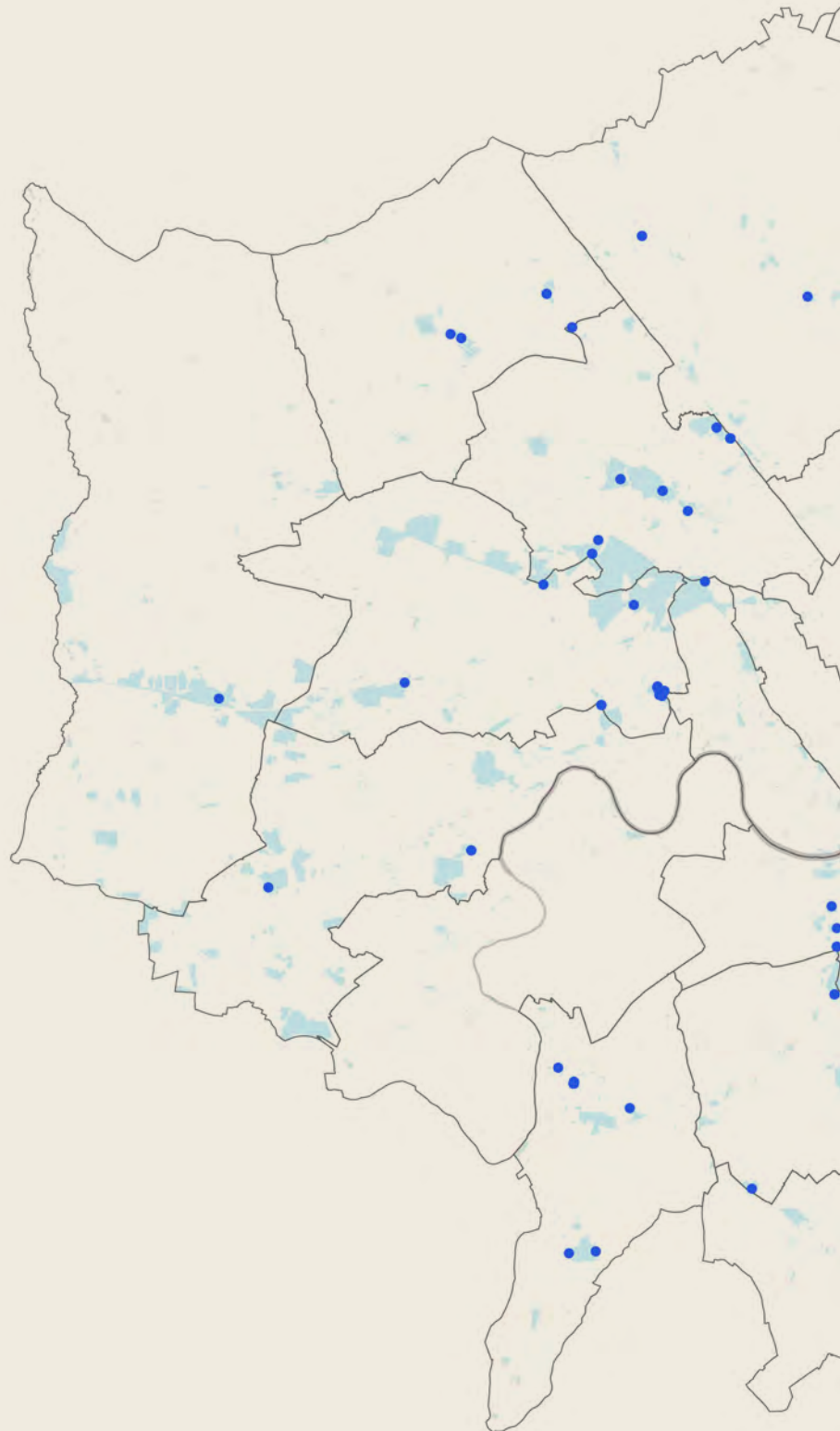
Table 2-11: Permitted Development Rights Conversion - Office to Residential Uses on Designated Industrial Land

		Number of prior approvals within SIL / LSIS areas	Office floorspace redeveloped within SIL / LSIS (m ²)	Proportion of office floorspace in SIL / LSIS in London with prior approval
London		84	83,227	100.0%
CAZ		-	-	0.0%
Inner London		18	20,971	25.2%
Outer London		66	62,256	74.8%
Central sub-region		10	9,612	11.5%
	Camden	4	4,000	4.8%
	City of London	-	-	0.0%
	Kensington & Chelsea	-	-	0.0%
	Islington	3	3,497	4.2%
	Southwark	2	275	0.3%
	Westminster	-	-	0.0%
	Lambeth	1	1,840	2.2%
East sub-region		4	7,387	8.9%
	Barking & Dagenham	-	-	0.0%
	Bexley	-	-	0.0%
	Greenwich	-	-	0.0%
	Hackney	-	-	0.0%
	Havering	-	-	0.0%
	Lewisham	3	5,497	6.6%
	Newham	-	-	0.0%
	Redbridge	-	-	0.0%
	Tower Hamlets	-	-	0.0%
	Waltham Forest	1	1,890	2.3%
North sub-region		2	3,001	3.6%
	Barnet	1	2,397	2.9%
	Enfield	-	-	0.0%
	Haringey	1	604	0.7%
South sub-region		27	32,097	38.6%
	Bromley	2	2,867	3.4%
	Croydon	2	10,554	12.7%
	Kingston upon Thames	16	7,702	9.3%
	Merton	-	-	0.0%
	Richmond upon Thames	-	-	0.0%
	Sutton	3	8,608	10.3%
	Wandsworth	4	2,366	2.8%
West sub-region		41	31,130	37.4%
	Brent	6	12,922	15.5%
	Ealing	30	10,866	13.1%
	Hammersmith & Fulham	1	3,496	4.2%
	Harrow	2	1,325	1.6%
	Hillingdon	1	1,851	2.2%
	Hounslow	1	670	0.8%

Source: AECOM

Figure 2-25: Permitted Development Conversions (Office to Residential Uses) on Designated Industrial Land in London

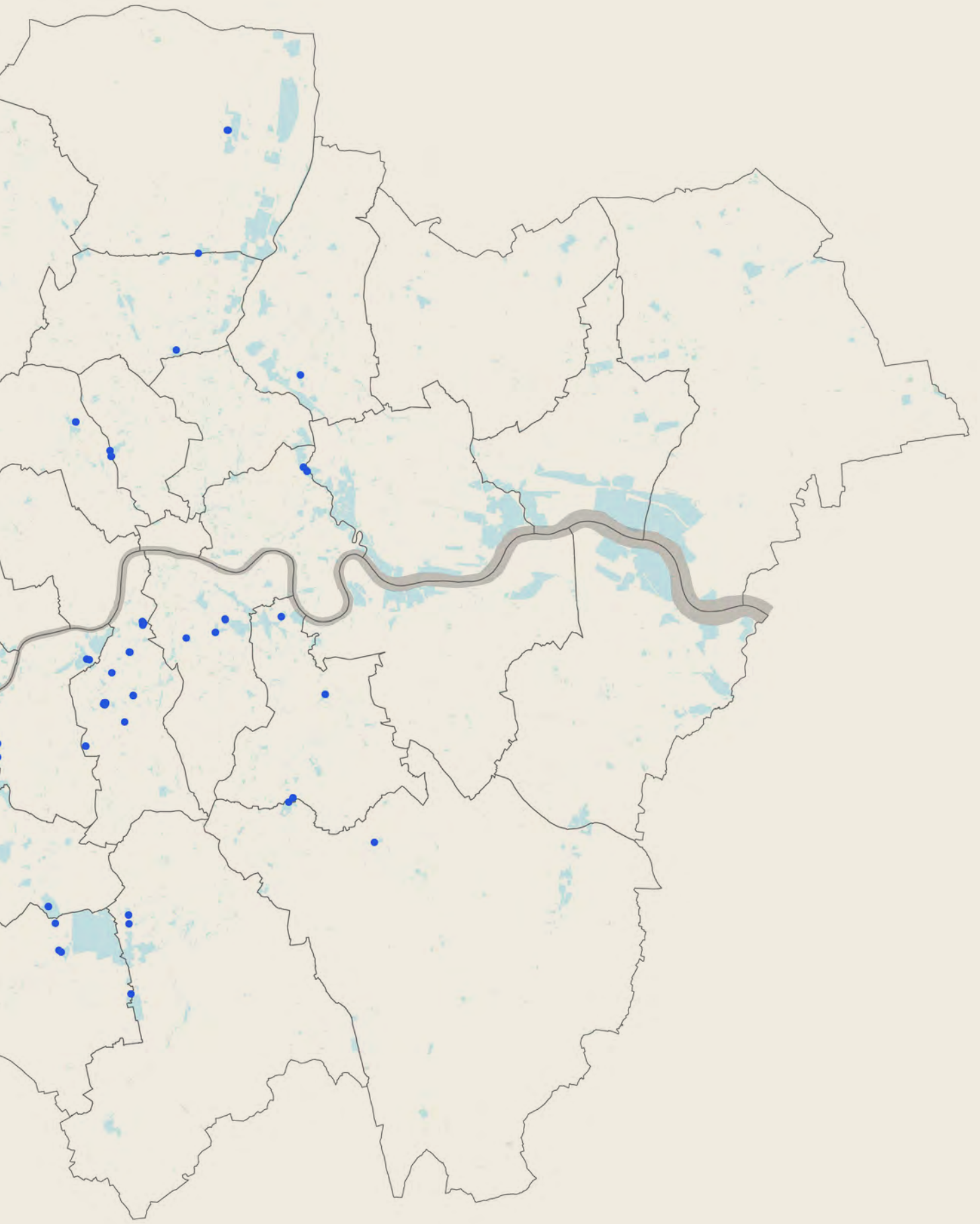
There is approximately 83,227m² of office floorspace in designated industrial areas in London with prior approval for office to residential conversion, approximating to space for 5,895 jobs.



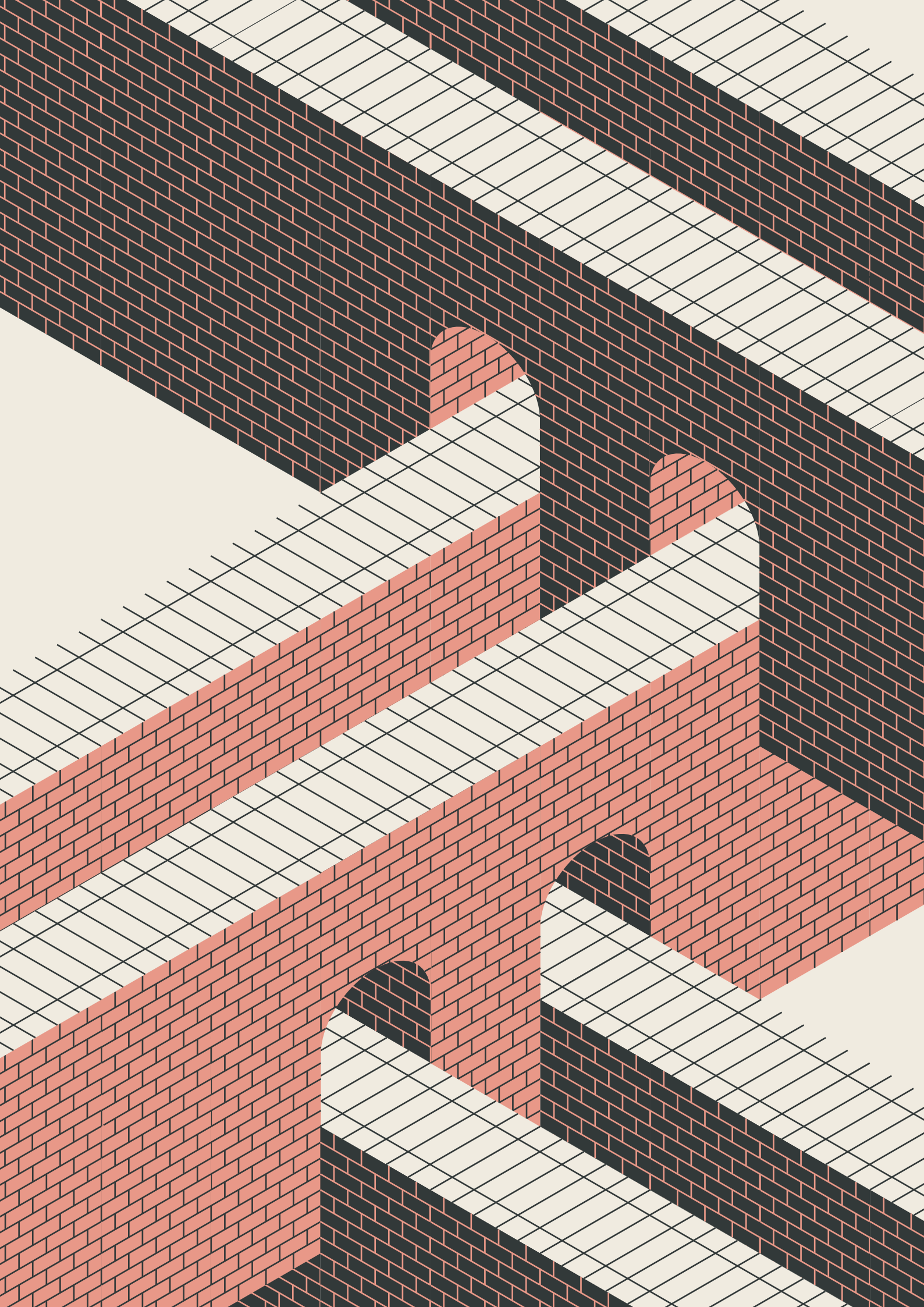
- Industrial land 2015
- Prior approvals for permitted development conversions

Scale





Source: AECOM. Prior notifications shown are those located within designated industrial land only



3.

Business & Employment

3. Business & Employment

3.1 Introduction

3.1.1 The purpose of this chapter is to:

- Estimate the total number of jobs in industrial activities and areas
- Estimate the number of industrial enterprises and those in industrial areas
- Estimate the average size of business premises

3.1.2 Economic data used to measure businesses and employment is defined according to the Standard Industrial Classification (SIC) 2007. SIC determines the economic sector a business operates in, and hence the employment associated with that sector. The availability of economic data can vary by both geographical breakdown and SIC disaggregation.

3.1.3 The accuracy of the calculations presented in this chapter relies on defining a suitable subset of SIC sectors that represent the kinds of economic activity that tend to be found predominantly on industrial land and areas. The definition provided by Appendix A of the London Office Floorspace Projections Update (2014) has been applied²⁰, and are presented in Appendix B of this report. Analysis of these sectors indicates that they characterise core industrial activities, covering industry (general industry; and light industry) and warehousing (warehouses, self-storage, and open storage). However, as a broader range of activities are typically found on industrial land, an additional set of SIC groups has been defined which include both core and 'wider' industrial activities²¹.

3.2 Industrial Employment in London and on Industrial Land

Introduction

3.2.1 The purpose of this section is to provide estimates of industrial employment in London and employment on industrial land in London.

Total Employment in Industrial Activities

Employment in industrial activities in London can be derived from the Office for National Statistics (ONS) Business Register and Employment Survey (BRES), which provides workplace employee and employment estimates at geographical and sectoral levels. BRES estimates employment in businesses registered for Value Added Tax (VAT) and / or Pay As You Earn (PAYE). The latest version of BRES considers employment at September 2014. *Table 3-1* presents a breakdown of employment in industrial activities across London.

3.2.2 Approximately 7.3% of all employment in London is in industrial activities, of which nearly 80% is associated with core industrial activities. The majority of employment is focussed in Outer London locations, most notably

within the East and West sub-regions. The share of industrial employment is lowest in Inner London, the Central sub-region and the CAZ, where industrial activity represents the lowest share of total employment, despite representing around a third of all employment in London.

3.2.3 The ONS data presented in *Table 3-1* does not capture those businesses that are not registered for either VAT or PAYE. Such businesses either operate in a VAT-exempt industry or are below the VAT threshold while not operating a PAYE scheme. These estimates are based on self-assessment data from HM Revenue & Customs (HMRC) and ONS Labour Force Survey. The Department for Business, Innovation and Skills (BIS) Business Population Estimates series provides an annual estimate of employment across all businesses in London²², which can be used to estimate those businesses which are below the VAT threshold. The BIS data records that, assuming that Manufacturing, Construction and Transportation & Storage sectors to best represent 'industrial' activity, approximately 23% of industrial employment is provided in VAT / PAYE unregistered businesses, and is not included in the data BRES estimates. This source implies that total industrial employment may be 30%²³ higher than the BRES estimate presented in *Table 3-1*. A best estimate of total employment in industrial activities could be as high as 450,800 across London, although it is likely that the true extent of employment may vary from this estimate.

Total Employment in Designated Industrial Areas²⁴

3.2.4 Core and wider industrial employment in designated industrial areas are presented in *Table 3-2*. BRES data records approximately 171,600 individuals employed in industrial activities on designated land. Almost half of all industrial employment is located on designated land, of which just under half is on SILs. *Table 3-2* demonstrates that the proportion of industrial jobs in designated areas in Outer London (52.3%) is greater than in Inner London areas (39.8%). The share of designated employment is greatest in the North sub-region, while the West sub-region accounts for 43.3% of all designated employment across London.

3.2.5 Employment in industrial areas is not limited to the industrial sectors set out in Appendix B. Businesses involved in non-industrial activities are also found in designated industrial areas, as they provide a reservoir of affordable space for activities such as professional services, places of worship, gyms and rehearsal rooms, education and training centres, banqueting and other event facilities, galleries and studios, builders merchants, and hardware shops. Detailed survey work undertaken by the GLA for the Park Royal Atlas and Old Kent Road Employment Study have recorded businesses and employment. The extent of non-industrial employment in these two areas is presented in *Table 3-3* and *Table 3-4*.

3.2.6 *Table 3-3* and *Table 3-4* indicate that the proportion of employment in non-industrial activities is measured at 22% to 43% in the Old Kent Road and Park Royal areas respectively. As examples

of industrial areas in both Inner London and Other London, these detailed surveys show that the total employment in industrial areas is considerably higher when observed geographically.

3.2.7 In order to capture the extent of non-industrial employment in designated areas, we applied a series of assumptions relating to the employment associated with different non-industrial land uses. These estimates are constrained to ensure compatibility with published employment data at a LSOA level, and are intended to provide a broad brush estimate of the contribution of non-industrial activities to overall employment in designated areas.

3.2.8 The estimate in *Table 3-5* indicates that approximately 129,400 jobs in non-industrial activities could be located in designated industrial areas, contributing approximately 43% of employment at these locations. The Central sub-region has the greatest concentration of non-industrial jobs, where a majority of employment in designated areas is in non-industrial activities. Comparison with *Table 3-1* indicates that designated areas represent 6.4% of all employment (all sectors of the economy) in London²⁵. Combining this estimate with the 175,400 jobs in industrial activities in non-designated areas suggests that approximately 476,400 jobs are associated with industrial land across London.

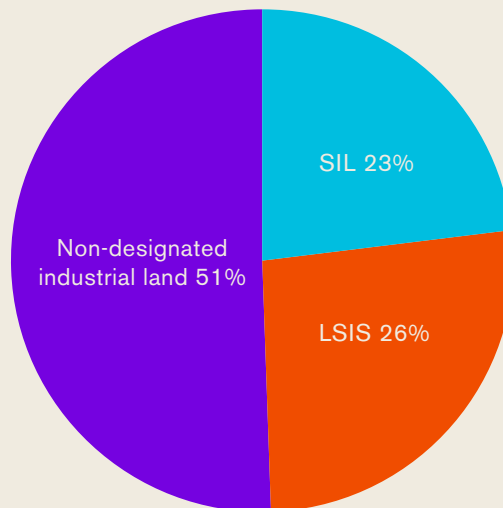
Trends in Employment in Industrial Activities

3.2.9 Trends in employment in industrial activities across London since 2001 are presented in *Figure 3-5* and *Table 3-6*.

3.2.10 The table demonstrates that while the number of industrial employees has fallen across the period 2001 to 2010, this pattern has reversed from 2010 to 2015. From 2010 to 2015 growth is strongest in the North sub-region, while only the Central and South sub-regions have seen a contraction in the number of industrial employees over this period. The West sub-region is the only area to see an increase in the number of industrial employees in 2015 relative to 2001.

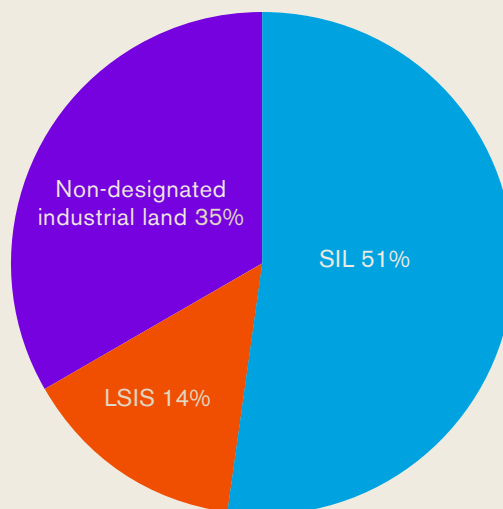
3.2.11 The above analysis contrasts with latest GLA research on employment trends, as presented in Working Paper 67, July 2015. *Figure 3b* from the report is reproduced as *Figure 3-4*. This figure shows past data and trends for relevant sectors including Manufacturing and Transport and Storage. This shows the long-term trend decline in manufacturing employment, with the recent up-turn in numbers.

Figure 3-1: Employment in Industrial Activities by Designation



Source: AECOM

Figure 3-2: Total Industrial Land in London by Designation



Source: AECOM

²⁰ Peter Brett Associates, (2014); London Office Floorspace Projections Update 2014. This source allocates 354 of the 729 SIC Sub-Groups to industrial land. In order to reduce the impact of our data being altered for the purposes of non-disclosure, while maintaining the same split of industrial to non-industrial sectors, wherever possible we apply this definition at a SIC Group level (616 sectors).

²¹ Wider industrial sectors are defined as the following SIC Divisions, exclusive of the sectors defined as core industrial: 10-39; 43-46; 49; 52.

²² Business Population Estimates for the UK and Regions 2014, BIS, 2014.

²³ $100\%/77\% = 129.9\%$

²⁴ The approach taken to estimating employment in industrial activities in designated areas differs from that used in the 2010 report, owing to restrictions on the accessibility and presentation of data, and data integrity.

²⁵ $304,700/4,736,700 = 6.4\%$

Table 3-1: Employment in Industrial Activities in London

	Core industrial employment	Wider industrial employment	Total employment in industrial activities²⁶	Total employment (all sectors)²⁷	Industrial share of total employment by area (%)
CAZ ²⁸	5,100	500	5,600	1,682,000	0.3%
Central	18,500	4,200	22,700	2,101,500	1.1%
North	30,000	5,700	35,700	291,500	12.2%
East	79,400	18,000	97,400	932,700	10.4%
West	100,600	33,600	134,200	784,800	17.1%
South	47,800	9,100	56,900	626,200	9.1%
Inner London	64,100	15,300	79,400	2,934,100	2.7%
Outer London	212,200	55,300	267,500	1,802,600	14.8%
London	276,400	70,600	347,000	4,736,700	7.3%

Source: ONS Business Register and Employment Survey (2014); AECOM calculations.

26 Total Industrial Employment excludes any employment associated with our industrial sector definition in LSOAs where no industrial land is present.

27 This is a measure of employment, not workforce jobs, and may exclude employment associated with businesses not registered for VAT and / or PAYE. The ONS Workforce jobs estimate for the equivalent period, September 2014, was 5.56 million jobs.

28 CAZ totals were estimated at a Middle Super Output Area (MSOA) level in accordance with GLA Economics Working Paper 68, Table A1.

Table 3-2: Estimated Industrial Employment in Designated Locations in London

	Employment in industrial activities in SIL²⁹	Employment in industrial activities in LSIS	Total industrial employment in designated areas³⁰	Total employment in industrial areas	% of total industrial employment in designated industrial areas
CAZ	0	100	100	5,600	1.8%
Central	1,200	8,700	9,900	22,600	43.8%
North	8,400	11,000	19,400	35,800	54.2%
East	24,800	22,300	47,100	97,400	48.4%
West	31,800	35,200	67,000	134,200	49.9%
South	14,100	14,100	28,200	56,900	49.6%
Inner London	16,100	15,500	31,600	79,400	39.8%
Outer London	64,200	75,800	140,000	267,600	52.3%
London	80,300	91,300	171,600	346,900	49.5%

Source: ONS Business Register and Employment Survey (2014); AECOM Calculations.

Note: figures may not sum due to rounding.

29 This includes employment activities observed in designated locations that are not classified as industrial.

30 We assume a cap of 100 jobs (in both industrial and non-industrial activities) per hectare where only non-designated land is within a given LSOA in order to reduce the effect of the company headquarters issue (outlined in more detail in section 3.4).

Table 3-3: Old Kent Road Employment Study

Old Kent Road sectors	Number of businesses in SIL	Number of jobs in SIL
A Manufacture: metals and machinery	10	77
B Manufacture: food, beverages, and catering	17	127
C Manufacture: other	16	199
D Printing & publishing	20	353
E Utilities	10	431
F Vehicle sale & repair	26	188
G Construction	25	425
H Wholesale: food	11	181
I Wholesale: other	38	527
J Transport & storage	41	2,244
Industrial Activities Total	214 (60%)	4,752 (78%)
K Services: education	11	126
L Services: public	3	10
M Services: professional	22	170
N Services: other	19	339
O Retail	10	108
P Restaurants, cafes, takeaways	5	14
Q Arts, culture, leisure & sports	21	407
R Faith	31	60
S Unknown	21	105
Non-industrial Activities Total	143 (40%)	1,339 (22%)

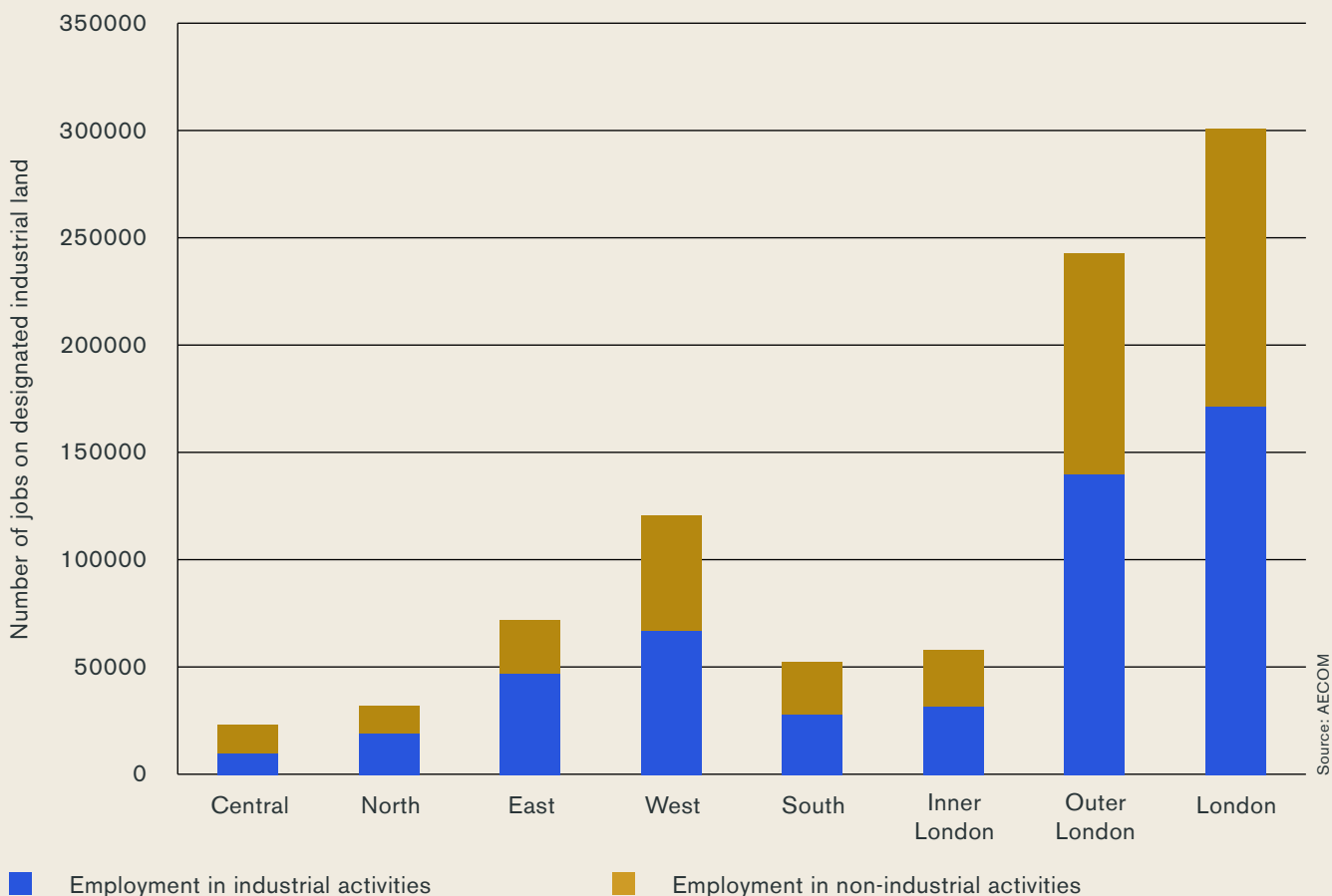
Source: Old Kent Road Employment Study, GLA, 2015

Table 3-4: Park Royal Atlas

Park Royal sectors	Number of businesses	Number of jobs
A Manufacture: food	89	4,011
B Manufacture: metal	20	466
C Manufacture: reproduction	19	448
D Manufacture: other	133	2,584
E Utilities	16	306
F Construction	60	921
G Vehicle sale & repair	117	2,487
H Wholesale: food	64	2,111
I Wholesale: other	151	2,587
J Transport & storage	94	4,903
Industrial Activities Total	763 (56%)	20,823 (57%)
K Info. and Comm.	79	2,995
L Services: professional	133	4,194
M Services: other	113	1,975
N Services: public	39	629
O Retail, restaurants, hotels	189	2,804
P Other	55	719
Z Unknown	154	2,620
Non-industrial Activities Total	762 (44%)	15,936 (43%)

Source: ParkRoyal Atlas, GLA, 2014

Figure 3-3: Employment on Designated Industrial Land



Source: AECOM

Table 3-5: Estimated Non-Industrial Employment in Designated Locations in London

	Non-industrial employment in SIL	Non-industrial employment in LSIS	Total employment in non-industrial activities in designated areas	Total employment in designated areas	% of non-industrial employment in designated areas
CAZ	0	800	800	900	88.9%
Central	1,100	12,300	13,400	23,300	57.5%
North	5,600	7,000	12,600	32,000	39.4%
East	20,100	4,900	25,000	72,100	34.7%
West	31,800	22,100	53,900	120,900	44.6%
South	14,800	9,700	24,500	52,700	46.5%
Inner London	9,400	17,000	26,400	58,000	45.5%
Outer London	63,900	39,100	103,000	243,000	42.4%
London	73,300	56,100	129,400	301,000	43.0%

Source: AECOM Calculations.

Figure 3-4: GLA Historic and Projected Employment in London for Selected Sectors

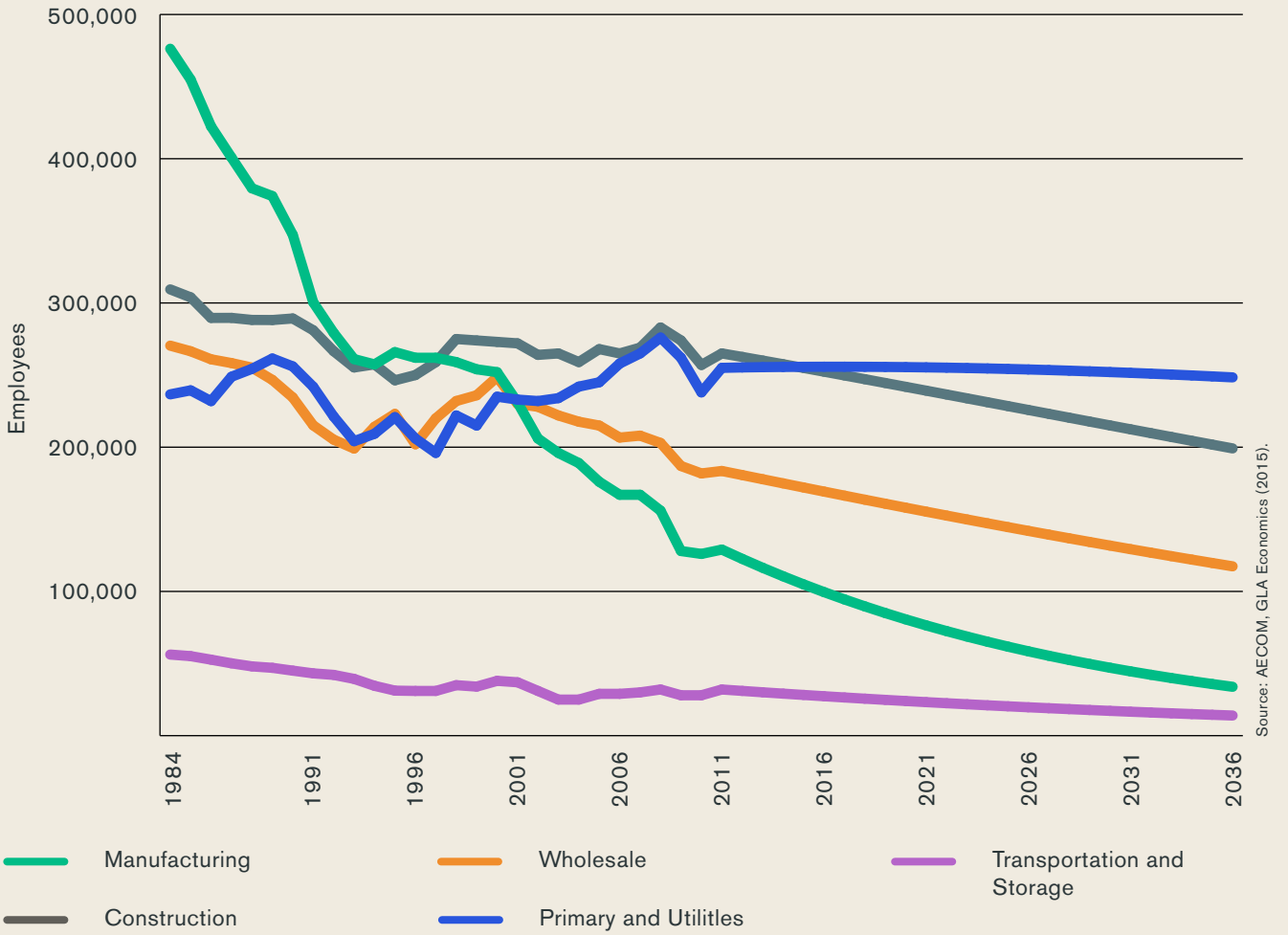
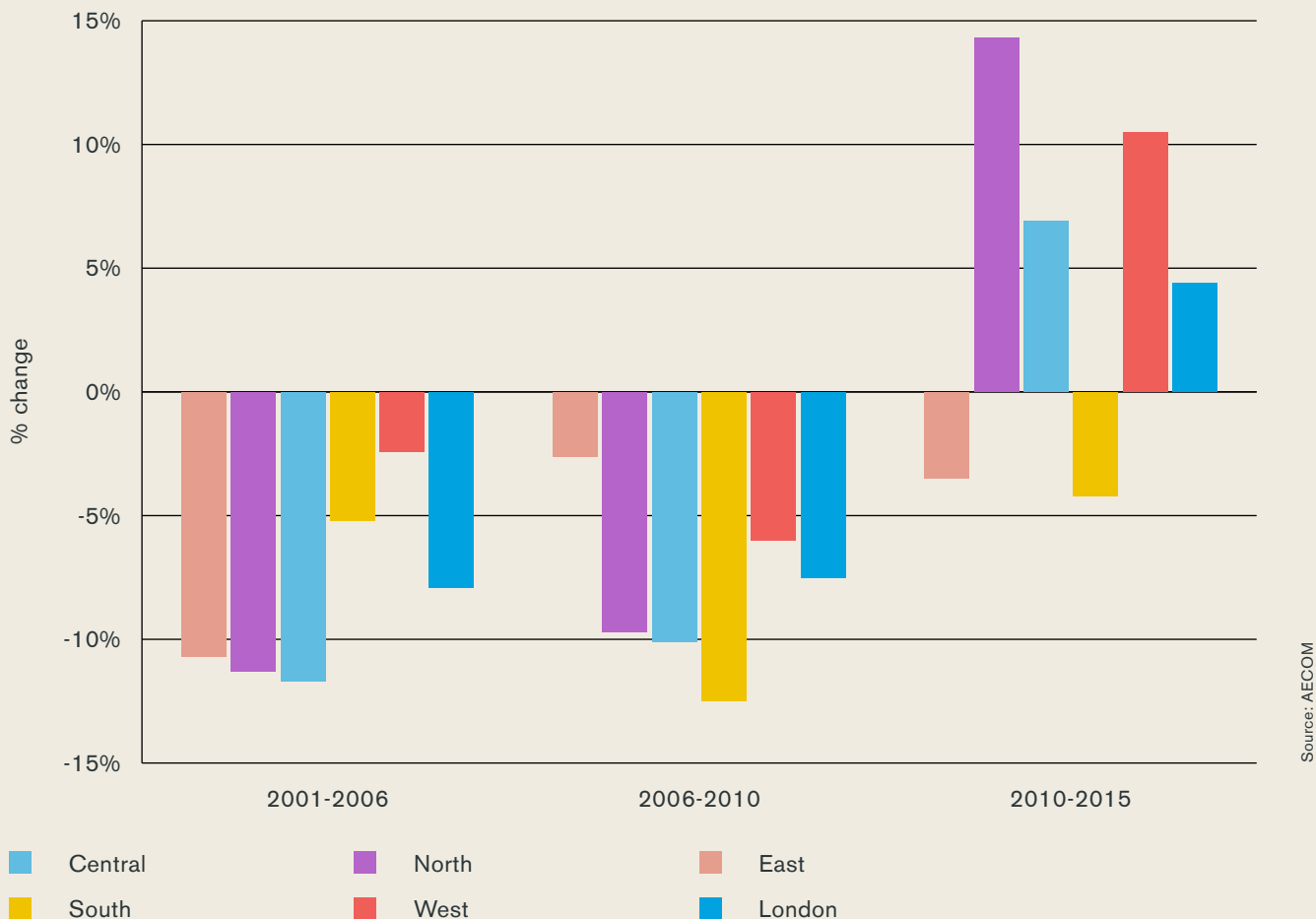


Figure 3-5: Change in Industrial Employees Across London



Source: AECOM

Table 3-6: Change in Industrial Employees Across London³¹

	2001 to 2006	2006 to 2010	2010 to 2015
Central	-10.7%	-2.6%	-3.5%
North	-11.3%	-9.7%	14.3%
East	-11.7%	-10.1%	6.9%
West	-2.4%	-6.0%	10.5%
South	-5.2%	-12.5%	-4.2%
Inner London	-10.0%	-7.7%	0.3%
Outer London	-6.5%	-7.4%	7.1%
London	-7.9%	-7.5%	4.4%

Source: ONS Business Register and Employment Survey (2014); ONS Annual Business Inquiry (2009); AECOM calculations.

31 The discontinuity between BRES and ABI has been accounted for in accordance with ONS guidance. ABI data is available in SIC 2003 units. In order to form a like-for-like comparison with the SIC 2007 definition of industrial activity, we have translated ABI data into SIC 2007 using weighted averages published by the ONS.

3.3 Number of Industrial Businesses on Industrial Land

3.3.1 The purpose of this section is to estimate the number of businesses in London, the number across designated locations, and the split by micro, small, medium and large enterprises.

Number of Industrial Businesses in London

3.3.2 The number of industrial businesses may consider both the count of enterprises and local business units. Enterprises capture all individuals working for a given company, while local business units are defined by the location of work. For instance, a worker at a given location is recognised as working at that location within a local unit estimate, but the location of the company's head office for enterprise estimate.

3.3.3 The Office for National Statistics (ONS) Business: Activity, Size and Location data series publishes estimates of both enterprises and local units registered for Value Added Tax (VAT) and / or Pay As You Earn (PAYE). In 2015 there were approximately 75,900 industrial local units in London, associated with 68,900 industrial enterprises.

3.3.4 The breakdown of local units across London is presented in *Table 3-7* overleaf. As local units provide a more accurate reflection of the location of business activity and this has been considered to be a more suitable measure of business counts across different geographies.

3.3.5 The table shows that the 75,900 industrial local units represent approximately 15.1% of all local units in London. The proportion of industrial local units is lower than the equivalent industrial share of enterprises (15.6%), suggesting that industrial businesses are more likely to occupy one premises than businesses in other sectors. In terms of the geographical breakdown of industrial local units, approximately two thirds of industrial local units are found in outer London, while there is a broadly even distribution of local units across the sub-regions.

3.3.6 However, the ONS data presented above in section 3.2 does not capture employment for businesses not registered for either VAT or PAYE, a proportion of which will be self-employed. According to BIS, in 2014 it was estimated that approximately 56.8% of London's 934,445 businesses were unregistered according to this definition³². This source provides a breakdown of the number of businesses in London by 16 SIC divisions. Although this information does not align precisely with this study's definition of industrial SIC groups, it forms the best representation of the typical proportion of unregistered businesses in industrial-type sectors. Assuming the Manufacturing, Construction and Transportation & Storage sectors as best representing activity in industrial locations, this source suggests that approximately three-quarters (74.5%³³) of industrial-type businesses may be unregistered. This source implies that the total count

of enterprises may be around four times larger³⁴ than the estimate outlined above³⁵. However as 74.5% of these businesses are not VAT or PAYE registered and therefore have a low revenue threshold it is likely that only a small proportion will conduct their businesses from rented premises or land.

Number of Industrial Businesses in Designated Industrial Areas

3.3.7 In order to estimate the number of industrial businesses located in designated areas, we may apply a similar method to that outlined in section 3.2. However, due to suppressions in the available data, it is generally not possible to accurately estimate industrial businesses at a local authority level. *Table 3-8* presents the industrial local units in designated locations.

3.3.8 The table demonstrates that the majority of industrial local units are located in designated locations. This proportion is relatively higher in Outer London, while local units in the West sub-region are most likely to be located in designated areas.

3.3.9 Comparing *Table 3-8* which shows that 61.5% of industrial businesses are in designated areas with *Table 3-2* which estimates that half of industrial employment is in designated areas suggests that industrial businesses outside designated areas may employ more people than those in the designated areas. However the way that data on employment and enterprises is available at geographical and sector levels make it impossible to verify this conclusion, and there may be many other factors at play.

Number of Industrial Businesses by Size of Enterprise

3.3.10 The ONS provide data on the breakdown of business by size, measured as the number of employees. Due to suppressions in the data at a smaller geographical level we consider the size of industrial businesses across London.

3.3.11 A breakdown of industrial enterprises by size band is presented in *Table 3-9*. The table demonstrates that industrial enterprises have a similar size composition to all enterprises in London.

32 Business Population Estimates for the UK and Regions 2014, BIS, 2014.

33 168,365 of 225,930 businesses are unregistered.

34 $100\%/25.5\% = 392\%$.

35 While the majority of industrial enterprises are not registered, they represent a small minority of economic activity in industrial sectors. BIS estimate that just 3.7% of business turnover (measured as £m of revenue) is associated with unregistered businesses.

Table 3-7: Estimated Number of VAT / PAYE Registered Industrial Businesses in London

	Core Industrial Local Units	Wider Industrial Local Units	All Industrial Local Units	All Local Units	Share of Industrial Local Units by Area (%)
CAZ ³⁶	n/a	n/a	9,100 ³⁷	101,900	8.9%
Central	12,300	2,000	14,300	170,900	8.4%
North	7,900	800	8,700	47,100	18.5%
East	18,700	2,200	20,900	108,800	19.2%
West	15,100	2,200	17,300	85,700	20.2%
South	13,300	1,500	14,800	89,800	16.5%
Inner London	23,600	3,300	26,900	263,900	10.2%
Outer London	43,700	5,300	49,000	238,300	20.6%
London	67,300	8,600	75,900	502,200	15.1%

Source: ONS Business: Activity, Size and Location (2015). AECOM Calculations.

36 CAZ totals were estimated at a Middle Super Output Area (MSOA) level in accordance with GLA Economics Working Paper 68, Table A5.

37 Due to restrictions on data availability below SIC Broad Industrial Group level, the following sectors are taken to represent industrial activity: Manufacturing, Construction and Wholesale. This estimate cannot be broken down further into core and wider uses.

Table 3-8: Number of Industrial Businesses in Designated Industrial Locations

	Core industrial local units in designated locations	Wider industrial local units in designated locations	All industrial local units in designated locations	All Industrial local units	Share of designated industrial local units (%)
CAZ ³⁸	n/a	n/a	n/a	n/a	n/a
Central	4,600	500	5,100	14,300	35.7%
North	5,000	500	5,500	8,700	63.2%
East	12,200	1,400	13,500	20,900	64.6%
West	11,500	1,600	13,200	17,300	76.3%
South	8,400	900	9,400	14,800	63.5%
Inner London	10,300	1,200	11,400	27,000	42.2%
Outer London	31,500	3,800	35,300	49,000	72.0%
London	41,800	4,900	46,700	75,900	61.5%

Source: ONS Business: Activity, Size and Location (2015). AECOM Calculations.

38 Due to limitations in the availability of data we cannot determine the proportion of industrial businesses in the CAZ.

Table 3-9: Number of Industrial Businesses by Size of Enterprise in London

Enterprise size (employees)	Core industrial enterprises	Wider industrial enterprises	All industrial enterprises	Shares of industrial enterprises (%)	Share of total enterprises (%)
Micro (up to 9)	57,400	6,500	62,900	90.2%	90.1%
Small (10 to 49)	5,300	600	6,000	8.4%	8.0%
Medium (50 to 249)	700	100	800	1.2%	1.5%
Large (250+)	100	0	200	0.2%	0.4%
Total	63,600	7,300	70,900	-	-

Source: ONS Business: Activity, Size and Location (2015). AECOM Calculations.

3.4 Intensity of Employment in Industrial Activities of Industrial Land

3.4.1 Comparison between the stock of industrial land across different designations and the count of employment in industrial activities allow the average intensity of employment to be estimated across industrial activities, designated areas and industrial land.

3.4.2 The approach to calculating intensity of employment in industrial activities differs from the approach taken in the 2010 Industrial Land Baseline. The 2010 study estimated that there were approximately 53 to 86 employees per hectare of core industrial land in Inner London, and 48 to 72 employees per hectare in Outer London. However this approach measures a different parameter (employees not employment) using a different method. The results are not comparable with the intensity of use calculations presented in *Table 3-10* overleaf.

3.4.3 The table demonstrates that on average each hectare of industrial land in London is associated with the employment of 68 individuals. This estimates only capture employment in businesses over the VAT / PAYE threshold, representing approximately 79.3% of employment across industrial sectors. If 20.7% of employment in industrial activities lies under the VAT / PAYE threshold, the intensity of employees in industrial activities per hectare could increase to 86.

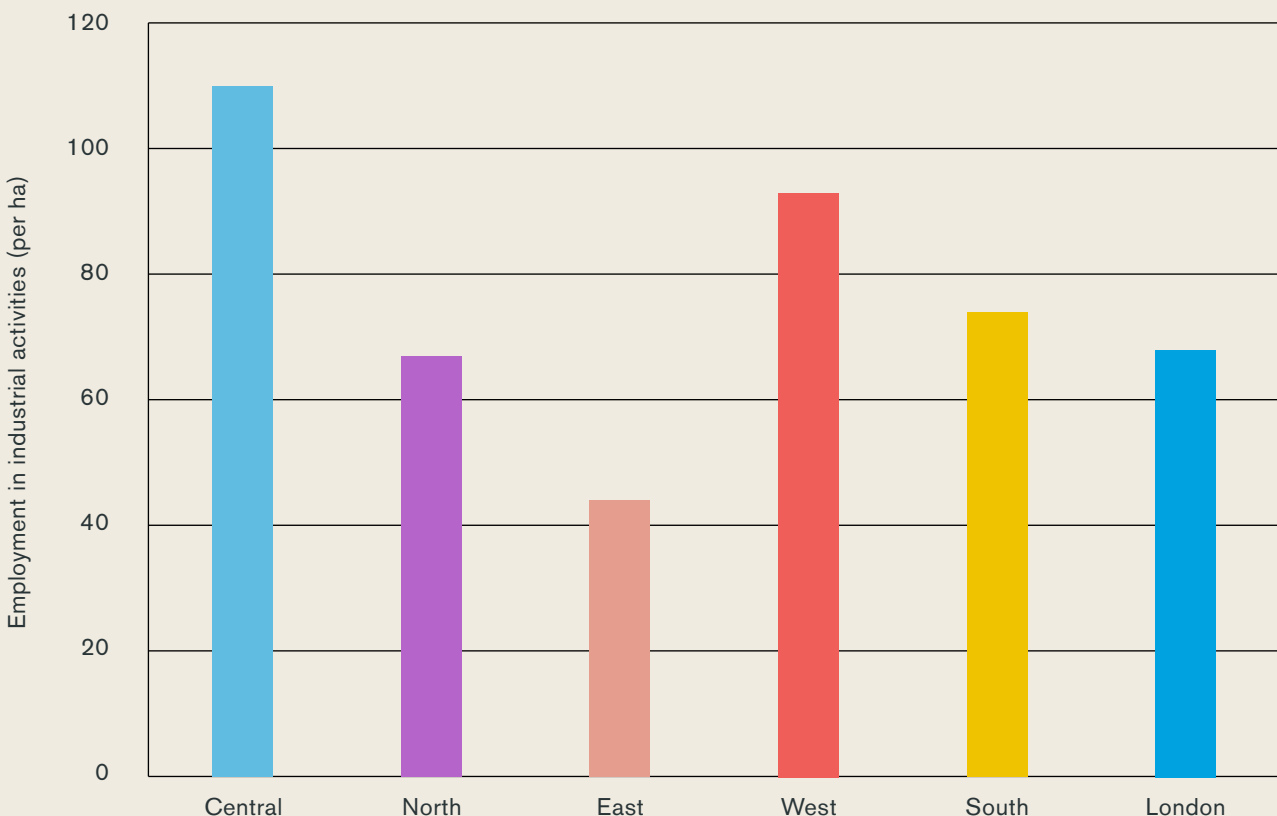
The intensity of employment in industrial activities lowest in the East sub-region, while the intensity is on average higher in the Central and West sub-regions, where industrial land values are higher than other parts of outer London.

3.4.4 One cause of the relatively high intensity of use in the CAZ and Central sub-region may be due to an anomaly often termed the company headquarters issue. This is where SIC data does not accurately represent the type of workplace of employees. For instance, while the activity of a manufacturing company may be overall industrial in character, those employed within its headquarters are likely to be in an office-based environment. Therefore, while we have limited the impact of this effect³⁹, the industrial SIC sector may over-represent industrial employment in the area this office is located.

3.4.5 Intensity of employment in industrial activities is illustrated in *Figure 3-6*.

³⁹ We assume a cap of 100 jobs (in both industrial and non-industrial activities) per hectare where only non-designated land is within a given LSOA in order to reduce the effect of the company headquarters issue (outlined in more detail in section 3.4).

Figure 3-6: Intensity of Employment in Industrial Activities (per ha)



Source: AECOM

Table 3-10: Intensity of Use of All Industrial Land in London

	Total employment on industrial land ⁴⁰	Total industrial land (ha) ⁴¹	Intensity of use (employment per ha)
CAZ	6,400	95	68
Central	36,100	328	110
North	48,300	720	67
East	122,400	2,807	44
West	188,100	2,018	93
South	81,400	1,103	74
Inner London	105,800	1,681	63
Outer London	370,600	5,296	70
London	476,300	6,976	68

40 This column presents the results in Table 3-1 (rounded to the nearest hundred).

41 Excludes vacant industrial land and land with vacant building(s).

Note: figures may not sum due to rounding. No discount is applied to the land values to take account of estate roads and communal amenity space.

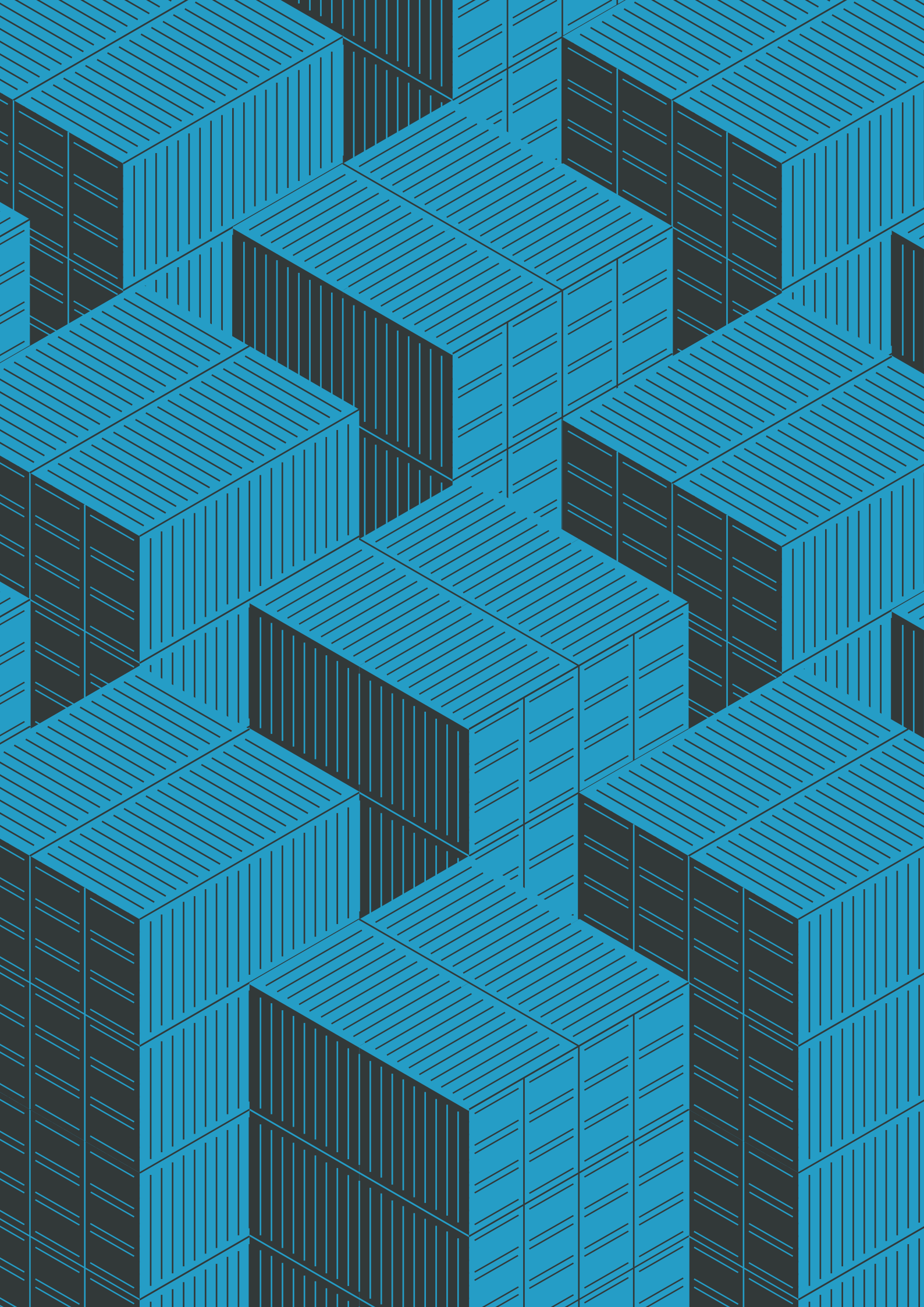
3.5 Summary

3.5.1 Key points covered in this chapter include:

- Total employment on industrial land in London is estimated to be 476,400 in 2014, of which 347,000 are in industrial activities.
- There is a significant amount of employment in non-industrial activities which takes place in industrial areas.
- Total industrial businesses in London are estimated to be 75,900 in 2014.
- This gives an average size per industrial business of 4.6 employees, with 90% of industrial businesses recorded as having 0-9 employees. The distribution of sizes of industrial businesses is similar to the distribution for all businesses in London.
- Almost half of all employment in industrial activities takes place in designated industrial areas (around 171,600). Total industrial businesses in designated industrial areas are estimated to be 46,700, representing 61.5% of all industrial businesses. Although this is subject to potentially large inaccuracies over the way that industrial employment is calculated, and would benefit from further investigation.
- Employment in industrial activities in the period 2010 to 2015 is estimated to have increased by 4.4%. This could represent a reversal of the longer-term trend of decline in industrial employment and will need to be kept under review in the context of London's long term employment sector projections.

3.5.2 The implications of these figures and trends are considered further in Chapter 6.

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4.

Property Market Areas & Indicators

4. Property Market Areas & Indicators

4.1 Introduction

4.1.1 The purpose of this chapter is to analyse market indicators within London's industrial property market areas. Property market areas will often have similar characteristics, such as the labour market structure, access to market areas and suppliers, rental values. Businesses searching for land, sites or premises will typically consider locations within a property market area. This chapter therefore:

- Defines London industrial property market areas;
- Estimates industrial floorspace within London's industrial property market areas⁴²;
- Identifies land and floorspace available on the market in the property market areas;
- Identifies average and ranges of rents and land values over time in the property market areas; and
- Identifies vacancy levels in different sizes of premises.

4.2 Key Property Markets in London

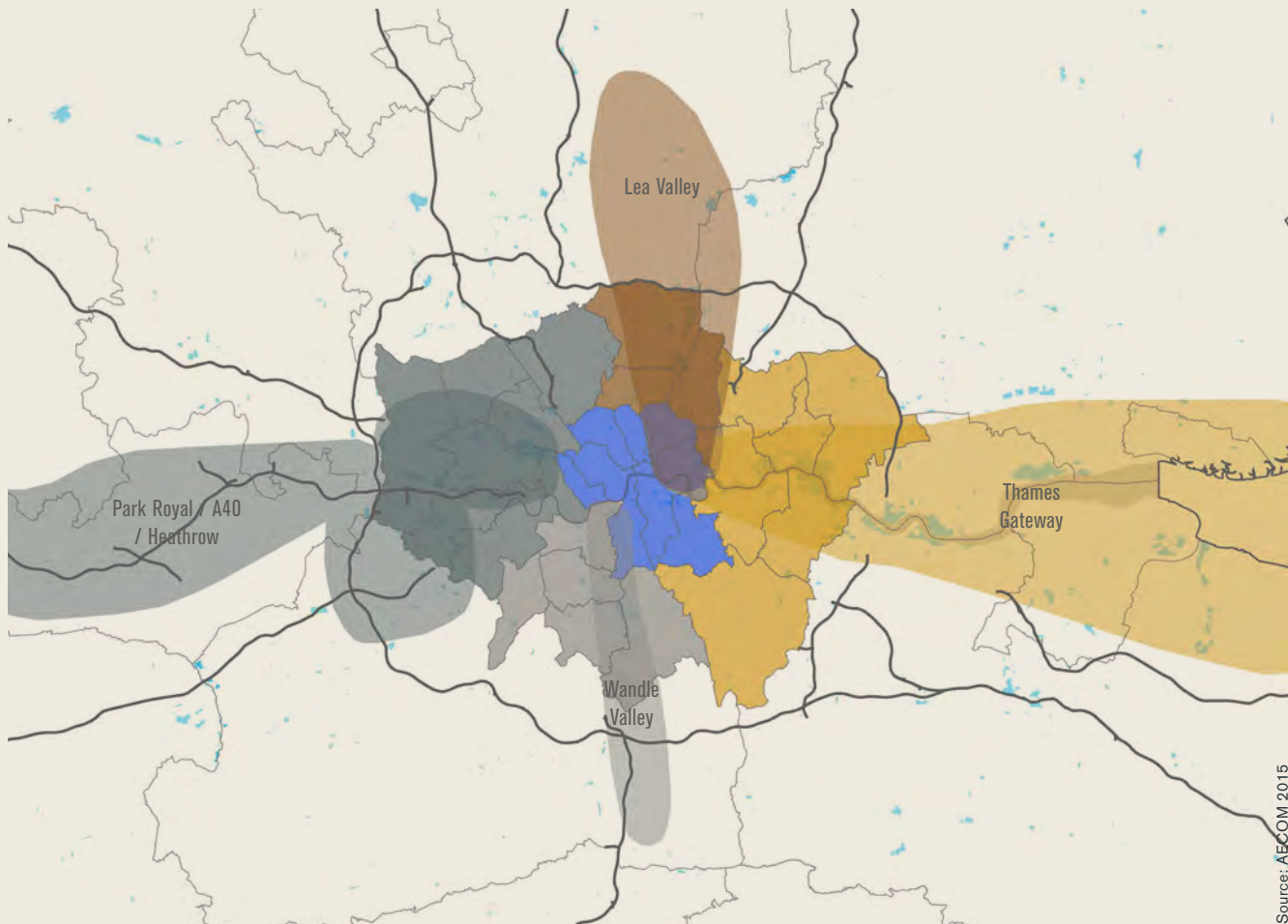
4.2.1 This section sets the context for analysis in the remainder of this chapter on industrial land in the London property market areas.

4.2.2 The analysis of industrial land supply in London is focused on key clusters of industrial land in property markets in London. Broadly the markets are defined by strategic transport hubs and routes through which products and services move, and have been defined by AECOM and Cushman & Wakefield in consultation with the GLA and supporting literature, including the London Plan. The property markets are as follows:

- Central Services Circle
- Lea Valley
- Thames Gateway
- Wandle Valley and
- Park Royal / A40 / Heathrow.

4.2.3 For the purposes of analysis in this report, the London property markets divided up by borough are shown in *Figure 4-1*. Below in accordance with the location of the bulk of their industrial land. LB Newham is divided between the Lea Valley and Thames Gateway as agreed with the GLA.

Figure 4-1: London Property Markets



Source: AECOM 2015

4.3 Industrial Floorspace by Property Market Areas

4.3.1 As shown in *Table 4-1* approximately 21 million square meters (m²) of industrial floorspace was recorded in London in 2012. The Park Royal / A40 / Heathrow market contains the highest proportion of London's floorspace at 32%, with the Thames Gateway area, at 21%, also containing a significant proportion of this total. The Wandle Valley market area contains the lowest proportion at 13%.

4.3.2 Available floorspace constitutes floorspace which is being actively marketed by property agents or developers that lies vacant as of May 2015. There may be more space available that is not being marketed through agents, or becomes available only through word of mouth amongst businesses. As shown in *Table 4-2* there is approximately 2,000,000m² of industrial floorspace available on the market in London in 2015. This is mostly concentrated in Outer London (89%). Park Royal / A40 / Heathrow PMA has the highest proportion of the total (42%), followed by the Thames Gateway (33%).

4.3.3 Results showing available floorspace as a percentage of estimated total floorspace are shown in *Table 4-3* (though figures are for different years – 2012 and 2015). Total available floorspace represents around 9.5% of total floorspace in London. This is higher than the GLA guideline frictional vacancy rate of 8% for effective operation of the market⁴³. Outer London has a higher rate at 12.3%. The market area with the highest availability of floorspace as a percentage of total floorspace is the Thames Gateway at 14.5%. The market areas with the least availability of floorspace as a percentage of total floorspace are the Central Service Circle (2.7%) and the Wandle Valley (4.0%). The boroughs with the highest availability proportions are: Barking and Dagenham (33%); Hillingdon (25%); Enfield (18%) and Brent (16%). Availability is illustrated in *Figure 4-2*.

Availability Levels by Size of Premises

4.3.4 The purpose of this section is to identify availability levels in different sizes of industrial premises in London.

4.3.5 In order to understand the relationship between premises size and availability the stock of floorspace by size band in London has been analysed. The Valuation Office Agency (VOA) publish data on the number of hereditaments⁴⁴ and industrial floorspace stock across six size bands for England and Wales⁴⁵. While the equivalent data for London is not available, London's stock of floorspace has been apportioned across the size bands to align with the national average.

4.3.6 This is based on the assumption that the distribution of London's floorspace matches that across England and Wales. It is possible that a greater proportion of industrial floorspace in London may be in small to medium sized units, relative to England and Wales. This could be owing to the challenges in securing large sites in London,

and the relative viability of large industrial units in comparison with options outside of London, where the pressures on land for alternative uses is generally not as strong⁴⁶. Possible exceptions to this at a sub-regional level are industrial areas around Heathrow and Park Royal, and to a lesser extent along the A13 corridor in East London. These areas are established industrial locations with the size of sites capable of accommodating units of over 10,000m² in size.

4.3.7 *Table 4-4* presents the distribution of industrial premises across different size bands.

4.3.8 It demonstrates that the median premises size is under 250m² in London, while over 75% of units are under 500m². By contrast, only 6.2% of units are sized over 2,000m², and less than 1% over 10,000m². *Table 4-5* presents an estimate of the stock of floorspace and vacancy by size band across London. This draws upon data published on levels of vacancy in 2015, assuming that there has been relatively little change in the stock and distribution of floorspace across each size band since 2012. It is likely that Grade A space has increased through speculative development occurring over this period, increasing the overall supply, while some lower quality stock will have been lost. However, as the relationship between the quality of stock and size of unit is unclear, and that the net impact of new development in the intervening period will only have a minor impact on the overall stock, it can be assumed that the 2012 position to be broadly representative of 2015 stock.

4.3.9 *Table 4-5* below shows that the majority of industrial floorspace is in units measuring over 2,000m² in size. Comparison with *Table 4-4* shows that while the majority of industrial units are under 250m² in size, they represent less than 9% of the total stock of floorspace. By contrast, the 400 industrial units that make up less than 1% of all units contribute nearly 30% of industrial floorspace.

4.3.10 This analysis also indicates that the rate of vacancy increases with size band. There may be some under reporting of the availability of smaller size bands because agents may not have been involved in all cases. However the data suggests that the availability of premises increases as businesses seek to expand and is at rates higher than the optimal frictional floorspace vacancy rate of 8%, suggesting that the availability of move on space may not constrain the growth of businesses as they move up the accommodation ladder. However it may be more difficult for small industrial businesses to find space as availability for the smallest size band premises is below recommended frictional floorspace vacancy levels.

42 For estimates of industrial land by property market area see the summary tables in Chapter 2.
43 See Land for Industry and Transport SPG, p31, para 3.7, GLA, 2012.

44 A hereditament is a property on which rates may be charged and is the unit to which the VOA assigns rateable value. In general hereditaments are buildings or premises within buildings, appropriate or used for single occupation. Hereditaments can be occupied or vacant. This has no impact on rateable value, though it can affect the level of rates levied on a property.

45 Valuation Office Agency (VOA), (2012); Business Floorspace (Experimental Statistics)
46 Evidence of this is supported by the DCLG Land Value Estimates for Policy Appraisal document, published in February 2015. It demonstrates that the average value of a typical residential site across the London boroughs is over £25m, compared to £2m for the rest of England.

Table 4-1: Industrial Floorspace by Property Market Area in London, 2012

		Industrial floorspace sqft (millions)	Industrial floorspace m²	% of London total industrial floorspace
London		227.27	21,114,000	100.0%
CAZ		-	-	-
Inner London		71.54	6,646,000	31.5%
Outer London		155.73	14,468,000	68.5%
Central Services Circle		43.72	4,062,000	19.2%
	Camden	3.60	334,000	1.6%
	City of London	1.14	106,000	0.5%
	Hackney	4.97	462,000	2.2%
	Islington	4.03	374,000	1.8%
	Kensington & Chelsea	1.25	116,000	0.5%
	Lambeth	5.36	498,000	2.4%
	Lewisham	4.15	386,000	1.8%
	Southwark	8.59	798,000	3.8%
	Tower Hamlets	8.97	833,000	3.9%
	Westminster	1.67	155,000	0.7%
Lea Valley		32.18	2,990,000	14.2%
	Enfield	13.61	1,264,000	6.0%
	Haringey	7.05	655,000	3.1%
	Newham	5.34	496,000	2.3%
	Waltham Forest	6.19	575,000	2.7%
Park Royal / A40 / Heathrow		72.92	6,774,000	32.1%
	Barnet	3.64	338,000	1.6%
	Brent	14.95	1,389,000	6.6%
	Ealing	21.69	2,105,000	9.5%
	Hammersmith & Fulham	3.55	330,000	1.6%
	Harrow	3.05	283,000	1.3%
	Hillingdon	11.63	1,080,000	5.1%
	Hounslow	12.52	1,163,000	5.5%
	Richmond upon Thames	1.89	176,000	0.8%
Thames Gateway		48.56	4,511,000	21.4%
	Barking & Dagenham	9.99	928,000	4.4%
	Bexley	10.77	1,001,000	4.7%
	Bromley	5.02	466,000	2.2%
	Greenwich	6.99	649,000	3.1%
	Havering	7.21	670,000	3.2%
	Newham	5.34	496,000	2.3%
	Redbridge	3.24	301,000	1.4%
Wandle Valley		29.89	2,777,000	13.2%
	Croydon	8.35	777,000	3.7%
	Kingston upon Thames	3.37	313,000	1.5%
	Merton	6.81	633,000	3.0%
	Sutton	4.76	442,000	2.1%
	Wandsworth	6.60	613,000	2.9%

Source: AECOM; VOA, 2012

Table 4-2: Industrial Floorspace by Property Market Area in London, 2015

		Available floorspace sqft (millions), 2015	Available floorspace m ² (2015)	Proportion of total available floorspace
London		21.59	2,006,000	100.0%
CAZ		1.19	110,000	5.5%
Inner London		2.47	229,000	11.4%
Outer London		19.12	1,776,000	88.5%
Central Services Circle		1.19	110,000	5.5%
	Camden	0.04	4,000	0.2%
	City of London	-	-	0.0%
	Hackney	0.02	2,000	0.1%
	Islington	0.07	6,000	0.3%
	Kensington & Chelsea	0.04	4,000	0.2%
	Lambeth	0.08	8,000	0.4%
	Lewisham	0.25	23,000	1.1%
	Southwark	0.40	37,000	1.8%
	Tower Hamlets	0.29	27,000	1.3%
	Westminster	-	-	0.0%
Lea Valley		3.03	281,000	14.0%
	Enfield	2.48	230,000	11.5%
	Haringey	0.09	8,000	0.4%
	Newham	0.22	20,000	1.0%
	Waltham Forest	0.24	22,000	1.1%
Park Royal / A40 / Heathrow		9.15	850,000	42.4%
	Barnet	0.13	12,000	0.6%
	Brent	2.31	215,000	10.7%
	Ealing	1.88	174,000	8.7%
	Hammersmith & Fulham	0.12	11,000	0.5%
	Harrow	0.19	17,000	0.8%
	Hillingdon	2.95	274,000	13.7%
	Hounslow	1.57	146,000	7.3%
	Richmond upon Thames	0.02	2,000	0.1%
Thames Gateway		7.04	654,000	32.6%
	Barking & Dagenham	3.32	308,000	15.4%
	Bexley	1.60	149,000	7.4%
	Bromley	0.27	25,000	1.2%
	Greenwich	0.62	58,000	2.9%
	Havering	0.88	82,000	4.1%
	Newham	0.22	20,000	1.0%
	Redbridge	0.13	12,000	0.6%
Wandle Valley		1.19	111,000	5.5%
	Croydon	0.36	33,000	1.6%
	Kingston upon Thames	0.23	21,000	1.0%
	Merton	0.36	34,000	1.7%
	Sutton	0.15	13,000	0.6%
	Wandsworth	0.10	9,000	0.4%

Source: AECOM, EGI June 2015.

Table 4-3: Available Floorspace as a Percentage of Total Floorspace in London

		Available industrial floorspace m ² (2015)	Total industrial floorspace m ² (2012)	% of total industrial floorspace available
London		2,006,000	21,114,000	9.5%
CAZ		n/a	n/a	n/a
Inner London		229,000	6,646,000	3.4%
Outer London		1,776,000	14,468,000	12.3%
Central Services Circle		110,000	4,026,000	2.7%
	Camden	4,000	334,000	1.2%
	City of London	-	106,000	0.0%
	Hackney	2,000	462,000	0.4%
	Islington	6,000	374,000	1.6%
	Kensington & Chelsea	4,000	116,000	3.4%
	Lambeth	8,000	498,000	1.6%
	Lewisham	23,000	386,000	6.0%
	Southwark	37,000	798,000	4.6%
	Tower Hamlets	27,000	833,000	3.2%
	Westminster	-	155,000	0.0%
Lea Valley		281,000	2,990,000	9.4%
	Enfield	230,000	1,264,000	18.2%
	Haringey	8,000	655,000	1.2%
	Newham	20,000	992,000	2.0%
	Waltham Forest	22,000	575,000	3.8%
Park Royal / A40 / Heathrow		850,000	6,774,000	12.5%
	Barnet	12,000	338,000	3.6%
	Brent	215,000	1,389,000	15.5%
	Ealing	174,000	2,015,000	8.6%
	Hammersmith & Fulham	11,000	330,000	3.3%
	Harrow	17,000	283,000	6.0%
	Hillingdon	274,000	1,080,000	25.4%
	Hounslow	146,000	1,163,000	12.6%
	Richmond upon Thames	2,000	176,000	1.1%
Thames Gateway		654,000	4,511,000	14.5%
	Barking & Dagenham	308,000	928,000	33.2%
	Bexley	149,000	1,001,000	14.9%
	Bromley	25,000	466,000	5.4%
	Greenwich	58,000	649,000	8.9%
	Havering	82,000	670,000	12.2%
	Newham	20,000	992,000	2.0%
	Redbridge	12,000	301,000	4.0%
Wandle Valley		111,000	2,777,000	4.0%
	Croydon	33,000	776,000	4.3%
	Kingston upon Thames	21,000	313,000	6.7%
	Merton	34,000	633,000	5.4%
	Sutton	13,000	442,000	2.9%
	Wandsworth	9,000	613,000	1.5%

Source: AECOM, EGI, June 2015.

Table 4-4: Average Size of Premises, 2015

Size band (m ²)	Hereditaments (count)	Share of total (%)	Cumulative total (%)
Under 250	25,700	58.5%	58.5%
250 to <500	7,700	17.5%	76.1%
500 to <1,000	5,000	11.4%	87.5%
1,000 to <2,000	2,800	6.4%	93.8%
2,000 to <10,000	2,300	5.2%	99.1%
10,000 and over	400	0.9%	100.0%
All size bands	43,900	-	-

Source: VOA Business Floorspace (Experimental Statistics) (2012); Egi data via Cushman & Wakefield (June 2015).

Table 4-5: Size of Premises and Availability, 2015

Size band (m ²)	Estimated Stock of Floorspace ('000m ²)	Estimated Stock of Floorspace (%)	Estimated Availability ('000m ²)	Estimated Availability (%)
Under 250	1,852	8.8%	38	2.1%
250 to <500	1,839	8.7%	113	6.1%
500 to <1,000	2,313	11.0%	191	8.3%
1,000 to <2,000	2,595	12.3%	283	10.9%
2,000 to <10,000	6,407	30.3%	765	11.9%
10,000 and over	6,109	28.9%	610	10.0%
All size bands	21,115	-	2,002	9.5%

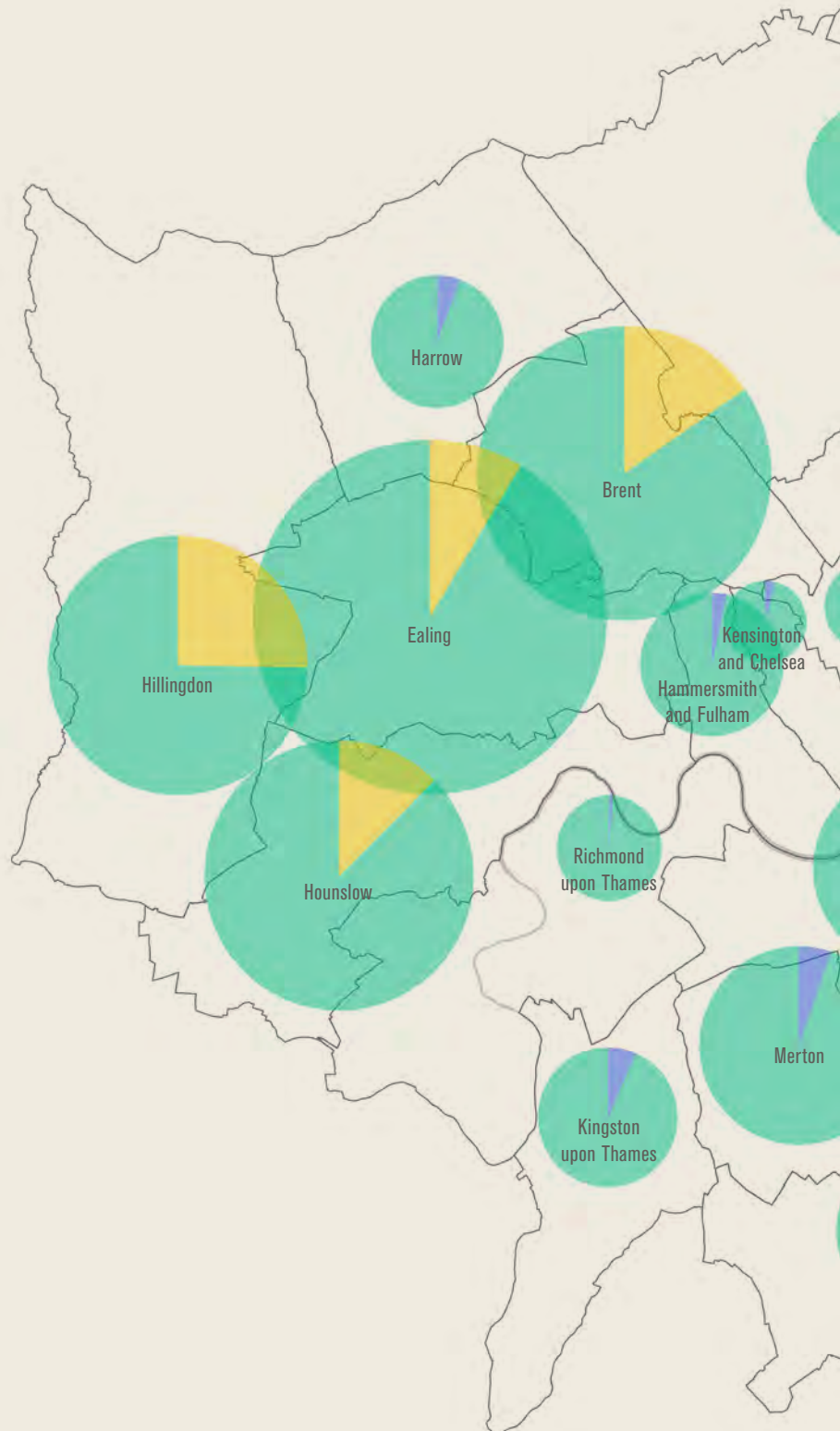
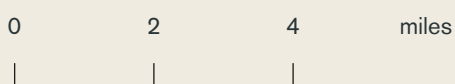
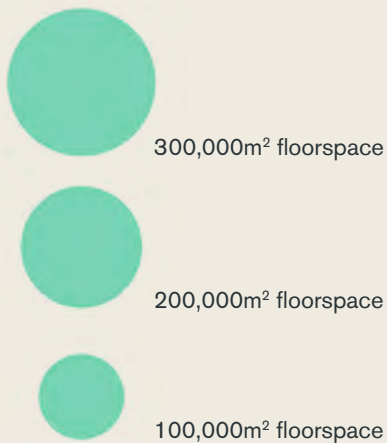
Source: VOA Business Floorspace (Experimental Statistics) (2012); Egi data via Cushman & Wakefield (June 2015).

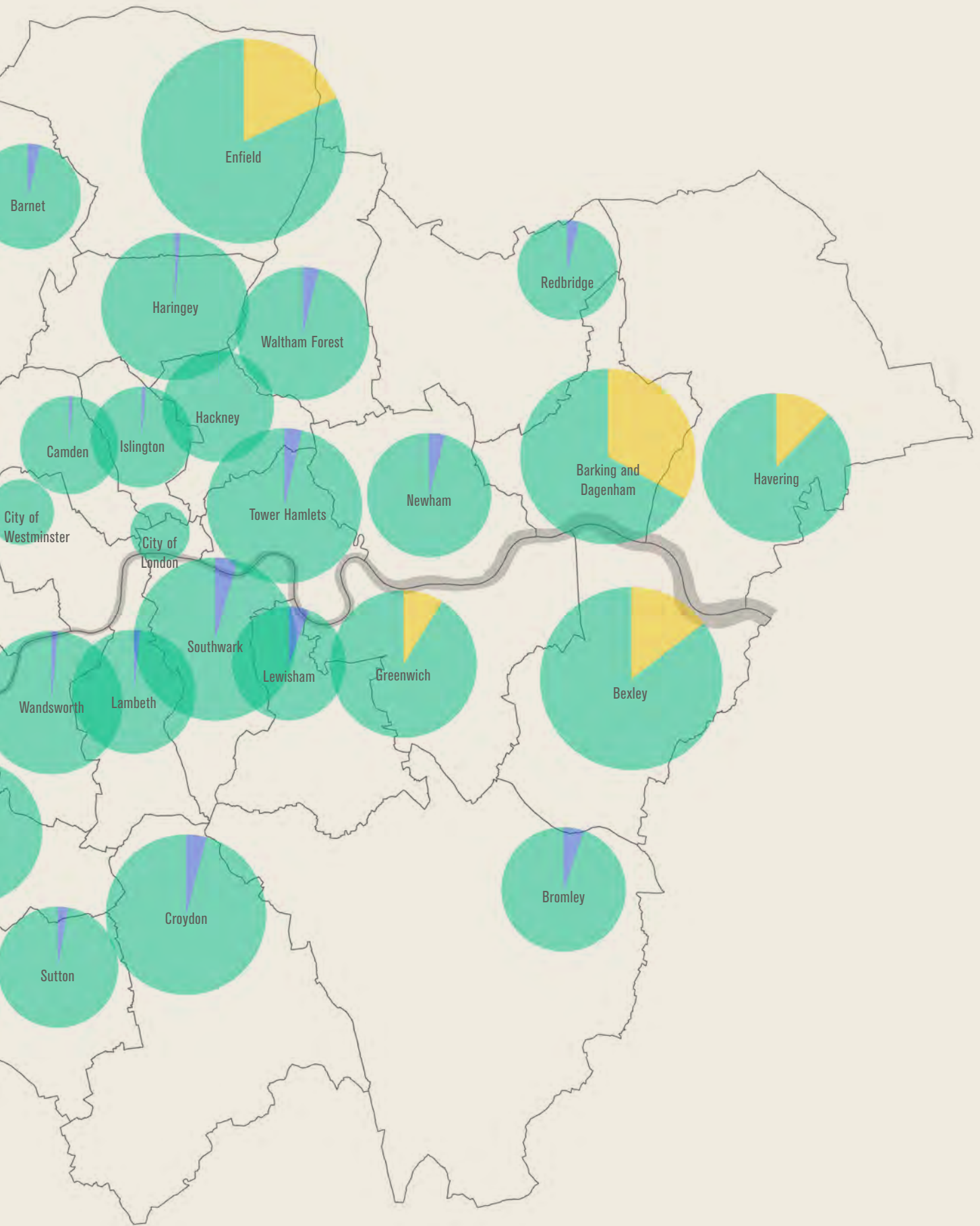
Figure 4-2: Industrial Floorspace Availability as Proportion of Stock 2015

Total available floorspace represents around 9.5% of total floorspace in London. This is higher than the GLA guideline frictional vacancy rate for floorspace of 8%.

- Available industrial floorspace, at a level below the guideline frictional vacancy rate (<8%)
- Available industrial floorspace, at a level above the guideline frictional vacancy rate (>8%)
- Industrial floorspace in use

Scale





4.4 Rental Values and Land Values

4.4.1 The purpose of this section is to identify averages and ranges of industrial rents and land values over time in London.

Rental Values

4.4.2 Rental values of industrial premises in London vary on a geographical basis. Weighted averages for the property market areas defined by this study have thus been identified and are presented in *Table 4-6* overleaf.

4.4.3 Average rental values range from around £91 per m² in the Thames Gateway to £102 per m² in the Lea Valley and £105 in the Central Services Circle. To the south and west, average rental values are higher at around £121 per m² in the Wandle Valley and £123 in Park Royal / A40 / Heathrow. Average rental values of premises by borough are highest in the Park Royal / A40 / Heathrow market areas of Hammersmith and Fulham, Brent, and Hounslow, and Wandsworth and Kingston upon Thames in the Wandle Valley. Values are lowest in Barking and Dagenham and Havering in Thames Gateway and Haringey in the Lea Valley. Rental values across London are illustrated in *Figure 4-4*.

4.4.5 Percentage changes in rental values are presented in *Table 4-7*. Average rental values have increased steadily over the last five years by around 19% in both the Wandle Valley and Lea Valley areas, 17% in the Thames Gateway and 15% in Park Royal / A40 / Heathrow. By contrast, values in the Central Services Circle have remained largely unchanged since 2010, which is seen to be reflective of there being a reduction in the security of tenure in this area, associated with landlords accepting lower rents in exchange for short-term leasing arrangements that fit better with typical aspirations regarding redevelopment to higher value uses.

4.4.6 Whilst rates of change in rental values over the last five years vary across boroughs within property market areas (PMAs), there are few large variances, with the exception of those recorded in the Central Services Circle. Rates of change between 2010 and 2015 in this PMA vary from increases by 18% in Lewisham and 12% in Lambeth to decreases of 19% in Kensington and Chelsea and 12% in Camden.

4.4.7 A comparison of how industrial floorspace rental values have changed against other uses in the last five years is shown in *Table 4-8*. This shows that office rental values have grown positively and at a slightly stronger rate than industrial values. By comparison retail floorspace have had more of a mixed result with some areas performing strongly (Central Services Circle) but on the whole across London seeing a drop in values. Residential sale prices have grown strongly by between 31% and 61% at property market area level. Changes in rental values for these uses are shown in *Figure 4-3*.

Land Values

4.4.8 Industrial and residential land values in London can vary widely on a localised level and within sub-regions. Thus, as with rental values, weighted averages for the property market areas defined by this study have thus been identified to provide comparability and are presented in *Table 4-9*.

4.4.9 Average industrial land values range from around £2.5m per hectare (per ha) in the Thames Gateway to £3.7m per ha in the Lea Valley, rising to around £5.0m per ha in Park Royal / A40 / Heathrow. Values in the Wandle Valley are higher still at £6.0m per ha and increase to almost £7.0m per ha in the Central Services Circle.

4.4.10 Following a similar pattern, average residential land values range from around £9.0m per ha in the Thames Gateway to £10.5m per ha in the Lea Valley, rising to around £13.0m per ha in Park Royal / A40 / Heathrow. Values in the Wandle Valley are higher still at £21.5m per ha though are, perhaps not surprisingly, significantly higher in the Central Services Circle where residential land is valued at £52.0m per ha. The greatest differences in residential land values and industrial land values present the greatest pressure for redevelopment; this broadly corresponds with the geographies of observed loss of industrial land 2010-2015.

4.4.11 When considered relatively, the ratio of residential land values to industrial land values is highest in the Central Services Circle averaging 7.6 to 1.0 (meaning that residential land is worth approximately 7 to 8 times industrial land). The ratio of residential to industrial land is lowest in Park Royal / A40 / Heathrow PMA at a ratio 2.6 to 1.0, with the Lea Valley recording similar at 2.8 to 1.0. There are some wide variances at a borough level, within the Thames Gateway PMA for example, the ration is 1.6 to 1.0 in Bromley and 9.8 to 1.0 in Greenwich. In the Wandle Valley the ratio averages 3.5 to 1.0.

4.4.12 As was observed with industrial land values, greatest variances between boroughs in PMA are observed in the Central Services Circle, where they range from £15m per ha in Lewisham to £91m per ha in Kensington and Chelsea. Variations elsewhere include the Thames Gateway where values in Greenwich of £24.5m per ha are significantly higher than the PMA average of around £9m per ha, and Park Royal / A40 / Heathrow where values in Hammersmith and Fulham of £57m per ha again are significantly higher than the PMA average of £13m per ha.

4.4.13 Industrial land values and differentials between residential and industrial land values are shown in *Figure 4-5* and *Figure 4-6* respectively.

Figure 4-3: Change in Rental Values: Comparisons Between Uses



Table 4-6: Industrial Rental Values, London, 2015

		Rental value £ per sqft	Rental value £ per sqft: low	Rental value £ per sqft: high	Rental value £ per m ²	Rental value £ per m ² : low	Rental value £ per m ² : high
London		10.25	5.00	16.00	110.25	53.75	172.25
Central Services Circle		9.75	8.00	16.00	105.00	86.00	172.25
	Camden	10.00	8.00	16.00	107.75	86.00	172.25
	City of London	*	*	*	*	*	*
	Hackney	10.00	5.00	11.50	107.75	53.75	123.75
	Islington	12.00	10.0	15.00	129.25	107.75	161.50
	Kensington & Chelsea	10.00	*	*	107.75	*	*
	Lambeth	10.00	8.00	15.00	107.75	86.00	161.50
	Lewisham	9.00	7.00	10.00	97.00	75.25	107.75
	Southwark	9.50	8.00	13.00	102.25	86.00	140.00
	Tower Hamlets	10.00	7.00	15.00	107.75	75.25	161.50
	Westminster	12.00	*	*	129.25	*	*
Lea Valley		9.50	6.50	12.50	102.25	70.00	134.50
	Enfield	9.00	7.00	9.50	97.00	75.25	102.25
	Haringey	8.00	7.00	10.00	86.00	75.25	107.75
	Waltham Forest	11.00	7.50	13.50	118.50	80.75	145.25
Park Royal / A40 / Heathrow		11.50	7.00	15.00	123.75	75.25	161.50
	Barnet	10.00	8.00	14.00	107.75	86.00	150.75
	Brent	12.50	8.50	14.00	134.50	91.50	150.75
	Ealing	11.00	7.50	13.00	118.50	80.75	140.00
	Hammersmith & Fulham	14.00	10.0	15.00	150.75	107.75	161.50
	Harrow	11.00	8.50	13.00	118.50	91.50	140.00
	Hillingdon	11.00	7.00	15.00	118.50	75.25	161.50
	Hounslow	12.00	8.00	15.00	129.25	86.00	161.50
	Richmond upon Thames	9.00	7.50	13.00	97.00	80.75	140.00
Thames Gateway		8.50	5.00	11.00	91.50	53.75	118.50
	Barking & Dagenham	7.00	5.00	9.50	75.25	53.75	102.25
	Bexley	7.50	5.00	9.00	80.75	53.75	97.00
	Bromley	10.00	6.00	11.00	107.75	64.50	118.50
	Greenwich	10.00	5.00	10.00	107.75	53.75	107.75
	Havering	7.00	6.50	8.00	75.25	70.00	86.00
	Newham	11.50	6.50	12.50	123.75	70.00	134.50
	Redbridge	9.00	5.00	11.00	97.00	53.75	118.50
Wandle Valley		11.25	6.00	13.50	121.00	64.50	145.25
	Croydon	10.25	7.00	12.00	110.25	75.25	129.25
	Kingston upon Thames	12.00	7.00	13.00	129.25	75.25	140.00
	Merton	10.50	6.00	11.50	113.00	64.50	123.75
	Sutton	11.75	7.50	12.00	126.50	80.75	129.25
	Wandsworth	13.00	8.00	13.50	140.00	86.00	145.25

Source: AECOM, Cushman & Wakefield (June 2015), EGI (June 2015).

Note: Rounded to nearest £0.25; for City of London, Kensington and Chelsea, and Westminster there were too few industrial units to form a judgement or to base this range of rental values.

Table 4-7: Change in Rental Values 2010-2015: Industrial Premises

		2001 - 2006 % change	2006 - 2010 % change	2010 - 2015 % change
London		19.8%	34.8%	13.2%
Central Services Circle		30.4%	13.8%	-0.4%
	Camden	47.7%	-2.7%	-11.6%
	City of London	*	*	*
	Hackney	27.1%	24.5%	9.1%
	Islington	27.6%	20.0%	5.2%
	Kensington & Chelsea	32.4%	-11.8%	-19.3%
	Lambeth	28.4%	34.3%	11.8%
	Lewisham	8.9%	38.7%	18.0%
	Southwark	24.7%	27.6%	11.3%
	Tower Hamlets	29.6%	28.6%	10.2%
	Westminster	38.1%	7.6%	-6.1%
Lea Valley		14.7%	44.8%	18.8%
	Enfield	11.0%	44.8%	19.0%
	Haringey	14.7%	33.5%	13.4%
	Waltham Forest	28.7%	58.4%	18.8%
Park Royal / A40 / Heathrow		14.7%	39.9%	14.9%
	Barnet	20.3%	18.9%	6.0%
	Brent	19.0%	52.1%	18.9%
	Ealing	13.4%	35.3%	15.3%
	Hammersmith & Fulham	22.0%	39.9%	14.9%
	Harrow	8.8%	43.4%	18.5%
	Hillingdon	26.0%	29.8%	9.3%
	Hounslow	12.7%	23.9%	10.9%
	Richmond upon Thames	14.7%	28.9%	10.9%
Thames Gateway		13.2%	42.9%	16.9%
	Barking & Dagenham	12.4%	20.8%	9.6%
	Bexley	22.7%	22.9%	8.3%
	Bromley	13.2%	45.0%	18.3%
	Greenwich	6.9%	54.6%	22.9%
	Havering	7.0%	27.5%	13.0%
	Newham	23.8%	57.8%	21.5%
	Redbridge	19.2%	42.9%	16.9%
Wandle Valley		17.0%	47.0%	19.4%
	Croydon	11.4%	53.4%	21.2%
	Kingston upon Thames	11.2%	45.0%	19.4%
	Merton	17.0%	50.0%	19.4%
	Sutton	43.8%	39.0%	10.2%
	Wandsworth	24.1%	47.0%	17.8%

Note: For City of London there were too few industrial units to form a judgement or to calculate a percentage change.

Source: AECOM, Cushman & Wakefield (June 2015), EGI (June 2015).

Table 4-8: Change in Rental / Sale Values 2010-2015: Industrial and Other Uses

		Industrial	Residential	Office	Retail
London		13%	45%	15%	-4%
Central Services Circle		-0%	61%	26%	20%
	Camden	-12%	65%	21%	-8%
	City of London	*	*	*	*
	Hackney	9%	54%	28%	10%
	Islington	5%	55%	30%	29%
	Kensington & Chelsea	-19%	60%	17%	0%
	Lambeth	12%	60%	27%	72%
	Lewisham	18%	24%	15%	-5%
	Southwark	11%	61%	29%	11%
	Tower Hamlets	10%	35%	23%	8%
	Westminster	-6%	62%	15%	41%
Lea Valley		19%	31%	11%	-8%
	Enfield	19%	31%	11%	-35%
	Haringey	13%	51%	15%	-8%
	Waltham Forest	19%	25%	4%	13%
Park Royal / A40 / Heathrow		15%	45%	11%	-9%
	Barnet	6%	38%	9%	-8%
	Brent	19%	48%	8%	-1%
	Ealing	15%	67%	25%	-3%
	Hammersmith & Fulham	15%	45%	20%	-14%
	Harrow	18%	36%	11%	-4%
	Hillingdon	9%	34%	5%	-24%
	Hounslow	11%	33%	7%	-17%
	Richmond upon Thames	11%	48%	13%	-5%
Thames Gateway		17%	39%	15%	-15%
	Barking & Dagenham	10%	29%	2%	-8%
	Bexley	8%	68%	24%	-15%
	Bromley	18%	39%	15%	0%
	Greenwich	23%	29%	34%	-17%
	Havering	13%	51%	-7%	-17%
	Newham	22%	38%	16%	0%
	Redbridge	17%	40%	3%	-31%
Wandle Valley		19%	40%	16%	-8%
	Croydon	21%	33%	10%	-12%
	Kingston upon Thames	19%	40%	16%	-8%
	Merton	19%	48%	20%	0%
	Sutton	10%	33%	21%	-11%
	Wandsworth	18%	57%	11%	9%

Source: AECOM, Cushman & Wakefield (June 2015), EGI (June 2015).

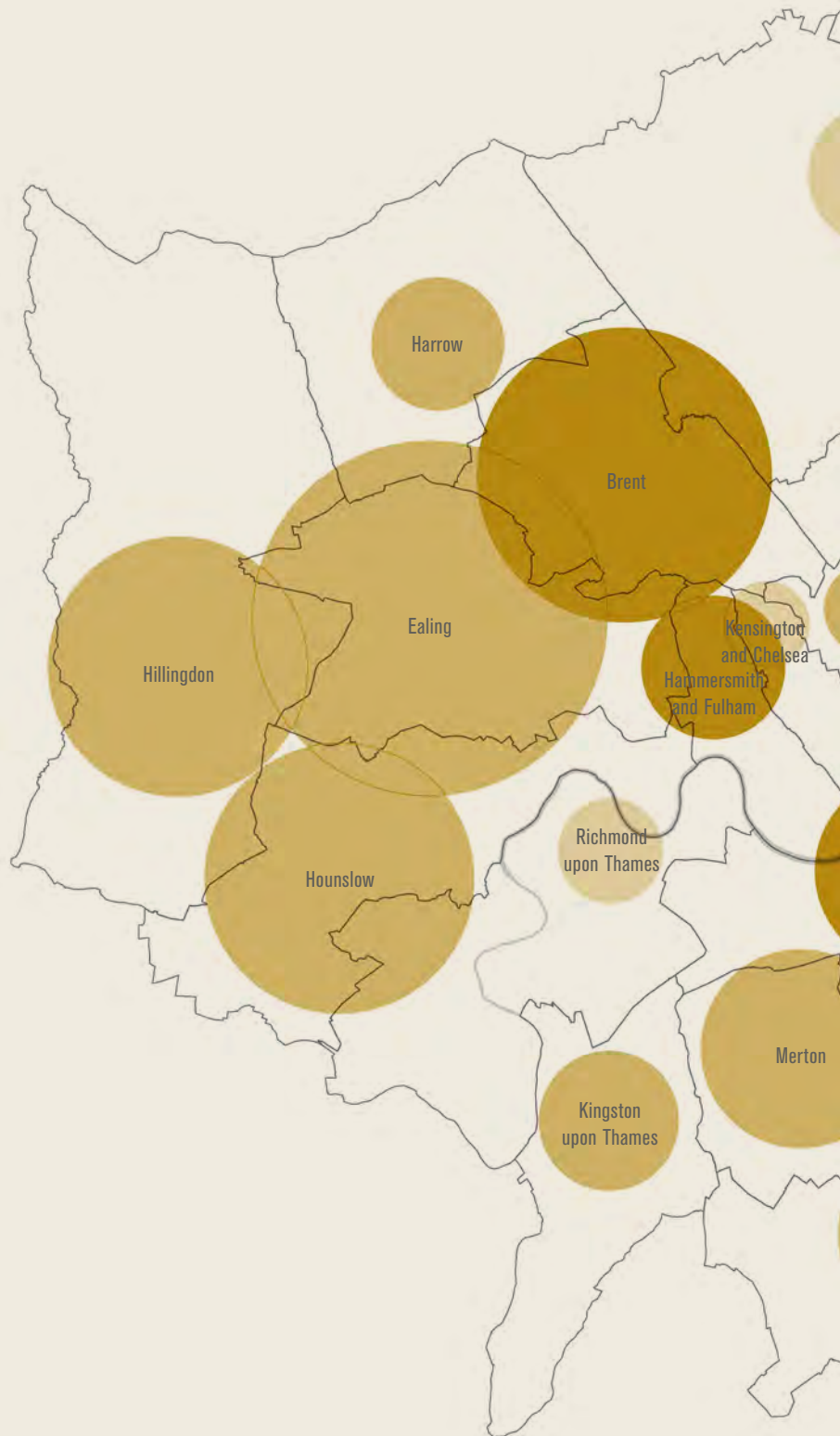
Note: Rental value data for industrial, office and retail uses; sale values for residential; for City of London there were too few industrial units to form a judgement or to calculate a percentage change.

Table 4-9: Land Values £ Millions, London 2015

		Industrial land value £m/acre	Residential land value £m/acre	Industrial land value £m/ha	Residential land value £m/ha	Ratio residential to industrial
London		2.00	6.00	4.90	15.70	3.2
Central Services Circle		2.75	21.00	6.80	52.00	7.6
	Camden	2.50	13.00	6.20	33.30	5.4
	City of London	*	*	*	*	*
	Hackney	1.00	8.00	2.50	20.70	8.3
	Islington	3.00	21.00	7.40	52.00	7.0
	Kensington & Chelsea	3.00	37.00	7.40	91.10	12.3
	Lambeth	2.50	10.00	6.20	25.40	4.1
	Lewisham	1.00	6.00	2.50	14.80	5.9
	Southwark	3.00	17.00	7.40	41.10	5.6
	Tower Hamlets	1.00	8.00	2.50	19.00	7.6
	Westminster	2.50	38.00	6.20	93.30	15.0
Lea Valley		1.50	4.00	3.70	10.40	2.8
	Enfield	1.50	6.00	3.70	15.50	4.2
	Haringey	1.50	4.00	3.70	10.40	2.8
	Waltham Forest	1.00	4.00	2.50	9.35	3.7
Park Royal / A40 / Heathrow		2.00	5.00	4.90	12.85	2.6
	Barnet	1.50	6.00	3.70	15.70	4.2
	Brent	2.50	3.00	6.20	8.00	1.3
	Ealing	2.00	5.00	4.90	12.85	2.6
	Hammersmith & Fulham	2.50	23.00	6.20	56.80	9.2
	Harrow	2.50	6.00	6.20	14.85	2.4
	Hillingdon	2.00	5.00	4.90	11.60	2.4
	Hounslow	2.00	4.00	4.90	8.80	1.8
	Richmond upon Thames	2.00	15.00	4.90	38.00	7.8
Thames Gateway		1.00	4.00	2.50	8.95	3.6
	Barking & Dagenham	1.00	3.00	2.50	8.00	3.2
	Bexley	1.00	3.00	2.50	7.50	3.0
	Bromley	2.50	4.00	6.20	10.15	1.6
	Greenwich	1.00	10.00	2.50	24.40	9.8
	Havering	1.00	3.00	2.50	7.30	2.9
	Newham	1.00	4.00	2.50	10.25	4.1
	Redbridge	1.00	4.00	2.50	8.95	3.6
Wandle Valley		2.50	9.00	6.20	21.50	3.5
	Croydon	2.50	9.00	6.20	21.50	3.5
	Kingston upon Thames	2.50	9.00	6.20	22.80	3.7
	Merton	2.50	6.00	6.20	16.00	2.6
	Sutton	2.50	6.00	6.20	14.60	2.4
	Wandsworth	2.50	10.00	6.20	24.50	4.0

Source: AECOM, Cushman & Wakefield (June 2015), EGI (June 2015), DCLG Land Value Estimates for Policy Appraisal (February 2015), Collier's International; Lambert Smith Hampton

Figure 4-4: Rent Level of Industrial Floorspace by Borough 2015



- £7-£8 per sq ft per annum
- £8-£10 per sq ft per annum
- £10-£12 per sq ft per annum
- £12-£14 per sq ft per annum

Scale

- 300,000m² floorspace
- 200,000m² floorspace
- 100,000m² floorspace

0 2 4 miles

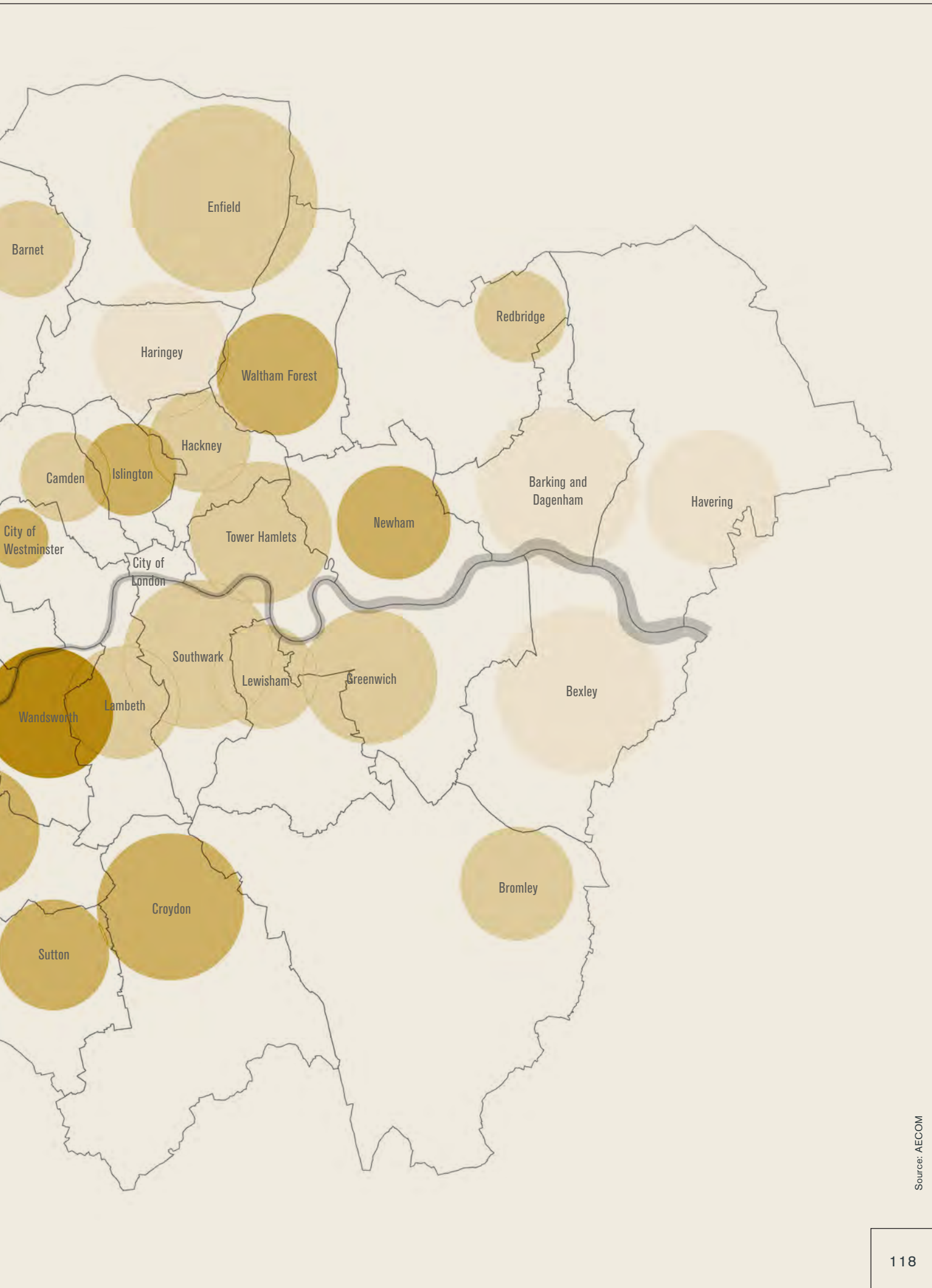
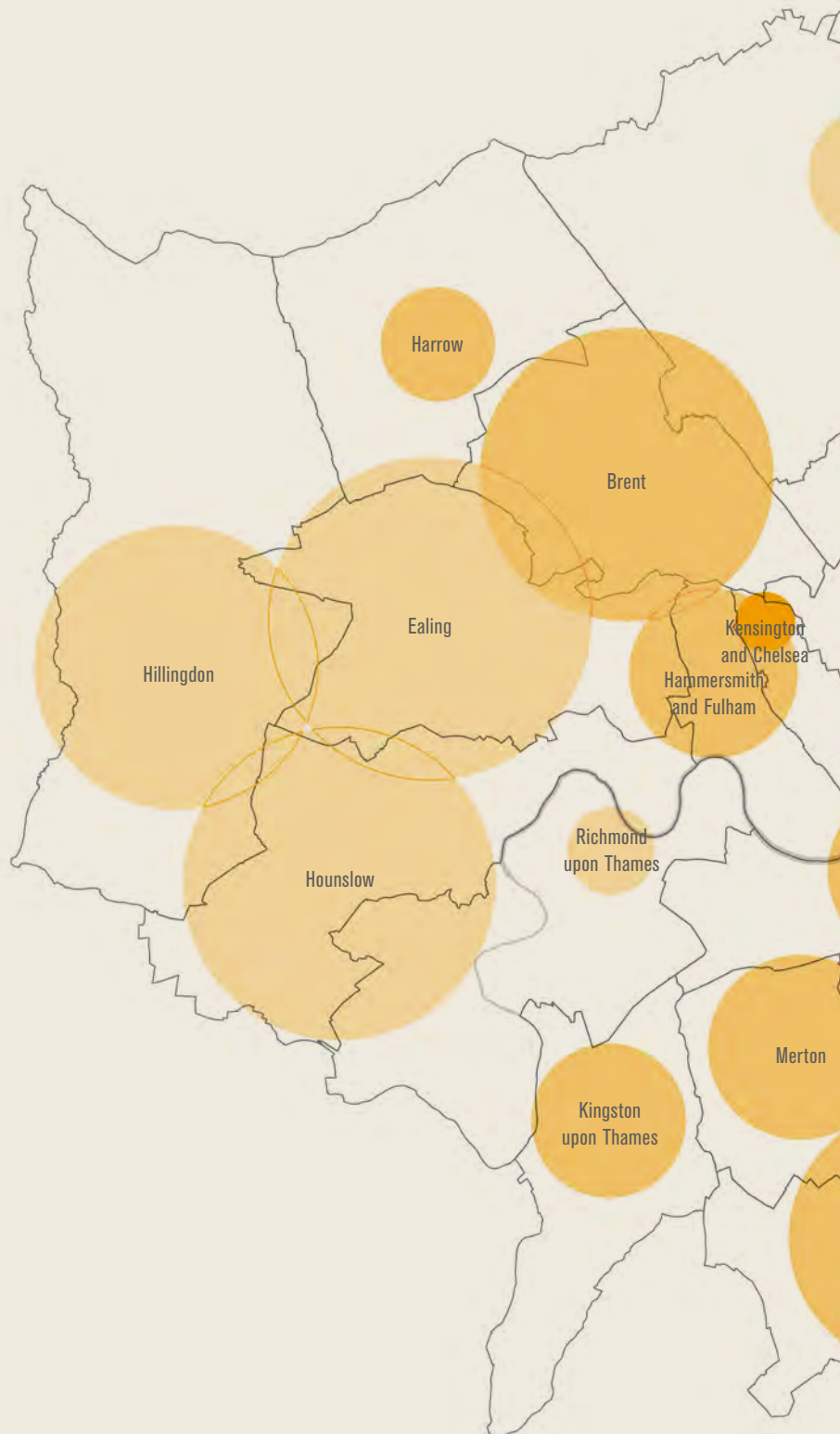
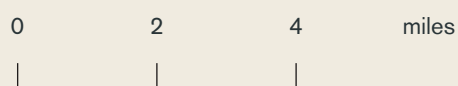


Figure 4-5: Industrial Land Values by Borough in London 2015 (£)



- £2m - £3.5m per hectare
- £3.5m - £4.5m per hectare
- £4.5m - £5.5m per hectare
- £5.5m - £6.5m per hectare
- £6.5m - £7.5m per hectare

Scale



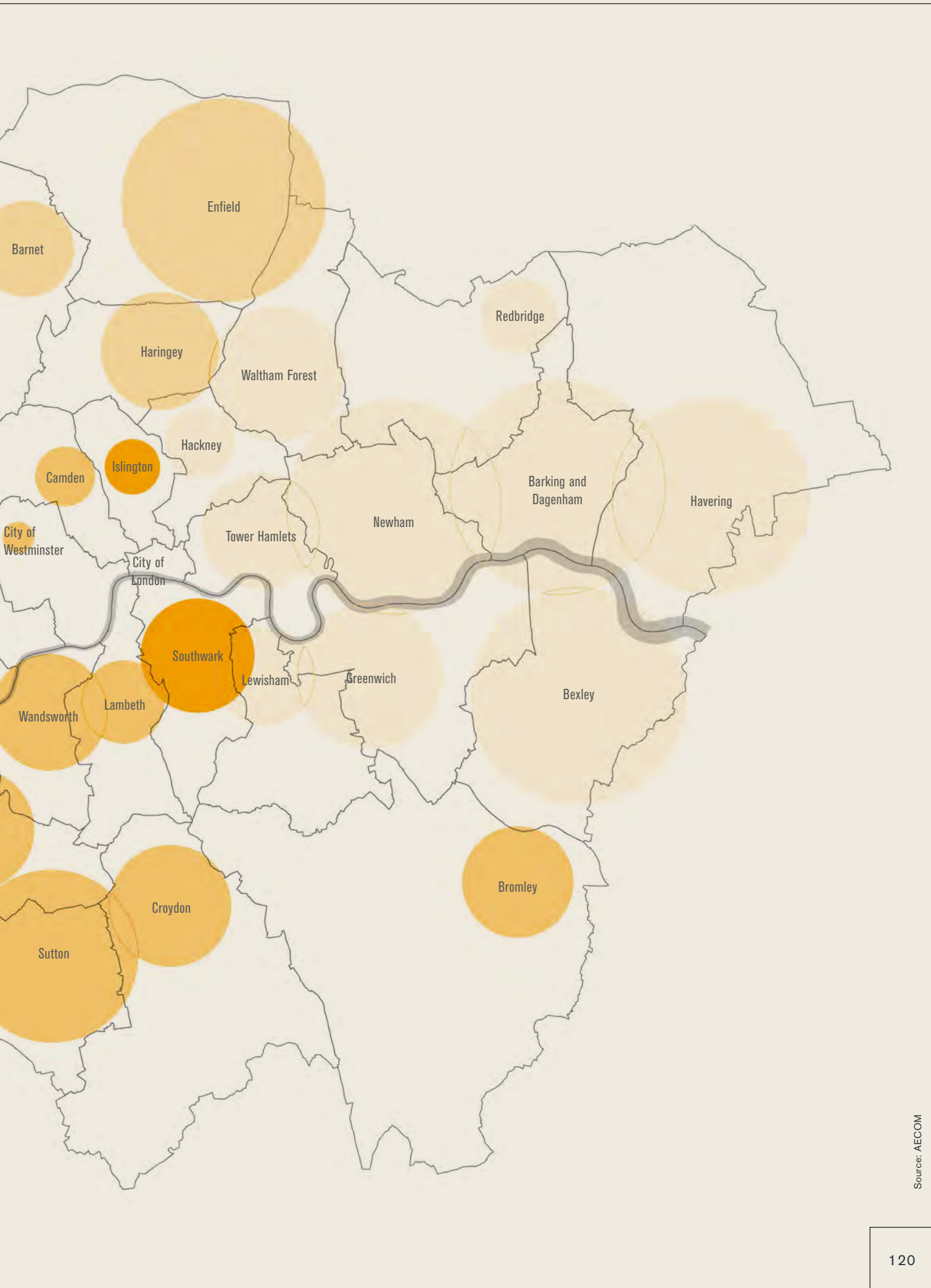





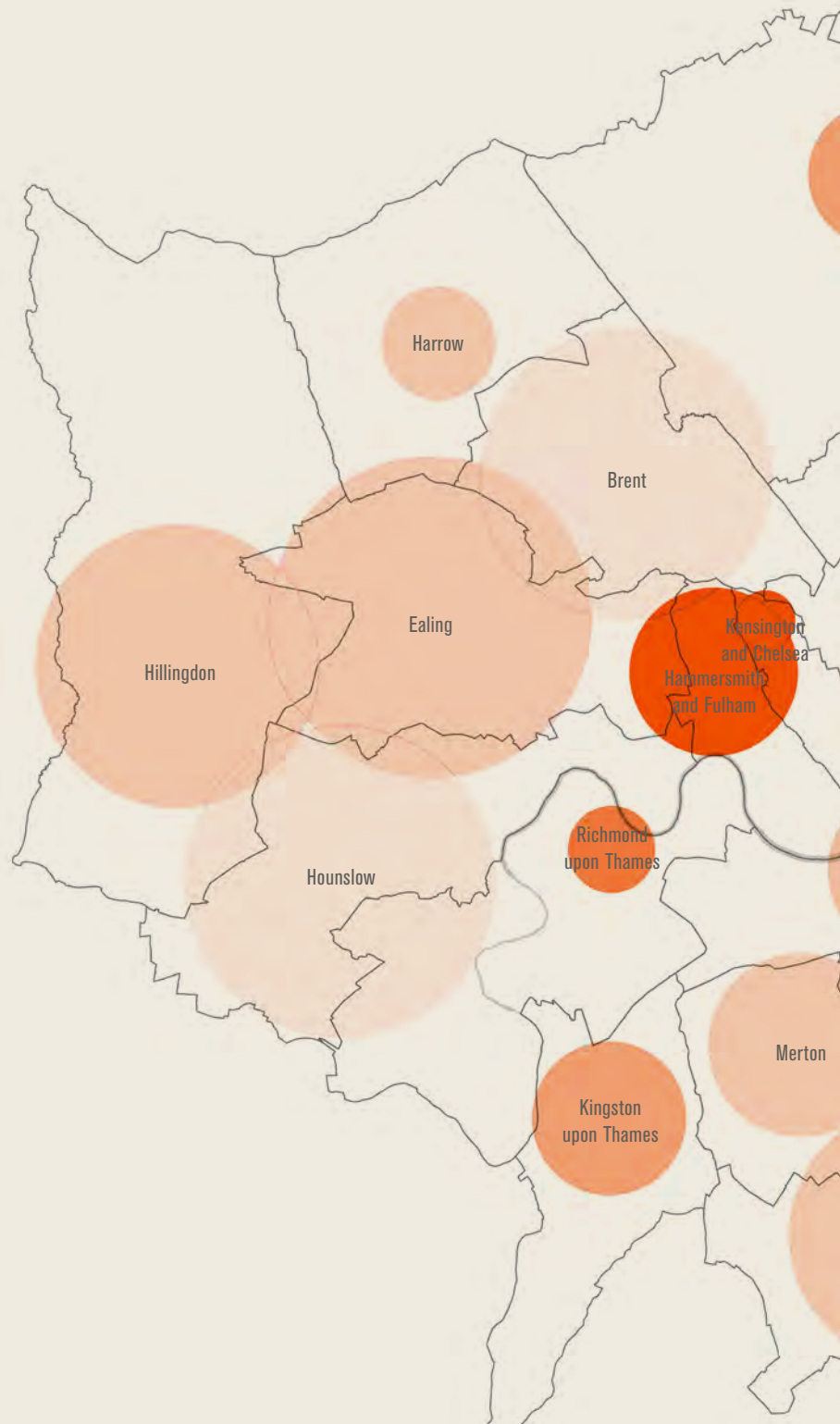
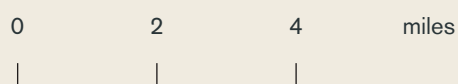
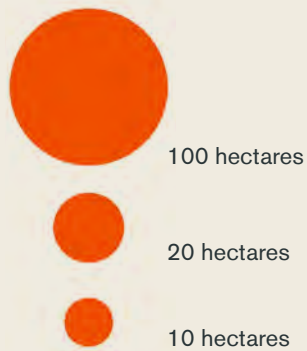


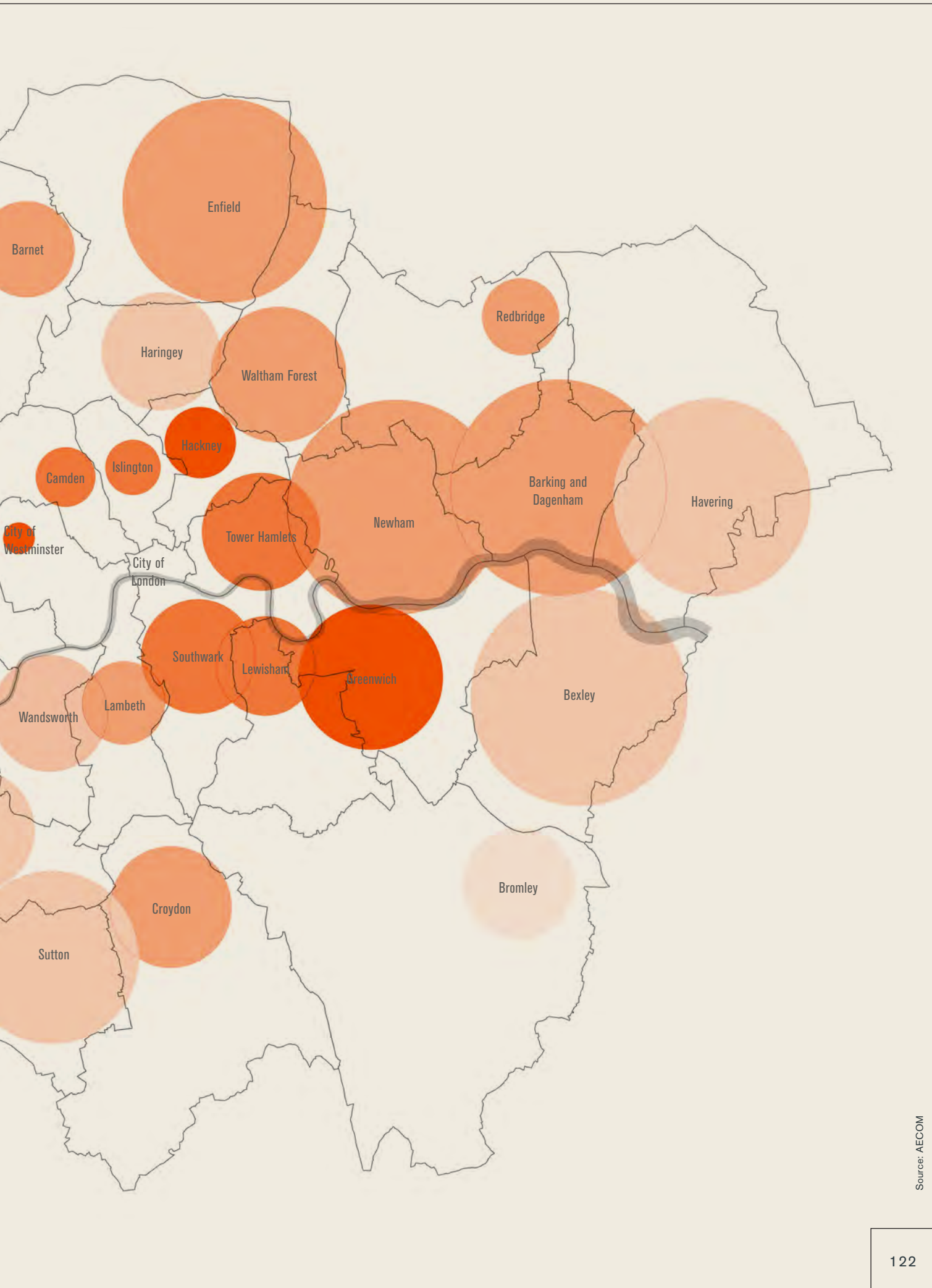
Figure 4-6: Differential Between Residential and Industrial Land Values 2015

Across London the average ratio of residential land values to industrial land values is 3.2 to 1, with the differential in the Central Services Circle rising to 7.6 to 1.

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Scale





4.5 Summary

4.5.1 Key points covered in this chapter include:

- There is approximately 21 million m² of industrial floorspace in London in 2012. The Park Royal / A40 / Heathrow market contains the highest proportion of London's floorspace at 32%, with the Thames Gateway area, at 21%, also containing a significant proportion of this total. The Wandle Valley market area contains the lowest proportion at 13%.
- There is approximately 2 million m² of industrial floorspace available on the market in London in 2015. This is mostly concentrated in Outer London (89%). Park Royal / A40 / Heathrow PMA has the highest proportion of the total (42%), followed by the Thames Gateway (33%).
- Available industrial floorspace represents 10% of total estimated floorspace. This is higher than the GLA guideline frictional vacancy rate of 8% for effective operation of the market⁴⁷. Outer London has a higher rate at 12%. The market area with the highest availability of floorspace as a percentage of total floorspace is the Thames Gateway at 14%. The market areas with the least availability of floorspace as a percentage of total floorspace are the Central Service Circle (2.7%) and the Wandle Valley (4%). The boroughs with the highest availability proportions are: Barking & Dagenham (33%); Hillingdon (25%); Enfield (18%) and Brent (16%).
- Industrial rental values average £110 per m² (£10.25 per sqft). The Park Royal / A40 / Heathrow and Wandle Valley PMAs have the highest average rents at around £123 per m² (£11.50 per sqft) and the Thames Gateway has the lowest at £92 per m² (£8.50 per sqft). Rents vary between £150 per m² (£14 per sqft) in Hammersmith & Fulham and £75 per m² (£7 per sqft) in Havering and Barking & Dagenham.
- Average rental values have increased steadily over the last five years by around 19% in both the Wandle Valley and Lea Valley areas, 17% in the Thames Gateway and 15% in Park Royal / A40 / Heathrow. Contrastingly they have remain unchanged in the Central Services Circle, likely due to the prevalence of short term leases, although rates of change vary greatly between boroughs in this PMA.
- Industrial land values average £4.9m per ha (£2.0m per acre). Wandle Valley PMAs has the highest average industrial property values at around £6.2m per ha (£2.5m per acre) and the Thames Gateway has the lowest at £1.0m per ha (£2.5 per acre). Industrial property values vary between £7.4m per ha (£3.0m per acre) in Islington, Kensington & Chelsea and Southwark and £2.5m per ha (£1.0m per acre) in a number of boroughs, mostly concentrated in the Thames Gateway.
- Relatively, ratios of residential land to industrial land values are highest in the Central Services Circle averaging 7.6 to 1.0 and lowest in Park Royal / A40 / Heathrow at 2.6 to 1.0. The ratio averages 3.6 to 1.0 in Thames Gateway, though at a borough level there are some wide variances. In Lea Valley the ratio averages 2.8 to 1.0 and is 3.5 to 1.0 in Wandle Valley.
- Office rental values have grown positively and at a slightly stronger rate than industrial values. By comparison retail floorspace have had more of a mixed result with some areas performing strongly (Central Services Circle) but on the whole across London seeing a drop in values. Residential sale prices have grown strongly by between 31% and 61% at property market area level.

4.5.2 The implications of these figures and trends are considered further in Chapter 6.

⁴⁷ See Land for Industry and Transport SPG, p31, para 3.7, GLA, 2012.

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5.

Industrial Capacity in the Inner South East

Industrial Capacity in the Inner South East

5.1 Introduction

5.1.1 The purpose of this chapter is to identify strategically important capacity for industrial, logistics and related uses in the inner South East region.

5.1.2 In the context of a contracting supply of industrial land within London, industrial land at accessible locations on the periphery to London and more widely across the South East could play an increasingly important role in supporting the functioning of London's economy and support demand for land and premises from London's industrial businesses.

5.2 Quantity of Strategic Industrial Land in the Inner South East

5.2.1 The industrial property markets in the inner South East have been divided into four quadrants, comprised of local authority areas on the periphery of London. The quadrants include major freight hubs such as Gatwick, Heathrow and London Gateway as well as major strategic routes into London. The quadrants are shown in *Figure 5-3*.

5.2.2 The areas have been selected to reflect the relationships between broad property market areas in and around London. Property market areas are a loose concept and different companies will have different geographies they consider suitable for their markets. The intention of our market quadrant areas is to capture a high proportion of relevant companies' search areas. (The specifics of different market areas by sector are explored further in Chapter 6).

5.2.3 The estimated stock of industrial land within the four quadrants is shown in *Table 5-1*, calculated using VOA business floorspace statistics and applying an average industrial floorspace to land ratio of 0.45 to 1^{48, 49}. The latest year available in the VOA dataset is 2012, so it is assumed that industrial floorspace represents the current industrial land market conditions.

5.2.4 The table shows that the quadrant with the highest supply of industrial land is the north quadrant, while the south quadrant has the lowest. The overall pattern between 2001 and 2012 is one of gradual release in industrial land. Proportionally 39.6% of the total industrial land in the inner South East is contained within the north quadrant.

5.2.5 The proportional change in industrial land from 2001 up to 2012 is shown in *Figure 5-1*. Over the time period the west quadrant sees the largest level of release, while the east quadrant has experiences the lowest amount. The north, east

and south quadrants saw an increase in industrial land between 2001 and 2004. In terms of absolute proportional decrease from 2001-2012, the east quadrant (-1.3%) sees the lowest followed by the north (-1.4%), south (-6.8 %) and west (-9.6%) quadrants. Overall release in industrial land supply was -4.0% between 2001 and 2012.

5.3 Quantity of Industrial Land in the Inner South East and London Property Markets

5.3.1 The inner South East quadrants can be seen as extensions of the adjacent London PMAs. *Table 5-2* show which quadrant corresponds to each PMA and the quantity of industrial land in both, in 2015.

5.3.2 *Figure 5-2* shows the quantity of industrial land in the corresponding PMAs and quadrants. Additionally, it shows how industrial land in the North quadrant is split when separated into the two divisions from *Figure 5-3*. Therefore, the industrial land supply in the West quadrant is supplemented by the land from the North which is associated with the Park Royal / A40 / Heathrow PMA. The North quadrant to Lea Valley PMA comparison is split to show the proportion of industrial land in the quadrant associated with the PMAs, based upon the divisions.

5.3.3 The total supply of industrial land in the inner South East equates to around 70% of supply in London. Most London property markets are larger than the quadrants adjacent to them. The Thames Gateway (82%) and Park Royal / A40 / Heathrow (106%) are both considerably larger, while the Wandle Valley (31%) is still larger but by a smaller margin. The North quadrant is the only one to have a higher amount of industrial land than its adjacent London PMA, although areas in the M1 / Luton part may correspond to the Park Royal PMA.

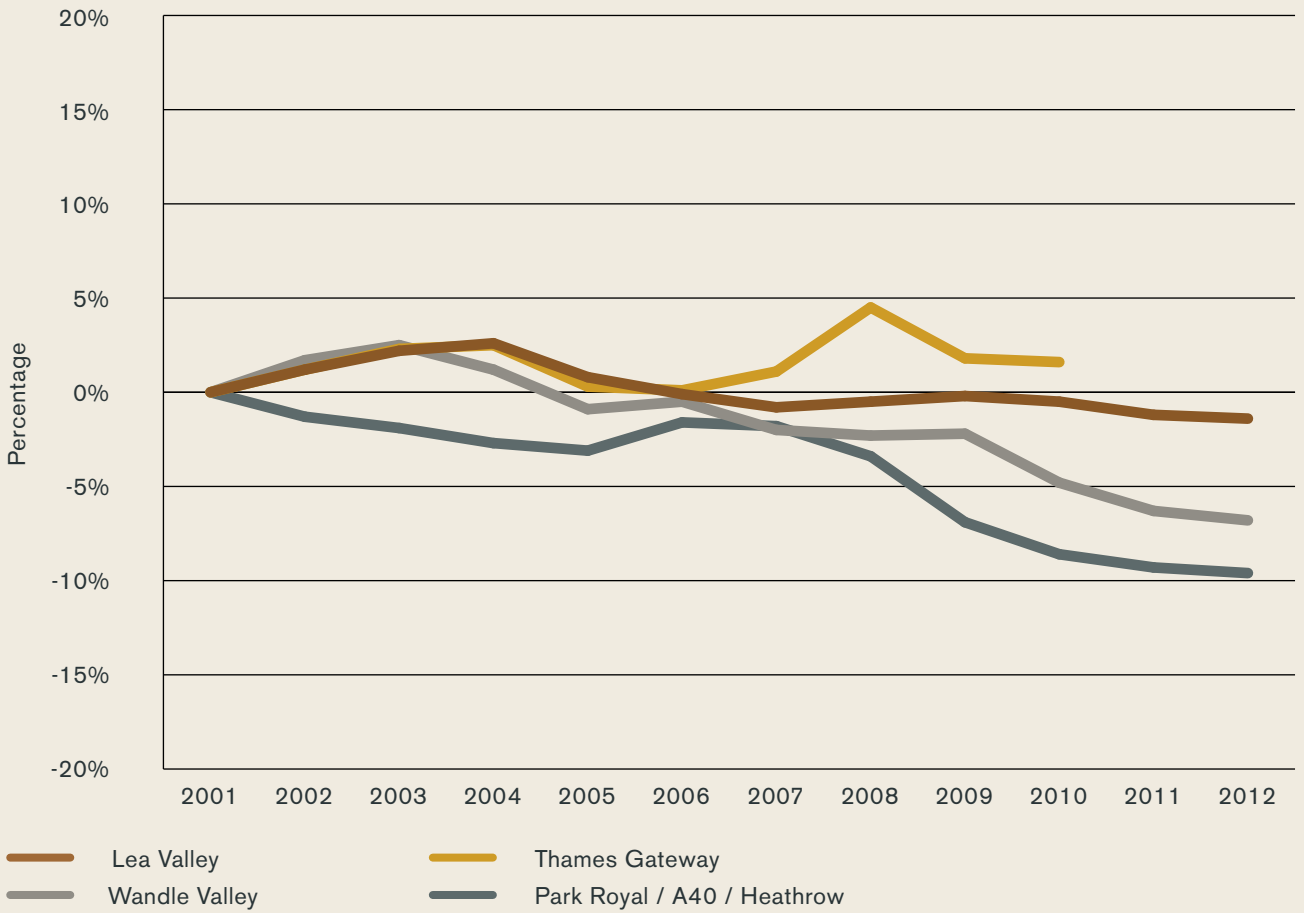
5.3.4 London has seen a higher rate of industrial land release than the inner South East. Total stock in the inner South East has decreased by -4.0%, while in London supply has decreased by -15.8%. *Table 5-3* shows the rates of release for the adjacent London PMAs and inner South East quadrants.

5.3.5 Out of the London PMAs which border the inner South East quadrants, the Thames Gateway has seen the largest release of industrial land and the Wandle Valley the lowest. The Lea Valley (-14.5%) and Thames Gateway (-15.9%) both differ to the quadrants adjacent to them as while the PMAs have had high levels of release, the corresponding North (-1.4%) and East (-1.3%) quadrants have a far lower level.

48 VOA, (2012); Business Floorspace (Experimental Statistics)

49 Office of the Deputy Prime Minister (ODPM), (2004); Employment Land Reviews – Guidance Note, p101.

Figure 5-1: Inner South East Property Market Quadrant Change in Industrial Land Stock



Source: VOA 2012 and AECOM 2015.

Table 5-1: Quantity of industrial land in the wider South East (ha)

Quadrant	Industrial Land(ha)				Absolute Change (%)		
	2001	2006	2010	2012	2001-2006	2006-2010	2010-2012
North (Lea + M1 corridors)	1,958	1,956	1,949	1,932	-0.1%	-0.5%	-1.4%
East	1,207	1,209	1,227	1,191	0.1%	1.6%	-1.3%
South	761	757	725	710	-0.5%	-4.8%	-6.8%
West	1,161	1,143	1,061	1,050	-1.6%	-8.6%	-9.6%
Total	5,088	5,065	4,961	4,882	-0.4%	-2.5%	-4.0%

Source: VOA 2012.

Note: Years 2001, 2006 and 2010 are chosen to align with the three previous baseline positions.

Figure 5-2: Estimated Stock of Industrial Land in London PMAs and Adjacent South-East Quadrants (2015)

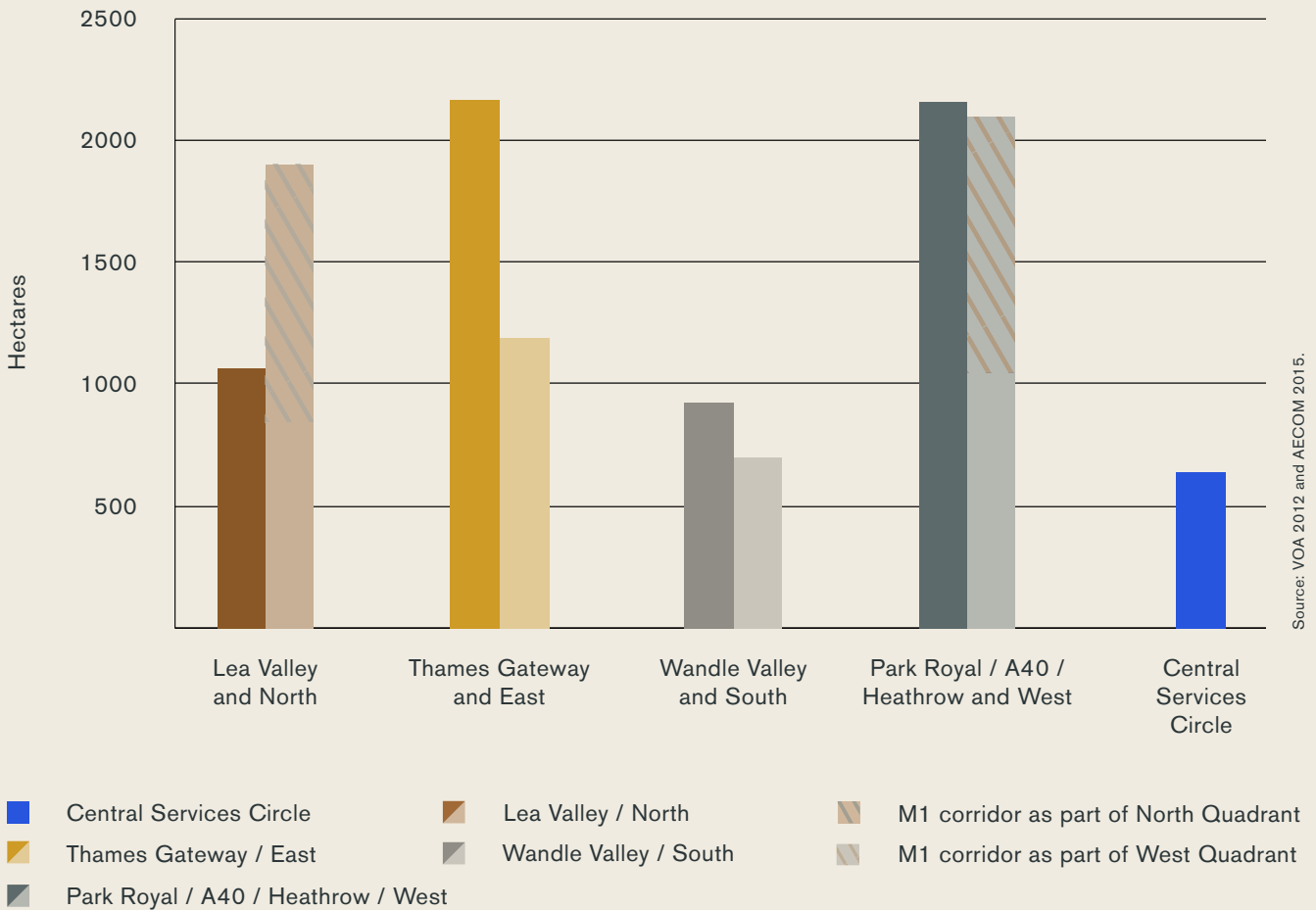


Table 5-2: Estimated Industrial Land in South East Quadrants and Adjacent London PMAs (2015)

Inner South East quadrant	Industrial land area (ha)	London property market	Industrial land area (ha)
North (Lea + M1 corridors)	1,932	Lea Valley	1,073
East	1,191	Thames Gateway	2,169
South	710	Wandle Valley	929
West	1,050	Park Royal / A40 / Heathrow	2,159
-	-	Central Services Circle	645
Total	4,882	-	6,976

Source: VOA 2012 and AECOM 2015.

Table 5-3: Proportional Change of Industrial Land in Inner South East and London Property Markets (2001-2015)

Inner South East quadrant	% change in industrial land	London property market	% change in industrial land
North	-1.4%	Lea Valley	-14.5%
East	-1.3%	Thames Gateway	-15.9%
South	-6.8%	Wandle Valley	-9.8%
West	-9.6%	Park Royal / A40 / Heathrow	-10.4%
-	-	Central Services Circle	-35.8%
Total	-4.0%	-	-15.8%

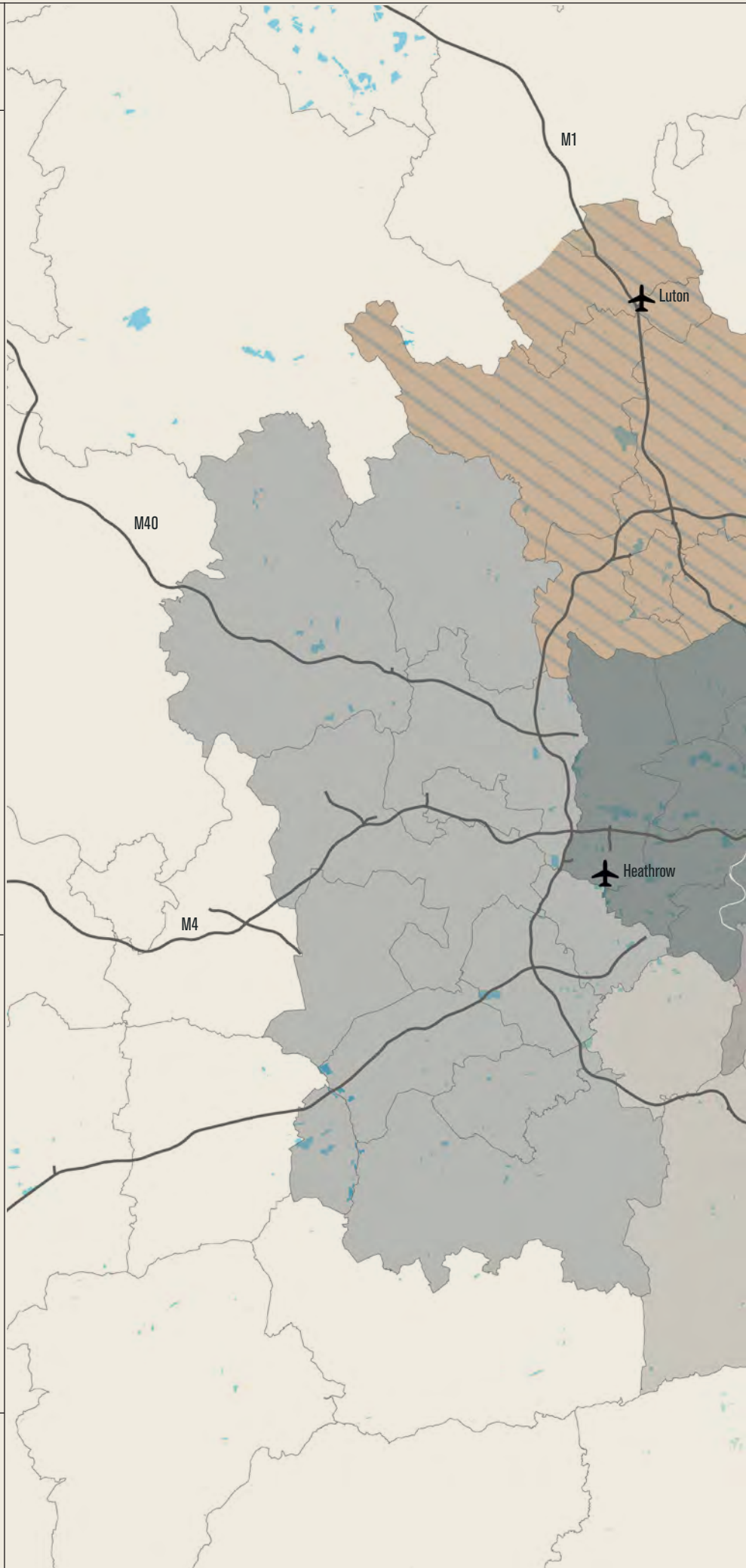
Source: VOA 2012 and AECOM 2015.











5.4 Summary

5.4.1 The supply of industrial land in the inner South East is estimated to be around 4,882ha, equivalent to 70% of total industrial land supply in London. The largest amount of land is in the north quadrant, while in London supply is focused to the west in the Park Royal / A40 / Heathrow PMA.

5.4.2 The rate of industrial land loss in the inner South East is slower than in London. Release of industrial land has been slowest in the inner South East quadrants that are adjacent to the London PMAs which have the highest rates of industrial land loss. This could suggest a process of out migration is occurring with businesses moving from London to locations in the inner South East. The difference in overall rate of industrial land stock release for the inner South East (-4%) and London (-16.1%) also points towards potential out migration of firms. This is explored further in Chapter 6.

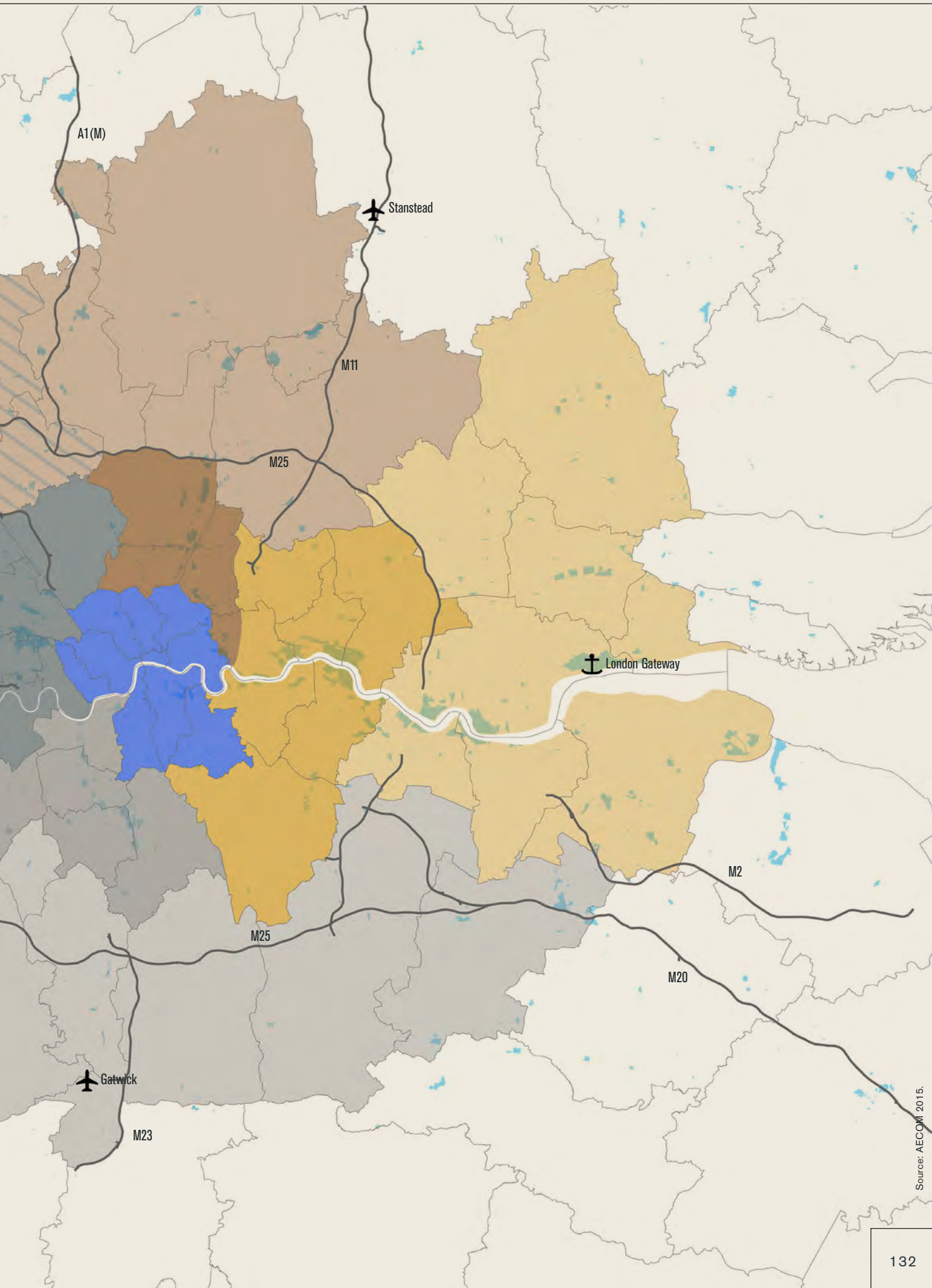
Figure 5-3: Inner South East Region
Property Market Quadrants



-  Airport
-  Port
-  Motorway
-  Central Services Circle
-  Lea Valley / North quadrant
-  Thames Gateway / East quadrant
-  Wandle Valley / South quadrant
-  A40 / Park Royal / Heathrow / West quadrant
-  M1 / Luton corridor
-  Industrial land

Scale





Source: AECOM 2015.



6.

Economic

Consequences of

Reduced Supply

Economic Consequences of Reduced Supply

6.1 Introduction

6.1.1 This chapter analyses what the potential economic consequences are of reduced levels of industrial land supply in London. It is structured as follows:

- Section 6.2 explores whether there is evidence that release of industrial land and changes in vacancy rates has an impact on local rents and property values.
- Section 6.3 considers some case studies on the impact of incremental release of industrial land.
- Section 6.4 explores whether employment densities have changed as a result of changes in the supply of / scarcity of industrial land, and the effect on jobs.
- Section 6.5 considers whether different industrial sectors have differing sensitivities to being located in London and central London.
- Section 6.6 explores the rates of change in industrial areas and to what degree this suggests flexibility in industrial location.
- Section 6.7 explores the relationship between industrial land in London and the adjacent South East region, and whether release of industrial land in London's property market areas corresponds with changes in adjacent South East areas.
- Section 6.8 considers evidence on market failure and / or the flexibility of industry to respond to changing supply.

6.2 Supply and Changes in Rents

6.2.1 This section analyses evidence of a possible causal relationship between a reduced supply of industrial land and increases in rents and land / property values on industrial land. It also considers whether industrial businesses may be sensitive to increases in rents / land costs and implications for the degree of flexibility for them to respond to changes in supply.

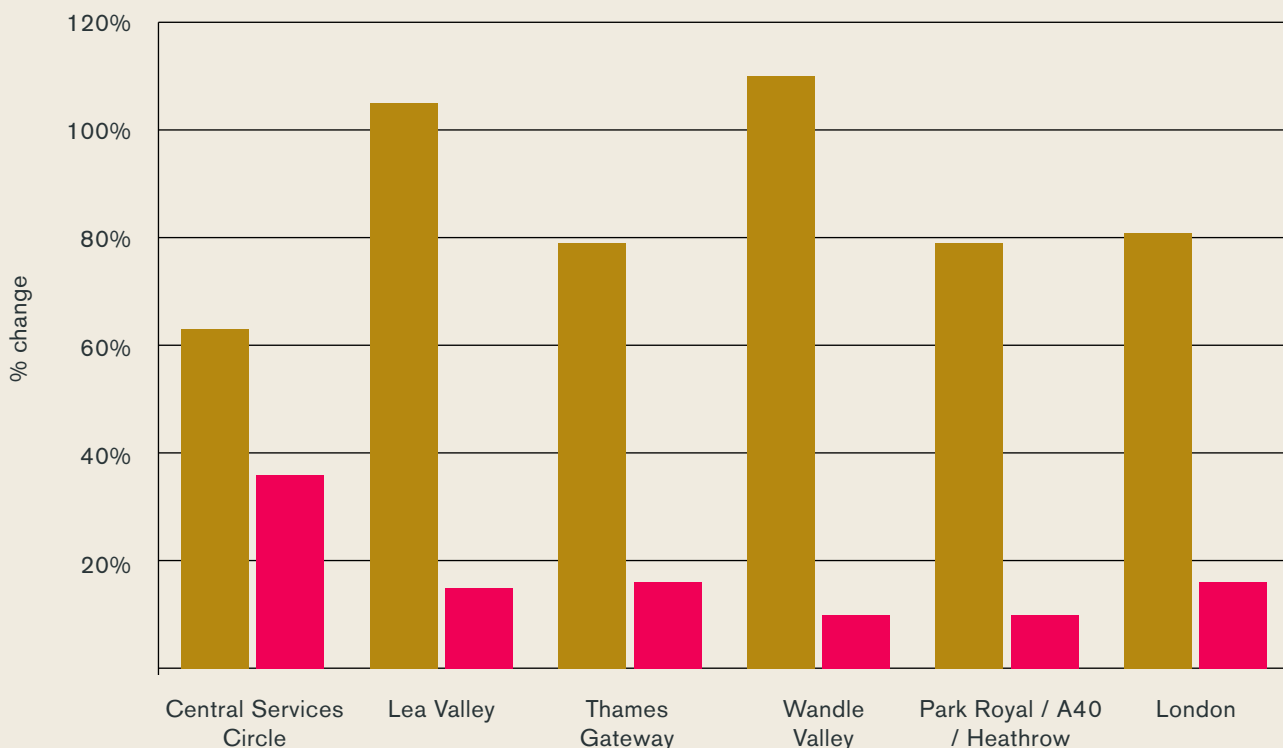
6.2.2 We consider the following data for 2001 to 2015 by borough, market area and sub-region:

- Changes in industrial land stock, 2001 to 2015.
- Changes in vacant industrial land, 2001 to 2015.
- Changes in average industrial land rental values.

6.2.3 Key statistics by borough are presented in *Table 6-1*. This shows that generally there tends to be a pattern where industrial rents increase while industrial land and vacant industrial land stock decreases. This is further illustrated in *Figure 6-1* below and *Figure 6-2* and *Figure 6-3* overleaf.

6.2.4 The Wandle Valley PMA has seen the most significant increase in rental increases even with a relatively modest rate of industrial land release. In contrast the Central Service Circle PMA has seen the highest rate of industrial land release but relative to the other PMAs the lowest percentage increase in rents. *Figure 6-4* shows the change in industrial stock in the PMAs across three time periods: 2001-2006, 2006-2010 and 2010-2015.

Figure 6-1: Percentage Change in Rents and Industrial Stock Release by PMA, 2001-2015



Source: AECOM, Cushman & Wakefield

6.2.5 A possible significant contributing factor to the lack a wider normalised pattern is the effect of the credit crunch post 2008. This has tended to result in a decrease in the rate of increase in industrial rents compared to prior to 2010, whereas the rate of industrial land release has tended to be steadier through the period. This is illustrated in *Figure 6-5*.

6.2.6 Change in rents compared to industrial stock for core and all industrial uses between 2001 and 2015 is shown in *Figure 6-6*.

6.2.7 The figures, particularly *Figure 6-2* suggests that there are other factors driving demand and rents (including the overall performance of the economy) that are largely independent of total stock and vacant land in particular parts of London and dominate over local supply factors. Nevertheless the results generally show that rents have been increasing at the same time that total industrial stock has been decreasing.

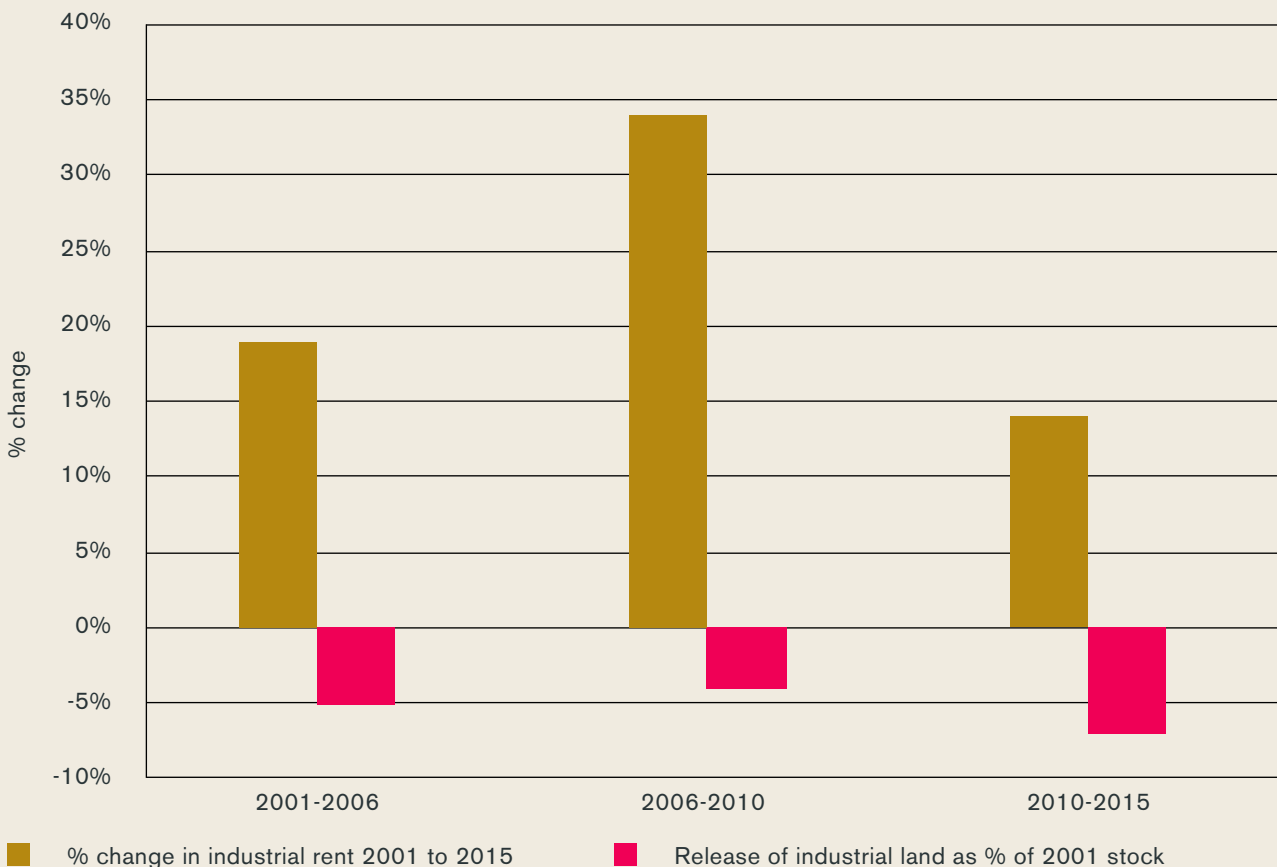
6.2.8 Overall the results suggest that release of industrial land does not appear to be a direct cause of increases in industrial rents, at least at a local level. There are a number of possible reasons for this finding, for example:

- Time lags in the link between the release of land / reduced supply and increases in rents due to factors such as rigidities of rent review cycles. The time lags may not be picked up in this data or analysis.

- Release of industrial land generally corresponds with reductions in demand and / or has a patchy relationship between the two across London leading to variations in impacts and indices
- A significant proportion of businesses may operate with a different geography of their locational market area; for example, including locations outside London, which could mean the way we have analysed the data has not picked up on relevant relationships.
- Wider trends such as the wider housing and property market, or the overall performance of the economy may be overwhelming and masking more local property market effects.

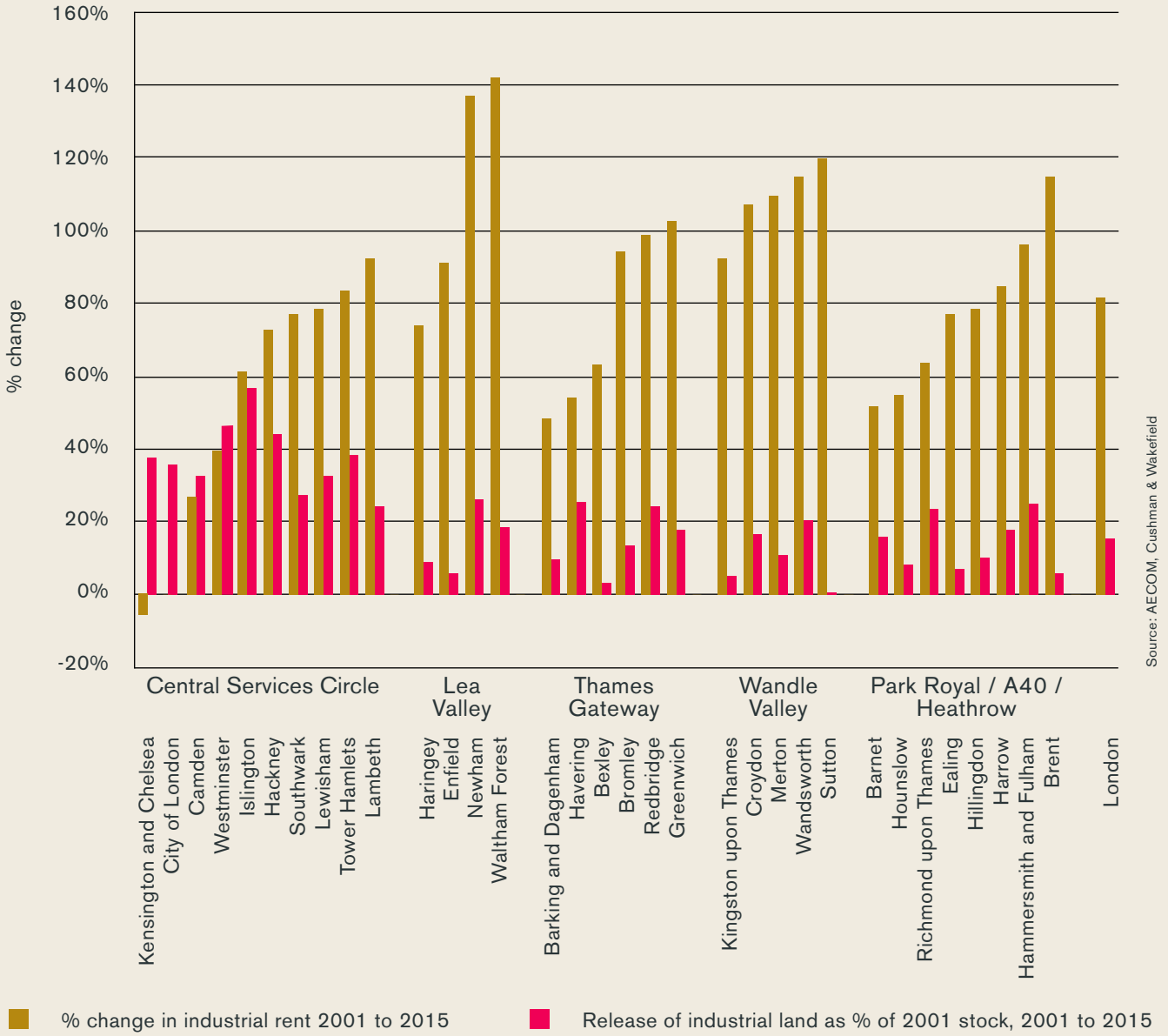
6.2.9 The relevant conclusion we draw for this study is that other than in general overall terms there is little evidence that reduced supply of industrial land is placing significant rental pressures on remaining activities. The above factors and questions are though potentially worth investigating in future work and research.

Figure 6-2: Percentage Change in Rents and Industrial Stock for London, 2001-2015



Source: AECOM, Cushman & Wakefield

Figure 6-3: Percentage Change in Rents and Industrial Stock Release by Borough, 2001-2015



Source: AECOM, Cushman & Wakefield

Figure 6-4: Change in Industrial Stock by PMA, 2001-2015

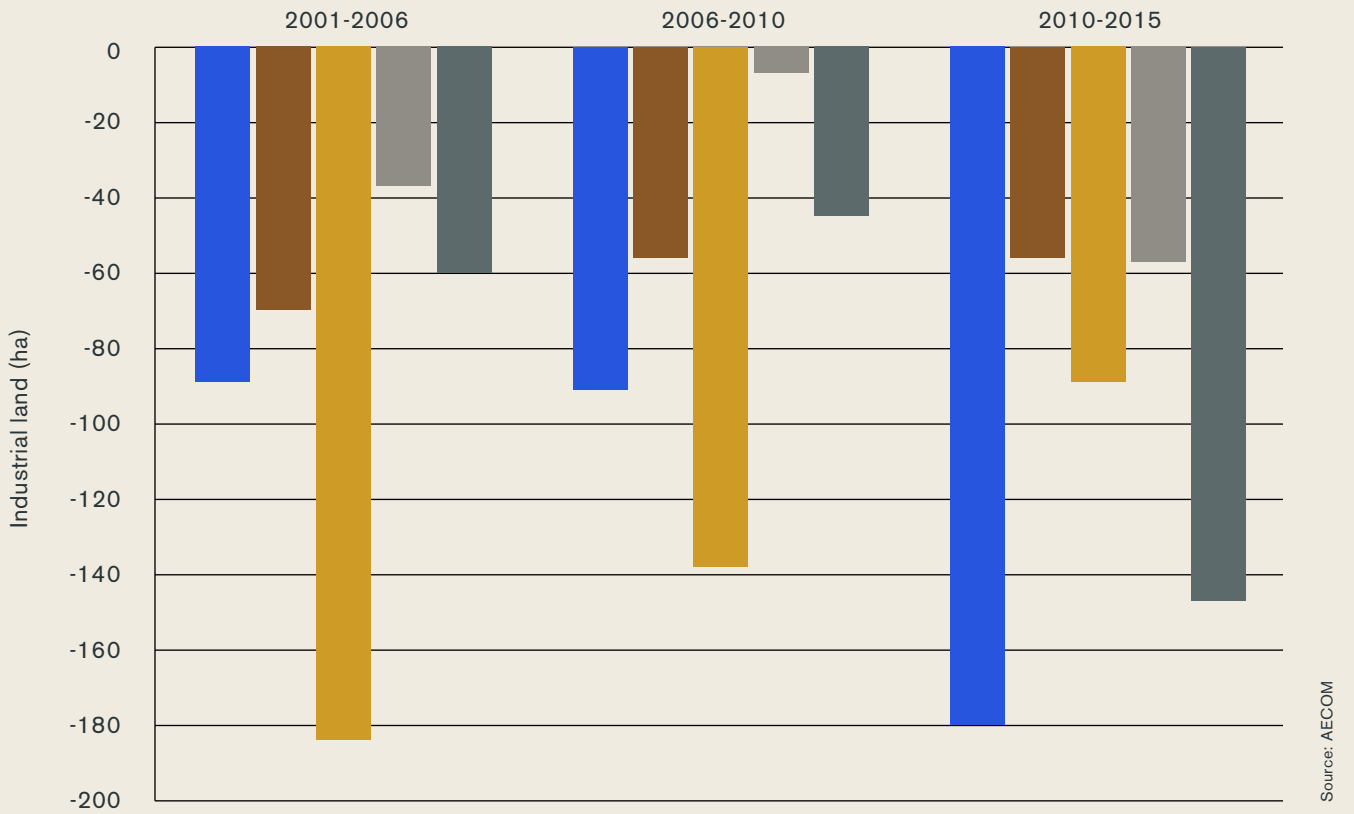


Figure 6-5: Change in Rents by PMA and London, 2001-2015

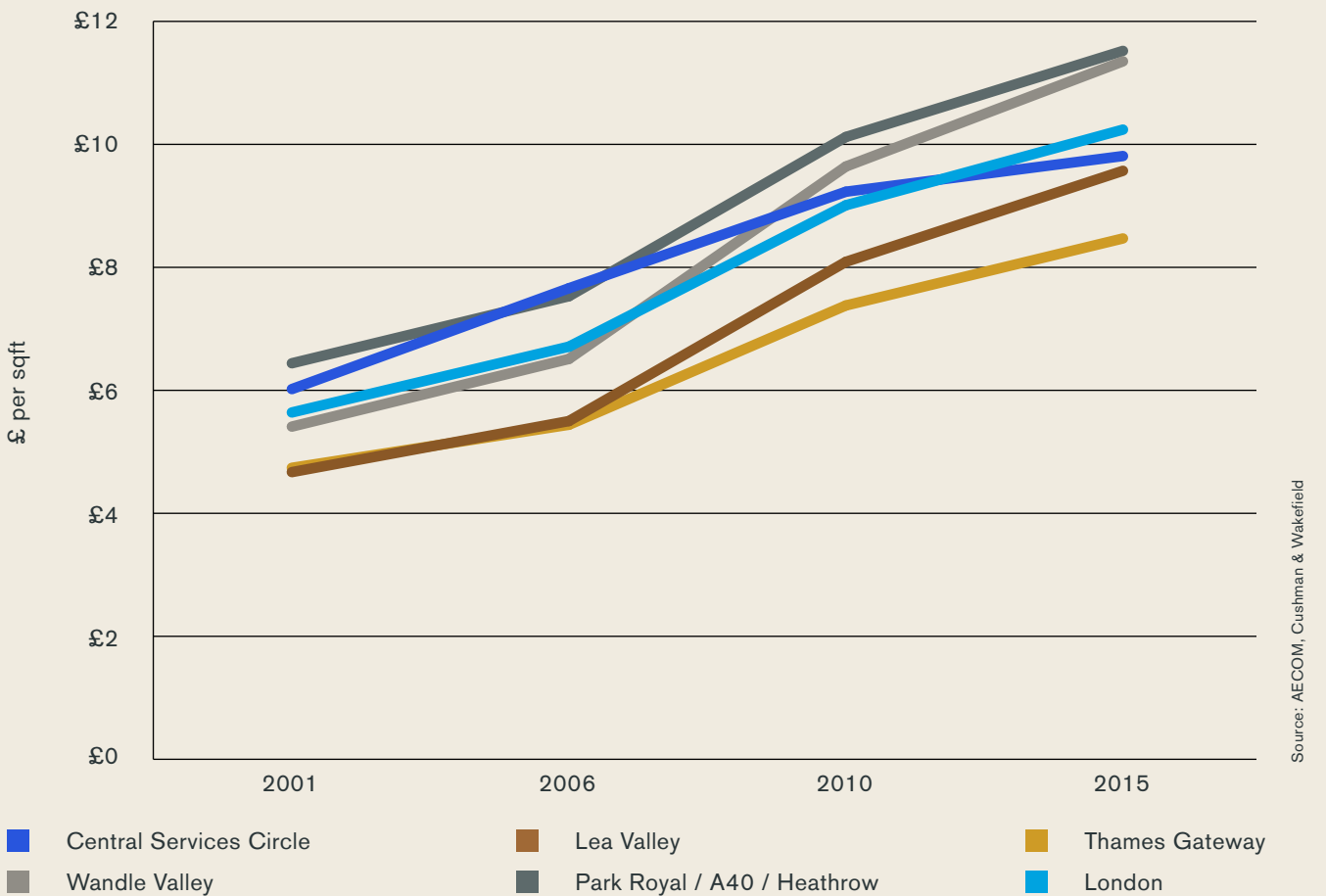
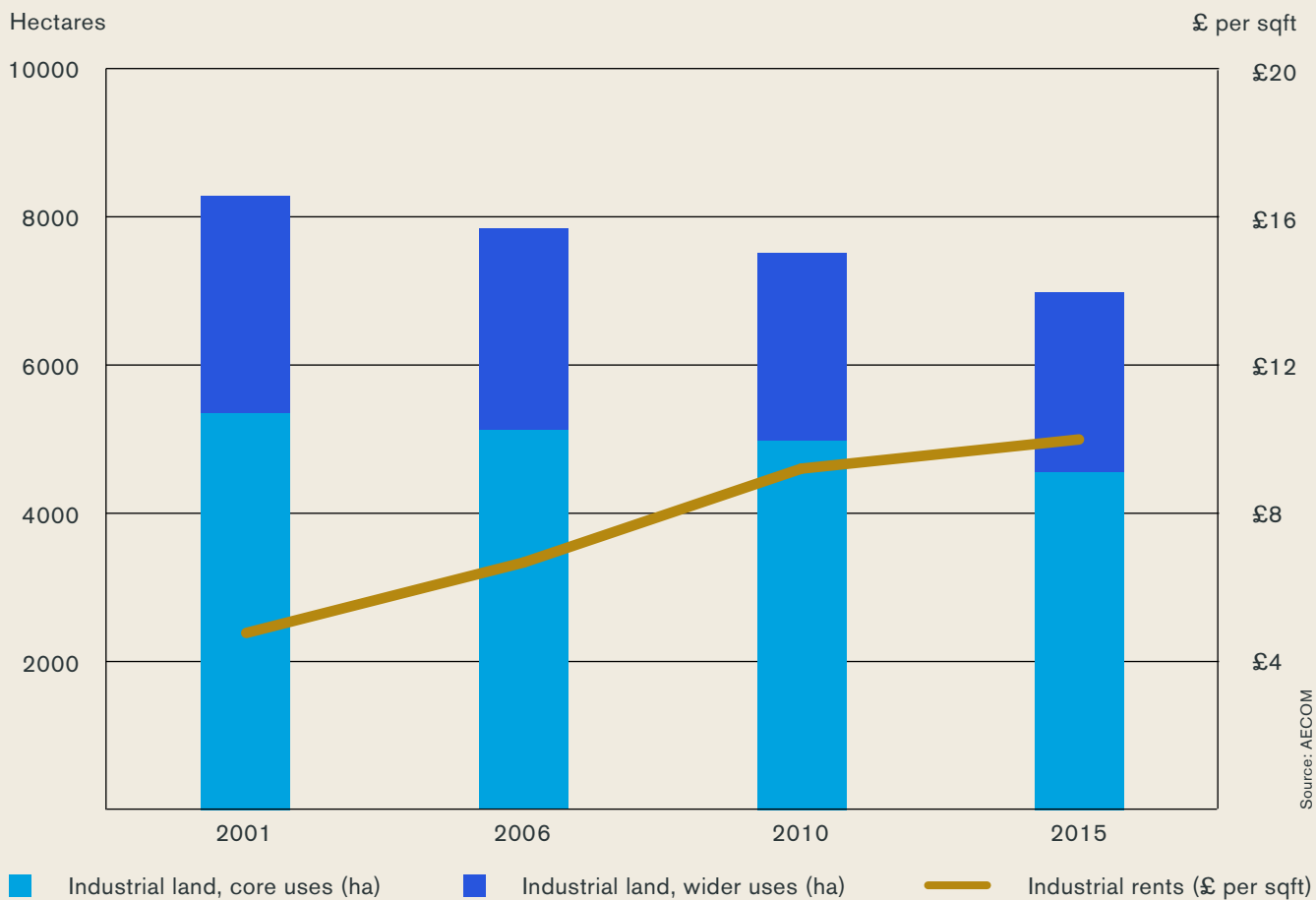


Figure 6-6: Change in Rents and Industrial Stock for London, 2001-2015



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Table 6-1: Change in Industrial Rentals, Stock and Vacancy Rates by Borough, 2001-2015

Borough	Sub-region	Industrial rent 2015 £/sqft	% change in industrial rent 2001 to 2015	
Camden	Central Services Circle	10	27%	
City of London		0	0%	
Hackney		10	73%	
Islington		12	61%	
Kensington & Chelsea		10	-6%	
Lambeth		10	93%	
Lewisham		9	78%	
Southwark		9.5	77%	
Tower Hamlets		10	84%	
Westminster		12	39%	
Enfield		Lea Valley	9	91%
Haringey	8		74%	
Waltham Forest	11		142%	
Newham	Lea Valley / Thames Gateway	11.5	137%	
Barking & Dagenham	Thames Gateway	7	49%	
Bexley		7.5	63%	
Bromley		10	94%	
Greenwich		10	103%	
Havering		7	54%	
Redbridge		9	99%	
Croydon		Wandle Valley	10.25	107%
Kingston upon Thames	12		93%	
Merton	10.5		110%	
Sutton	11.75		120%	
Wandsworth	13		115%	
Barnet	Park Royal / A40 / Heathrow	10	52%	
Brent		12.5	115%	
Ealing		11	77%	
Hammersmith & Fulham		14	96%	
Harrow		11	85%	
Hillingdon		11	79%	
Hounslow		12	55%	
Richmond upon Thames		9	64%	
London		-	10.24	81%

Industrial land release 2001-2015, ha	Release of industrial land as % of 2001 stock, 2001-2015	Vacant industrial land as % of total industrial land stock, 2015	Change in vacant industrial land as % of 2001 vacant land, 2001-2015
19	32.7%	0.8%	-78.3%
2	36.1%	0.0%	No data
45	44.4%	3.9%	-36.2%
46	56.8%	0.5%	-91.1%
11	37.9%	8.0%	4.1%
24	24.2%	4.7%	10.1%
52	32.5%	5.2%	-71.9%
55	27.7%	1.4%	-89.2%
96	38.3%	12.7%	-25.7%
11	47.0%	5.9%	No data
28	5.7%	5.3%	-56.1%
15	9.0%	7.3%	-32.1%
46	18.8%	1.1%	-93.2%
186	26.6%	20.3%	-108.0%
57	9.9%	11.9%	-19.1%
17	3.1%	12.9%	-31.9%
21	13.3%	6.8%	-57.5%
51	17.8%	7.7%	-60.5%
152	25.7%	13.7%	-41.7%
21	24.2%	5.6%	-50.3%
32	16.6%	5.9%	-37.8%
6	5.0%	0.8%	-90.0%
20	10.9%	5.6%	-3.9%
3	1.0%	4.5%	-11.4%
38	20.5%	0.5%	-92.9%
20	16.2%	6.0%	-36.7%
26	5.8%	1.9%	8.7%
41	7.4%	3.3%	-49.9%
47	25.2%	2.3%	-85.1%
14	18.0%	7.6%	399.3%
46	10.3%	9.7%	-8.7%
46	8.6%	7.2%	-53.8%
12	23.5%	1.8%	No data
1305	15.8%	7.8%	-46.0%

Source: AECOM, Cushman & Wakefield, 2015

6.3 Impact of Incremental Release Case Studies

6.3.1 In this section we review two case studies to explore the impact of incremental release of industrial land on the effective operation of industrial areas and if and in what circumstances such areas are compromised or appropriately maintained. The examples we consider are:

- The Lower Lea Valley, covering the London Legacy Development Corporation (LLDC) area, and parts of LB Newham, LB Tower Hamlets, LB Hackney and LB Waltham Forest.
- Charlton Riverside, in LB Greenwich.

Lower Lea Valley

6.3.2 The Lower Lea Valley used to be a predominantly industrial area located at the bottom end of the Lea Valley PMA and Thames Gateway property market area, within the LBs of Tower Hamlets, Newham and Hackney and now the LLDC. The area has and is subject to substantial change, being the site of the London Olympics and now a major focus for Olympics legacy development. This has meant that the total stock of industrial land has reduced significantly and the total stock of other uses, including residential and town centre (in particular Stratford City) has increased significantly. This is illustrated in the figures opposite for the LLDC area. There have been a series of planning policy documents covering protection of industrial land in the Lower Lea area over the period of transformation extending back to around the year 2000. This is complicated by it being divided between four boroughs, and now including the LLDC.

6.3.3 With London successfully securing the Olympics bid a strategy for the relocation of industrial activity was researched, developed and implemented. This covered an overall strategy for balancing industrial land supply and demand and through the use of public sector land, business support and compensation payments to help with specific businesses and facilities. There were also strict deadlines regarding land assembly. This process largely achieved its aims.

6.3.4 Although some areas of SIL were maintained and there was a no-net-loss policy, there have been a number of issues over failure to adequately protect concentrations of industrial activities. For example most of Fish Island was protected for industrial use but for a time there was a designation of "Other Industrial Locations" adjacent to SIL and a more liberal approach was taken on proposals claiming to provide live-work units in the context of relatively weak policy protection. A number of live-work proposals were given permission but live-work has been problematic across London, and the ultimate character of the developments is largely residential in nature. This is largely acknowledged to have gone on to undermine the integrity of the industrial area as a whole, both in terms of constraining uses incompatible with residential, and in encouraging further residential speculation.

6.3.5 The LLDC is now taking a new approach with its adopted Local Plan. This is focused on a fine-grain framework of policy and development areas with an emphasis on facilitating investment and positive change via mixed use development including industry in an appropriate way. This for example includes on-going work preparing an industrial development typologies guide on what types of industry can be incorporated in what ways in to different mixed use contexts, covering within individual buildings, within sites and within blocks/wider areas. A key placemaking objective is to retain local businesses where possible as the area develops.

6.3.6 The success of this approach remains to be seen. However a key issue is whether there is sufficient demand for industrial activities that are compatible with mixed-use development. Our research has generally found that the largest components of industrial land demand tend to be big B8 or B2 sheds, which are usually not compatible with mixed-use development, as they require 24 hour operational access, and can be noisy. The LLDC approach is potentially suitable to areas of substantial change and high demand for employment as well as residential uses. The provision of smaller industrial premises may be important in their own right in these contexts. Even if they do not individually contribute much to the overall hectare count, our analysis in Chapter 2 suggests there has been a significant loss of small undesignated sites which were likely to be more integrated into residential areas. It is generally accepted that smaller units focusing on production, servicing or small scale distribution, are likely to have greater employment density and generate less logistical traffic than larger B2 or B8 warehouses. Providing such spaces may prove valuable in inner London and the central services circle PMA. However such an approach is probably less viable in areas where the demand for housing is less and strategic policy could make this clearer.

Figure 6-7: Land Use Change in the LLDC Area

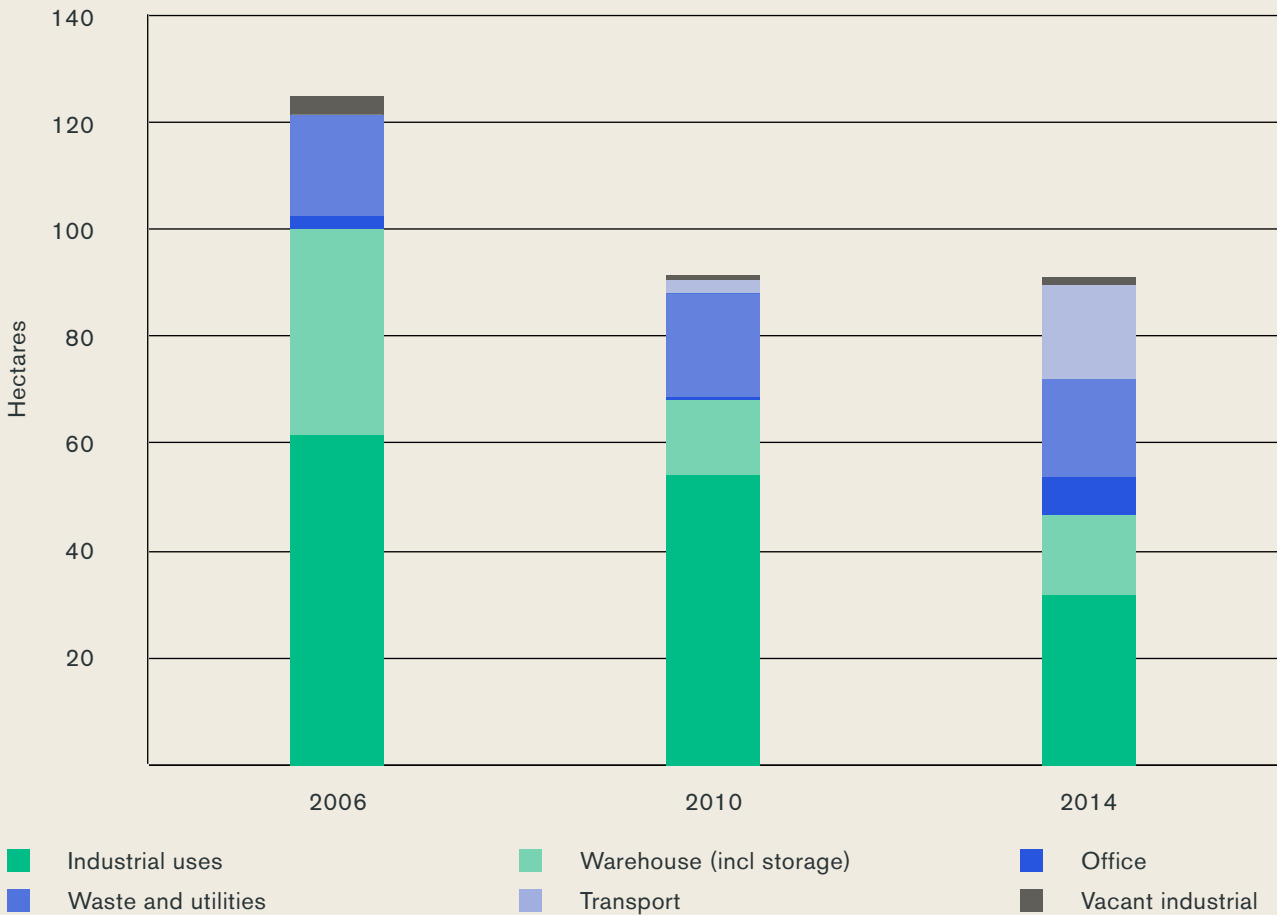
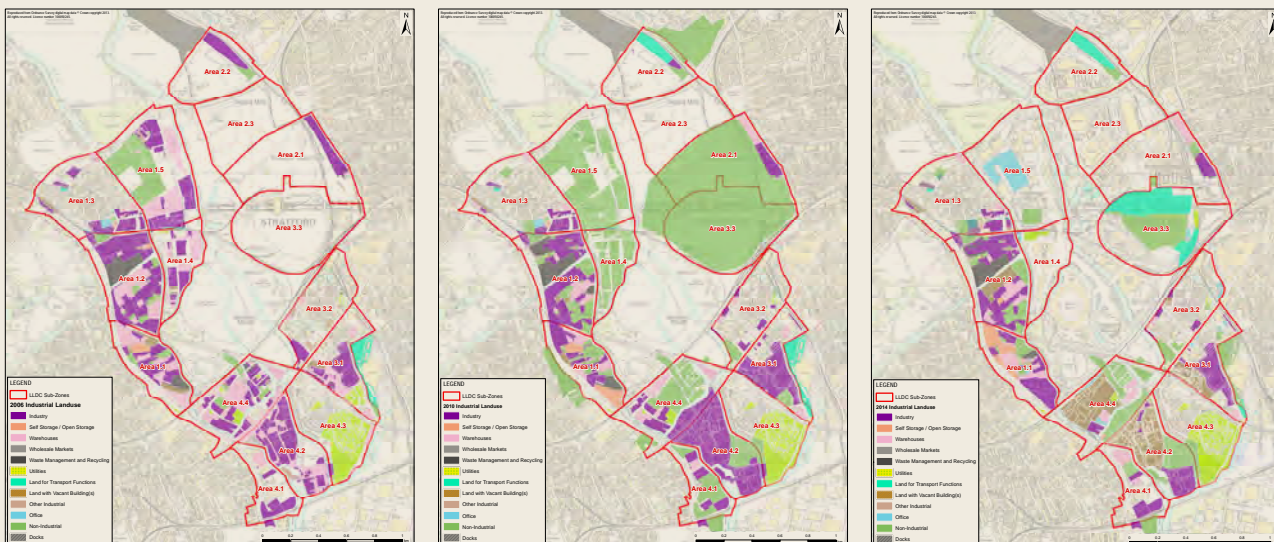


Figure 6-8: Maps of Land Use Change in the LLDC Area



Source: LLDC Area Employment Land Review, Final Report, URS (now AECOM), 2014.

Source: LLDC Area Employment Land Review, Final Report, URS (now AECOM), 2014.

Charlton Riverside

6.3.7 Charlton Riverside is a predominantly industrial area located in the East London sub-region and Thames Gateway PMA, within the Royal Borough of Greenwich. The area is adjacent to other riverside areas which are undergoing or have undergone considerable transformation, notably Greenwich Peninsula and Woolwich / Royal Arsenal.

6.3.8 The area contains the Charlton Riverside (North Charlton Employment Area) SIL, which comprises a mix of industrial and warehousing uses, including three active safeguarded wharves used for the processing and trans-shipment of aggregates. As shown in our 2010 Industrial Land Baseline mapping of the 2006 industrial land position, a number of non-industrial sites, principally in retail or trade counter use, are recorded as lying within the boundary of the SIL.

6.3.9 Whilst the presence of these uses within the SIL were not new, there was evidence of a cumulative change effect where the presence of one non-industrial occupier was used as a basis for applications for change of use at neighbouring sites. Through its 2006 Unitary Development Plan, the council undertook to revise the boundary of the SIL to exclude the area to the south of Bugsby's Way where these non-industrial uses proliferated.

6.3.10 Post 2006 the presence of retail and trade counter occupiers continued to increase within the remaining SIL area, with planning application refusals for such change of use being overturned on appeal in some cases. It was noted through consultation in the council's 2012 Employment Land Study (ELS)

that these redevelopments contributed to owners of neighbouring sites not maintaining these or offering only short-term leases owing to the aspirational or 'hope value' effect that the changes of use created.

6.3.11 Increasingly high levels of traffic congestion on surrounding trunk roads also contributed to low levels of demand for premises from distribution and logistics occupiers, as noted by agents through consultations in the 2012 ELS. This was against a backdrop of good reported demand noted by agents for sites and premises from retail / non-industrial occupiers. Industrial businesses which remained were mostly low value or car-related uses, content to put up with underinvestment and access and servicing issues.

6.3.12 In 2011/12 through a masterplanning exercise and an appraisal of the capacity of the SIL undertaken in the 2012 ELS, the boundary of the SIL was revised in 2013 to exclude non-industrial occupiers and release land occupied by low value uses or subject to poor access and servicing. This is illustrated in *Figure 6-9* below.

6.3.13 The remaining SIL area is focused on protecting land in-use by the three operational safeguarded wharves, with the exclave portion of the SIL lying to the east of Eastmoor Street / Unity Way being expanded to include better quality previously non-designated adjacent industrial sites, several of which contained higher value creative and digital occupiers. The re-definition of industrial land designations in this instance is serving to introduce non-industrial uses in a more orderly process than previously which does not undermine the functionality of the remaining well-used sites, despite the overall reduction in capacity the area has experienced.

Figure 6-9: Charlton Riverside Development Framework



Source: Royal Borough of Greenwich / Allies and Morrison and Urban Practitioners (2012), Charlton Riverside Masterplan SPD

6.3.14 Overall this case study illustrates how incremental release can have a negative impact on industrial activity in a local area, but that this can be better managed through proactive planning, both allowing change and protecting the capacity for industrial type activities to evolve.

6.4 Intensification and Flexibility

6.4.1 This section reviews whether there is evidence to suggest industrial employment densities are increasing as a consequence of pressures on industrial land, including increases in rents and reductions in supply. If there is it could suggest that there is a degree of flexibility in the market to respond to reductions in supply.

6.4.2 This section builds on section 3.4 which gave results on employment densities by sub-region and designated land.

6.4.3 We consider the change in industrial land supply and industrial employment numbers at the borough and PMA level⁵⁰. The method to analyse the relationship between industrial land supply and industrial employment is based upon taking the 2001, 2006, 2010 and updated 2015 industrial land area statistics and comparing them against the number of workers on the same years. To calculate the employment in industrial activities, ABI and BRES are divided by SIC codes on the selected years as described in Chapter 3. These figures do not include employment in non-industrial activities taking place on industrial land. So while the actual employment densities may be higher, they are not distorted by non-industrial activity and are perhaps most useful as a consistent comparison over time.

6.4.4 Results showing industrial employment densities of the London property markets as proportions of the 2001 London average are presented in *Table 6-2* and *Figure 6-10* overleaf. The results show that industrial employment densities have increased over this period, with the highest rises in the Central Services Circle and Park Royal / A40 / Heathrow PMAs. This may be partly due to possible increases in office based industrial employment. The Central Services Circle may suffer distortions due to the very large release from small sites attributed to 2010-2015 time period, or possibly to changes in the headquarters effect described in Chapter 3. London as a whole has had a proportional rise in industrial employment density of around 5%. Wandle Valley is the only PMA that has seen a decline in employment densities over the period, which may indicate a shift towards less employment generating logistics and warehousing uses, as vacancy levels and the availability of floorspace remains low⁵¹.

6.4.5 Further details on changes in industrial worker numbers, industrial land and floorspace by PMA are given in *Table 6-3*. This shows that the recovery of employment density from 2010-2015 is because of an increase in the number of industrial employees and a decrease in industrial land. In London industrial land stock has decreased by 7%,

while the number of industrial workers has increased by 4%. This suggests that use of industrial land is intensifying. This effect is most notable in the Lea Valley where 5% of industrial land has been released and the number of industrial workers has increased by 20%, leading to an increase in employment density of 26%⁵².

6.4.6 Change in employment density by borough is presented in *Figure 6-11*. A high number of Central Services Circle boroughs have experienced some of the highest and lowest growth rates, suggesting that the relationship between industrial land and worker numbers is varied across the property market. All of the Lea Valley boroughs have experienced high density growth, with LB Newham as the lowest at a 16.9% increase in employment density.

6.4.7 Relevant points and conclusions we draw from the above analysis include:

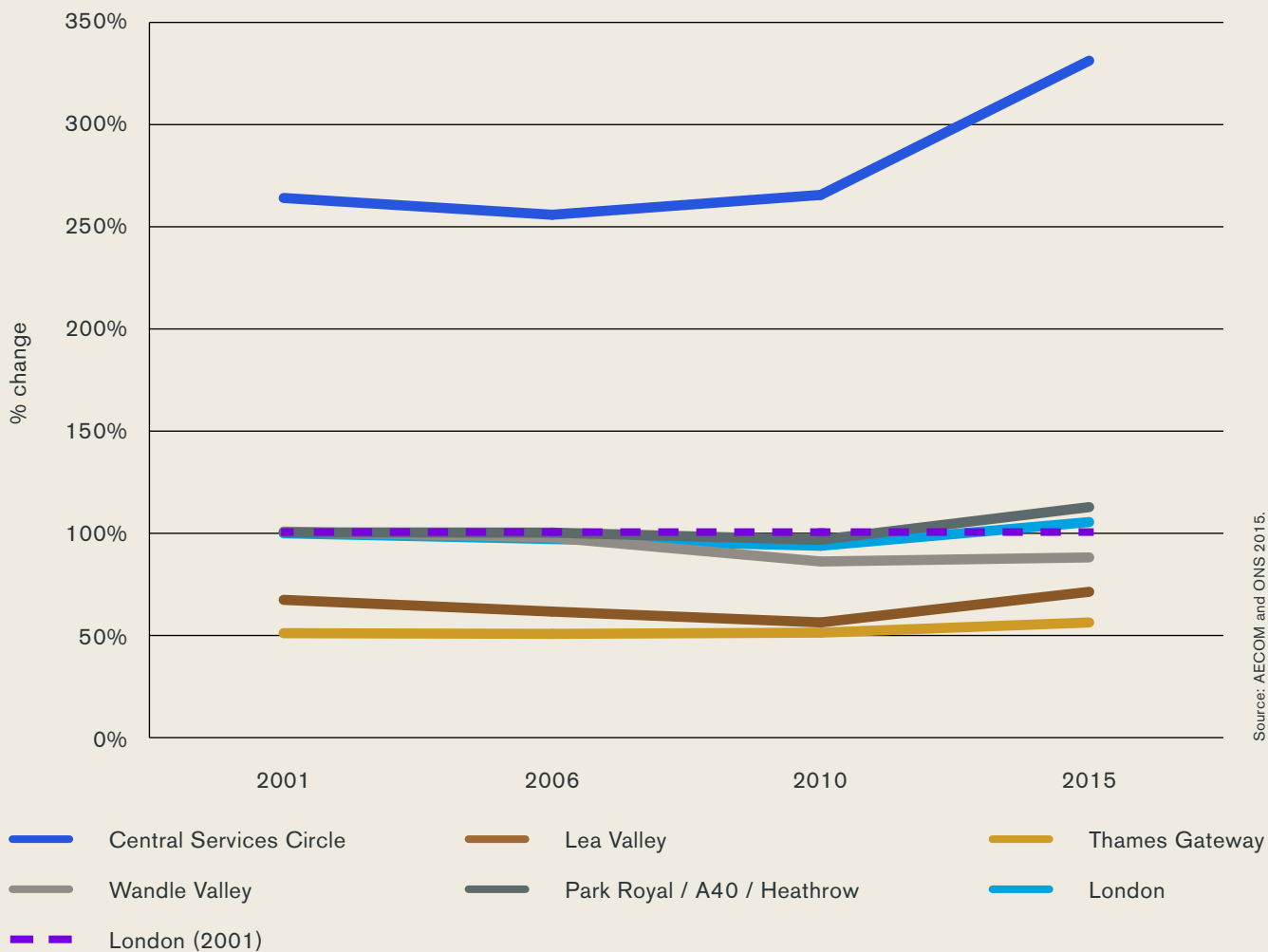
- There is some evidence to suggest that industrial employment densities are increasing, particularly in the Central Services Circle PMA.
- This appears to be a consequence of both relative increases / less decreases in industrial worker numbers combined with decreases in industrial land and floorspace.
- This suggests there may be some scope for industrial activity to accommodate decreases in land availability by making more intensive use of land and space and consequently increasing employment densities.
- However other factors such as shifts between different industrial sectors and their relative characteristics could also be accounting for changes to industrial employment densities (see next section). Further work would be required to clarify whether there are such shifts and whether any changes are a result of contracting land supply / increased cost and / or other more macro factors.

⁵⁰ The discontinuity between BRES and ABI has been accounted for in accordance with ONS guidance. ABI data is available in SIC 2003 units. In order to form a like-for-like comparison with the SIC 2007 definition of industrial activity, we have translated ABI data into SIC 2007 using weighted averages published by the ONS. Employment in 2015 were estimated by taking into account past trend in industrial workers.

⁵¹ Review of other data such as the change in number of businesses in each geographic area by sector supports this hypothesis, with the increase in warehousing and distribution businesses being the highest growth sector in the South London sub-region. This contrasts with other sub-regions where the sector has not grown so strongly relative to other sectors.

⁵² It is possible though that some of this effect may be due to issues over classification of industrial employment, for example the inclusion of wholesale in the definition.

Figure 6-10: Estimated Employment Density by Property Market as a Ratio of the London 2001 Average



Source: AECOM and ONS 2015.

Table 6-2: Estimated Industrial Employment Density as a Percentage of the London 2001 Average

Property market	2001	2006	2010	2015
Central Services Circle	264.1%	255.9%	264.8%	330.0%
Lea Valley	67.4%	61.7%	56.4%	71.3%
Thames Gateway	51.1%	50.8%	51.0%	55.8%
Park Royal / A40 / Heathrow	100.4%	100.3%	96.5%	112.8%
Wandle Valley	100.8%	97.9%	86.2%	88.2%
London	100.0%	97.2%	93.9%	105.5%

Source: AECOM and ONS 2015.

Figure 6-11: Estimated Changes in Industrial Employment Densities by Borough, 2010-2015

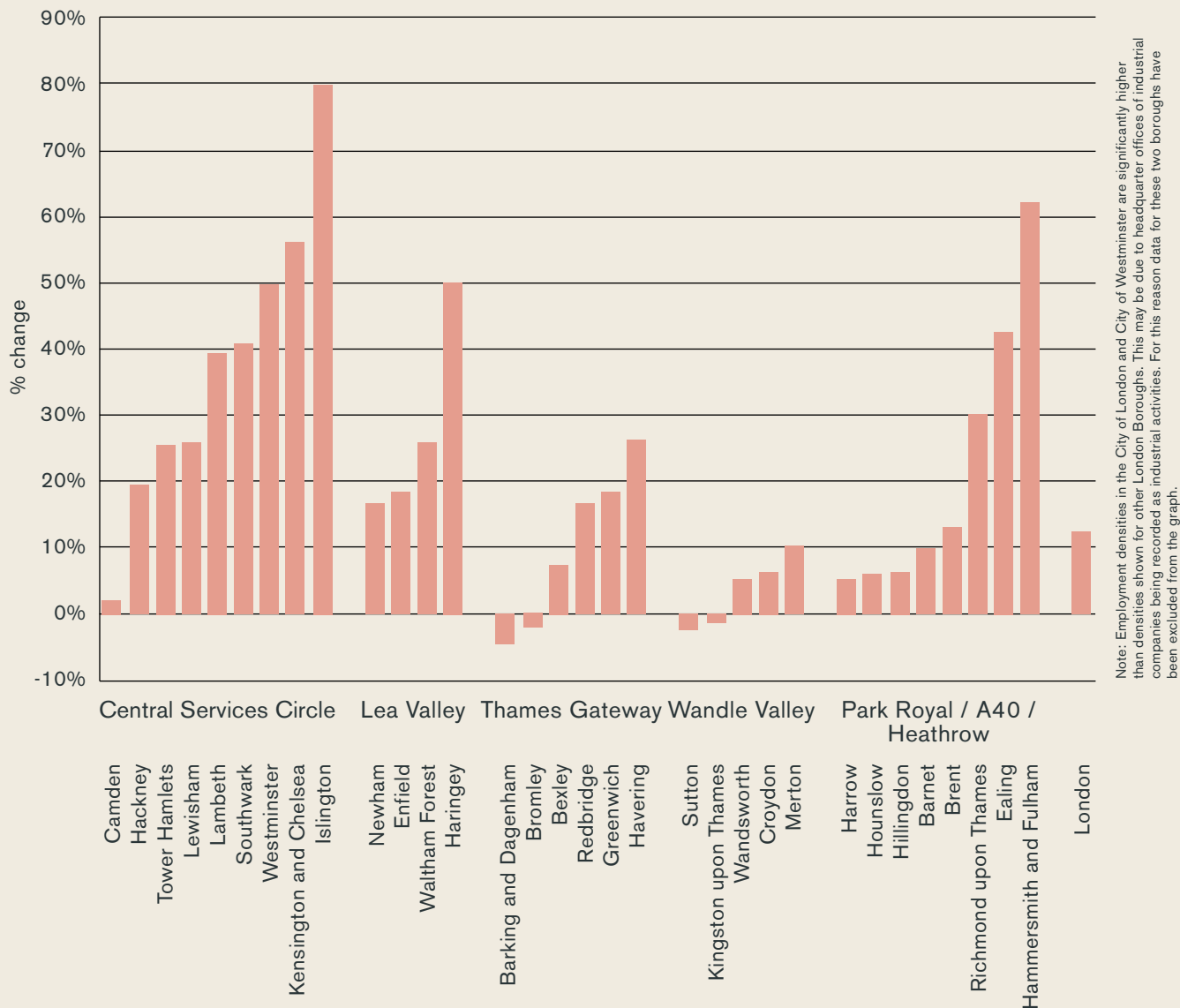


Table 6-3: Estimated Percentage Changes in Density Indicators by Property Market, 2010-2015

Property market area	% change in industrial employment density 2010-2015	% change in industrial land area 2010-2015	% change in industrial floorspace 2010-2015	% change in industrial employment 2010-2015
Central Services Circle	25.0%	-22.0%	-6.0%	-3.0%
Lea Valley	26.0%	-5.0%	-3.0%	20.0%
Thames Gateway	9.0%	-4.0%	-4.0%	5.0%
Wandle Valley	2.0%	-6.0%	-2.0%	-4.0%
Park Royal / A40 / Heathrow	17.0%	-6.0%	-2.0%	9.0%
London	12.0%	-7.0%	-3.0%	4.0%

Source: AECOM, ONS and VOA, 2015.

6.5 Sectoral Requirements and Flexibility

6.5.1 The purpose of this section is to further explore relationship between worker numbers and industrial land change and the sectoral composition of industry in and around London. In particular is there any evidence that the sectoral mix is changing and that certain sectors or types of sectors are tending to stay in or relocate out of London?

6.5.2 It is possible that certain sectors are more reliant on London or central London locations than other sectors as for various reasons they need to be closer to their markets and customers. We have reviewed the classification of industrial uses and have re-grouped activities around categories that might be expected to be sensitive to their locations. (Further details are given in Appendix A). The re-grouped sectors and propositions on their potential sensitivities to a location in London and in central London in particular are:

- Warehousing and distribution – some of these activities might be expected to require London locations to serve their markets in particular for just-in-time logistics and growth in fulfilment of e-tailing and business to business deliveries. The Central London sub-region covers a wide area and there is some evidence that the warehousing and distribution sector does look for (relatively small scale) sites in close proximity to CAZ and Canary Wharf for sustainable last mile distribution. We would expect this sector to increase in size if the economy of London continues to expand.
- Food including food wholesale – we would expect a certain proportion of these activities to seek a London, and central London location to serve their markets, particularly with the trend to food services companies serving the central London restaurants⁵³. We would expect this sector to expand as the London economy grows.
- 'General manufacturing' and 'Chemicals and metals' – we would generally expect such activities to be less dependent on a London or central London location as we anticipate such activities will tend to have national / international markets. We would not necessarily expect these sectors to grow with the growth in London.
- 'Utilities' and 'Waste' – such activities are generally assumed to require London locations. There will be need for utility locations within Central London – especially for energy and digital – and there will be demand in the light of London's growth. However, the land-take may not be that significant, e.g. electricity sub-stations. We would expect this sector to grow as the London economy increases in size.
- 'Motor vehicle sale and repair' and 'Construction / maintenance related' – we assume that such activities will prefer London, and to a degree central London locations to service their markets. We would expect this sector to grow with overall economic growth in London.

- Freight transport – such activities will tend to favour London and to a degree central London locations, if they are serving London markets. We would expect this sector increase in size as the economy of London enlarges.
- Printing, recording, paper – these activities may tend to have more London focused markets than for example 'General manufacturing', though it is possible that speed of delivery / proximity to customers is not a critical factor and they may not be so sensitive to a London location. We would not necessarily expect these sectors to grow with the growth of the London economy.

6.5.3 Results looking at changes in worker numbers in these sectors for London and for the Central Services Circle PMA, including comparison with changes in industrial rents, are presented in *Figure 6-12*.

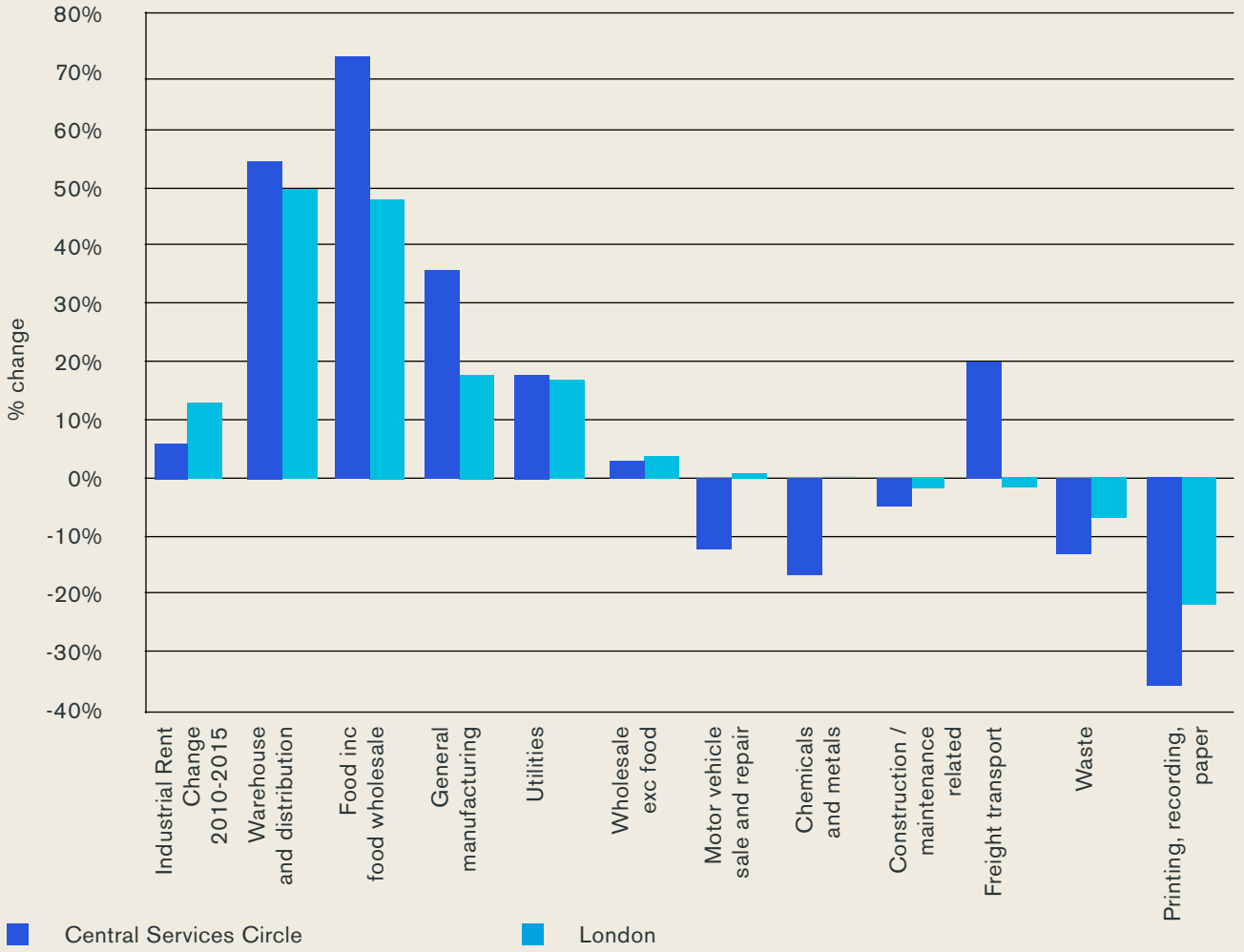
6.5.4 The results generally show that the sectors we anticipated may be more sensitive to a London and / or central London location do tend to be the ones that have experienced growth in worker numbers. In particular it is potentially relevant to see that growth is higher in the Central Services Circle PMA than for London for: 'Warehouse and distribution'; 'Food including food wholesale'; 'General manufacturing' and 'Freight transport'. It is possible that some of this growth may be attributed to problems over recording of head office manufacturing company workers.

6.5.5 The main surprising result is the growth in 'General manufacturing' worker numbers in both London and central London. It is possible that some of this growth may be attributed to problems over recording of head office manufacturing company workers.

6.5.6 The above analysis gives some preliminary indicators that it may be appropriate to seek to protect certain types of industrial activities as they are more dependent on London and / or central London locations. The analysis gives some indication that such activities are potentially willing to pay higher prices for such locations, which could be because they benefit to some extent from London's agglomeration effect, for example relationships between higher value food products such as micro-breweries, and health-conscious or ethical foods, and the premium placed on local production in terms of marketing products. There may be similar trends in the manufacturing of fashion, textiles, and furniture products, where locally produced.

⁵³ For example based out of / near to New Covent Garden, Smithfields, New Billingsgate and New Spitalfields markets.

Figure 6-12: London Industrial Sector Worker Number Change, 2010 to 2015



Source: AECOM 2015, Cushman & Wakefield 2015 and ONS 2014.

6.6 Business Churn and Flexibility

6.6.1 The purpose of this section is to consider evidence on rates of turnover, or churn, of industrial enterprises in London and what indications this gives for the flexibility for industry to respond to changing supply circumstances.

6.6.2 A high rate of churn would suggest that new or relocating enterprises have a degree of flexibility to respond to changing supply characteristics and move between different London property markets or from London to the adjacent South-East.

6.6.3 We consider the following data:

- Changes in all enterprises in London and by property market
- Changes in industrial enterprises in London and by property market.

6.6.4 The approach for the analysis was to use the ONS Business Demographics (2013) dataset to create a time series analysis which identifies the churn of enterprises including those that are industrial. Further details are given in Appendix A.

6.6.5 Results for churn in industrial enterprises in London are presented in *Figure 6-13*. This shows that over the period 2008 to 2012:

- The total number of industrial enterprises has changed little over the period, increasing marginally from 81,400 to 82,800 enterprises (under 2% increase).
- Existing industrial enterprises declined by 32,500 enterprises to 48,900 companies over this period, a 40% decline and representing 59% of all industrial enterprises in 2012.
- Over the five year period 33,900 new enterprises were formed or came to London, representing 41% of all industrial enterprises in 2012.

6.6.6 Results for churn in industrial enterprises in London by property market are presented in *Figure 6-14*. This shows that over the period 2008 to 2012:

- The Lea Valley PMAs experienced the highest decline in existing enterprises, which by the end of the period represented 52% of enterprises in the sub-region.
- The Central Service Circle, Thames Gateway and Wandle Valley PMAs experienced the lowest decline in existing enterprises, which by the end of the period represented 61% of enterprises in the property market.

6.6.7 Overall the results are fairly similar across the PMAs. Reasons for the high turn-over in the Lea Valley PMA may be due to the high rate of change in areas like the Lower Lea Valley, particularly in the LLDC area (see case study above).

6.6.8 Results for churn comparing industrial enterprises with all enterprises in London by PMA are presented in *Figure 6-15*. This shows that over the period 2008 to 2012:

- Existing industrial enterprises are more likely to remain in London than all enterprises, representing

59% of all industrial enterprises in 2012 compared with 47% for all existing enterprises.

- The Lea Valley PMA has the highest churn of all enterprises, with existing enterprises representing 40% of all enterprises and industrial enterprises 52%.
- The Central Service Circle has the highest proportion of existing enterprises at 49%.

6.6.9 The above analysis suggests:

- There is a considerable churn in industrial enterprises in London which may indicate that there is a degree of flexibility for the sector to respond to changing supply circumstances as new enterprises form and / or existing enterprises relocate.
- However industrial enterprises appear to be more stable compared to all business activity. This may be a reflection of the relative difficulty for industrial activities to relocate, with more bespoke assets and costs than for example a more generic office activity.
- Park Royal, Central Service Circle and Wandle Valley PMAs are relatively more stable than other PMAs. This together with other analysis presented in this chapter suggests that industry in these PMAs tend to be stronger and more resilient than in London's other PMAs.
- The industrial sectors in the Lea Valley PMA appear to be relatively less stable compared to other PMAs. This suggests they could be under more pressure and change, either due to internal sectoral factors or external pressures such as land release, than other PMAs.

6.6.10 Overall the results suggest that there is a considerable degree of change and some potential flexibility to adapt to reduced supply. However this will depend on a number of other factors, including availability of alternative land / premises within enterprises' areas of search, access to markets / clients and the costs and burdens of relocation.

Figure 6-13: Churn in Industrial Enterprises in London, 2008 to 2012

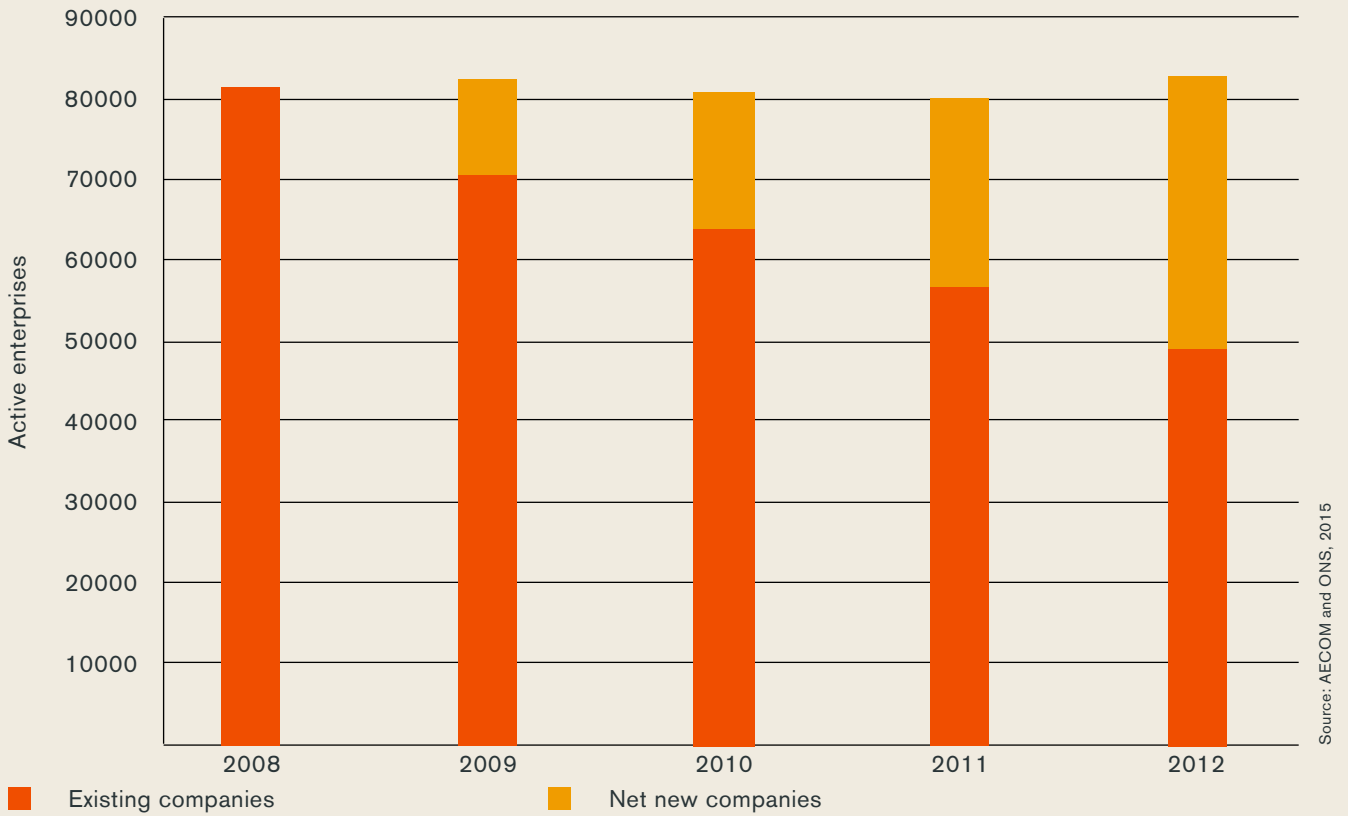


Figure 6-14: Churn in industrial enterprises by property market, 2008 to 2012

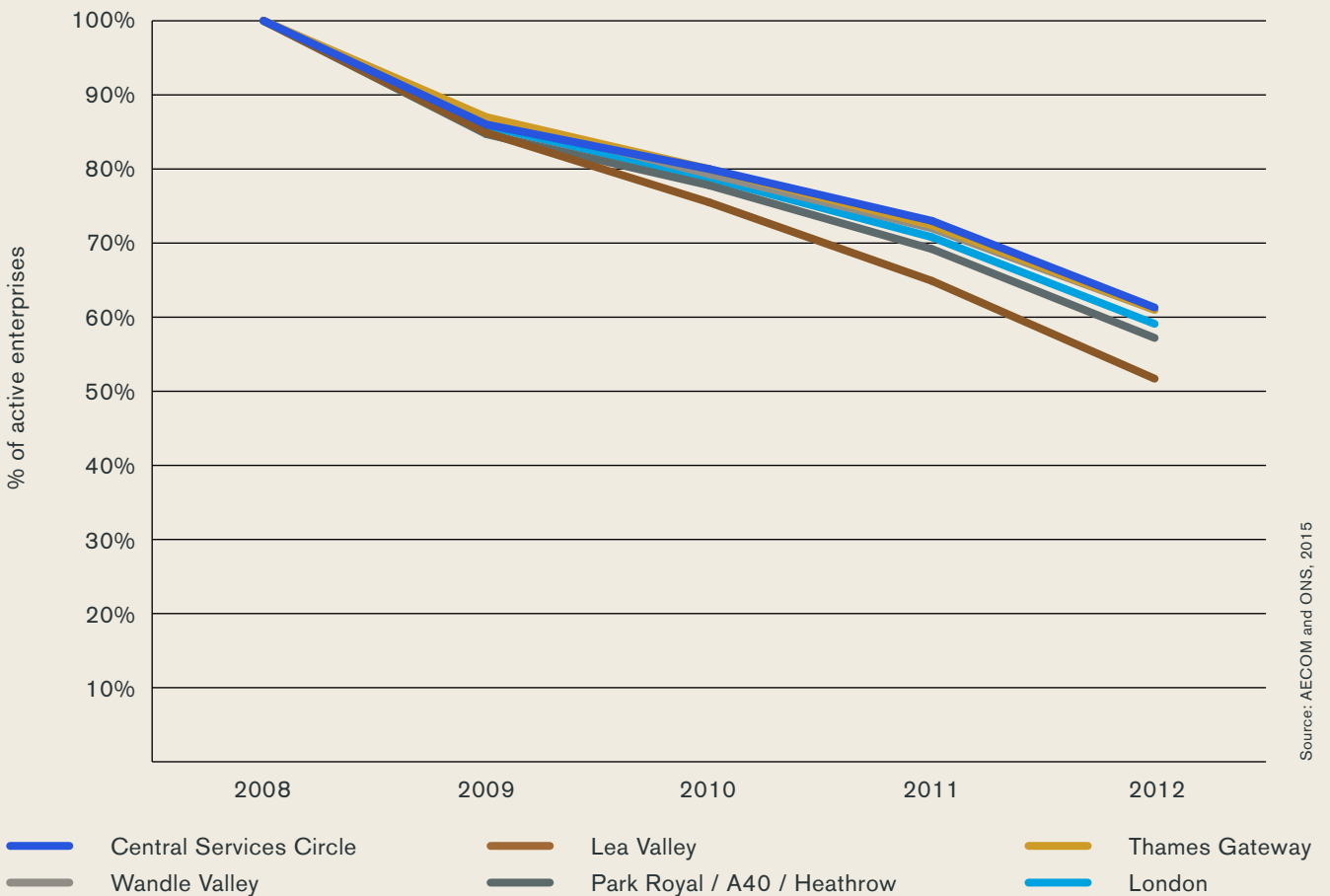


Figure 6-15: Churn in Existing Enterprises by London Property Market, 2008 to 2012

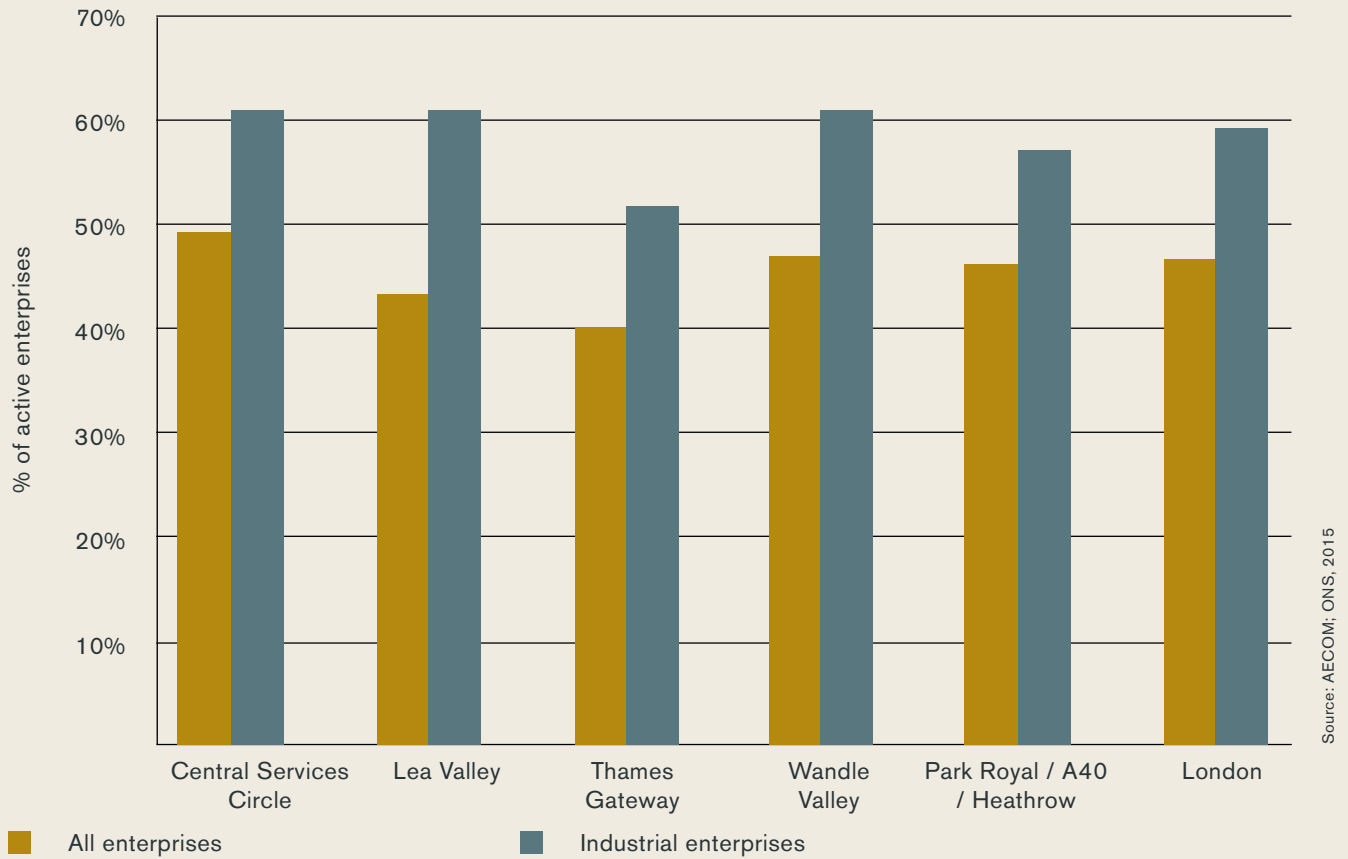
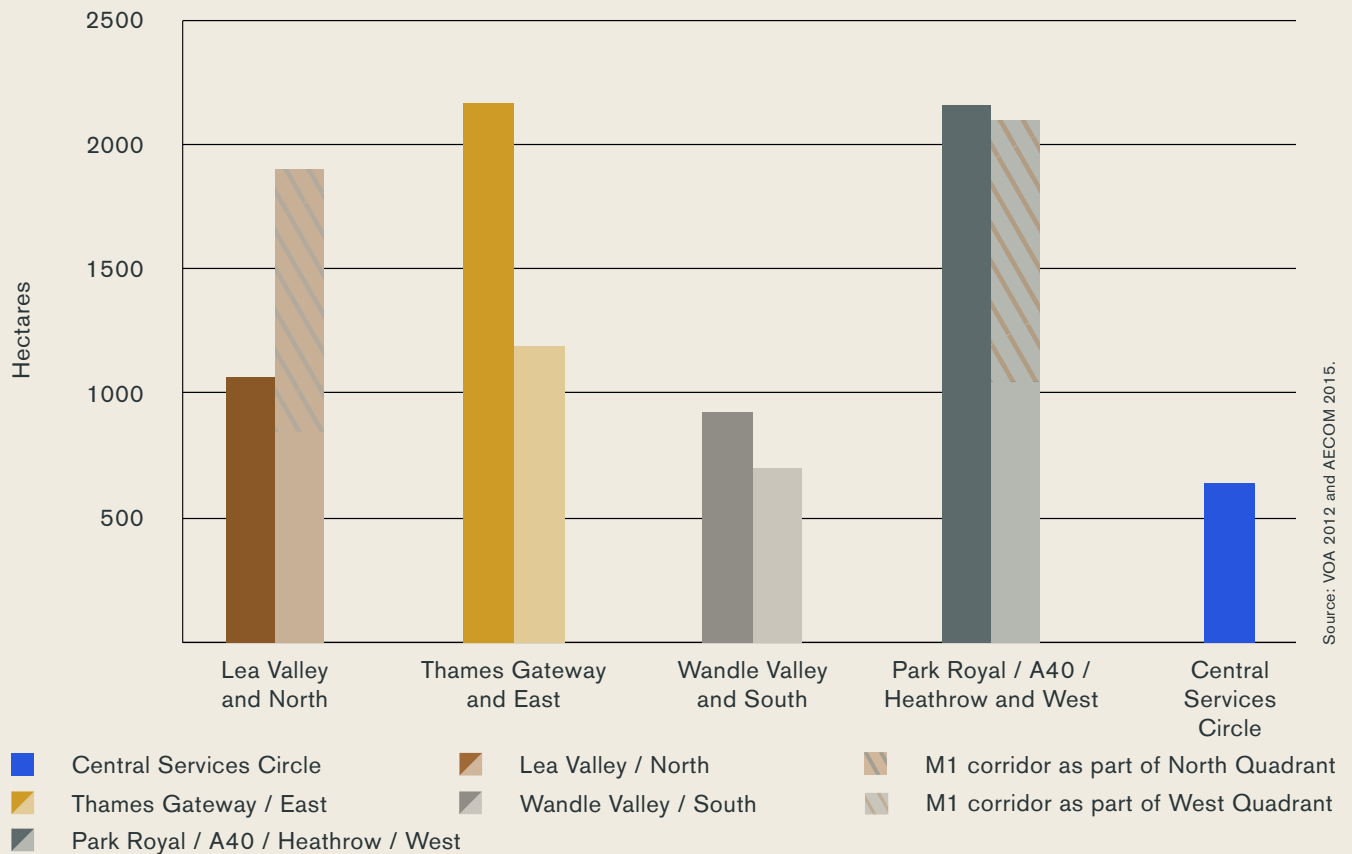


Figure 6-16: Estimated Stock of Industrial Land in London PMAs and Adjacent South-East Quadrants (2015)



6.7 Availability of Land Outside London and Flexibility

6.7.1 This section explores whether there is evidence that the availability of industrial land in the neighbouring South-East region is absorbing displaced industry from London and / or having a moderating effect on rents. The section also considers whether the availability of land adjacent to London could enhance the overall responsiveness and flexibility of industry to respond to contracting land supply. The quadrants of the inner South East cover large geographic areas it is useful to review where industrial land is concentrated within the quadrants. Results for VOA floorspace (which form the main input for our calculations) are illustrated in *Figure 6-18*.

6.7.2 This shows that generally industry is concentrated in:

- the Lea Valley corridor extending north out of London, between the A1(M) and M11,
- the Thames Gateway and then a sideways T-shape extending north and south of the Thames Gateway in to Essex and Kent,
- and to the West and North West of London along the M40 and M1 corridors.

6.7.3 This generally suggests that the quadrants can be compared with their adjacent London PMA areas as the industrial land in the quadrants tends to be concentrated in locations that mean it most directly relates to the adjacent PMAs. The only exception is the M1 corridor to Luton which is just as relevant to the West London Park Royal PMA, as it is to the Lea Valley PMA. The industrial land in this NW quadrant of the inner South East, is relevant to both the West and North quadrants. Key data relevant to this analysis has been presented in Chapter 5. This is summarised in *Figure 6-16*.

6.7.4 Some relevant points to note from the above data include:

- Overall the estimated stock of industrial land in the adjacent South East, at around 4,800ha, equates to around 70% of the total stock of industrial land in London.
- There are significant variations by PMA and quadrant.
- The 'North' quadrant outside London has the largest estimated stock of industrial land of the South East quadrants (1,930ha). It is large in both industrial land and in geographic terms compared to its adjacent Lea Valley PMA (see *Figure 5-1*). Its large geography extends adjacent with the Park Royal / A40 / Heathrow and Thames Gateway PMAs, who have relatively less industrial land compared to their London PMAs. Nevertheless this relative abundance of industrial land may allow greater flexibility for relocations from London than other PMAs.
- The 'West' and 'East' South-East quadrants have relatively low levels of estimated industrial land compared to their relatively high amounts of industrial land in the adjacent Park Royal / A40 / Heathrow and Thames Gateway London PMAs.

This may suggest they have more modest ability to absorb demand from London.

- The 'South' South-East quadrant has the absolute smallest amount of estimated industrial land of the adjacent quadrants. This may be an indication that it has relatively limited ability to absorb over-spill / transfer demand from London.

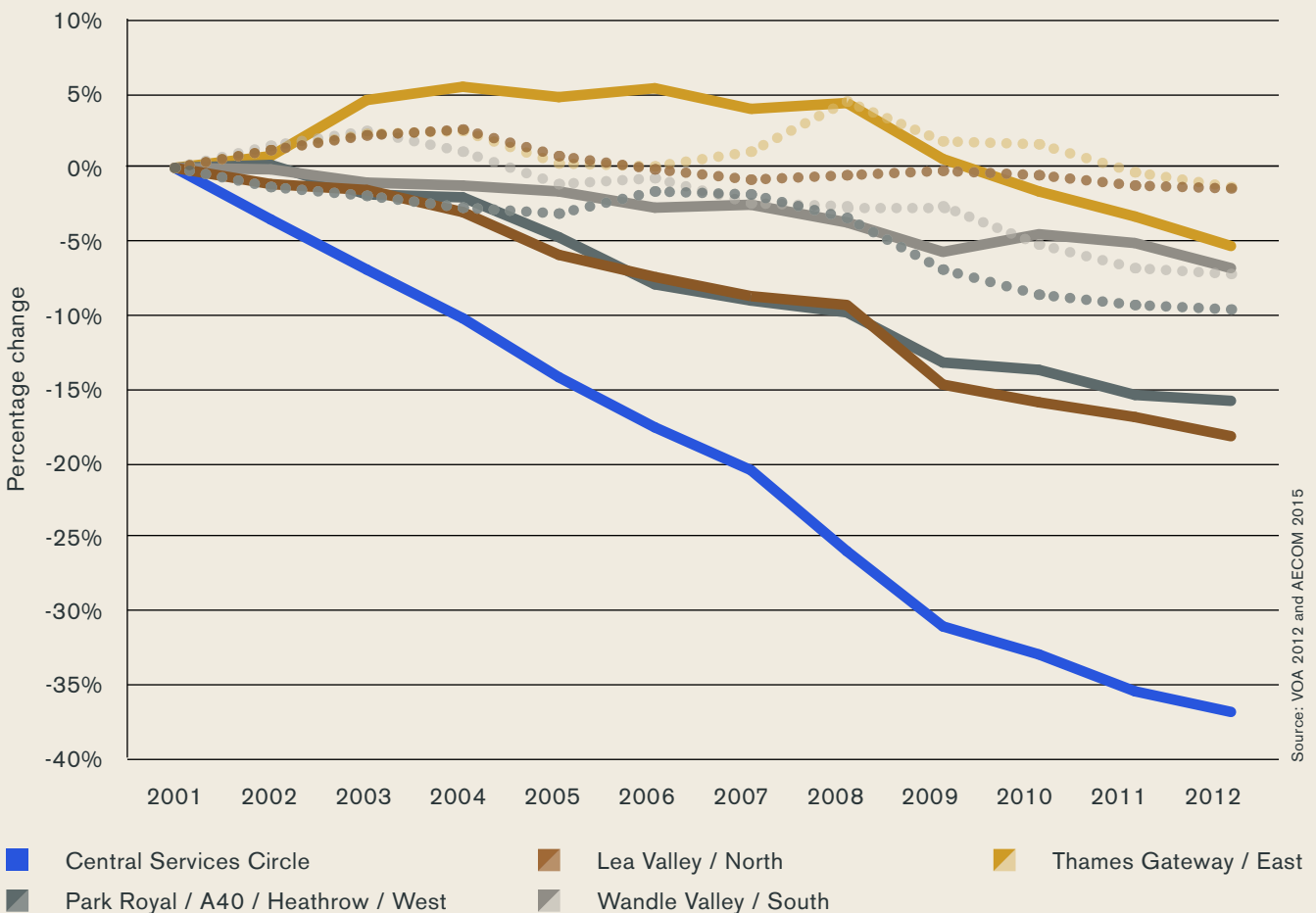
6.7.5 It is also relevant to consider is the rates of estimated release of industrial floorspace in the quadrants compared to their adjacent London PMA. Results are illustrated in *Figure 6-17* below.

6.7.6 Relevant conclusions we draw from the above results include:

- The London Central Service Circle shows the greatest reduction in its stock as a percentage of its total stock in 2001. This is by a significant margin and suggests that at least to a degree there will be a continuing process of relocation of activities from this PMA outwards.
- The adjacent South East quadrants show lower rates of supply reduction than the London PMAs for the: Lea Valley PMA and North Quadrant and Park Royal / A40 / Heathrow and the West Quadrant. This may be an indication that they are relatively well placed to absorb demand transferring from London.
- The rates of decline for the Wandle Valley PMA and South Quadrant are similar to each other, as are the results for the Thame Gateway PMA and East Quadrant. Given the relatively small size of the South Quadrant and strength of the Wandle Valley market this may suggest more limited ability to absorb surplus demand.










6.7.7 Overall the results in this section suggest that the adjacent South East quadrants have some potential to absorb industrial land demand from London. This process has probably been taking place for some time as businesses / activities relocate out of London. The specifics on which PMAs / areas of London have most potential to transfer demand out of London will though require more fine grained analysis and study.

Figure 6-17: Change in Industrial Floorspace, London PMAs and South-East Quadrants

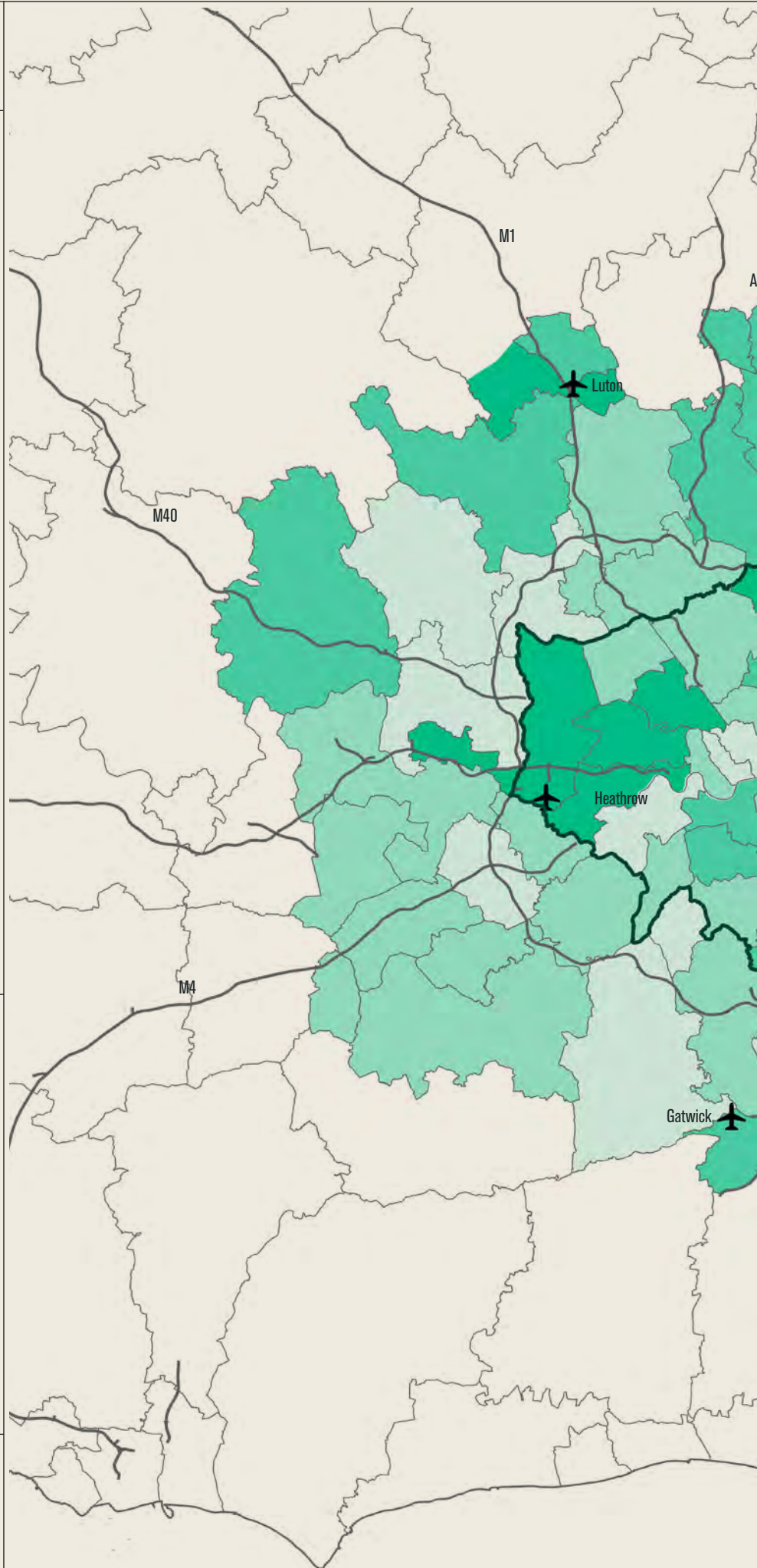
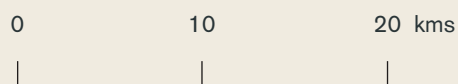


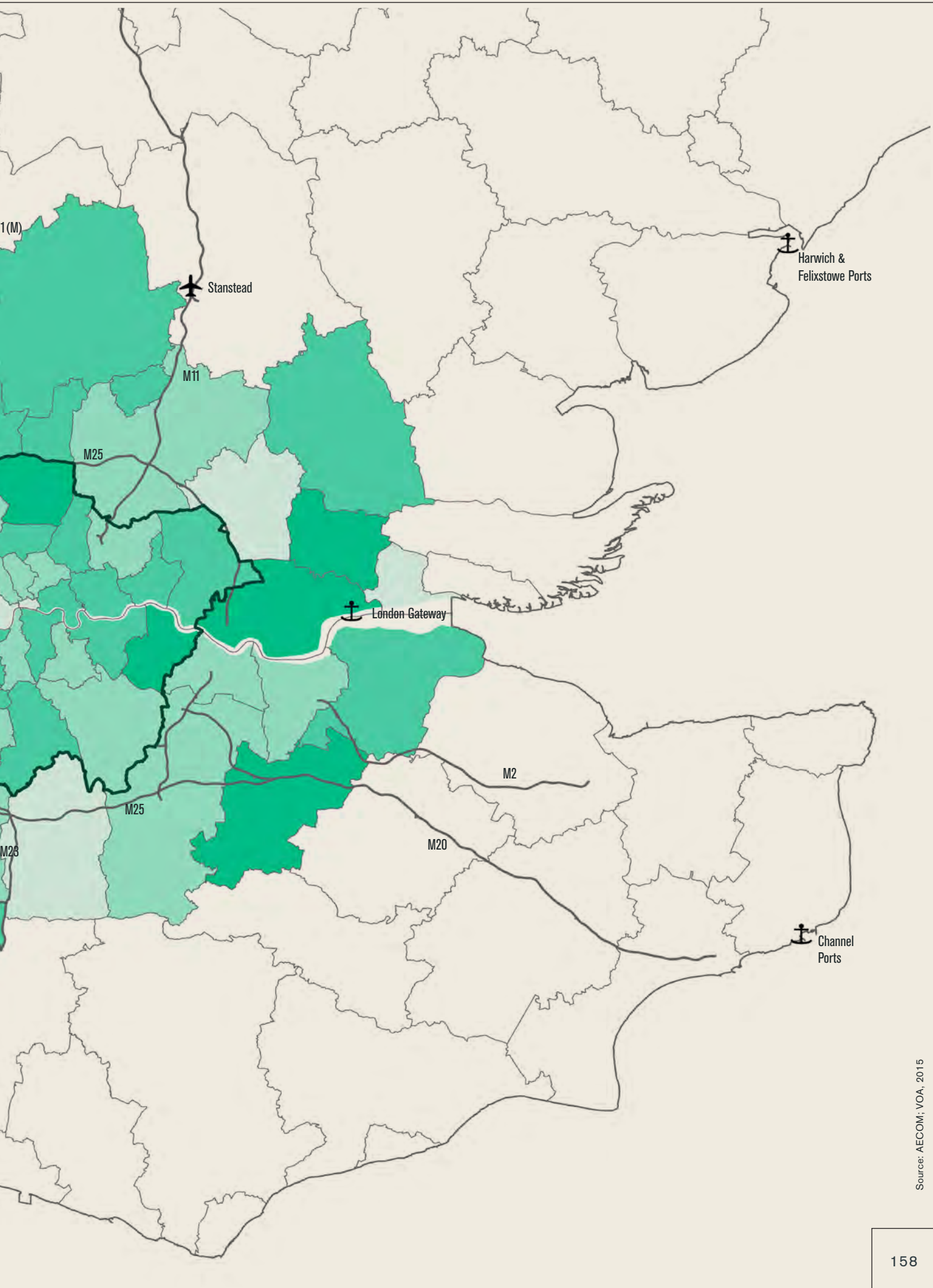
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Figure 6-18: Concentrations of Industry in London and the Adjacent South East

-  Airport
-  Port
-  Local authority boundary
-  Motorway
-  London boundary
-  <250,000m²
-  250,000-500,000m²
-  500,000-1,000,000m²
-  >1,000,000m²

Scale





6.8 Evidence for Market Failure and Fit with Supply and Demand Projections

6.8.1 This section draws together the analysis from the preceding sections in this chapter to suggest conclusions on market failure and the flexibility of industry to respond to supply side changes.

Market Failure and Market Flexibility

6.8.2 There are a number of components to market failure. Market failure is broadly defined as an imperfection in the market mechanism, which means that the market is not delivering an efficient allocation of resources. Public sector interventions (which could under appropriate circumstances be taken to include planning policy) should be justified in relation to addressing market failures, i.e. tackling economic inefficiency. These can be classified in to four categories:

- Externalities (e.g. carbon emissions, congestion, research and development)
- Market power (e.g. say a limited number of monopolistic players in certain sectors)
- Imperfect information (e.g. this could apply to knowledge of costs of relocations, or of the specific demand and benefits of higher density industrial development. It could also apply where industrial land owners believe protective policy will not hold and shorten leases and reduce investment in expectation of being able to change to higher value residential uses), and
- Public good, i.e. provision of economic goods with common wider benefits (e.g. trunk roads, land for public transport, utilities, waste processing)

6.8.3 The main types of market failure likely to be relevant to this analysis are externalities, public good and imperfect information.

6.8.4 Also relevant to a consideration of the ability of industry to respond to changes in industrial land supply is market flexibility. We introduced this concept in presenting the demand and supply projections in Chapter 7 below. A lack of market flexibility could be a sign of market failure and / or inefficiencies in market mechanisms.

Relevant Points from the Data Analysis in the Chapter

6.8.5 Our research and conclusions on possible factors that could cause market failure and / or affect the flexibility and ability of industrial businesses to respond to a reduced supply of industrial land are as follows:

- Generally there does not appear to be strong evidence so far to suggest that reductions in availability of land and property have a direct correlation with increases in rents at a local level. At the overall London level though availability of industrial land is declining and industrial rents and land values are increasing. This generally suggests that continued reductions in industrial land supply could increasingly affect the viability of industrial activities.

- Case studies suggest that at a local level significant shifts to non-industrial uses can undermine the integrity of industrial areas, and care is needed in planning for and managing change in industrial areas.
- There is some evidence to suggest that industrial activities are responding to increased rents and reduced supply by increasing employment densities. If this is a consequence of increased rents and reduced supply and if there is potential for further intensification, either within sectors and / or by shifting the balance of industrial activities by sector, then this suggests there could be some additional flexibility for industry to respond to reductions in land supply.
- Our analysis of changes in worker numbers in recent years in industrial sectors suggests that there could be an emerging pattern of sectors that are more sensitive to London and / or central London locations tending to remain or grow in London, and other sectors that are less sensitive to location will tend to leave London (see section 6.5). Overall if this is a relevant characteristic of industrial activities in London then this is potentially a specific example of where there is less flexibility to reduced supply and there is strategic value in protecting a critical mass of this type of industrial activity.
- In particular it is possible that the scale of a number of industrial activities will tend to be correlated to London's overall population as they directly serve the population. This suggests demand from these activities for industrial space will tend to grow over time rather than contract. Data from recent years suggests this may already be a trend with a growth in industrial worker numbers.
- Data on rates of change of industrial businesses in London suggests that there is a considerable degree of change, with an estimated 41% of all industrial businesses being new / new to London over a five year period. This figure should be tempered by the likelihood that industrial worker numbers in new businesses is probably a lot less (as bigger businesses will tend to stay / survive longer than small businesses). Also relevant is that industrial businesses are more likely to remain in their location than all businesses, possibly because industrial sectors are more established and / or it is more difficult for industrial businesses to change location with fixed investments. Overall though this piece of evidence suggests that there is a degree of flexibility in the economy and the industrial sector specifically that may not have been appreciated previously.
- The wider adjacent South East region has a large stock of industrial land. There is evidence to suggest that a significant part of this wider area is not losing industrial land at such a high rate as London. This may in part be because industrial activities in London are relocating out to these locations. Our broad-brush analysis suggests that overall there is potential for the adjacent South East region to (continue to) accommodate overspill demand from London (or demand transferring to the area as supply

contracts in London). There appears to be more scope to accommodate this demand to the north, west and east of London whereas capacity is more restricted to the south of London. Overall this context suggests additional flexibility to accommodate reductions in the supply of industrial land in London.

- There is evidence that some industrial businesses require space for small-scale production and prototyping and rely on access to a skilled workforce, specialist manufacturing activities and agglomeration benefits found in London. These businesses may find it harder to be economically viable if forced to relocate outside London.

Assessment of Other Factors Affecting Flexibility / Market Failure

6.8.6 There are other factors to consider not covered in the above analysis.

6.8.7 There is a question over what are the transport and carbon reduction implications of industry moving out of London. As discussed in section 6.6 it is clear that there are a number of industrial sectors that serve London and central London markets and further that these sectors' size may directly correlate with the growth in London's population. It is likely that if these activities are forced to relocate from central and inner London to outer London and outside of London, either to the adjacent South East or further afield, then total travel miles and consequent carbon emissions will increase. There may also be implications for increased congestion on London's roads and associated costs. The externalities of these emissions are at present only partly captured in carbon pricing / regulation mechanisms and so represent an external cost not fully captured in market signals. Similarly congestion implications will introduce a number of negative externalities and costs.

6.8.8 The costs of supplying these goods to London markets are also likely to increase more than they would have been otherwise. This may impact on the costs and efficiencies of other parts of the London economy. Whether such changes represent increases or decreases in overall economic efficiencies is a complex and difficult question to answer but it is relevant to be aware that this is a relevant factor to form a judgement on in deciding on industrial land supply policy.

6.8.9 It is possible that continued contraction of industrial activities will affect agglomeration effects and critical mass. While this study has highlighted examples where such effects may be taking place, such as the Lower Lea, it has not covered detailed business behaviour analysis and this may be an area for future research.

Conclusions

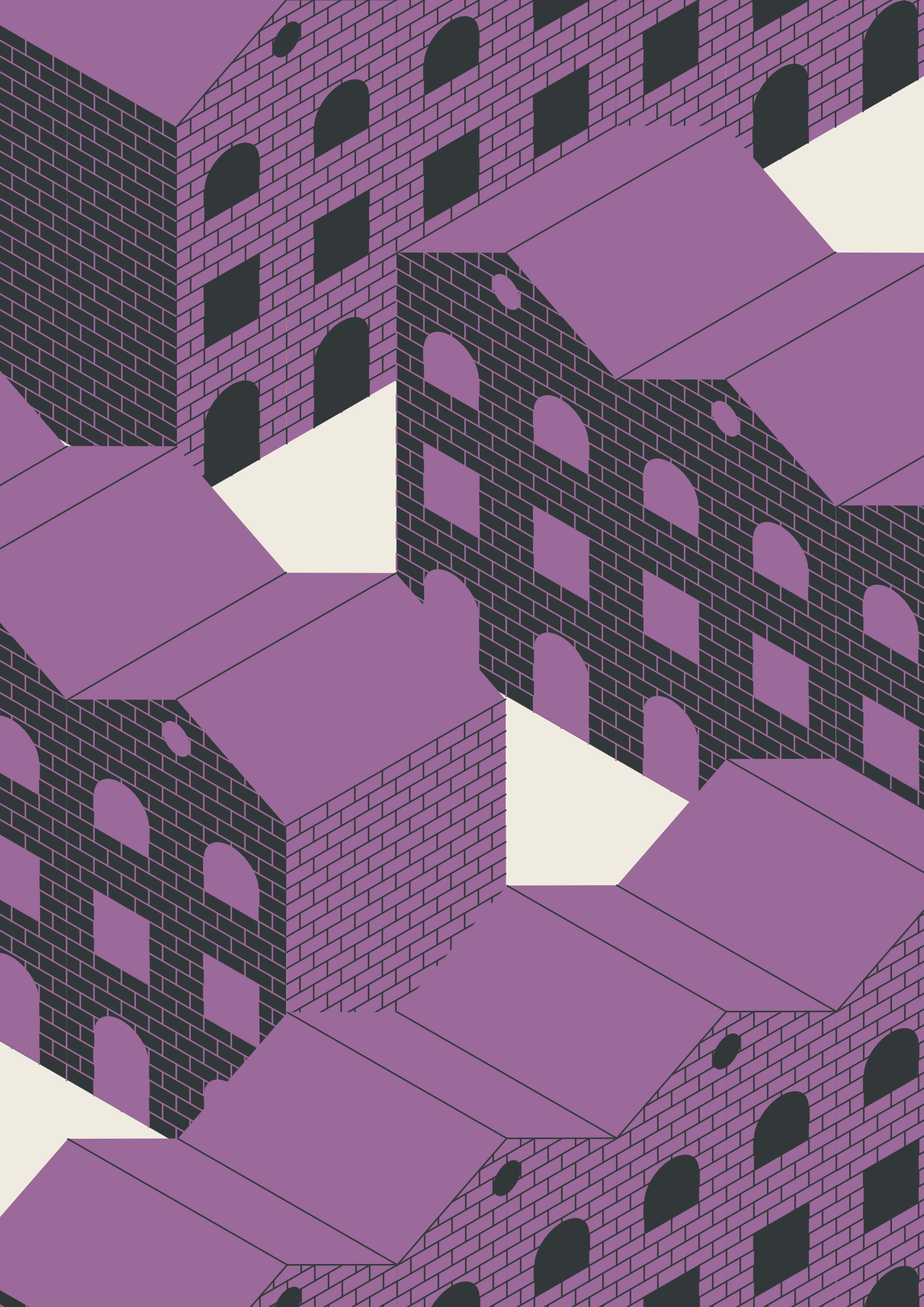
6.8.10 The research carried out for this report, together with other data and information, suggests that overall there is some flexibility in the industrial

land market and industrial activities to respond to contractions in industrial land supply. Key mechanisms allowing this include potential for some industrial activity to relocate to the wider adjacent South East (or in suitable cases further afield) and probably to a lesser degree there may be potential for intensification of industrial activities on existing land.

6.8.11 This suggests that if sufficient industrial land within and around London can be protected / provided continued release of industrial land in London may be justified. However the rates of release seen over the last five years appear to be excessive and a more moderate rate of release is probably more appropriate.

6.8.12 London though appears to be heading towards a situation in which most of its activities located in industrial areas will be associated with servicing the rest of London's economy and population. With the projected significant growth in London's population and economy over coming decades and the likely strong positive correlation between these activities and London's population it appears likely that at some point, potentially within the life of the current London Plan, there will be a case to switch from releasing industrial land to retaining most of the remaining land. Whether such a shift is appropriate will depend upon the strategic value placed upon these activities.

6.8.13 Care is needed at a local level to be clear on what industry is being protected and to ensure that policies are sufficiently robust and unambiguous, and then are protected with vigour, to reduce the potential for blight, hope values and issues over bad neighbour activities with other sensitive land uses damaging industrial activities and viability.



7.

Supply & Demand Scenarios

7 Supply & Demand Scenarios

7.1 Introduction

7.1.1 The economic impacts of reduced levels of industrial land will depend on the interaction of demand and supply. The key issue is whether there is or will be a mismatch between demand and supply. This means that to explore possible future situations it is appropriate to consider different projections of demand and different approaches to supply. This chapter explores demand and supply scenarios and considers how they may interact with market mechanisms and in particular the supply of industrial land in the wider South East.

7.2 Context of Historic Decline

7.2.1 As outlined in Chapter 2 if the recent rates of decline in industrial land are projected forward then the total stock of industrial land in London will contract significantly. This is illustrated in *Figure 7-1* below.

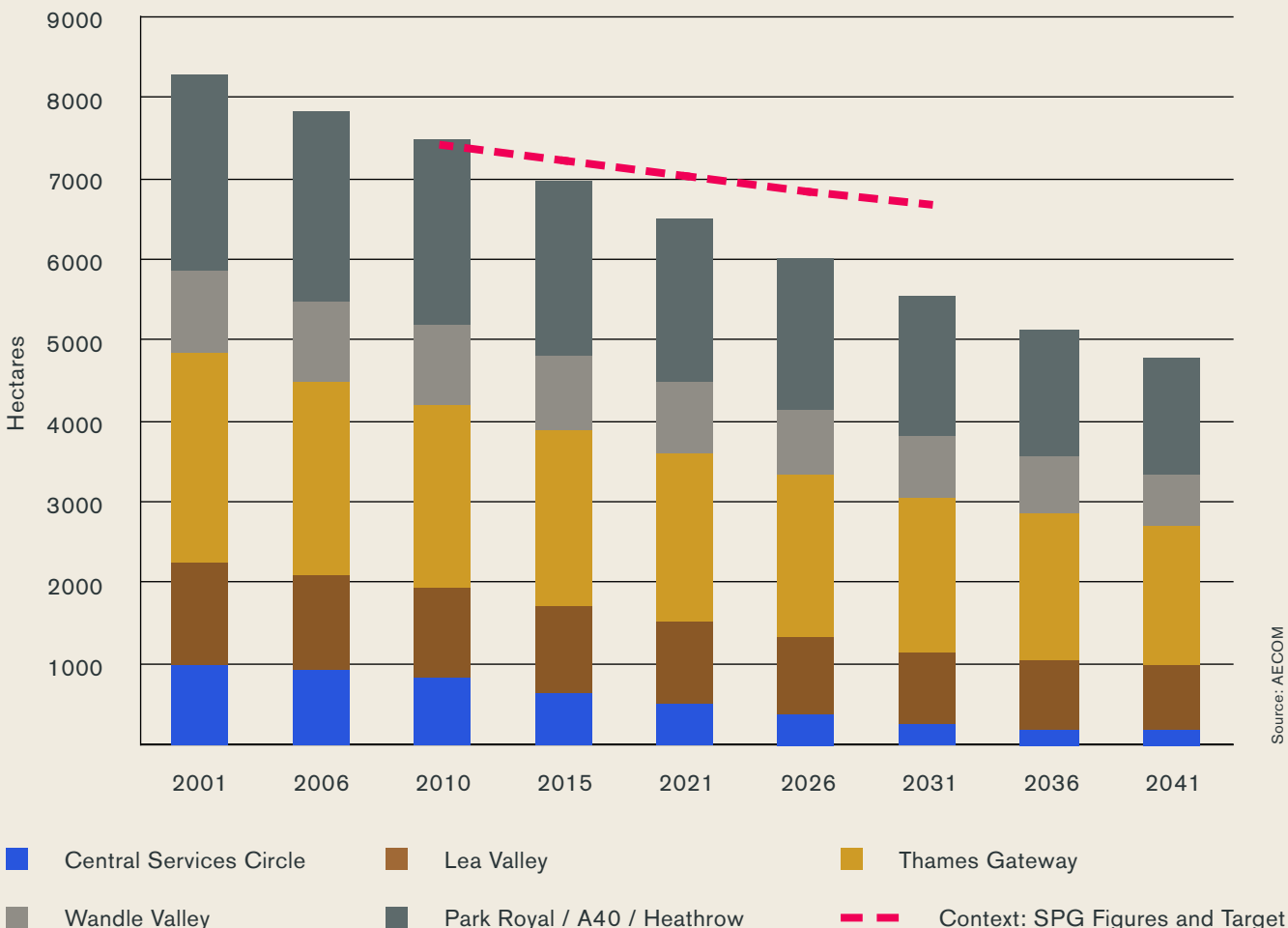
This shows that:

- Stock of industrial land in 2001 was 8,282ha, in 2010 it was 7,505ha and in 2015 it is 6,976ha.
- If trends for the period 2010-2015 continue⁵⁴ then by 2031 there will be 5,450ha of industrial land and 4,720ha remaining by 2041, representing a 32% reduction over the 2015 figure.
- This contrasts with the Land for Industry and Transport SPG which has a target of 6,700ha of industrial land in 2031. The trend rate of release would be around 1,250ha more than the target release by 2031, or around 19% more than the target.

7.3 Demand Projections

7.3.1 The actual and projected amounts of industrial land in London form the basis of the total supply projections. These will also correspond to total demand if demand and supply are in balance and market mechanisms are working in a suitable way. The brief for this report is to prepare demand scenarios in advance of more detailed analysis on demand, which will follow as a separate piece of work. In drawing up demand scenarios we have taken as a starting point an assumption that demand

Figure 7-1: Implications of Continued Trends in Industrial Land Release



and supply are currently in equilibrium. We have then projected demand forward based on the following four demand projections for industrial land in London:

- A) Continuation of recent trend rate of decline, illustrating low demand
- B) 50% higher than SPG rate of decline
- C) SPG rate of decline
- D) Decline to SPG end target, illustrating the highest level of demand (or in other words the lowest rate of decline of demand).

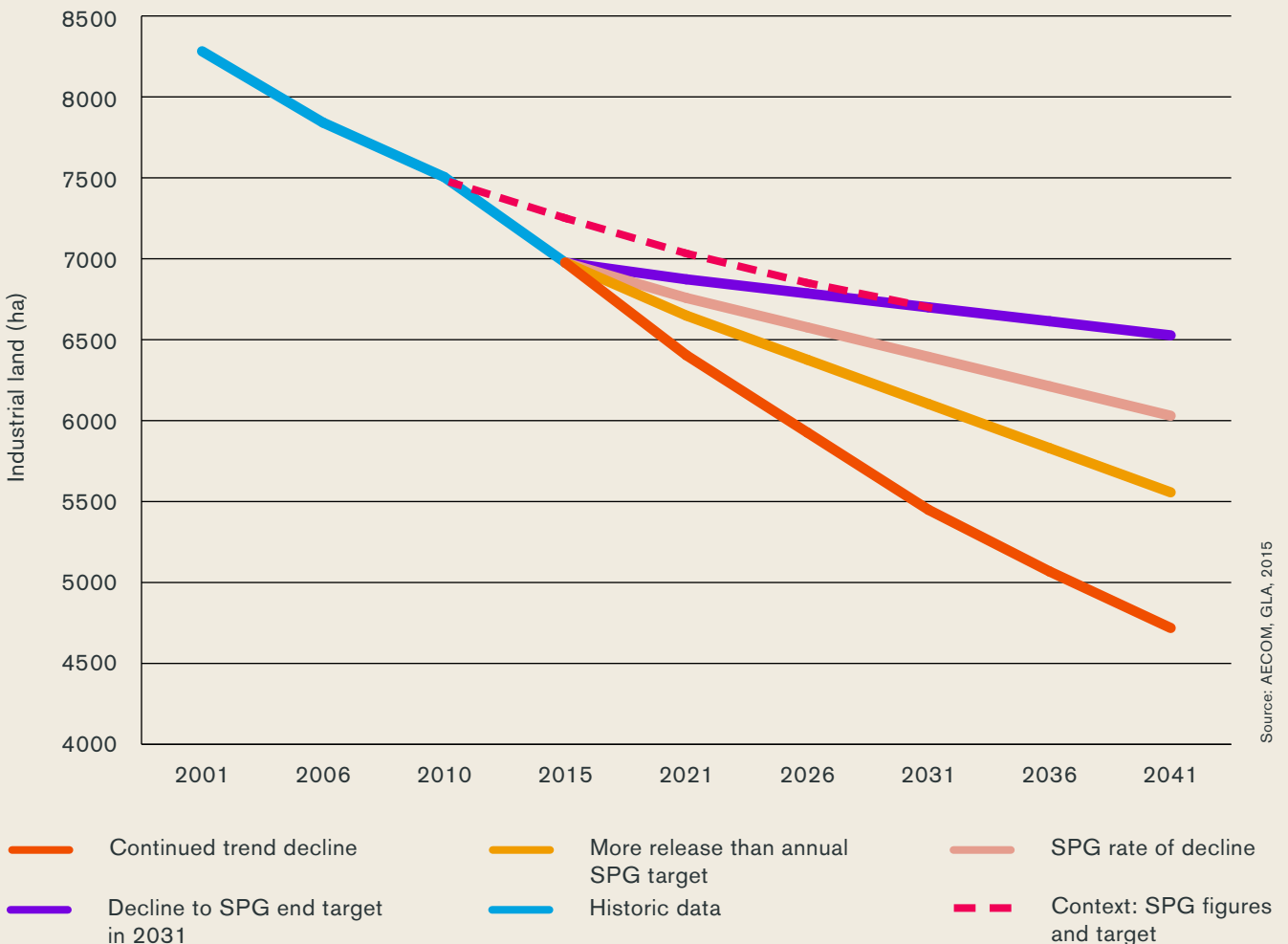
7.3.2 These are illustrated in *Figure 7-2*, which shows how these projections relate to historic data and the GLA's SPG target from 2010 onwards. These projections assume that demand equates to the above variations in trends of total stock of industrial land in London⁵⁵. This shows that all projections are for a requirement for less industrial land than the SPG target for 2031⁵⁶.

⁵⁴ We assume that the decline in the Central Service Circle will level off at 200ha otherwise total stock in the area would decrease to 0ha.

⁵⁵ For projection D decline to SPG target this is also linked to GLA's economic forecasts prepared to inform the 2012 SPG.

⁵⁶ Projection D, decline to SPG end target, has a demand for more industrial land than the SPG trend as the annual rate of release (2015-2031) needs to be less than the SPG has assumed in order to achieve the 2031 SPG target.

Figure 7-2: Industrial Land in London Demand Projections



Source: AECOM, GLA, 2015

7.4 Supply, Demand and Market Mechanisms

7.4.1 Supply projections will depend upon the planning policy and associated approach the GLA and the London boroughs take to the protection and provision of industrial land. For the purposes of this analysis we assume that the supply projections are the same as the demand projections, but that there will be different scenarios depending on which demand projection is matched up with which supply projection. The supply projections are the same as shown in *Figure 7-2* but the demand projections do not necessarily match the supply projections for each scenario. We explore the combinations below.

7.4.2 We also use another variable – market mechanisms. This is a concept intended to capture alternative views on the degree to which the industrial land property market, and industrial type businesses, are flexible enough to be able to respond to changing supply situations. By flexible we mean that the businesses / activities can either carry on operating successfully in the context of restricted supply and / or they are able to appropriately relocate to an alternative location if supply in a particular area is reduced. Lack of flexibility corresponds to contraction in industrial activities as a consequence of restricted supply beyond what is an economically efficient operation of the market and / or view on an appropriate balance of land uses.

7.4.3 The concept of market mechanisms is explored in Chapter 6, including:

- The degree to which industrial activities are sensitive to increased rents and land-related costs, including characteristics and requirements of different sectors
- The ability of industrial activities to use land more intensively
- The degree of flexibility businesses and activities have to relocate
- The ability of industrial businesses to successfully relocate to the wider South East region

7.4.4 The conclusion of Chapter 6 was that there are indicators of both flexibility and rigidity in market mechanisms and so overall caution is needed in assumptions on flexibility.

7.4.5 The match between demand⁵⁷, supply⁵⁸ and market mechanisms is illustrated in *Figure 7-3*⁵⁹. This shows that:

- Where there is high demand and low supply then too little land is available
- Where there is low demand and high supply then too much land is retained for industrial use
- Where demand and supply match then the right amount of industrial land is available
- If market mechanisms are efficient then this gives more scope for reduced supply in London, and where market mechanisms are effective then this gives less scope for reducing supply in London.

7.4.6 The balance between demand and supply for the combinations is summarised in *Table 7-1* and *Figure 7-4* below. This shows that there is between

a deficit of 1,808 ha of industrial land under the high demand / low supply combination through to a surplus of 1,808 ha of industrial land under the low demand / high supply combination⁶⁰. Whether this is the appropriate amount of release depends on the corresponding demand projection and the ability of the market to respond to changes in supply.

7.4.7 The excess demand and not enough supply combinations raise the question of whether and to what degree the excess demand can be accommodated outside London and / or absorbed via mechanisms such as intensification. If it can then this suggests some of the demand can be transferred and / or changed. If the demand cannot be accommodated then this implies supply driven decline (rather than demand driven) with policy implications on whether this is desirable.

7.4.8 The excess supply and not enough demand combinations imply that industrial land policy is out of line with demand trends and there is a case for increased industrial land release. This should be picked up through regular monitoring of appropriate indicators such as vacant designated industrial land.

⁵⁷ High demand equates to 'Decline to SPG End Target'; medium demand equates to 'SPG Rate of Decline'; low demand equates to 'More Release than Annual SPG Target'; and extra low demand equates to 'Continued Trend Decline'.

⁵⁸ Extra low supply equates to 'Continued Trend Decline'; low supply equates to 'More Release than Annual SPG Target'; medium supply equates to 'SPG Rate of Decline'; and high supply equates to 'Decline to SPG End Target'.

⁵⁹ The industrial land release shown in the last column is the difference between the current stock of industrial land at the stock of industrial land shown in 2041 for each supply scenario. (With the figure being used to inform both supply and demand scenarios).

⁶⁰ The difference between these figures and the figures in *Figure 7-3* is that the figures in the figure are about release of industrial land and the figures in *Table 7-1* are about whether there is an unrealised excess demand and an expression of this in terms of hectares of land, or a surplus of industrial land not required.

Figure 7-3: Demand, Supply and Market Mechanisms Matrix

Demand scenario	Planning policy supply scenario	Ineffective market mechanisms	Effective market mechanisms
High demand	Extra low supply	Too little land	Too little land
High demand	Low supply	Too little land	Too little land
High demand	Medium supply	Too little land	In balance?
Medium demand	Low supply	Too little land	In balance?
High demand	High supply	In balance	In balance
Medium demand	Medium supply	In balance	In balance
Low demand	Low supply	In balance	In balance
Extra low demand	Extra low supply	In balance	In balance
Low demand	Medium supply	Too much land	Too much land
Medium demand	High supply	Too much land	Too much land
Low demand	High supply	Too much land	Too much land
Extra low demand	High supply	Too much land	Too much land

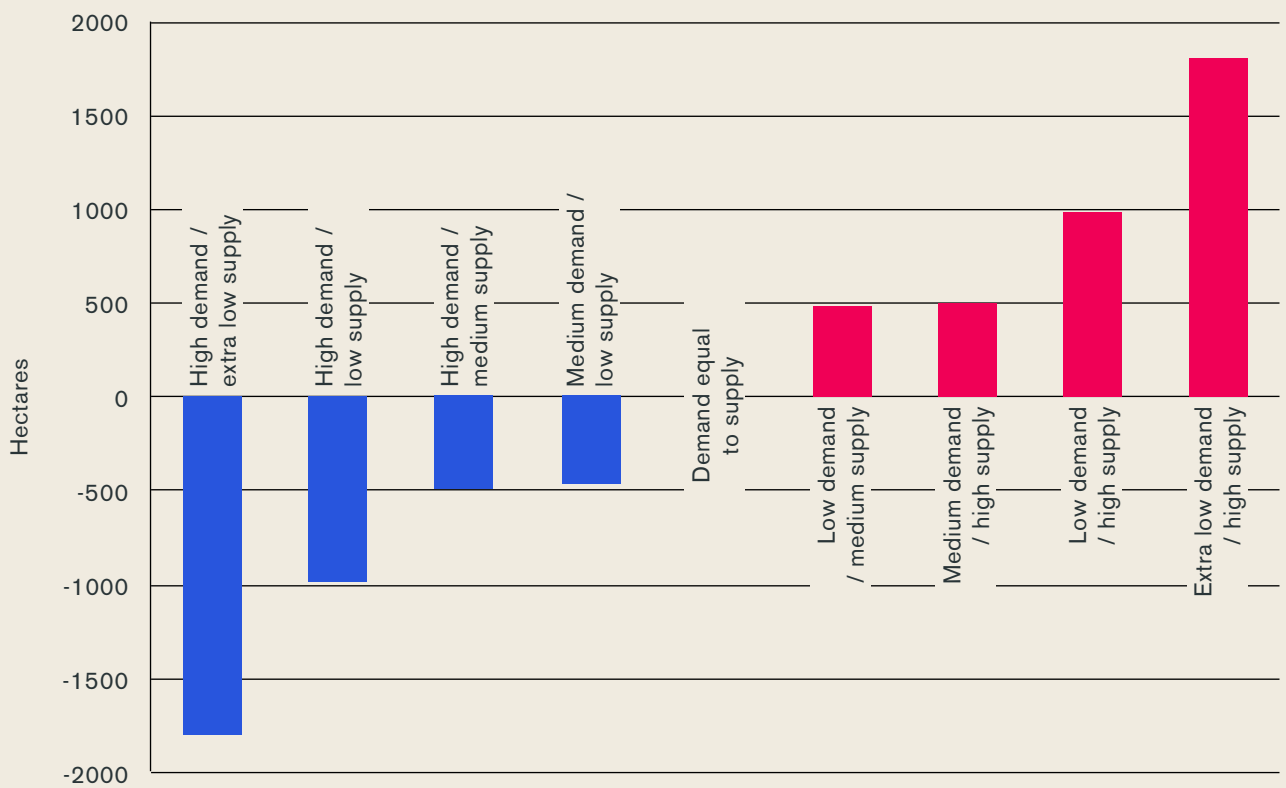
Source: AECOM

Table 7-1: Demand and Supply Combinations 2015-2041 (ha of land)

Scenario combination	Industrial land (ha)
High demand / extra low supply	-1,808
High demand / low supply	-971
High demand / medium supply	-497
Medium demand / low supply	-473
Demand equal to supply	0
Low demand / medium supply	473
Medium demand / high supply	497
Low demand / high supply	971
Extra low demand / high supply	1,808

Source: AECOM

Figure 7-4: Projections and Balance of Supply and Demand

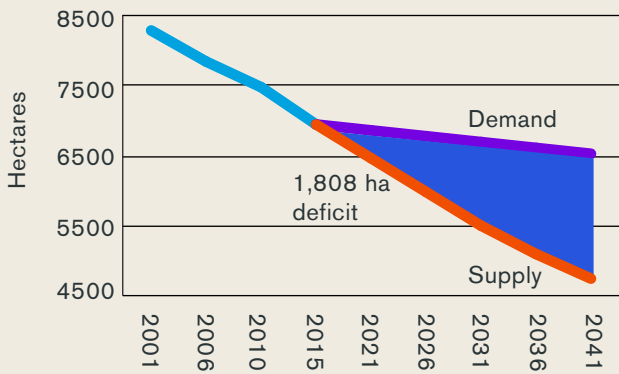


Source: AECOM

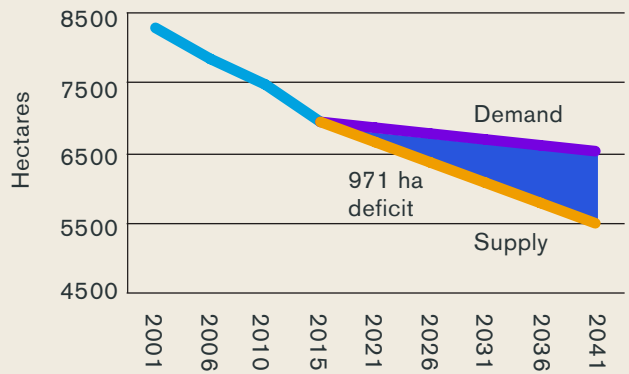
■ Deficit of industrial land ■ Surplus of industrial land

Figure 7-5: Projections and Balance of Supply and Demand

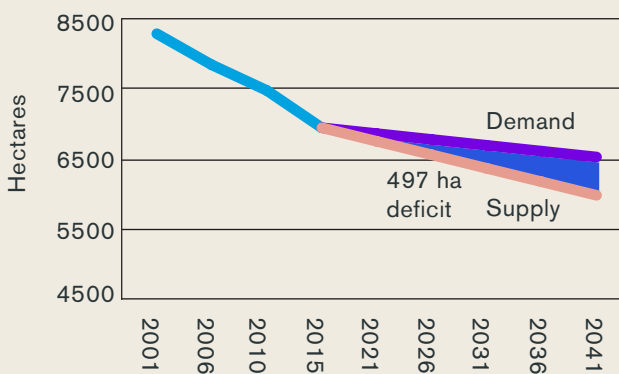
A: High demand / extra low supply



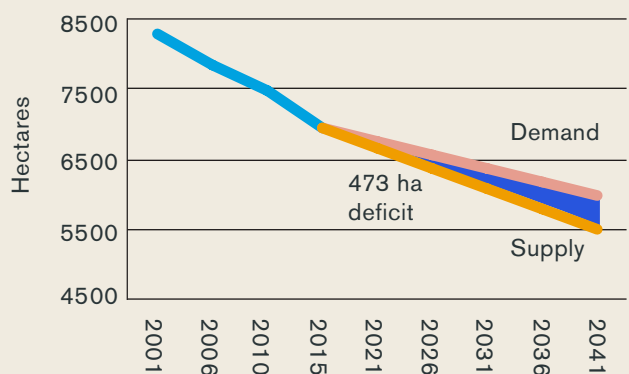
B: High demand / low supply



C: High demand / medium supply

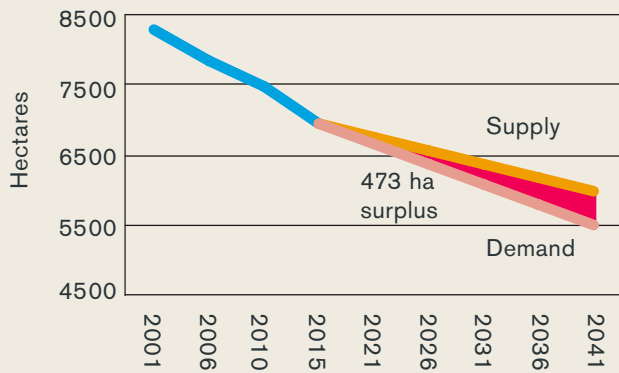


D: Medium demand / low supply

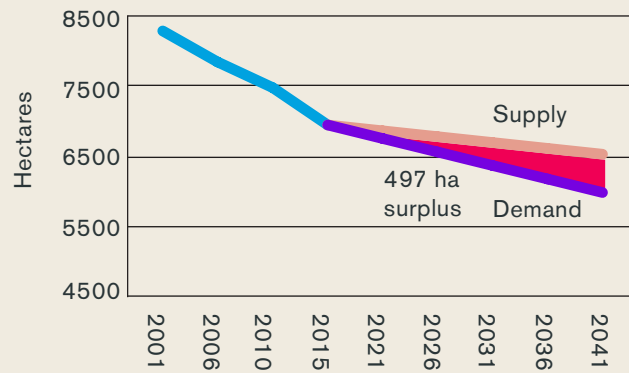


Demand equal to supply

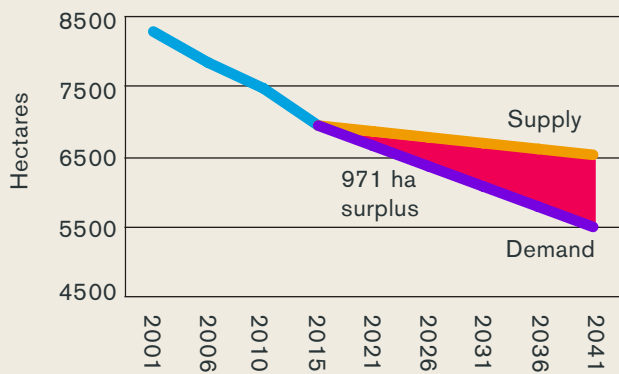
E: Low demand / medium supply



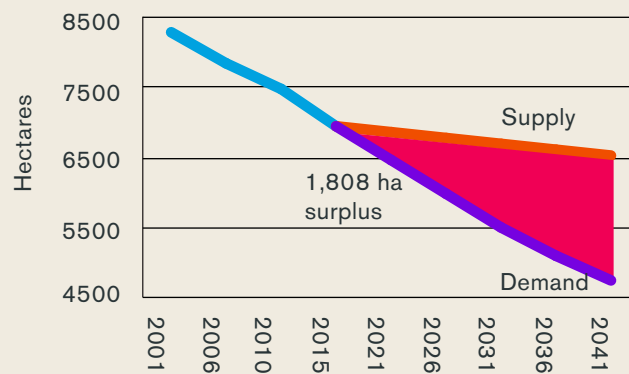
F: Medium demand / high supply



G: Low demand / high supply



H: Extra Low demand / high supply



7.5 Land Supply in South East and Demand and Supply Scenarios

7.5.1 The demand and supply projections presented in section 7.4 included scenarios where there would be an excess of demand over supply. In these circumstances we have identified the following principal potential mechanisms to accommodate this context:

- Continued intensification of activities in London
- Continued relocation of less location sensitive industrial activities out of London, and in particular to the adjacent South East region.

7.5.2 Overall we suggest taking a conservative view on the potential for further intensification. There has been little evidence to suggest that employment densities have been increasing until recently. There are a number of possible reasons for the recent, generally modest, increases in employment densities and consequently it is not clear whether this is going to be a sustaining trend and to what degree it can be relied upon. Consequently a prudent approach is to suggest such a mechanism can only accommodate a modest amount of excess demand, maybe no more than say 5%-10% of such demand.

7.5.3 There does though appear to be more potential for some industry to (continue to) relocate to the adjacent South East region. This is illustrated by comparing the demand and supply scenarios that show an excess requirement for industrial land with the total stock of industrial land in the adjacent South East region. This is shown for four of the demand and supply scenarios in *Figure 7-6*.

7.5.6 The figures suggest that the total potential requirement for additional industrial land outside London are fairly modest compared to the total stock in the adjacent South East region in the cases of the Lea Valley / North Quadrant and the Thames Gateway / East Quadrant in most scenarios. (However as illustrated there is a component of the North Quadrant that also serves the West Quadrant market area). The excess demand is a more significant proportion of adjacent South East estimated stock in the cases of the Wandle Valley and Park Royal / A40 / Heathrow PMAs (though some of the Northern Quadrant stock also services this market area).

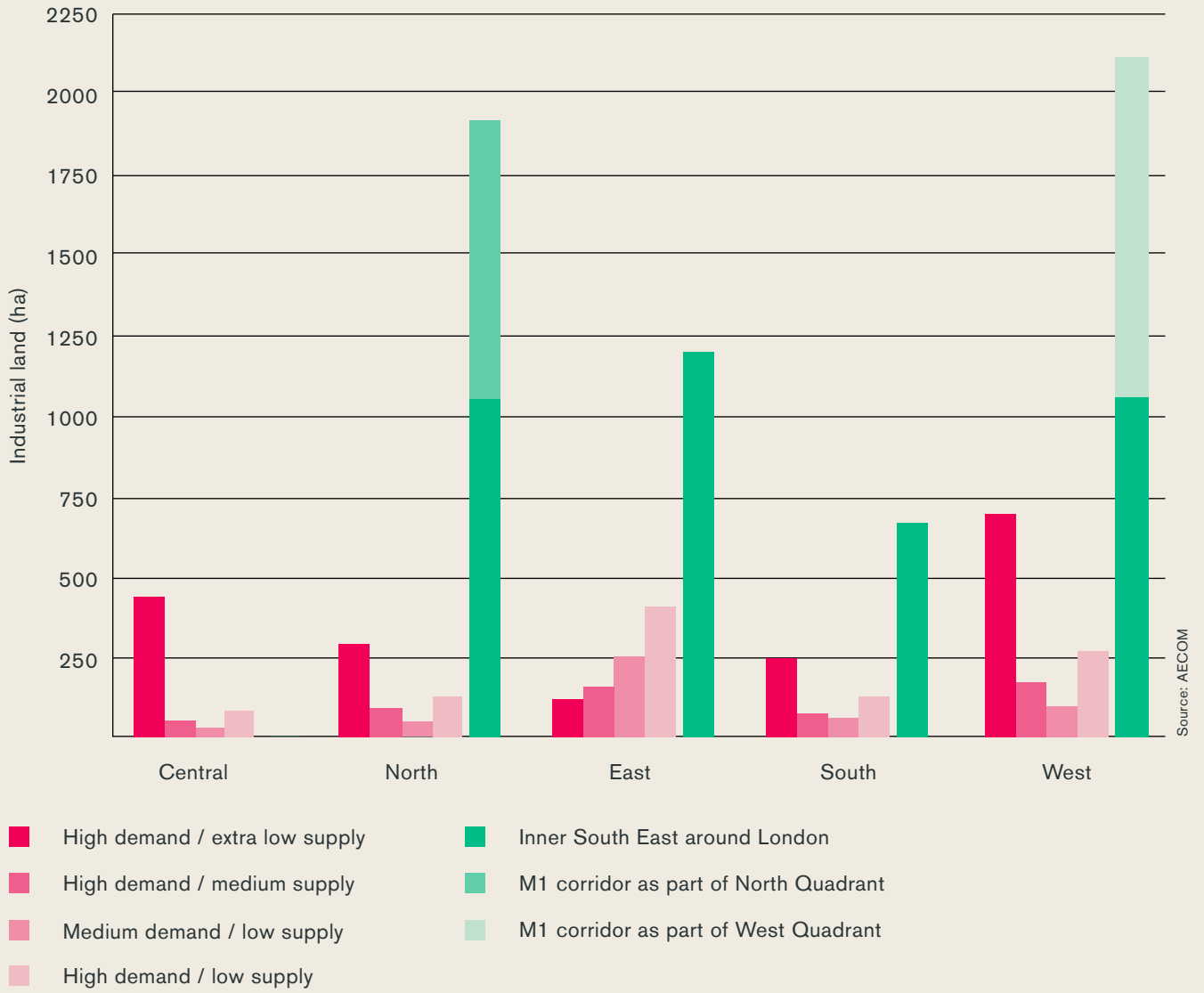
7.5.7 This is a comparison with an estimated total amount of existing industrial land not with vacant industrial land or future allocations. However, this is in the context of generally declining stocks of industrial land in most part of the South East (and UK) and so over time it is possible that some of this release could instead be retained for the overspill demand from London.

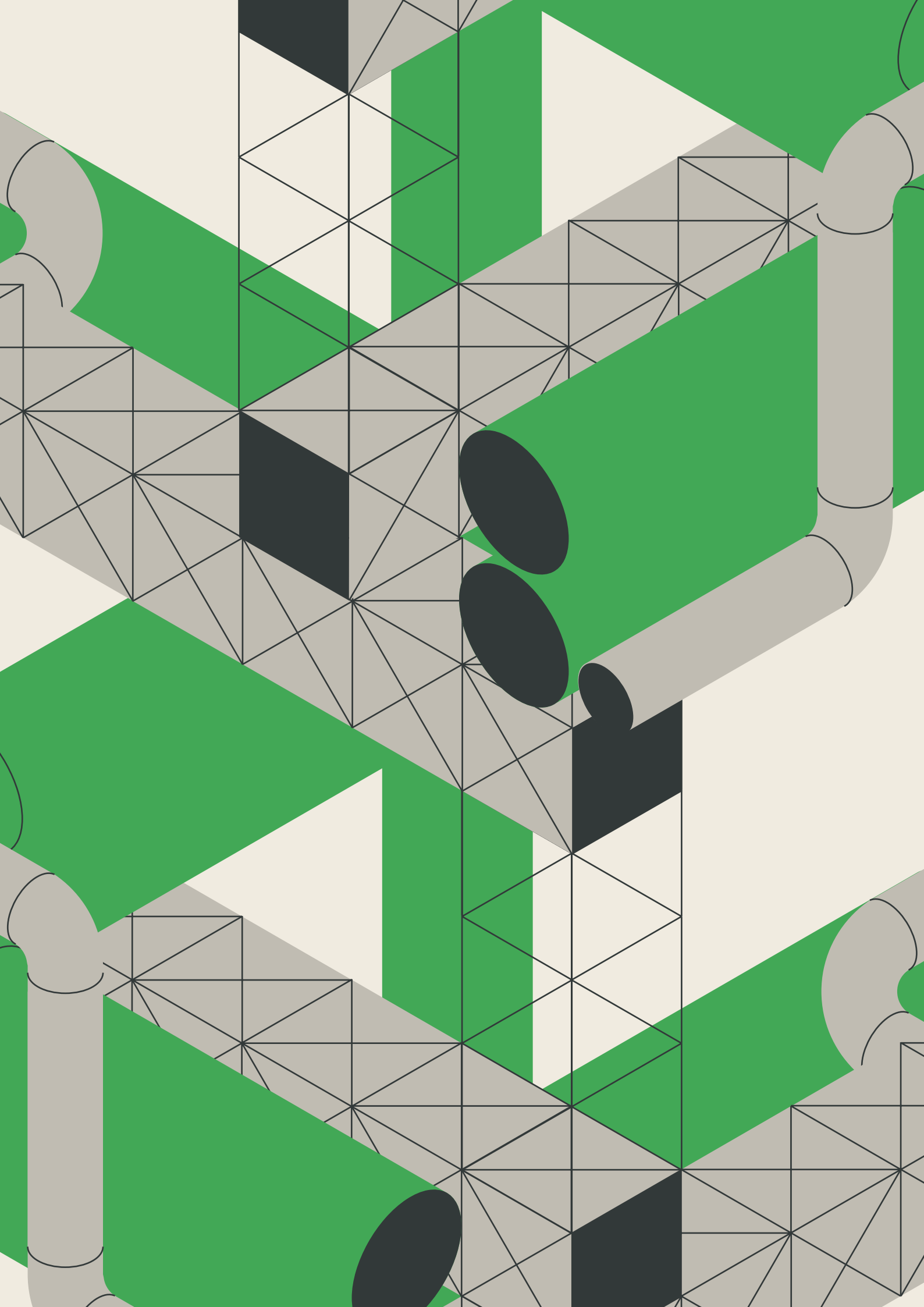
7.5.8 Our conclusions on our review of market failure and market mechanisms suggests that in terms of distinction between 'inefficient market mechanisms' and 'efficient market mechanisms' (see *Figure 7-3*) there are indicators of both flexibility and rigidity in market mechanisms and so overall caution is needed in assumptions on flexibility.

7.5.9 There are though some sensitivities to an approach seeking to build on trends for relocation to the adjacent South East. It relies upon local authorities in the adjacent South East protecting an appropriate proportion of their industrial land, and possibly making additional allocations for industrial development and employment beyond re-use of appropriate brownfield land. The degree to which such an approach is needed will depend on the balance of overall structural decline in industrial activity in the UK and the South East region and how this inter-acts with relocations of activities out of London.

7.5.10 Some of the answers to these questions go beyond the scope of this study and are intended to be covered in a future commission seeking to forecast future demand for industrial land.

Figure 7-6: Projections and Balance of Supply and Demand





8.

Conclusions

Conclusions

8.1 Introduction

8.1.1 The purpose of this chapter is to draw together the various strands of the research and analysis that has been undertaken in this study into a summary of results and findings and, based on these, provide conclusions as to the implications for industrial land policy and recommendations for further research.

8.2 Results

8.2.1 Key results and findings from our research and analysis include:

Industrial Land Baseline

- In 2015 there is 6,976 hectares (ha) of industrial land in London of which 4,553ha is core industrial use (65%); 1,887ha is in wider industrial use (27%) and 547ha is vacant land (8%). There was approximately 21 million m² of industrial floorspace in London in 2012.
- From 8,282ha recorded in 2001, the stock of industrial land has declined steadily to 7,841ha in 2006, 7,505 in 2010 and 6,976ha in 2015; This equates to a contraction of 1,306ha or 16% over the whole period and a 7% contraction in the last five years.
- Notably, at sub-regional level the Central sub-region recorded a significantly higher rate of release of / decline in industrial land in the last five years at 25% compared with the other sub-regions which recorded declines of around 6% in each case.
- The development pipeline and proposed future release rates of industrial land appear to correspond with recent London-wide trend rates of release, suggesting that these rates will persist in future years.
- Past trends in industrial land release show an accelerated rate of release significantly above the SPG target rates of release. The trend rate of release for 2010 to 2015 is 105ha per annum, compared with the SPG recommended rate of release of 36.6ha per annum. If these trends continue then the total stock of industrial land in London will decline from around 6,980ha in 2015 by a further 2,300ha to around 4,700ha in 2041, a 33% decline over this period. This is around 1,900ha more than the SPG 2031 industrial land target projected to 2041 (around 6,500ha).

Businesses and Employment

- Employment in industrial occupations in London was estimated at 560,000 jobs in 2014, 46% of which are in designated areas, with 76,000 industrial businesses being recorded. At 7.4 workers per business and with 90% of businesses employing 0-9 people, such a distribution is found to be similar to the distribution for all businesses in London.

- It's estimated that 82% of all industrial businesses lie within designated areas, suggesting that either the size of industrial businesses in non-designated areas is significantly larger than in the designated areas and / or there are inaccuracies over the way that industrial employment is calculated. This would benefit from further investigation.
- Industrial employment in London in the period 2010 to 2015 is estimated to have increased by around 4%, which could represent a reversal of the longer-term trend of decline in industrial employment.

Property Market Areas and indicators

- Of the approximately 21 million m² of industrial floorspace in London in 2012, the Park Royal / A40 / Heathrow market contains the highest proportion at 32%, with the Thames Gateway area, at 21%, also containing a significant proportion of this total. The Wandle Valley market area contains the lowest proportion at 13%.
- Available industrial floorspace (2 million m²) represents 10% of total estimated floorspace, exceeding the widely accepted guideline frictional vacancy rate of 8% for effective operation of the market. The availability rate in Outer London also exceeds this at around 12%, with the Thames Gateway recording the highest rate of the property market areas at 14%.
- London-wide industrial rental values average £110 per m², peaking at an average of £123 per m² in the Park Royal / A40 / Heathrow and Wandle Valley areas and falling to £91 per m² in the Thames Gateway.
- Industrial land values average £4.9m per ha London-wide, with the Wandle Valley having the highest average industrial property values at around £6.2m per ha. Reflecting rents, the Thames Gateway has the lowest at £1.0m per ha (£2.5 per acre). Residential land values reflect a similar pattern to that of industrial with the highest values in the South and West sub-regions / property market areas and lowest in the East and North. By property market, residential land values range from between 2.6 to 7.6 times industrial land values (Park Royal / A40 / Heathrow and Central Services Circle respectively) which means that there is considerable market pressure to release industrial land for residential development.

Industrial Capacity in the Inner South East

- The supply of industrial land in the inner South East is estimated to be around 4,882ha, or, in comparison, 70% of the total industrial land supply of London. The largest concentration of land is in the north quadrant, while the largest in London is in the Park Royal / A40 / Heathrow property market.
- The rate of industrial land loss in the inner South East is slower than that seen in London. Release of industrial land has been slowest in the inner South East quadrants that are adjacent to the London property markets which have the highest rates.

- This could indicate that a process of out migration is occurring with businesses moving from London to locations in the inner South East. This is further represented by the large difference in the total rates of industrial land stock release for the inner South East (-4%) and for London (-16%)

8.3 Evidence on Market Failure and Flexibility

8.3.1 Our research and conclusions on possible factors that could cause market failure and / or affect the flexibility and ability of industrial businesses to respond to a reduced supply of industrial land are as follows:

- Generally there does not appear to be strong evidence so far to suggest that reductions in availability of land and property have a direct correlation with increases in rents at a local level.
- Case studies suggest that at a local level significant shifts to non-industrial uses can undermine the integrity of industrial areas, and care is needed in planning for and managing change in industrial areas.
- There is some evidence to suggest that industrial activities are responding to increased rents and reduced supply by increasing employment densities.
- Our analysis of changes in employment in recent years in industrial sectors suggests that there could be an emerging pattern of sectors that are more sensitive to London and / or central London locations tending to remain or grow in London, and other sectors that are less sensitive to location will tend to leave London.
- In particular it is possible that the scale of a number of industrial activities will tend to be correlated to London's overall population as they directly serve the population.
- Data on rates of change of industrial businesses in London suggests that there is a degree of flexibility in the economy and the industrial sector specifically that may not have been appreciated previously.
- Our broad-brush analysis suggests that overall there is potential for the adjacent South East region to (continue to) accommodate overspill demand from London (or demand transferring to the area as supply contracts in London).
- It is likely that if activities servicing core London markets are forced to relocate out of London, either to the adjacent South East or further afield, then total travel miles, congestion and consequent carbon emissions will increase.
- There is evidence that some industrial businesses require space for small-scale production and prototyping and rely on access to a skilled workforce, specialist manufacturing activities and agglomeration benefits found in London. These businesses may find it harder to be economically viable if forced to relocate outside London.

8.3.2 The research carried out for this report, together with other data and information, suggests that overall there is a degree of flexibility in the industrial land market and industrial activities to

respond to contractions in industrial land supply. Key mechanisms allowing this include potential for some industry to relocate to the wider adjacent South East (or in suitable cases further afield) and probably to a lesser degree there may be potential for intensification of industrial activities on existing land.

8.4 Implications for Industrial Land Policy

8.4.1 Our review of context, market failure and market mechanisms suggests that if sufficient industrial land can be provided / protected within and around London continued release of industrial land in London may be possible.

8.4.2 However the rates of release seen over the last five years appear to be excessive and a more moderate rate of release is probably more appropriate.

8.4.3 London appears to be heading towards a situation in which most of its activities located in industrial areas will be associated with servicing the rest of London's economy and population. With the projected significant growth in London's population and economy over coming decades and the likely strong positive correlation between these activities and London's population it appears likely that at some point, potentially within the life of the current London Plan, there will be a case to switch from releasing industrial land to retaining most of the remaining land. Whether such a shift is appropriate will depend upon the strategic value placed upon these activities.

8.4.4 Care is needed at a local level to be clear on what industry is being protected and to ensure that policies are sufficiently robust and unambiguous, and then are protected with vigour, to reduce the potential for blight, hope values and issues over bad neighbour activities with other sensitive land uses damaging industrial activities and viability.

8.5 Research Recommendations

8.5.1 This report has covered much new ground and analysis and highlighted a number of potential trends and factors that have not generally been the focus of attention. It is clear though that much of the analysis presented only provides a hint of what may be going on. Further work may suggest a more subtle context and / or change the (tentative) conclusions we have drawn. Our research has also further highlighted some issues / questions associated with reliability of data sources and appropriateness of definitions.

8.5.2 Below are some suggested potential further work / study:

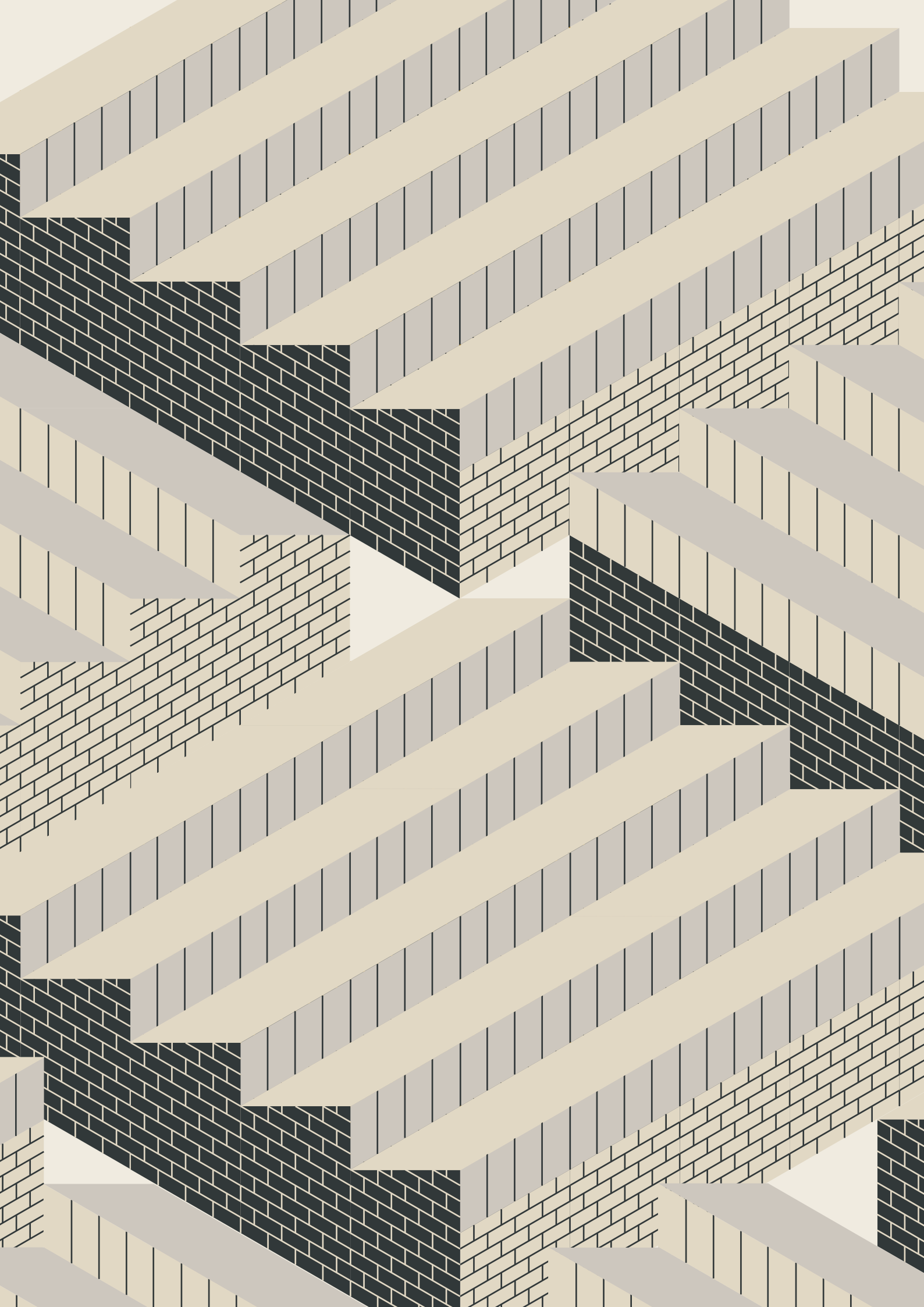
- GLA to carry out work on demand forecasting and fit in to our framework for comparing demand and supply.
- Research in to the customers and supply chains of London's industrial activities to further explore which companies rely on their London / central London location and the value of these businesses to the wider London economy.

- Study in to the price sensitivity of different types of industrial businesses to increases in rents and land costs.
- Study / survey work is carried out on the specific nature of business relocations both within London and to the adjacent South East and further afield.
- Research in to industrial agglomeration and business networks and whether these have a critical mass that is being threatened / potentially threatened by continued contraction / dispersal.
- In the context of further work on the full review of the London Plan and engagement with the wider South East, appropriate partners carry out further work looking at the potential for industrial land outside London to accommodate release of industrial land from the London area building upon the analysis in this report.
- Work is carried out on the definition of industrial activities in industrial areas and how this maps on to SIC codes or alternative methods⁶¹.

8.5.3 As well as further work carried out by the GLA and its partner organisations it may be worth exploring whether academic institutions, such as University College London and London School of Economics (who both have research interests in this and related fields), may focus some of their efforts on exploring some of these topics.

⁶¹ This is recommended as results presented in this report appear to show a questionable difference between the concentration of industrial employment in designated industrial areas (46%) compared with the concentration of industrial businesses in these areas (82%).

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