

London Borough of Richmond upon Thames, Employment Sites & Premises Study
2016 Update

Environment

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London Borough of Richmond upon Thames



London Borough of Richmond, Employment Sites & Premises Study 2016 Update

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1 INTRODUCTION

- 1.1 The Council consulted on a pre-publication version of the new Richmond Local Plan in summer 2016. This Plan included a number of policies the Council considered were sound in the context of both the London Plan and the National Planning Policy Framework.
- 1.2 The core evidence base underpinning the employment land policies was the March 2013 Peter Brett Associates (PBA) Employment Land Review (ELR), which is titled Richmond Employment Sites and Premises (the ES&P).
- 1.3 A small number of representations to the pre-consultation suggested that the Plan, as drafted, was unsound and the evidence base dated. They considered that the proposed policies failed to respond to the national and regional policy framework and the position on the ground (demand and supply) had meant that the evidence base was no longer current.
- 1.4 To respond to these concerns LBRuT asked PBA to review the strategic policy and our evidence with a view to advising on whether the policies as proposed were potentially unsound. Soundness is a matter of some considerable judgement but to help inform this we:
 - Update the policy review for the Borough. This is so it reflects the new London Plan and changes to other policy since the 2013 report.
 - Update the demand side assessment. This is partly because new employment projections have been recently released by the GLA, but also national forecasting houses have updated their view of national (and regional) demand since 2013.
 - Consider the extent of the LBRuT Functional Economic Market Area (FEMA). This is because the Planning Policy Guidance post-dated our 2013 report. While the PPG makes little or no material difference to how we generally plan for employment land it introduced a requirement that Councils define their FEMA as part of their evidence base document.
- 1.5 This update does not consider the supply side of the ELR. This will follow in early 2017. However, in this report we conclude that the Borough is chronically short of employment land, with positive demand for industrial and warehousing land (and offices) but very little stock nor scope to provide new.
- 1.6 So, at this time and for the preparation of the new Richmond Local Plan this endorses the strong land retention policies in the draft Plan.

2 POLICY REVIEW

Introduction

- 2.1 This section provides an update of policy and guidance changes at national, regional and neighbouring borough/district level as they affect future employment activity in the Borough since the ES&P study was completed.
- 2.2 Since the ES&P report was published there has been some key policy and guidance changes - the national Planning Policy Guidance has been issued, there have been further changes to the permitted development rights regime, the publication of Further Alterations to the London Plan in 2015 and progress with a number of neighbouring Borough/District Local Plans.
- 2.3 Below we review each of these changes and consider the implications for Richmond.

National

- 2.4 The ES&P report was prepared some 12 months after the publication of the NPPF. But the report highlighted that at that time it was unclear how the NPPF would be interpreted in practice. At the time of drafting the PPG (Practical guidance) had not been released.

Planning Policy Guidance

- 2.5 The key aspects of the PPG as far as planning for employment land is concerned are two-fold – i) guidance on identifying a location’s functional economic market area (FEMA) and ii) guidance on the assessment of future needs.

Introducing the FEMA

- 2.6 The PPG states that economic need should be assessed in relation to the relevant FEMA, and the definition of the FEMA should reflect the requirements of the market, identifying discrete economic areas.
- 2.7 Functional Economic Market Areas are not new. CLG drafted guidance on their form and function in 2010¹. However, they were of limited importance to local planning while the Regional Planning tier provided districts with a statutory strategic geography. But with the abolition of the RSS the FEMA (along with the HMA) appears to have been quasi adopted as a strategic planning geography.

Identifying the FEMA

- 2.8 The PPG advises that there is no standard approach to defining individual FEMAs, but refers to a number of data sources that can help identify discrete FEMAs:
 - Coverage of Local Enterprise Partnership

1

<http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/documents/localgovernment/pdf/1469713.pdf>

- Travel-to-Work Areas
 - Housing market areas
 - Flows of goods, services and information
 - Service market for consumers
 - Administrative areas
 - Catchment areas of cultural and social facilities
 - The transport network.
- 2.9 But when it comes to hard data, the PPG suggests just a single source for defining FEMAs - the ONS Travel-to-Work Areas (TTWAs), which are based on commuting only. It seems reasonable to assume that this is not intended as exhaustive, and therefore it does not imply that other data sources could not be useful or relevant.
- 2.10 For a London Borough the concept of a FEMA is challenging. Partly because in theory the FEMA, as with the Housing Market Area, should ideally be a self-contained geography where commuting and economic moves are internalised. But London flows are diverse around the Capital with a strong commuting flow to the City core. This makes seeking any self-containment challenging.
- 2.11 The PPG also suggests that the FEMA geography should be closely related to the HMA geography and when progressing the London Plan the GLA successfully made the case that the London Boroughs formed a single HMA for the purpose of housing policies. But the economic evidence suggests a different, 'wedge' shaped geography that extends beyond the GLA boundary.
- 2.12 Finally, as with the RSS before, London still retains a strategic planning tier and this geography is carried into a statutory plan. As such most strategic cross boundary issues are outside the borough's remit.
- 2.13 Although we have some reservations about the logic of a FEMA applied to Richmond, defining it is still a requirement of the PPG. Also from a practical perspective, it should help the Borough engage with its neighbours which in this borough is particularly important because of the shortage of land for economic land uses. Where there is a shortage of land, which the Borough is unable to make good, it needs to work with neighbours (co-operate) to try and repair any deficit within the FEMA.
- 2.14 Making up a deficit in an unrelated Borough or authority is less likely to benefit LBRuT residents or businesses. So the Council ought to be aware of which other Councils are well related to them in economic terms.
- 2.15 For this study, we define the LBRuT FEMA in appendix B using the method prescribed in the PPG. We conclude that Richmond does not operate as the hub of a FEMA, but is part of the same FEMA grouping as Hounslow, and this extends to Hillingdon, Ealing, Spelthorne and Slough. There are economic links to other adjoining boroughs, but these are far weaker than those with Hounslow that drives the FEMA.

Guidance on the assessment of future needs

- 2.16 The requirement to define the FEMA is new in the PPG and NPPF whereas the requirement to assess future needs is not.
- 2.17 Even before the PPG, Councils were required to undertake a near identical assessment as part of their Employment Land Review.
- 2.18 These reviews tended to be guided by the 2004 CLG Employment Land Review Guidance note. This was withdrawn when the PPG was released and replaced with only a few, very limited paragraphs.
- 2.19 The Guidance simply says that the purpose of an assessment of land availability is to identify a future supply of land which is suitable, available and achievable for economic development uses over the Plan period, but is not prescriptive as to how this should be achieved. The Guidance provides a 'shopping list' of factors that the evidence should cover - which includes demand (business requirements, recent take-up), supply (the existing stock of employment land, recent development, employment land lost to other uses, physical / ownership constraints) and the balance between the two (rental values, land values, evidence of oversupply and market failure).
- 2.20 However, these PPG paragraphs very broadly summarise the old ELR method. There is nothing in the PPG to render the 2013 ES&P study methodologically obsolete or unsound. Although, as we noted later in this update note some of the core data has changed which means the quantitative findings now differ. We return to this in chapter 3.

Permitted Development Rights

Office to residential

- 2.21 One significant change since our 2013 report relates to Permitted Development Rights. 2013 saw the introduction of permitted development rights for office to residential change of use.
- 2.22 At the time of drafting our 2013 report the Borough had expressed concern that because of high residential values and the characteristics of the office stock, much of which was small units in local high street locations, it was particularly vulnerable to a blanket change of use right. So the Council considered that a Borough-wide exception to the permitted development rights was justified. The Council made a case for this to CLG but as with many other Councils, LBRuT were unsuccessful. In London only the Central Activities Zone, Kennington & Chelsea and some small exception areas were successful.
- 2.23 Subsequent research undertaken by the London Councils found that the Borough's original concerns were well founded. The scale of loss was far in excess of that suggested by CLG when they originally consulted on the changes and LBRuT had been disproportionately harmed by the scale of the losses. By March 2015² the

² <https://www.londoncouncils.gov.uk/download/file/fid/16326>

Borough had received 360 prior approval notices which removed around 20% of the borough's office stock. Much of this was stock suitable for small and growing firms.

- 2.24 Subsequently, the Secretary of State agreed to a number of Article 4 directions which remove rights on an area by areas basis. But as noted above, by the time these were introduced a large amount of stock had already been lost via the prior approval route. Research undertaken to evidence the A4s found that almost all the office space in some former office locations and high streets had been lost. Many recently built properties, where development management had sought space in scale and proportion to nearby residential areas were particularly vulnerable – for example many mews office properties had been lost.
- 2.25 Our 2013 report was too early to take the scale of these losses into account. So this update report reviews the impact of the PDR changes on the office stock in the Borough.

Other PDR changes

- 2.26 Earlier this year the Government introduced a new change to allow storage or distribution buildings (B8) up to 500 sq m in size to change use to residential. This has had far less impact on the borough partly because there is very little B8 stock. But also the design and characteristics of B8 property does not lend its self to easy conversion. While much of the Borough's office stock was residential in character this does not apply to warehousing.
- 2.27 In the last few months only 2 prior approvals have been received.
- 2.28 However, the Government intend to introduce a further extension to PDRs from October 2017, allowing change of use from small (500 sq m) light industrial (B1c) to residential. This could be more significant for the Borough because this type of space may be more attractive and easy to convert.
- 2.29 The Borough has recently undertaken an assessment of its light industrial stock (June 2016) and this could help evidence new A4 directions should they be needed.
- 2.30 For this updated report, the evidence does not suggest that, unlike offices, the B8 warehousing position has shifted substantially because of new PDR. The *possible* loss of B1(c) light industrial space may be a concern. Especially because as mentioned in the introduction recent evidence suggests demand for more industrial space in the Council area as opposed to less. Also, learning from the office PDR changes the development industry was exceptionally quick to make their prior approval notifications and much floorspace was lost before the Borough could implement A4 directions.
- 2.31 However, for this work, we can only note this concern. It is a reason to be cautious about releasing industrial stock.

Regional

The London Plan

- 2.32 The 2013 study relied on a now superseded version of the London plan. The current version of the London Plan was adopted in March 2016.
- 2.33 The alterations introduced in 2015/16 largely focus on housing issues, and there are no substantive policy changes in respect of the economy, and the office and industrial policies that impact significantly on the Borough’s policy approach.
- 2.34 For industrial and warehousing land the 2012 Industrial Land SPG remains extant. The SPG informed the 2013 study and set out ‘benchmark’ release values for the Boroughs to apply through their plan making and development management policies. By only releasing the ‘benchmark’ quantum of land the industrial land market should balance. The benchmark release value of the Borough was only 4ha between 2011 and 2031.
- 2.35 Richmond was also placed in the “restricted transfer” policy grouping. This requires the Borough to adopt a harsh policy position to releasing sites. This was partly because there was so little stock, and what stock remained needed careful management.
- 2.36 For all economic uses the new London Plan presents updated job projections. These cover all land uses and all economic activities. So it covers offices, industrial but also ‘non B’ jobs such as retail.
- 2.37 These show a growing local economy in Richmond and strong demand for new jobs. The projections add 12,000 new jobs to the Borough.

Table 2.1 London Plan Employment projections 2011-2036

Adjusted triangulated projections	2011	2036	% growth 2011-2036	absolute growth 2011-2036
Richmond upon Thames	94,000	106,000	12.90%	12,000

Source: London Plan Table 1.1 Employment projections 2011-2036, based on a 2013 GLA Economics projection

- 2.38 This is a much faster rate of growth than was assumed in our 2013 report. The previous round of GLA projections were significantly lower for the Borough. Only 2,600 net additional jobs were expected by 2031.
- 2.39 This means that our 2013 study, even before we take into account permitted development losses from the office stock, assumed much weaker demand for jobs and floor space than now reflected in the most recent London Plan.

London Plan Review

- 2.40 The Mayor has now commenced the full review of the London Plan, with a draft consultation Plan programmed for Autumn 2017.

- 2.41 In standing for election earlier this year the Mayor promised to be the most pro-business Mayor of London, and the informal consultation visioning document recently released by the Mayor, 'A City for all Londoners' states that one of his aims is "to protect land used for employment across the city". In line with previous Mayors the visioning document indicates the priority will be the CAZ, but provision will be made for industrial activity across the city, and in viable strategic locations, including in Outer London the Mayor will *promote* office space.
- 2.42 In line with national guidance and current policy the Mayor recognises that industrial land for which there is no reasonable prospect of the site being used for employment, could be better used for housing. He also considers that potentially land could be used more efficiently by relocating industry elsewhere within the city without disrupting the economy, or through mixed use – housing and industrial use. The Mayor also recognises the great potential for tech and science hubs.

Employment Evidence

- 2.43 In preparation for the review the GLA have started to update the evidence base studies. Two are particularly relevant to this update – an update of the Industrial land baseline evidence and new employment projections.

Industrial Land Evidence

- 2.44 In 2015, the GLA updated the Industrial Land Baseline. This is evidence which shows the scale and distribution of the industrial land stock in London. The GLA compared this new baseline with older evidence to assess how well (or badly) the boroughs were implementing the benchmarks and controlling the loss of industrial sites.
- 2.45 The results showed that the boroughs had failed to manage the release of industrial land; releases far exceeded the benchmark values. Across London the rate of release was more than three times faster than the benchmark values. London should have been managing the flow of land release to 37 ha a year. But around 105ha had been released each year and, from looking at the future pipeline, this rate appeared to continue in the future.
- 2.46 Richmond was contributing to this rapid decline. The Borough's benchmark was only 4ha by 2031. But the report found that around 10ha had been released in only five years (2010-15).
- 2.47 The report concluded that this rate of release (for London) should be stemmed. But at the time of writing councils beyond London appeared to be accommodating activities displaced from London. So the effect on the London property market was not as severe as the rate of release may suggest.
- 2.48 But there is uncertainty over whether this can continue into the future. Also whether this approach, servicing London from beyond and displacing jobs out of the boroughs, is a sound planning approach. It increases travel times for workers and businesses with associated carbon and traffic/transport impacts. The emerging London Plan certainly suggests that the Mayor intends to retain a reservoir of sites within the GLA boundary.

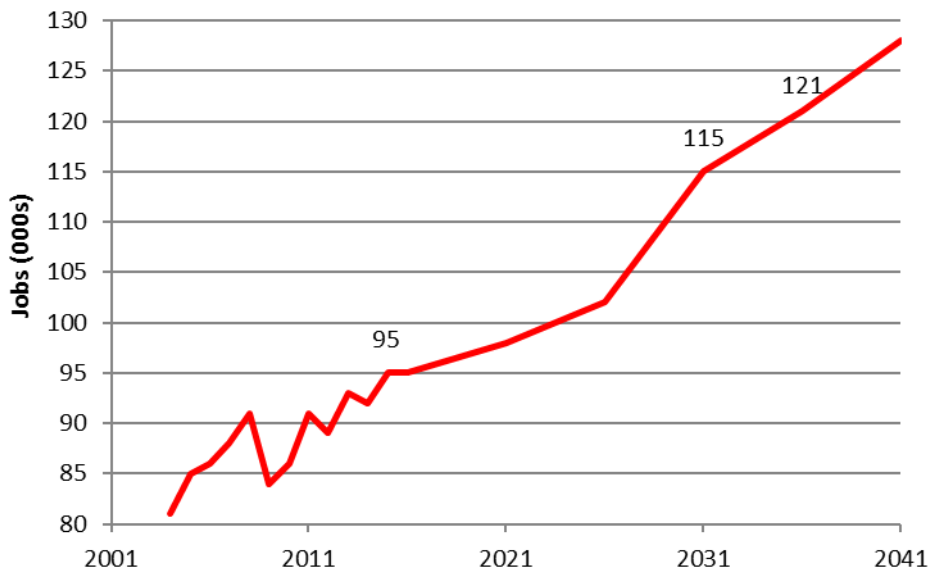
2.49 While the report does not provide borough-level advice the implications of this research are clear for Richmond. There is no suggestion in the emerging industrial land evidence that would warrant further releases of industrial land within the Borough.

New Forecasts

2.50 A second area of new evidence is the new GLA employment projections. These were released in June 2016 and set out employment projections at London and borough level for total jobs, and by sector for London as a whole.

2.51 For Richmond they, as with those informing the current London Plan, continue to suggest strong employment growth. But the new projections show even faster growth for Richmond. In these new projections total jobs growth is 30,000 between 2011-36 compared to 12,000, a substantial increase, and a much faster rate of growth compared to current London Plan projections. Much faster than the 2013 study was working towards – based on older GLA evidence.

Figure 2.1 GLA projected total employment growth - Richmond

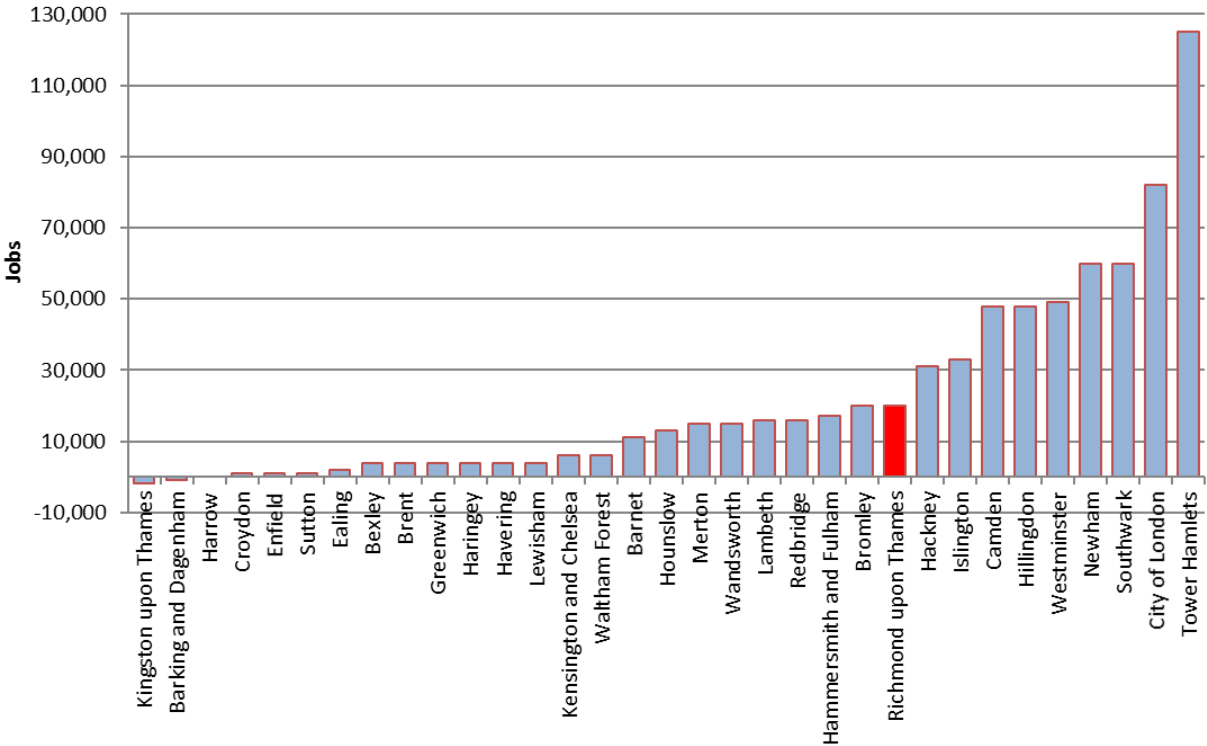


Source: GLA Economics, London labour market projections 2016

2.52 Part of the reason may be related to the age of the projections informing the 2013 report. These were 2009 based and may have been unduly influenced by the recession. There are also some method changes which may influence the data. But the message is clear that the GLA expects Richmond to generate a high level of demand for new jobs.

2.53 The chart below compares Richmond with the other London boroughs. Despite being one of the smallest boroughs, the GLA view is that it will be one of the fastest growing. Larger nearby boroughs, for example Hounslow, add fewer new jobs.

Figure 2.2 Job change 2015-2031



Source: GLA Economics, London labour market projections, June 2016

2.54 We look at this data in more detail later in this report when we update the Borough’s employment land demand estimates. But here it is worth noting that these employment projections assume Richmond (and other Boroughs) have the sites, development capacity and viability to meet these projections. Given Richmond is constrained, with very limited land or stock we would expect other nearby boroughs (and out of London Councils) to meet some of this demand. However, this does not absolve the Borough from seeking to meet as much of this demand as close to its source as possible. The high numbers for the Borough reflect the favourable sector structure and growth potential of LBRuT.

Summary

- 2.55 After looking at the changing strategic (GLA) policy and evidence there is no suggestion that Richmond should change its already adopted policy stance of seeking to retain employment land.
- 2.56 There is no scope in the SPG ‘Benchmarks’ to proactively release further sites.
- 2.57 The ‘direction of travel’ in the recent GLA projections suggests a need to house jobs growth. They suggest that the Borough needs to certainly retain its existing stock of employment land and seek additional land where possible.

- 2.58 Later in this report we test this further, accepting that the GLA projections are only one source of data and as published do not provide sufficient data for the Council to understand the employment land needs flowing from these headline job numbers.

Other Local Councils

- 2.59 Before concluding an updated review of policy we briefly look at neighbouring councils and others within the FEMA.
- 2.60 We do this because employment demand is reasonably footloose. It is often ignorant of administrative boundaries. Other Councils in the area *may* have a surplus of employment land or be adopting very positive growth strategies and supplying more land than their local need.
- 2.61 If this is the case, then this has important implications for Richmond. It may be able to work with neighbours to accommodate cross boundary unmet need for land in close proximity to the administrative boundary.

London Borough of Hammersmith and Fulham

- 2.62 Consultation on the submission draft of the Borough's Local Plan concluded in October 2016. 'Policy E2 - Land and Premises for Employment Uses' seeks to effectively manage the loss of employment floorspace in the Borough, a restrictive transfer Borough, while protecting valuable stock of employment land.
- 2.63 The Employment Study (2016) identified a potential supply of 349,304 sq.m of office space by 2036 against a projected demand of 383,454 sq.m over the same period indicating a modest shortfall in projected employment floorspace.

London Borough of Wandsworth

- 2.64 The Wandsworth Local Plan Review was adopted in March 2016. Policy PL6 'Meeting the needs of the local economy' identifies that the strategic reservoir of employment and waste land in the Borough will be located at Queenstown Road, Battersea Strategic Industrial Location (SIL) and Locally Significant Industrial Areas (LSIAs). Much of the Borough's job growth is expected to come forward in Battersea Nine Elms, much of which is part of the Central Activities Zone (CAZ).
- 2.65 The Council is currently undertaking a further review of its employment policies underpinned by an August 2016 Employment Land and Premises Study.
- 2.66 The study splits Wandsworth into two office markets – a local/ sub regional market and the Central Activities Zone (CAZ) anchored by the Vauxhall Nine Elms Battersea (VNEB) Opportunity Area.
- 2.67 The study projects demand of between 31,700 sq.m and 65,800 sq.m of additional office space to 2030 in the local/ sub-regional market. In the VNEB Opportunity Area, the study estimates a supply of 205,000 sq m of office space coming forward to 2030. The study projects a net requirement of industrial land of between -9.5 ha and 8.2 ha, and recommends 9.5 ha of industrial land can be released.
- 2.68 Thus, Wandsworth has surplus supply of both office and industrial land.

Royal Borough of Kingston upon Thames

- 2.69 The Kingston Core Strategy was adopted in April 2012. 'Policy CS11 – Economy and Employment' seeks to diversify the Borough's offer of employment floorspace.
- 2.70 The Kingston Economic Analysis Study (2014) establishes that the Borough has insufficient employment floorspace to meet future needs up to 2031, and that this justified its restrictive transfer designation, and the Council should continue to protect the Borough's stock of industrial land. Whilst demand for new office space in Kingston was described as 'subdued', PDR had constrained supply. Based on growth scenarios, the shortfall ranges from 16,740 sq m to 191,780 sq m of employment floorspace.
- 2.71 Kingston is able to supply opportunities for office development, but industrial land is heavily constrained.

London Borough of Hounslow

- 2.72 LB Hounslow adopted its Local Plan in September 2015. Policy ED2 – Maintaining the Borough's Employment Land Supply seeks to secure and consolidate the Borough's existing supply of employment land. The Local Plan Inspector identified the need for an early Plan review and specifically the need to identify the demand and supply of employment land. PBA prepared the Hounslow Employment Land Review study in 2016 to underpin the employment policies of the two AAPs that constitute the Plan review documents.
- 2.73 Hounslow has significant need for additional office and industrial floorspace that cannot currently be met from known supply, with Heathrow related warehousing demand being a major contributor to that need. The ELR report recommended that to balance supply to meet demand in full required the release of two or three parcels of Green Belt land.

Spelthorne Borough

- 2.74 Spelthorne's development plan currently comprises the 2009 Core Strategy, but a Plan review is underway,
- 2.75 The Borough's Local Land Assessment (2013) estimated a supply of 45,615 sq m of industrial floorspace and 23,152m of office floorspace. So far the Borough has not quantified demand for additional employment floorspace.
- 2.76 The Borough has undertaken a review of the functional economic market area, issuing a draft in Sept 2016 that identifies Runnymede, Elmbridge, Hounslow and Hillingdon as Spelthorne's FEMA partners.

Elmbridge Borough

- 2.77 Elmbridge adopted its Core Strategy in July 2011. Policy CS23 – 'Employment land provision' seeks to accommodate future economic growth in the Borough by protecting Strategic Employment Land and the retention of other employment sites.
- 2.78 The Borough's 2014 Commercial Property Market study projected that demand for additional employment floorspace in Elmbridge to 2026 was 30,000 to 40,000 sq.m

for office, a net surplus of 2,000 to 3,000 sq m of industrial floorspace and demand for 20,000 to 30,000 sq m of net additional warehousing. The study concludes that there is a need for new land allocations to meet this demand. However, evidence on supply is yet to be presented.

Conclusions

- 2.79 None of the relevant boroughs in close proximity to Richmond have a significant surplus of industrial land. Where demand is expected to be negative the Council is seeking to release that land for housing or another use; as opposed to considering whether there is a wider unmet need which could be accommodated in the stock.
- 2.80 Some, such as Hounslow, are looking to Green Belt release to meet future demand to sustain economic growth. This is because they have a recognised demand for industrial space flowing from Heathrow that cannot be accommodated in their existing stock. But again there is no suggestion, so far, that boroughs should look for additional land to accommodate demand from neighbouring boroughs.
- 2.81 The evidence for Spelthorne is unclear because it is so old. It was due to be updated but this does not appear to have happened.
- 2.82 For offices all Councils have lost space through permitted development rights. They all have positive demand for new office space. Only Wandsworth has a large 'paper' surplus. But this is because the Borough includes the strategic allocations at Vauxhall Nine Elms. It is possible that this large supply of space may help accommodate some of any neighbouring boroughs quantitative shortfall, but it is questionable whether the strategic allocations will meet the same qualitative need generated from Richmond. It is very unlikely that the strategic allocations will meet the same market demand as that displaced by the large PDR losses in Richmond for example.

3 QUANTITATIVE FLOORSPACE/LAND DEMAND

Introduction

- 3.1 The 2013 study looked at the need for employment floorspace in the short term, to 2018 and over the period 2011-31. As discussed above it was informed by the then current GLA employment projections which showed very low demand for jobs in Richmond.
- 3.2 This low job growth trajectory appears to be out of alignment with the more recent GLA evidence. Most obviously the job growth shown in the London Plan (Figure 2.2) is significantly higher than older GLA evidence suggested. Emerging evidence, from the most recent GLA projections identify even higher growth. Coupled with known PDR office losses and the much higher loss of industrial space than expected an update of the Borough's floorspace demand/need estimates is warranted.
- 3.3 This update study needs to provide an evidence base to underpin policy over the new Local Plan period 2018 - 2033. Our previous report ended in 2031 – so two years short of the current plan period.
- 3.4 We also take the opportunity to compare the GLA forecast with a second, independent source of future employment in the Borough. To do this we use Experian, one of the three main national forecasting houses. We also briefly look at past trends. This is because the PPG suggests the development plan can be informed by either economic forecasts or past trend analysis 'as appropriate'.
- 3.5 Before looking at new data it is useful to note the 2013 study projections for comparison purposes:
- estimated total employment growth for Richmond - 2,600 jobs over the 20 years 2011-31 from 89,300 to 91,900. A purely trend based projection would have led to a figure over four times higher, but site capacity and transportation limitations constrain the 'triangulated' projection.
 - The jobs growth was projected to be predominantly in office based activity – professional services, administration and information and communications, with decline in particular in manufacturing, wholesale and storage. For both the growth and declining sectors the projected change was more extreme than the London average. The London Office Policy Review (LOPR) forecast growth in office jobs of 4,500 over the 20 years between 2011-31 (or 225 jobs pa), which generated a floorspace requirement of 62,000 sq m or 3,000 sq m / pa.
 - Industrial land and employment were forecast to continue to decline. The study identified that the continued decline in land for industrial activities would largely be countered by a growing need for warehousing and waste facilities, resulting in an overall release figure of 1.8 ha between 2011-31. However, the Mayor's Industrial Land & Transport SPG went beyond this, identifying a release figure of 4 ha over the 2011-31 period, or 0.2 ha/pa.

- 3.6 The study pointed out that the projections are not binding targets for boroughs, but they do underpin the policies and objectives of the London Plan and help us understand where the broad structural trends are driving growth.
- 3.7 Employment floorspace need forecasts are provided separately for office (B1a) and industrial jobs (all other B class uses).

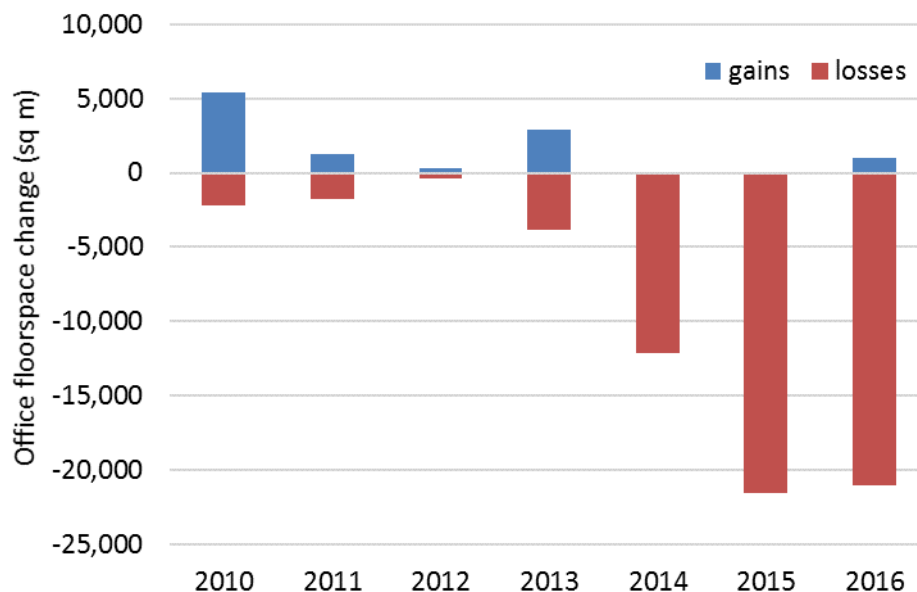
Past trends

- 3.8 Starting with past trends we have analysed the London Development Database (LDD) dataset for Richmond to review trends in floorspace change. We have utilised a data set extending back to 2010 to review past trends over a period stretching back a little before the 2013 ES&P report. Given that the PDR changes were introduced in 2013, it is informative to see the trend prior to as well as after 2013. Below we start with past trends for the office sector and then review industrial trends.

Office

- 3.9 The table below compares the gains and losses in office floorspace completions between 2010-16.

Figure 3.1 Richmond office floorspace – completions gains and losses



Source: LDD / PBA Nb 2016 is not full year.

- 3.10 Up until 2013 the gains and losses broadly counter-balanced one another, with the change being relatively modest, with average annual gain in 2010-13 400 sq m pa. However, the introduction of PDR in 2013 has clearly had a very dramatic impact on the office stock with gains virtually disappearing and the actual losses as a result of completed developments averaging 18,000 sq m over the 2014-16 period. Later on in this report we look at what further changes there are in the planning pipeline. The completions generally relate to permissions issued prior to November 2014 when the

A4D requiring planning permission for the office to residential change came into force.

Table 3.1 Richmond office floorspace – completions gains and losses – 2010-16

	Gains	Losses	Net change
Town centre	7,922	19,994	-12,072
Key Office Area	0	643	-643
Industrial Estate	0	856	-856
Area of Mixed Use	995	25,266	-24,271
Non-designated	2,039	16,088	-14,049
TOTAL	10,956	62,847	-51,891

Source: LDD / PBA Nb data for 2016 is not full year

Nb there is lots of overlap between the designations, and we have identified what we consider to be the main designation in each case to avoid double counting.

- 3.11 We have also analysed the geographical distribution of the completions in respect of the Council's draft Plan proposed area designations. The data shows that whilst there has been gains, mostly in the town centres and mostly prior to 2014, the town centres and areas of mixed use have taken the brunt of the losses. The losses in non-designated areas are spread right across the Borough. Encouragingly there has been very little loss in the areas identified for future designation as Key Office Areas.

Industrial

- 3.12 The Mayor of London's 2012 Land for Industry and Transport SPG identifies Richmond as a restrictive transfer borough, and set a benchmark rate for industrial land release, which in Richmond's case was a total 4 Ha release between 2011-31, an annual rate of 0.2 Ha.
- 3.13 A recent study for the Mayor of London calculates change against the benchmarks, and refers to a loss between 2010-15 of 8.8 Ha. However, other data in the same report, as extracted in Table 3.2 below suggests the actual release figure is 11.1 ha.

Table 3.2 – Richmond industrial land

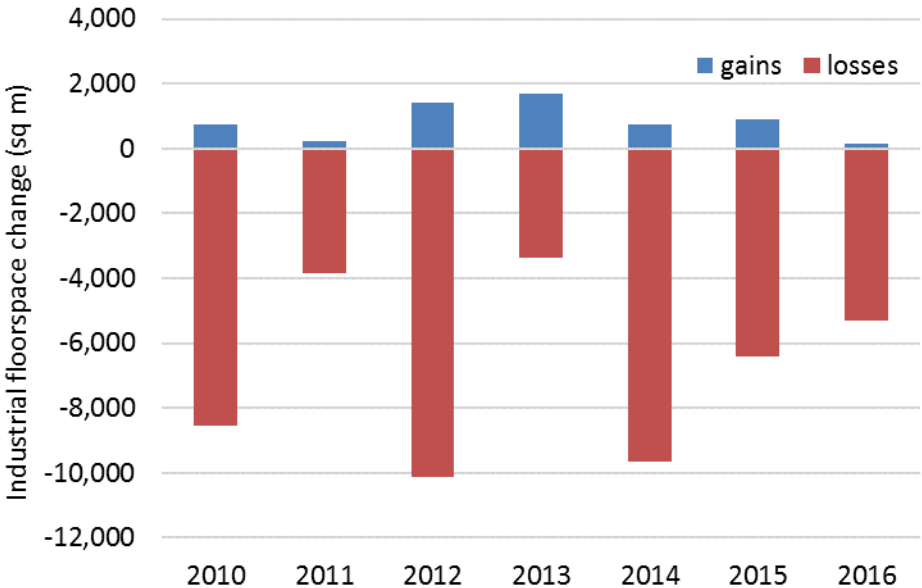
	Total industrial land (Ha)	Core industrial uses	Change in core over 5 year tranches absolute (Ha) & percent		Change in core over whole period absolute (Ha) & percent	
2006	48.0	36.3				
2010	48.3	36.5	-0.2	1%		
2015	38.4	25.4	11.1	-30%	10.9	-30%

Source: GLA, London Industrial Land Supply & Economy Study, 2015 (Aecom)

Nb total industrial land includes wider industrial uses such as utilities, waste and vacant land/premises.

- 3.14 Regardless of which figure is right, the data shows that in just the first five years of a 20-year period the Borough has lost at least double the land area suggested by the benchmarks. Clearly the benchmarks have not succeeded in their intention to restrict the release of industrial land in Richmond.
- 3.15 This position is not unusual; most boroughs have released land faster than was intended through the SPG. The rate of release across London has been so far ahead of the benchmarks that the conclusions of the 2015 GLA London Industrial Land Supply & Economy study are that serious consideration is now required about moving from a policy approach favouring release to one that favours retention.
- 3.16 The table below compares the gains and losses in industrial floorspace completions in the Borough between the years 2010 and 2016.

Figure 3.2 Richmond industrial floorspace – completions gains and losses



Source: LDD / PBA Nb 2016 is not full year.

- 3.17 Over this period the floorspace losses have out-numbered the gains by a factor of 8:1. The floorspace loss from completed developments in the 2010-15 period was 36,000 sq m, which at a standard 40% plot ratio for industrial and warehousing stock in outer London equates to an area of 9 ha.

Table 3.3 Richmond industrial floorspace – completions gains and losses – 2010-16

	Gains	Losses	Net change
Town centre	3,037	9,056	-6,019
Key Office Area	0	4,923	-4,923
Industrial Estate	0	0	0
Area of Mixed Use	2,190	8,351	-6,161
Non-designated	581	24,872	-24,291
TOTAL	5,808	47,202	-41,394

Source: LDD / PBA Nb data for 2016 is not full year.

- 3.18 The industrial estates have been remarkably resistant to loss over the period, and the losses have been concentrated in areas of the Borough beyond those identified for future employment related designations. This raises the question as to whether the designations should be widened. This is an issue we shall return to in the next stage of this work – the assessment of supply.

Conclusions

- 3.19 Planning for a continuation of past trends in the Borough does not appear sensible. Both office space and industrial space has contracted in recent years. The first largely a product of the PDR changes which should be stemmed to some extent by the new A4 designations. A continuation of the rate of industrial loss cannot mathematically continue over the Plan period. The stock of space would go negative.
- 3.20 What the analysis does show is that current policies and development management decisions may not be working as the evidence suggests they should. New office space is not being encouraged to replace lost space and industrial losses grossly exceed policy and evidence benchmarks. The past trends analysis supports the draft policy approach of area based policies seeking to designate and more firmly resist loss of employment uses.

GLA Employment projections

- 3.21 Turning to the first of the two forecast sources – the GLA projections.
- 3.22 GLA Economics' June 2016 publication '*London labour market projections*' provides long term borough level workforce projections set against estimates for the recent past, and the table below extracts the projections for Richmond. The GLA data comes annually to 2016, but in five-year tranches thereafter.

Table 3.4 GLA total employment projections, Richmond

Year	Richmond		London
	(000s)	Change	Change
2004	81	-	-
2005	85	4.9%	2.2%
2006	86	6.2%	3.3%
2007	88	8.6%	4.5%
2008	91	12.3%	7.6%
2009	84	3.7%	5.4%
2010	86	6.2%	5.2%
2011	91	12.3%	6.9%
2012	89	9.9%	11.3%
2013	93	14.8%	14.4%
2014	92	13.6%	19.0%
2015	95	17.3%	21.3%
2016	95	17.3%	22.2%
2021	98	21.0%	26.9%
2026	102	25.9%	31.9%
2031	115	42.0%	37.0%
2036	121	49.4%	42.3%
2041	128	58.0%	47.8%

Source: GLA Economics, London labour market projections, June 2016

- 3.23 We have added rate of change for both Richmond and London for comparative purposes. The data shows the dip in employment immediately after 2008, prior to which Richmond's rate of employment growth was twice that of the London average. The recessionary period hit Richmond harder than London as a whole and post-recession recovery has generally led to lower jobs growth in Richmond compared to London as a whole. Jobs growth in the short and mid-term are projected to be at a lower rate for Richmond compared with London as a whole, but in the longer term (2031 and beyond) the GLA project a return to higher rates of employment growth in Richmond.
- 3.24 The reason for the variation in the rate of change lies in the GLA projection method, which is largely trend based; projecting forward the past, but when preparing borough level projections demand is moved between boroughs giving weight to each borough's respective planning pipeline for new employment floor space. This pipeline is taken as a reasonable proxy for market demand. Where both developer and the planning pipeline are high, it is reasonable to assume that demand will be high in the future. So boroughs with the larger pipelines attract a greater share of the GLA's

projection of London's employment growth, and vice versa. Hence why Richmond with its tight supply pipeline, in the GLA's short to medium term view underperforms London as a whole.

- 3.25 As referred to above the mid-longer projections are provided as five-year data points. We estimate that the jobs projection for Richmond 2033 is approximately 117,000. This suggests that across all economic sectors the Borough needs to make provision for 22,000 net additional jobs between 2015 and 2033, an annual jobs growth rate of 1,200.
- 3.26 These GLA employment projections will inform the next London Plan, and as such are a relevant material consideration to inform borough-level planning. However, they have limitations; the new 2016 numbers are not sector specific at the borough level. Sector level data is provided and on an annual basis, but only at London-wide level. Table 3.5 extracts the data for 2015 and 2033.

Table 3.5 London total employment, and change by sector - 2015-2033

All jobs by sector	2015	2033	Change		
			Total	Per annum	Per cent
Primary & utilities	34,000	31,000	-3,000	-167	-9%
Manufacturing	128,000	89,000	-39,000	-2,167	-30%
Construction	298,000	345,000	47,000	2,611	16%
Wholesale	206,000	177,000	-29,000	-1,611	-14%
Retail	446,000	454,000	8,000	444	2%
Transportation and Storage	276,000	252,000	-24,000	-1,333	-9%
Accommodation and food service activities	365,000	429,000	64,000	3,556	18%
Information and Communication	426,000	537,000	111,000	6,167	26%
Financial and insurance activities	391,000	429,000	38,000	2,111	10%
Professional, Real Estate, Scientific and technical activities	877,000	1,157,000	280,000	15,556	32%
Administrative and support service activities	550,000	648,000	98,000	5,444	18%
Public Admin and defence	220,000	207,000	-13,000	-722	-6%
Education	423,000	527,000	104,000	5,778	25%
Health	545,000	645,000	100,000	5,556	18%
Arts, entertainment and recreation	201,000	248,000	47,000	2,611	23%
Other services	150,000	171,000	21,000	1,167	14%
London total	5,536,000	6,346,000	810,000	45,000	15%

Source: GLA Economics, London labour market projections, June 2016

- 3.27 The 810,000 additional jobs over the 2015/33 period equates to a 15% growth rate, which is a slower rate of total jobs growth than that projected by the GLA for Richmond (22%). In the table we have highlighted the sectors that include B-class activities. The pattern is an overall reduction in industrial jobs (the sectors in the top

half of the table), where growth in construction related jobs is more than matched by losses in manufacturing, wholesale and transportation. In the largely office based sectors, the professional, real estate, scientific/technical activities are the biggest growth area by some margin. Later in the report we compare these GLA London-wide sector jobs growth projections with Experian's job category forecasts for Richmond.

Office Jobs

- 3.28 Office employment projections in London are prepared through the London Office Policy Review (LOPR) series. This has not yet been updated to reflect the new 2016 GLA projections. As noted above the recent projections are higher than older GLA evidence. But LOPR was updated in 2014 – after our previous report.

Table 3.6 Office jobs projections – Richmond

	2011	2036	Change 2011-36	
LOPR 12	27,154	33,767	6,613	24%
	Change pa		265	1.0%
LOPR 14	27,000	38,000	10,000	37%
	Change pa		400	1.5%

Source: LOPR 2012 & 2014

- 3.29 The 2013 ES&P report drew on the 2012 LOPR, which projected substantially lower rates of employment growth, half the level achieved in the preceding two decades.
- 3.30 The LOPR 2014 projections reflected an improving economy, a third higher than LOPR 2012. LOPR 2014 projected an increase to 2036 of 10,000 office jobs, averaging at 400 jobs pa.
- 3.31 The current London Plan total employment projections (refer to Table 2.1 above) were based on 2013 data, and a footnote to the data in the London Plan (Table 1.1) refers to the improving economy...

London's employment has since risen from a low point of 4.8 million in the last quarter of 2009 to 5.5 million in the first quarter of 2014 (source: Workforce Jobs, ONS). More recent independent projections (Cambridge Econometrics, 2013; Oxford Economic Forecasting, 2014; Experian Business Strategies, 2014; and UK Commission for Employment and Skills, 2014) suggest higher levels of near term employment and employment growth than that indicated in Table 1.1. However, methodological considerations suggest that for a long term strategic plan it is sound to draw on the projections set out in Table 1.1.

- 3.32 Thus, we might expect higher growth than projected in the London Plan and more office space than we previously expected in the Borough. While we don't know the sector split for the new 2016 GLA projections it is reasonable to assume, because

they are higher overall, that the office estimates may also increase above even that shown in the 2014 LOPR.

- 3.33 There is little merit in considering the GLA industrial demand evidence here. This is because they are especially 'broken' since as shown in the updated GLA baseline work, far too much land has been lost in both Richmond and widely across London.

Experian forecasts

- 3.34 As noted above the GLA projects nearly 22,000 net additional jobs in the Borough over the plan period. Many more than we assumed in our 2013 report using older GLA data.
- 3.35 The GLA has not yet provided a sector breakdown compatible with this number. The last office breakdown suggested land / space was needed for 10,000 new office jobs. Given the industrial benchmarks have been exceeded the demand / need for industrial space will have gone positive.
- 3.36 Experian provide a full economic forecast broken down by detailed sector. We can use this to estimate the demand for industrial, warehouse and office jobs.
- 3.37 First, we look at all jobs shown in the model over the Plan period.

All jobs

- 3.38 Below we set out Experian's forecast for all jobs for the Plan years.

Table 3.7 Richmond total jobs, and change by category – 2015-33

All workforce jobs by category	2015	2033	Total	Change	
				Per annum	Per cent
Accommodation & Food Services	6,900	9,000	2,100	117	30%
Administrative & Supportive Service Activities	6,400	6,800	400	22	6%
Agriculture Forestry & Fishing					
Air & Water Transport					
Chemicals					
Civil Engineering					
Computer & Electronic Products					
Computing & Information Services	5,300	5,500	200	11	4%
Construction of Buildings	2,000	2,400	400	22	20%
Education	10,200	12,800	2,600	144	25%
Extraction & Mining					
Finance	1,500	1,500			
Food, Drink & Tobacco	500	400	-100	-6	-20%
Fuel Refining					
Health	2,700	3,300	600	33	22%
Insurance & Pensions					
Land Transport, Storage & Post	2,500	2,800	300	17	12%
Machinery & Equipment					
Media Activities	2,500	2,800	300	17	12%
Metal products					
Other Manufacturing	300	300			
Other Private Services	3,200	3,200			
Pharmaceuticals					
Printing and Reproduction of Recorded Media					
Professional services	15,200	16,900	1,700	94	11%
Public Administration & Defence	1,900	1,700	-200	-11	-11%
Real Estate	2,400	3,300	900	50	38%
Recreation	7,300	8,600	1,300	72	18%
Residential Care & Social Work	4,700	6,300	1,600	89	34%
Retail	8,100	8,600	500	28	6%
Rubber, Plastic and Other Non-Metallic Mineral Products	500	400	-100	-6	-20%
Specialised Construction Activities	3,200	4,000	800	44	25%
Telecoms	200	200			
Textiles & Clothing					
Utilities	500	500			
Wholesale	2,700	2,700			
Wood & Paper					
TOTALS	90,700	104,000	13,300	739	15%

Source: Experian Sept 2016

- 3.39 Experian forecast lower total job growth for Richmond between 2015-33 compared to the GLA; only 13,300 net additional jobs (15% growth) compared to the GLA's 22,000 (22% growth).
- 3.40 A direct like-for-like comparison between the Experian and GLA views on the change in jobs is not possible as the GLA data is sector level, while the Experian forecasts are job categories. However, both views estimate strong growth in construction related jobs, but Experian forecast growth in transport and storage, albeit not in

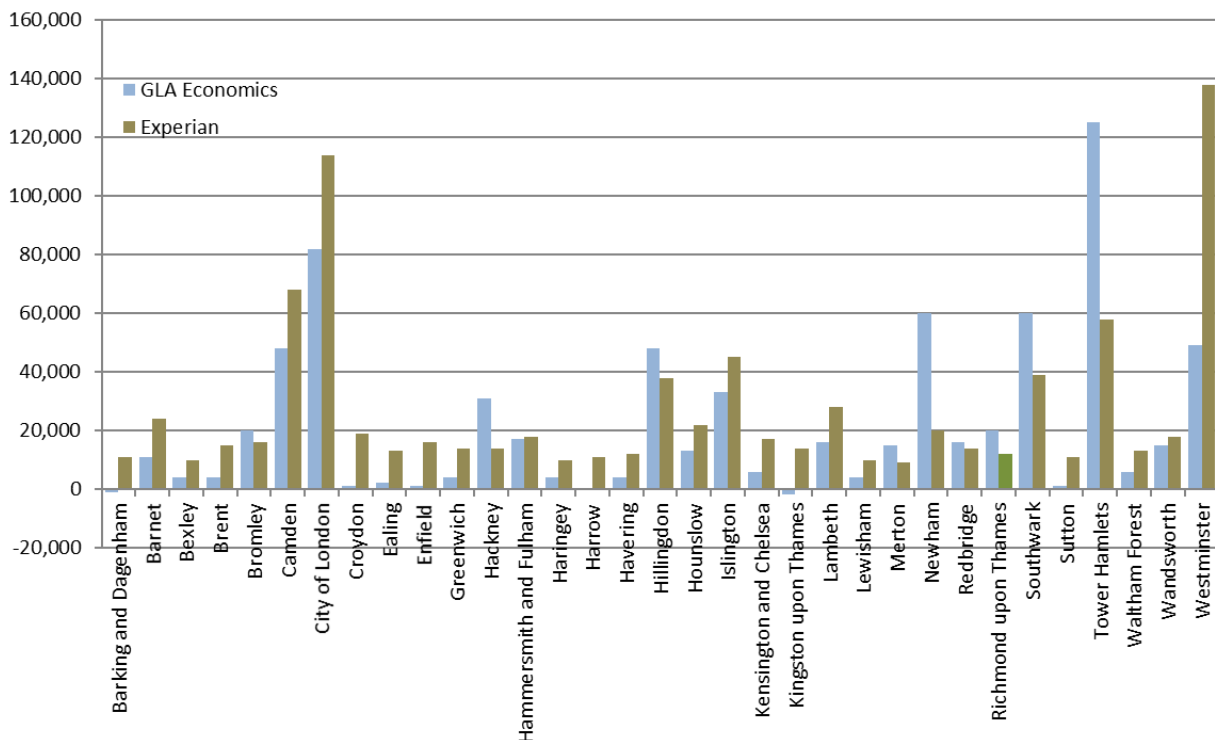
wholesale. Overall Experian forecast a very modest growth in industrial activity related jobs, which compares to the GLA projection of a continuation of the London-wide decline in industrial jobs.

- 3.41 Experian’s forecast, compared to the GLA’s, is for more modest growth in the largest generator of demand for offices in Richmond – the professional services (11% growth) compared to the GLA’s London-wide projection (32%), but strong growth in real estate (38%). Overall the GLA projects stronger growth in office related activity than is forecast by Experian.

Total jobs comparison – GLA and Experian

- 3.42 The GLA projection for total jobs growth in London between 2015 – 31 is 715,000 which is lower than Experian’s 890,000 forecast. Whilst the two overall figures are of broadly the same order, the distribution across the boroughs is very different as shown in the figure below. The GLA projections factor in capacity and trend, and consequently boroughs such as Newham and Tower Hamlets have much higher projected growth. In comparison Experian’s view is trend and sector based and has a much more even distribution across boroughs with the exception of the City and Westminster, which receive much the highest jobs forecast.

Figure 3.3 Total jobs change 2015-31



Offices

- 3.43 As is common in ELRs we estimate job demand by sector by attributing each of the employment sectors to a land use. The way we do this is shown in detail in APPENDIX A.

- 3.44 The results of our *jobs sectors to land use category* mapping is set out in the table below. Table 3.8 includes the same jobs categories as Table 3.7 above, identifying those categories with forecast office related jobs growth. A comparison between the tables shows how the jobs growth in some categories is forecast to be only partly in office space, for example 13 of the 22 jobs for Admin Support are forecast to be office related with the remainder being in use classes other than B1a.
- 3.45 The bulk of the growth is anticipated to be in professional services and real estate. Experian forecast just over 3,000 additional jobs over the Plan period. So considerably less than suggested by LOPR (2014), and the largest likely source of the gap between the large GLA derived total job number (22,000) and the lower Experian derived number (13,000).
- 3.46 Compared to the stock of office jobs, which using the same method we estimate at around 32,000 in 2015, this represents a 10% increase in jobs. Given the huge uncertainty in any forecast this should be interpreted with some caution; the direction of travel of office jobs is certainly positive in the Experian model but 10% over 20 years is reasonably modest. Providing the loss of space is halted, with any PDR or other losses replaced the indication is that the market may balance.
- 3.47 We calculate this in more detail later in this chapter – because we know there is already a large permitted pipeline which must be taken into account.

Table 3.8 Office jobs and change by category, Richmond – 2015-33

Office jobs by category	2015	2033	Change		
			Total	Per annum	Per cent
Accommodation & Food Services					
Administrative & Supportive Service Activities	3,883	4,126	243	13	4%
Agriculture Forestry & Fishing					
Air & Water Transport					
Chemicals					
Civil Engineering					
Computer & Electronic Products					
Computing & Information Services	5,300	5,500	200	11	4%
Construction of Buildings					
Education					
Extraction & Mining					
Finance	1,500	1,500			
Food, Drink & Tobacco					
Fuel Refining					
Health					
Insurance & Pensions					
Land Transport, Storage & Post					
Machinery & Equipment					
Media Activities	2,416	2,706	290	16	12%
Metal products					
Other Manufacturing					
Other Private Services	895	895			
Pharmaceuticals					
Printing and Reproduction of Recorded Media					
Professional services	14,498	16,119	1,621	90	11%
Public Administration & Defence	1,011	904	-106	-6	-6%
Real Estate	2,400	3,300	900	50	38%
Recreation					
Residential Care & Social Work					
Retail					
Rubber, Plastic and Other Non-Metallic Mineral Products					
Specialised Construction Activities					
Telecoms					
Textiles & Clothing					
Utilities					
Wholesale					
Wood & Paper					
TOTAL	31,902	35,050	3,148	175	10%

Source: Experian Sept 2016

Industrial and Warehousing

- 3.48 Adopting the same method for the industrial sectors shows positive demand for industrial jobs.
- 3.49 The positive job growth is not large, averaging an additional 38 jobs pa, equal to a 5% share of the total jobs growth in the Borough to 2033. As with office growth given the

stock of jobs (approx. 8,100 in 2015) this is also largely insignificant. But this headline number contrasts with the historic assumption that industrial employment in London is declining and the boroughs need less land than today.

- 3.50 Unlike the GLA evidence we can use Experian to better understand exactly which sectors drive this positive demand in Richmond. The data shows that traditional manufacturing decline very slightly. But these losses are replaced, and the sector grows as a whole, because key construction sectors grow along with land for transport.
- 3.51 As a sense check these growing sectors are often associated with a growing population and associated construction activities. Given the expected population increase, and associated construction, positive growth is sensible in these sectors. Also, as the table below shows there is now very little traditional manufacturing remaining in the Borough. So the scale of industrial loss seen in the past simply cannot mathematically continue into the future.
- 3.52 The sector split we use may underestimate the true demand for this because some construction related activity may be classed as retail and many industrial occupiers are sui generis uses. So for example, as the population of the Borough grows it is not unreasonable to expect that the demand for car showrooms, (retail) plumbers' merchants and timber yards increases.

Table 3.9 Industrial jobs and change by category, Richmond – 2015-33

Industrial jobs by category	2015	2033	Total	Change	
				Per annum	Per cent
Accommodation & Food Services					
Administrative & Supportive Service Activities	126	134	8	0	0%
Agriculture Forestry & Fishing					
Air & Water Transport					
Chemicals					
Civil Engineering					
Computer & Electronic Products					
Computing & Information Services					
Construction of Buildings					
Education					
Extraction & Mining					
Finance					
Food, Drink & Tobacco	500	400	-100	-6	-20%
Fuel Refining					
Health					
Insurance & Pensions					
Land Transport, Storage & Post	690	772	83	5	3%
Machinery & Equipment					
Media Activities					
Metal products					
Other Manufacturing	300	300			
Other Private Services	136	136			
Pharmaceuticals					
Printing and Reproduction of Recorded Media					
Professional services					
Public Administration & Defence					
Real Estate					
Recreation					
Residential Care & Social Work					
Retail					
Rubber, Plastic and Other Non-Metallic Mineral Products	500	400	-100	-6	-20%
Specialised Construction Activities	3,175	3,969	794	44	25%
Telecoms					
Textiles & Clothing					
Utilities	355	355			
Wholesale	2,365	2,365			
Wood & Paper					
TOTAL	8,147	8,831	684	38	8%

Source: Experian Sept 2016

Converting change in job numbers to a floorspace requirement

- 3.53 Because the job forecasts have changed we here update the associated land and floorspace demand estimates. We do this for Experian where we have the detailed sector data.

Offices

- 3.54 To calculate the amount of office floorspace required to meet the Experian forecast growth in jobs (this is the net demand resulting from jobs change, before considering gains/losses in existing supply) we apply an average office worker to floorspace density factor to the job forecasts. As set out in the table below we calculate the floorspace need annually, over five year tranches and over the whole term of the Plan period (by 2033).

Table 3.10 Office jobs to floorspace – Richmond

	Per annum	by 2020	by 2025	by 2030	by 2033
Jobs ¹	175	874	1,749	2,623	3,148
Sq m per job ²	11.3	11.3	11.3	11.3	11.3
Floorspace need (GIA), sq m³	2,134	10,670	21,341	32,011	38,414

footnote: 1 source: Experian Sept 2016

footnote: 2 source: LOPR 2014

footnote: 3 product of jobs * sq m, includes 8% addition for vacancy

- 3.55 The annual net floorspace need figure is very close to the amount of office floorspace delivered on average over the 2010/13 period, immediately prior to the PDR change.

Factoring in the planning pipeline

- 3.56 In addition to the net change in demand resulting from population growth and employment change, we must also factor in sites that are in the planning pipeline and site allocations that have potential for employment use in the future.
- 3.57 We have analysed the LDD planning pipeline data to identify the quantum of floorspace coming forward.

Table 3.11 Richmond office floorspace – pipeline gains and losses

	Gains	Losses	Net change
Town centre	0	9,202	-9,202
Key Office Area	0	5,531	-5,531
Industrial Estate	0	155	-155
Area of Mixed Use	0	8,710	-8,710
Non-designated	642	17,745	-17,103
TOTAL	642	41,343	-40,701

Source: LDD / PBA

- 3.58 The losses in the current planning pipeline comfortably exceed the growth in office floorspace generated by change in the economy and population growth over the next 18 years. Such a scale of loss is unprecedented, and is spread across the Borough, affecting all areas, those proposed for designation and other areas alike.
- 3.59 PDR permissions decided prior to the introduction of the Article 4 Direction in November 2014 account for the vast majority of the committed losses identified.
- 3.60 The Core Strategy does not allocate any sites for employment use, but the Pre-publication draft Local Plan does identify potential future allocations, and some of these sites will be capable of supporting employment uses, but until we undertake the site assessment work we cannot be clear if these sites are capable of employment use, alone or as part of a mix of uses. Therefore, at this stage we do not factor into the demand supply balance equation any allowance for gains and losses from the potential site allocations. We can return to this after the site assessment work. However, there is little prospect of identifying sites that can go very far towards balancing Richmond's demand for employment space.

Supply and market balance

- 3.61 The table below sets out the balance between demand and supply of office space accounting for the gains and losses from planning applications and site allocations referred to above. It also includes the completion changes in 2015/16 as these changes will not have been anticipated in the Experian jobs forecasts for 2015 onwards.

Table 3.12 Office demand and supply – Richmond – to 2033

DEMAND	Sq m GIA
Demand (net change)	38,414
Completed losses - 2015/16	42,541
Committed losses (sites started and with extant permissions for other uses)	41,343
Gross demand	122,298
SUPPLY	
Completed gains - 2015/16	1,009
Outstanding permissions	642
Outstanding allocations (no net increase anticipated from allocations without PP)	0
Committed gross supply	1,651
FORECAST MARKET BALANCE - 2015-2033	
Over (or under) supply	-120,647

Source: PBA

- 3.62 The demand-supply balance after factoring in 2015/16 completions and pipeline losses, and the very meagre gains identifies a need for 120,000 sq m of office space. The table indicates that over two-thirds of this space is required to make good the PDR losses that have been incurred and are forecast to continue to take place as a result of PDR approvals already in the planning pipeline.

Comparison with 2013 report

- 3.63 The above assessment of the latest data shows that the need for additional office floorspace is almost double the 62,300 sq m forecast in the 2013 study. The policy implications of this much higher need figure are to further back up the approach to resist the loss of office floorspace through strong policy retaining office in the town centres and key office areas.

Industrial

- 3.64 To calculate the floorspace required to meet the forecast growth in industrial jobs we apply an average job density for industrial uses (worker to floorspace ratio) to the forecast change in job numbers. We present this in the table below annually, in five year tranches and over the whole Plan period (by 2033).

Table 3.13 Industrial jobs to floorspace

	Per annum	by 2020	by 2025	by 2030	by 2033
Jobs ¹	38	190	380	570	684
Sq m per job (GIA) ²	44.0	44.0	44.0	44.0	44.0
Floorspace need (GIA), sq m ³	1,807	9,034	18,067	27,101	32,521

footnote: 1 source: Experian Sept 2016

footnote: 2 source: Greater London Authority, Industrial Land Demand and Release Benchmarks in London, Dec 2011, Table 4.10 pg51

footnote: 3 product of jobs * sq m, includes 8% addition for vacancy

- 3.65 Whilst the change in industrial jobs is very modest in absolute number terms, these jobs have a much lower space density compared with office jobs. The GLA currently use an average for all industrial uses of 44 sq m per worker. Thus in terms of space requirement the net floorspace change figure is not far short of that required for new office jobs.
- 3.66 This positive, albeit modest requirement is in contrast to the past when restrictive transfer meant the Borough's industrial land was eroded, and it is clear that if the Borough is to maintain an industrial base to continue to serve local businesses and residents there is a need to avoid further releases of industrial land. In league with many parts of London there is a need for a policy shift from an emphasis on release to one of restraint.

Factoring in the planning pipeline

- 3.67 The above calculation identifies the net demand that needs to be supplemented by an analysis of the committed pipeline of industrial losses (and gains). As for office need this is achieved through use of LDD data.

Table 3.14 Richmond industrial floorspace – pipeline gains and losses

	Gains	Losses	Net change
Town centre	1,095	7,102	-6,007
Key Office Area	1,248	0	1,248
Industrial Estate	0	230	-230
Area of Mixed Use	731	4,902	-4,171
Non-designated	4,347	29,452	-25,105
TOTAL	7,421	41,686	-34,265

Source: LDD / PBA

- 3.68 The balance of committed losses in the planning pipeline remain at a high with broadly the same quantum of industrial floorspace with planning permission for

change/redevelopment to other uses, as that lost through redevelopment in the past five years.

Supply and market balance

- 3.69 The table below sets out the balance between demand and supply for industrial space accounting for recent completions (2015/16), the gains and losses from planning applications and site allocations referred to above.

Table 3.15 Industrial demand and supply – Richmond – to 2033

DEMAND	Sq m GIA
Demand (net change)	32,521
Completed losses - 2015/16	11,718
Committed losses (sites started and with extant permissions for other uses)	41,686
Gross demand	85,925
SUPPLY	
Completed gains - 2015/16	1,025
Outstanding permissions	7,421
Outstanding allocations	0
Committed gross supply	7,421
FORECAST MARKET BALANCE - 2015-2033	
Over (or under) supply	-78,504

Source: PBA & Experian Sept 2016

- 3.70 The demand supply balance identifies a need for just under 80,000 sq m of industrial floorspace with future pipeline losses accounting for half this total. Applying an average plot ratio of 40% the floorspace need figure equates to a land requirement of 20 ha.
- 3.71 Given the rate of losses in Richmond in recent years and the high price of land in the Borough, it is unrealistic to assume that the market can be brought back into balance – even after consideration of the proposed site allocations there is no ready supply of land to replace the pipeline losses.

Conclusion

- 3.72 We have looked at the GLA and Experian economic forecasts for Richmond and more widely for the whole of London. There are differences between the two sets of data in terms of the quantum of jobs and where within London the growth is distributed. The GLA projections are not available for employment sectors at borough

level, and so we forecast jobs and floorspace growth for Richmond using Experian data. The forecasts take recent development and planning pipeline gains and losses into account.

- 3.73 Net change for office floorspace in Richmond over the Plan period is estimated to be 38,000 sq m, but the losses resulting from PDR's either implemented or given prior approval more than double the need, adding 84,000 sq m. Thus for office, after accounting for a very minor addition in the pipeline, the demand forecast is 120,000 sq m, which is double the need figure forecast in the 2013 study – a slower rate of growth, but likely to be more realistic
- 3.74 Experian forecast modest growth in industrial jobs over the Plan period, driven by the construction jobs sectors, which more than make up for losses in other industrial sectors. Net change provides a need for 33,000 sq m, which after gains and losses in the planning pipeline are considered more than doubles to a demand for 79,000 sq m.

Conclusions

- 3.75 Guided by the PPG we have assessed both past trends and economic forecasts as means of informing the estimates of future jobs and floorspace growth.
- 3.76 Planning on the basis of continuation of past trends in the Borough is not appropriate because of the heavy losses experienced in recent years for both office and industrial space. Current policies are not retaining employment space, and the past trends analysis supports the draft policy approach of area based policies seeking to designate and firmly resist loss of employment uses.
- 3.77 We have based the forecasts of future demand for employment floorspace on data provided by Experian, one of the foremost economic forecasting houses. Our estimates of demand combine the net demand that is the product of population and economic change, and changes in the planning pipeline as recorded in the LDD. The office demand figure for the Plan period reaches 120,000 sq m by 2033, but two-thirds of this demand is short term needed to replace floorspace lost to PDR. Demand for industrial floorspace is lower at 79,000 sq m, but is also fuelled by heavy recent losses.
- 3.78 The floorspace requirements for both office and industrial are rather different compared to the 2013 study. The office requirement has doubled and the industrial has switched from release to a requirement for new space, again through a need to stem the heavy losses incurred in recent years, but also because of strong growth forecast for the construction sectors.

4 CONCLUSIONS

- 4.1 Earlier this year Richmond embarked on the preparation of a new Local Plan that will replace the 2009 Core Strategy and the 2011 Development Management Plan, and subsume the intention to prepare a separate Site Allocations document.
- 4.2 In response to heavy recent losses of both office and industrial space and land, and the need to support residents and the local economy through the availability of land and premises for employment uses, the Plan proposes to strengthen the overall approach towards retaining and encouraging new employment space/land, and to introduce separate policies for offices and industrial land and business parks.
- 4.3 A pre- publication draft Plan was consulted upon during summer 2016, raising concerns that the draft polices are not founded on up-to-date evidence.
- 4.4 The proposed new office policy (LP41) strengthens the retention of office floorspace and introduces a Key Office Area (KOA) designation that it is intended will apply to all the areas currently included within the A4Ds.
- 4.5 Redevelopment of office space in the Borough outside of the KOAs will only be permitted where a lack of demand is clearly demonstrated, and then alternative employment uses need to be contemplated before any non-employment use can be considered. The importance of low cost office space, often in town centres above shops is also identified for protection. The bar is set higher for redevelopment in the KOAs where proposals will need to include a net increase in office floorspace. New office space is encouraged particularly in the town centres, and the provision of new smaller scale to meet local business needs is encouraged particularly in the KOAs. A quota of affordable office space is required for schemes exceeding 1,000 sq m.
- 4.6 The policy change is evidenced by the impact of PDR on offices in Richmond, and by the 2013 ES&P study that identified the need to increase office provision in the Borough to meet a 62,000 sq m requirement. This update study substantially reinforces that view. It shows that demand for office floorspace has grown since the 2013 report, both in terms of the net demand as a result of the improved economic outlook, but also because of the effect of the PDR changes that have been far worse than could have been anticipated in 2013. Office demand over the Plan period is now double what it was in 2013 – 120,000 sq m, albeit the 2013 report looked to 2031 rather than 2033. Since 2013, 55,000 sq m of office space has changed use to non-office uses, mostly residential through PDR. Therefore, with demand growing and supply tightening, clearly the Council's policy approach of strong protection and encouragement of new office space is justified and indeed is an absolute requirement if the Borough is to continue to offer local employment to residents and opportunity to businesses.
- 4.7 We point out that a high proportion of the office losses to PDR have been in areas outside the areas covered by A4D (the intended Key Office Areas) and tend to be the small more affordable units that the Council seeks to protect and encourage, and that

- policy should be strictly applied in these non-designated areas if they are to remain and offer employment opportunity to residents.
- 4.8 The second phase of this commission will include a review of the fitness for purpose of the areas identified for designation as Key Office Areas.
- 4.9 The draft new policy for industrial land and business parks (LP42) strengthens the protection of key industrial land, and as is the case for office space is driven by the gap between the demand for industrial premises in the Borough and the lack of available supply. Richmond is a restrictive transfer borough, and has very little industrial floorspace, indeed one of the smallest reservoirs of space in London. The positive demand was not evident in 2013 when the strategic policy encouraged the managed transfer of land out of industrial use. However, the benchmark approach clearly has not worked, as from a 2010 position of low supply Richmond has lost approximately a third of its reservoir in just five years, and now has just 25 Ha of industrial land. Whilst the strategic policy approach has not changed, albeit it may do through the preparation of the new London Plan, in the interests of a sustainable local economy it is clearly time for a more stringent local policy interpretation of what 'restrictive transfer' means.
- 4.10 The draft policy recognises the importance of the remaining reservoir of industrial land for meeting local business and resident employment and services' needs. The policy sets out a general presumption against loss of industrial land across the Borough (outside of the areas to be designated 'industrial land and business parks'). Redevelopment of industrial land will need to demonstrate that the existing use is no longer viable and that a sequential approach to assessing alternative uses (starting with other employment uses) has been followed. In the 'Locally important industrial land and business parks' redevelopment will only be permitted where full on-site replacement is provided, and the introduction of non-employment uses will be resisted where these would have an adverse impact. The provision of new and expanded industrial space in the Borough is encouraged, particularly for local businesses.
- 4.11 Whereas the 2013 study followed the GLAs benchmark release approach, which are clearly broken, this update study has looked at the economic forecasts and considered the change in the type of industrial uses that the forecasts signal – from forms of manufacturing towards construction services. Construction services provide a service to local businesses and residents, and are growing fast and have space requirements.
- 4.12 This update study has shown that a sector analysis using forecast employment data supports the view that release, restricted or otherwise is no longer the appropriate policy response, and what industrial land is left in Richmond needs to be retained and new land identified to provide premises for the modest growth in employment floorspace identified in the forecasts. Accommodating even the modest growth in industrial floorspace is rarely possible from existing stock because industrial uses are much less amenable to raising densities (employee/sq m) when compared to office

floorspace where densities continue to improve and floorspace can be stacked on multiple levels.

- 4.13 To provide the encouragement for future provision of new industrial space referred to in policy, the Plan should allocate land for industrial uses, either single use or as part of a mix of uses on sites that are in the right location and capable of supporting industrial uses.
- 4.14 Finally; in drawing our sector conclusions, including land and floor space, we have relied on Experian which shows lower total job growth than the recent GLA projections. This is because Experian, unlike the GLA, provide sector level forecasts at the Borough level. Over time we expect the GLA to update more of its sector level data. For example, we may expect updated Industrial Benchmarks evidence and also a new London Office Policy Review (LOPR) to be released. When they are they may be relevant to the Borough's industrial and office policies.

APPENDIX A JOB CATEGORY TO LAND USE MAPPING

SECTOR TO LAND USE

1. Economic statistics and forecasts tell us nothing directly about employment space, because they do not classify jobs according to the type of space they occupy. Rather, the statistics split jobs into economic sectors (industries and services), according to the Standard Industrial Classification (SIC). To estimate how many jobs will be based in offices and industrial space, and how many in 'non-B' spaces such as retail premises, schools and hospitals, we need to translate sectors into land uses.
2. As the starting point for this translation we recommend a method developed by Roger Tym & Partners (now PBA) over a series of employment land reviews and tested in a large-scale study of the Yorkshire and Humber region in 2010³. To our knowledge there is no other published empirical research on the relationship between activity sectors and land uses.
3. The tables below show the sectors that are classified to industrial space and offices respectively. The names and numbers that identify each activity sector are from the UK Standard Classification of Economic Activities 2007 (SIC 2007)⁴.

³ Roger Tym & Partners with King Sturge for Yorkshire Forward, Planning for Employment Land: Translating Jobs into Land, March 2010

⁴ <http://www.businessballs.com/freespecialresources/SIC-2007-explanation.pdf>

Table A1 Industrial sectors

Manufacturing		
Manufacturing and repairs	10-33	All manufacturing
	95.00	Repair of computers and personal and household goods
Other industrial		
Construction	43.2	Electrical, plumbing and other construction installation activities
	43.3	Building completion and finishing
	43.9	Other specialised construction activities not elsewhere specified (nec)
Motor vehicle activities	45.2	Maintenance and repair of motor vehicles
	45.4	Sale, maintenance and repair of motor cycles and related parts and accessories
Sewage and refuse disposal	37	Sewage
	38	Waste collection, treatment and disposal activities
Employment activities (part)	78	
Warehousing		
Wholesale trade except of motor vehicles and motorcycles	46	
Freight transport by road	49.41	
Removal services	49.42	
Storage and warehousing	52.10	
Other supporting land transport activities	52.21	
Cargo handling	52.24	
Post and courier activities	53.00	
Packaging activities	82.92	
Employment activities (part)	78	

Note

SIC 78, Employment Activities, covers workers employed through agencies in all activity sectors. They should be redistributed across the whole economy, both to B-class sectors and other sectors, in proportion to each sector's share of total employment.

Table A2 Office sectors

Office sectors		
Publishing	58	Motion picture production activities
Motion picture, video and TV programme activities	59.11	Motion picture, video and TV programme production activities
	59.12	Motion picture, video and TV programme post-production activities
	59.13	Motion picture, video and TV programme distribution activities
	59.20	Sound recording and music publishing activities
Programming and broadcasting activities	60	
Computer programming, consultancy and related activities	62	
Information service activities	63	
Financial service activities except insurance and pension funding	64	
Insurance, reinsurance and pension funding except compulsory social security	65	
Activities auxiliary to financial services and insurance activities	66	
Real estate activities	68	
Legal and accounting activities	69	
Activities of head offices, management consultancy activities	70.	
Architectural and engineering activities, technical testing and analysis	71	
Scientific research and development	72	
Advertising and market research	73	
Other professional, scientific and technical activities	74	
Renting and leasing activities	77.40	Leasing of intellectual property and similar products
Employment activities (part)	78	
Security and investigation activities	80	
Office admin, office support and other business support activities	82	
Public administration and defence; compulsory social security	84.1	Administration of the State and the economic and social policy of the community
	84.3	Compulsory social security activities

Note

SIC 78, Employment Activities, covers workers employed through agencies in all activity sectors. They should be redistributed across the whole economy, both to B-class sectors and other sectors, in proportion to each sector's share of total employment

4. On a technical note, most economic forecasts show around 20-30 broad activity sectors, a much coarser-grained classification than the SIC sectors in the table above. For example, the table counts as a B-space activity only part of the Construction industry (SIC 43.2, 43.3 and 43.9), whereas forecasts typically show only Construction as a whole (SIC 43). To estimate future employment in sub-sectors such as SIC 43.2, we assume that the share of each sub-sector's employment in its 'parent' sector stays constant.
5. There are two further technical difficulties with the relationship of sectors to land uses. The first is that the line between production space (factories and workshops) and warehousing is blurred. This is not surprising, because manufacturing and warehousing largely occupy the same kinds of buildings, many units combine both functions in proportions that vary over time, and smaller buildings are allowed to shift between the two without planning permission.
6. In setting total land provision targets, therefore, factories, workshops and warehouses, should be merged into a single 'industrial' category. This should not cause any problems, because these uses operate in similar buildings and at similar employment densities, except for very large units including strategic warehousing. In areas where they form a significant part of the stock, these large units should be allowed for separately.
7. The other problem with the tables is that some of the jobs which the table allocates to industrial space are in fact in offices. These jobs are probably in administration, sales and marketing functions of industrial and related businesses. A construction or plumbing business, for example, will often have an office that deals with orders, appointments, record-keeping and the like. In some cases this will be ancillary to an industrial unit and therefore not count as office space, but in other cases it will be free-standing. If the business is small, the office may be its only premises.
8. In total, the Yorkshire and Humber survey found that around one tenth of the jobs which our method allocates to industrial space (factories, workshops and warehouses) are in fact in offices. For a large area such as the region, this is too small a proportion to distort land provision targets. But in some local authority areas, especially the more highly urbanised, it is likely that the distortion is significant. Employment land reviews should aim to correct these distortions, using local knowledge to adjust the relationships shown in the tables above.
9. There are many other, place-specific factors why the sector-to-land-use relationships in the tables above may be invalid. For example, in some places large business units are assigned to the wrong sector or the wrong side of the local authority boundary. In other places, particular sectors are untypical and do not occupy the kinds of space that one would normally expect. In one local authority area in England, for example, there are many jobs classified to Other Supporting Land Transport Activities, SIC 52.21, which normally would occupy warehousing in the local authority area. But in

this case most of the SIC 52.21 jobs relate to railway maintenance and the people concerned work all over the country, mostly outdoors.

10. Where such anomalies arise, close inspection of the numbers, combined with local knowledge, should help correct the statistics and customise the sector-to-land-use assumptions.
11. However, it is inevitable that sector-to-land-use relationships are less reliable for small than larger areas. As the Yorkshire and Humber survey illustrated, the relationships shown in our tables work very well for whole regions. But they are not reliable for individual buildings or employment areas, and may not be reliable at local authority level. This is one of the reasons why demand forecasts are more robust for regions than individual local authority areas.
12. The Yorkshire and Humber report provides further information and advice on sector-to-land-use relationships.

Annex – Sector to land use *[see over]*

Employment land use	Sector (Experian)	Industry (5 digit SIC)
Manufacturing	Food, Drink & Tobacco	10110 : Processing and preserving of meat
Manufacturing	Food, Drink & Tobacco	10120 : Processing and preserving of poultry meat
Manufacturing	Food, Drink & Tobacco	10130 : Production of meat and poultry meat products
Manufacturing	Food, Drink & Tobacco	10200 : Processing and preserving of fish, crustaceans and molluscs
Manufacturing	Food, Drink & Tobacco	10310 : Processing and preserving of potatoes
Manufacturing	Food, Drink & Tobacco	10320 : Manufacture of fruit and vegetable juice
Manufacturing	Food, Drink & Tobacco	10390 : Other processing and preserving of fruit and vegetables
Manufacturing	Food, Drink & Tobacco	10410 : Manufacture of oils and fats
Manufacturing	Food, Drink & Tobacco	10420 : Manufacture of margarine and similar edible fats
Manufacturing	Food, Drink & Tobacco	10511 : Liquid milk and cream production
Manufacturing	Food, Drink & Tobacco	10512 : Butter and cheese production
Manufacturing	Food, Drink & Tobacco	10519 : Manufacture of milk products (other than liquid milk and cream, butter, cheese) nec
Manufacturing	Food, Drink & Tobacco	10520 : Manufacture of ice cream
Manufacturing	Food, Drink & Tobacco	10611 : Grain milling
Manufacturing	Food, Drink & Tobacco	10612 : Manufacture of breakfast cereals and cereals-based foods
Manufacturing	Food, Drink & Tobacco	10620 : Manufacture of starches and starch products
Manufacturing	Food, Drink & Tobacco	10710 : Manufacture of bread; manufacture of fresh pastry goods and cakes
Manufacturing	Food, Drink & Tobacco	10720 : Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes
Manufacturing	Food, Drink & Tobacco	10730 : Manufacture of macaroni, noodles, couscous and similar farinaceous products
Manufacturing	Food, Drink & Tobacco	10810 : Manufacture of sugar
Manufacturing	Food, Drink & Tobacco	10821 : Manufacture of cocoa, and chocolate confectionery
Manufacturing	Food, Drink & Tobacco	10822 : Manufacture of sugar confectionery
Manufacturing	Food, Drink & Tobacco	10831 : Tea processing
Manufacturing	Food, Drink & Tobacco	10832 : Production of coffee and coffee substitutes
Manufacturing	Food, Drink & Tobacco	10840 : Manufacture of condiments and seasonings
Manufacturing	Food, Drink & Tobacco	10850 : Manufacture of prepared meals and dishes
Manufacturing	Food, Drink & Tobacco	10860 : Manufacture of homogenised food preparations and dietetic food
Manufacturing	Food, Drink & Tobacco	10890 : Manufacture of other food products nec
Manufacturing	Food, Drink & Tobacco	10910 : Manufacture of prepared feeds for farm animals
Manufacturing	Food, Drink & Tobacco	10920 : Manufacture of prepared pet foods
Manufacturing	Food, Drink & Tobacco	11010 : Distilling, rectifying and blending of spirits
Manufacturing	Food, Drink & Tobacco	11020 : Manufacture of wine from grape
Manufacturing	Food, Drink & Tobacco	11030 : Manufacture of cider and other fruit wines
Manufacturing	Food, Drink & Tobacco	11040 : Manufacture of other non-distilled fermented beverages
Manufacturing	Food, Drink & Tobacco	11050 : Manufacture of beer
Manufacturing	Food, Drink & Tobacco	11060 : Manufacture of malt
Manufacturing	Food, Drink & Tobacco	11070 : Manufacture of soft drinks; production of mineral waters and other bottled waters
Manufacturing	Food, Drink & Tobacco	12000 : Manufacture of tobacco products
Manufacturing	Textiles & Clothing	13100 : Preparation and spinning of textile fibres
Manufacturing	Textiles & Clothing	13200 : Weaving of textiles
Manufacturing	Textiles & Clothing	13300 : Finishing of textiles
Manufacturing	Textiles & Clothing	13910 : Manufacture of knitted and crocheted fabrics
Manufacturing	Textiles & Clothing	13921 : Manufacture of soft furnishings
Manufacturing	Textiles & Clothing	13922 : Manufacture of canvas goods, sacks etc
Manufacturing	Textiles & Clothing	13923 : Manufacture of household textiles (other than soft furnishings of 13921)
Manufacturing	Textiles & Clothing	13931 : Manufacture of woven or tufted carpets and rugs
Manufacturing	Textiles & Clothing	13939 : Manufacture of carpets and rugs (other than woven or tufted) nec
Manufacturing	Textiles & Clothing	13940 : Manufacture of cordage, rope, twine and netting
Manufacturing	Textiles & Clothing	13950 : Manufacture of non-wovens and articles made from non-wovens, except apparel
Manufacturing	Textiles & Clothing	13960 : Manufacture of other technical and industrial textiles
Manufacturing	Textiles & Clothing	13990 : Manufacture of other textiles nec
Manufacturing	Textiles & Clothing	14110 : Manufacture of leather clothes
Manufacturing	Textiles & Clothing	14120 : Manufacture of workwear
Manufacturing	Textiles & Clothing	14131 : Manufacture of men's outerwear, other than leather clothes and workwear
Manufacturing	Textiles & Clothing	14132 : Manufacture of women's outerwear, other than leather clothes and workwear
Manufacturing	Textiles & Clothing	14141 : Manufacture of men's underwear
Manufacturing	Textiles & Clothing	14142 : Manufacture of women's underwear
Manufacturing	Textiles & Clothing	14190 : Manufacture of other wearing apparel and accessories
Manufacturing	Textiles & Clothing	14200 : Manufacture of articles of fur
Manufacturing	Textiles & Clothing	14310 : Manufacture of knitted and crocheted hosiery
Manufacturing	Textiles & Clothing	14390 : Manufacture of other knitted and crocheted apparel
Manufacturing	Textiles & Clothing	15110 : Tanning and dressing of leather; dressing and dyeing of fur
Manufacturing	Textiles & Clothing	15120 : Manufacture of luggage, handbags and the like, saddlery and harness
Manufacturing	Textiles & Clothing	15200 : Manufacture of footwear
Manufacturing	Wood & Paper	16100 : Sawmilling and planing of wood
Manufacturing	Wood & Paper	16210 : Manufacture of veneer sheets and wood-based panels
Manufacturing	Wood & Paper	16220 : Manufacture of assembled parquet floors
Manufacturing	Wood & Paper	16230 : Manufacture of other builders' carpentry and joinery
Manufacturing	Wood & Paper	16240 : Manufacture of wooden containers
Manufacturing	Wood & Paper	16290 : Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials
Manufacturing	Wood & Paper	17110 : Manufacture of pulp
Manufacturing	Wood & Paper	17120 : Manufacture of paper and paperboard
Manufacturing	Wood & Paper	17211 : Manufacture of corrugated paper and paperboard; manufacture of sacks and bags of paper
Manufacturing	Wood & Paper	17219 : Manufacture of paper and paperboard containers other than sacks and bags
Manufacturing	Wood & Paper	17220 : Manufacture of household and sanitary goods and of toilet requisites
Manufacturing	Wood & Paper	17230 : Manufacture of paper stationery
Manufacturing	Wood & Paper	17240 : Manufacture of wallpaper
Manufacturing	Wood & Paper	17290 : Manufacture of other articles of paper and paperboard
Manufacturing	Printing and Reproduction of Recorded Media	18110 : Printing of newspapers
Manufacturing	Printing and Reproduction of Recorded Media	18121 : Manufacture of printed labels
Manufacturing	Printing and Reproduction of Recorded Media	18129 : Printing (other than printing of newspaper s and printing on labels and tags) nec
Manufacturing	Printing and Reproduction of Recorded Media	18130 : Pre-press and pre-media services
Manufacturing	Printing and Reproduction of Recorded Media	18140 : Binding and related services
Manufacturing	Printing and Reproduction of Recorded Media	18201 : Reproduction of sound recording
Manufacturing	Printing and Reproduction of Recorded Media	18202 : Reproduction of video recording
Manufacturing	Printing and Reproduction of Recorded Media	18203 : Reproduction of computer media
Manufacturing	Fuel Refining	19100 : Manufacture of coke oven products
Manufacturing	Fuel Refining	19201 : Mineral oil refining
Manufacturing	Fuel Refining	19209 : Other treatment of petroleum products (excluding mineral oil refining petrochemicals manufacture)
Manufacturing	Chemicals	20110 : Manufacture of industrial gases
Manufacturing	Chemicals	20120 : Manufacture of dyes and pigments
Manufacturing	Chemicals	20130 : Manufacture of other inorganic basic chemicals
Manufacturing	Chemicals	20140 : Manufacture of other organic basic chemicals
Manufacturing	Chemicals	20150 : Manufacture of fertilisers and nitrogen compounds
Manufacturing	Chemicals	20160 : Manufacture of plastics in primary forms
Manufacturing	Chemicals	20170 : Manufacture of synthetic rubber in primary forms
Manufacturing	Chemicals	20200 : Manufacture of pesticides and other agrochemical products
Manufacturing	Chemicals	20301 : Manufacture of paints, varnishes and similar coatings, mastics and sealants
Manufacturing	Chemicals	20302 : Manufacture of printing ink
Manufacturing	Chemicals	20411 : Manufacture of soap and detergents
Manufacturing	Chemicals	20412 : Manufacture of cleaning and polishing preparations
Manufacturing	Chemicals	20420 : Manufacture of perfumes and toilet preparations
Manufacturing	Chemicals	20510 : Manufacture of explosives
Manufacturing	Chemicals	20520 : Manufacture of glues
Manufacturing	Chemicals	20530 : Manufacture of essential oils
Manufacturing	Chemicals	20590 : Manufacture of other chemical products nec
Manufacturing	Chemicals	20600 : Manufacture of man-made fibres
Manufacturing	Pharmaceuticals	21100 : Manufacture of basic pharmaceutical products

Employment land use	Sector (Experian)	Industry (5 digit SIC)
Manufacturing	Pharmaceuticals	21200 : Manufacture of pharmaceutical preparations
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22110 : Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22190 : Manufacture of other rubber products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22210 : Manufacture of plastic plates, sheets, tubes and profiles
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22220 : Manufacture of plastic packing goods
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22230 : Manufacture of builders' ware of plastic
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	22290 : Manufacture of other plastic products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23110 : Manufacture of flat glass
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23120 : Shaping and processing of flat glass
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23130 : Manufacture of hollow glass
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23140 : Manufacture of glass fibres
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23190 : Manufacture and processing of other glass, including technical glassware
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23200 : Manufacture of refractory products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23310 : Manufacture of ceramic tiles and flags
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23320 : Manufacture of bricks, tiles and construction products, in baked clay
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23410 : Manufacture of ceramic household and ornamental articles
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23420 : Manufacture of ceramic sanitary fixtures
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23430 : Manufacture of ceramic insulating fittings
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23440 : Manufacture of other technical ceramic products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23490 : Manufacture of other ceramic products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23510 : Manufacture of cement
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23520 : Manufacture of lime and plaster
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23610 : Manufacture of concrete products for construction purposes
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23620 : Manufacture of plaster products for construction purposes
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23630 : Manufacture of ready-mixed concrete
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23640 : Manufacture of mortars
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23650 : Manufacture of fibre cement
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23690 : Manufacture of other articles of concrete plaster and cement
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23700 : Cutting, shaping and finishing of stone
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23910 : Production of abrasive products
Manufacturing	Rubber, Plastic and Other Non-Metallic Mineral Products	23990 : Manufacture of other non-metallic mineral products
Manufacturing	Metal products	24100 : Manufacture of basic iron and steel and of ferro-alloys
Manufacturing	Metal products	24200 : Manufacture of tubes, pipes, hollow profiles and related fittings, of steel
Manufacturing	Metal products	24310 : Cold drawing of bars
Manufacturing	Metal products	24320 : Cold rolling of narrow strip
Manufacturing	Metal products	24330 : Cold forming or folding
Manufacturing	Metal products	24340 : Cold drawing of wire
Manufacturing	Metal products	24410 : Precious metals production
Manufacturing	Metal products	24420 : Aluminium production
Manufacturing	Metal products	24430 : Lead, zinc and tin production
Manufacturing	Metal products	24440 : Copper production
Manufacturing	Metal products	24450 : Other non-ferrous metal production
Manufacturing	Metal products	24460 : Processing of nuclear fuel
Manufacturing	Metal products	24510 : Casting of iron
Manufacturing	Metal products	24520 : Casting of steel
Manufacturing	Metal products	24530 : Casting of light metals
Manufacturing	Metal products	24540 : Casting of other non-ferrous metals
Manufacturing	Metal products	25110 : Manufacture of metal structures and parts of structures
Manufacturing	Metal products	25120 : Manufacture of doors and windows of metals
Manufacturing	Metal products	25210 : Manufacture of central heating radiators and boilers
Manufacturing	Metal products	25290 : Manufacture of other tanks, reservoirs and containers of metal
Manufacturing	Metal products	25300 : Manufacture of steam generators, except central heating hot water boilers
Manufacturing	Metal products	25400 : Manufacture of weapons and ammunition
Manufacturing	Metal products	25500 : Forging, pressing, stamping and roll-forming of metal; powder metallurgy
Manufacturing	Metal products	25610 : Treatment and coating of metals
Manufacturing	Metal products	25620 : Machining
Manufacturing	Metal products	25710 : Manufacture of cutlery
Manufacturing	Metal products	25720 : Manufacture of locks and hinges
Manufacturing	Metal products	25730 : Manufacture of tools
Manufacturing	Metal products	25910 : Manufacture of steel drums and similar containers
Manufacturing	Metal products	25920 : Manufacture of light metal packaging
Manufacturing	Metal products	25930 : Manufacture of wire products, chain and springs
Manufacturing	Metal products	25940 : Manufacture of fasteners and screw machine products
Manufacturing	Metal products	25990 : Manufacture of other fabricated metal products nec
Manufacturing	Computer & Electronic Products	26110 : Manufacture of electronic components
Manufacturing	Computer & Electronic Products	26120 : Manufacture of loaded electronic boards
Manufacturing	Computer & Electronic Products	26200 : Manufacture of computers and peripheral equipment
Manufacturing	Computer & Electronic Products	26301 : Manufacture of telegraph and telephone apparatus and equipment
Manufacturing	Computer & Electronic Products	26309 : Manufacture of communication equipment (other than telegraph and telephone apparatus and equipment)
Manufacturing	Computer & Electronic	26400 : Manufacture of consumer electronics
Manufacturing	Computer & Electronic	26511 : Manufacture of electronic instruments and appliances for measuring, testing, and navigation, except industrial process control equipment navigation, except industrial process control equipment
Manufacturing	Computer & Electronic	26512 : Manufacture of electronic industrial process control equipment
Manufacturing	Computer & Electronic	26513 : Manufacture of non-electronic instruments and appliances for measuring, testing and navigation, except industrial process control equipment
Manufacturing	Computer & Electronic Products	26514 : Manufacture of non-electronic industrial process control equipment
Manufacturing	Computer & Electronic Products	26520 : Manufacture of watches and clocks
Manufacturing	Computer & Electronic Products	26600 : Manufacture of irradiation, electromedical and electrotherapeutic equipment
Manufacturing	Computer & Electronic Products	26701 : Manufacture of optical precision instruments
Manufacturing	Computer & Electronic Products	26702 : Manufacture of photographic and cinematographic equipment
Manufacturing	Computer & Electronic Products	26800 : Manufacture of magnetic and optical media
Manufacturing	Computer & Electronic Products	27110 : Manufacture of electric motors, generators and transformers
Manufacturing	Computer & Electronic Products	27120 : Manufacture of electricity distribution and control apparatus
Manufacturing	Computer & Electronic Products	27200 : Manufacture of batteries and accumulators
Manufacturing	Computer & Electronic Products	27310 : Manufacture of fibre optic cables
Manufacturing	Computer & Electronic Products	27320 : Manufacture of other electronic and electric wires and cables
Manufacturing	Computer & Electronic Products	27330 : Manufacture of wiring devices
Manufacturing	Computer & Electronic Products	27400 : Manufacture of electric lighting equipment
Manufacturing	Computer & Electronic Products	27510 : Manufacture of electric domestic appliances
Manufacturing	Computer & Electronic Products	27520 : Manufacture of non-electric domestic appliances
Manufacturing	Computer & Electronic Products	27900 : Manufacture of other electrical equipment
Manufacturing	Machinery & Equipment	28110 : Manufacture of engines and turbines, except aircraft, vehicle and cycle engines
Manufacturing	Machinery & Equipment	28120 : Manufacture of fluid power equipment
Manufacturing	Machinery & Equipment	28131 : Manufacture of pumps
Manufacturing	Machinery & Equipment	28132 : Manufacture of compressors
Manufacturing	Machinery & Equipment	28140 : Manufacture of other taps and valves
Manufacturing	Machinery & Equipment	28150 : Manufacture of bearings, gears, gearing and driving elements
Manufacturing	Machinery & Equipment	28210 : Manufacture of ovens, furnaces and furnace burners
Manufacturing	Machinery & Equipment	28220 : Manufacture of lifting and handling equipment
Manufacturing	Machinery & Equipment	28230 : Manufacture of office machinery and equipment (except computers and peripheral equipment)
Manufacturing	Machinery & Equipment	28240 : Manufacture of power-driven hand tools
Manufacturing	Machinery & Equipment	28250 : Manufacture of non-domestic cooling and ventilation equipment
Manufacturing	Machinery & Equipment	28290 : Manufacture of other general-purpose machinery nec
Manufacturing	Machinery & Equipment	28301 : Manufacture of agricultural tractors
Manufacturing	Machinery & Equipment	28302 : Manufacture of agricultural and forestry machinery (other than agricultural tractors)
Manufacturing	Machinery & Equipment	28410 : Manufacture of metal forming machinery
Manufacturing	Machinery & Equipment	28490 : Manufacture of other machine tools

Employment land use	Sector (Experian)	Industry (5 digit SIC)
Manufacturing	Machinery & Equipment	28910 : Manufacture of machinery for metallurgy
Manufacturing	Machinery & Equipment	28921 : Manufacture of machinery for mining
Manufacturing	Machinery & Equipment	28922 : Manufacture of earthmoving equipment
Manufacturing	Machinery & Equipment	28923 : Manufacture of equipment for concrete crushing and screening roadworks
Manufacturing	Machinery & Equipment	28930 : Manufacture of machinery for food, beverage and tobacco processing
Manufacturing	Machinery & Equipment	28940 : Manufacture of machinery for textile, apparel and leather production
Manufacturing	Machinery & Equipment	28950 : Manufacture of machinery for paper and paperboard production
Manufacturing	Machinery & Equipment	28960 : Manufacture of plastics and rubber machinery
Manufacturing	Machinery & Equipment	28990 : Manufacture of other special-purpose machinery nec
Manufacturing	Machinery & Equipment	29100 : Manufacture of motor vehicles
Manufacturing	Machinery & Equipment	29201 : Manufacture of bodies (coachwork) for motor vehicles (except caravans)
Manufacturing	Machinery & Equipment	29202 : Manufacture of trailers and semi-trailers
Manufacturing	Machinery & Equipment	29203 : Manufacture of caravans
Manufacturing	Machinery & Equipment	29310 : Manufacture of electrical and electronic equipment for motor vehicles
Manufacturing	Machinery & Equipment	29320 : Manufacture of other parts and accessories for motor vehicles
Manufacturing	Machinery & Equipment	30110 : Building of ships and floating structures
Manufacturing	Machinery & Equipment	30120 : Building of pleasure and sporting boats
Manufacturing	Machinery & Equipment	30200 : Manufacture of railway locomotives and rolling stock
Manufacturing	Machinery & Equipment	30300 : Manufacture of air and spacecraft and related machinery
Manufacturing	Machinery & Equipment	30400 : Manufacture of military fighting vehicles
Manufacturing	Machinery & Equipment	30910 : Manufacture of motorcycles
Manufacturing	Machinery & Equipment	30920 : Manufacture of bicycles and invalid carriages
Manufacturing	Machinery & Equipment	30990 : Manufacture of other transport equipment nec
Manufacturing	Other Manufacturing	31010 : Manufacture of office and shop furniture
Manufacturing	Other Manufacturing	31020 : Manufacture of kitchen furniture
Manufacturing	Other Manufacturing	31030 : Manufacture of mattresses
Manufacturing	Other Manufacturing	31090 : Manufacture of other furniture
Manufacturing	Other Manufacturing	32110 : Striking of coins
Manufacturing	Other Manufacturing	32120 : Manufacture of jewellery and related articles
Manufacturing	Other Manufacturing	32130 : Manufacture of imitation jewellery and related articles
Manufacturing	Other Manufacturing	32200 : Manufacture of musical instruments
Manufacturing	Other Manufacturing	32300 : Manufacture of sports goods
Manufacturing	Other Manufacturing	32401 : Manufacture of professional and arcade games and toys
Manufacturing	Other Manufacturing	32409 : Manufacture of games and toys (other than professional and arcade games and toys)
Manufacturing	Other Manufacturing	32500 : Manufacture of medical and dental instruments and supplies
Manufacturing	Other Manufacturing	32910 : Manufacture of brooms and brushes
Manufacturing	Other Manufacturing	32990 : Other manufacturing nec
Manufacturing	Other Manufacturing	33110 : Repair of fabricated metal products
Manufacturing	Other Manufacturing	33120 : Repair of machinery
Manufacturing	Other Manufacturing	33130 : Repair of electronic and optical equipment
Manufacturing	Other Manufacturing	33140 : Repair of electrical equipment
Manufacturing	Other Manufacturing	33150 : Repair and maintenance of ships and boats
Manufacturing	Other Manufacturing	33160 : Repair and maintenance of aircraft and spacecraft
Manufacturing	Other Manufacturing	33170 : Repair and maintenance of other transport equipment
Manufacturing	Other Manufacturing	33190 : Repair of other equipment
Manufacturing	Other Manufacturing	33200 : Installation of industrial machinery and equipment
Other industrial	Utilities	37000 : Sewerage
Other industrial	Utilities	38110 : Collection of non-hazardous waste
Other industrial	Utilities	38120 : Collection of hazardous waste
Other industrial	Utilities	38210 : Treatment and disposal of non-hazardous waste
Other industrial	Utilities	38220 : Treatment and disposal of hazardous waste
Other industrial	Utilities	38310 : Dismantling of wrecks
Other industrial	Utilities	38320 : Recovery of sorted materials
Other industrial	Specialised Construction Activities	43210 : Electrical installation
Other industrial	Specialised Construction Activities	43220 : Plumbing, heat and air-conditioning installation
Other industrial	Specialised Construction Activities	43290 : Other construction installation
Other industrial	Specialised Construction Activities	43310 : Plastering
Other industrial	Specialised Construction Activities	43320 : Joinery installation
Other industrial	Specialised Construction Activities	43330 : Floor and wall covering
Other industrial	Specialised Construction Activities	43341 : Painting
Other industrial	Specialised Construction Activities	43342 : Glazing
Other industrial	Specialised Construction Activities	43390 : Other building completion and finishing
Other industrial	Specialised Construction Activities	43910 : Roofing activities
Other industrial	Specialised Construction Activities	43991 : Scaffold erection
Other industrial	Specialised Construction Activities	43999 : Specialised construction activities (other than scaffold erection)
Other industrial	Wholesale	45200 : Maintenance and repair of motor vehicles
Other industrial	Wholesale	45400 : Sale, maintenance and repair of motorcycles and related parts and accessories
Warehousing	Wholesale	46110 : Agents involved in the sale of agricultural raw materials, live animals, text and semi-finished goods
Warehousing	Wholesale	46120 : Agentsinvolved in the sale of fuels, ores, metals and industrial chemicals
Warehousing	Wholesale	46130 : Agentsinvolved in the sale of timber and building materials
Warehousing	Wholesale	46140 : Agentsinvolved in the sale of machinery, industrial equipment, ships and aircraft
Warehousing	Wholesale	46150 : Agentsinvolved in the sale of furniture, household goods, hardware and ironmongery
Warehousing	Wholesale	46160 : Agents involved in the sale of textiles, clothing, fur, footwear and leather goods
Warehousing	Wholesale	46170 : Agents involved in the sale of food, beverages and tobacco
Warehousing	Wholesale	46180 : Agents specialised in the sale of other particular products
Warehousing	Wholesale	46190 : Agents involved in the sale of a variety of goods
Warehousing	Wholesale	46210 : Wholesale of grain, unmanufactured tobacco, seeds and animal feeds
Warehousing	Wholesale	46220 : Wholesale of flowers and plants
Warehousing	Wholesale	46230 : Wholesale of live animals
Warehousing	Wholesale	46240 : Wholesale of hides, skins and leather
Warehousing	Wholesale	46310 : Wholesale of fruit and vegetables
Warehousing	Wholesale	46320 : Wholesale of meat and meat products
Warehousing	Wholesale	46330 : Wholesale of dairy products, eggs and edible oils and fats
Warehousing	Wholesale	46341 : Wholesale of fruit and vegetable juices, mineral waters and soft drinks
Warehousing	Wholesale	46342 : Wholesale of wine, beer, spirits and other alcoholic beverages
Warehousing	Wholesale	46350 : Wholesale of tobacco products
Warehousing	Wholesale	46360 : Wholesale of sugar and chocolate and sugar confectionery
Warehousing	Wholesale	46370 : Wholesale of coffee, tea, cocoa and spices
Warehousing	Wholesale	46380 : Wholesale of other food, including fish, crustaceans and molluscs
Warehousing	Wholesale	46390 : Non-specialised wholesale of food, beverages and tobacco
Warehousing	Wholesale	46410 : Wholesale of textiles
Warehousing	Wholesale	46420 : Wholesale of clothing and footwear
Warehousing	Wholesale	46431 : Wholesale of gramophone records, audio tapes, compact discs and video tapes and of the equipment on which these are played)
Warehousing	Wholesale	46439 : Wholesale of radio and television goods and of electrical household appliances (other than of gramophone records, audio tapes,compact discs and video tapes and the equipment on which these are played)
Warehousing	Wholesale	46440 : Wholesale of china and glassware and cleaning materials
Warehousing	Wholesale	46450 : Wholesale of perfume and cosmetics
Warehousing	Wholesale	46460 : Wholesale of pharmaceutical goods
Warehousing	Wholesale	46470 : Wholesale of furniture, carpets and lighting equipment
Warehousing	Wholesale	46480 : Wholesale of watches and jewellery
Warehousing	Wholesale	46491 : Wholesale of musical instruments
Warehousing	Wholesale	46499 : Wholesale of household goods (other than musical instruments) nec
Warehousing	Wholesale	46510 : Wholesale of computers, computer peripheral equipment and software
Warehousing	Wholesale	46520 : Wholesale of electronic and telecommunications equipment and parts
Warehousing	Wholesale	46610 : Wholesale of agricultural machinery, equipment and supplies
Warehousing	Wholesale	46620 : Wholesale of machine tools
Warehousing	Wholesale	46630 : Wholesale of mining, construction and civil engineering machinery
Warehousing	Wholesale	46640 : Wholesale of machinery for the textile industry and of sewing and knitting machines

Employment land use	Sector (Experian)	Industry (5 digit SIC)
Warehousing	Wholesale	46650 : Wholesale of office furniture
Warehousing	Wholesale	46660 : Wholesale of other office machinery and equipment
Warehousing	Wholesale	46690 : Wholesale of other machinery and equipment
Warehousing	Wholesale	46711 : Wholesale of petroleum and petroleum products
Warehousing	Wholesale	46719 : Wholesale of fuels and related products (other than petroleum and petroleum products)
Warehousing	Wholesale	46720 : Wholesale of metals and metal ores
Warehousing	Wholesale	46730 : Wholesale of wood, construction materials and sanitary equipment
Warehousing	Wholesale	46740 : Wholesale of hardware, plumbing and heating equipment and supplies
Warehousing	Wholesale	46750 : Wholesale of chemical products
Warehousing	Wholesale	46760 : Wholesale of other intermediate products
Warehousing	Wholesale	46770 : Wholesale of waste and scrap
Warehousing	Wholesale	46900 : Non-specialised wholesale trade
Warehousing	Land Transport, Storage & Post	49410 : Freight transport by road
Warehousing	Land Transport, Storage & Post	49420 : Removal services
Warehousing	Land Transport, Storage & Post	52101 : Operation of warehousing and storage facilities for water transport activities of division 50
Warehousing	Land Transport, Storage & Post	52102 : Operation of warehousing and storage facilities for air transport activities of division 51
Warehousing	Land Transport, Storage & Post	52103 : Operation of warehousing and storage facilities for land transport activities of division 49
Warehousing	Land Transport, Storage & Post	52211 : Operation of rail freight terminals
Warehousing	Land Transport, Storage & Post	52212 : Operation of rail passenger facilities at railway stations
Warehousing	Land Transport, Storage & Post	52213 : Operation of bus and coach passenger facilities at bus and coach stations
Warehousing	Land Transport, Storage & Post	52219 : Other service activities incidental to land transportation, nec (not including operation of rail freight terminals, passenger facilities at railway stations or passenger facilities at bus and coach stations)
Warehousing	Land Transport, Storage & Post	52241 : Cargo handling for water transport activities of division 50
Warehousing	Land Transport, Storage & Post	52242 : Cargo handling for air transport activities of division 51
Warehousing	Land Transport, Storage & Post	52243 : Cargo handling for land transport activities of division 49
Warehousing	Land Transport, Storage & Post	53100 : Postal activities under universal service obligation
Warehousing	Land Transport, Storage & Post	53201 : Licensed Carriers
Warehousing	Land Transport, Storage & Post	53202 : Unlicensed Carriers
Office	Media Activities	58110 : Book publishing
Office	Media Activities	58120 : Publishing of directories and mailing lists
Office	Media Activities	58130 : Publishing of newspapers
Office	Media Activities	58141 : Publishing of learned journals
Office	Media Activities	58142 : Publishing of consumer, business and professional journals and periodicals
Office	Media Activities	58190 : Other publishing activities
Office	Media Activities	59111 : Motion picture production activities
Office	Media Activities	59112 : Video production activities
Office	Media Activities	59113 : Television programme production activities
Office	Media Activities	59120 : Motion picture, video and television programme post-production activities
Office	Media Activities	59131 : Motion picture distribution activities
Office	Media Activities	59132 : Video distribution activities
Office	Media Activities	59133 : Television programme distribution activities
Office	Media Activities	59200 : Sound recording and music publishing activities
Office	Media Activities	60100 : Radio broadcasting
Office	Media Activities	60200 : Television programming and broadcasting activities
Office	Computing & Information Services	62011 : Ready-made interactive leisure and entertainment software development
Office	Computing & Information Services	62012 : Business and domestic software development
Office	Computing & Information Services	62020 : Computer consultancy activities
Office	Computing & Information Services	62030 : Computer facilities management activities
Office	Computing & Information Services	62090 : Other information technology and computer service activities
Office	Computing & Information Services	63110 : Data processing, hosting and related activities
Office	Computing & Information Services	63120 : Web portals
Office	Computing & Information Services	63910 : News agency activities
Office	Computing & Information Services	63990 : Other information service activities nec
Office	Finance	64110 : Central banking
Office	Finance	64191 : Banks
Office	Finance	64192 : Building societies
Office	Finance	64201 : Activities of agricultural holding companies
Office	Finance	64202 : Activities of production holding companies
Office	Finance	64203 : Activities of construction holding companies
Office	Finance	64204 : Activities of distribution holding companies
Office	Finance	64205 : Activities of financial services holding companies
Office	Finance	64209 : Activities of other holding companies (not including agricultural, production, construction, distribution and financial services holding companies) n.e.c
Office	Finance	64301 : Activities of investment trusts
Office	Finance	64302 : Activities of unit trusts
Office	Finance	64303 : Activities of venture and development capital companies
Office	Finance	64304 : Activities of open-ended investment companies
Office	Finance	64305 : Activities of property unit trusts
Office	Finance	64306 : Activities of real estate investment trusts
Office	Finance	64910 : Financial leasing
Office	Finance	64921 : Credit granting by non-deposit taking finance houses and other specialist consumer credit grantors
Office	Finance	64922 : Activities of mortgage finance companies
Office	Finance	64929 : Other credit granting (not including credit granting by non-deposit taking finance houses and other specialist consumer credit grantors and activities of mortgage finance companies) n.e.c.
Office	Finance	64991 : Security dealing on own account
Office	Finance	64992 : Factoring
Office	Finance	64999 : Other financial service activities, except insurance and pension funding, (not including security dealing on own account and factoring) n.e.c.
Office	Insurance & Pensions	65110 : Life insurance
Office	Insurance & Pensions	65120 : Non-life insurance
Office	Insurance & Pensions	65201 : Life reinsurance
Office	Insurance & Pensions	65202 : Non-life reinsurance
Office	Insurance & Pensions	65300 : Pension funding
Office	Finance	66110 : Administration of financial markets
Office	Finance	66120 : Security and commodity contracts brokerage
Office	Finance	66190 : Other activities auxiliary to financial services, except insurance and pension funding
Office	Finance	66210 : Risk and damage evaluation
Office	Finance	66220 : Activities of insurance agents and brokers
Office	Finance	66290 : Other activities auxiliary to insurance and pension funding
Office	Finance	66300 : Fund management activities
Office	Real Estate	68100 : Buying and selling of own real estate
Office	Real Estate	68201 : Renting and operating of Housing Association real estate
Office	Real Estate	68202 : Letting and operating of conference and exhibition centres
Office	Real Estate	68209 : Letting and operating of own or leased real estate (other than Housing Association real estate and conference and exhibition services) n.e.c.
Office	Real Estate	68310 : Real estate agencies
Office	Real Estate	68320 : Management of real estate on a fee or contract basis
Office	Professional services	69101 : Barristers at law
Office	Professional services	69102 : Solicitors
Office	Professional services	69109 : Activities of patent and copyright agents; other legal activities (other than those of barristers and solicitors) nec
Office	Professional services	69201 : Accounting, and auditing activities
Office	Professional services	69202 : Bookkeeping activities
Office	Professional services	69203 : Tax consultancy
Office	Professional services	70100 : Activities of head offices
Office	Professional services	70210 : Public relations and communication activities
Office	Professional services	70221 : Financial management

Employment land use	Sector (Experian)	Industry (5 digit SIC)
Office	Professional services	70229 : Management consultancy activities (other than financial management)
Office	Professional services	71111 : Architectural activities
Office	Professional services	71112 : Urban planning and landscape architectural activities
Office	Professional services	71121 : Engineering design activities for industrial process and production
Office	Professional services	71122 : Engineering related scientific and technical consulting activities
Office	Professional services	71129 : Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)
Office	Professional services	71200 : Technical testing and analysis
Office	Professional services	72110 : Research and experimental development on biotechnology
Office	Professional services	72190 : Other research and experimental development on natural sciences and engineering
Office	Professional services	72200 : Research and experimental development on social sciences and humanities
Office	Professional services	73110 : Advertising agencies
Office	Professional services	73120 : Media representation
Office	Professional services	73200 : Market research and public opinion polling
Office	Professional services	74300 : Translation and interpretation activities
Office	Professional services	74901 : Environmental consulting activities
Office	Professional services	74902 : Quantity surveying activities
Office	Professional services	74909 : Other professional, scientific and technical activities (not including environmental consultancy or quantity surveying)
Office	Administrative & Supportive Service Activities	77400 : Leasing of intellectual property and similar products, except copyrighted works
Office	Administrative & Supportive Service Activities	78110 : Motion picture, television and other theatrical casting
Office	Administrative & Supportive Service Activities	78109 : Activities of employment placement agencies (other than motion picture, television and other theatrical casting) nec
Office	Administrative & Supportive Service Activities	78200 : Temporary employment agency activities
Office	Administrative & Supportive Service Activities	78300 : Other human resources provision
Office	Administrative & Supportive Service Activities	80100 : Private security activities
Office	Administrative & Supportive Service Activities	80200 : Security systems service activities
Office	Administrative & Supportive Service Activities	80300 : Investigation activities
Office	Administrative & Supportive Service Activities	82110 : Combined office administrative service activities
Office	Administrative & Supportive Service Activities	82190 : Photocopying, document preparation and other specialised office support activities
Office	Administrative & Supportive Service Activities	82200 : Activities of call centres
Office	Administrative & Supportive Service Activities	82301 : Activities of exhibition and fair organizers
Office	Administrative & Supportive Service Activities	82302 : Activities of conference organizers
Office	Administrative & Supportive Service Activities	82911 : Activities of collection agencies
Office	Administrative & Supportive Service Activities	82912 : Activities of credit bureaus
Warehousing	Administrative & Supportive Service Activities	82920 : Packaging activities
Office	Administrative & Supportive Service Activities	82990 : Other business support service activities nec
Office	Public Administration & Defence	84110 : General public administration activities
Office	Public Administration & Defence	84120 : Regulation of the activities of providing health care, education, cultural services and other social services, excluding social security
Office	Public Administration & Defence	84130 : Regulation of and contribution to more efficient operation of businesses
Office	Public Administration & Defence	84210 : Foreign affairs
Office	Public Administration & Defence	84300 : Compulsory social security activities
Office	Other Private Services	94110 : Activities of business and employers membership organisations
Office	Other Private Services	94120 : Activities of professional membership organisations
Office	Other Private Services	94200 : Activities of trade unions
Office	Other Private Services	94910 : Activities of religious organisations
Office	Other Private Services	94920 : Activities of political organisations
Office	Other Private Services	94990 : Activities of other membership organisations nec
Other industrial	Other Private Services	95110 : Repair of computers and peripheral equipment
Other industrial	Other Private Services	95120 : Repair of communication equipment
Other industrial	Other Private Services	95210 : Repair of consumer electronics
Other industrial	Other Private Services	95220 : Repair of household appliances and home and garden equipment
Other industrial	Other Private Services	95230 : Repair of footwear and leather goods
Other industrial	Other Private Services	95240 : Repair of furniture and home furnishings
Other industrial	Other Private Services	95250 : Repair of watches, clocks and jewellery
Other industrial	Other Private Services	95290 : Repair of other personal and household goods

APPENDIX B RICHMOND'S FUNCTIONAL ECONOMIC MARKET AREA

Introduction

1. The PPG introduces the need to define FEMAs, but does not clearly define what a FEMA is or why it is useful. An earlier Communities and Local Government (CLG) guidance note, published in 2010, on which the PPG is clearly based⁵ provides a clearer definition and rationale for the concept of a FEMA:

'Economic flows often overlap local authority boundaries. This means that the functional area over which the local economy and its key markets operate will not necessarily adhere to administrative boundaries. Instead, key economic markets broadly correspond to sub-regions or city regions - known as functional economic market areas (FEMAs)...

Whereas the national or regional level is often seen as too large to tackle many of the issues facing individual urban economies, local authority areas can be too small if they cover a smaller geographical area than their economic markets. Policies designed at a local authority level, for example, may not fully consider the costs and benefits of implementing a policy if this spreads beyond their administrative boundaries. This can make it harder to tackle economic challenges effectively.

If economic policy is formulated at the FEMA level, as a closer fit to the area's real economic market, most of the impacts of the policy area will be contained. There will be less risk of local policies which are against the wider sub-regional or national interest, and local partners will be able to make more strategic decisions on economic development.'

2. Thus, the purpose of defining a FEMA is to allow the FEMA partner authorities to align policies in relation to new and existing employment sectors to promote the growth in employment for the collective good. In this regard it will be easier to undertake the demand supply balance across a wider than local market area as this may involve 'trading' future growth in the various employment sectors.

Defining the FEMA

Methods and criteria

3. As referred to above the PPG advises that there is no standard approach to defining individual FEMAs, and lists factors that '*it is possible*' to take into account. But when it comes to hard data the PPG suggests a single source for defining FEMAs - the ONS Travel-to-Work Areas (TTWAs), which are based on commuting only. It seems reasonable to assume that this is not intended as exhaustive, and therefore it does not imply that other data sources could not be useful or relevant. We explain below

⁵ Communities and Local Government, *Functional Economic Market Areas*, An economic note, February 2010, ISBN: 978-1-4098-2201-1

why the other factors are much less helpful in the case of Richmond, but first we explain why TTWAs are helpful.

4. The CLG note provides useful clarification, beginning with the labour market angle:

'The most widely accepted approach to identifying FEMAs is by reference to Travel to Work Areas (TTWAs), which are relatively self-contained, internally contiguous labour market areas. A commonly used definition is that: of the resident economically active population at least 75 per cent work in the area; and of all those working in the area at least 75 per cent also live in the area... But for areas with a working population above 25,000 the threshold falls to 66.7%.

5. TTWAs are often treated as the default definition of FEMAs for two reasons:

- *The labour market is fundamental to policy-relevant definitions of FEMAs... and*
- *TTWAs are the only sub-regional economic area robustly defined under the remit of National Statistics.'*

6. This explanation is important. As mentioned earlier, the rationale for FEMAs is that the planning policies of any given local authority are likely to impact on other local authorities within the same market area. The main instance of such cross-boundary impacts relates to the labour market. Because many people live in one local authority district and work in another, if an authority provides development land for economic uses the businesses that eventually occupy that land will provide jobs for residents of neighbouring authorities. This is an important reason why travel to work (commuting) is the main criterion in defining FEMAs.

7. After travel to work the CLG economic note goes on to discuss other relevant criteria, which are identical to the PPG factors listed at para 2.8 above, except for one that the PPG calls *'flows of goods, services and information'* in the CLG note is called *'supply chains in industry and commerce'*. The note comments on the different factors as follows:

- With regard to housing it explains that there is no agreed method for defining market areas, but the National Housing and Planning Unit has recently commissioned a study to develop such a method. We note that the NHPAU study was published later in 2010 and does indeed provide a comprehensive set of housing market areas (HMAs), based on analysis of migration and commuting in the 2001 Census. Unfortunately, the NHPAU study has not been replicated using the 2011 Census data, so the original 2010 study based on the 2001 Census is the latest top down national set of HMAs.
- In relation to supply chains, the note advises that the evidence is *'very difficult to map': input-output tables provide a method that 'may be viable, but it is questionable whether the information [they provide] has much value, since it is not based on data about real links'*.
- Regarding service markets for consumers, the note makes it clear that the subject is relevant to consumer services such as shopping centres, airports, concert halls

or hospitals, rather than the employment (B-class) uses that this study focuses on.

- The note suggests that analysis should take account of local authority boundaries, because the decisions that are informed by that analysis will be taken by local authorities. Therefore, it recommends that FEMA boundaries be 'best fitted' to local authority areas.
 - Finally, the note advises *that 'transport data are not the best data sources for FEMA definitions'... the key role of transport will be reflected using other FEMA definitions, such as TTWAs, as these flows are partly shaped by transport availability*.
8. The 2010 economic note concludes that the best way to define FEMAs may be to:
- 'Analyse Census commuting or migration data, as the most complete and reliable flow data, and supplement them with data from other economic markets'*.
9. In line with the CLG note's conclusions we will supplement and sense check the review of commuting at administrative area level (the TTWA data) during the Phase 2 work with an assessment of views from the property industry – providers, owners and occupiers of employment space.
10. The 2010 CLG note does not refer to the two other factors referred to at paragraph 2.8 above - the Local Enterprise Partnership and the HMA, but these are London-wide, and so do not help us define Richmond's FEMA.
11. In summary, the complexities of an outer London location mean that none of the factors are helpful in defining the FEMA with the exception of the TTWA data, which is helpful, and also the administrative boundaries because data is most readily available at local authority area level, and the main purpose is to inform local planning policy. The objective is therefore to identify the most contained commuting area that is best fit with local authority boundaries.
12. Our proposed definition of the FEMA is therefore based mainly on commuting data and administrative boundaries. The objective is to identify an area that is reasonably self-contained in terms of commuting flows (based on the 66.7% benchmark referred to by the 2010 CLG document), and which also best fits the administrative boundaries. As part of Phase 2 we will supplement and sense check the TTWA and administrative area data with views from the property industry.

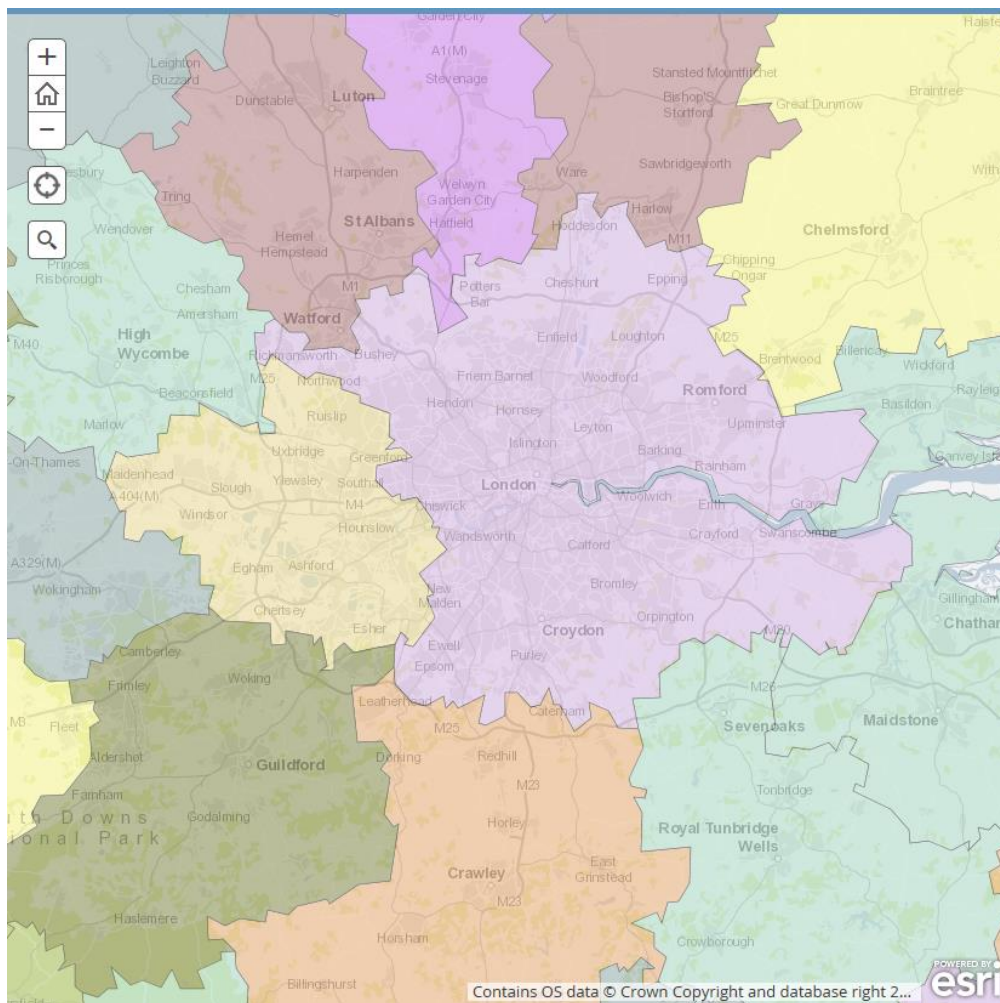
Commuting

Travel-to-Work Areas

13. The first step is to look at ONS's published TTWAs. The latest (2015) TTWAs, published are based on data from the 2011 Census.
14. Richmond straddles the boundary of two TTWAs:

- London, an area that to the north, south and east extends beyond the administrative area of Greater London and in some parts beyond the M25, but which is well within Greater London to the west; and
- Slough and Heathrow, an area centred on the airport, but which takes in a substantial part of west London, an area radiating out from the A40/A4/M4 and M3/A316, including most of Hillingdon, Hounslow, Richmond and Kingston.

Figure B1 TTWAs close to Richmond



Source: ONS Travel to Work Areas, based on 2011 Census, Sept 2016.

- The TTWA geography shows that the majority of Richmond is located in the Heathrow/Slough TTWA. However, the north-eastern end of the borough Barnes, (and neighbouring Putney and Roehampton in Wandsworth) is within the London TTWA, and is the most densely populated part of the Borough. The distinction drawn on the TTWA map, which is broadly east and west of Richmond Park suggests different economic drivers are at work in these areas. The area to the north-east is likely to have much stronger affiliation with Central London compared to the area west of Richmond Park which has stronger draw to the M3/4 corridor/ Heathrow.
- Thus, whilst the TTWA geography does give a good indication of strong links with the boroughs referred to above, because the Borough looks both ways and the data does not relate to local authority administrative areas, we cannot use the TTWA boundaries

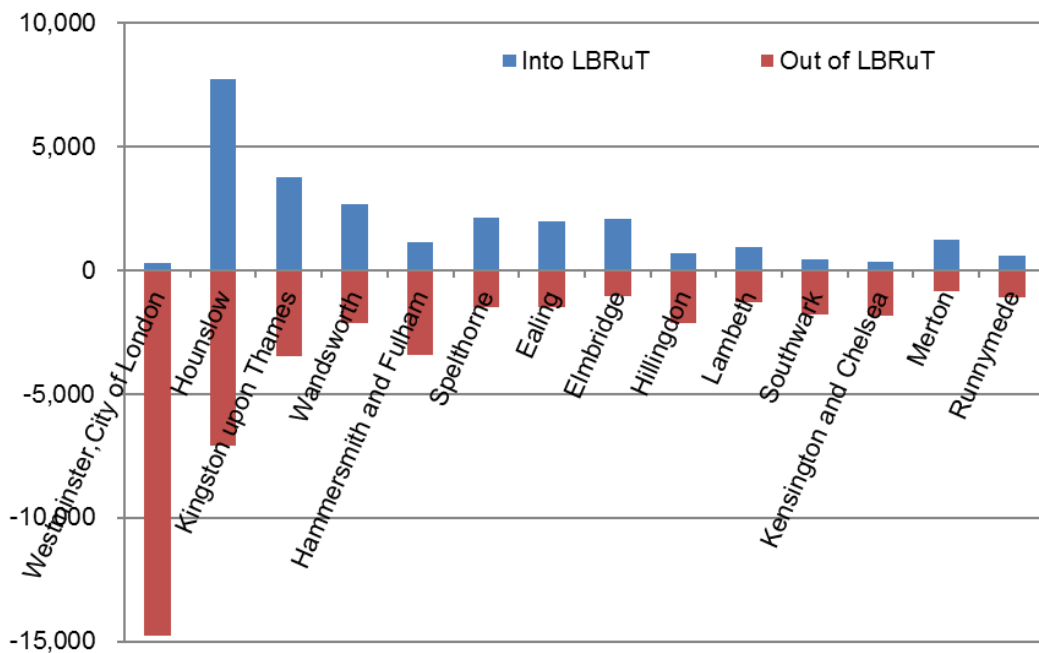
directly to define a FEMA: For practical reasons, FEMAs should be best-fitted to local authority boundaries.

- To define a FEMA that is useful for planning purposes, therefore, we must set aside ready-made TTWAs and look directly at commuting flows. In the next section we analyse these commuting flows, aiming to identify an area that is relatively contained in terms of 'to and from' commuting flows.

Commuting flows

- As is typical for outer London boroughs, labour market flows to and from Richmond are spread widely - into the City and across the London boroughs, and also out into the south east as demonstrated by the TTWA analysis.
- The 2011 Census reported approximately 100,000 working residents in the Borough, of whom 59,000 travel out of the Borough for work, almost 15,000 of whom (15% of the labour force) commute to Westminster/City. Approximately 22,000 either work from home or have no regular fixed workplace. Almost 19,000 working residents are employees based in the borough.
- Almost 39,000 workers commute into the Borough from beyond, which means that the net balance is firmly in the out commuting direction.
- The figure below shows the top 14 commuting locations with Richmond.

Figure B2 Commuting flows to and from Richmond, persons, 2011



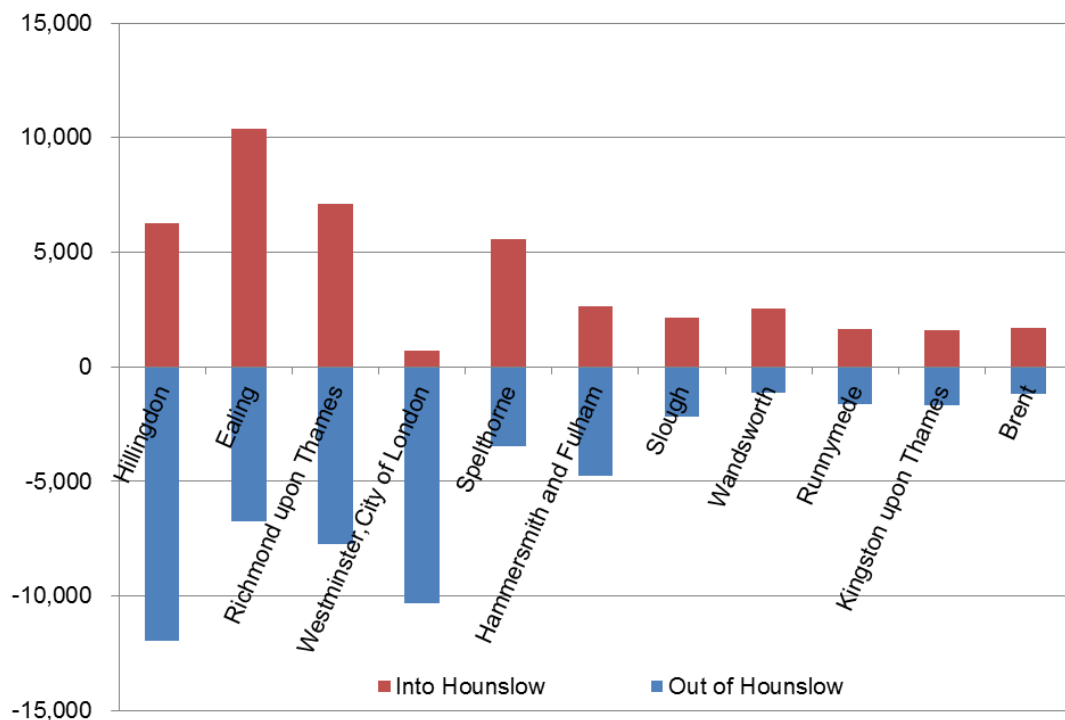
Source: ONS, Census WU01EW - Location of usual residence and place of work by sex (MSOA level)

22. The major flows out of Richmond (brown bars) are to other London boroughs with flows to Westminster and City of London much the highest. Flows to/from locations outside the London boundary are smaller, but still significant flows to Spelthorne and Elmbridge. Flows to non-neighbouring London boroughs such as Ealing and Hillingdon are weaker than boroughs immediately adjacent, but none the less are important, and there is a long 'tail' of such locations including Slough, which the data shows exchanged over 800 commuters.
23. The flow into Richmond (blue bars) from the City/Westminster is very minor. However, with the exception of Hammersmith & Fulham, Richmond is a net importer of workers from the neighbouring boroughs. Flows into Richmond from beyond the neighbouring boroughs are comparatively much weaker, indicating Richmond has a comparatively weaker employment attraction compared to other areas. This is borne out by the comparatively high differential (20,000) between resident employees working outside the Borough and the Richmond workplace population.
24. In working to define the FEMA we have excluded the flows into Central London (Westminster/City) because these are the strongest flows, and the FEMA boundary would therefore require the inclusion of just about the whole of London and some areas beyond.
25. We recently undertook an ELR study for London Borough of Hounslow and that work defined a FEMA that included Richmond. Figure B2 confirms that Richmond's strongest flows after those with the City/Westminster, are with Hounslow, and that these flows are twice the strength of the next most connected borough, Kingston; thus indicating that Richmond's commuting flows are far stronger with Hounslow than they are with Kingston or anywhere else for that matter.
26. A key factor in testing possible combinations of FEMA boroughs is the consideration of how the borough's inter-relate, and which contribute the most jobs, and will be at the centre of any FEMA, with those with weaker economies more peripheral. We have seen how this works in practice with the TTWA examples of the 'pull' of Central London and Heathrow.
27. Our work in Hounslow showed that Borough has a strong economy with 127,000 resident workers and 105,000 jobs 23,000 more than Richmond. Hounslow has very strong commuting relationships with Hillingdon focused largely on links with Heathrow, and with Ealing where the flows are predominantly into Hounslow, and with Richmond where the 'ins and outs' broadly match. Spelthorne has strong links with Hounslow with the bulk of the commuting out of Spelthorne. Slough completes the 'Hounslow' FEMA, an area that broadly corresponds to the eastern half of the Slough/Heathrow TTWA FEMA.
28. Heathrow is located in the London Borough of Hillingdon, and together with Hounslow and Slough that borough accommodates the bulk of the freight related and other spin off employment opportunities. The western part of the Slough/Heathrow TTWA is in Windsor & Maidenhead which has strong affinity with Slough, but also has strong links with the neighbouring boroughs to the further west – Wokingham, Bracknell and

Reading. Slough has strong links in either direction, but the inclusion of Slough in a FEMA with Hounslow and Hillingdon reflects the focus of industrial activity in the eastern part of Slough at Poyle, closest to London and adjoining Spelthorne.

29. Figure B3 below shows the commuting flows in/out of Hounslow, and shows the strength of the main flows, the flows that identify the boroughs that are within the same FEMA. A comparison with Figure B2 above shows that Richmond's association with Hounslow is far stronger than that with any other borough including the other neighbouring boroughs.
30. Thus, it is clear from this analysis that Richmond like Spelthorne has major commuting links with Hounslow, which has a much stronger economic base, and that these links with Hounslow are much stronger than the links in other directions.

Figure B3 Commuting flows to and from Hounslow, persons, 2011



Source: ONS, Census WU01EW - Location of usual residence and place of work by sex (MSOA level)

Commuting self-containment

31. We now turn to consider the level of commuting self-containment achieved by the Richmond FEMA in the following tables.

Table B3 Commuting self-containment, 2010-11 – Richmond alone

Origin (trips from)	Destination (trips to)		Total trips from containment	Origin containment
	Richmond	Elsewhere		
Richmond	32,827	44,232	77,059	43%
Elsewhere	38,330			
Total trips to Richmond	71,157			
Destination containment	46%			

Source: ONS, Census WU02UK - Location of usual residence and place of work by sex (2011)

Nb excludes commuting to/from Westminster / City, and includes people who work from home, but excludes those with no fixed workplace

32. Containment levels are very low when Richmond is considered alone, even with the exclusion of commuting into the City. This demonstrates the fact that in London commuting patterns are very complex and commuting is spread across multiple employment destinations, facilitated by generally good quality transport accessibility, making it difficult for London boroughs to achieve high levels of workforce containment.

Table B4 Commuting self-containment, 2010-11 – Slough/Hounslow FEMA

Origin (trips from)	Destination (trips to)		Total trips from "the area"	Origin containment
	"the area"	Elsewhere		
Hounslow, Hillingdon, Ealing, Richmond, Spelthorne plus Slough ("the area")	342,670	233,799	576,469	59%
Elsewhere	218,714			
Total trips to "the area"	561,384			
Destination containment	61%			

Source: ONS, Census WU02UK - Location of usual residence and place of work by sex (2011)

33. Containment rates are below the TTWA rule of thumb threshold of 67%.
34. We have also tested containment rates for Richmond and the seven adjoining boroughs. The effect of this as shown on **Error! Reference source not found.** is to marginally raise origin containment, but to marginally reduce destination containment, and thus the overall effect is that containment is no better or worse than the Slough/Hounslow FEMA.

Table B5 Commuting self-containment, 2010-11 – Richmond centred FEMA

Origin (trips from)	Destination (trips to)		Total trips from the "area"	Origin containment
	the "area"	Elsewhere		
Richmond, Hounslow, Kingston, Wandsworth, Ham&Ful, Spelthorne, Ealing & Elmbridge (the "area")	396,773	258,256	655,029	61%
Elsewhere	275,771			
Total trips to the "area"	672,544			
Destination containment	59%			

Source: ONS, Census WU02UK - Location of usual residence and place of work by sex (2011)

35. Whilst neither combination achieves the rule of thumb 67% level, as we have explained this is to be expected in Outer London and does not mean FEMAs based on lower self-containment are not appropriate and function as an economic group.
36. In the case of both Wandsworth and Hammersmith & Fulham the economic linkages are more towards Inner London. Kingston's principle draws are its town centre (retail and leisure jobs) and the two SILs Chessington and Barwell, which are both located to the south of the Borough and the commuting links are strong across south London and north west Surrey - Merton, Sutton, Epsom and Elmbridge. Elmbridge is a small borough with relatively little employment, and its strongest links are with Kingston.

Conclusions

37. Travel To Work Area maps and commuting flows data have been used to define the FEMA that is most relevant to Richmond. The data clearly shows Richmond has its strongest links with Hounslow, which has a much stronger economy. It is clear that Richmond does not operate as the hub of a FEMA, but is part of the same FEMA grouping as Hounslow, and this extends to Hillingdon, Ealing, Spelthorne and Slough. There are economic links to other adjoining boroughs, but these are far weaker than those with Hounslow that drives the FEMA, and these links and their implications will need to be considered through duty to cooperate discussions.