ies Report

Institute for Employment Studies

Improving understanding of the demand for and supply of skills in the West London labour market

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Executive Summary

The West London Alliance (WLA), a partnership of local authorities, has an interest in influencing the commissioning of appropriate skills provision to respond to employer demand. The area has seen skills shortage vacancies as well as skills gaps[1]. Addressing these is an important part of the WLA's focus on improving the prosperity of the local economy and of its residents. As part of this improving alignment between employers' needs and skills provision including training and careers guidance, is crucial. This report sets out the work led by the Institute for Employment Studies (IES), in partnership with Rocket Science, to deliver insights into skills demand and supply in the West London labour market, and to develop a tool to bring together the available datasets.

Employers' skills demand

The main body of the report sets out in detail how we approached this task. In the summary, we focus on the findings that result. These indicate:

- While there was an increase of people working in the West London area of 111,000 or 12 per cent between 2010 and 2019, this did not match the rate of growth in London (23 per cent).
- This growth was predominantly amongst the higher skilled occupational groups - managers, directors & senior officials (54 per cent), professionals (35 per cent) and associate professional/technical occupations (14 per cent).
- A forward projection of historical employment trends (under a baseline scenario unadjusted for COVID 19) suggests that employment could have grown to around 1.2m by 2029, equating to growth of 13 per cent – which would have been slightly below that forecast for London as a whole (16 per cent).
- While there have been notable reports of redundancies and job losses, the longer-term effects of COVID 19 on employment in London and WLA (based on current data) are anticipated to be relatively low - with WLA employment in 2029 at a level around 4.6 per cent lower than under the baseline (no COVID 19) scenario.
- However, there is an anticipated slowdown in employment from a growth rate of 1.4 per cent to a decline of 2.7 per cent over 2020-21 and from 1.4 per cent to -1.3 per cent over 2021-22. Growth is then expected to rapidly rise to a level equal/above trend.

[1] Skills shortages are cases in which employers have difficulty recruiting due to a lack of candidates with the required skills, qualifications or experience. A skills gap presents when existing employees do not possess the necessary skills required by the business.

- Both scenarios show a rise in employment between 2019 and 2020 (1.4 per cent in the case of baseline estimates and 2.2 per cent with COVID adjustment).
- Growth will continue for skilled/higher level occupations – particularly for Managers, Directors & Senior Officials (up by 31 per cent) and with most occupations growing in absolute terms, a decline is predicted in administrative/secretarial occupations (-25 per cent) and skilled trades (- 8 per cent) compared with 2020 – resulting from the fall-out from COVID-19 anticipated during 2021.
- Overall levels of demand (expansion + replacement) are anticipated to remain at a similar level for much of 2020-29 (following the fall in 2021).
- Reviewing total demand (expansions + replacement) in WLA by occupation, the absolute level will be highest for 'skilled workers' followed by Managers/Directors and Associate Professionals mirroring labour market changes over the 2010-19 period.
- By contrast, there will be much lower levels of demand for lesser skilled occupations such as Process, Plant and Machine Operatives and Elementary workers.
- The Employer Skills Survey (2019) shows that 11 per cent of employers in WLA reported mismatches between the skills held/needed of their workforce (skills gaps); 7 per cent had vacancies that were hard-to-fill, and 5 per cent had hard-to-fill vacancies due to candidates' lacking skills/qualifications (skills shortages).
- The incidence of skills gaps, hard-to-fill vacancies and skills shortages in WLA employers were much the same as across London.

Skills supply in WLA

- The skills provision analysis uses providers' management information that records the funding for places they have in place for the 2020-21 academic year. This can be updated in future years so that supply can continued be assessed against the demand forecasts that are now contained within the tool.
- To date the six further education colleges (FECs) have supplied data for incorporation into the tool which represents a considerable volume of the training available in WLA. However, there is also opportunity to build in management information from private training providers (PTPs) which will increase insights into apprenticeship delivery and industry accredited provision, as well as Higher Education Institutes (HEIs) where provision is typically at a high skill level (Level 4+) although in terms of number of places, this is often more learner-responsive than employer-responsive.
- In total the six WLA FECs currently offer 1,296 courses with 18,780 places available.
- The courses currently covered in the tool range from NVQ Level 2 to Level 5, with 95 per cent of places at Level 2 (41 per cent - 7,640 places out of 18,780) or NVQ Level 3 (54 per cent - 10,089 places out of 18,780).
- Each course is classified against one of nine Sector Subject Areas (SSA). The highest number of places is in Health, Public Services and Care (3,148 out of 18,780 places – 16.7 per cent of total); the sector with the lowest number of places is Education and Training (546 places – 2.9 per cent of the total).

- The proportion of Level 2 and Level 3 places varies by sector. Retail and Commercial Enterprise has the highest proportion of Level 2 places (1,231 out of 1,801 places – 68.4 per cent of total); Science and Mathematics has the highest proportion of Level 3 places (843 out of 1,081 places – 78.0 per cent of total).
- As part of the analysis we compared Target Places (the number that DfE will fund) for each course with Actual Places (places taken up by learners). Where the Target Places exceed Actual Places, this suggests that there is potential capacity to expand provision although some caveats were noted in the reliability of these data).
- Nonetheless, looked at this way, it could be said that Construction, Planning and the Built Environment is the sector with the most additional capacity.
- Finer grain detail is included in the report body, and the tool can also be interrogated to access this.

The gaps between demand and supply

The online tool produced for WLA has the capacity to analyse forecast demand by SSA as a yearly average of demand for employment over the period 2021-2030. This summary is based on those data, and what it reveals can initially look quite stark. It is worth stating that when interpreting these data that bringing together demand and supply data in this way has not previously been attempted in WLA so there has been limited labour market intelligence to shape the skills offer. It should also be borne in mind, that the gaps are between funding commitments from the Education and Skills Funding Agency (national) and Adult Education Budget (London) and demand. There is also potential to deepen and sharpen the insights: the tool has not yet captured on-the-job training for employees that employers commission or the provision of private training providers (likely highly employer responsive) and HEIs (which will be concentrated on Level 4+).

Based on the current data in the tool, it can be said:

- The impact of the end of the Brexit transition period and COVID-19 pandemic on employment has had a marked impact on the demand forecasts for 2021. Overall, the number of places (18,780) exceeds demand for jobs (16,160) across the WLA area. This is largely because of the negative demand in three sectors:
  - Construction, Planning, and the Built Environment (forecast 2021 demand: -10,541)
  - Information and Communications Technology (forecast 2021 demand: -8,941)
  - Leisure, Travel, and Tourism (forecast 2021 demand: -7,056)
- Looking at the demand forecast into the longer term:
  - Construction, Planning and Built environment training places represent 96 per cent of predicted demand – which aligns well with growth strategies.
  - Science and Mathematics provision is 83 per cent of the annual demand forecast
  - Arts, Media and Publishing, the number of places is around half of forecast demand
  - Education and Training course places represent just 23 per cent of forecast demand – and there appears limited growth capacity here currently.

  - Business, Administration, Finance and Law (28 per cent), and Engineering and Manufacturing Technologies (22 per cent) training places will meet low proportions of the predicted demand and they are also sectors where the difference between course places and demand is high.
- Given the differential sectoral impacts of COVID-19, the mismatch between places and demand in Retail and Commercial Enterprise (33 per cent of forecast demand) and Leisure, Travel and Tourism (48 per cent) may be less of a concern short term.
- The rising need for employees in Health, Public Service, and Care roles in light of Brexit (44 per cent of forecast demand) and in Information and Communications Technologies (79 per cent of forecast demand) in light of increasing demand for digital skills, may mean training supply for these sectors requires expansion.
- Digital skills – as highlighted – will be important, and become a feature of more jobs as the economy moves to increased automation as well as being a sector for growth. Examination of London Data Cube information suggests relatively low levels of provision although rising uptake by learners. However, this may not indicate the full range available with digital skills becoming more embedded in qualifications.
- Reasons for gaps between provision and demand are quite difficult to attribute. However, they are likely to result both from the supply and demand domains.
  - For supply, the funding system and annualised cycle determines the pace of any change. Typically, providers have reasonable knowledge on shorter term demand. However, to bring forward new provision requires upfront investment, and two-to-three year development phase which means they need firm and longer term commitment that places would be taken up.
  - From the demand side, some industries move too quickly for the college annual cycle e.g. IT/ technology-based industries. Conflict between the pace of change in industry and colleges means that the development of courses will take too long, and that provision will be out of step.
- To reach decisions on how to prioritise employment demand with existing and new skills provision, detailed interrogation of the tool will be helpful. The tool demonstrates how rapidly demand for roles will come on stream and what the future demand trend is e.g. a short-term peak followed by minimal replacement demand or a longer-term trend for increasing or continuing demand[2]. Updating the tool and incorporating more provider data including current and future plans will assist longer term assessments.
- In taking forward new supply, there will likely be benefit from increased collaboration between providers. This would ensure where gaps exist for specialist or niche provision, there is some risk-sharing, or decisions around specialisation to make larger investments feasible.
- In respect of how best to develop new provision for delivery, a couple of approaches may be salient alongside longer term investment in apprenticeships and full/part-time

[2] The appendix table in this report also provides some of these insights

nationally accredited programmes. These include models for reskilling such as Sector-based Work Academy Placements and the Employer Responsive Training Pilots, which could be replicated.

- The report concludes by putting a spotlight on practice in other areas, including how sub-regional bodies have taken forward employer responsive training provision; new funding streams that support employer-responsive models and other tools that could be useful additions to the WLA online resources.

1 Introduction

The West London Alliance (WLA), as a partnership of local authorities, has an interest in influencing the commissioning of appropriate skills provision to respond to employer demand within the sub-region. Therefore, central to its operation is a clear understanding of demand for and supply of skills. Analysis has shown that in recent years the area has seen skills shortage vacancies as well as skills gaps[3]. To improve the prosperity of the local economy and of its residents – especially as it grapples with the impact of the pandemic and moves toward recovery - it is important to improve the alignment between employers' needs and skills provision including training and careers guidance.

Seeking to build on existing analysis commissioned by WLA and others, the Alliance set out a brief to bring a consultant on board to draw together demand and supply data accessibly and coherently and in a manner that would be easily updatable. This report sets out the work led by the Institute for Employment Studies (IES), in partnership with Rocket Science, to deliver insights into skills demand and supply in the West London labour market, and to develop a tool to bring together the available datasets.

1.1 Approach

Our approach was desk-based since it was necessary to interrogate various data sources and lead consultations, which was best done by phone/video-calls given the COVID-19 context.

1.1.1 Scoping work

Our work commenced with the collation and review of relevant documents and data, including those held by WLA and its partners and those published nationally/regionally. This was complemented by interviews with key stakeholders from across the WLA boroughs, and covering the provision and demand perspectives as well as support at the borough level. These provided insights into how the tool could be used in different settings, and the level of detail that would be most helpful.

Additionally, existing data and reports were reviewed. This included the Oxford Economics analysis and forecasts for the WLA labour market in the context of the

[3] Skills shortages are cases in which employers have difficulty recruiting due to a lack of candidates with the required skills, qualifications or experience. A skills gap presents when existing employees do not possess the necessary skills required by the business.

pandemic, as well as other examples and sources that aimed to link employment demand with skills supply.

1.1.2 Assessing labour market demand

We have drawn on a range of labour market sources to lead the assessment of local labour market demand building on the Oxford Economics (OE) analysis, which WLA previously funded. While in the early stages of the work, we established that WLA could use the OE forecasts in the tool – the accompanying output to this report - there were restrictions in respect of how widely these data could be published such that OE would prohibit the use of these data within the tool if extensive use of extracts was made and/or data circulated was circulated widely beyond the sponsoring organisation, WLA. As such it was determined that an alternative source of demand estimates needed to be established that would not only be freely reproduceable but also: a) methodologically transparent, b) built using known and easily accessible data sources and c) easily updateable by other organisations.

Accordingly, IES has undertaken an extensive search of potential data sources and methodologies that could be used to meet this requirement. Our approach has been peer reviewed by IES labour market statisticians who agree it is sound. However, there are some caveats (see below). These will be encountered by anyone undertaking a similar analysis using the same datasets.

Our selection of sources of labour market data for the current analysis and use in the tool hinged upon six key factors:

1. Is the data source up-to-date?
2. Is the data available to a suitable level of disaggregation (area, industry, occupation)?
3. Is the data robust?
4. Can the data be easily/freely accessed?
5. Can data be shared amongst the WLA partners/wider audience?
6. Can the analysis be repeated in-house with minimal external, expert input?

At an early stage it became apparent that existing data/forecasts from OE would not meet the requirements of cost, clarity of methodology, access/publication restrictions and level of detail and as such an alternative source of demand estimates/forecasts would be required.

Accordingly, an alternative methodology for demand measurement and forecasting was sought which would use existing data sources (many of those drawn on by OE) using transparent approaches that would be replicable in future without commissioning an external contractor and without overly impacting the reliability of associated estimates.

Whilst developing this methodology it again became apparent that the level of detail required for the area analysis and related tool development would necessitate the use of data that was associated with relatively high error margins (i.e. detailed employment estimates at Borough level) and that these margins would be exacerbated by the use of these estimates as a basis for developing the required demand forecasts.

Despite this concern, it was also noted that there are currently no alternative sources of data[4] that could be utilised within this work to improve the accuracy of the data analysis/ forecasts (as illustrated by the fact that the sources are commonly employed by all labour market analysts and forecasters).

Consequently, our demand estimates have been established using four main, established data sources: the ONS Annual Population Survey (APS), the ONS Quarterly Labour Force Survey (QLFS), the ONS Business Register and Employment Survey (BRES) and the ONS 'Workforce Jobs' (WfJ) series - all of which can (currently) be readily accessed at no cost from NOMIS, the UK Data Service and/or the ONS website, and all of which are employed by OE and other forecasters in the production of their own bespoke models/forecasts.

In each case we have extracted a time series of data for London and its constituent boroughs at the most detailed level possible (i.e. from SOC (Standard Occupational Classification) 'Unit' level to SOC MAJOR level depending upon the area in question)[5] from each source, applied a number of constraints and apportionments to the data to produce estimates for employment, jobs and demand for specific WLA authorities and then projected these estimates into the future using a simple regression model with constraints imposed at each stage at borough level.

These baseline forecasts (i.e. based on long-term trends till 2019 only) were then augmented by the addition of a 'COVID adjustment' based upon extracts from the QLFS for quarters one through three of 2020 in order to create a further series of 'COVID scenario forecasts'.

This methodology was discussed and agreed in draft form with the key project stakeholders including IES and GLA economists (17 November 2020) and subsequently refined/built into the updated project design.

To support decision makers employing these forecasts (together with associated supply data documented later within this report and the labour market information (LMI) tool developed) we also undertook a review and - in relevant cases - analysis of other supporting data sources which, though unsuitable for inclusion within the forecasting process / LMI model, provide useful contextual information for WLA policy makers notably:

- the DfE Employer Skills Survey (ESS), which provides high level indications of skills mismatches within the WLA area
- Adzuna vacancy data which provides a detailed view of short-term trends in demand over the March – October 2020 period.

[4] It has been suggested that the ONS Labour Market Survey could provide much more detailed/accurate estimates of employment at a local level and potentially towards the end of 2021

[5] The ONS Standard Occupational Classification (SOC) system (2010) provides a hierarchical framework for the analysis of occupational data in the form of 9 'major' groups (also known as 1-digit SOC), 25 'sub-major' groups (2-digit SOC), 90 'minor' groups (3-digit SOC) and 369 'unit' groups (4-digit SOC) and ONS employment estimates are typically available to 4 digit (detailed) level for UK nations/regions and 2 digit level for individual boroughs/local authorities.

1.1.3 Assessing skills provision

In parallel to assessing the demand data and how to embed this within the tool, we have been seeking to collate data on funded local and regional skills provision.

It is worth noting, that we are including provision at and above Level 2 in the tool on the basis that courses at this level tend to lead to specific occupations, whereas courses at below Level 2 typically support the development of more general, employability-type skills – including literacy, numeracy, ESOL and basic accreditations such as hygiene or first aid. Moreover, at the point the tool was delivered it did not include data from Higher Education Institutes (HEIs) or Private Training Providers (PTPs) (while adult and community learning is also not covered this is often below Level 2 and/or not occupationally focused).

Over time the coverage of the tool could be extended to include data from PTPs (particularly occupation specific training such as Apprenticeships and industry accreditations) and HEIs. In respect of provision in HEIs, it should be remembered that it may be more learner-led in scale than employer-led. Nonetheless, some aspects of HE provision would be pertinent to include – particularly those courses designed with employers such as Foundation Degrees or other provision badged for the Higher Technical Qualifications (Levels 4 and 5).

We explored the London Data Store as a potential source – reviewing the data that is captured by the Individual Learner Record (ILR) on learners and delivery that can be shared, as well as the data held by post-16 providers – specifically, further and higher education and Adult Education Budget provision. However, the ILR proved an insufficient source of information – for example,

- The data held is reflective of actual learners, and does not allow for analysis of the target numbers for each qualification.
- The data that can be accessed via the London Data Store reflects the Adult Education Budget so not the entirety of skills provision.
- There are restrictions on reporting that mean this data could not be included in the tool.

For this reason, we pursued provider management information as this is future looking rather than retrospective, is more readily accessible and updateable, and is simpler to manipulate. However, the downside is that it does not include information about previous years which means we cannot readily report on trends in the uptake of skills provision in the WLA area.

We have collected information from all FE colleges across the West London Alliance boroughs including:

- West Thames College
- Barnet and Southgate College
- Harrow College and Uxbridge College (HCUC)

- College of North West London
- West London College
- Stanmore College.

We agreed in advance with a representative of the one of the FE colleges data fields that could pulled from colleges' Management Information Systems and that would best inform the creation of the tool. These were:

- College name
- Course number
- Qualification
- Sector subject area (*these are a hybrid of occupations/tasks historically developed by sector bodies although do not readily cross reference to SOC).*
- NVQ or equivalent level
- Duration of course (no. of weeks)
- Duration of course (hours per week)
- Target places
- Actual places
- Number of nil paid (a terminology used in the FECs to note places where learners were eligible to access the qualification for free)
- % of students from within the WLA catchment
- Delivery location (postcode).

1.1.4 Connecting supply and demand data

In order to connect the demand-side data with the supply-side data, we had to conduct a SOC code and Standard Industrial Classification (SIC) code matching exercise for each qualification offered in the West London boroughs. This exercise was performed manually as FE colleges do not currently collect or hold this information.

The first step of this process was to identify occupations related to each qualification. Some qualification prospectuses suggest career pathways with occupation titles outlined within them, and in such instances, we used the proffered occupation where possible. Where not, we used the career pathways and related occupation titles suggested by the colleges. We then identified the associated SOC codes (both the 2010 and 2020 versions to ensure full compatibility with other datasets - the majority of which are presented according to SOC2010 related with each occupation title. To facilitate this process we used the online version of the Cascot: Computer Assisted Structured Coding Tool – the 2020 version of this tool outlines pathways into each occupation along with associated qualification levels. This allowed us some degree of accuracy when matching SOC codes to qualifications.

The next step was to assign a SIC code for each SOC code. We did this using the Companies' House SIC resource tool, entering occupation names and to the correct SIC codes as accurately as possible. We are currently in the process of assigning a more usable taxonomy for the SIC and SOC codes so that users are able to understand the information more readily. This is discussed below.

1.1.5 Assessing the gap in supply and demand

The gap analysis has been conducted using the data now located in the tool (see below). This combines labour market insights and forecasts for the year ahead as well as up to 2030, with supply information focused on ESFA-funded provision for academic year 2020-21. This serves to illustrate how the tool can be used to assess the adequacy of provision compared to the predictions for demand in the labour market.

1.1.6 Developing the tool

The demand and supply-side data have been brought together within a visual analysis tool in an updatable format. We consulted with a range of stakeholders on the development and delivery of the tool including contacts at WLA and GLA. The approach was also peer reviewed by a wider team of labour market statisticians at IES.

The four-digit SOC is the means through which the supply and demand data have been brought together. However, a four-digit code is not intuitive for users of the tool. While it provides the technical means for joining supply and demand data, an alternative was required to improve the user experience.

The way forward on this was to use information collated on the supply-side. The Department for Education categorises courses based on a set of 10 Sector Subject Areas (SSAs) which provide textual descriptions that are more accessible from the user perspective. However, there is not a publicly available standardised map/ cross-reference to SOC and SIC[6]. Because there are 369 four-digit SOCs and far fewer SSAs, we have analysed each course supplied by the WLA providers and matched the SSA to the appropriate range of SOCs. This was a manual process with a degree of subjective judgement underpinning it. As part of this manual process to map SSA to SOC and SIC, each four-digit code was replaced in the tool with its verbal description eg. the description associated with the four-digit SOC code 2137 is: 'Web design and development professionals' – which provides a more intuitive use of the tool.

As noted, the LMI for All[7] project has developed a more-refined taxonomy using this approach by using a lower tier of (130) SSA codes (as opposed to the 10 employed here) but has not yet published the reference list between these lower-tier SSAs and occupations. In future, WLA may wish to further explore the availability of these data. This would allow the online tool that we have produced to match demand data against these

[6] The LMI for All project has created one but it is not published: https://www.lmiforall.org.uk/designers/skillsmatch/

[7] https://www.lmiforall.org.uk/developers/data-documentation/occ-descriptions/

lower tier SSA codes though there would, however, still be a task of matching provider course information to them. This is similar to the issues encountered in trying to link to the NESTA taxonomy[8] which is based on a large-scale, machine learning heuristic model, 'scraping' skills from Burning Glass vacancy data so the alignment with the tool we have created would be more difficult. Nonetheless, this taxonomy that could be linked to from the WLA website in respect of the careers information it can supply to residents considering taking up training.

1.1.7 Report structure

Chapter 1 has provided an overview of the rationale for the project and our approach. This included key decisions that were made as part of working through the requirements of the brief.

A matrix focusing on the pros and cons to the different data sets we examined for use in the project is also provided in chapter 2.

Chapter 3 supplies a detailed analysis of the labour market and forecasts through to 2030. This analysis uses the APS and LFS to assess the picture and predictions for employment growth and decline.

This analysis is complemented by an assessment of the impact of COVID-19 on the WLA labour market using Adzuna data on vacancies between March and October 2020 in Chapter 4. This shows the effect the pandemic had had on the WLA labour market.

Chapter 5 discusses demand from major employers and developments within and nearby the WLA.

Skills issues past and present are included in Chapter 6 which presents an analysis of employers' skills needs including for digital skills drawing on the employer skills survey.

Chapter 7 examines the supply of skills provision across the WLA boroughs. This draws on the FEC provider management information about the funding received for places in the 20/21 academic year, as described above. While it would have been desirable to be able to include trends in learning in the lead up to the 20/21 academic year in the tool, due to publication restrictions associated with the London Data Cube and ILR, this has not been possible, although some analysis is included in this report using these data.

The gap between current provision and current and future demand is explored in Chapter 8, which also throws a focus on digital skills, why the gaps might exist and approaches to filling them.

The report concludes in Chapter 9 with some insights into good practice examples found during the scoping for this project and which WLA may wish to draw on in future, or build into its web portal.

[8] https://data-viz.nesta.org.uk/skills-taxonomy/index.html

2 Assessment of data sources

Though there are an abundance of data available to those seeking to extract or explore labour market information (LMI) for the UK, there are really just four '**key'**[9] sources for those seeking to analyse and forecast trends in employment and the related employer demand for labour and skills i.e.

1) The ONS Quarterly Labour Force Survey (QLFS)
2) The ONS Annual Population Survey (APS)
3) The ONS Business Register and Employment Survey (BRES)[10]
4) The Census

Unfortunately, each of these data sets also have intrinsic limitations that restrict their use for those seeking to undertake a very detailed labour market analysis as required by this project i.e.

1) Quarterly Labour Force Survey (QLFS) – the QLFS is a household survey and the primary LMIS survey undertaken by ONS. Despite coverage of around 60,000 households per quarter, the number of individual responses at local authority level are relatively small and as such, associated estimates from the QLFS are subject to very high error margins and can also be disclosive (ie. individual responses can potentially be determined from an analysis of base data). As a result, access to the full QLFS datasets (ie. all variables) is restricted and analysis at local authority level in particular is not possible outside of the ONS Secure Research Service (SRS).

   Detailed occupational data (ie. employment and replacement demand as discussed below) are available at regional level however (via analysis of 'standard data sets' held at the UK Data Service) and have been utilised in the development of forecasts and the WLA LMI tool produced as part of this project.

2) ONS Annual Population Survey (APS) – though based on a much larger response base than the QLFS, APS data can again be disclosive or subject to high error margins if very detailed analysis is required. As such, access to APS data is again severely restricted for those seeking data at local authority level and SRS access is again required if any intensive analysis is needed.

[9] There are various additional sources providing additional detail on specific elements such as pay, health and safety, working conditions etc., however with regards basic estimates by occupation or industry these are considered the main or primary data sets.

[10] Along with it's precursor the Annual Business Inquiry (ABI)

Some degree of analysis is possible via NOMIS however, and estimates of employment by (sub)major occupational group and the constituent WLA boroughs have again been used in the analysis presented within this report as well as the associated LMI tool.

3) The BRES survey (and its precursor – the Annual Business Inquiry (ABI)) – unlike the QLFS/APS is a survey of businesses (around 90,000 per year) and, whilst it is relatively easy to extract basic employment data from BRES even at sub-district level (again via NOMIS) and by detailed industry, the data collected by BRES is limited to employees only and offers no occupational disaggregation at all.

   In addition, it should be noted that BRES data is a count of jobs (positions) as opposed to employment (people in work) which means that there are fundamental differences between any estimates from BRES and the QLFS/APS (each of which provide employment estimates only).

4) The census – though census data is available to sub-district level and by detailed occupation and industry on request, the latest census data is now almost ten years old and as such its use for analysis current/future labour market trends is extremely limited. In addition, the census – like the QLFS/APS is reliant on individual's self-declaration /assessment of their occupation and industry of employment – which in the latter case is inconsistent with BRES figures.

Though there are clearly a number of basic limitations and inconsistencies amongst these core data sources, they are - as noted earlier - the primary sources employed by any organisation/individual seeking to analysis or forecast employment in the UK or its sub regions and as such, form the basis of our own activities in this area.

These data sets along with some of the other main sources of supporting LMI were considered in depth during an early scoping exercise - a summary of which is presented in the table below which sets out our assessment of the main sources of data that could be drawn upon along with the conclusions we reached for each. These judgements have been based on the ease of access, coverage and the extent of

Table 2.1: Data source assessment

Data source	Coverage / owner	Coverage (content and time)	Pros	Cons	Ease of use by non-specialists	Inclusion
Data cube / ILR data	Supply / GLA & DfE	Learning delivery and learners; lagged/retrospective data - prior academic year (one year delay); insights into scale and focus of apprenticeships and qualifications linked to occupation	Detailed insight of delivery and learners across the area	Retrospective - what was available; does not forecast what will be made available in future years; constraints on reporting at granular level	Learner data can require some manipulation	Data received, but Department does not allow publication of these data so cannot be included
Provider management information	Supply / providers	College name; Course number; Qualification; Sector subject area; NVQ or equivalent level; Duration of course (no. of weeks); Duration of course (hours per week); Target places; Actual places; Number of nil paid; % of students from within the WLA catchment; Delivery location (postcode).	Funded places available	Employer responsive provision is hard to ascertain	Readily updatable within the tool; providers willing to supply updates	• Tool
Adzuna vacancy data	Short-term demand / Adzuna (license required)	Vacancies from April/Sept 2020. Lagged data - one month+ behind depending on agreements for drawing and analysing	Detailed insight into labour market effects to test forecasts now Covid 19 has caused recession	Retrospective - does not show planned recruitment so does not enable supply to be planned on this basis. Proprietary, charged data source.	Data requires significant manipulation particularly to establish SOC/framework links	Context setting in reporting
BRES (Business Register and Employment Survey) - Open data	Demand / ONS	Employment estimates by industry on an annual basis, available in 'standard' and 'Safeguarded' versions	• Considered the most accurate industry employment estimates • Very detailed - sub-district level to 4 digit SIC	• Only available by industry not occupation • Only available annually • Data for jobs only	• Easily accessed via NOMIS • No license needed for 'Open' version	Context setting in reporting

Data source	Coverage / owner	Coverage (content and time)	Pros	Cons	Ease of use by non-specialists	Inclusion
Labour Force Survey (LFS) - standard data set	Demand / ONS	Quarterly household survey providing estimates of all key labour market characteristics	• Updated quarterly - most up-to-date source • Very detailed to region level - 4 digit SIC/SOC • Information on all aspects of the workforce inc. quals, jobsearch, attrition	• No sub-regional data • Worker as opposed to 'jobs' based (inconsistent with BRES) • Data liable to supression • Annual estimates unavailable/APS preferred source • Large error margins associated with very detailed analysis	• Requires SPSS[11]/similar for analysis • Requires individual/project applications to the Data Service (not onerous)	• Tool forecast
Labour Force Survey (LFS) - Secure Access	Demand / ONS	Quarterly household survey providing estimates of all key labour market characteristics	• As above plus: • Data available to district level • Other useful data available (e.g. last job of the unemployed and second job to give 'jobs' equivalent)	• Local data liable to heavy supression • Annual estimates unavailable/APS preferred source • Extensive application process to the ONS SRS	• Requires SPSS/similar for analysis • Requires individual/project applications to the SRS - extremely onerous	Unused
Annual Population Survey (APS) - standard data set	Demand / ONS	Annual household survey providing estimates of all key labour market characteristics	• Considered most accurate employment estimates (occupationally based) • Information on all aspects of the workforce inc. quals, jobsearch, attrition • Many variables available via NOMIS	• Substantial removal of variables from standard dataset renders it unusable for all but the most rudimentary analysis outside of NOMIS	• Requires SPSS/similar for analysis outside of NOMIS Requires individual/project applications to the Data Service (outside of NOMIS)	• Tool forecasts (using NOMIS)

[11] This is an industry standard statistical analysis package (Statistical Package for the Social Sciences)

Data source	Coverage / owner	Coverage (content and time)	Pros	Cons	Ease of use by non-specialists	Inclusion
Annual Population Survey (APS) - Secure Access	Demand / ONS	Annual household survey providing estimates of all key labour market characteristics	• Considered most accurate employment estimates (occupationally based) • Information on all aspects of the workforce inc. quals, jobsearch, attrition • Very detailed i.e. to sub-region level - 4 digit SIC/SOC • Information on all aspects of the workforce inc. quals, jobsearch, attrition	• Local data liable to heavy suppression • Extensive application process to the ONS SRS	• Requires SPSS/similar for analysis • Requires individual/project applications to the SRS - extremely onerous	Not included
IDBR (Interdepartmental Business Register)	Demand / ONS	Annual counts of business units/enterprises that are VAT/PAYE registered	• The primary source of business counts • Very detailed - sub-district level 4 digit SIC	• No employment figures at all	• Easily accessed via NOMIS	Not used
Oxford Economics Forecasts	Demand / OE&WLA	Annual forecasts of employment (jobs), GVA and qualification requirements	• Bespoke data available to district level • Recognised expert source • COVID scenario available	• Very restrictive release policy • Only available for higher level SIC/SOC (2 digit) • Expensive • Produced on an ad-hoc basis only Methodology opaque • Estimates not significantly different from our forecasts	• Easily accessed via Excel	Informed the forecasts contained in the tool

Data source	Coverage / owner	Coverage (content and time)	Pros	Cons	Ease of use by non-specialists	Inclusion
Working Futures	Demand / LMI for All	Annual forecasts of employment (jobs) and qualification requirements	• Recognised expert source • COVID scenario available	• Only available to regional level • Only available for higher level SIC/SOC (2 digit) • Produced on an ad-hoc basis • Estimates not significantly different from in-house forecasts • Only covers 2017-27 period	• Easily accessed via Excel • Application required for detailed regional data	Informed the forecasts contained in the tool
GLA/Cambridge forecasts	Demand / GLA	Annual forecasts of employment (jobs)	• Recognised expert source • Summary data available to district level	• No industry data at district level • Expensive • Produced on an ad-hoc basis (now dated) • Estimates not significantly different from in-house forecasts • Only covers specific forecast years (not a trend)	• Easily accessed via web	Informed the forecasts contained in the tool
DWP	Demand / NOMIS	The number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work	• Administrative source • Available to district level • Updated monthly	• No disagregation by occupation or industry	• Easily accessed via web	Not used

Data source	Coverage / owner	Coverage (content and time)	Pros	Cons	Ease of use by non-specialists	Inclusion
ONS	Demand / NOMIS	Model based estimates of unemployment		• No disagregation by occupation or industry • Annual only • High error margins • Only to regional level	• Easily accessed via web	Informed the forecasts contained in the tool
JSA claimant data	Demand / NOMIS	A monthly count of Jobseeker's Allowance (JSA) claimants.	• Administrative source • Available to district level • Updated monthly • Data by usual/sought occupation • Data by detailed occupation	• No industry data • Only covers JSA claimants (e.g. ~0.3% of London claimants) • Occupation only to 3 digit level	• Easily accessed via web	Informed the forecasts contained in the tool
Workforce Jobs	Demand / NOMIS	The numbers of jobs per resident aged 16-64. The total number of jobs is a workplace-based measure and comprises employees, self-employed, government-supported trainees and HM Forces.	• Definitive source of estimates	• No occupation/industry data • Only available to regional level • Delay to publication	• Easily accessed via web	Informed the forecasts contained in the tool
ONS	Demand / NOMIS	The midyear (30 June) estimates of population are based on results from the latest Census of Population with allowance for under-enumeration. Available at Local Authority level and above.	• Definitive source of estimates • Available to district level	• Varying totals dependent on analysis	• Easily accessed via web	Informed the forecasts contained in the tool
Employer Skills Survey (DfE)	Demand / DfE	Bi-ennial survey of UK employers exploring workforce/skills related issues	• Data available to district level • Wide variety of variables available	• No detailed occupation data • Heavy suppression below regional level	• Easily accessed via web • Non-standard data available on request from DfE	Not used

Source: IES

3 Forecasting demand for employment and skills

3.1 Methodology

- Given the requirement that WLA forecasts are easily replicable, transparent and simple to update, it was determined that the basic approach to forecasting employment and demand within the WLA area would be to utilise APS data/QLFS data in particular for this project – primarily accessed via NOMIS though with additional data extracts from the UK Data Service. Moreover, the methodology employed in the analysis/forecasts would also be relatively straightforward i.e.
- APS data were extracted from NOMIS for London, the WLA and constituent boroughs by Standard Occupational Classification (SOC)2010 'major' and minor groups for the period 2004-2019 (the longest data run currently available)
- When possible any missing values (suppressed) were extrapolated (typically via an averaging over years or in cases via inputting a trend figure).
- Detailed occupational data (employment estimates by 4 digit or SOC unit) were extracted for London for the same period, and a map constructed showing the distribution of employment from detailed (4 digit/unit level) to high level (ie. SOC minor 2 digit) SOC produced.
- This map was then applied to borough figures to provide employment estimates by detailed occupational group for each of the seven WLA boroughs and the WLA as a whole (i.e.it was assumed at this point that the mapping from major to minor SOC at London/sub-region are broadly equal at this level of detail).
- Employment trends for each of the occupational (unit) groups and each of the WLA areas were extrapolated forwards for the 2020-2030 period using a simple regression.
- Any negative estimates arising in the forecasts for the 2020-30 period were held at zero (typically in cases where employment estimates/trends were very low and as such subject in any case to very high levels of potential error).
- The sum of forecast employment by detailed occupational (unit) group in any particular year was constrained to the forecast in employment as a whole for that particular area.
- To adjust for changes arising due to COVID, QLFS data were extracted by detailed occupation (unit) for London for the first three quarters of 2020 and the associated trends projected forward through to 2023. These near-term estimates were appended to the original trend data set and a revised set of forecasts produced as set out within 5-7 above.

- In this way two sets of forecasts were obtained a) baseline estimates which were based upon data up until the COVID pandemic and b) revised estimates incorporating known employment trend data for the first three quarters of the 'COVID year' for London.
- In addition to these 'base forecasts' of employment, further forecasts were also produced to show the anticipated 'replacement demand' for labour and skills arising over the coming ten years i.e. demand arising due to individuals leaving employment and entering retirement, inactivity or unemployment as outlined within the earlier reports and forecasts by Oxford Economics[12]. These replacement demand figures were then added to the original estimates of employment growth (or decline) to show the 'total demand' for particular occupations and WLA areas over the 2020 -30 period. More specifically these figures were produced in the following manner:
- London based estimates of replacement demand for the 2011-2019 period were produced via an analysis of QLFS data held at the UK Data Service (April-June quarters only).
- These replacement demand estimates were converted to percentages (i.e. the percentage of the London workforce in specific SOC groups that required replacement in each year) and an rolling average of these percentages taken for the 9 years.
- These average percentages (by area/ SOC) were then multiplied by the employment forecasts above to give estimates of future replacement demand.
- Note that we elected to use these 'rolling proportions' as opposed to annual replacement demand estimates due to the comparatively low sample base for these data and the associated adjustments required for their analysis - i.e. questions concerning employment flows in the LFS are only asked in one quarter of the year and as such, not only is it impossible to create annual averages by combining data for four quarters of a specific year (a common and historically favoured approach to QLFS analysis) but when undertaking any analysis of 'non-core' questions[13] (like those concerning replacement demand), it is also necessary to make a very crude adjustment to the data to compensate for this.
- The resulting estimates for replacement demand were then combined with estimated employment change figures to show total demand for specific years, areas and occupations arising over the 2020-30 period.

[12] For this project we have also followed a similar methodology – using employment flow estimates from the ONS Labour Force survey for London as a proxy for the WLA and its constituent boroughs.

[13] See ONS Labour Force Survey guides for further information regarding analysis of 'core' and 'non-core' variables

3.2 Outputs

3.2.1 The recent past

Latest estimates from the analysis of APS data show there to have been approximately 1.03m people working in the West London area (WLA) in 2019 – an increase of 111,000 or 12 per cent on the figure recorded in 2010 (Table 3.1). By comparison, at 23 per cent employment growth was noticeably higher for London as a whole, however, and as such the proportion of London employment accounted for by the WLA fell slightly over the period from 24 per cent to 22 per cent.

Table 3.1: Employment within the WLA, 2010-19 (000's)

							Change (2010-19)	
	2010	2011	2014	2015	2018	2019	n	%
London	3,803	3,879	4,243	4,401	4,620	4,669	867	23%
WLA	919	936	991	1,014	1,046	1,030	111	12%
Barnet	170	170	178	177	192	204	33	19%
Brent	141	136	150	158	161	165	24	17%
Ealing	156	159	163	171	171	166	10	6%
Hammersmith & Fulham	90	93	104	103	100	98	8	9%
Harrow	117	118	119	120	126	113	-4	-4%
Hillingdon	120	132	142	147	153	148	28	23%
Hounslow	124	129	137	138	143	136	12	9%

Source: IES analysis of APS data sourced from NOMIS

Between 2010 and 2019, employment increases were also observed amongst the majority (six out of seven) of the WLA's constituent boroughs – in this case growth ranging from 6 per cent in Ealing – to 19 per cent in Barnet and 23 per cent in Hillingdon. Just one borough – Harrow – was associated with a decline in employment over the period (-4 per cent).

Growth in employment across the WLA area has been predominantly amongst the higher skilled occupational groups over the 2010-19 period with the number of managers, directors & senior officials in particular increasing by 54 per cent, followed by professionals (35 per cent) and associate professional/technical occupations (14 per cent) (Table 3.2).

Table 3.2: Employment within the WLA, by major occupational group, 2010-19 (000's)

	2010	2011	2014	2015	2018	2019	Change (2010-19) n	Change (2010-19) %
WLA	**919**	**936**	**991**	**1,014**	**1,046**	**1,030**	**111**	**12%**
Managers, Directors & Snr Officials	95	98	117	123	125	147	52	54%
Professionals	206	231	217	234	252	278	72	35%
Associate Professional/Technical	148	152	157	147	178	170	21	14%
Administrative & Secretarial	108	100	103	110	104	88	-20	-18%
Skilled Trades	80	82	86	82	91	63	-16	-21%
Caring, Leisure & Other Service	73	70	68	76	74	82	10	13%
Sales & Customer Service	74	64	74	68	68	60	-14	-18%
Process, Plant & Machine Operatives	56	47	61	62	55	54	-2	-3%
Elementary	80	92	109	111	99	88	8	10%

Source: IES analysis of APS data sourced from NOMIS

By contrast, the largest declines in employment recorded between 2010 and 2019 were in the number of people working in skilled trades (down 21 per cent), as administrative/ secretarial staff (down 18 per cent) or in sales/customer service occupations (again down 18 per cent). Interestingly, there was a rise in the number of workers in 'elementary' roles (up 10 per cent) and caring /leisure and other service positions (13 per cent) – the latter of which are often cited as being potential growth areas and/or relatively unaffected by the increase in work automation.

3.2.2 Future trends - baseline

A forward projection of historical employment trends (under a baseline scenario unadjusted for COVID 19) suggests that employment within the WLA area could have grown to around 1.2m by 2029, equating to growth of 13 per cent over the 2020-29 period – slightly below that forecast for London as a whole (16 per cent).

Growth in employment would be expected in each of the seven WLA boroughs and with the highest increases arising in Hillingdon, Hounslow, Barnet and Brent (16 per cent, 14 per cent, 14 per cent and 15 per cent respectively) (Table 3.3).

Table 3.3: Anticipated WLA employment (000's), 2020-29 (baseline - noCOVID scenario)

	2020	2021	2024	2025	2028	2029	Change (2020-29) n	Change (2020-29) %
London	**4,744**	**4,828**	**5,078**	**5,162**	**5,412**	**5,495**	**751**	**16%**
WLA	**1,073**	**1,088**	**1,132**	**1,147**	**1,192**	**1,207**	**134**	**13%**
Barnet	199	202	211	214	224	227	28	14%
Brent	168	171	180	182	191	194	26	15%
Ealing	175	176	182	183	189	190	16	9%
Hammersmith and Fulham	104	105	108	109	112	113	9	9%
Harrow	125	126	130	131	135	136	11	9%
Hillingdon	157	159	168	170	178	181	24	16%
Hounslow	145	148	154	157	163	165	20	14%

Source: IES

As during the 2010-19 period, employment (under the baseline scenario) would be expected to increase for each of the 'higher' level occupations between 2020 and 2029 (ie. managers, directors & senior officials; professional and associate professional/ technical) and lesser skilled occupations albeit with the exception of administrative/ secretarial workers where a continued decline would be expected (-12 per cent) (Table 3.4).

Table 3.4: Anticipated WLA employment (000's) by major occupational group, 2020-29 (baseline – noCOVID scenario)

	2020	2021	2024	2025	2028	2029	Change (2020-29) n	Change (2020-29) %
WLA	**1,073**	**1,117**	**1,132**	**1,177**	**1,192**	**1,207**	**134**	**13%**
Managers, Directors & Snr Officials	136	145	148	156	159	162	26	19%
Professionals	263	279	284	300	305	309	46	17%
Associate Professional/Technical	163	167	169	173	175	176	13	8%
Administrative & Secretarial	94	90	89	85	84	83	-11	-12%
Skilled Trades	88	90	91	94	95	96	8	9%
Caring, Leisure & Other Service	83	88	89	94	95	97	14	16%
Sales & Customer Service	72	73	73	74	74	75	3	4%
Process, Plant & Machine Operatives	63	67	69	73	74	76	13	21%
Elementary	111	118	121	128	130	133	22	19%

Source: IES

3.2.3 Future trends – COVID 19 update

In the absence of any clear perspectives on the full extent of COVID 19 restrictions in the coming year, or indeed up-to-date estimates of the effects of COVID 19 on employment at a very granular level (ie. borough), it is extremely difficult to forecast the likely impacts on employment within the WLA over the coming years. Moreover, this difficulty is further compounded by the continued uncertainty created by the recently agreed BREXIT deal upon the economy.

To create the estimate set out below we have relied on two main sets of data (1) the APS series/forecasts set out within the previous sections (ie. baseline estimates) and (2) data from the ONS Quarterly Labour Force Survey (QLFS) for the London region split by detailed occupational group and spanning the first three quarters of 2020 (the latest data available at the time of production). Using the QLFS data (and acknowledging the associated caveats regarding sample sizes and number of quarters) we have produced a trend series for the years 2020-22 setting out the quarterly increases/ decreases in employment across the London region which we have then averaged out on an annual basis to create multipliers that can be applied to our baseline employment estimates for 2020 to 2022 before re-running our forecasts for the 2020-30 period.

The results of this process are presented as the 'scenario' estimates set out within the subsequent sections of this report.

Table 3.5: Anticipated WLA employment (000's), 2020-29 (COVID update)

							Change (2020-29)	
	2020	2021	2024	2025	2028	2029	n	%
London	**4,770**	**4,641**	**4,847**	**4,992**	**5,210**	**5,282**	**512**	**11%**
WLA	**1,052**	**1,024**	**1,091**	**1,103**	**1,140**	**1,152**	**99**	**9%**
Barnet	208	202	209	215	223	226	**18**	9%
Brent	169	164	174	176	178	180	**11**	7%
Ealing	169	165	175	176	182	183	**14**	8%
Hammersmith and Fulham	100	98	98	98	100	100	**-0**	-0%
Harrow	115	112	112	115	118	119	**3**	3%
Hillingdon	151	147	158	161	167	169	**18**	12%
Hounslow	139	135	137	138	142	143	**4**	3%

Source: IES

As noted in Table 3.5, though there have been notable reports of redundancies and job losses in the past quarter, the longer- term effects of COVID 19 on the level of employment in London and the WLA area (based on currently available data) are

anticipated to be relatively low - with WLA employment in 2029 at a level around 4.6 per cent lower than under the baseline (no COVID 19) scenario (ie.1,152,000 vs 1,207,000).

The more immediate effect however is an anticipated slowdown in employment from a growth rate of 1.4 per cent to a decline of 2.7 per cent over the 2020-21 period and from 1.4 per cent to -1.3 per cent between 2021 and 2022 after which growth is expected to increase rapidly to a level equal/above trend as the economy undergoes a period of 'bounce back'. Both scenarios it should be said show a rise in employment between 2019 and 2020 (1.4 per cent in the case of baseline estimates and 2.2% with COVID adjustment).

By area, it is anticipated that growth in employment will be strongest in Hillingdon and Barnet (12 percent and 9 per cent respectively between 2020-29) and lowest for Harrow, Hounslow (i.e. 3 per cent, 3 percent respectively, whilst for Hammersmith and Fulham virtually no overall change is predicted (i.e. a slight negative change though under 1%).

Whilst it may appear counter-intuitive that employment is continuing to grow during the early stages of the current COVID 19 crisis (i.e. early 2020), it should be remembered that even in the height of lockdown advertised demand for staff across the London area was still in the region of 28,000 vacancies per quarter as employers still sought to attract staff to new positions ('expansion' demand) and source people to replace those entering retirement or becoming inactive (replacement demand).

Table 3.6: Anticipated WLA employment (000's) by major occupational group, 2020-29 (baseline – noCOVID scenario)

							Change (2020-29)	
	2020	**2021**	**2024**	**2025**	**2028**	**2029**	**n**	**%**
WLA	**1,052**	**1,024**	**1,091**	**1,103**	**1,140**	**1,152**	**99**	**9%**
Managers, Directors & Snr Officials	151	149	173	180	193	197	**47**	31%
Professionals	323	333	352	353	373	382	**59**	18%
Associate Professional/Technical	177	171	179	176	182	183	**6**	3%
Administrative & Secretarial	89	80	78	74	69	66	**-23**	-25%
Skilled Trades	65	63	57	56	61	60	**-5**	-8%
Caring, Leisure & Other Service	75	69	68	74	71	75	**0**	0%
Sales & Customer Service	62	67	66	68	69	68	**6**	10%
Process, Plant & Machine Operatives	39	38	45	47	48	48	**8**	22%
Elementary	72	54	74	73	74	73	**1**	1%

Source: IES

Comparing predicted levels of employment for the coming decade, it can again be seen that growth will continue for skilled/higher level occupations – Managers, Directors & Senior Officials in particular (up by 31 per cent) and though most occupations are anticipated to grow in (absolute) employment terms for certain areas a decline is predicted – notably in the case of administrative/secretarial occupations (down by 25 per cent) and skilled trades (down 8 per cent) compared with the level in 2020 – this decline largely resulting from the fall-out from COVID anticipated during 2021 (Table 3.6).

Some of the more notable changes in demand anticipated[14] include: an increase of more than 100% in the number of Chief Executives and Senior Officials and 'other' skilled trades and declines of a similar scale in the number of people working as Government administrators and in construction trades (over 80% in each case over the ten year period).

3.2.4 Demand implications

An analysis of gross annual labour demand requirements is possible by combining estimates for the annual change in employment (absolute levels) with estimates of the number of workers leaving work each year to enter retirement, inactivity or unemployment ie. 'replacement demand'.

Table 3.7: Forecast demand for labour (000's) within the WLA, 2020-29 (COVID 19 update)

	2020	2021	2024	2025	2028	2029	Total
London	**306**	**73**	**263**	**332**	**247**	**244**	**974**
WLA	**68**	**16**	**52**	**51**	**47**	**45**	**186**
Barnet	13	3	8	14	13	11	**38**
Brent	11	2	9	8	9	8	**31**
Ealing	11	3	8	8	7	7	**29**
Hammersmith & Fulham	6	1	4	4	3	3	**16**
Harrow	8	2	5	8	4	4	**23**
Hillingdon	10	2	8	9	7	7	**29**
Hounslow	9	2	7	6	6	5	**24**

Source: IES

As illustrated in Table 3.7, the overall levels of demand for labour and skills (expansion + replacement) are anticipated to remain at a similar level of much of the 2020-29 period in

[14] Note that the more detailed the level of disaggregation, the higher the associated potential error marin.

all WLA boroughs (following fall in 2021) and over the next 10 years will reach almost 1m for the London area and 186,00 across the WLA.

Overall, the highest level of demand for labour will be in Barnet (38,000 over the period) – more than two times that expected in Hammersmith and Fulham (16,000).

Table 3.8: Forecast demand for labour (000's) within the WLA, by major occupational group, 2020-29 (COVID 19 update)[15]

	2020	2021	2024	2025	2028	2029	Total
WLA	**68**	**16**	**52**	**51**	**47**	**45**	**186**
Managers, Directors & Snr Officials	9	3	12	12	8	8	53
Professionals	54	19	15	9	6	16	119
Associate Professional/Technical	15	2	11	5	13	8	53
Administrative & Secretarial	6	-4	1	0	1	0	4
Skilled Trades	4	-0	1	1	4	1	10
Caring, Leisure & Other Service	-4	-1	3	9	5	6	18
Sales & Customer Service	6	8	4	5	4	2	29
Process, Plant & Machine Operatives	-12	1	2	4	2	1	-3
Elementary	-10	-12	4	5	5	3	-4

Source: IES

Looking at the total demand for labour (expansions + replacement) across the WLA area by occupations it is apparent that the absolute level of demand will be highest for 'skilled workers' i.e. Professionals, followed by Managers/Directors and Associate Professionals mirroring changes in the labour market over the 2010-19 period (Table 3.8).

By contrast, there will be much lower levels of demand for lesser skilled areas such as Process, Plant and Machine Operatives and Elementary workers amongst which only around one and three thousand positions in total are expected to be generated by 2029 (i.e. gross positions taking into account expansions and replacement demand).

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4 The immediate effects of the 2020 COVID 19 lockdown-1 on the WLA labour market

4.1 Vacancies

IES collected and analysed vacancy data collected by Adzuna (www.adzuna.co.uk) – one of the largest online job search engines in the UK, and operator of the government's 'Find a Job' service[16] – to understand the impact on employers' demand for labour among the West London Alliance boroughs. Vacancies have fallen dramatically across the country since the first lockdown in the UK. The falls in the West London Alliance boroughs are no exception.

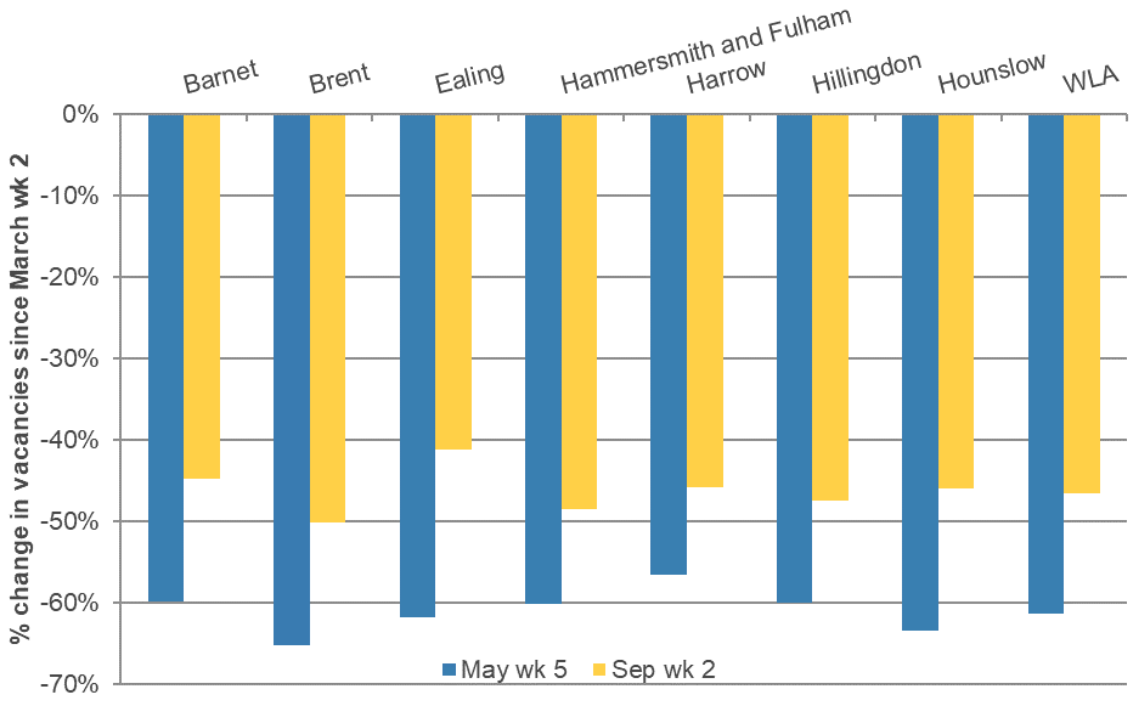
In comparison with the week ending 15 March 2020 (2nd week in March) as the pre-crisis baseline point, vacancies in the combined West London Alliance area fell rapidly in late March and April, and reached a low point in the last week of May, at 61 per cent below the baseline. From then, vacancies picked up somewhat so that by the middle of September, vacancies were 47 per cent below the baseline level (Figure 4.1).

The impact on labour demand was felt similarly across the WLA area with the largest falls being in Brent at 65 per cent below baseline level and the smallest in Harrow at 57 per cent. The picture had changed slightly by the middle of September, with the level of vacancies recovering slightly. Brent still had the largest fall in vacancies at half the level they were in Mid-March, however Ealing had the smallest fall at 41 per cent. The level of vacancies by mid-September were between 45 and 48 per cent smaller than mid-March in Barnet, Hammersmith and Fulham, Harrow, Hillingdon and Hounslow.

Figure 4.2 shows that vacancies in mid-March ranged from between 3,000 to 4,000 in Barnet, Harrow, Ealing and Hillingdon; 4,000 and 5,000 in Brent and Hammersmith and Fulham and above 6,000 in Hounslow. Hounslow has the largest number of vacancies in the WLA area, in fact vacancies had fallen from above 7,000 in the two weeks prior to mid-March in Hounslow. By the end of May the number of vacancies per borough was between 1,000 and 2,000. The range had increased to just below 2,000 and 3,000 by mid-September.

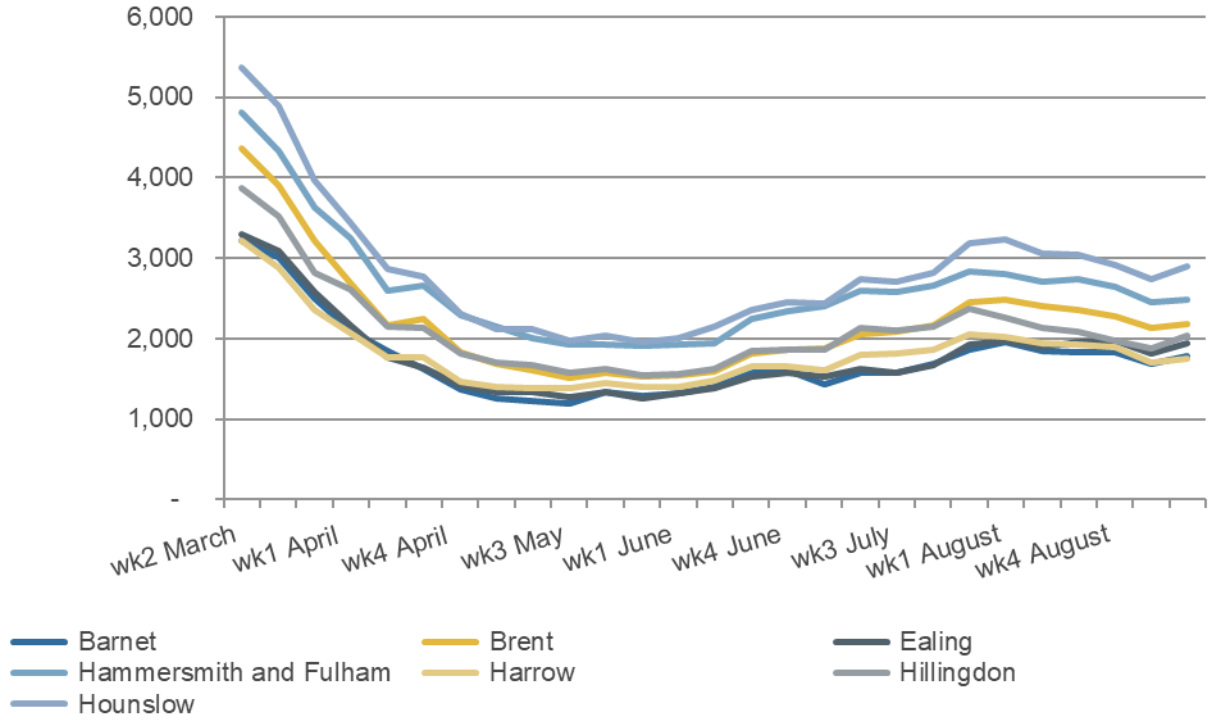
[16] Adzuna aggregates job ads from thousands of sources and cleans, de-duplicates and standardises the information to provide a robust picture of employer demand, covering at least 90 per cent of all vacancy activity

Figure 4.1: Percentage change in vacancies from March 2020 wk 2 by borough and WLA overall



Source: IES analysis of Adzuna vacancy data

Figure 4.2: Number of vacancies from March wk 2 by borough



Source: IES analysis of Adzuna vacancy data

Table 4.3 shows the change in vacancies by the job categories used in the Adzuna data. Some job types originally had below average initial falls and the vacancies levels had comparatively recovered by September – these include domestic/cleaning, healthcare/nursing, scientific and quality assurance and social work. These job types were in comparatively high demand over the first lockdown period across the country. Vacancies in healthcare/nursing were 14 per cent lower by the end of May and only 7 per cent lower by the middle of September. Vacancies have picked up noticeably in the WLA area in job types such as maintenance, logistics/warehousing and trade/construction (with falls of 5%, 13% and 16% since the baseline). They have also recovered in other job types including travel, property, design and energy which are all less than third lower than they were mid-March. The type of vacancies in travel are likely to be different as demand for air travel at Heathrow Airport has diminished significantly.

Job types with high falls in vacancies in March which have continued to September include admin. HR/recruitment, hospitality and catering, public relations, legal services, retail and sales. All vacancies in these job types continue to be 60 per cent lower than when the crisis began.

Table 4.1: Percentage change in vacancies from March week 2 by job category, West London Alliance area

	No. of vacancies	% change to	
	March wk 2	May wk 5	Sep wk 2
Domestic help & Cleaning	257	-41.5	-1.0
Maintenance	157	-68.4	-5.4
Healthcare & Nursing	1,564	-13.5	-6.8
Logistics & Warehouse	809	-67.6	-13.4
Trade & Construction	1,783	-71.2	-16.2
Scientific & QA	356	-46.2	-20.5
Travel	105	-65.8	-22.1
Social work	855	-13.9	-23.7
Property	294	-65.9	-28.5
Creative & Design	332	-55.4	-29.6
Energy	78	-75.6	-31.4
Manufacturing	111	-61.0	-33.8
Engineering	1,367	-70.7	-35.1
Customer Services	426	-47.9	-35.5
Graduate	460	-58.7	-36.8
IT	3,530	-61.6	-40.4
Teaching	4,271	-39.5	-55.0
Consultancy	402	-74.2	-56.1
Accounting & Finance	2,429	-71.7	-61.1
Sales	2,075	-80.8	-63.2
Retail	613	-73.0	-63.5
Legal	585	-67.7	-63.5

Charity & Voluntary	73	-69.8	-66.1
PR	1,278	-78.1	-66.5
Hospitality & Catering	2,062	-85.4	-68.3
HR & Recruitment	416	-77.3	-73.1
Admin	1,094	-81.7	-78.2
All vacancies	28,147	-61.3	-46.5

Note: job categories sorted by %age change to September week 2; categories with above average decreases to May week 5 are shaded. Part time, Other/General and Unknown are excluded as categories but are included within all vacancies. Source: IES analysis of Adzuna vacancy data

Source: IES analysis of Adzuna vacancy data

Table 4.4 shows the change in vacancies by occupation, using the minor groups in the Standard Occupational Classification (SOC)[17], this is the 2-digit level. Job titles in the Adzuna data were matched to this classification using the CASCOT software and matches above 66 per cent were retained.

Vacancy levels for elementary trades and related occupations and skilled construction trades and elementary trade occupations were higher in mid-September compared with mid-March. The overall falls in vacancies in trade/construction, as defined by the Adzuna data over this period was comparatively small at 16 per cent. This sector has bounced back following the initial lockdown period and there is continued demand for both low and high skilled workers in this industry.

Vacancies had also risen from their mid-March level in two other occupational categories: transport and mobile machine drivers and operatives and customer service occupations. The former are again primarily employed in construction so reflect the up-tick in this industry, whereas demand for those in customer service occupations has comparatively stayed stable over the 6 month period reflective of the demand for call centre support, where most of these occupations are.

One of the smallest falls in vacancies by occupation to the end of May were vacancies for health professionals. These fell about 10 per cent. Since then vacancies have fallen slightly further to 25 per cent below their mid-March level. Despite the pressures on those currently working in caring personal service occupations and health and social care associate professionals the number of vacancies in these occupations seems to have fallen to about 30 to 40 per cent below their mid-March level by both the end of May and middle of September.

Vacancies in secretarial and related occupations; protective service occupations and administrative occupations are now a tenth of the level they were in mid-March. Both the administrative and secretarial occupations were hard hit by the remote working necessary as a result of the pandemic and the continued nature of home working for many has

[17] Occupational coding of vacancies covered around 50 per cent of all vacancies in the Adzuna data.

diminished demand for this type of labour. Business and public service associate professionals and textiles, printing and other skilled trades were by mid-September just a quarter of their mid-March level.

Vacancies among business, media and public service professionals; science, engineering and technology associate professionals; and Corporate Managers and Directors, were at least 65 per cent lower in mid-September compared to mid-March. Teaching and other educational professionals are worth noting separately, as despite having a 68 per cent fall to mid-September had just a 23 per cent fall to the end of May. These occupational categories account for large proportion of the vacancies in the WLA area. Combined these 4 occupational categories made up a quarter of WLA vacancies in mid-March.

It should be noted that just over half of vacancies were unable to be coded accurately using the CASCOT software, these results are therefore indicative of the change in level of vacancies over time[18]. The number of vacancies within each occupation is likely to be higher. Vacancies which were uncoded fell in a similar manner to all vacancies in the time period shown.

Table 4.2: Percentage change in vacancies from March week 2 by occupation, West London Alliance area

	No. of vacancies	% change to	
	March wk 2	May wk 5	Sep wk 2
Elementary Trades and Related Occupations	52	-64.4	191.3
Skilled Construction and Building Trades	220	-53.9	32.8
Transport and Mobile Machine Drivers and Operatives	363	-46.0	17.9
Customer Service Occupations	118	-5.6	9.9
Process, Plant and Machine Operatives	120	-62.2	-21.0
Health Professionals	467	-10.3	-24.5
Skilled Agricultural and Related Trades	23	19.7	-26.2
Caring Personal Service Occupations	1,125	-37.8	-34.3
Health and Social Care Associate Professionals	244	-43.1	-38.0
Culture, Media and Sports Occupations	348	-49.0	-41.2
Skilled Metal, Electrical and Electronic Trades	497	-76.5	-42.7
Elementary Administration and Service Occupations	667	-73.0	-47.9
Other Managers and Proprietors	269	-69.8	-57.5

[18] This level of matching was expected. Looking at vacancies across the whole of the UK, 47% were not matched to a SOC occupation, slightly lower than the figure for WLA. This could imply that within WLA (compared to the UK as a whole) there are a higher proportion of specialist occupations that the CASCOT software fails to match to the standard framework. However this is not definitive. Prior to analysis occupations with lower matching scores (than 66%) were examined visually to assess the quality of the match (as a robustness check). It was decided that the quality of match here was not robust enough to include in the analysis.

Science, Research, Engineering and Technology Professionals	1,389	-66.3	-59.4
Sales Occupations	195	-75.2	-60.6
Leisure, Travel and Related Personal Service Occupations	160	-58.9	-62.9
Corporate Managers and Directors	568	-68.7	-64.3
Teaching and Other Educational Professionals	1,162	-23.0	-67.5
Science, Engineering and Technology Associate Professionals	332	-71.0	-67.6
Business, Media and Public Service Professionals	1,428	-72.9	-67.6
Community and Civil Enforcement Occupations	12	-57.9	-70.7
Textiles, Printing and Other Skilled Trades	454	-93.0	-74.3
Business and Public Service Associate Professionals	1,723	-80.4	-75.2
Administrative Occupations	933	-83.9	-84.1
Protective Service Occupations	17	-65.1	-84.5
Secretarial and Related Occupations	227	-87.6	-88.4
Uncoded occupations	15,019	-60.9	-39.0
All vacancies	28,131	-61.3	-46.5

Note: job categories sorted by %age change to September week 2; categories with above average decreases to May week 5 are shaded. Part time, Other/General and Unknown are excluded as categories and within all vacancies. Uncoded occupations are where there are less than 66% match between the job title of the vacancy and the SOC framework using the CASCOT software.

Source: IES analysis of Adzuna vacancy data

Adzuna's predicted salary, which is provided for each role, allows us to undertake analysis of changes in vacancy levels by salary bands (Table 4.5). To predict these salaries Adzuna uses 'Jobsworth'[19], a machine learning algorithm that predicts a job's salary based on relevant information including the job title, job description and other factors, and which is trained using the job adverts on the site where the salary is stated[20].

By the end of May vacancies had fallen 56 per cent in the lowest salary band £5,000-£14,999, the largest decrease to the end of May was in the £15,000-£24,999 salary band which includes more than a third of all vacancies in the WLA area. Vacancies fell slightly less (by 58%) in the £25,000-£34,999 salary band before falling more in the next band (£35,000-£44,999) by 63 per cent. From this point onwards the level of vacancy falls were lower as the salary band level increases. Vacancies in the £85,000+ bracket fell 39 per cent to mid-March.

The changes until mid-September reflect the ever-changing nature of the vacancy market. By this time vacancies in the lowest salary band (£5,000-£14,999) had recovered most with the level 23 per cent lower than mid-March. Vacancies were still half (52% lower) the

[19] https://www.adzuna.co.uk/jobs/salary-predictor.html

[20] Note the minimum and maximum values assigned to a vacancy are £5,000 and £100,000 per annum.

level they were in the next (and largest) salary band (£15,000-£24,999). Vacancies within the £25,000-£34,999 were closest to their end of May level than any other salary band. The same pattern was then seen as salary bands increase, with smaller falls going up the potential wage distribution. However, vacancies in the highest salary band (£85,000+) now had the largest fall to the middle of September, whereas they had the smallest decrease to the end of May.

Table 4.3: Percentage change in vacancies from March week 2 by salary band, West London Alliance area

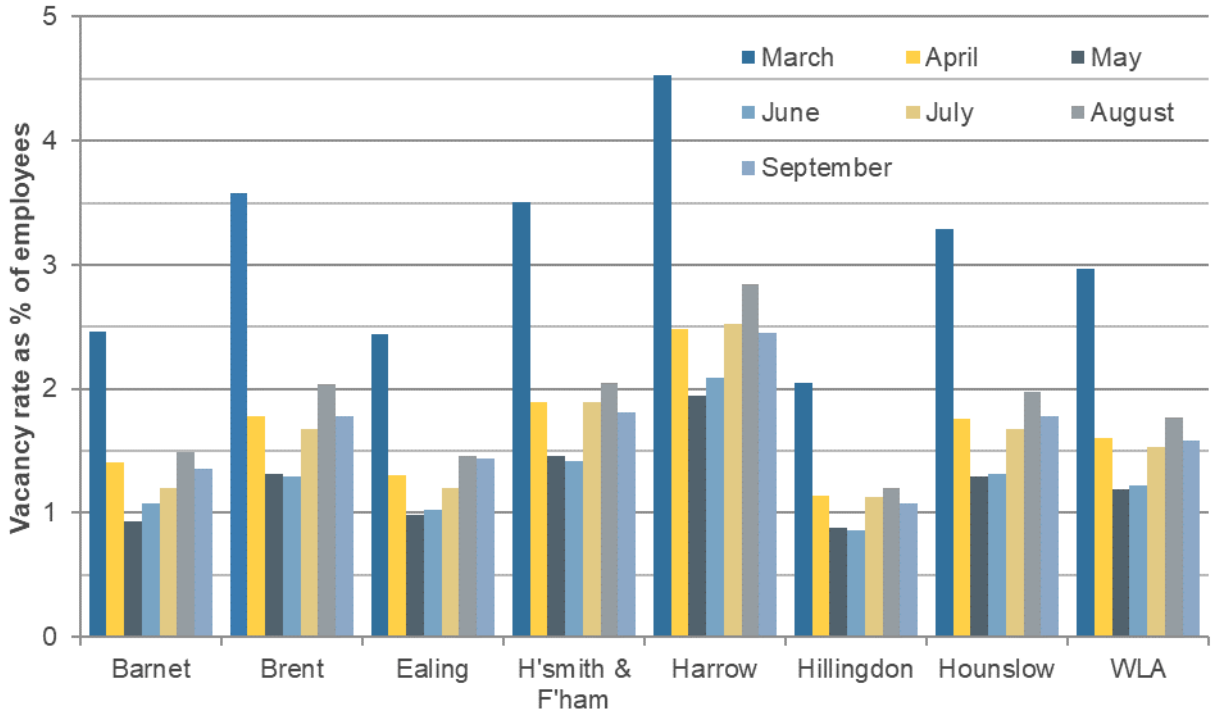
	No. of vacancies	% change to	
	March wk 2	May wk 5	Sep wk 2
£5,000-£14,999	554	-55.7	-23.4
£15,000-£24,999	10,220	-66.0	-51.5
£25,000-£34,999	8,139	-57.6	-54.1
£35,000-£44,999	3,919	-63.0	-49.9
£45,000-£54,999	2,489	-59.3	-43.3
£55,000-£64,999	1,786	-54.8	-42.0
£65,000-£74,999	448	-52.5	-37.3
£75,000-£84,999	167	-44.8	-37.2
£85,000+	60	-39.0	-62.7
Unknown salary	349	-71.7	218.6
Grand Total	28,131	-61.3	-46.5

Source: IES analysis of Adzuna vacancy data

4.1.1 Vacancy rates

Figure 4.6 relates the number of vacancies to the size of the labour market in each area, in terms of the number of employees, from March onwards. Across the West London Alliance, the vacancy rate halved between March and May, from 3 per cent of all employees to 1.2 per cent, remaining at this level for June also. Across the WLA boroughs the March figure ranged from 2 per cent in Hillingdon to 4.5 per cent in Harrow, these boroughs vacancy rates had fall to 0.9 and 19. per cent by May respectively. The vacancy rate was higher for all boroughs in August than September with the September vacancy rate between 1 and 2 per cent except for Harrow.

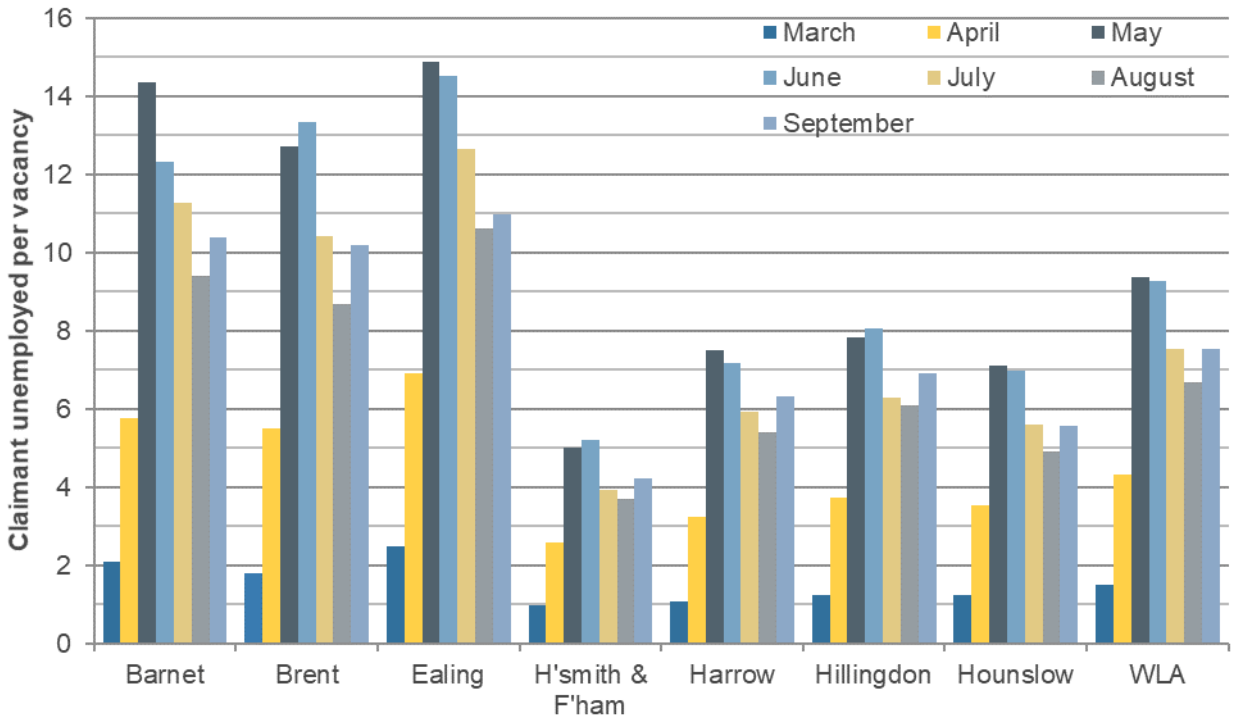
Figure 4.6: Vacancies as a proportion of all employees by WLA borough, March to September 2020



Source: IES analysis of Adzuna vacancy data and BRES employment data

Figure 4.7 shows the ratio of unemployed claimants to vacancies from March onwards. In the combined WLA area, there were 1.5 claimants per vacancy in March, and this increased to 9.4 by May. The increases in the ratio were felt similarly across the areas with the ratio increasing 6-to-7 times above their March level by May. Whilst it may appear from the figure than Barnet, Brent and Ealing are all fairing worse from the changing economic conditions the relative change is similar. It is evident though that there are far more unemployed individuals chasing each vacancy within these areas. By September there were approximately 10 claimant unemployed per vacancy in Barnet, Brent and Ealing compared to between four and seven within all other WLA boroughs.

Figure 4.7: Unemployed claimants per vacancy by borough, March to September 2020



Source: IES analysis of Adzuna vacancy data and ONS Claimant Count data

5 Demand by major developments within WLA and nearby

As part of this brief, we undertook discussions with large employers within the WLA sub-region to understand their requirements in respect of a tool and also to pick up on their employment needs. From these discussions, there was commentary that:

Immediate impacts of the pandemic were undermining/stalling planned work and requiring employers to revise their plans and strategies. This is leading to reconsideration of skills needs and where growth might be seen as the over-riding priority has become supporting the existing workforce through the impacts of the pandemic.

Some indication that a key focus for some of these employers is on basic/generic skills, including soft skills - notably problem solving, creativity, team work, adaptability and resilience, over occupationally focused training. While we have not included this provision in the tool, providers told us there is a wealth of provision in WLA on these themes.

Nonetheless there are some predictions for skills needs that will hold steady in the post-COVID context, notably focused on digital skills, customer services, health & safety, security and data analytics. Much of this need can be met by current provision.

Employers also highlighted needs for upskilling and higher levels of training hence the focus on Level 2+ in the tool will help them understand relevant provision, and particularly as further Level 4 and 5 courses (Higher Technical Qualifications) are added.

Concerns were expressed about retention in some roles, and whether an increased focus on careers paths and upskilling in this context, could help address this issue. This would require training routes that allows people to move from non-degree roles into more highly skilled occupations.

This focus on training the existing workforce was in part informed by awareness that assumptions that people who might be judged to be in the skills pipeline (eg. currently undertaking relevant full- or part-time courses) do not necessarily progress into employment – immediately or at all, in relevant industry roles.

Turning to major developments within and nearby the WLA area, such as Old Oak and Park Royal (OPDC), although these have high-level estimates of new jobs to be created, the timescales and details of these are as yet not clear enough to feed into the tool. For example, we know that OPDC expects to deliver 10,000 jobs by 2031 but it is not clear whether this represents replacement or new jobs. On this basis it is possible to make broad predictions, such as significant and ongoing demand for construction workers, and that a range of skills will be needed; for example on the OPDC site there will be both house building and large industrial construction, which require different skills and expertise, however the granular and phased insight that WLA hoped for may not exist.

Similarly, WLA itself has documented demand with predictions indicating the difficulties of certainty (see below) even before the pandemic, the impacts of which cannot yet be fully accounted for:

> *210,000 new jobs are expected between 2016 and 2041 [from organisations including] the NHS - at least 5,000 people p.a. to maintain an excessive vacancy rate of 11%; Heathrow Expansion could create up to 29,000 jobs; development at Brent Cross/Cricklewood could create 20,000 jobs and HS2 could require up to 25,000 people at its peak.*
>
> Annual review of the West London Skills and Employment Board, November 2019

> *West London will grow by at least 148,000 jobs (16%) over the next 20 years, with some of the biggest increases projected to be in construction, accommodation & food services, and transport & storage. Very significant growth is also expected in the green economy and the creative industries.*
>
> Winning in the New Economy, Ensuring an inclusive and sustainable West London economy, February 2020

OPDC developers, and those on other major sites such as HS2 and Heathrow will, over time, develop more detailed forecasts of the types and numbers of different trades they will require on site. However, these will be produced at different times, very likely without sufficient lead-in time to inform major curriculum changes amongst providers, and may need to be 'translated' to be in a format suitable to feed into the tool. The impact of COVID on demand for new or expanded business premises is still emerging, so again, estimates of skills demand among end-use businesses such as food production, logistics or media/ tech would be too speculative at this point in time to provide data fit for purpose for the tool. There are also questions about how far jobs represent growth or focus on replacement.

Without these detailed labour forecasts from developers, any predictions of future skills needs are highly speculative. If WLA has resource and could work with boroughs and developers to capture these detailed forecasts, the data could be fed into future iterations of the tool, however this would be a significant piece of work. The task would involve first mapping the territory by bringing together local intelligence on major developments within and within the travel to work areas for WLA. Following on from this, locating and interrogating the Section 106 agreements for each – which will cover training and apprenticeship commitments – will then produce insights into these employers' demands which can then feed into skills provision planning. As noted however, this is a significant piece of work, best undertaken by those with access to Section 106 agreements.

However, while this future option exists it is also worth saying that these remain employers' best predictions and do not represent a firm commitment to training for these skills in the wider resident base in WLA or London. Providers face timelines of two to three years to bring in new forms of provision or courses (should existing provision not match employer demand), which takes firm commitment that this investment would be paid off.

For these reasons, it is challenging to reconcile these data within a tool that draws on large-scale, secondary survey data-sets that are deemed representative and reliable for national level analysis of this kind and joins this with concrete information about national and AEB funding of provision. Critically, the data may not provide sufficient guarantee to enable recommendations for provider investment.

Despite these concerns, it was clear that employers were interested in what a tool could provide in respect of occupational level analysis. Alongside this, their narratives indicated that to improve opportunities for WLA residents there was a need to better understand the level of skills they might access within the sub-region. More broadly, employers were concerned that working in their industry should be attractive and for this reason, highlighted needs for more careers advice about industries to support residents to positively choose the roles available.

6 Skills issues past and present

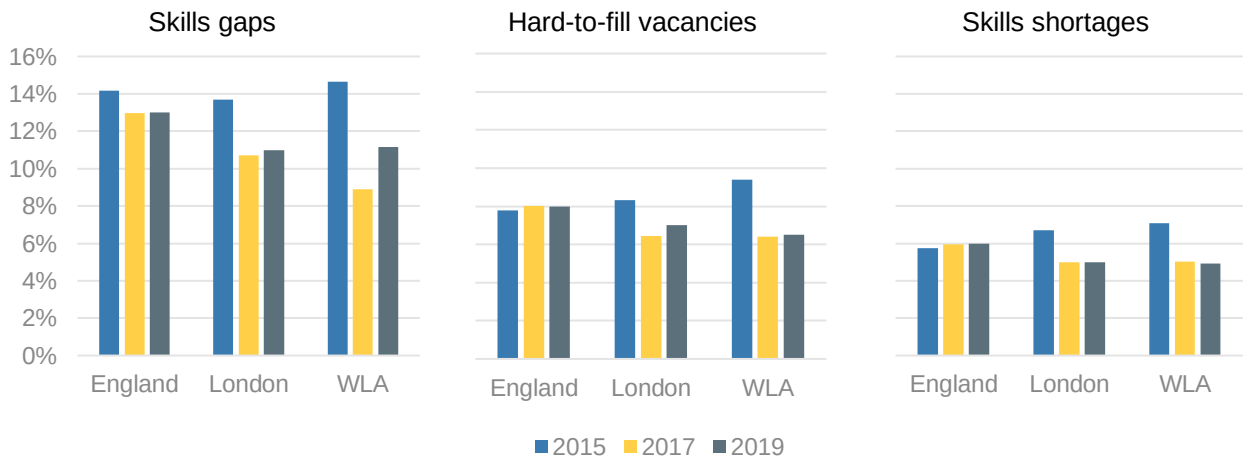
As noted earlier within the report, the Employer Skills Survey (ESS), whilst somewhat limited with respect to the data available at sub-regional level, does provide a useful contextual source of data on the incidence of skills supply and demand across London as a whole and the WLA area in particular. Moreover, given the similarities between the findings at national, regional and WLA level (as illustrated within the following sections), it is likely that the broad supply-demand observations noted within this section will often be consistent across the constituent WLA boroughs.

6.1 Trends in the incidence of skills issues

Latest estimates from the ESS show that in 2019 just over one in ten employers from the WLA area (11 per cent) reported there being mismatches between the skills held/needed of their workforce (skills gaps), just under one in fourteen (7 per cent) had vacancies that were hard-to-fill, and one in twenty (5 per cent) had hard-to-fill vacancies due to the lack of skills/qualifications held by candidates for work (skills shortages).

As illustrated in Figure 6.1, the incidence of skills gaps, hard-to-fill vacancies and skills shortages amongst WLA employers were much the same as reported by employers across London as a whole, whilst in both areas reports of these skills issues were less common than amongst employers across England in total (where comparison figures of 13 per cent, 8 per cent and 6 per cent respectively were recorded).

Figure 6.1: Key skills metrics compared, 2015-19



Source: IES analysis of ESS data (summary tables)

A comparison of the incidence of skills issues in previous years reveals the same findings arising from an analysis of the 2017 ESS survey, whilst in 2015 London and the WLA appear to have been more effected by skills issues than organisations across England as a whole.

6.2 The nature of skills issues facing WLA employers

The nature and incidence of skills mismatches in the WLA is analysed within the following section using restricted access data from the ESS survey[21] - in this case looking at cases where employers have identified specific skills as being a) a reason for vacancies being hard-to-fill, b) an area in which skills gaps were apparent or or c) areas noted as requiring development over the following 12 months (i.e. post 2019 ESS survey administration).

By combining data in this way, we have been able to undertake a detailed analysis at WLA level and though unfortunately the low response base at borough level prevents further disaggregation of results, it is clear from the following sections that observations at national, regional and WLA level are, in any case, broadly equal and hence it is considered likely that the same will also be true for individual boroughs.

6.3 Technical or job-specific skills needs

Employers within the WLA, London and England more generally all appear to have had similar views on the nature of 'technical or job-specific' skills thought lacking amongst potential or existing workers in 2019 and around one in five in each of these areas for example considered 'specialist skills or knowledge needed to perform specific roles' to be a concern either were either due to them being a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas for staff development over the following 12 months.

Other skills often thought to be of concern were; knowledge of products & services offered by employer/ similar organisations; the ability to solve complex problems requiring a situation specific solution; the ability to adapt to new equipment or materials and knowledge of how employer organisation works – all cited by around one in six employers in the WLA, London and England (Table 6.2).

Interestingly, despite much media attention concerning the lack of IT skills amongst the workforce and the de facto requirement for such skills by new or existing workers, only around one in ten employers from the WLA, London and England cited such skills as an issue during 2019.

[21] Accessed via direct application to DfE

Similarly, basic and more complex numerical /statistical skills were again only cited by around one in ten employers from each area as either; a cause of hard-to-fill vacancies, an area in which skills gaps were observed or a training requirement identified for the coming year – again despite the apparent increase in importance of such skills across the economy.

Table 6.2: Key development needs for potential/existing workers in the WLA and other areas, 201922

	England	London	WLA
Specialist skills or knowledge needed to perform specific roles	20%	19%	18%
Knowledge of products & services offered by employer/ similar organisations	18%	17%	17%
Ability to solve complex problems requiring a situation specific solution	15%	16%	15%
Ability to adapt to new equipment or materials	14%	13%	14%
Knowledge of how employer organisation works	13%	13%	14%
Ability to reading & understand instructions, guidelines, manuals or reports	12%	11%	12%
Computer literacy or basic IT skills	11%	11%	11%
Ability to write instructions, guidelines, manuals or reports	9%	10%	10%
Advanced or specialist IT skills	10%	11%	10%
More complex numerical or statistical skills & understanding	8%	9%	9%
Basic numerical skills & understanding	7%	8%	8%
Manual dexterity (e.g. ability to mend, repair, assemble, construct or adjust things)	6%	5%	6%
Ability to communicate in a foreign language	4%	7%	6%

Source: IES analysis of Employer Skills Survey data

6.4 Soft skill needs

Analysis of employer views on 'soft skills' issues again shows the considerations of WLA, London and English employers to be very similar with the top three soft skills issues for all three for example being: the ability for individuals to manage their own time and prioritise their own tasks; team working skills, and customer handling skills (around one in six employers in each case stating these skills were a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas for staff development over the following 12 months (Table 6.3).

[22] The proportion of employers identifying listed skills as being a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas noted as requiring development over the following 12 months (post survey)

Table 6.3: Soft skills development needs for potential/existing workers in the WLA and other areas, 201923

	England	London	WLA
Ability to manage own time & prioritise own tasks	18%	18%	17%
Team working	14%	14%	15%
Customer handling skills	14%	14%	15%
Managing or motivating other staff	13%	14%	14%
Instructing, teaching or training people	11%	12%	12%
Managing own feelings, or handling the feelings of others	13%	13%	12%
Persuading or influencing others	11%	12%	12%
Setting objectives for others & planning human, financial or other resources	10%	12%	11%
Sales skills	11%	12%	11%
Making speeches or presentations	6%	8%	8%

Source: IES analysis of Employer Skills Survey data

6.5 IT skill needs

As noted earlier, IT skills (specialists/User) were not the most commonly cited skills issue for employers from the WLA, London or England as a whole, however more detailed information concerning related skills requirements is available from the ESS and as such presented in the table below which show, perhaps unsurprisingly, that basic MS Office skills were the main IT skills issue facing employers in 2019 with around one in twenty considering them to be a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas for staff development over the following 12 months (Table 6.4).

[23] The proportion of employers identifying listed skills as being a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas noted as requiring development over the following 12 months (post survey)

Table 6.4: IT skills development needs for potential/existing workers in the WLA and other areas, 201924

	Total	London	WLA
Basic Microsoft Office skills	4%	4%	4%
Skills using new or updated company software or systems	4%	4%	3%
Specialist software or hardware or internal systems	3%	2%	2%
Advanced Microsoft Office skills	2%	2%	2%
Foundation digital skills	2%	2%	2%
Other	1%	1%	1%
Don't know	1%	1%	1%
Being safe and legal online	0%	1%	1%
Web development skills	1%	1%	1%
Graphic design or design engineering skills	1%	1%	1%
Application ('app') programming and development skills	1%	1%	1%
Using the internet to find solutions to problems	0%	1%	1%
Completing transactions online	0%	0%	1%
Communicating via email	1%	1%	1%
Data analysis or analytics or data science skills	1%	1%	1%
Accounting or finance software or systems	1%	0%	1%

Source: IES analysis of Employer Skills Survey data

6.6 Skill provision recent trends

A final view on recent trends in skill provision can be supplied by the London FE Data Cube, where enrolments, starts, achievements and leavers are recorded over three academic years. As with the provider management information (see next chapter), the courses are aggregated by Sector Subject Area (SSA). Information is also available on the Level delivered. Although it is not possible with the release we were able to access to cross-tabulate based on level and SSA.

The analysis (shown in Tables 6.5 and 6.6) shows Health, Public Services and Care courses, and Business, Administration and Law to consistently have the biggest intakes although both decline in absolute numbers of enrolments across the three years available – and there is overall a decline in enrolments and in starts generally across these three academic years. Nonetheless, it is notable to see the Information and Communications Technology enrolments increased (slightly).

[24] The proportion of employers identifying listed skills as being a) the cause of hard-to-fill vacancies b) areas in which skills gaps were observed or c) areas noted as requiring development over the following 12 months (post survey)

Table 6.5: Recent trends in the provision of training by sector subject area in WLA

	Enrolments			Starts			Achievements			Leavers		
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19
Agriculture, Horticulture and Animal Care	221	223	244	92	100	134	54	86	67	88	112	94
Arts, Media and Publishing	165	207	150	103	107	50	56	63	64	61	105	93
Business, Administration and Law	16,054	11,285	9,819	8,219	5,258	5,427	4,683	3,363	2,050	9,045	6,343	5,035
Construction, Planning and the Built Environment	1,738	1,916	1,676	943	1,060	718	576	386	397	735	860	779
Education and Training	1,557	1,291	1,262	798	644	724	512	419	294	860	674	596
Engineering and Manufacturing Technologies	7,991	6,007	4,985	3,743	2,374	2,145	2,613	1,946	1,393	3,789	3,016	2,068
Health, Public Services and Care	22,325	18,071	14,798	10,432	6,939	7,489	5,832	6,235	3,830	9,948	10,454	6,676
Information and Communication Technology	1,399	1,913	2,429	779	1,199	1,333	390	330	559	652	737	1,118
Leisure, Travel and Tourism	1,971	1,683	1,358	1,061	800	722	583	639	419	1,027	1,054	773
Retail and Commercial Enterprise	7,369	6,267	5,294	4,153	2,966	2,863	1,912	2,192	1,199	3,649	3,829	3,098
Science and Mathematics	2	-		2	-		-	-		2	-	
Unknown	177,569	180,053	171,701	170,759	171,951	161,218	132,155	130,716	131,890	168,439	166,566	161,40

Source: London Data Cube

Table 6.6: Recent trends in the provision of training by level in WLA

	Enrolments			Starts			Achievements			Leavers		
	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19	2016/17	2017/18	2018/19
Entry level	45,679	49,522	46,516	44,907	48,566	45,587	34,705	38,473	38,798	44,581	48,185	45,707
Level 1	39,308	37,862	35,933	33,192	32,937	33,285	22,965	24,972	26,201	33,671	34,597	33,728
Level 2	52,390	47,820	44,710	38,959	36,156	36,164	26,183	26,166	25,541	38,852	38,444	35,862
Level 3	35,148	32,544	31,064	28,218	25,574	21,166	21,102	15,643	15,022	27,398	22,047	21,430
Level 4 (original)	3,981	4,227	4,055	2,486	2,128	2,440	1,039	1,026	961	1,904	1,912	1,877
Level 5 (original)		16	71		16	54		-	1		1	15
Higher level		48	160		48	116		-	-		1	18
Not Applicable/ Not Known	61,855	56,877	51,207	53,322	47,973	44,011	43,372	40,095	35,638	51,889	48,563	43,100
Unknown	-		-	-		-	-		-	-		-

Source: London Data Cube

7 Skills supply in WLA

7.1 Analysis of provider course information

This chapter sets out the availability of skills provision within the WLA area, based on the six FECs in WLA although not at this point the PTPs or HEIs. Including HEIs would increase the proportion of higher level (NVQ level equivalent 4 and above) courses in the analysis and the tool is designed to be able to incorporate these data as well as that from PTPs.

7.1.1 Overall provision

As a key part of work this project, we have collected and analysed data on courses offered by the FECs in WLA (Figure 7.1). These data are embedded in the tool. The six WLA FE providers are currently offering 1,296 courses with 18,780 places.

Figure 7.1: Places by provider

Provider	Courses	Places
HCUC*	200	4,908
Barnet & Southgate College	254	3,476
West Thames College	160	3,068
EHWLC**	374	2,931
Stanmore College	183	2,496
United Colleges Group***	125	1,901
Total	**1,296**	**18,780**

* HCUC = Harrow College & Uxbridge College
** EHWLC = Ealing Hammersmith & West London College
*** United Colleges Group data only includes provision in the WLA area; courses provided in the City of Westminster are not included in this analysis.

Source: Provider MI

7.1.2 Provision by NVQ Level

The courses analysed range from NVQ Level 2 through to NVQ Level 5. Overall, 95 per cent of the places are either NVQ Level 2 (41 per cent - 7,640 places out of 18,780) or NVQ Level 3 (54 per cent - 10,089 places out of 18,780) (see Table 7.2).

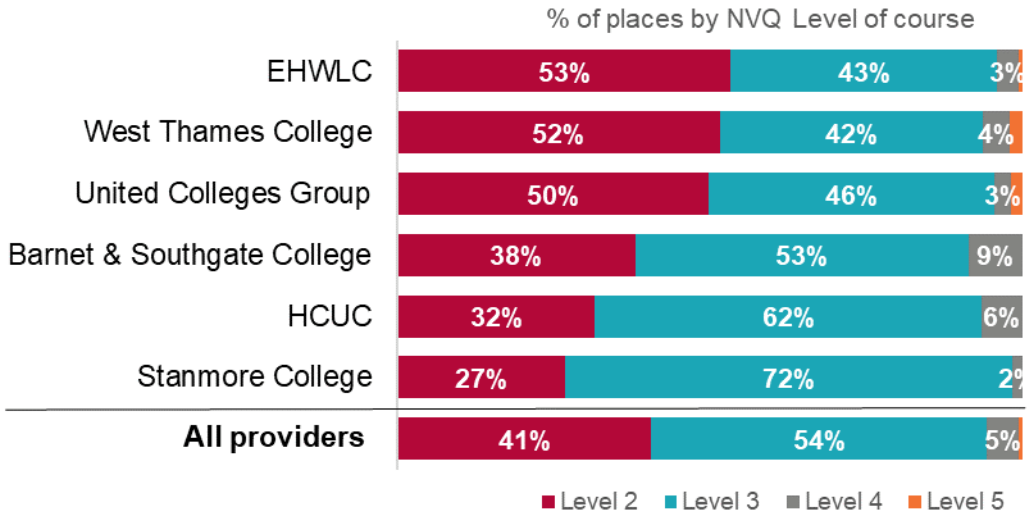
Table 7.1: Places by level

	Places by NVQ Level				
Provider	2	3	4	5	Total
EHWLC	1,563	1,249	100	19	2,931
West Thames College	1,584	1,290	133	61	3,068
United Colleges Group	949	869	48	35	1,901
Barnet & Southgate College	1,324	1,856	296		3,476
HCUC	1,552	3,037	319		4,908
Stanmore College	668	1,788	40		2,496
All providers - places	**7,640**	**10,089**	**936**	**115**	**18,780**
- % of total	**41%**	**54%**	**5%**	**1%**	

Source: Provider MI

Although the combined proportion of Level 2 and Level 3 courses is consistent across the six colleges, the proportion of Level 2 courses and the proportion of Level 3 courses within each varies markedly. EHWLC has the largest proportion of Level 2 courses (53 per cent - 1,563 out of 2,931 places); Stanmore College has the largest proportion of Level 3 courses (54 per cent - 1,788 out of 2,496 places). Thus, providers are split between those that have a majority of NVQ Level 2 places and those that have a majority of NVQ Level 3 places (see Figure 7.3).

Figure 7.3: Predominant level of provision amongst the WLA FE providers



Source: Provider MI

7.1.3 Provision by Sector Subject Area

As required by the Department for Education for funding reporting purposes, providers classify each of their courses against one of nine Sector Subject Areas (SSA). Table 7.4 shows that the sector with the highest number of places is Health, Public Services and Care (3,148 out of 18,780 places – 16.7% of total); the sector with the lowest number of places is Education and Training (546 places – 2.9% of the total).

Table 7.4: Places by SSA

		Places by NVQ Level				% by NVQ level			
Sector Subject Area	Total	2	3	4	5	2	3	4	5
Health, Public Services, and Care	3,148	1,538	1,471	113	26				
Business, Administration, Finance, and Law	2,683	934	1,416	314	19				
Construction, Planning, and the Built Environment	2,602	1,470	1,085	47	-				
Leisure, Travel, and Tourism	2,090	644	1,418	28	-				
Information and Communications Technology (ICT)	1,823	536	1,142	110	35				
Retail and Commercial Enterprise	1,801	1,231	483	87	-				
Arts, Media, and Publishing	1,618	320	1,243	39	16				
Engineering & Manufacturing Technologies	1,388	549	761	78	1				
Science and Mathematics	1,081	212	843	16	10				
Education and Training	546	206	227	104	9				
Total	**18,780**	**7,640**	**10,089**	**936**	**115**				

Source: Provider MI

The proportion of NVQ Level 2 and NVQ Level 3 places varies by sector. Retail and Commercial Enterprise has the highest proportion of Level 2 places (1,231 out of 1,801 places – 68.4 per cent of total); Science and Mathematics has the highest proportion of Level 3 places (843 out of 1,081 places – 78.0 per cent of total) (Table 7.5).

Table 7.5: Summary of detailed breakdown of SSA places by provider

Provider	Total places	Sector with the most places	Places	% of total
HCUC	4,908	Business, Administration, Finance, and Law	857	17%
Barnet & Southgate College	3,476	Leisure, Travel, and Tourism	681	20%
West Thames College	3,068	Retail and Commercial Enterprise	1,006	33%
EHWLC	2,931	Health, Public Services, and Care	789	27%
Stanmore College	2,496	Leisure, Travel, and Tourism	550	22%
United Colleges Group	1,901	Construction, Planning & Built Environment	1,054	55%
Overall	**18,780**	**Health, Public Services, and Care**	**3,148**	**17%**

Source: Provider MI

Table 7.6 on the following page shows the breakdown of SSA places by provider. This shows that although overall the sector with the most places is Health, Public Services and Care, individual providers have different sectors in which they have the most course places.

Table 7.6: Detailed breakdown of course places by provider and Sector Subject Area

Provider	Total	Course places by Sector Subject Area										Proportion of course places									
		Health, Public Services, and Care	Business, Administration, Finance, and Law	Construction, Planning & Built Environment	Information & Communications Technology	Leisure, Travel, and Tourism	Retail and Commercial Enterprise	Arts, Media, and Publishing	Engineering & Manufacturing Technologies	Science and Mathematics	Education and Training	Health	Business	Construction	Leisure	ICT	Retail	Arts	Engineering	Science	Education
HCUC	4,908	582	857	396	396	653	217	622	704	328	153										
Barnet & Southgate College	3,476	587	573	636	681	160	170	329	100	159	81										
West Thames College	3,068	598	241	161	185	189	1,006	322	210	136	20										
EHWLC	2,931	789	412	355	278	305	254	194	89	116	139										
Stanmore College	2,496	492	497	-	550	262	67	127	134	248	119										
United Colleges Group	1,901	100	103	1,054	-	254	87	24	151	94	34										
Total	**18,780**	**3,148**	**2,683**	**2,602**	**2,090**	**1,823**	**1,801**	**1,618**	**1,388**	**1,081**	**546**										

Source: Provider MI

7.1.4 Potential supply growth analysis: Analysis of courses where target places exceed actual places

Part of the information analysed for each provider was the Target Places (the number that DfE can supply funding for) for each course as well as the Actual Places (places taken up by learners). Where the Target Places figure exceeds the Actual Places, this suggests that there is potential capacity to expand provision. Table 7.7 shows this capacity by provider. The more detailed position is covered by Table 7.8 which shows the breakdown by both provider and Sector Subject Area.

Please note however that these additional capacity figures should be treated with caution because it was often unclear whether there was duplicated information from providers (for example, a similar course entered twice with one of the entries showing the Actual Places matching Target Places and the other showing Actual Places being zero).

Nonetheless, and so far as these data are reliable, the analysis shows that Construction, Planning and the Built Environment is the sector with the most additional capacity; the level of additional capacity varies markedly between different providers.

Table 7.7: Summary of detailed breakdown of additional capacity for places by provider

Provider	Addditional capacity*	Total places	Additional capacity as % of total
EHWLC	1,928	2,931	66%
Barnet & Southgate College	1,088	3,476	31%
HCUC	1,320	4,908	27%
Stanmore College	428	2,496	17%
United Colleges Group	147	1,901	8%
West Thames College	167	3,068	5%
Total	**5,078**	**18,780**	**27%**

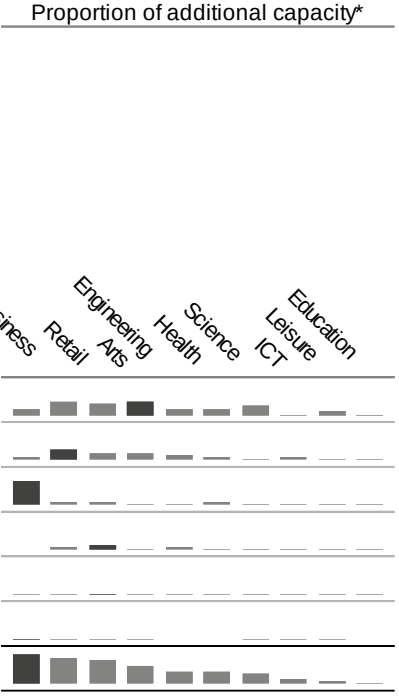
*For each provider, additional capacity has been defined as the sum of Target Places minus Actual Places, for all courses where Target Places is greater than Actual Places.

Source: Provider MI

Table 7.8: Detailed breakdown of additional capacity by provider and Sector Subject Area

Provider	Addditional capacity*	Construction, Planning & Built Environment	Business, Administration, Finance, and Law	Retail and Commercial Enterprise	Arts, Media, and Publishing	Engineering & Manufacturing Technologies	Health, Public Services, and Care	Science and Mathematics	Information & Communications Technology	Leisure, Travel, and Tourism	Education and Training
		Additional capacity* by Sector Subject Area									
EHWLC	1,928	182	324	283	334	160	177	269	64	117	18
HCUC	1,320	114	249	176	193	164	110	43	132	64	75
Barnet & Southgate College	1,088	545	100	102	28	59	90	58	38	49	19
Stanmore College	428	-	78	127	16	96	53	2	19	1	36
West Thames College	167	3	2	54	2	14	30	37	17	6	2
United Colleges Group	147	47	28	5	41		-	20	5	1	-
Total	**5,078**	**891**	**781**	**747**	**614**	**493**	**460**	**429**	**275**	**238**	**150**

Proportion of additional capacity*



*For each provider, additional capacity has been defined as the sum of Target Places minus Actual Places, for all courses where Target Places is greater than Actual Places.

Source: Provider MI

8 Gap analysis of provision against 2021 forecast demand using our online tool

To lead the gap analysis, we drew on the data we have mobilised for the tool, namely provider management information (MI) which shows the number of places they have funding to deliver. This has the benefit of being forward looking (see chapter 2) and thereby allows an assessment not only of supply but how well this aligns with predicted demand in the labour market.

Our online tool allows for detailed comparison of provision of courses across the six FE providers against demand for employment in 2021 by local authority in the WLA area. There are a wide range of filters that allow users to interrogate the data by any combination of the following:

- Course provider
- Local authority
- Sector Subject Area
- Occupation sector (based on the 3 digit SOC codes)
- Occupation (based on 4 digit SOC codes)
- NVQ Level.

This section provides a high-level summary showing total provision of courses and total demand by SSA and by NVQ level of qualification. The tool itself allows for much finer grain analysis.

The impact of both the end of the Brexit transition period and COVID-19 on employment has had a marked impact on the demand forecasts for 2021. Overall, the number of places (18,780) exceeds demand for jobs (16,160) across the WLA area. This is largely because of the negative demand in three sectors particularly affected by the twin impact of Brexit and COVID-19:

- Construction, Planning, and the Built Environment (forecast 2021 demand: -10,541)
- Information and Communications Technology (forecast 2021 demand: -8,941)
- Leisure, Travel, and Tourism (forecast 2021 demand: -7,056) (Table 8.1).

In the next section, we look at the comparison between course places and longer-term demand over the period 2021-2030 to avoid these short-term fluctuations.

For the demand figures by NVQ level, we have assigned a typical NVQ level for each of the 369 4-digit SOC code occupations. This is based on the average highest qualification level for people employed in that occupation. Ideally, it would be useful to show the entry-

level requirements by occupation rather than the average highest qualification, but this information is not available and the approach taken still provides a useful proxy. It can be seen from Figure 6-9 that demand is highly concentrated on NVQ Level 5+ occupations (29,038) and there is a negative demand for employment at NVQ Level 2 (-9,704) and NVQ Level 4 (-8,720) occupations.

Course provision, conversely, is concentrated at NVQ Levels 2 and 3, as discussed earlier in Section 6.1.2. The combination of high demand at Level 5 occupations and high supply of course places at Levels 2-3 means that course provision exceeds demand for each of NVQ Levels 2 (17,344 more course places than demand), Level 3 (4,544 more places) and Level 4 (9,656 more places), but demand greatly exceeds provision at Level 5 (28,923 fewer course places than demand).

Figure 8.1: Detailed breakdown of course places against 2021 forecast demand by SSA and NVQ Level

	Course places					Demand					Difference (Course Places minus Demand)					Difference
		by NVQ Level					by NVQ Level					by NVQ Level				
Sector Subject Area	**Total**	2	3	4	5	**Total**	2	3	4	5+	**Total**	2	3	4	5+	Total 2 3 4 5+
Construction, Planning, and the Built Environment	**2,602**	1,470	1,085	47	-	**-11,000**	-5,200	-100	-4,800	-500	**13,000**	6,700	1,200	4,800	500	
Information and Communications Technology (ICT)	**1,823**	536	1,142	110	35	**-8,900**	-	-900	-1,700	-6,400	**11,000**	500	2,000	1,800	6,400	
Leisure, Travel, and Tourism	**2,090**	644	1,418	28	-	**-7,100**	-400	-6,800	500	-500	**9,100**	1,000	8,200	-500	500	
Health, Public Services, and Care	**3,148**	1,538	1,471	113	26	**3,200**	-2,200	-1,800	-200	7,500	**-50**	3,800	3,300	400	-7,500	
Education and Training	**546**	206	227	104	9	**1,400**	-	300	1,200	-100	**-900**	200	-80	-1,100	100	
Retail and Commercial Enterprise	**1,801**	1,231	483	87	-	**3,400**	-2,700	3,200	2,400	500	**-1,600**	4,000	-2,700	-2,300	-500	
Engineering & Manufacturing Technologies	**1,388**	549	761	78	1	**6,000**	-1,300	5,300	400	1,600	**-4,600**	1,900	-4,600	-300	-1,600	
Business, Administration, Finance, and Law	**2,683**	934	1,416	314	19	**7,700**	-	3,000	-6,100	11,000	**-5,100**	900	-1,600	6,400	-11,000	
Science and Mathematics	**1,081**	212	843	16	10	**6,300**	-	-	-	6,300	**-5,200**	200	800	20	-6,300	
Arts, Media, and Publishing	**1,618**	320	1,243	39	16	**9,300**	-	-	-500	9,800	**-7,600**	300	1,200	600	-9,800	
Sectors not provided (e.g Agriculture)	**-**	-	-	-	-	**5,400**	2,100	3,200	-	-	**-5,400**	-2,100	-3,200	-	-	
Total	**18,780**	**7,640**	**10,089**	**936**	**115**	**16,000**	**-9,700**	**5,500**	**-8,700**	**29,000**	**2,600**	**17,000**	**4,500**	**9,700**	**-29,000**	

Provider MI combined with 2021 forecast demand information. NB – 2021 forecast demand information is estimated and therefore figures for demand by SSA and NVQ Level have been variably rounded. These roundings may cause some of the totals to vary slightly from individual figures.

Source: IES

8.1.1 Longer term gap analysis: provision in sectors of relevance to demand

As set out in the previous section 5.1.5, our online tool allows for detailed comparison of provision of courses against demand in 2021 at an SSA and occupation sector level by a very wide range of user-defined filters. The tool also has the capacity to analyse forecast demand by SSA as a yearly average of demand for employment over the period 2021-2030. This longer-term average helps overcome short term fluctuations in demand by sector as a result of COVID-19 and the end of the Brexit transition period.

What this analysis reveals can initially look quite stark, and it is the case that bringing together demand and supply data in this way has not been previously attempted in WLA therefore there has been limited labour market intelligence to shape the local skills offer. Moreover, it is worth checking both the differences produced numerically as well as proportionally to increase understanding. It should also be borne in mind, the gaps shown are between funding commitments providers receive for places via the Education and Skills Funding Agency (national) and for Adult Education Budget (London) and does not capture on-the-job training for employees that employers commission.

The tool also has not as yet captured provision within PTPs which is likely to be highly employer responsive and include substantial quantities of apprenticeship and on-the-job training (or HEIs, which will be more concentrated on Level 4+ but could be more learner-led than employer-responsive). A further point is that exploring the tool will provide a deeper insight. This chapter highlights top level information but it is possible to interrogate the tool at a more detailed, occupational level.

These caveats aside, it can be seen from Table 5.9 that the proportion of forecast demand available in respect of course places from providers varies greatly from sector to sector, although in none of the sectors does course provision exceed demand.

- Construction, Planning and Built environment training places currently represent 96 per cent of predicted demand – which gives some reassurance for infrastructure development plans (particularly with the growth potential noted in Table 5.8 is therefore reassuring).
- In Science and Mathematics provision is 83 per cent of the annual demand forecast and the difference is in the order of 100 jobs per year, which is very small in comparison to other larger sectors,
- In Arts, Media and Publishing, the number of places is around half of the forecast demand at 49%.
- The Education and Training sector is one of the least well matched, with training places representing 23 per cent of forecast demand – and there appears limited growth capacity here currently.

- In Business, Administration, Finance and Law (28% - difference of 6,900 between course places and average annual demand), and Engineering and Manufacturing Technologies (22% - difference of 5,000) training places will meet low proportions of the predicted demand and they are also sectors where the difference between course places and demand is high. While there is significant growth capacity for Business, Administration, Finance and Law, opportunity for growth in Engineering and Manufacturing Technologies is much less.
- Given the differential sectoral impacts of COVID-19, the mismatch between places and demand in Retail and Commercial Enterprise (33 per cent of forecast demand) and Leisure, Travel and Tourism (48 per cent) may be less of a concern in the short term. However whereas it appears that Retail and Commercial Enterprise could be grown short term, opportunities for growth are fewer in Leisure, Travel and Tourism.
- The rising need for employees in Health, Public Service, and Care roles in light of Brexit (44 per cent of forecast demand – a difference of 4,100 between courses and demand) and in Information and Communications Technologies (79 per cent of forecast demand – a difference of 500) due to increasing demand for digital skills, may mean training provision supply for these requires expansion. Both sectors show limited opportunity for growth short term although prospects are slightly better for Health, Public Service, and Care than for Information and Communications Technologies.

Overall, course places meet 42 per cent of the forecast demand for employment (a difference of 26,200 between course places and demand), but this varies greatly from sector to sector (see Table 8.2).

Figure 8.2: Places in relation to forecast demand, by SSA

Sector Subject Area	Course places	Forecast demand*	Places vs demand difference	Places as % of demand
Construction, Planning, and the Built Environment	2,602	2,700	-100	96%
Science and Mathematics	1,081	1,300	-200	83%
Information and Communications Technology (ICT)	1,823	2,300	-500	79%
Arts, Media, and Publishing	1,618	3,300	-1,700	49%
Leisure, Travel, and Tourism	2,090	4,400	-2,300	48%
Health, Public Services, and Care	3,148	7,200	-4,100	44%
Retail and Commercial Enterprise	1,801	5,400	-3,600	33%
Business, Administration, Finance, and Law	2,683	9,600	-6,900	28%
Education and Training	546	2,400	-1,900	23%
Engineering & Manufacturing Technologies	1,388	6,400	-5,000	22%
Total	**18,780**	**45,000**	**-26,200**	**42%**

* Forecast demand is an estimate of the yearly average demand by SSA for the period 2021-2030. Demand for each of 369 occupations has been calculated as part of our research, and each of these occupations has then been matched to a corresponding SSA. These forecasts are estimates and therefore the figures in the forecast demand column have been rounded.

Source: Provider MI

8.1.2 Digital skills

The brief for this project required commentary on the adequacy of digital skills training and the extent to which it is embedded into broader vocational education and training or as a standalone, to groups who are likely to be most digitally excluded and/or affected by automation. We have been able to cover this to a degree in the research, although the agreement to focus on Level 2 and above qualifications – to capture occupationally specific training, means we did not take a close focus on how providers meet the needs of those needed basic level skills. However, Table 4.8 above uses London Data Cube data to show the number of courses delivered in recent years by different sector subject area which suggests take-up of specialised digital training is low in the WLA sub-region, compared to other sector subject areas, although there are increasing numbers of students taking this up bucking the general trend.

While it is not possible to use the data to provide specific insight into the level of this digital provision, Table 4.9 shows the propensity of take-up of learning by level indicating quite strong take-up at the basic level.

The policy direction in FE has been to embed digital skills coverage within courses – with the T Levels providing the most recent evidence for how English, maths and Digital (EMD) skills are an integral feature. Alongside this, the Education and Training Foundation has been promoting professional development to increase tutor capability and e-Learning with intended spillovers for learners.

What is known[25] is that digital exclusion is most frequently due to people lacking internet access and/or having limited digital literacy so there is a cost/resource dimension alongside a skills dimension. The authors from the Low Incomes Tax Reform Group/Chartered Institute of Taxation also comment that age is significant in determining likelihood of digital exclusion but other factors also come into play including low income, disability (where the gap between inclusion/exclusion is larger than for other groups), learning difficulties, ethnic origin, location, culture and language. Crucially they identify that 'motivation seems to be the biggest barrier to digital inclusion to overcome, especially for low-income groups' which indicates that alongside any provision needs to be information, advice and guidance to help individuals understand why these skills are valuable as well as be able to navigate and select the right provision to meet their needs. While a population analysis was not part of the brief, this information provides some useful insights into likely needs in the WLA area.

The ONS[26] has explored risks of automation and indicates "When considering the overall risk… the three occupations with the highest probability of automation are waiters and

[25] Taken from: Digital Exclusion, Low Incomes Tax Reform Group/Chartered Institute of Taxation, https://www.poverty.ac.uk/report-social-exclusion-disability-older-people/growing-problem-%E2%80%98digital-exclusion%E2%80%99

[26] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationsareathighestriskofbeingautomated/2019-03-25#:~:text=When%20considering%20the%20overall%20risk,are%20low%20skilled%20or%20routine

waitresses, shelf fillers and elementary sales occupations, all of which are low skilled or routine". This analysis was pre-COVID, and we of course now know that there is a strong overlap between these groups and those most affected by the COVID recession. These groups now face a double-whammy, and there is a strong argument for providers to be tailoring and promoting digital skills heavily to these groups to support and enable their transitions. It is worth noting that in meeting the needs of people who are most at risk of their jobs being automated, provision at the lower levels is likely to be the first step – and this is well supplied in WLA (see Table 4.9 above).

Additionally, using the NESTA careers causeway tool enables an assessment of the level of risk faced in different occupations due to automation. From our demand side analysis, see Table 3.2, we know that increasing numbers of people in WLA work in elementary occupations and Table 3.4 shows that there is continued growth in these and elementary occupations in the period up to 2030.

NESTA Commentary[27] based on these developments indicate the uncertainty still facing us in respect of the degree of automation. But they highlight that sales and services, and business and administration, have many jobs that could be suitable for machine learning although the extent of automation that will emerge will depend on a range of cultural, societal and financial factors, which cannot be predicted. A key consideration is that it is not yet clear whether automation would lead to displacement of jobs, or changes in the nature of those jobs – although NESTA still makes clear that manually-intensive roles are likely to be at greatest risk. More difficult for people undertaking these jobs currently, is that the most viable transitions indicated in the analysis are to jobs that also face automation. It is likely that more substantial retraining will be required, alongside ensuring these workers do acquire at minimum basic level digital skills.

8.1.3 Reasons for the gaps between supply and demand

While the analysis above indicate some substantial differences between demand and growth in demand, and supply, there are a number of factors driving this. Firstly, the funding system and annualised cycles start to determine the pace of any change. In terms of courses, given their brokerage with local employers and intakes of local learners, providers have reasonable knowledge on shorter term needs. Even where they might identify some areas of new provision, the requirement for upfront investment, perhaps two to three years to develop the curriculum into a training programme, alongside in some cases investment in kit, staffing etc means they need firm commitment that places would be taken up.

There are also factors that stem from the demand side. Some industries move too quickly for the college annual cycle for provision to meet demand. This is widely cited as an issue in IT/ technology-based industries with the pace of new software developments or change/ upgrades to existing systems. The conflict between the pace of change in industry and that in colleges means that the wait for courses to be developed and rolled

[27] https://data-viz.nesta.org.uk/career-causeways/index.html

out via colleges will always to take too long, and consequently that provision will be out of step. Moreover, and as WLA understands given it commissioned this research, it can be difficult for providers to fully understand the fine detail of employer requirements as well as to get the guarantee from employers that any new provision would be taken up, which means the risk and costs of meeting very specific requirements can outweigh the benefits of investment.

8.1.4 How to address gaps – making decisions on what to prioritise

The prioritisation of sectors for supply development needs to take into account the effects of COVID-19 (so far as these can be known at this point), Brexit as well as the megatrends of an ageing population, automation and climate change in addition to the subregional growth trends. On the latter, the established priorities for the WLA labour market centre on growth areas including creative industries, clean tech, logistics, construction, hospitality, education and research and health and care, residents in aviation communities (where COVID-19 has had a devastating impact on jobs), as well as digital and data driven areas including automation, alongside and green job opportunities (beyond clean tech).

Intuitively, aligned to these priorities a range of relevant growth occupations can be identified from the detailed occupational breakdown applied in the appendices (Table A1). While Senior, strategic management roles would draw candidates from across Greater London (and beyond), other roles will be more amenable to local recruitment. At a broad level (reviewing predicted changes between 2020 and 2030, roles in the following sectors would be identified:

- health sector roles (from managers, to health and therapy professionals to welfare and housing professionals).
- business, research and administrative.
- construction roles including skilled trades as well as construction and buildings supervision
- metal working, welding and machining
- conservation and environmental associates.

Moreover, as we have already discussed building resilience amongst residents in terms of improving digital skills will be important.

To reach decisions on how to prioritise this employment demand with existing and new skills decisions, detailed interrogation of the tool would be helpful. This demonstrates how rapidly demand for these roles will come on stream and what the future trend is for example, a short-term peak followed by minimal replacement demand or a longer-term trend for increasing or continuing demand. It is also salient to use the tool to explore the adequacy of provision based on current and future demand. Given the time and investment needed to bring new provision on-stream, using the tool in this way will be important.

Firstly, there will likely be benefit from increased collaboration between providers. This would ensure where gaps are for specialist or niche provision, there could be some risk-sharing, or decisions around specialisation to make larger investments. This would be needed for longer-term, full qualification packages of training as well as shorter, reskilling opportunities.

In respect of how best to develop new provision for delivery, a couple of approaches may be salient alongside longer term investment in apprenticeships and full/part-time nationally accredited programmes.

In addition to substantial programmes of learning, some retraining models are likely to be important. At present, there are two options in the policy portfolio that may be worth consideration for developing local models. Both rely on close employer engagement. The first is very short, sharp training based on work experience providing the necessary reskilling opportunity. Sector-based Work Academy Placements offer people a chance to undertake work experience with an employer with a guaranteed interview available at the end of the placement. An alternative, where reskilling needs a more substantial input, would be the Bootcamps model (see section 8.1.3). While national provider contracts are being commissioned the model could be adapted for local delivery since it focuses on training for specific employer skills needs, leading in some cases to industry standard accreditations and the guarantee of an interview at the end of 8-16 week training provision. Under the model being funded by Department for Education, vacancies are available for at minimum 75 per cent of learners taking part.

9 Examples of practice relevant to WLA

This chapter highlights some practices and tools that were uncovered as part of leading this project. Some of these may provide models for how WLA works with its stakeholders to align supply and demand in its labour market, whereas others demonstrate potential to join up to other sources of data to enhance and elaborate the tool that we have developed.

9.1 Practice models in demand-responsive provision / demand-led pathways and in-work progression

This first section summarises the opportunities and challenges associated with demand-responsive skills provision and in-work progression, and sets out a number of examples of good practice which demonstrate some of the factors that support more successful outcomes. A range of examples are included, some of which are more mature and therefore have outcomes associated with them which can be judged as effective practice. Other models are included so that WLA can assess whether the model might work in its boundaries and if so, keep a watching brief as outcomes emerge. The commonality in approach between those with outcomes and those without, also indicate that some models are likely to be effective.

9.1.1 Demand-responsive provision

Matching skills provision with employer demand is a perennial challenge. The complexity of the funding and commissioning landscape, the planning cycles and timeframes of curriculum and timetable design, and the mix of accountability structures across FE, private provision and HE all contribute to the difficulties.

Who pays for provision, for example, can result in quite different outcomes. Regionally funded FE provision has formal structures through which local stakeholders such as local authorities can influence. HE is less accountable to local authorities, but may be employer-responsive where HE providers (which includes universities and some FE providers) have strong links to key local sectors. Training funded by employers themselves is likely to be appropriate for their needs, but is unlikely to deliver provision suitable for pre-employment, or qualifications that they already expect employees to have like Maths and English GCSEs.

The examples below describe models of skills design and delivery which have employer needs at their heart. In most cases, employers are involved in governance and delivery, and in some they are the driving force behind the initiative. Most take a sectoral focus, either concentrating on a small number of locally important sectors, or in the case of the Marches and Elite Centres outlined below, solely working with one. A sectoral approach

allows resources to be targeted where they can have most impact, and for a deeper understanding of business needs to be developed.

Some examples also demonstrate another key factor; a direct link between employer-facing support and skills provision, enabling direct feedback from employers to influence provision, rather than it being lost in translation through multiple agencies or layers of governance. The new OPDC Skills and Employment Hub will be one route for West London to capture employer needs first hand – and consider expanding that model more widely across the seven boroughs. These can be fed directly into Adult Education Budget (AEB) discussions; more complex pathways are likely to be needed to influence private provision and HE.

The Mayor of London's Construction Academy

The Mayor's Construction Academy (MCA) involves employers in both governance and operations. Effective communication with employers is key to their design, including employer involvement in curriculum design. The Academy was set up in 2018 at a network of construction skills providers, employers and other construction industry partner to improve coordination between skills and jobs within the construction industry, and collaboration to design and deliver approaches to training which meet the needs of employers and learners.

One of these hubs is located at West London College, and the Transport for London hub includes West London in its footprint.

The main aims of the MCA are to ensure effective communication between construction employers and training providers around skills requirements and training availability, to enable employer-led curriculum design enhancements, to ensure employment opportunities are shared across the collaborating MCA Hub partners, and to provide job brokerage assistance between local learners, construction skills training providers and employers. The MCA also arranges additional pre-employability or learning support to Londoners who have failed to secure construction employment, ensuring they are guided towards new construction opportunities.

As part of the delivery model, MCA hub leads are responsible for a range of activities, including signposting learners to appropriate construction training provision, facilitating job brokerage including support around delivery of S106 requirements with construction employers, and ensuring that construction training provision addresses employability skills. To deliver these objectives it is expected that all MCA hubs develop links and engage with education providers, training providers, local authorities, housing associations, businesses, careers advice and guidance services, and skills sector bodies and associations.

Numerical information on the outcomes of the hubs activities are not yet published. However, the hubs are explicit about the extent of employer engagement achieved. For example, West London MCA hub notes the involvement of 11 private sector organisations.

Black Country Skills Factory

The Black Country Skills Factory brokers and funds upskilling courses and accredited training, and is a demand-led model of provision, focused on local growth sectors. A Local Enterprise partnership (LEP) initiative aimed at addressing skills shortages, it focuses on advanced manufacturing (including food and drink), transport technologies (including aerospace) construction (including building technologies), environmental technologies, and business services.

The objective of the Skills Factory is to develop a networked approach to skills delivery which is needs-driven and demand-led by the industry for these sectors and which can reshape the relationship between employers and education training providers. To realise its objectives, the Factory provides course brokerage working with schools and training providers to offer a programme of employer-led bite-size courses. Using a matrix of equipment and training provision in the key transformational sectors, the Factory broker and fund up-skilling training courses in a wide range of technical skills, as well as accredited management and leadership training tailored for the sector.

To date, the Skills Factory has brokered and arranged funding for 2,000 plus bite-sized upskilling courses in both technical and managerial topics across the five transformational sectors, delivered by local providers. Additionally, 275 Black Country businesses have one or more employees trained through a Skills Factory course. The factory has also engaged 800 businesses (especially in Manufacturing) to ensure that across each activity strand the Skills Factory is employer led in relation to upskilling.

Marches Centre of Manufacturing and Technology

The Marches Centre of Manufacturing & Technology (MCMT) was developed in 2016 as an employer-led response to bridging the skills gap and growing investment and business in Shropshire and the Midlands. The purpose of the Centre is to provide industry-ready apprenticeships and deliver upskilling opportunities in advanced manufacturing and engineering. The project is led by the private-sector partnership comprising Grainger and Worrall, Classic Motor Cars, Salop Design and Engineering and In-Comm Training.

The MCMT offers a Managed Service approach to support businesses to get the most out of the Apprenticeship Levy, using training advisors to work with companies throughout the entire process. This service offers employers the opportunity to shape the training and provision available to them through trailblazer apprenticeships and upskilling courses as well as a comprehensive consultancy programme.

The service now offers over 40 part or full-time Apprenticeships in engineering, manufacturing, administration and marketing and more than 100 upskilling programmes.

Elite Centre for Manufacturing Skills

The Elite Centre for Manufacturing Skills (ECMS) is an employer-led training facility for the Black Country, designed to improve productivity and growth in the high value manufacturing (HVM) sector by delivering specialist apprenticeships and short courses.

The aim for the project is to deliver provision that does not currently exist in the Black Country, to fill the skills gap in the manufacturing sector. The Elite Centre has been established as a non-profit making organisation governed by partners and with an industry-led board of directors.

Following extensive consultation with businesses across the Black Country, the Black Country Skills Factory (see above) identified a number of sectors where skills gaps and shortages created barriers to growth. The ECMS will provide specialist training, through a range of courses and apprenticeships, in toolmaking, foundry, patternmaking, metalforming, advanced computer numerical control (CNC), manufacturing management, and leadership and project management.

The centre lists a range of digital short course provision (eg. excel provision to different levels of mastery) as well as a range of apprenticeships.

D2N2 Growth Hub

The D2N2 Growth Hub was set up in December 2015 as an initiative by the Derby, Derbyshire, Nottingham and Nottinghamshire (D2N2) LEP to support SMEs in the region, including start-ups, growing businesses, and companies, to scale up their operations and boost competitiveness. The priority sectors with which the Growth Hub works include construction, creative and digital, food and drink, life sciences, low carbon, transport and logistics, transport equipment manufacturing, and visitor economy.

As part of its offer, the Growth Hub provides a dedicated Skills Service, which acts as an independent and confidential service supporting businesses to understand and plan their skills needs. Amongst other things, support includes advising SMEs on competency-based recruitment methods to identify skills that can impact on future work performance and supporting employees to gain qualifications. The Skills Service also provides support with day-to-day business issues such as recruitment, training, budgets, HR, procurement, marketing and communications, and governance and compliance.

No numerical information is published in respect of outputs but it has extensive, cross-sectoral employer engagement.

Stoke-on-Trent and Staffordshire Skills Hub

Funded by the Stoke-on-Trent and Staffordshire LEP, the Skills Hub engages directly with employers through impartial Skills Brokers, helping them to identify their skills needs and signposting them to support available, as well as providing financial support with the cost of training.

In particular, the service works closely with ‘Ladder for Staffordshire’, an initiative aiming to support large, medium and small businesses to take on young apprentices from the local area. As part of their service, Ladder for Staffordshire offer:

- A free consultation to discuss the needs of the business in relation to Apprenticeship opportunities, during which the employer and one of the relevant training providers agree terms and conditions

- Vacancy advertisement on the National Apprenticeship Website, after job specifics are agreed with the employer
- Initial assessment and shortlisting of candidates carried out by the training provider, tailored to the needs of each individual employer. Following this process, the employer interviews the candidates
- Regular visits by the training provider following successful employment of the candidate, to provide in-work support and ongoing training to the apprentice

9.1.2 Progression in employment provision

Progression can be facilitated by agencies such as local authorities and voluntary sector organisations, and by employers themselves. Progression can be both 'vertical' i.e. promotion or a new job at a higher level or seniority and/ or pay, and 'horizontal' i.e. moving to a new role, team or skillset which better suits an individual's aspirations and offers better opportunities to progress in future.

Support from agencies can focus on individuals, providing them with advice and support, or employers, informing them of the methods and benefits of improving progression for their staff, or a combination of both. Individuals are often unaware of the careers that are available locally or the salaries and progression opportunities they offer. In addition, they may struggle to identify alternative careers that their existing skills are suitable for, or what training might help them to move on and up.

Different types and sizes of employers may have more or less formal routes to progression. These might be based on gaining a certain level of experience, specific skills and qualifications, or they may be more 'organic' and based on an individual's particular interests, and the needs of the organisation. Employers don't always know or understand the benefits of offering progression pathways to their staff, or how to facilitate them.

The examples below describe agency- and employer-led approaches to progression, and some of the factors for successful progression programmes.

Step Up

The Step Up Pilot was a programme that tested new approaches to supporting progression among low paid Londoners. The Pilot was delivered between 2015-2018 by six voluntary sector organisations, each delivering a distinct support model or targeting a specific group of low paid workers. Step Up used three approaches to progression support: individual support to change jobs, engaging employers and marketing Step Up participants to them, and using external agencies to broker roles.

The individual job change support approach provided support in the form of upskilling to access work placements and job interview preparation. This support focused on enabling individuals to address barriers to progression and support them to find vacancies rather than brokering employment opportunities. In some cases, advisers supported individuals with the job search process, for example by providing personalised advice about the recruitment process and support to search for vacancies.

There are two main factors which enabled Step Up providers to find participants new jobs. Firstly, the ability to engage successfully with employers and show them the benefit to their business of using the service, namely a high quality and free recruitment service, with candidates with workplace experience, who had been screened, job matched and prepared for the application process by an expert team of advisors. Secondly, a key selling point of the programme for employers was the fact that candidates had some form of recent work experience and had not been long-term unemployed.

The evaluation[28] indicates the programme supported 837 low-paid Londoners across the three years of its operation. Of these, 39 per cent saw an improvement in their employment situation through accessing more or better work, increasing earnings or improving hours. For most outcomes (64 per cent) this progression resulted from finding a new job.

Skills Escalator

The Skills Escalator Pilot was a programme delivered between 2014 and 2016 by the London Boroughs of Hounslow and Harrow, to support working people on low incomes to move into better-paid and more stable employment. The programme provided a support service of personalised advice and skills acquisition as well as employer-facing support to improve clients' prospects of gaining better employment. It has since been expanded to cover most of the seven WLA boroughs.

The local partnership approach, established through a Stakeholder Reference Group to support and advise the pilot's development, was core to the pilot's successful delivery. The group included representatives from Jobcentre Plus (JCP), the Skills Funding Agency, training providers and the local authorities' Employment and Growth teams. Partnership working was essential to generate referrals, source learning and skills provision, address barriers to progression and to access quality jobs for clients.

The evaluation[29] recorded that the pilot recruited 361 participants across the period of its operation. A third took up training including ESOL and short, vocational courses and these were more likely to see progression (as measured by increased earnings) in the timescale of the evaluation, than those who did not take up training 34 per cent compared to 11 per cent). Overall 70 programme participants reported increased earnings by March 2016, representing an outcome rate of c20 per cent.

Timewise Pilot

Timewise Foundation were funded by the Department of Work and Pensions to carry out a small scale trial in 2014-15 to explore how their holistic client coaching and employer-facing employment support model could be used to work with low income working parents

[28] https://learningandwork.org.uk/resources/research-and-reports/step-up/

[29] https://learningandwork.org.uk/wp-content/uploads/2020/05/Evaluation-of-the-Skills-Escalator-Pilot.pdf

to secure better quality and better paid employment, while protecting part-time and flexible working arrangements.

The trial supported 102 working parents through a model based on one-to-one support from a 'pre-progression' advisor as well as employer-facing support from employer engagement advisors. The employer engagement service provided job brokerage, structured support to negotiate flexible progression opportunities, and access to Timewise Foundation's job alert service, usually with local small and medium enterprises.

The main features of the employer-facing support included 'reverse marketing' of candidates to employers, negotiation with employers on flexibility, and employer workshops. In terms of reverse marketing, when a client was identified as being ready to progress, the employer engagement adviser would engage a suitable employer to secure a role for the client. A key part of this approach was to engage quickly with an employer and have strong knowledge of the client's skills and attributes to market them successfully and introduce discussions around flexible terms. Flexible terms were considered important as they could give a client more confidence to apply and a better chance of securing an interview. Finally, the employer engagement team delivered some workshops led by employers on interview skills, based on the employers' views of what they were looking for from candidates in particular sectors.

Employer examples

Financial services company **Admiral** offers a comprehensive internal training and progression programme for its entry level staff. Following their induction, these staff (mainly call centre workers) have access to a wide variety of training programmes which are specifically tailored to different career pathways, including IT, marketing and HR. The vast majority of higher level roles are filled via internal promotion rather than external recruitment.

Food manufacturer **Pladis** relies on internal training and promotion to fill skills gaps, as suitable candidates are often not available in the local labour market. They recruit at entry level and then provide opportunities to learn the skills required to develop and progress within the company. This includes a management development scheme which enables staff with no management experience to move up over a period of two years, supported by a development plan and advice from senior colleagues.

Social housing provider **Squared** provides e-learning for all staff. This flexible model enables staff to choose the courses they wish to take, and to fit study around other commitments, for example shift working. The training includes management skills, which enable more junior staff to progress through the organisation.

9.1.3 New funding schemes to watch

In addition to these established best practice models, new provision is being developed through the National Skills Fund and the former National Retraining Scheme that aims to help people move into growth sectors and to gain the skills local employers' needs.

An early precursor to the National Retraining Scheme, funded by DfE, was seen through the funding of the **Construction Skills Fund** (CSF). These have been testing various leadership models for delivering short-term, entry level training that enables individuals to gain work in the sector. In essence, they have been the means to acquire the CSCS card and basic health and safety knowledge necessary to gain entry. The evaluation of these schemes will be published in summer 2021.

A more recent initiative is aligned to the National Skills Fund and is known as the **Employer Response Training Pilots** focused on digital skills - or Digital Bootcamps for short. This is again funded by DfE. There are six of these in operation across various combined authorities in England. Each is working with local employers to establish their needs in respect of high skills shortage vacancies and to develop and deliver training to meet these needs. Pilots are underway to test support for various subgroups including groups who are under-represented in the industry and in work more generally. From spring/summer 2021, the provision will be extended into new skill areas including construction skills and other technical skills. The provision is relatively extensive – needing around three months to compete and gain industry accreditations. At the end of training, individuals are guaranteed a job interview with a local employer – hence employer brokerage is at the heart of delivery.

Moreover, it would be wise to ensure both WLA providers and residents benefit from the increased investment in the **Adult Education Budget** announced by the Mayor. This is a devolved component of funding and the mayor will increase the funding rates for qualifications up to and including Level 2 by 10 per cent next year to support increased levels of adult learning. This builds on increased investment in basic skills, and maths and English in the 2019/20 academic year. Also notable is the planned £10m investment in an ‘adult education recovery fund’ targeted at industries and sectors including those identified as priorities in WLA - digital, health, social care, the environment, and creative and cultural industries. This may help incentivise new and extended provision in these key areas of the economy to support residents into sustainable work.

9.1.4 Other tools and resources to support linking demand and supply

As part of research, we came across a number of tools that would be useful either as additional resources for individuals visiting the WLA website to access or as resources that could be linked if suitable means could be found. These include:

The NESTA Skills Taxonomy

https://data-viz.nesta.org.uk/skills-taxonomy/index.html

This tool aims to be a first step in capturing the gap in the supply of skills compared to labour market demand. The premise is that to understand the gap, you first need to understand the skill groups needed in the labour market. To do this, NESTA used ‘machine learning’ to ‘scrape’ skills information and descriptors from 41 million UK job adverts, collected between 2012 and 2017 provided by Burning Glass Technologies.

The resulting taxonomy – available from the link above – lists out key skills, job titles and pay rates for various occupations at a detailed sub-sectoral level. The limitation from the perspective of our project for WLA is that NESTA has not deployed SOC because this is not used in job adverts therefore, we lack crucial information to link between demand and supply and these data that would allow ready use.

NESTA Careers Causeways

https://data-viz.nesta.org.uk/career-causeways/index.html

The second NESTA toolset again uses machine learning and heuristics to look at how the skills and attributes acquired through training and performance in one occupation might map to another – with the idea of supporting transitions amongst employees in roles at risk of automation or redundancy more generally. The risks captured emerge from mega-trends such as automation, as well as the pandemic and changing industrial structure.

The map shows the similarities (and differences) between skills requirements in differing occupations and the aim is that this tool could be used to inform careers guidance around careers transitions and retraining. A more detailed account can be found at the link below.

The data draws on O*NET and ESCO occupational descriptions however does not use SOC so again there is not a ready means to link to the WLA tool.

https://www.nesta.org.uk/report/mapping-career-causeways-supporting-workers-risk/

The LMI for All Project

https://www.lmiforall.org.uk/

We mention this resource mainly because to create it, the DfE has funded the research and consultancy team to lead a detailed mapping between Sector Subject Area – the sectoral information used in the national administrative education dataset – and Standard Occupational Classification (SOC). It would have been ideal if this had been published and this mapping could have supported the development of the WLA tool.

The main site provides resources for individuals to consider their skills and how well these match to labour market opportunity and so there could be value in adding these to any careers resources on the WLA website. If individuals wanted to understand careers, skills and pay levels in particular occupations, there are tools on this site that support them to do so.

http://skillsmatch.intelligentlondon.org.uk/

In addition, the site offers links to Skills Match London which provides a London-wide analysis of labour market demand and skills supply using the map between SSA and SOC. This provides similar data to that contained within the tool, although arguably does not bring it together in the way we have been able to. It is worth taking a look at as an alternative approach that allows some level of interrogation of the underlying data.

Appendices

Detailed, demand-side occupational breakdown

Table A1: Forecast employment in WLA (000's), by 3-digit SOC

	2010	2015	2020	2025	2030	2010-2020		2020-2030	
111 Chief Executives and Senior Officials	4	7	12	24	26	9	249%	13	108%
112 Production Managers and Directors	11	12	12	10	9	1	8%	-3	-28%
113 Functional Managers and Directors	31	47	63	77	94	33	108%	30	48%
115 Financial Institution Managers and Directors	5	6	6	5	5	0	9%	-1	-11%
116 Managers and Directors in Transport and Logistics	3	4	6	5	5	3	90%	-1	-12%
117 Senior Officers in Protective Services	1	1	1	1	1	0	10%	0	15%
118 Health and Social Services Managers and Directors	3	2	3	4	5	1	29%	1	42%
119 Managers and Directors in Retail and Wholesale	10	9	12	16	15	2	20%	3	30%
121 Managers and Proprietors in Agriculture Related Services	0	0	0	0	0	-0	-100%	0	-
122 Managers and Proprietors in Hospitality and Leisure Service	9	10	9	10	10	1	9%	0	2%
124 Managers and Proprietors in Health and Care Services	2	2	2	2	3	0	4%	1	35%
125 Managers and Proprietors in Other Services	17	23	24	26	28	6	37%	4	18%
211 Natural and Social Science Professionals	9	6	14	15	17	5	52%	3	22%
212 Engineering Professionals	11	10	13	12	12	2	18%	-0	-3%
213 Information Technology and Telecommunications Professionals	43	50	73	72	79	30	70%	7	9%
214 Conservation and Environment Professionals	1	1	2	2	1	1	93%	-1	-42%
215 Research and Development Managers	2	2	2	2	2	0	12%	-0	-1%
221 Health Professionals	14	20	32	44	50	17	122%	18	56%
222 Therapy Professionals	5	5	7	8	9	1	27%	2	28%
223 Nursing and Midwifery Professionals	13	16	17	13	13	4	29%	-3	-19%
231 Teaching and Educational Professionals	48	48	55	54	58	8	17%	3	5%
241 Legal Professionals	11	12	14	11	12	2	21%	-2	-13%
242 Business, Research and Administrative Professionals	23	34	47	54	61	24	107%	14	30%
243 Architects, Town Planners and Surveyors	9	9	11	11	11	2	23%	0	3%
244 Welfare Professionals	5	6	9	14	17	5	98%	7	77%
245 Librarians and Related Professionals	2	1	2	1	1	1	44%	-1	-51%
246 Quality and Regulatory Professionals	2	3	5	7	8	3	219%	3	55%
247 Media Professionals	9	11	20	32	36	11	113%	15	77%
311 Science, Engineering and Production Technicians	6	6	5	5	5	-1	-15%	-0	-7%
312 Draughtspersons and Related Architectural Technicians	2	2	2	1	2	-1	-23%	-0	-3%
313 Information Technology Technicians	9	6	7	4	3	-2	-18%	-4	-56%
321 Health Associate Professionals	3	4	4	4	5	0	4%	1	25%
323 Welfare and Housing Associate Professionals	8	9	8	7	6	-0	-3%	-2	-19%
331 Protective Service Occupations	11	6	6	5	4	-5	-45%	-2	-33%
341 Artistic, Literary and Media Occupations	21	23	23	22	23	2	8%	0	0%

342 Design Occupations	7	6	9	9	10	2	36%	1	11%
344 Sports and Fitness Occupations	4	3	6	6	7	3	71%	1	12%
351 Transport Associate Professionals	0	0	0	0	0	-0	-9%	-0	-9%
352 Legal Associate Professionals	2	2	4	4	4	1	62%	1	20%
353 Business, Finance and Related Associate Professionals	29	30	45	49	54	16	57%	8	18%
354 Sales, Marketing and Related Associate Professionals	31	36	42	44	46	11	35%	4	9%
355 Conservation and Environmental Associate Professionals	0	0	0	1	1	-0	-4%	1	243%
356 Public Services and Other Associate Professionals	14	13	16	14	14	1	10%	-2	-10%
411 Administrative Occupations: Government and Related Organisa	10	11	5	3	1	-4	-45%	-4	-82%
412 Administrative Occupations: Finance	26	32	23	21	19	-2	-9%	-4	-17%
413 Administrative Occupations: Records	12	12	9	8	7	-3	-25%	-2	-23%
415 Other Administrative Occupations	21	24	22	17	17	1	5%	-5	-23%
416 Administrative Occupations: Office Managers and Supervisors	6	8	9	7	7	3	45%	-2	-20%
421 Secretarial and Related Occupations	34	24	20	17	16	-13	-39%	-5	-23%
511 Agricultural and Related Trades	4	4	6	7	7	1	31%	2	31%
521 Metal Forming, Welding and Related Trades	1	1	0	1	1	-0	-31%	0	35%
522 Metal Machining, Fitting and Instrument Making Trades	5	4	3	5	6	-2	-37%	4	123%
523 Vehicle Trades	4	3	3	3	2	-1	-21%	-1	-31%
524 Electrical and Electronic Trades	12	11	10	10	9	-3	-22%	-0	-3%
525 Skilled Metal, Electrical and Electronic Trades Supervisors	1	0	1	1	1	-1	-49%	1	89%
531 Construction and Building Trades	25	30	17	3	3	-8	-32%	-14	-81%
532 Building Finishing Trades	6	6	6	5	4	-1	-11%	-2	-33%
533 Construction and Building Trades Supervisors	2	2	1	2	3	-1	-30%	2	112%
541 Textiles and Garments Trades	1	2	2	2	3	1	49%	1	38%
542 Printing Trades	2	1	1	1	1	-0	-7%	-0	-23%
543 Food Preparation and Hospitality Trades	14	15	14	14	16	-0	-2%	3	21%
544 Other Skilled Trades	3	2	2	3	4	-1	-40%	2	115%
612 Childcare and Related Personal Services	29	25	25	22	21	-4	-15%	-3	-14%
613 Animal Care and Control Services	1	1	1	1	1	-0	-26%	0	16%
614 Caring Personal Services	22	26	33	34	37	11	50%	5	15%
621 Leisure and Travel Services	9	7	8	8	8	-1	-9%	0	2%
622 Hairdressers and Related Services	6	8	4	4	3	-3	-41%	-0	-6%
623 Housekeeping and Related Services	5	5	3	3	2	-1	-31%	-1	-29%
624 Cleaning and Housekeeping Managers and Supervisors	2	3	2	2	3	0	27%	0	24%
711 Sales Assistants and Retail Cashiers	43	44	33	34	34	-10	-23%	1	2%
712 Sales Related Occupations	5	5	6	7	9	1	18%	3	45%
713 Sales Supervisors	3	5	4	5	6	2	54%	1	27%
721 Customer Service Occupations	18	10	14	16	17	-4	-21%	3	22%
722 Customer Service Managers and Supervisors	5	4	5	6	3	-1	-13%	-1	-29%
811 Process Operatives	5	4	2	2	1	-4	-72%	-0	-10%
812 Plant and Machine Operatives	2	2	1	1	1	-1	-62%	0	5%
813 Assemblers and Routine Operatives	4	4	3	4	5	-1	-18%	1	39%
814 Construction Operatives	4	9	2	4	3	-2	-55%	1	80%
821 Road Transport Drivers	33	36	25	28	28	-7	-23%	3	12%
822 Mobile Machine Drivers and Operatives	3	2	1	1	1	-2	-51%	-0	-26%
823 Other Drivers and Transport Operatives	4	4	5	7	8	1	26%	3	59%
911 Elementary Agricultural Occupations	0	0	2	3	3	1	414%	2	100%
912 Elementary Construction Occupations	3	10	4	4	3	1	23%	-1	-21%

913 Elementary Process Plant Occupations	2	4	1	2	2	-1	-43%	0	29%
921 Elementary Administration Occupations	8	7	6	1	0	-2	-26%	-5	-93%
923 Elementary Cleaning Occupations	18	25	16	20	21	-2	-12%	5	35%
924 Elementary Security Occupations	13	16	13	13	14	0	2%	1	6%
925 Elementary Sales Occupations	5	4	3	3	3	-2	-42%	0	2%
926 Elementary Storage Occupations	5	9	6	6	5	2	30%	-1	-18%
927 Other Elementary Services Occupations	25	37	21	22	22	-4	-16%	1	3%
SUM	**919**	**1,014**	**1,052**	**1,103**	**1,164**	**134**	**15%**	**112**	**11%**

Source: IES