CITB ANALYSIS

Construction skills gap analysis for the Leicester & Leicestershire Enterprise Partnership area

An analysis of the opportunities presented by the construction landscape in the Leicester and Leicestershire Enterprise Partnership area

February 2019

EXECUTIVE SUMMARY

The Leicester and Leicestershire Enterprise Partnership (LLEP) area can expect sustained spending on new construction projects of more than £1.3 billion per year.

To meet this anticipated demand a total construction workforce of around 42,100 people is required. The total construction workforce available appears likely to be short of what is required at the moment. And with significant demand anticipated from neighbouring areas there are risks that the Leicester and Leicestershire area may not be able to meet demand for many occupations. With an aging workforce, resulting in increased retirement, that challenge may become more extreme.

Across the area, new housing accounts for 34% of anticipated spend on new projects in 2019; private commercial developments for 25% and infrastructure for 21%. A significant call on the workforce will also come from a large number of small projects and repair and maintenance.

The Leicester and Leicestershire Enterprise Partnership area's opportunity

The LLEP and local authorities' opportunities are to: support growing businesses; develop a more appropriately and better skilled, flexible workforce; drive higher level skills, match skills and the local economy and encourage job creation. This will, in turn, support the delivery of infrastructure that will enable further development and ensure that the area is prepared to exploit opportunities as they emerge and deliver the new housing that is needed.

Construction on its own makes up a huge part of the UK economy representing more than 7% of GDP and around 10% of employment. But crucially it is also an enabler. It will create the desperately needed new; has the potential to enhance the environment and create better public spaces and put in place the facilities and infrastructure that open up growth opportunities and the sites for new technologies and manufacturing. Construction opens up opportunities for major social and economic gains.

"Leicestershire has a huge range of opportunities in construction trades and professions over the coming years. With well-paid, skilled and increasingly technical job opportunities in a wide range of trades and professions, we should be encouraging young people to look at construction as a career of choice with excellent prospects. A skilled workforce will help the area's growth aspirations and leave a legacy for future generations. CITB is working with employers to inspire, attract and train this new talent for these valuable and rewarding careers."

Nathan Wilkins, CITB Local Manager

High demand occupations

The top ten site based occupations for which there is greatest demand in the LLEP area are:

- Wood trades and interior fit-out
- Other construction process managers
- Electrical trades and installation
- Plumbing & HVAC Trades
- Labourers
- Building envelope specialists
- Painters and decorators
- Plasterers and dry liners
- Specialist building operatives
- Bricklayers.

At risk occupations

The occupations at greatest risk of a shortfall in numbers available locally are:

- Scaffolders
- Architects
- Roofers
- Construction trades supervisors
- Floorers
- Construction project managers
- Painters and decorators
- Other construction professionals & technical staff
- Labourers
- Plumbing & HVAC Trades
- Bricklayers
- Surveyors

Priority occupations

The report identifies occupations for which there is high demand AND a high risk of a shortfall.

- Painters and decorators
- Labourers
- Plumbing & HVAC Trades
- Bricklayers
- Surveyors
- Wood trades & interior fit-out
- Electrical trades and installation
- Building envelope specialists

Concern has also been raised about **plasterers and dryliners** for whom local employers have reported difficulty in finding enough to meet demand.

Occupations in context – the challenge

This report sets out a challenge to the Leicester and Leicestershire LEP, local authorities, colleges universities, training providers, construction employers and other stakeholders – namely to attract, train, recruit and maintain a high skilled construction workforce that meets anticipated demand. The opportunity is to help achieve social and economic gains by encouraging people from the area into these roles, providing the associated support and career pathways. This challenge is set against the backdrop of: concerns about the future availability of skilled workers and demand from other UK regions and major infrastructure projects.

The professions

There is high demand for several professional roles, jobs which require a significant length of training before candidates become qualified. Architects, surveyors and civil engineers require higher level qualifications plus professional accreditation, so the effect of action now will only be felt in five to ten years' time. These are jobs in demand the world over. However, these roles do not need to be permanently on-site so it is likely that some demand may be met by those working outside the region.

There are also opportunities to modernise construction and for the Leicester and Leicestershire LEP to start to encourage, and adopt, new technologies and new practices like off-site and modular construction to help meet demand.

Training and education

The Leicester and Leicestershire area accounts for 22% of construction related training across the East Midlands region. Around 65 training providers have delivered construction related training over the last five years (including apprenticeships). But 95% of that training has been provided by just ten providers.

While there has been an overall reduction in the provision of training, with new starts decreasing by 21%, construction apprenticeship starts have increased by 41% - higher than the increase of 31% seen across the East Midlands region.

Recommendations

The report proposes recommendations that include:

1. Develop and strengthen relevant collaborative partnerships. With a view to building collaborative holistic action plans and encouraging local stakeholders to work together and input to, and take ownership of, the construction skills actions.
2. Establish a Leicester and Leicestershire area construction strategy and action plan that recognises collective actions and solutions that may be required in and across the area.
3. Develop skills and training pathways for both current and future skills needs. Ensure training is appropriate for local needs and businesses. Develop LLEP area construction training so that it is appropriate for the needs of the construction industry and local circumstances, addressing risks of supply shortfalls.
4. Outreach. Build a more positive image of construction locally with young people. Increase recruitment through new entrance points, career changes and reskilling. Emphasise that construction offers high value rewarding careers for all. And where possible put in place action that draws and supports new candidates into priority occupations.
5. Leicester City Council has already adopted smart approaches to procurement to encourage wider contract awards to help include of small and medium sized employers. There may, however, be opportunities for similar approaches to be shared across the LEP area to help provide consistency.

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1. INTRODUCTION

1.1. Scope

Figure 1 shows the area of the Leicester and Leicestershire LEP, and Table 1 lists the local authorities.

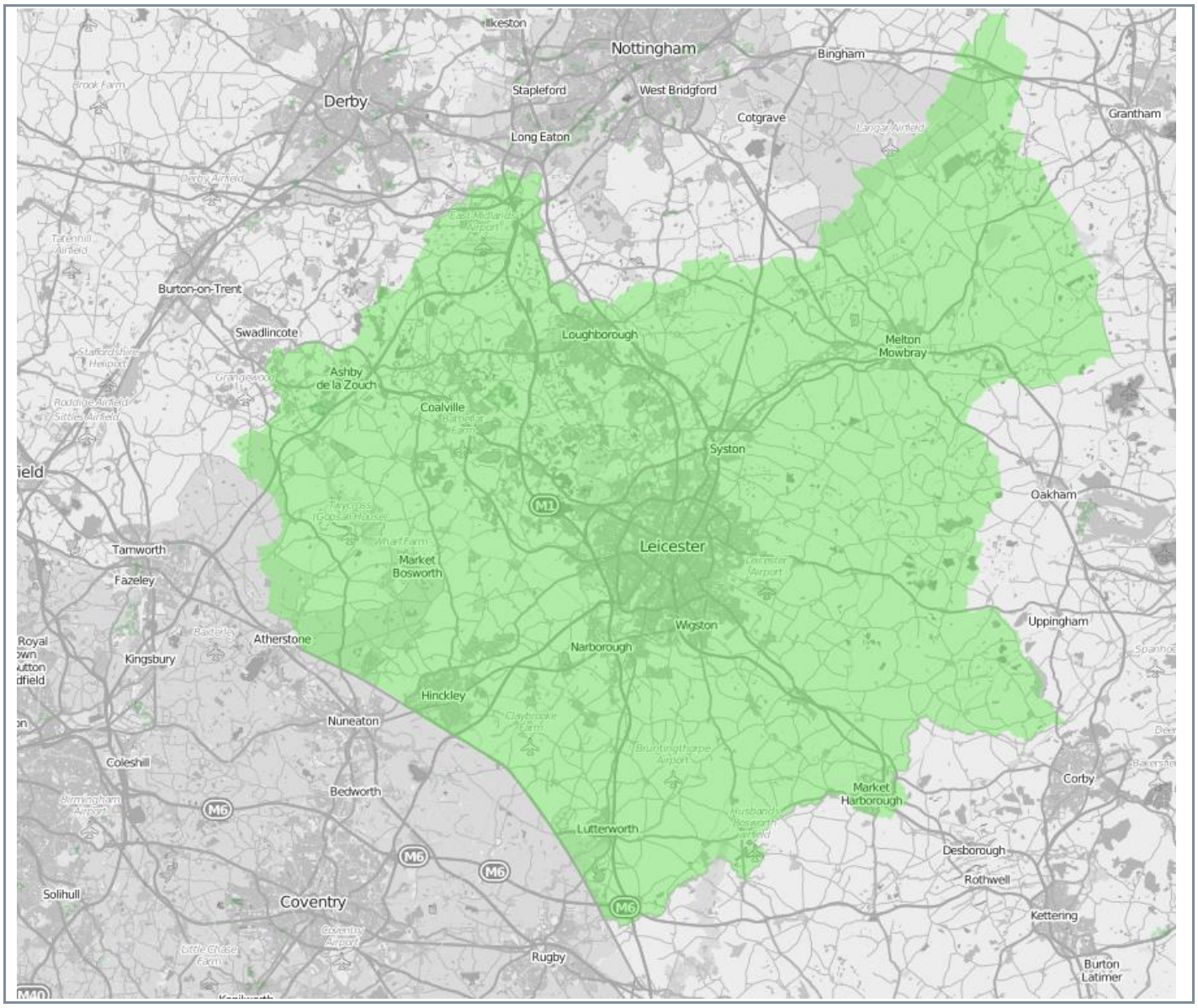


Figure 1: Leicester and Leicestershire and surrounding areas

Table 1: Local authorities analysed

Leicester and Leicestershire	
Blaby	Leicester
Charnwood	Melton
Harborough	North West Leicestershire
Hinkley and Bosworth	Oadby and Wigston

2. LABOUR DEMAND IN THE LEICESTER AND LEICESTERSHIRE LEP

The following sections provide an estimate of the labour demand predicted by our Labour Forecasting Tool that construction investment will create across the LLEP over the period 2018 – 2022. The tool and method of analysis are described in Appendix A.

SUMMARY OF DEMAND

- Our estimate of the labour demand in the Leicester and Leicestershire is around 42,100 people in 2019. The projected decline between 2019 and 2022 suggest that the labour demand in 2022 will be around 41,600 people.
- Around 59% of the workforce is employed in skilled trades & operatives, the other 41% are in Managerial, professional & office based staff.
- During 2019 the most labour-intensive occupation group is “Non-construction professional, technical, IT, and other office–based staff (excl. managers)” with an annual demand of 5,660 people.
- The skilled trade & operative occupations in greatest demand are:
  - Wood trades and interior fit-out with a requirement for 4,300 people;
  - Electrical trades and installation follow with 3,450 people.
  - Plumbing and heating, ventilation, and air conditioning trades rank third, with a demand of 2,710 people

2.1. Pipeline of known projects

2.1.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database[1] and the National Infrastructure and Construction Pipeline (NICP)[2]. These comprise what are referred to as the known projects.

An initial review of the Glenigan database identified 440 projects in the Leicester and Leicestershire LEP. Of the Glenigan projects, 42 were removed due to missing dates. Also excluded were six projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate. One project was removed due to it not being located in the analysed LLEP and one was removed due to it being included in the NICP. A full set of the projects which were omitted from the analysis is provided in Appendix C. The spend in projects which were removed because of missing dates is around 4.2% of the total pipeline value. It is possible that this work will take place at some point in the future but as dates are unknown it is most likely that this will be later in the forecast period. Since dates are not known it is not possible to pinpoint when the labour will be required. However, an assessment of the labour demand from potential additional projects is included in the estimates of other work as outlined in Appendix A.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects. The process identified 66 significant projects accounting for 75% of the total construction spend in the area. This allowed a detailed analysis of a large proportion of all the projects and a comprehensive consideration of the project types to which they were assigned.

Appendix D provides a full breakdown of the Glenigan significant projects and their construction values. The peak year for the Glenigan spend profile is 2019. The location of the significant projects within the Leicester and Leicestershire can be seen in Figure 2. The values of the projects are proportional to the sizes of the coloured dots.

[1] The Glenigan database allows contractors to identify leads and to carry out construction market analysis. It is updated every quarter to provide details of planning applications from local authorities supplemented with additional project-specific data. For the purposes of this analysis with have used the 2018/Q2 cut of data.

[2] The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compile annually a pipeline of UK infrastructure and construction projects and the associated annual public and private investment. For this report we have used the 2017 which includes details of around 700 projects valued at some £463bn.

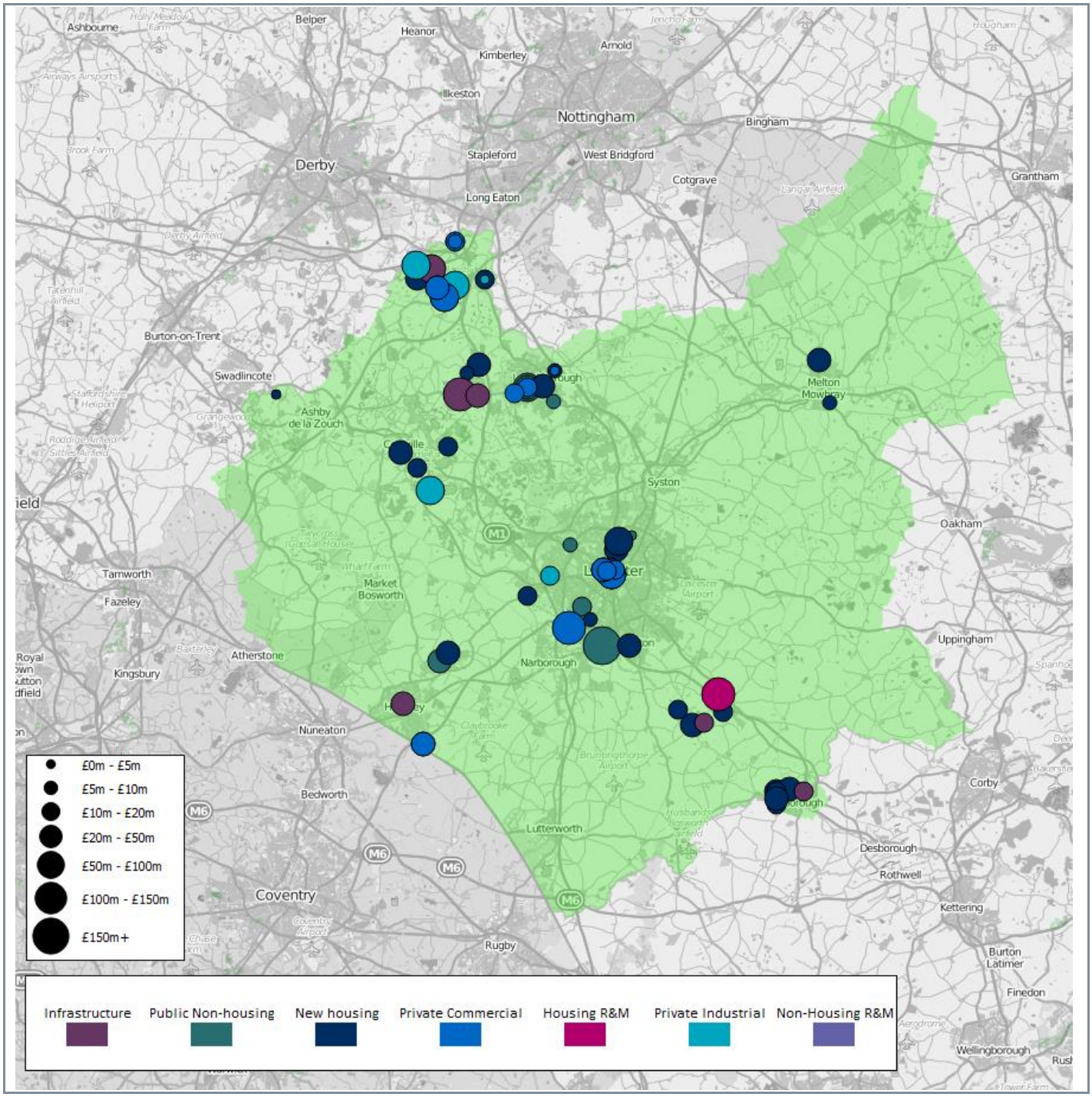


Figure 2: Location of significant Glenigan projects included in the analysis

2.1.2. Glenigan & NICP spend analysis

Implementing the methodology outlined in Appendix A leads to the following findings for the peak year for known projects of 2019. The peak year is used because the tail off in the known projects is more likely to be due to a lack of future planning rather than an actual tail off in workload.

Table 2 shows the distribution by project type of new build spend for the total pipeline of known projects.

Table 2: New-build construction spend by project type in 2019 (total known projects)

Project type	Construction spend in 2019 (2018 values - £m)	% of total
New housing	451	34%
Private commercial	330	25%
Infrastructure	286	21%
Private industrial	224	17%
Public non-housing	49	4%
Total	1,340	100%

Table 3 shows the infrastructure construction spend from the known projects in 2019 by infrastructure sub-type. 0 provides a full breakdown of the NICP and LLEP projects and their construction values.

Table 3: Construction spend per infrastructure sub-type in 2019 (total known projects)

Project type	Construction spend in 2019 (2018 values - £m)	% of total
Transport	137	48%
Water	65	23%
Energy	55	19%
General infrastructure	23	8%
Flooding	6	2%
Total	286	100%

2.2. Estimate of future total labour demand

The known project pipeline may not include smaller projects or repair and maintenance work. Figure 3 shows the outcomes of the analysis of future labour demand with the forecast regional employment growth rate applied. The solid purple area shows the labour demand arising from the new build Glenigan and NICP projects. This is projected forward from the peak as shown in green. The R&M (including any in Glenigan or the NICP) is also shown along with the likely total labour demand arising from estimates of other work. The method for calculating these is provided in Appendix A. The total construction labour demand is around 42,100 people in 2019. The projected growth between 2019 and 2022 suggest that the labour demand in 2022 will be around 41,600.

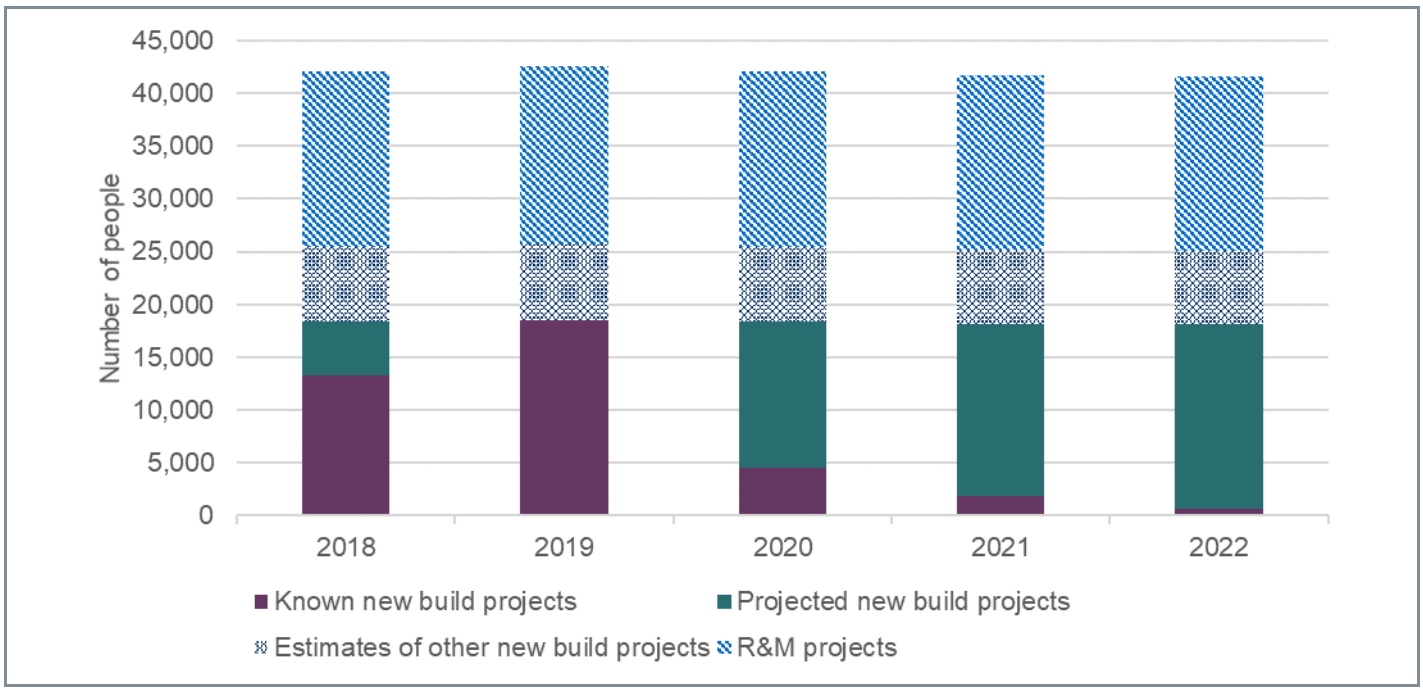


Figure 3: Total construction labour demand including estimates for both R&M and estimates of other work

2.2.1. Breakdown of labour demand by occupation

Figure 4 presents the breakdown of labour for skilled trades & operatives and managerial, professional & office based staff. Around 59% of the workforce are in skilled trades & operative occupations.

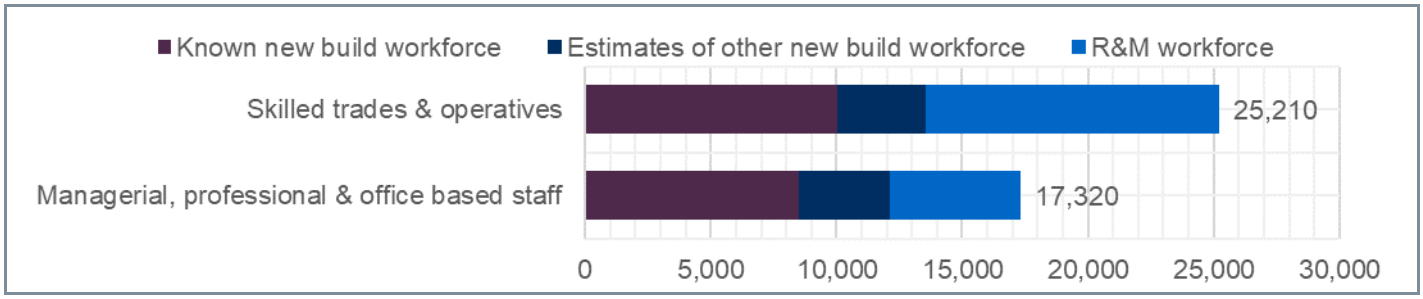


Figure 4: Total construction labour demand for 2019 by broad occupational group

For the peak year in Glenigan of 2019, Figure 5 shows the detailed breakdown for the 20 skilled trade & operative occupational groups for the pipeline of known projects, the estimates of other new-build work and the R&M work. These occupations will be predominately based at or near the location of the work.

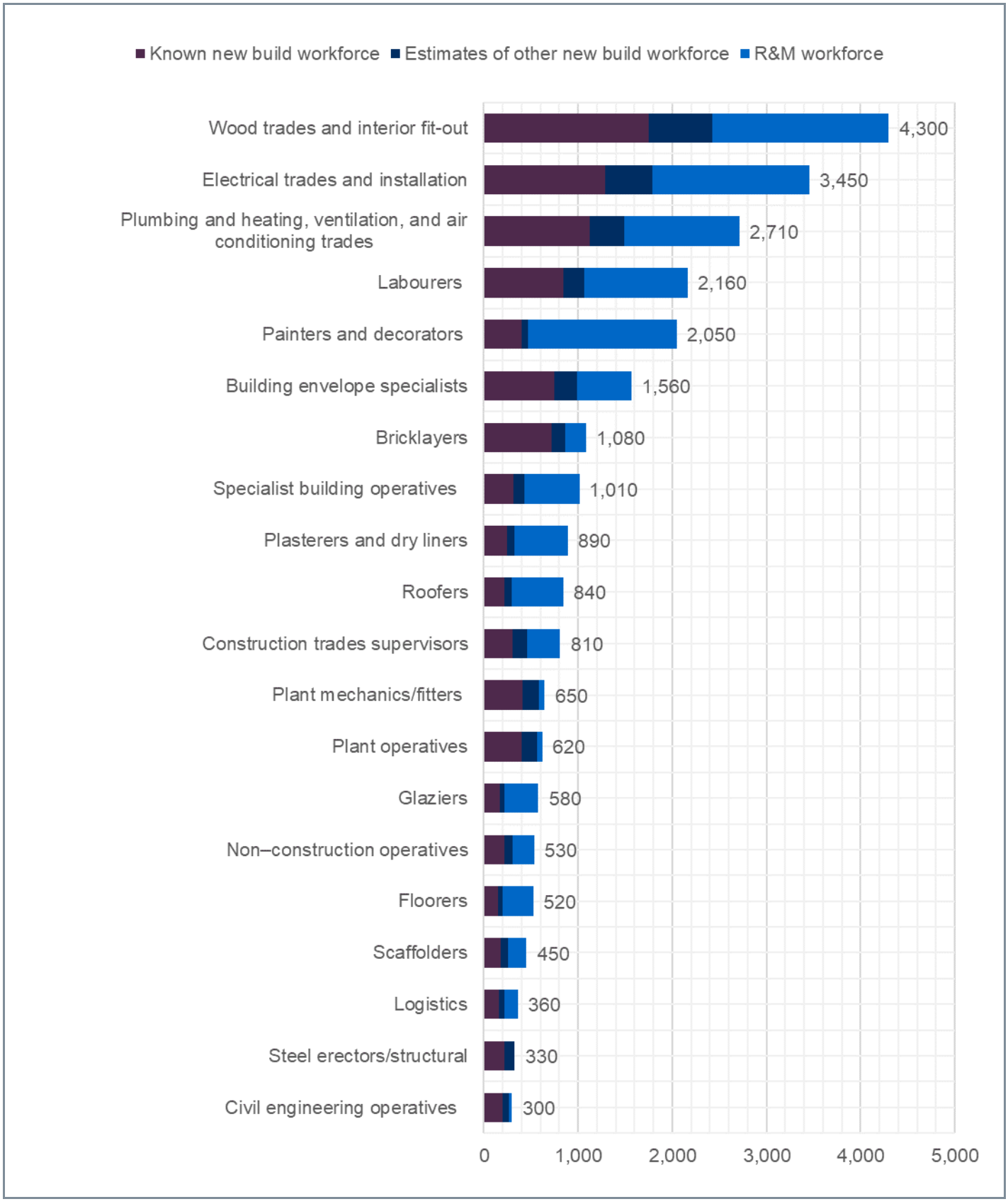


Figure 5: Construction labour demand for skilled trades & operative occupations in the peak year

Figure 6 shows a breakdown of the managerial, professional & office based occupations. Since it is possible for many of these people to work remotely from the site, they will not necessarily generate a local demand.

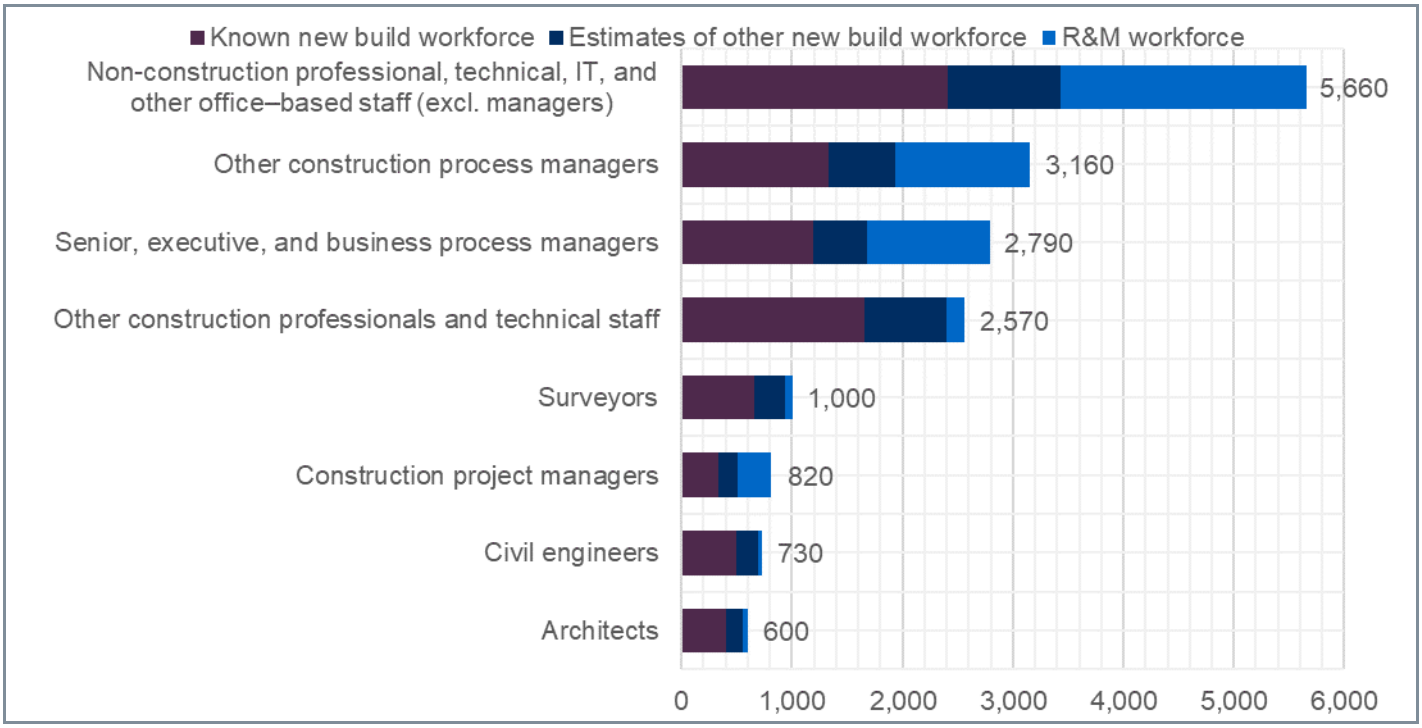


Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year

2.2.2. Breakdown of labour demand by project type

Table 4 shows the labour demand generated by the known projects and the estimates of other work in 2019 broken down by project type.

Table 4: Labour demand by project type in 2019

Project type	Known pipeline labour demand in 2019 (people)	Estimates of other work labour demand in 2019 (people)	Total labour demand in 2019 (people)	% of total in 2019
Non-housing R&M	-	12,670	12,670	30%
Private commercial	5,690	6,110	11,800	28%
New housing	5,460	-	5,460	13%
Housing R&M	630	3,550	4,180	10%
Private industrial	3,950	150	4,100	10%
Infrastructure	2,570	880	3,450	8%
Public non-housing	860	-	860	2%
Total	**19,160**	**23,360**	**42,520**	**100%**

2.3. Brexit – demand calculations and forecasting

Economic forecasts are predicated on the Brexit position at the time of updating – January 2019.

The baseline forecasts that have informed the Construction Skills Network assumes that a deal will eventually be struck within a four year time horizon and it will include some form of trade access to the single market. As it is unlikely that the terms will be as good as the current situation, we have made a small downgrade to our long term export and investment projections, compared to our pre-Brexit vote baseline. No adjustments have been made to underlying population projections in our base case but downside risks clearly exist on this front from a potential slowdown in EU migration.

At the time of writing the proposals meant that after a proposed Brexit transition period, all migrants planning to live and work in Britain would have to demonstrate they are sufficiently skilled by meeting a minimum salary threshold. That figure has not yet been specified but, at present, non-EU migrants must earn more than £30,000 a year to work in the UK, so the assumption is that it will be a similar figure for EU migrants.

Low skilled people will be able to migrate to the UK but only in limited numbers. For example, the government in October 2018 announced a pilot scheme allowing British farmers to bring in fruit and vegetable pickers for up to six months each year during the harvest season. However, it has ruled out a wider system of sector-by-sector exemptions.

The current negotiations are just on the immediate terms of Brexit, the actual trade deal with the EU will take much longer to finalise, hence our four-year horizon.

2.4. Skills for the Future labour market intelligence 2018-2030

In addition to this review for the construction sector, Leicester and Leicestershire Enterprise Partnership (LLEP) commissioned an overarching Skills for the Future 2018-2030 study that considers all industrial sectors. This provides an analysis of future employment and skills needs in the LLEP area with the aims of: a) supporting local skills provision in meeting the needs of business; b) informing careers education, information, advice and guidance across all educational settings within the area.

As with this CITB construction report, the results from the overarching study are expected to be of value to education and skills providers, employers, careers guidance professionals and local authorities.

‘Skills for the Future 2018-2030’ involves bespoke economic modelling and first-hand input from employers, education and skills providers and labour market specialists across the area.

The work was published on the LLEP’s website (www.llep.org.uk) in December 2018. It can be found at www.llep.org.uk/investing-in-our-people/skills-strategies/skills-future-2018-2030/

However, in relation to construction, the Skills for the Future report uses a different methodology and different data sources to this detailed construction skills gap analysis so comparisons between the two will report different things and are therefore likely to confuse.

CITB has access to unique data and its own labour forecasting tool and so while it is able to present greater detail it is specific only to construction. CITB’s methodology has been developed over some years and has been adopted and endorsed by numerous local enterprise partnerships, local authorities and major projects. This report also recognises the mobility of the construction industry and is able to produce estimates of demand for the numerous hard to track smaller projects that are anticipated to take place within Leicester and Leicestershire.

It is worth emphasising that both reports identify a similar list of high demand trades.

3. CONSTRUCTION LABOUR SUPPLY IN THE LEICESTER AND LEICESTERSHIRE AREA

When looking at the supply of workers there are two main elements to consider: the size of the current workforce and recent training provision.

The first part of this section takes a view on the current construction employment levels in the Leicester and Leicestershire area and how this relates to overall construction employment across the wider East Midlands region and the UK as a whole. All comparisons have therefore been made against the East Midlands region [3]as a whole and, where applicable, the UK. Data from CITB's Construction Skills Network (CSN) is used along with official Government sources. Employment and employers are considered together as they are intrinsically linked, particularly as a large proportion of construction workers are employed within micro businesses or are self-employed, where the business location is also the home location.

For the second part of this section, whilst training occurs at Further Education (FE) and Higher Education (HE) levels, the main focus of this report is on the FE training that takes place. This is because FE tends to be sourced and delivered in closer proximity to the home and workplace. Higher Education in the region is also analysed, but should be considered in the context of the enhanced mobility levels of the learners at this level.

Finally, the demand forecasts are then compared against employment, training and workforce mobility to give an indication of possible gaps and/or occupational pinch points.

3.1. Main Points

- Analysis of the Annual Population Survey shows that the Leicester and Leicestershire area accounts for around 18% of construction employment in the East Midlands region.
- The construction workforce within the Leicester and Leicestershire area is estimated at 31,200 workers.
- Over the period from 2011/12 to 2016/17 the Leicester and Leicestershire area construction workforce has fluctuated up and down but overall grown by 4% to 31,200, broadly similar growth to neighbouring regions.
- The number of construction businesses within the Leicester and Leicestershire area has grown by 17% over the period 2011 to 2017, similar to growth levels across its neighbouring areas.

3.2. Existing workforce

An analysis of the Annual Population Survey shows that the Leicester and Leicestershire area accounts for around 18% of construction employment in the East Midlands region as a whole. This employment is 'workplace' analysis – i.e. it is the number of workers employed by employers within the Leicester and Leicestershire area.

Over the period from 2011/12 to 2017/18 the Leicester and Leicestershire area construction workforce has fluctuated up and down but overall grown by 4% to 31,200. This overall level of growth is broadly similar to growth across its neighbouring regions. This is shown in Figure 7:

[3] The East Midlands region comprises: Derbyshire, Leicestershire, Lincolnshire (except North and North East Lincolnshire), Northamptonshire, Nottinghamshire and Rutland.

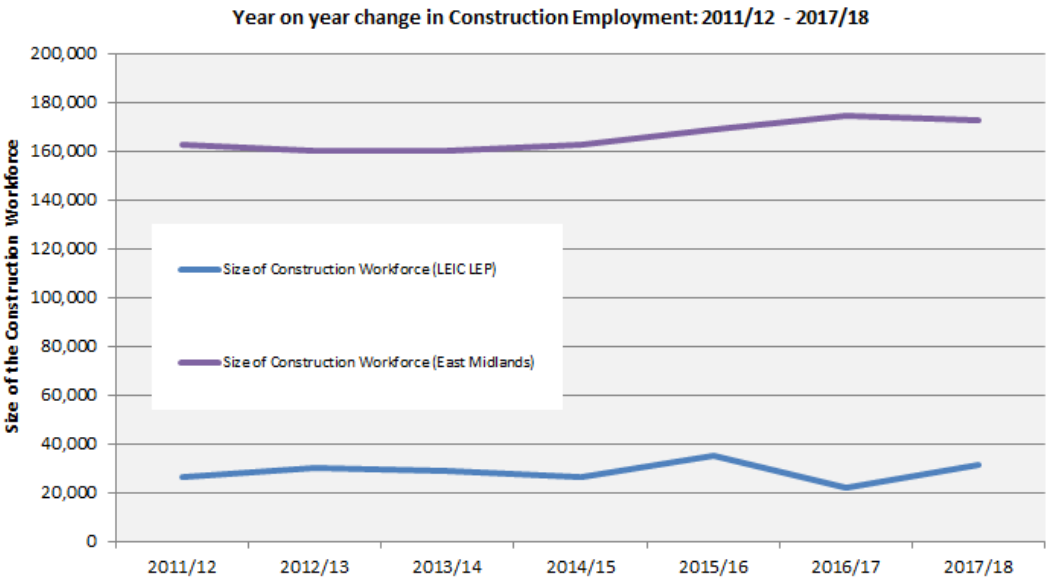


Figure 7: Year on year change in Construction Employment (Experian/CITB & NOMIS 2017)

Table 5: Construction workforce – occupational breakdown, 2017 (Source Experian & CITB) applies the annual percentage shares across the CSN occupational breakdown for the East Midlands region as a whole to give an estimate of total employment at occupational and industry level in the Leicester and Leicestershire area. For comparison, the wider East Midlands region has been included.

Table 5: Construction workforce – occupational breakdown, 2017 (Source Experian & CITB)

	Leicester and Leicestershire	East Midlands
PROFESSIONAL ROLES		
Other construction process managers	2,670	14,750
Senior, executive, and business process managers	2,020	11,170
Other construction professionals and technical staff	1,720	9,500
Surveyors	750	4,130
Civil engineers	630	3,470
Construction Project Managers	430	2,370
Construction Trades Supervisors	350	1,940
Architects	150	850
SITE BASED TRADES		
Wood trades and interior fit-out	3,220	17,780
Electrical trades and installation	2,640	14,620
Plumbing and HVAC Trades	1,910	10,570
Labourers nec*	1,450	8,000
Building envelope specialists	1,300	7,170
Painters and decorators	1,110	6,140
Plasterers	1,020	5,620
Specialist building operatives nec*	920	5,090
Bricklayers	790	4,390
Plant operatives	730	4,050
Plant mechanics/fitters	670	3,730
Glaziers	550	3,060
Civil engineering operatives nec*	330	1,800
Roofers	320	1,770
Logistics	300	1,660
Steel erectors/structural fabrication	290	1,600
Floorers	250	1,390
Scaffolders	100	530
NON CONSTRUCTION ROLES		
Non-construction professional, technical, IT, and other office-based staff	4,060	22,440
Non–construction operatives	520	2,890
Total	31,200	172,480

Note: numbers rounded to the nearest 10

Note: nec: not elsewhere classified; HVAC: Heating, ventilation and air-conditioning.*

Self-employment accounts for 34% of the Leicester and Leicestershire construction workforce – lower than for the East Midlands (37%)

The number of construction businesses within the Leicester and Leicestershire area has grown by 17% over the period 2011 to 2017, similar to growth in the East Midlands as shown in Figure 8 below.

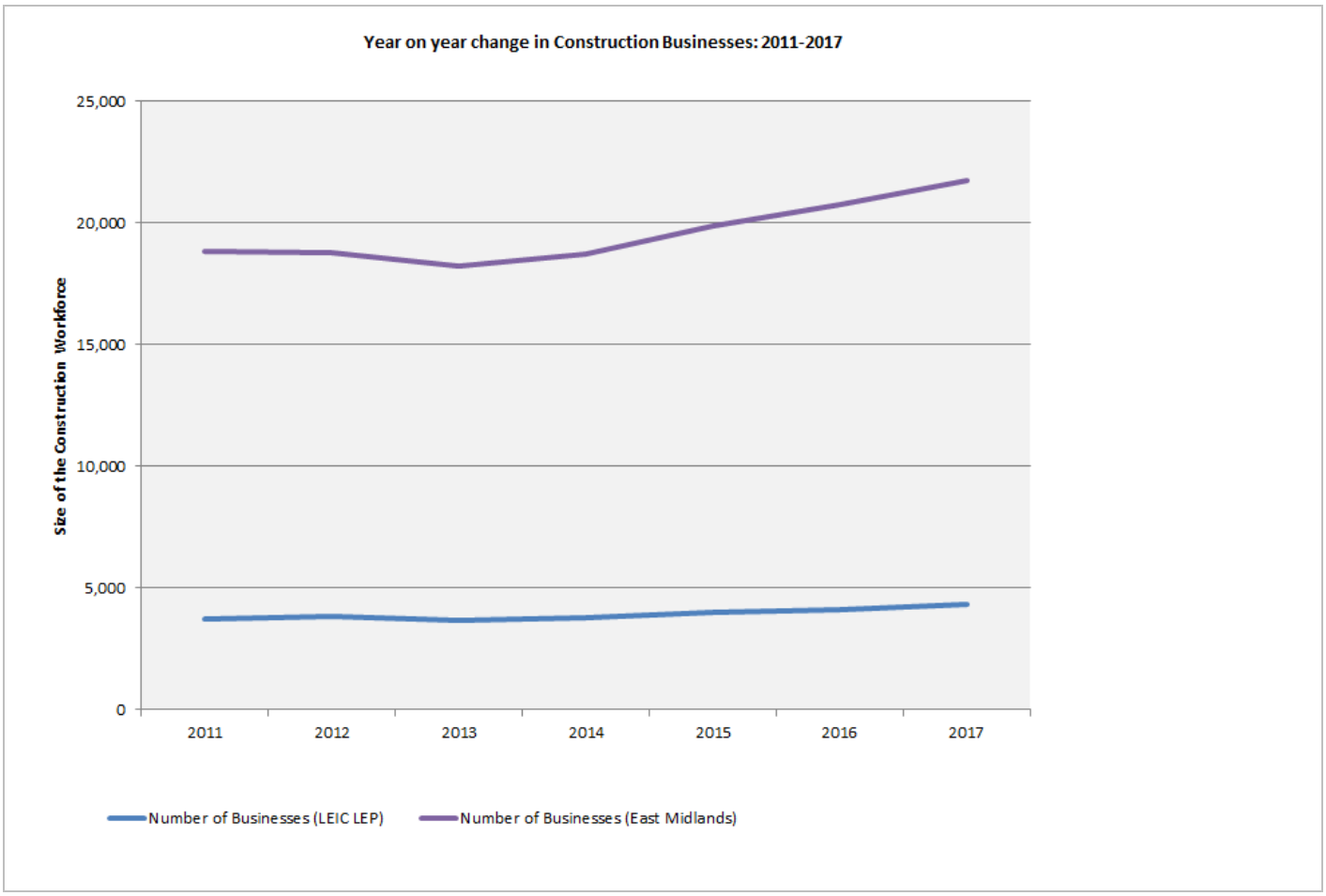


Figure 8: Year on year change in Construction Businesses (UK Business Count, NOMIS 2017)

Figure 9 shows the distribution of construction businesses within the Leicester and Leicestershire area, and Figure 10 shows the distribution of the construction workforce, clearly highlighting the similarities.

The profile of the areas is broadly similar in both cases the main exception being Leicester which accounts for 18% of businesses but 54% of employment. Charnwood is interesting in that it accounts for 19% of businesses but 4% of employment.

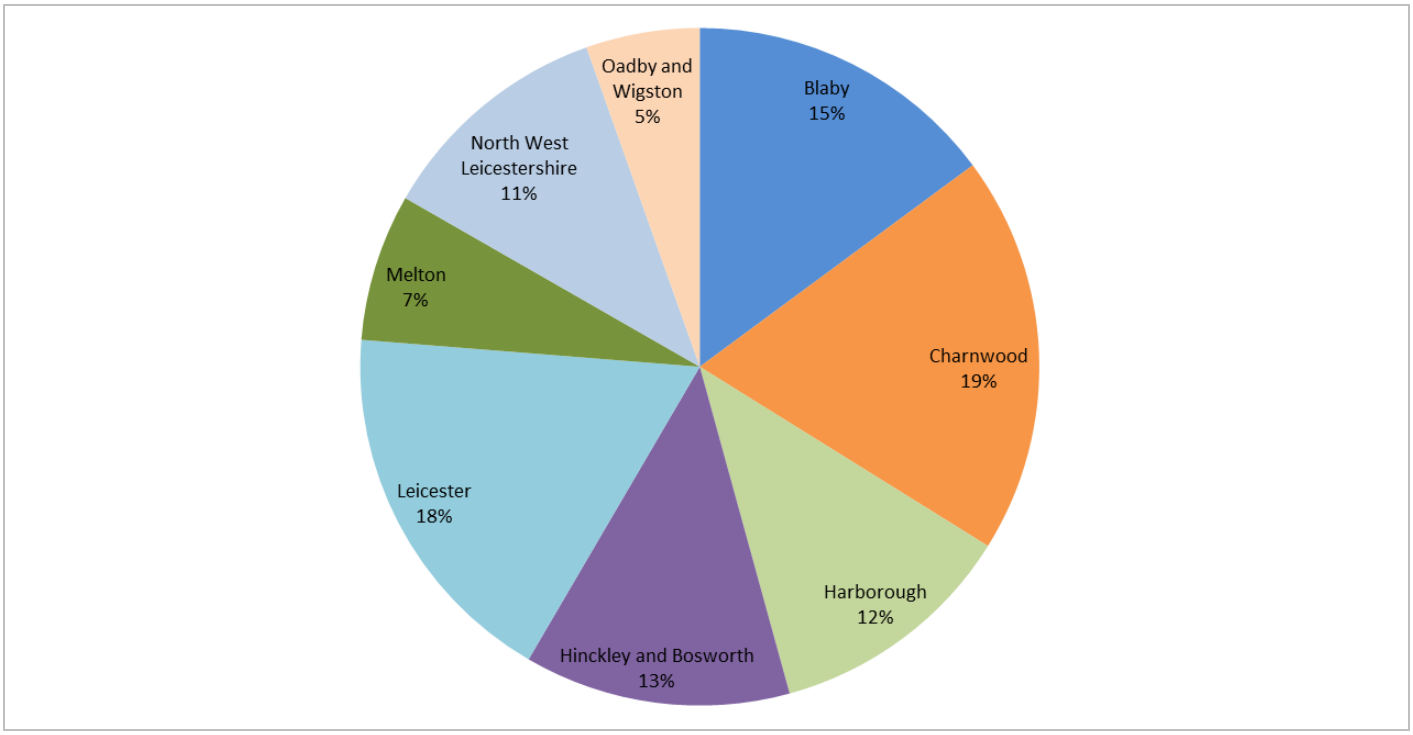


Figure 9: Distribution of construction businesses within the Leicester and Leicestershire area (UK Business Count, NOMIS 2017)

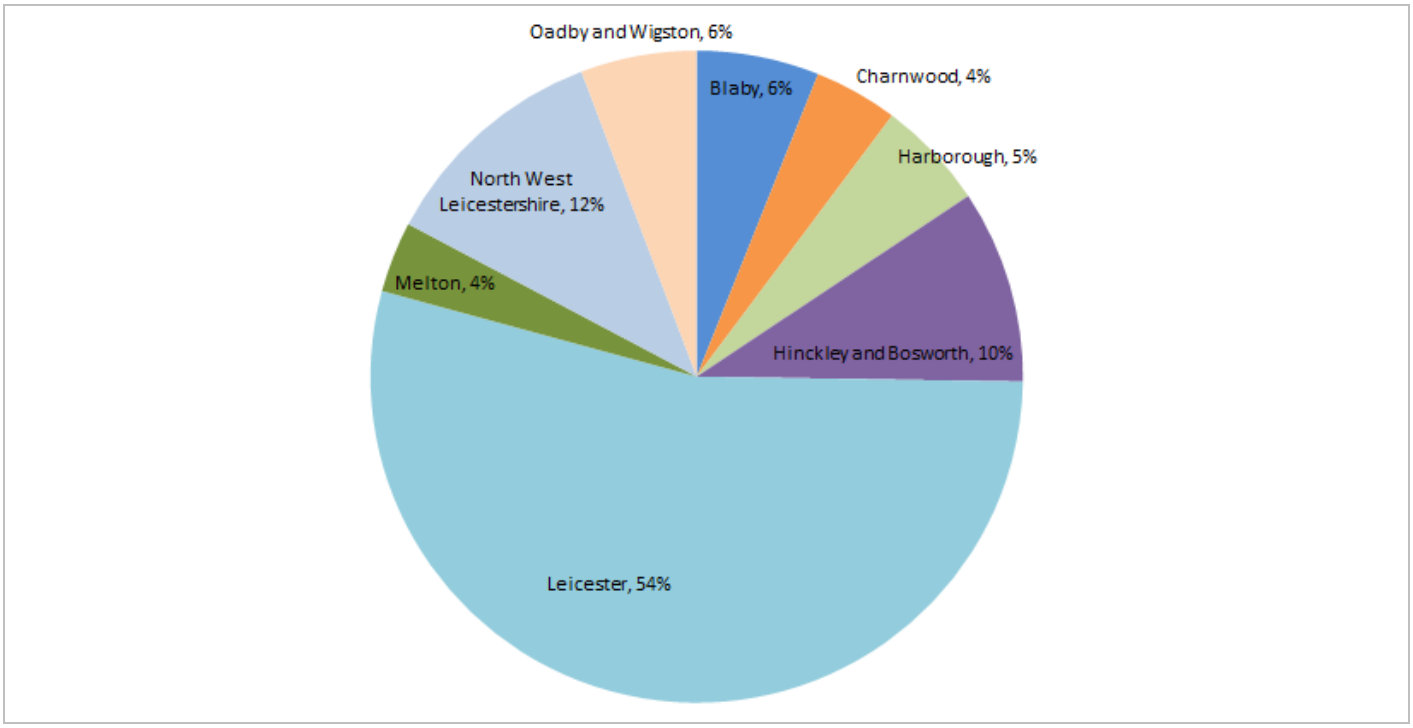


Figure 10: Construction employment by area within the Leicester and Leicestershire area (2017, NOMIS)

When it comes to business size, the distribution of companies across the Leicester and Leicestershire area is however largely reflective of the pattern seen across the East Midlands as a whole, and indeed the United Kingdom, with the majority of construction companies being micro sized, as shown in Figure 11.

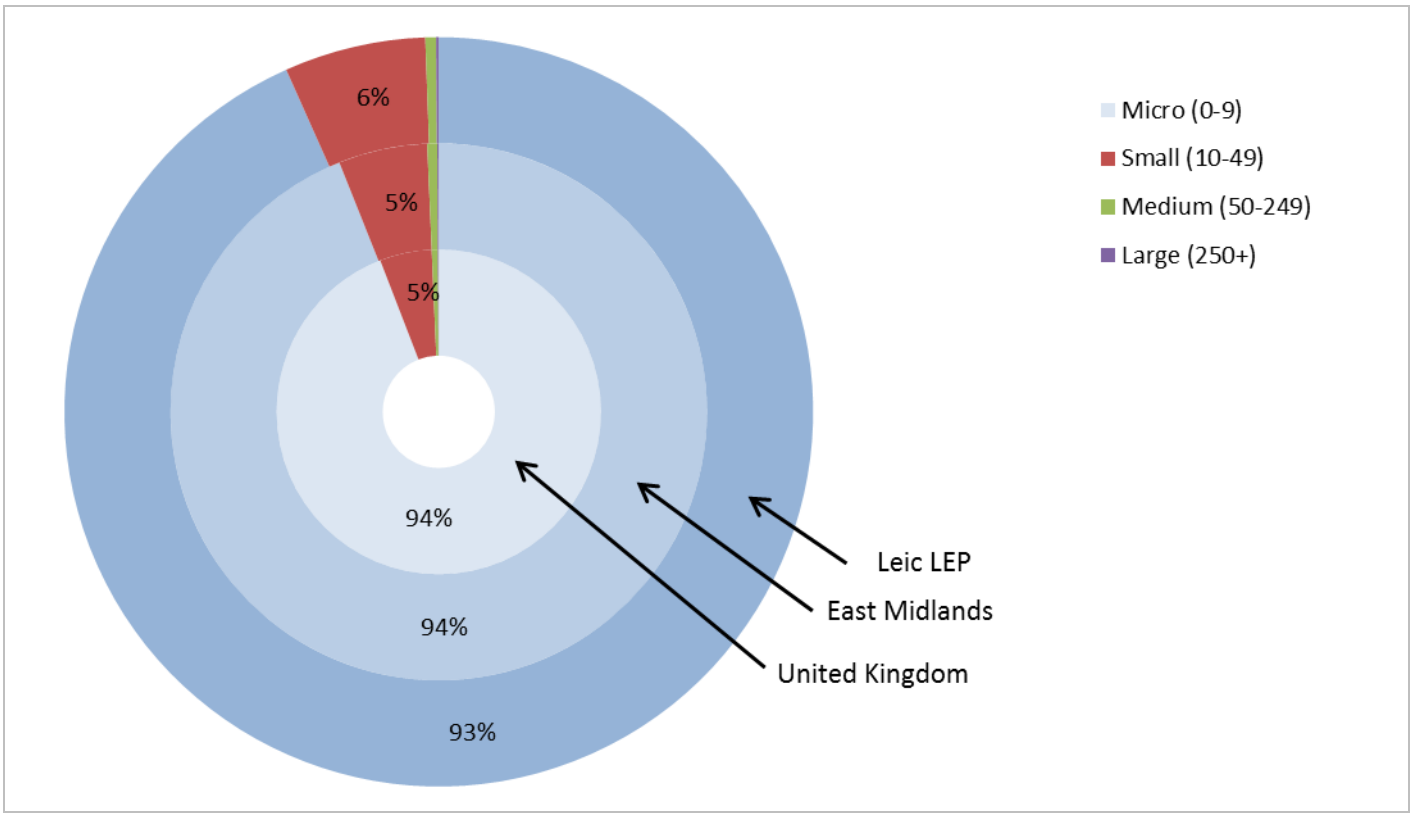


Figure 11: Construction Businesses by Size (UK Business Count, NOMIS 2017)

The majority of growth from 2011 to 2017 in construction businesses within the Leicester and Leicestershire area has been due to an increase in the number of micro sized companies. The picture is similar for East Midlands region.

4. TRAINING PROVISION

The total volume of training provision in the Leicester and Leicestershire area has reduced over the five years from 2012/13 to 2016/17, with the number of new starters decreasing by 21% over this period. However, despite an overall decline in numbers, the starters on apprenticeships has increased by 41% over the same period.

CITB analysis of Education and Skills Funding Agency (ESFA) Individualised Learner Records from 2012/13 through to 2016/17 academic years for construction learners shows that:

- The Leicester and Leicestershire area accounts for 22% of all identified construction related training across the East Midlands region.
- As a whole, the Leicester and Leicestershire area is showing a decrease in the number of construction learner starts of -21% across the five years similar to the East Midlands' 22% decline.
- Construction apprenticeship starts have increased across the Leicester and Leicestershire area (41% increase from 2012/13 to 2016/17), higher than East Midlands (31%) over the same period.
- Construction training within Leicester and Leicestershire is balanced slightly more towards qualifications at Level 2 and above, which account for 62% of starts over this period.
- In terms of training providers, just over 65 different providers have delivered training for the Leicester and Leicestershire area between 2012/13 and 2016/17. However, there is a consistent pattern with approximately 95% of training being delivered by a core network of 10 providers
- Leicester, Stephenson, Milton Keynes, North Warwickshire and South Leicestershire Colleges are the largest providers of construction training to the area. [North Warwickshire and South Leicestershire Colleges merged during 2016-17 and this is reflected in figures presented for the two colleges]

"Knowledge" based qualifications describe those qualifications that typically have a theoretical basis so are more likely to be 'classroom based'. "Competence" based qualifications, in the main achieve a recognised NVQ and so a link can be made between the qualification title and the likely occupation that an individual will have. For example someone starting or achieving a Bricklaying qualification is highly likely to be working as a Bricklayer as competence based qualifications are based on an assessment of work based skills.

Table 6: Competence qualification achievements in Leicester and Leicestershire as a % of total competence qualification achievements in East Midlands region as a whole (Source: CITB/ESFA) shows qualification achievements over the last five years for the identified competence based qualifications, comparing achievement volumes against the overall pattern for East Midlands. From this analysis there looks to be patterns for particular occupations. The majority of these achievements are at Level 2 and above (62%).

The percentage comparison with the combined neighbouring regions as a whole is used to demonstrate how the provision of training in the Leicester and Leicestershire area by occupation compares to the regional context.

The first group of occupations to be identified account for the main training volumes, and are generally consistent with the overall training pattern seen in the combined neighbouring regions. These are:

- Electrical trades and installation
- Wood trades and interior fit-out
- Plant operatives
- Plumbing and HVAC trades

For occupations such as wood trades and plumbing, the volume of training will be related to their share of employment, while for others such as plant operators, training will be more related to the need to demonstrate competence for these roles through card scheme monitoring (for example the CPCS Card scheme for Plant Operatives).

[Loughborough College is believed to be introducing courses for Electrical trades and installation, which should increase provision and uptake.]

Table 6: Competence qualification achievements in Leicester and Leicestershire as a % of total competence qualification achievements in East Midlands region as a whole (Source: CITB/ESFA)

Construction Occupations	12-13	13-14	14-15	15-16	16-17	Total Competence Achievements (Learner Aims) 12-13 to 16-17	Total
Grand Total	**21%**	**19%**	**18%**	**24%**	**29%**	**3,902**	**22%**
Main Occupations							
Electrical trades and installation	27%	28%	35%	35%	40%	822	33%
Wood trades and interior fit-out	30%	15%	21%	25%	35%	583	26%
Plant operatives	13%	19%	13%	10%	17%	510	15%
Plumbing and HVAC Trades	37%	19%	14%	17%	17%	409	21%
Occupations with good provision							
Specialist building operatives nec*	27%	33%	30%	33%	50%	354	32%
Bricklayers	20%	12%	20%	28%	32%	327	22%
Building envelope specialists	30%	18%	8%	38%	13%	132	19%
Civil engineering operatives nec*	13%	13%	8%	31%	18%	194	15%
Occupations to Monitor							
Plant mechanics/fitters	55%	42%	37%	46%	46%	125	45%
Painters and decorators	24%	7%	17%	33%	21%	123	21%
Other construction professionals and technical staff	15%	82%	71%	50%	3%	96	49%
Plasterers	17%	16%	4%	8%	18%	51	11%
Glaziers	17%	33%	18%	13%	24%	50	18%
Low Overall Learner Volumes							
Roofers	31%	31%	7%	27%	16%	40	21%
Floorers	16%	7%	6%	2%	13%	38	6%
Construction Trades Supervisors	10%	11%	3%	0%	2%	22	8%
Scaffolders	1%	2%	5%	1%	6%	12	3%
Construction managers	38%	3%	n/a	100%	100%	9	19%
Steel erectors/structural	n/a	100%	0%	n/a	n/a	5	83%

*nec – not elsewhere classified

Note: Total achievements are across the period 2012-13 to 2016-17 have been rounded to the nearest 10

There is a second group of occupations with good provision for occupations such as specialist building operatives, bricklayers, building envelope specialists and civil engineering operatives.

The third group – occupations to monitor, identifies a number of occupations where we would expect higher levels of training, again linked to either the occupational size and/or demonstrating competence. This cluster includes plant mechanics/fitters, painters and decorators, other construction professionals and technical staff, plasterers and glaziers/.

Lastly there is a group of occupations where the low level of learner volumes makes it difficult to judge patterns across the years. Whilst the training provider network can adjust to cover changes in demand, there will be a requirement for a certain volume of training to make it viable for a provider to deliver it. These occupations could suffer from this intermittent demand or learners could be travelling further afield to more specialist training providers.

In terms of training providers, just over 65 different providers have delivered training for the Leicester and Leicestershire area between 2012/13 and 2015/16. However, there is a consistent pattern with approximately 95% of training being delivered by a core network of 10 providers, shown in Table 7: Top ten training providers delivering training to Leicester and Leicestershire by number of starts – excluding apprenticeships (Source: CITB/ESFA).

Table 7: Top ten training providers delivering training to Leicester and Leicestershire by number of starts – excluding apprenticeships (Source: CITB/ESFA)

Provider	2012-13	2013-14	2014-15	2015-16	2016-17	Total (Learner Aims)	% Share of Total Quals	% of Quals Ofqual Registered
Leicester College	2,260	1,430	1,700	1,470	1,560	8,410	43%	64%
Stephenson College	1,140	70	350	970	770	3,300	17%	55%
Milton Keynes College	350	470	500	480	260	2,070	11%	97%
North Warwickshire & Hinckley College	350	290	130	170	450	1,380	7%	92%
South Leicestershire College	350	320	280	280	0	1,230	6%	95%
Newcastle College	360	150	180	50	0	740	4%	100%
Loughborough College	160	120	130	130	60	600	3%	100%
Brooksby Melton College, Melton Mowbray	80	70	80	100	110	450	2%	100%
West Nottinghamshire College	130	90	40	0	0	260	1%	100%
Calderdale College	120	110	0	0	0	240	1%	100%

Note: Number of starts has been rounded to the nearest 10

RAG rating indicates providers' performance against the average for all providers in the area (71%)

Leicester College and Stephenson College are the largest providers of construction training to the area, although a lower proportion of their qualifications are Ofqual registered compared to the other providers in the area.

This profile is typical of many areas, where a relatively small group of FE colleges deliver the majority of construction training. A smaller proportion of additional training is then delivered by a larger number of other providers. Sometimes these smaller specialist providers can operate far from the normal base of those for whom they provide training. In total this training covers the majority of the main occupations involved in the construction workforce.

When looking at training provision across individual local authorities within the Leicester and Leicestershire area:

- Across all qualifications, starts have only increased in Blaby and Oadby and Wigston, with all other local authority areas decreasing.
- Across only apprenticeships, starts have only slightly decreased in Leicester and Melton by 40 or fewer persons, with all other local authority areas increasing over the period.

Table 8: Unique Learner starts by area, construction subjects, all levels (Source: CITB/ESFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	% Net change 12/13 – 16/17	% Quals at Level 2+
Blaby	280	420	370	420	300	10%	28%
Charnwood	320	240	150	160	180	-45%	97%
Harborough	90	80	100	80	60	-29%	55%
Hinckley and Bosworth	340	310	130	180	200	-42%	44%
Leicester	1,910	1,420	1,630	1,360	1,470	-23%	63%
Melton	110	70	70	80	100	-8%	59%
North West Leicestershire	1,050	410	610	1,070	920	-13%	84%
Oadby and Wigston	250	200	210	290	260	1%	39%
Total	4,260	3,070	3,200	3,530	3,380	-21%	62%

Note: Number of starts has been rounded to the nearest 10

RAG rating indicates Local Authority performance against the average for all Local Authorities in the area

As a whole, the Leicester and Leicestershire area is showing a decrease in the number of construction learner starts of -21% across the five years at a time with the East Midlands decline was a similar 22%.

However, countering this decline there has been a 41% increase in the number of apprenticeship starts within the Leicester and Leicestershire area between 2012/13 and 2016/17. Whilst the college based courses are an important stepping stone or progression route for learners to acquire knowledge, construction employers tend to have a preference for practical or competence based skills, so it is positive that the area has witnessed this increase in apprenticeships over these five years. Apprenticeships are investigated in more detail in section 4.2.

4.1.1. Plasterers and dry liners

Concern has also been expressed about plasterers and dryliners for whom local employers have reported difficulty in finding enough to meet demand, that is not reflected in the relatively low risk of a shortfall identified later within this report.

There appears to be relatively low number of achievements in plastering and dry-lining courses and apprenticeships.

Anecdotal evidence has identified large numbers of self-employed plasterers and dryliners, often sub-contracted to construction suppliers and managed by a local contract manager. In many cases individuals have an NVQ but that may have been achieved some years previously.

Training provision is perceived not to be meeting the needs of employers and tends to be for either plastering or drylining. But employers report that they want individuals to have multiple skills – in particular: plastering, interior systems including drylining plus painting and decorating. Standards have been developed for level 3 plastering but require entrance standards that some find hard to achieve and so at least one employer has said they would like to provide their own internal training.

Feedback from training providers indicates that they too would like to provide combined qualifications but they would need the funding to put new provision in place. They also report that it is not always seen as an attractive option for students, leading into an occupation perceived to have limited options for progression. There are also wider concerns about the funding for training, with a college receiving £2,650 for a full time learner on a one year level 2 NVQ but relatively less for a two year apprenticeship – £4,500.

4.2. Apprenticeships

When apprenticeships are considered in the Leicester and Leicestershire area, we can see that the number of starters is increasing at a time when volumes of training overall are declining. Table 9 shows that the number of apprenticeship starters in the Leicester and Leicestershire area went up by 41% from 2012/13 to 2016/17, in comparison to the 21% overall decrease in the total number of construction learner starts across the same time period.

Leicester and Melton were the only local authorities within the Leicester and Leicestershire area which had slight decreases in apprenticeship starts from 2012/13 to 2015/16. The average change over the period was an increase of 58% which is higher than that across the East Midlands (43%).

Table 9: Unique apprenticeship starts by area (Leicester and Leicestershire), construction subjects (Source: CITB/ESFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Increase/ decrease	% Net Change
Blaby	30	60	50	70	80	50	167%
North West Leicestershire	200	220	350	470	410	210	105%
Harborough	30	30	40	30	40	20	67%
Charnwood	40	50	40	60	70	30	75%
Oadby and Wigston	10	10	10	20	10	0	0%
Hinckley and Bosworth	30	30	30	40	30	10	33%
Leicester	250	240	290	260	220	-40	-16%
Melton	40	20	20	20	30	-10	-25%
Grand Total	580	600	770	880	820	240	41%

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

RAG rating indicates Local Authority performance against the average for all Local Authorities in the area (20%)

Table 10 considers apprenticeship starts by trade, and shows the biggest increase in volume terms from 2012/13 to 2016/17 has occurred in wood trades and interior fit-out and bricklayers (increases of 80 or higher). Other construction professionals, electrical trades and installation, plant mechanics/fitters and building envelope specialists have experienced a slight decrease in apprenticeship starts over the same time period.

Table 10: Unique apprenticeship starts by occupation, construction subjects (CITB/ESFA)

Occupation	2012-13	2013-14	2014-15	2015-16	2016-17	Increase / decrease
Wood trades and interior fit-out	120	130	180	260	210	90
Bricklayers	60	70	120	160	140	80
Floorers	0	10	10	10	10	10
Painters and decorators	30	30	40	30	40	10
Plumbing and HVAC Trades	100	110	110	100	110	10
Civil engineering operatives nec*	10	20	20	20	10	0
Construction managers	10	10	10	10	10	0
Construction Trades Supervisors	0	0	0	0	0	0
Glaziers	10	0	0	0	10	0
Plant operatives	0	0	0	0	0	0
Plasterers	10	10	20	20	10	0
Roofers	0	0	0	0	0	0
Scaffolders	0	0	0	0	0	0
Specialist building operatives nec*	50	50	40	50	50	0
Building envelope specialists	10	0	0	0	0	-10
Plant mechanics/fitters	30	20	30	20	20	-10
Electrical trades and installation	80	80	100	110	60	-20
Other construction professionals and technical staff	50	50	10	0	10	-40

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

RAG rating indicates Local Authority performance against the average for all Local Authorities in the area (20%)

Table 11 considers apprenticeship starts by provider. 54 different providers in total have delivered apprenticeships in construction for the Leicester and Leicestershire area between 2012/13 and 2016/17. However, as with non-apprenticeship training starts, the bulk is being delivered by a core network of 10 providers who account for 93% of all provision in the area. CITB was the largest provider, delivering 290 new apprenticeships starts in the area in 2016/17.

Table 11: Unique apprenticeship starts by provider in Leicester & Leicestershire (CITB/ESFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Total	% Share
CITB	140	150	240	370	290	1,180	32%
Leicester College	160	150	260	280	280	1,130	31%
Stephenson College	130	150	210	200	220	920	25%
JTL Ltd	40	30	50	40	10	160	4%
North Warwickshire And Hinckley College	20	20	10	30	30	100	3%
Tresham College Of Further And Higher Education	0	10	10	10	10	50	1%
Brooksby Melton College, Melton Mowbray	10	0	10	10	10	40	1%
South Leicestershire College	10	10	10	10	0	40	1%
British Gas Services Limited	0	20	10	10	0	30	1%
Bedford College	0	0	0	0	20	20	1%

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

4.3. Higher Education

As students at higher education level are typically willing to travel further than for FE provision, this section will broaden the locality and consider the East Midlands region when examining the outcomes of students. There are five broad Higher Education qualifications that relate to construction: Architecture, Building, Civil Engineering, Planning, and Landscape & Garden Design.

There are seven HE institutions that offer construction-related courses across the region.

Figure 12 shows the number of achievements per annum at the institutions offering construction-related courses at HE level across the region. Since 2012/13 these have been decreasing year on year to 1,950 achievements in 2015/16 (a 21% decrease). The reduction in numbers has been spread evenly across Civil Engineering, Architecture, Planning and Building (-130 on average across the disciplines).

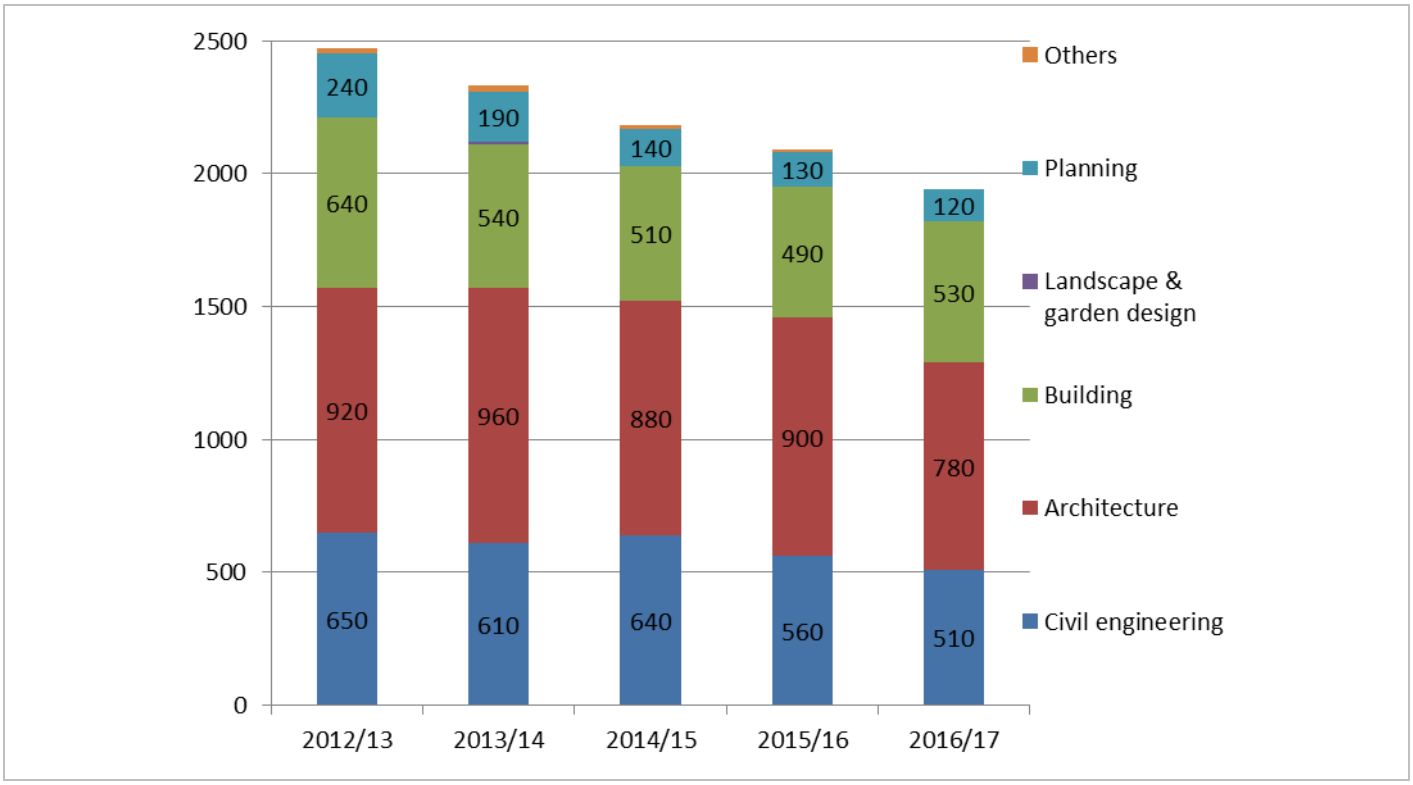


Figure 12: Higher Education achievements per annum in the East Midlands (Source: HESA)

Table 12 looks at the spread of higher education achievements by qualification area across the institutions in the East Midlands for the 2016/17 academic year.

Table 12: Achievements on construction related degree courses at HE institutions in the East Midlands – 2016/17 academic year (HESA)

HE provider	Civil engineering	Architecture	Building	Landscape & garden design	Planning	Total
University of Nottingham	160	290	100	0	0	560
The Nottingham Trent University	100	130	260	0	0	480
Loughborough University	140	0	130	0	70	340
De Montfort University	20	180	0	0	50	240
University of Derby	100	60	40	0	0	190
The University of Lincoln	0	120	0	0	0	120
The University of Northampton	0	10	0	0	0	10
Total	510	780	530	0	120	1,950

Once a student has finished their course there is limited centrally available data on their destination – both in terms of career type and location, however it is possible to provide a snapshot of the activities of students after they have left a higher education provider via a survey carried out approximately six months after students leave.

More than a third of qualifiers (38%) were in full-time work in the first six months after leaving. Just over two-thirds of all the qualifiers (74%) were working in a construction related occupation with the largest share of those working in a construction related occupation working within architectural or engineering activities (54%).

4.4. Career progression

Relatively limited information is available to explain any trends in career progression. The complexity of occupations, qualifications and the inability to track individuals make establishing a clear picture extremely difficult.

There is some anecdotal evidence to suggestions that:

a. Some more experienced workers are able to move into supervisory roles.

b. Some experienced workers take on a greater variety of occupational skills (and are therefore able to say they have experience working in several occupations)

c. There is more structured career progression among the professions (backed by professional development/CPD routes through professional chartership, to allow individuals to work progressively towards Member or Fellow status. However not all professionals will be a part of a professional body.)

d. The professions are more likely to work to an older age in their chosen field. However this is balanced against professionals tending to start at an older age as a result of the need for higher level education and accreditation.

In December 2016 CITB commissioned a report considering “Career progression in the construction industry”. This identified a number of trends in relation to the Progression of construction workers into teaching and training roles.

Anecdotal evidence suggests that the primary issue, especially amongst full-time teaching staff, is fear about losing touch with one’s professional or vocational background. There is a view that that regular return to industry should be facilitated so that technical teachers could refresh their practical knowledge, skills, and stay abreast of innovation.

Results of a 2010 study into what employers wanted from training and trainers showed that, while they prioritised industry skills and knowledge above education skills and knowledge, a complex mixture of the two was required, which was generally felt to be lacking.

This suggests that initiatives aiming to utilise ‘retirees’ in Vocational Education Training (VET) needs to consider how individuals can keep their skills up-to-date.

In this sense whilst any initiative to engage retirees in training has some benefit in terms of keeping skilled people engaged with the sector it creates another challenge if employers perceive those individuals to have ‘out-dated’ skills.

5. MOBILITY OF THE WORKFORCE

5.1. Main points – mobility

- Workers in the East Midlands (37%) compared to UK (44%) are least likely to have spent their career in their current region – indicating the high mobility of workers in these regions
- The average (mean) distance from workers' current residence (taking into account temporary residences) to their current site for the East Midlands is 23 – higher than the UK average of 22 miles which points to higher mobility of workers in these regions.
- Around three quarters of construction workers stated confidence that when they finished the job they were on, they would get a job that allows them to travel from their permanent home to work on a daily basis East Midlands (71%), which compares to the UK average (75%).
- Overall just 45% of all construction workers have only worked on one project type in the East Midlands compared with a UK average of 48%.

Construction workforces are fluid by nature and this section of the report will look at findings from the CITB survey into Workforce Mobility and Skills in the UK Construction Sector 2015 to give a picture of mobility within the workforce. Data specific to the East Midlands region will be analysed in order to understand how this might impact on future training interventions and the supply of job opportunities for local people.

Table 13 shows the region or nation an employer currently operates in compared with the region or nation they were previously working in. This is taken from the CITB survey into Workforce Mobility and Skills and gives an indication of the inter-regional movement of workers. In comparison with other English regions, data for the East Midlands indicates relatively high levels of mobility to neighbouring regions.

As some respondents would have indicated that they had worked in more than one region, the totals for percentage figures in the table exceed 100%.

Table 13: Region/nation employer operates in, compared with region/nation working in currently

Region/nation employer operates in	Region/nation currently working in											
	EM %	EE %	GL %	NE %	NW %	NI %	SC %	SE %	SW %	WA %	WM %	YH %
East Midlands	**83**	16	8	13	3	2	4	12	8	7	24	11
East of England	12	**67**	15	11	2	1	4	19	8	7	9	6
London	10	27	**84**	13	4	1	5	27	12	7	9	6
North East	9	9	8	**93**	3	1	4	6	7	7	8	15
North West	11	9	8	14	**93**	1	4	6	7	11	11	10
Northern Ireland	3	3	3	2	1	**99**	3	2	1	3	2	1
Scotland	6	4	6	9	1	2	**97**	2	4	4	5	4
South East	13	23	27	12	3	*	4	**65**	21	7	11	6
South West	9	5	7	10	3	*	4	18	**83**	10	15	5
Wales	6	5	5	8	3	*	4	3	10	**96**	14	4
West Midlands	21	9	8	12	6	*	4	7	12	9	**92**	8
Yorkshire & the Humber	15	10	7	19	4	1	5	6	8	8	8	**88**
Republic of Ireland	1	2	3	*	*	2	1	1	1	2	2	*
Other parts of Europe	*	*	*	1	0	0	0	0	*	0	1	0
Outside Europe	*	1	0	*	0	0	0	0	*	0	*	0
Other / Unsure	1	3	2	3	2	*	1	3	1	*	1	3
Unweighted bases	410	366	452	427	435	274	463	439	494	290	352	369

Source: Workforce Mobility and Skills in the UK Construction Sector 2015 Report. BMG Research on behalf of CITB. Base: All respondents. *denotes less than 0.5%

5.2. Work history

The fact that they grew up there/have always lived there and other family reasons are the most likely reasons why construction workers are based within the region/nation they are currently working in (55%). The second main reason for their location is due to their employer sending them there (in 36% of cases). Reasons differ particularly by age and region/nation, with younger workers more likely to say their employer sent them, while older workers are more likely to cite family reasons. The North East has the highest proportion of workers located in the region/nation due to growing up/always living there (80%) and the East Midlands (51%) while in London the proportion is significantly lower (35%).

An increased proportion of workers, compared with 2012, have worked within their current region/nation for their entire construction career (44% cf. 33% in 2012) and in total four fifths of construction workers have remained in the current region/nation for all or most of their career (80%).

Workers based in Scotland (63%) and the North East (56%) are most likely to have spent all their career in their current region/nation, while workers in the East Midlands (37%), East of England (37%) and South East (35%) are least likely.

In the majority of cases workers' last construction site is in the same region/nation as they are working in now, however the extent to which this is the case varies considerably by region/nation. Workers based in Scotland (94%), followed the North West (89%), North East (86%) and Northern Ireland (86%) are most likely to have been working in the same region/nation, whilst construction workers in **the East Midlands (60%),** South East (56%) and East of England (49%) are least likely.

5.3. Worker Origins

Workers were asked which region/nation they were living in just before they got their first job in construction in the UK. Overall more than three quarters of all construction workers in the East Midlands were interviewed in the same region in which they were living in when they started their construction career (78%). This compares to 55% in the East and South East regions.

There are great variations by region/nation in terms of whether workers have remained in the same region/nation as they did their first qualification/training in, varying from virtually all of those now based in Northern Ireland (96%) that have remained in the same region/nation, down around to two thirds of construction workers in the East Midlands (65%), and around half in South East (55%) and East of England (50%)

5.4. Travel to site

Around half of construction workers have travelled at least 50 miles from their permanent/current home to work in the last 12 months (47%), with a fifth that have travelled more than 100 miles (21%). By region/nation workers in the South East (24%), East (23%) and East Midlands (20%) are most likely to have travelled 100+ miles to work.

Overall 6% of construction workers were staying in temporary accommodation while working at their site. The proportion is highest amongst those in the East of England (11%), South East (6%) and East Midlands (5%).

The average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 22 miles which is less than in 2012 when workers travelled an average (mean) of 28 miles. The South East and East region average was 27 which compared to the East Midlands 23. This again reflects the mobility of workers in these areas.

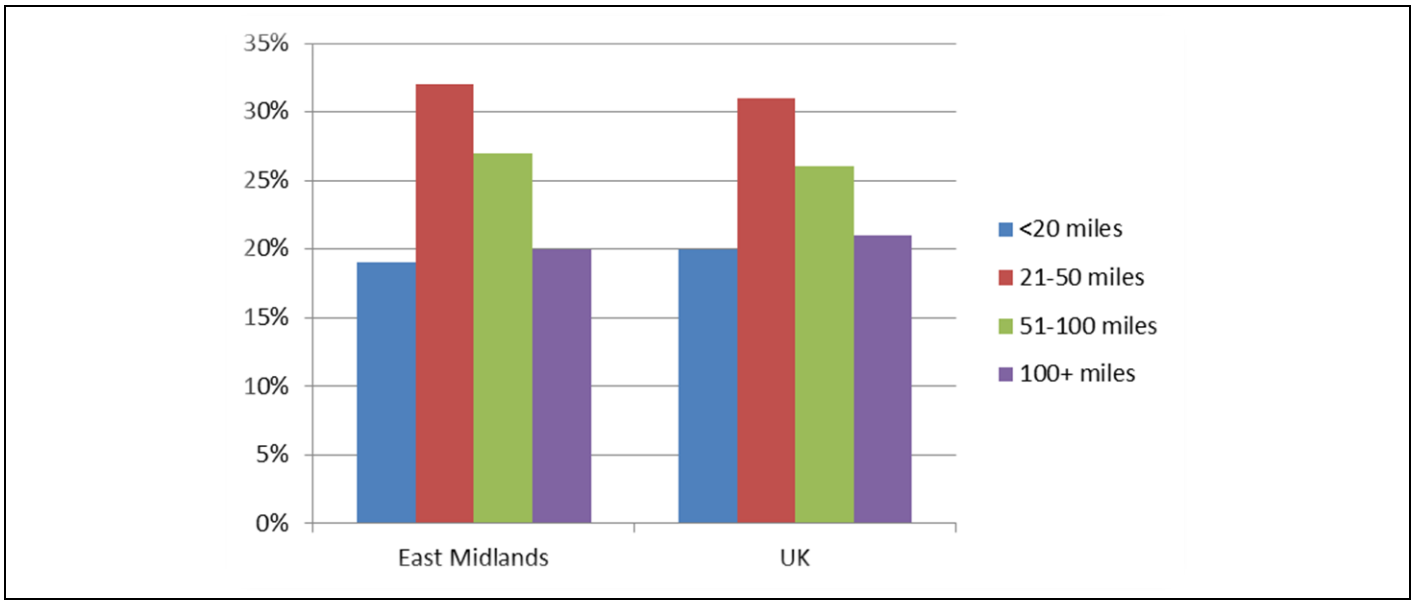


Figure 13: Furthest distance worked in the past 12 months (CITB, 2015)Leicestershire's geography in context

It is important to note Leicestershire's relatively small geographic area and proximity to areas of significant demand and economic activity – notably Birmingham and the South East Midlands. Both areas are likely to exert a net pull on the Leicestershire's construction workforce as indeed is London, even though it is significantly further to travel.

5.5. Site duration and change

In order to get a measure of workplace stability, workers were asked to indicate how long in total they expect to continue working at their current site of work.

When all respondents were asked to indicate how long in total they expect to work at that specific site during this phase a quarter expect to stay on that site for a year or longer (26%). This compares to 29% in the South East and East Midlands, with 13% in the East. However in a further one quarter of cases (24%) workers do not know how much longer they can expect to be on site, indicating there is still a considerable degree of uncertainty. The level of uncertainty was 23% in the East Midlands, 18% East and 12% South East.

Three quarters of all construction workers are confident that when they finish their current job their next job will allow them to travel to work from their permanent home on a daily basis (75%). This compares to 77% South East, 76% East and 71% in East Midlands.

5.6. Sub-sector and sector mobility

All construction workers were asked which types of construction work they have spent periods of at least three months at a time working in.

Overall nearly half of all construction workers have only worked on one construction sub sector project type (48%), compared with around a quarter in 2012 (24%), which again suggests a pattern of increased stability in the sector. This level was similar across the South East (47%), East Midlands (45%) and East (40%). Northern Ireland was the lowest at 34%. These levels suggest that workers are fairly flexible in terms of the work they undertake.

5.7. Leaving the sector

In order to assess the potential outflow from the sector in the next five years (led by worker preference), all workers were asked how likely it is that in five years' time they will still want to be working in construction. Amongst respondents of all ages two fifths say they definitely will be (40%); a further two fifths think it is very or quite likely (42%); 5% consider it unlikely; just 2% say they definitely won't be and a further 4% hope to be retired by then, while 6% don't know.

The only significant variation to these figures across the East Midlands, East and South East was in the East of England where only 24% say they will definitely still be working in construction. This could reflect a slightly more transient labour force in this region.

5.8. The impact of Brexit

While the issue of leaving the EU is of particular interest to the UK construction industry, it is impossible to offer with any certainty predictions of what may happen or how it will affect the local economy and construction, CITB has published a review that considers some potential implications for UK construction.

Migration in the UK construction industry and built environment sector

The report, published in July 2018, found that while more employers are feeling the impact of Brexit, less than a third have taken action or plan to do so as it approaches. The report updates CITB's previous 2017 migration research.

5.9. Modern methods of construction and digital skills

In initial consultation, stakeholders enquired about the potential of modern methods of construction, offsite and modular construction to help address the need to build more new housing. Stakeholders have also enquired about the opportunities presented by digital technologies.

Digital technologies are hoped to open up opportunities to simplify and automate some tasks and enhance productivity. However there is no simple description or common understanding of an ever expanding list of new technologies with a multitude of applications. Some have already been adopted and have quickly become normalised – notably in surveying, in design and in the way that smart mobile telecommunications have enabled the sharing of information and enabled remote working. But the benefits have tended to be for professional roles and very large projects.

Building Information Modelling (BIM) is increasingly referred to, and visualisation and design tools are slowing being adopted. Future opportunities may include better analysis and application of data and the integration of multiple technologies. The CITB report Unlocking construction's digital future: A skills plan for industry goes some way to describe the developing technological landscape and where opportunities may be.

While no specific analysis has been undertaken to consider the specific opportunities and limitations associated with the LLEP area, CITB has published a report that provides a timely assessment of how the adoption of offsite is changing the skills and training landscape for construction. This report is available on the CITB website.

Faster, Smarter, More Efficient: Building Skills for Offsite Construction

5.10. Barriers and opportunities for people entering the construction industry

Recruiting and retaining a sufficient talent pool has been one of the key challenges for the construction and built environment (CBE) sector for years. The challenge of finding and training the next generation of construction workers is immediate and pressing. CITB's 2017 White Paper considers:

- The value vocational qualifications offer to both individuals and employers in construction
- What happens to those leaving FE after completing a construction related course, and how many end up working in the sector
- The reasons people leave construction jobs or apprenticeships early.

Achievers and leavers: barriers and opportunities for people entering the construction industry

6. THE DIFFERENCE BETWEEN DEMAND AND SUPPLY

6.1. Main points

The occupations for which there appears to be the greatest risk of a shortfall between anticipated peak demand and the estimated supply of workers are:

Among skilled trades:

- Scaffolders
- Roofers
- Floorers
- Painters and decorators
- Labourers nec*
- Plumbing and HVAC Trades
- Bricklayers

Among professional and managerial roles:

- Architects
- Construction trades supervisors
- Construction project managers
- Other construction professionals and technical staff
- Senior, executive, and business process managers
- Surveyors

Before looking at demand for construction compared with supply of construction workers, it should be noted that the Glenigan dataset used to produce the demand view is based on projects that are picked up at various stages of the planning process. As such there will be projects in the pipeline that may not go ahead or be subject to delay; additionally there will be newer projects that will be added to the list. In this respect the view is essentially a snapshot of what potential work could look like.

It is also important to note that the demand calculations are based on data covering the Leicester and Leicestershire area, whereas the supply figures are an extrapolation of data for the East Midlands Region.

When looking forward, there will be less visibility on future projects for work that requires shorter planning times. Research carried out by CITB on behalf of UK Contractors Group UKCG showed that the lead time from planning to work starting on site varied by the type of work and value. Large scale infrastructure and commercial projects take the longest time whereas lower value work in general, along with work in the industrial sector, is able to get on site quickest.

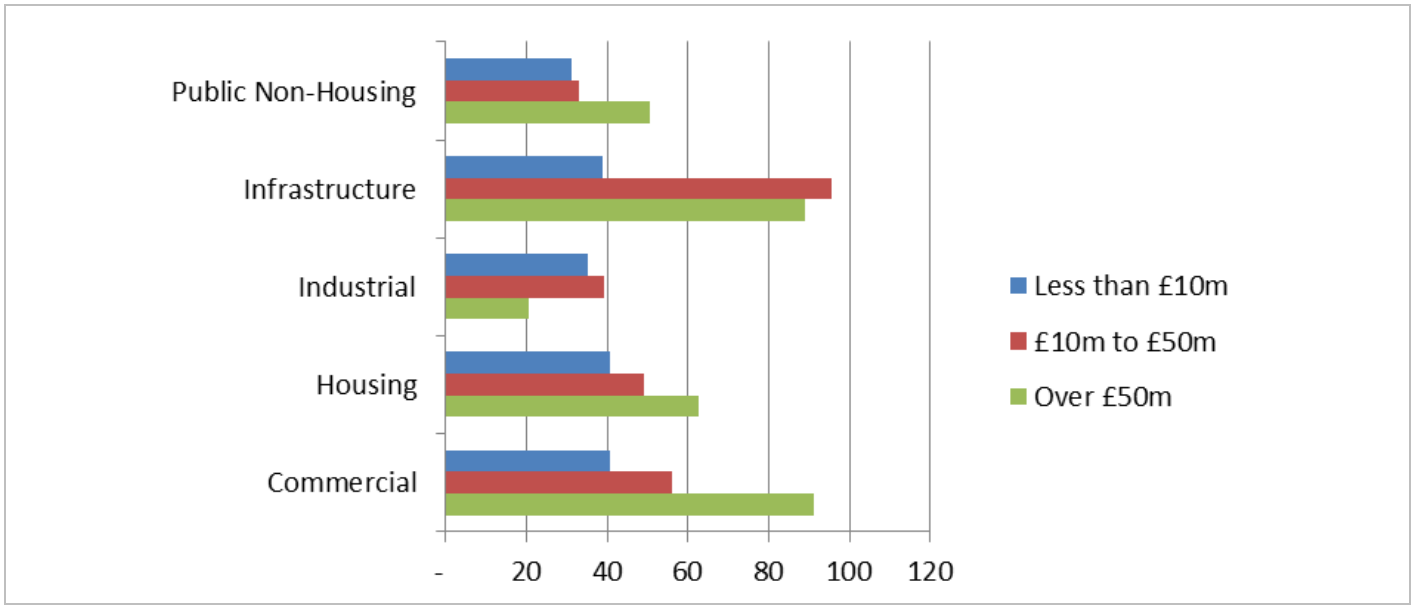


Figure 14: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan)

There will also be work carried out that does not require planning permission, for example household repair and maintenance (R&M) work, and this can account for a significant share of work in the construction sector. Current estimates for R&M work in the East Midlands indicate that it accounts for around a third of yearly construction output[4].

Also, whilst different types of projects can be categorised by their type of build, such as housing, commercial or industrial, the workforce skills required are less easy to categorise in the same way as some occupations will be able to apply their skills across a number of sectors. For example, evidence from the 2015 Mobility research shows that occupations such as banksmen / bankspersons, labourers/general operatives, roofers and bricklayers are most likely to have only worked on one project type, while site managers and painters and decorators are more likely to have worked on a wider range of projects[5].

[4] CITB (2018) Construction Skills Network

[5] CITB(2015) Workforce Mobility and Skills in the UK Construction Sector

6.2. Gap Analysis

With current construction employment in the Leicester and Leicestershire area estimated at under 32,000, the identified peak demand forecast for 2019 outstrips the supply of employment by some margin – meaning that some occupations are at risk of a shortage of workers. Employment and peak demand is shown in Table 14.

Table 14: Occupational breakdown of demand for Leicester and Leicestershire area against current employment

Occupation	Leicester and Leicestershire peak Demand	Risk rating: shortfall
SKILLED TRADES		
Scaffolders	447	4.65
Roofers	845	2.64
Floorers	523	2.07
Painters and decorators	2046	1.84
Labourers nec*	2160	1.49
Plumbing and HVAC Trades	2714	1.42
Bricklayers	1084	1.36
Wood trades and interior fit-out	4298	1.34
Electrical trades and installation	3455	1.31
Logistics	364	1.21
Building envelope specialists	1564	1.21
Steel erectors/structural fabrication	326	1.13
Specialist building operatives nec*	1015	1.10
Glaziers	578	1.04
Plant mechanics/fitters	646	0.96
Civil engineering operatives nec*	296	0.91
Plasterers & dry liners	888	0.87
Plant operatives	620	0.85
PROFESSIONS		
Architects	601	3.90
Construction trades supervisors	806	2.30
Construction project managers	816	1.90
Other construction professionals and technical staff	2566	1.49
Senior, executive, and business process managers	2789	1.38
Surveyors	1002	1.34
Other construction process managers	3157	1.18
Civil engineers	726	1.16
NON-CONSTRUCTION ROLES		
Non-construction professional, technical, IT & office-based	5662	1.39
Non-construction operatives	534	1.02
TOTAL	**42,100**	**0.89**

Source: CITB/WLC

Note: nec*: not elsewhere classified; HVAC: Heating, ventilation and air-conditioning.

Table 14 shows that there are some possible disparities where demand is expected to outstrip the current estimates for employment available locally. These occupations show high relative gap in comparison with other occupations.

The gap analysis compares the number of workers calculated as being required to meet the peak construction demand (as described in the demand section of this report) with the number of workers estimated as being available in the Leicester and Leicestershire area (as described in the supply section of the report). This gives an indication as to the comparative risk of a shortfall between construction occupations.

Although it appears there is a significant difference between peak demand and the supply of workers this is unlikely to be noticed in missing people. A significant number of the jobs will be undertaken by people working outside Leicester and Leicestershire – notably managerial and professional roles. Some demand will be met by workers travelling into the area. And in some cases a shortage of workers may result in delays to planned construction – that can impact productivity. The greatest potential negative impact is in relation to those roles that need to be on-site.

Those occupations highlighted:

- **RED** – [Top quartile] are at high risk of an immediate shortfall of workers and are worthy of urgent consideration for action to increase numbers of skilled workers, particularly site based roles.
- **AMBER** – [Second quartile] appear to be at risk of a shortfall and should be reviewed to determine where opportunities for further training and development exist
- **BLUE** – [Third quartile] appear still to be at some risk of a shortfall compared with other areas reviewed by CITB and should be monitored and tested to compare with local qualitative opinions.
- **GREEN** – [Bottom quartile] appear to be at low risk compared with other occupations. This does not mean changes in construction demand, training provision or the movement of workers will not change this status and so monitoring is recommended.

Those occupations at risk appear most likely to be:

Among skilled trades –
which need to be available locally**:**

- Scaffolders
- Roofers
- Floorers
- Painters and decorators
- Labourers
- Plumbing and HVAC Trades
- Bricklayers

Among professional and managerial roles:

- Architects
- Construction trades supervisors
- Construction project managers
- Other construction professionals & technical staff
- Surveyors

Concern has also been raised about **plasterers and dryliners** for whom local employers have reported difficulty in finding enough to meet demand. The relatively low risk of a shortfall identified within this report may indicate that while there is supply within the East Midlands they are spread unevenly with a greater concentration in neighbouring areas. It could also indicate high demand from neighbouring areas that draws the available workforce away. And there is anecdotal evidence to suggest that in some cases, employers are seeking dry-liners where there is availability of plasterers and that individuals do not have both sets of skills.

6.2.1. Construction specific occupations

Demand for Architects and surveyors (as well as civil engineers) is a reflection of the wider UK shortage[6]. Additionally as professionally qualified occupations, which tend to require degree level qualifications, there will be at least three years of education and training before becoming qualified plus years more to gain experience. And if new candidates are to be attracted to join these professions, it is likely that encouragement is required some years before they start training.

It is therefore highly likely that the short-term demand increase identified would require workers to be drawn into the Leicester and Leicestershire area from the East Midlands, West Midlands and beyond.

It should also be noted that for some professions workers often have an office location away from the site location and travel between them. And for some, there is anecdotal evidence to suggest that demand is met by provision based in other centres of population. This is particularly the case for managerial and professional roles.

In addition to the major projects identified in the Glenigan Pipeline, there will also be other work carried out in the Leicester and Leicestershire area that is captured within the demand analysis where additional workers will be required. This additional work includes projects that are less than £250,000, as well as repair and maintenance work that does not require planning consent, and as noted earlier, this is expected to mean a total workforce demand of around 42,000 in 2019.

[6] Migration Advisory Committee (MAC) Shortage Occupation List

6.3. Gap Analysis – Training needs

Looking at the future demand against current competence based training, there are two aspects:

- Is there training in the areas of potential demand?
- Is there the volume of training required across the spread of occupations?

The demand analysis has identified a range of occupations listed in Table 14.

For Architects, Surveyors and Senior executive and business process managers much of this demand would typically be met from graduate level recruitment which would not be restricted to supply from within the Leicester and Leicestershire area therefore, a training needs analysis specific to the Leicester and Leicestershire area is unlikely to give credible views.

In terms of trade roles there is a good volume of training provision for Plumbing and HVAC in Leicester and Leicestershire (21% of the total for the East Midlands) although forecast demand still outstrips training supply by a significant margin.

There is reason to be more concerned with regards to Painters and Decorators, Roofers, Floorers, Scaffolders and Plasterers and Dry Liners where competence qualification achievement volumes are low in comparison to demand. Apprenticeship starts are also low for these occupations, at just 40 or less for each occupation in 2016/17.

As a whole, the Leicester and Leicestershire area is showing a decrease in the number of construction learner starts of 7% across the five years to 2016/17. However, countering this decline has been a 56% increase in the number of apprenticeship starts over the same period.

Whilst the college based courses are an important stepping stone or progression route for learners to acquire knowledge, construction employers tend to have a preference for practical or competence based skills, so it is positive that the area has witnessed this increase in overall apprenticeships over these five years.

7. CONCLUSIONS AND RECOMMENDATIONS

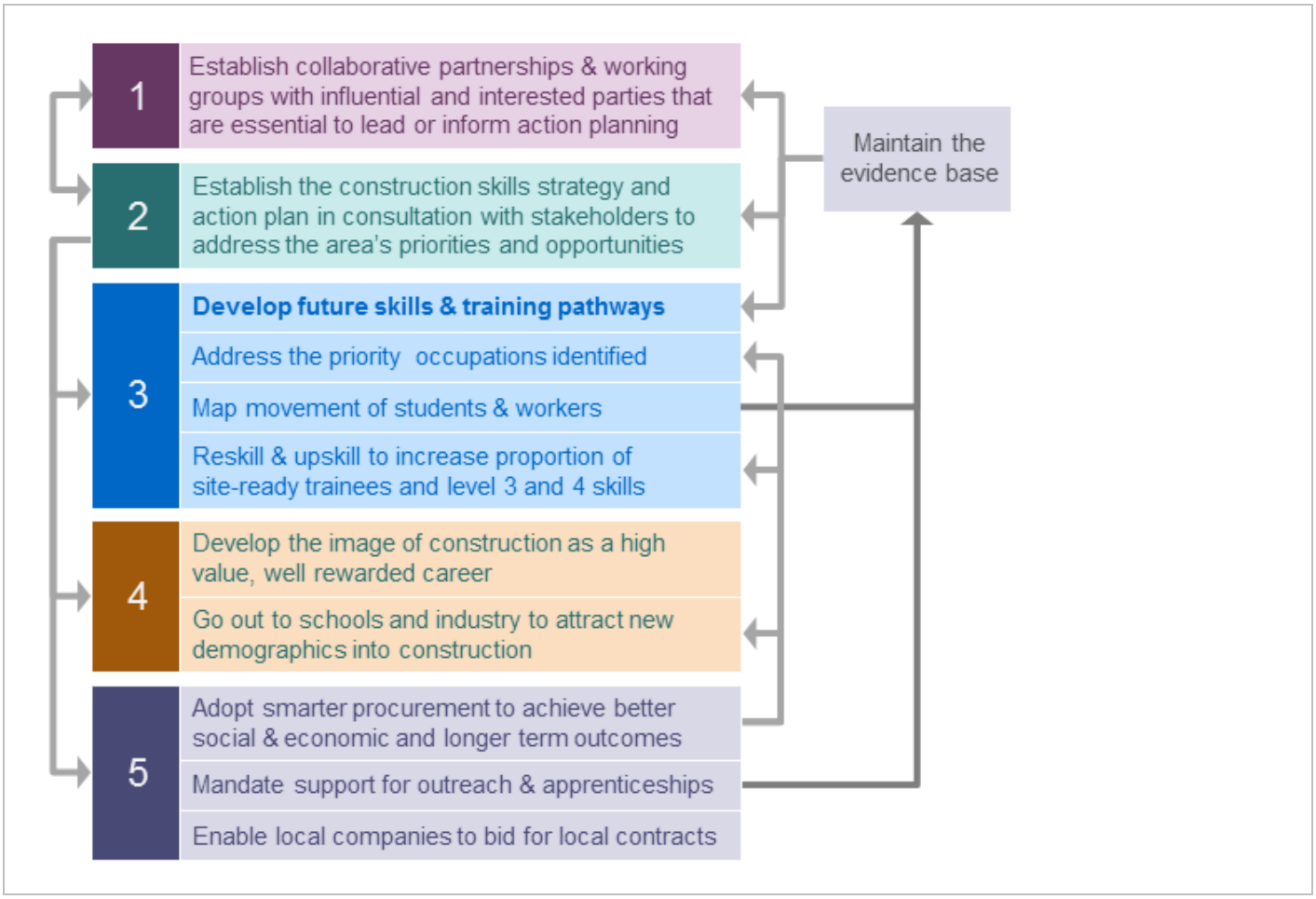
The aim of the Leicester and Leicestershire local authorities and other stakeholders should be to achieve progress in addressing the immediate challenges and long term opportunities that the construction industry faces in the area. Balancing the supply of construction workers and skills against future demand and ensuring that a well-qualified workforce is in place is likely to be assisted by the local authorities encouraging collaboration between influential local stakeholders. Positive progress is likely to be the result of a succession of incremental and interlinked actions undertaken by organisations working towards common goals.

There is some evidence to suggest that the Leicester and Leicestershire area will suffer a shortage for some critical construction occupations. While these may be drawn in from others areas, it seems more likely that any net effect will be for workers to be drawn to other neighbouring areas of population and so the risk of inadequate local skills is that construction may be delayed or increase in price, inhibiting the achievement of local social and economic goals.

There are five integrated recommendations that follow a logical progression.

Action planning

It is the responsibility of the local authorities and their influential stakeholders to review the recommendations, develop a strategy and agree an action plan to address the construction challenges and opportunities that exist in the Leicester and Leicestershire area. The local authorities need not deliver the action plan but need to take a leading role in coordinating and overseeing or delegating action and monitoring progress



7.1. Collaborative partnerships

7.1.1. Conclusion

It will be essential to ensure that those interested in construction and with an influence over outputs and construction skills in the Leicester and Leicestershire area work together.

There will be significant opportunities to work together to: align better the training delivered with the needs of construction employers; to find new opportunities for drawing people into construction related careers and to deliver action that addresses the following recommendations.

7.1.2. Recommendations

a. The local authorities should ensure that relevant stakeholders and influencers are engaged. Share available evidence with them with a view to building collaborative holistic action plans. Points of common interest should be established to encourage these stakeholders to input to, and take ownership of, the construction skills actions. This will maintain a sense of shared ownership of the challenges, priorities and solutions. Those stakeholders include: local construction businesses; major employers; local authorities; developers (especially those interested in housing); housing associations; those responsible for managing infrastructure (transport and utilities); construction training providers, local influencers and universities.

b. An early action may be to establish a construction working group comprising those with a remit to, or influential in, developing the built environment in the Leicester and Leicestershire area and task it with delivering outputs that achieve the locally desired social and economic outcomes.

c. Identify demographic data available and associate, as far as possible, actions with opportunities for those where the greatest potential social and economic impact can be gained by addressing occupational shortfalls or other priorities.

d. Leicester has in place established processes whereby those responsible for setting local regulation, funding developments and construction suppliers agree holistic outcome based approaches for tackling social and economic outcomes through better construction. Where this has been successful, good practice should be considered as something to adopt consistently across the LEP area to give suppliers greater certainty and consistency regarding planning decisions This might help further the achievement of wider beneficial outputs linked to: the built environment; training; support for apprenticeships; outreach; etc.

7.2. Skills strategy: action planning and exploitation

Establish (or develop) a Leicester and Leicestershire stakeholders area construction skills strategy and action plan which recognises collective and potentially unique actions and solutions that may be required in and across each of the local authority areas.

7.2.1. Conclusions

An ambition to develop construction skills and training pathways should be to match training and development with the needs of employers and the local economy. In support of this ambition, further understanding is needed of where the potential sources of people are to meet the needs of the Leicester and Leicestershire stakeholders area and what the end-to-end skills and training pathways are that need to be in place to enable improved flows of people and skills supply to meet demand. These pathways may potentially include localised initiatives supporting training needed by particular people groupings preparatory to and post more formalised elements of the pathway.

In the area the vast majority of Further Education (FE) training is provided by ten providers; so the greatest potential impact is through mediated collaboration with and between the FE colleges.

The majority of training provision is at low levels that are a necessary step in an individual's development but often are insufficient in meeting the needs of employers. A common complaint of construction employers is that new starters are not often enough site ready so opportunities might include colleges and employers working together to enhance new starters' site readiness and behaviours.

Some anecdotal evidence received by CITB also suggests that in many cases, construction FE courses are completed but do not lead to a career in the occupation for which the individual has been trained. This is supported by an apparent mismatch between training achievements and supply for some occupations. This suggests a need to work with colleges, employers and graduating students to help ensure that a greater proportion move into appropriate additional and vocational training and the career for which they have a qualification.

7.2.2. Recommendations

a. Develop the Leicester and Leicestershire stakeholders construction skills strategy along with an action plan that ensures that priority is given to trades and professions highlighted in this report as being:

- In high demand AND at high risk of a shortfall.
- In high demand
- At high risk of a shortfall

b. Longer term projections and the development of scenarios may enable an assessment of the potential impacts of major initiatives that may skew demand. For example, the Leicester and Leicestershire stakeholders has stated in consultation its aim to maintain the provision of new housing but there are apparent shortages in some occupations in demand by house builders. A recommended action is to establish whether this trend is likely to continue and if so ensure that training provision addresses future demand for occupations of relevance, in particular to house builders.

c. An early action plan should assess if employers are facing specific skills shortages or skills wage inflation and what short-term interventions can be activated to address them. If issues are identified, consideration should be given to pursuing funding that can be utilised to support delivery of new training interventions.

d. Early consideration should be given to those occupations that need to be site-based, for which demand cannot be met by office based roles that could be located outside Leicester and Leicestershire.

e. Identify demographic data available and associate, as far as possible, relevant skills and training pathways and actions with opportunities for those where the greatest potential social and economic impact can be gained by addressing occupational shortfalls or other priorities.

7.3. Develop future skills and training pathways

7.3.1. Conclusions

It is clear there is high demand for several construction occupations and so there will be continuing demand to train people in essential skills. There are also some apparent gaps between supply and demand where immediate action would help address shortfalls in the near future.

CITB has received anecdotal evidence that in some locations, colleges would like to support the provision of more apprenticeships but that employers are not always providing the opportunities. There will also be a developing need for new skills to address new construction methods (e.g. offsite and modular build and the need for BIM applications.) [BIM is Building Information Modelling.]

The CITB report – 'Faster, Smarter, More Efficient: Building Skills for Offsite Construction' – provides an assessment of how the adoption of offsite is changing the skills and training landscape for construction.

The CITB report Unlocking construction's digital future: A skills plan for industry goes some way to try and describe the developing technological landscape and where opportunities may be.

7.3.2. Recommendations

a. By working together the major colleges can avoid duplication of effort or share resources, enhance specialisations and explore innovative ways of meeting employers' and students' needs. One opportunity may also be to identify and facilitate how FE colleges and employers can engage with specialist training providers as well as with major projects, to establish more appropriate provision that delivers what employers need as part of a complete package of training initiatives.

b. The aims of this should be to: reduce the provision of under-subscribed courses; add provision for over-subscribed courses; add additional or enhance specialist courses to reflect the potential for new construction skills and balance the provision of training with anticipated demand from the construction contractors locally.

c. A common complaint of construction employers, that is – new starters are insufficiently-often 'site ready' so a curriculum might including working with employers to enhance new starters' site readiness and behaviours.

d. A starting point may be to consider those occupations where there appears to be high demand and a high risk of a gap. An option is to pilot a range of solutions to test validity and effectiveness and achieve the most expedient solutions.

e. Action to address future skills needs should be incremental and take into consideration the delivery of training that supports construction industry needs – i.e. establish site ready proficient workers. Emphasis should be on ensuring that training shifts towards or leads to the provision of more competency based training and high quality sustainable apprenticeships.

f. Those interested in the area's future should review CITB's reports into digital technologies and future skills with a view to exploiting opportunities to test or pilot new ways of working, with a view to enhancing knowledge, developing skills and ultimately finding productivity gains.

g. This may involve establishing training pathways through which students can complete initial knowledge based training before progressing into vocational training and apprenticeships and gaining site experience (while finishing their training). [However it has been reported that many positions, in particular labourers, are recruited through local agencies and so employment agencies should be included in relevant discussions regarding action planning.]

h. In the longer term there may also be opportunities for the local authorities to work with those colleges that offer Higher Education qualifications and Universities to consider how they can attract, train and retain the higher level, advanced and 'future' skills for which there appears to be demand and inadequate provision (across the UK). For example that may be in high demand for the many significant projects that are expected to proceed in the Leicester and Leicestershire stakeholders area and further afield and that will increasingly need to utilise developing technology e.g. Building Information Modelling (BIM).

i. Consideration should also be given to building an understanding of the economic and transport inhibitors that may prevent people accessing training and apprenticeships. Are there options for ensuring that training is provided where it is accessible; that those with limited financial support can receive support with the provision of appropriate clothing and equipment or that there is assistance with transport to remote work sites. This is particularly relevant for remote and sparsely populated places.

7.4. Outreach: build a more positive image of construction and increase recruitment through new entrance points, career changers and reskilling.

7.4.1. Conclusion

Construction is sometimes associated with negative and inaccurate stereotypes that deter potential recruits, with education choices and career decisions often influenced in school and sometimes at a very early age.

It is increasingly clear that influences and preferences are established early in childhood and so it may be appropriate to build a positive profile of construction with children before the age of 11 as well as during secondary education and also with adults likely to be influential – parents, teachers and careers advisors.

7.4.2. Recommendation

a. With an anticipated long term demand for some skills, the potential exists for a schools outreach programme to build a positive perception of construction as offering high value rewarding careers and encourages applications for construction skills courses and apprenticeships from a broader spectrum of young people – in particular ethnic minorities and women.

b. There are further opportunities for outreach with those aged 16 and above, in particular those studying relevant STE(A)M subjects but who have not considered that they lead into interesting and rewarding careers in, or supporting, construction.

   [CITB has supported employers and other stakeholders across the construction and built environment to develop an industry led initiative called Go Construct (www.goconstruct.org). This initiative inspires individuals to find out more about the sector, to access an experience with employers from school engagement via the Construction Ambassador scheme and find work experience placements.]

c. There may also be more mature audiences that can be encouraged to move into construction careers. This may include people with relevant transferable skills (e.g. from manufacturing or ex-military see Careers Transition Partnership) or those where there is a significant social gain by ensuring they are in valuable employment, e.g. ex-offenders and so contact should be made with HM Prison Service and DWP. Targeted intervention should be included within the construction skills action plan.

d. Where possible put in place action and support processes that draw new candidates into priority occupations and then helps retain them and develop their skills and experience.

e. There is an opportunity to maximise Go Construct and introduce other similar employer and local authority led initiatives to raise engagement between the local employers, educators and individuals from all backgrounds (e.g. the Careers and Enterprise Company.)

7.5. Use procurement and planning regulation to enable skills development

7.5.1. Conclusion

Construction is delivered through construction employers and suppliers, funded by private developers as well as by local authorities and regulated by local planning authorities. These organisations are better placed to prepare for the future if they have certainty on construction plans and programmes. Small and micro companies, in particular, have limited ability to maintain the processes and people to search for local opportunities or enable collaboration to support larger projects.

7.5.2. Recommendations

a. The potential exists through smarter approaches to procurement (including co-ordinated approaches to Section 106 agreements) to encourage those tendering for construction and infrastructure contracts or those funding developments to be mandated to include provision for recruitment, training, apprenticeships and outreach that is co-ordinated across the Local Enterprise Partnership area, to achieve both good value for money and wider social benefits.

b. Provision could be required to hold contractors to account for commitments made. Such an approach could be co-ordinated through the Leicester and Leicestershire stakeholders and local authorities and be a requirement of planning applications and local authority and public sector contracts.

c. Early engagement with employers to discuss any such approach is recommended to find ways of ensuring that such requirements take into consideration the industry's needs and circumstances. (i.e. discuss wider social gains with potential suppliers well before tenders documents are published).

Leicester City Council already has in place processes for procurement to encourage involvement of SME and micro suppliers. A 'social value charter' is similarly also in place but a review could consider the extent to which construction and infrastructure contracts or those funding developments to be mandated to include provision for recruitment, training, apprenticeships and outreach.

7.6. Maintaining & enhancing the evidence base

Utilise local qualitative knowledge and experience to inform the findings of this report. And use other sources of data available to help inform decision making. CITB publishes a range of research of relevance to the construction industry but other relevant information is also regularly published.

As part of this report, the Leicester and Leicestershire stakeholders is given 12 months access to the Labour Forecasting Tool, including the source project data used to compile this report. This should be utilised as part of the action planning process to test scenarios, and to update and check the evidence base that supports decision making as circumstances change.

Ensuring that pipeline visibility assists the local industry in reducing risks such as economic instability or maintaining sustainable employment. The demand forecasts produced using data from Glenigan are the result of a snapshot at a moment in time and so it is wise to update demand at regular intervals according to the need and capability.

END

AUTHORS
Doug Forbes
Adam Evans
Marcus Bennett

Version	Date	Details of modifications
1st draft (V3 & 4)	Nov / Dec 2018	First draft for consultation
Second draft (V5)	February 2019	Includes initial feedback
Version 5.2	February 2019	Corrections & amendments in response to feedback

The findings and conclusions set forth in this report represent the best professional judgment of CITB and Whole Life Consultants based on information made available to it at a point in time. The authors have relied on, and not independently verified, data provided to it by independent sources and sources of information cited in the report. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. We accept no responsibility to third parties to whom this report, or any part, thereof is made available. Any such party relies upon the report at their own risk.

CITB, Bircham Newton, Norfolk, PE31 6RH
+44 (0)344 994 4400
www.citb.co.uk

CITB is registered in England and Wales Charity No 264289 and in Scotland Charity No SC044875

Whole Life Consultants Limited, Dundee University Incubator, James Lindsay Place, Dundee, DD1 5JJ
+44 (0)1382 224 304
enquiries@wlcuk.com

Whole Life Consultants Ltd is registered in Scotland as SC259987

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CITB Analysis

Construction skills gap analysis for the Leicester and Leicestershire LEP area

Appendices to the Construction skills gap analysis for the Leicester and Leicestershire LEP

November 2018

APPENDIX CONTENTS

LIST OF TABLES

APPENDIX A. DEMAND ANALYSIS METHODOLOGY

Introduction

The Construction Skills Network (CSN) provides labour market intelligence for the construction industry. Developed by Experian on behalf of CITB it forecasts labour demand in each of 12 UK regions and provides forecasts of how the industry will change year on year. It is not designed however to predict labour demand at a sub-regional level. For this purpose, we use our prize-winning Labour Forecasting Tool (LFT) developed on behalf of CITB. Labour demand is calculated by converting the volume of construction activity forecast to take place in any geographical region into forecast labour demand using labour coefficients (the number of person years required to produce £1m of output). For the sake of consistency with ONS terminology the 'volume of activity' is referred to as 'output' throughout this report. The following sections describe:

- the sources of data we use;
- how the output is calculated;
- how we deal with the absence of comprehensive data that is the typical situation beyond the first year or two of our analysis;
- how we reconcile any differences between the results produced by the LFT and those produced by the CSN;
- the steps we take to deal with any shortcomings in the sources of data; and
- how the LFT converts output into labour demand.

Calculating construction output

Data sources

There are two principal sources of data: the Glenigan database and the National Infrastructure and Construction Pipeline (NICP).

Glenigan

The original purpose of the Glenigan database is to allow contractors to identify leads and to carry out construction market analysis. It is updated every quarter to provide details of planning applications from local authorities supplemented with additional project-specific data. Of particular relevance to this report, it provides a description of each project, its name, location, value, and in most cases, projected start and end dates. It contains many tens of thousands of projects. The Glenigan pipeline does not identify every single project in an LEP: projects which are small (typically but not exclusively those less than £250,000 in value), and most that involve repair and maintenance are not included.

We have used the latest available cut of Glenigan data including all the relevant projects which started before 2017 but excluding those which are already complete. We have included in our analysis only those projects shown to be at the following planning stages because there is a reasonable probability that these projects will be realised in practice.

- Planning not required
- Detail plans granted
- Reserved matters granted
- Application for reserved matters
- Plans approved on appeal
- Listed building consent

The values of some infrastructure projects given in the Glenigan database are the total value of construction and engineering works. In these cases, since the scope of this study is limited to the construction sector, an estimate of the engineering value has been calculated and subtracted from the total value. This provides what we have termed the construction value. The percentages applied to the total value of each infrastructure project type to derive the construction value are shown in Table A1. The construction/engineering proportions have been validated through work we have undertaken for other clients and have been used in the production of Infrastructure UK's National Infrastructure Plan for Skills and the Construction Skills Network forecasts.

An initial review of the projects in the pipeline is carried out to ensure that only projects which have (a) a defined value and (b) defined start and end dates, are considered in the analysis, and that no projects are duplicated. For example "major leads" and "frameworks" may include smaller projects that are separately identified in the database.

Because of the size of the database, it is impossible to review the details of every project. Instead, we identify the small number of projects that represent the greatest value, the so-called significant projects. To do this, we use the Mean Value Theorem developed at the University of Dundee which states that maximum information from any set of data is obtained simply by considering the data whose value is greater than the average. This is a version of the Pareto rule which suggests that 80% of the value in a data set is contained within the 20% of items whose value is the greatest. The significant projects are then thoroughly inspected to make sure that the information reported in the Glenigan database is consistent and accurate as far as can be ascertained. Any anomalies are resolved, if necessary by returning to the source of the data. Since this process typically picks up the projects whose value represents 80% of the total, the scope for any errors in the remaining data to have a significant impact is severely limited.

Table A1: Proportion of total value related to construction

Infrastructure type	Sub-type	Construction value as a proportion of total value
Flooding	Flooding	90%
Transport	Bridges	100%
	Road tunnel	100%
	Roads	100%
	Air traffic control	100%
	Airports	100%
	Ports	90%
	Stations (underground/Network Rail)	80%
	Mixed rail	55%
	Electrification	35%
	Underground/DLR (not incl. stations)	35%
	Rail maintenance	10%
	Trams	55%
	Contactless ticketing	20%
Water	Water/wastewater treatment works	90%
Communications	Broadband/Digital infrastructure	20%
Energy	Photovoltaics	80%
	Generation (biomass)	50%
	Generation (energy from Waste)	50%
	Generation (nuclear)	50%
	Undefined electricity generation	40%
	Generation (fossil fuel)	25%
	Generation (renewables - offshore)	20%
	Generation (renewables - onshore)	10%
	Gas Transmission/distribution	30%
	Electricity transmission/distribution	25%
	Interconnectors	20%
	Nuclear decommissioning	60%
	Smart meters	0%
	Oil and gas	10%
Mining	Mining	80%
General infrastructure	General infrastructure	100%

For the significant projects, the project descriptions in the database are assigned the most appropriate project type to be used when the data is input to the LFT (each type is driven by a different underlying model). Cases where a project consists of more than one type are broken down into multiple forecasts which are assigned specific project types to more closely predict the labour demand. This takes account of the different types of work which may exist within a single project, e.g. mixed developments comprising residential, commercial and industrial buildings. For the non-significant projects, the default project type defined in the Glenigan pipeline is applied.

In order to maintain consistency with the CSN we have limited our forecast to the same time period as the most recently published CSN forecast.

NICP data

The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compiles a pipeline of UK infrastructure and construction projects and the associated annual public and private investment.

We examine the NICP data to identify infrastructure projects or programmes of work taking place in the region under consideration that are not included in the Glenigan database. The construction cost is calculated from the total cost reported in the NICP using the percentages in Table A1**Error! Reference source not found.**. Projects in the lenigan dataset and the NICP are combined (ensuring that there is no double counting) to create a pipeline of 'known' projects for the LEP. We have only considered those projects which are specifically allocated to the region under consideration in the NICP (i.e. projects at a national level have not been considered).

The pipeline includes both construction and infrastructure projects but for the purposes of this analysis we have included only projects which are clearly defined specific projects rather than regional programmes of work. This reduces the risk of double counting in the Glenigan data.

CSN data

The CSN model produced by Experian also uses Glenigan as a major source of data relating to the volume of construction activity in the UK. Experian supplement the Glenigan data with market intelligence collected by a variety of means including a series of 'Observatories' held every six months in each region, at which representatives of the industry are invited to comment on the validity of Experian's data and findings. In Experian's annual CSN report, their estimate of the output in each of the following sectors is published:

- Public housing
- Private housing
- Infrastructure
- Public non-housing
- Industrial
- Commercial
- Housing repair and maintenance
- Non-housing repair and maintenance

Aligning the Glenigan pipeline with CSN output

The following process is undertaken to ensure that the value of work in the Glenigan pipeline is aligned with output as measured by the CSN.

1. Considering the government region within which the research LEP lies, identify only the new build in the known projects by removing all repair and maintenance projects.
2. Compare the output identified in the known projects as new build at the regional level with the CSN new build at the regional level sector by sector e.g. residential, non-residential, infrastructure etc.
3. If in any sector the known new-build regional output for the peak year is more or less than that forecast by the CSN for the same year then the value of each new build known project is factored by the following ratio:

$$\frac{Value\ of\ CSN\ new\ build\ at\ regional\ level\ for\ given\ sector}{Value\ of\ known\ new\ build\ projects\ at\ regional\ level\ for\ given\ sector}$$

The outputs calculated in this way are referred to as 'factored new build outputs'

This process takes account of both projects (typically less than £250k in value) not included in the known projects and those whose value or probability of realisation is over-optimistic.

4. To take account of housing repair and maintenance (R&M) at the research LEP level, it is assumed that the proportion of the total output represented by housing R&M is the same at the local LEP level as it is at the regional level in the CSN. The Glenigan new build factored housing output is therefore multiplied by the following ratio:

$$\frac{Value\ of\ CSN\ housing\ R\&M\ at\ regional\ level}{Value\ of\ CSN\ new\ build\ housing\ at\ regional\ level}$$

to derive the output in housing R&M to be added to the factored new build output

5. The non-housing R&M to be added to the factored new build non-housing output is calculated in a similar way.

Dealing with the 'cliff edge'

As the time horizon extends there is less clarity on what is planned. As a result, the number of known projects declines the further into the future we look. This apparently declining workload is highly unlikely to reflect the total amount of work that will take place in the future. It is almost certain that there will be additional projects that come on stream which are yet to be identified. To overcome this 'cliff edge' effect we assume, based on an analysis of historical data, that the future workforce is approximately equal to the peak. It should be noted that the peak labour demand refers to the current "snapshot" of the scheduled construction spend. It is prudent to expect that, should the investment in future years follow the same pattern, the peak labour demand figures are likely to be roughly similar assuming the mix of projects remains consistent. The peak has, therefore, been projected forwards and backcast to create a more likely scenario of the ongoing workforce. The employment growth rate is based on the CSN employment forecast for the whole region under consideration.

A consequence of this approach is the implicit assumption that the proportion of people in each occupation in the additional projects remain unchanged year on year.

Calculating total labour demand

Our Labour Forecasting Tool is used to determine the labour demand generated by the construction outputs in the peak year. The LFT can determine the labour demand generated by a pipeline of construction projects given only the project types, their start and end dates and their locations. It quantifies the month-by-month demand in each of the 28 occupational groups shown in Appendix B. To do this, it uses labour coefficients (person years to produce £1m of output) derived from historical ONS data. The labour coefficients are updated annually as new data becomes available, and indexed to take account of different locations and changes in prices.

There are different labour coefficients for each occupation and for each of the following project types:

- residential
- non-residential
- infrastructure
- residential R&M
- non-residential R&M

Infrastructure projects can be broken down into the types shown in Table A1**Error! Reference source not found.**.

APPENDIX B. OCCUPATIONAL DEFINITIONS

Reference is made in this report to a range of occupational aggregates for construction occupations. This appendix contains details of the 166 individual occupations which are aggregated into 28 occupational aggregates.

Table A2: Occupation definitions

Occupations included within construction occupational aggregates (Four-digit codes refer to Office for National Statistics Standard Occupational Classification Codes).	
1 Senior, executive, and business process managers[7]	
(1115) Chief executives and senior officials	(1162) Managers and directors in storage and warehousing
(1131) Financial managers and directors	(1259) Managers and proprietors in other services nec
(1132) Marketing and sales directors	(1139) Functional managers and directors nec
(1133) Purchasing managers and directors	(2133) IT specialist managers
(1135) Human resource managers and directors	(2134) IT project and programme managers
(1251) Property, housing and estate managers	(3538) Financial accounts managers
(1136) Information technology and telecommunications directors	(3545) Sales accounts and business development managers
(2150) Research and development managers	
2 Construction project managers[7]	
(2436) Construction project managers and related professionals	
3 Other construction process managers[7]	
(1121) Production managers and directors in manufacturing	(3567) Health and safety officers
(1122) Production managers and directors in construction	(3550) Conservation and environmental associate professionals
(1161) Managers and directors in transport and distribution	
(1255) Waste disposal and environmental services managers	
4 Non-construction professional, technical, IT, and other office–based staff (excl. managers)[7]	
(3131) IT operations technicians	(3541) Buyers and procurement officers
(3132) IT user support technicians	(3562) Human resources and industrial relations officers
(3534) Finance and investment analysts and advisers	(4121) Credit controllers
(3535) Taxation experts	(4214) Company secretaries
(3537) Financial and accounting technicians	(7129) Sales related occupations nec
(3563) Vocational and industrial trainers and instructors	(7211) Call and contact centre occupations
(3539) Business and related associate professionals nec	(7219) Customer service occupations nec
(3520) Legal associate professionals	(9219) Elementary administration occupations nec
(3565) Inspectors of standards and regulations	(2111) Chemical scientists
(2136) Programmers and software development professionals	(2112) Biological scientists and biochemists
(2139) Information technology and telecommunications professionals nec	(2113) Physical scientists
	(3111) Laboratory technicians
(3544) Estate agents and auctioneers	(3421) Graphic designers
(2413) Solicitors	(2463) Environmental health professionals
(2419) Legal professionals nec	(2135) IT business analysts, architects and systems designers
(2421) Chartered and certified accountants	
(2424) Business and financial project management professionals	(2141) Conservation professionals
	(2142) Environment professionals
(2423) Management consultants and business analysts	(2425) Actuaries, economists and statisticians
(4216) Receptionists	(2426) Business and related research professionals
(4217) Typists and related keyboard occupations	(4124) Finance officers
(3542) Business sales executives	(4129) Financial administrative occupations nec
(4122) Book-keepers, payroll managers and wages clerks	(4138) Human resources administrative occupations
(4131) Records clerks and assistants	(4151) Sales administrators
(4133) Stock control clerks and assistants	(4159) Other administrative occupations nec
(7213) Telephonists	(4162) Office supervisors
(7214) Communication operators	(7130) Sales supervisors
(4215) Personal assistants and other secretaries	(7220) Customer service managers and supervisors
(7111) Sales and retail assistants	(4161) Office managers
(7113) Telephone salespersons	

[7] Managerial, professional & office based staff

5 Construction trades supervisors[8]	
(5250) Skilled metal, electrical and electronic trades supervisors (5330) Construction and building trades supervisors	
6 Wood trades and interior fit-out[8]	
(5315) Carpenters and joiners (8121) Paper and wood machine operatives	(5442) Furniture makers and other craft woodworkers (5319) Construction and building trades nec (25%)
7 Bricklayers[8]	
(5312) Bricklayers and masons	
8 Building envelope specialists[8]	
(5319) Construction and building trades nec (50%)	
9 Painters and decorators[8]	
(5323) Painters and decorators	(5319) Construction and building trades nec (5%)
10 Plasterers[8]	
(5321) Plasterers	
11 Roofers[8]	
(5313) Roofers, roof tilers and slaters	
12 Floorers[8]	
(5322) Floorers and wall tillers	
13 Glaziers[8]	
(5316) Glaziers, window fabricators and fitters	(5319) Construction and building trades nec (5%)
14 Specialist building operatives not elsewhere classified (nec)[8]	
(8149) Construction operatives nec (100%) (5319) Construction and building trades nec (5%)	(9132) Industrial cleaning process occupations (5449) Other skilled trades nec
15 Scaffolders[8]	
(8141) Scaffolders, stagers and riggers	
16 Plant operatives[8]	
(8221) Crane drivers (8129) Plant and machine operatives nec	(8222) Fork-lift truck drivers (8229) Mobile machine drivers and operatives nec
17 Plant mechanics/fitters[8]	
(5223) Metal working production and maintenance fitters (5224) Precision instrument makers and repairers (5231) Vehicle technicians, mechanics and electricians	(9139) Elementary process plant occupations nec (5222) Tool makers, tool fitters and markers-out (5232) Vehicle body builders and repairers
18 Steel erectors/structural fabrication[8]	
(5311) Steel erectors (5215) Welding trades (5214) Metal plate workers, and riveters	(5319) Construction and building trades nec (5%) (5211) Smiths and forge workers (5221) Metal machining setters and setter-operators
19 Labourers nec[8]	
(9120) Elementary construction occupations (100%)	
20 Electrical trades and installation[8]	
(5241) Electricians and electrical fitters (5249) Electrical and electronic trades nec	(5242) Telecommunications engineers
21 Plumbing and heating, ventilation, and air conditioning trades[8]	
(5314) Plumbers and heating and ventilating engineers (5216) Pipe fitters	(5319) Construction and building trades nec (5%) (5225) Air-conditioning and refrigeration engineers
22 Logistics[8]	
(8211) Large goods vehicle drivers (8212) Van drivers (9260) Elementary storage occupations	(3541) Buyers and purchasing officers (50%) (4134) Transport and distribution clerks and assistants

[8] Skilled trades & operatives

23 Civil engineering operatives not elsewhere classified (nec)[8]	
(8142) Road construction operatives (8143) Rail construction and maintenance operatives	(8123) Quarry workers and related operatives
24 Non–construction operatives[8]	
(8117) Metal making and treating process operatives (8119) Process operatives nec (8125) Metal working machine operatives (8126) Water and sewerage plant operatives (8132) Assemblers (vehicles and metal goods) (8133) Routine inspectors and testers (8139) Assemblers and routine operatives nec	(9249) Elementary security occupations nec (9233) Cleaners and domestics (9232) Street cleaners (5113) Gardeners and landscape gardeners (6232) Caretakers (9241) Security guards and related occupations (3319) Protective service associate professionals nec
25 Civil engineers[7]	
(2121) Civil engineers	
26 Other construction professionals and technical staff[7]	
(2122) Mechanical engineers (2123) Electrical engineers (2126) Design and development engineers (2127) Production and process engineers (2461) Quality control and planning engineers (2129) Engineering professionals nec (3112) Electrical and electronics technicians (3113) Engineering technicians (3114) Building and civil engineering technicians	(3119) Science, engineering and production technicians nec (3121) Architectural and town planning technicians (3122) Draughtspersons (3115) Quality assurance technicians (2432) Town planning officers (2124) Electronics engineers (2435) Chartered architectural technologists (3531) Estimators, valuers and assessors (3116) Planning, process and production technicians
27 Architects[7]	
(2431) Architects	
28 Surveyors[7]	
(2433) Quantity surveyors (2434) Chartered surveyors	

APPENDIX C. GLENIGAN PROJECTS REMOVED FROM LEICESTER AND LEICESTERSHIRE

This appendix contains a list of all the Glenigan projects removed from the analysis, stating the reason for their exclusion.

Table A3: Removed Glenigan projects from Leicester and Leicestershire

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	Storage & Distribution Unit	North West Leicestershire	79.7			Missing dates
2	322 Houses/Flats & Commercial Units	Leicester	35.0			Missing dates
3	Warehouse Building	North West Leicestershire	18.7			Missing dates
4	82 Sheltered Flats	Leicester	13.4			Missing dates
5	28 Light Industrial/Research Units	Harborough	8.1			Missing dates
6	103 Residential Units	Leicester	6.6			Missing dates
7	Warehouse Building & Office	North West Leicestershire	6.1			Missing dates
8	Care Home (Extension/Alterations)	Charnwood	5.7			Missing dates
9	72 Flats (New/Conversion)	Leicester	5.0			Missing dates
10	45 Houses	North West Leicestershire	3.4			Missing dates
11	43 Residential Units (New/Conversion)	Hinckley & Bosworth	3.2			Missing dates
12	Public House & Restaurant	Leicester	2.4			Missing dates
13	College Sports Hall/Classroom Block (Extension)	Harborough	2.1			Missing dates
14	45 Retirement Flats	Harborough	2.1			Missing dates
15	27 Houses	Harborough	2.0			Missing dates
16	73 Extra Care Flats	Leicester	2.0			Missing dates
17	College & Museum (Refurbishment/Extension)	Leicester	2.0			Missing dates
18	HQ Office (Refurb)	Blaby	1.8			Missing dates
19	Community Building	Harborough	1.6			Missing dates
20	Parish Hall & Pavilion (New/Extension)	Hinckley & Bosworth	1.6			Missing dates
21	College Design Centre Building (Extension/Alterations)	North West Leicestershire	1.5			Missing dates
22	6 Industrial Warehouse Buildings	Charnwood	1.3			Missing dates
23	Haulage Depot	Blaby	1.3			Missing dates
24	Warehouse	North West Leicestershire	1.2			Missing dates
25	14 Houses	North West Leicestershire	1.1			Missing dates
26	Industrial/Warehouse Unit (Extension)	Blaby	1.0			Missing dates
27	Office Building	Blaby	1.0			Missing dates
28	Leicester Cathedral	Leicester	1.0			Missing dates
29	Office/Warehouse Units	Leicester	1.0			Missing dates
30	13 Houses	North West Leicestershire	1.0			Missing dates
31	19 Student Flats (Conversion)	Leicester	0.9			Missing dates
32	Enterprise Village	Melton	0.9			Missing dates
33	13 Flats (Conversion/Alterations)	Leicester	0.7			Missing dates
34	Care Flats	Leicester	0.6			Missing dates
35	5 Flats & 4 Houses (New/Conversion)	Harborough	0.6			Missing dates
36	Scout Hall	Charnwood	0.5			Missing dates
37	Community Building	North West Leicestershire	0.4			Missing dates

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
38	Scout Activity Centre	North West Leicestershire	0.4			Missing dates
39	School Classroom Block (Extension)	North West Leicestershire	0.4			Missing dates
40	College Air Force Training Building (Extension)	Leicester	0.3			Missing dates
41	Factory Unit	Leicester	0.3			Missing dates
42	Headquarters Building	Charnwood	0.3			Missing dates
43	Clerk of Works Services Framework	Leicester	0.8	23/07/2019	23/07/2023	Consultancy
44	Consultancy Services Framework	Blaby	50.0	01/01/2018	31/12/2020	Consultancy
45	Development Consultant Framework	North West Leicestershire	2.0	03/02/2017	05/02/2021	Consultancy
46	Analytical Asbestos Services & Asbestos Surveys Framework	Leicester	0.6	15/11/2016	15/11/2020	Consultancy
47	Design Team Consultancy Services Framework	Leicester	18.0	06/09/2016	08/09/2020	Consultancy
48	Consultancy Framework	Leicester	30.0	09/05/2016	11/05/2020	Consultancy
49	Reactive & Planned Maintenance	Blaby	140.0	01/04/2019	01/04/2024	Not in the area
50	Motorway	North West Leicestershire	120.0	18/04/2017	21/12/2018	In NICP
51	Distribution Hub	Hinckley & Bosworth	26.7	08/08/2018	08/05/2019	Duplicate

APPENDIX D. SIGNIFICANT GLENIGAN PROJECTS IN LEICESTER AND LEICESTERSHIRE

This appendix provides a list of all the significant projects analysed. The projects appear in the order they were put into the LFT.

Table A4: Significant Glenigan projects in Leicester and Leicestershire

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	Construction Work	Leicester	177.3	09/07/2018	11/07/2022	Public Non-housing, Private Commercial, Infrastructure
2	26 Non Food Shopping Park/Restaurant/Pub/Takeaway Units	Blaby	135.0	12/11/2018	11/11/2019	Private Commercial
3	Reactive & Planned Maintenance Contract	Harborough	130.0	20/12/2018	21/12/2023	Housing R&M
4	Energy Recovery Facility	Charnwood	125.0	28/01/2019	31/01/2022	Infrastructure
5	Office & Storage Building	North West Leicestershire	114.0	05/11/2018	04/11/2019	Private Commercial, Private Industrial
6	Industrial/Storage& Distribution	Hinckley & Bosworth	98.3	07/08/2017	07/08/2018	Private Industrial
7	185 Houses/Luxury Houses	Charnwood	94.2	24/06/2013	24/06/2021	New housing
8	Employment Development	Hinckley & Bosworth	92.5	24/09/2018	24/03/2020	Private Industrial, Private Commercial, Infrastructure
9	Warehouse	North West Leicestershire	77.5	08/10/2018	15/04/2019	Private Industrial
10	Warehouse Building	North West Leicestershire	66.7	17/07/2017	13/12/2019	Private Industrial
11	Warehouse	Leicester	60.0	03/04/2018	15/04/2019	Private Industrial, Private Commercial
12	Small/Medium Construction Works Framework	North West Leicestershire	60.0	14/05/2018	11/05/2026	Infrastructure
13	Distribution Centre/Warehouse	North West Leicestershire	50.0	03/12/2018	02/12/2019	Private Industrial, Private Commercial, Private Commercial
14	300 Flats & Commercial Units	Leicester	41.8	25/08/2017	26/04/2019	New housing, Private Commercial
15	2 Hotels/1 Training Centre & Offices (New/Conversion)	Leicester	39.6	28/03/2018	20/12/2019	Private Commercial, Public Non-housing, Infrastructure
16	Enabling Works	North West Leicestershire	38.0	04/01/2017	30/09/2019	Infrastructure
17	Prison Building	Blaby	36.7	05/11/2018	23/10/2020	Public Non-housing
18	450 Residential Units	Oadby & Wigston	31.8	09/07/2018	03/08/2020	New housing
19	Student Accommodation & Hotel	Charnwood	30.2	15/05/2018	15/05/2019	Public Non-housing, Private Commercial, Infrastructure
20	479 Residential Units	Harborough	28.6	04/02/2019	03/01/2022	New housing
21	400 Residential Units	Melton	28.3	26/12/2018	26/01/2020	New housing
22	389 Residential Units	North West Leicestershire	27.5	30/07/2018	27/09/2021	New housing
23	Motorway (Improvements)	Charnwood	27.0	15/04/2019	04/09/2020	Infrastructure
24	270 Houses	Charnwood	25.4	04/09/2017	06/09/2019	New housing
25	630 Flats	Leicester	25.4	30/01/2019	29/02/2020	New housing
26	Carriageway Widening Works	Hinckley and Bosworth	25.0	06/01/2020	17/06/2022	Infrastructure
27	380 Residential Units	Charnwood	23.0	11/02/2019	17/09/2021	New housing
28	400 Residential Units	North West Leicestershire	22.5	28/04/2019	28/04/2021	New housing

	Description	Local authority	Value (£m)	Start date	End date	Project type
29	290 Houses	Harborough	20.5	17/09/2018	17/03/2019	New housing
30	328 Houses	Hinckley & Bosworth	20.0	10/05/2019	06/06/2020	New housing
31	Railway Station (Alterations)	Harborough	20.0	01/09/2017	02/09/2019	Infrastructure
32	119 Houses	Harborough	19.3	05/09/2016	31/07/2019	New housing
33	309 Houses & 6 Flats	Harborough	19.3	31/01/2019	28/02/2020	New housing
34	IP Central Region: Control Period 5 Programme Contracts	Leicester	18.7	06/10/2014	30/09/2019	Infrastructure
35	3 Industrial Distribution Centre	Leicester	18.1	27/08/2018	27/03/2020	Private Industrial
36	248 Houses & Flats	Blaby	17.5	24/10/2016	26/10/2018	New housing
37	Highway Medium Schemes Framework	Blaby	16.0	19/11/2018	21/11/2022	Infrastructure
38	Railway Station (New/Alterations)	Harborough	16.0	16/01/2018	02/10/2018	Infrastructure
39	Office Building	Charnwood	15.9	11/03/2019	14/12/2019	Private Commercial
40	Science & Enterprise Park	Charnwood	15.1	30/01/2019	30/01/2023	Public Non-housing
41	Hotel (Conversion/Alterations)	Leicester	15.0	24/09/2018	24/05/2019	Private Commercial
42	213 Houses	North West Leicestershire	14.0	15/10/2018	11/11/2019	New housing
43	188 Houses & 1 Industrial Unit	North West Leicestershire	13.5	03/09/2018	30/09/2019	New housing, Private Industrial
44	Link Road	Leicester	13.5	10/06/2019	24/02/2020	Infrastructure
45	215 Houses	Harborough	13.3	24/09/2018	24/10/2019	New housing
46	175 Houses/14 Flats & 6 Bungalows	Harborough	12.0	28/11/2018	28/12/2019	New housing
47	Department Store (Alterations)	Leicester	12.0	28/09/2017	15/08/2018	Private Commercial
48	150 Houses	Harborough	10.6	27/01/2019	27/02/2020	New housing
49	166 Houses	North West Leicestershire	10.4	31/10/2018	30/11/2019	New housing
50	CP5 Central Workbank Infrastructure Framework	Leicester	9.6	01/10/2014	25/09/2019	Infrastructure
51	132 Houses & 3 Bungalows	Harborough	9.5	10/09/2018	07/10/2019	New housing
52	Landscaping Works	Charnwood	9.4	29/01/2018	29/01/2019	New housing
53	210 Flats & 4 Shop/Cafe/Office/Gym	Charnwood	8.9	21/03/2019	17/04/2020	New housing, Private Commercial, Public Non-housing
54	Primary School (Conversion/Extension)	Hinckley & Bosworth	8.2	06/11/2017	16/07/2018	Public Non-housing
55	120 Residential Units	Melton	7.6	12/07/2019	08/08/2020	New housing
56	102 Houses/Flats	Leicester	7.2	16/09/2018	13/10/2019	New housing
57	University (Refurbishment)	Charnwood	5.6	14/08/2017	06/09/2019	Public Non-housing
58	71 Houses	North West Leicestershire	4.6	23/04/2018	22/10/2018	New housing
59	Students Union (Extension)	Leicester	4.5	16/04/2018	25/10/2019	Public Non-housing
60	Housing Heating Contract	Blaby	3.9	01/04/2019	01/04/2024	Housing R&M
61	Sewerage Infrastructure Programme	Leicester	3.2	16/03/2018	16/09/2019	Infrastructure
62	College (Extension)	Leicester	2.7	28/02/2018	11/02/2019	Public Non-housing
63	Hospital (Extension)	Leicester	2.2	17/09/2018	29/03/2019	Public Non-housing
64	Schools	Leicester	1.8	29/09/2014	24/09/2018	Public Non-housing
65	Care Home	Charnwood	1.1	24/07/2019	22/04/2020	Public Non-housing
66	College (Extension)	Leicester	1.1	06/08/2018	29/04/2019	Public Non-housing

APPENDIX E. NICP AND LEP PROJECTS IN LEICESTER AND LEICESTERSHIRE

This appendix provides a list of all the NICP and LEP projects analysed. The projects appear in the order they were put into the LFT.

Table A5: Appendix Table 1:NICP and LEP projects in Leicester and Leicestershire

	Name	Value (£m)	Start date	End date	Source
1	Severn Trent Water: Wastewater Service AMP6	58.5	01/04/2018	31/03/2020	NICP
2	Severn Trent Water: Water Service AMP6	57.9	01/04/2018	31/03/2020	NICP
3	Highways Maintenance Block Funding (SR10 allocation)	53.7	01/04/2018	31/03/2021	NICP
4	Eon Central Networks East (EMID) RIIO	35.3	01/04/2018	31/03/2021	NICP
5	M1 Junctions 13 -19	35.2	01/04/2018	31/03/2021	NICP
6	M1 J23a-24	29.6	01/04/2018	31/03/2021	NICP
7	Integrated Transport Block	15.5	01/04/2018	31/03/2021	NICP
8	Local Enterprise Partnerships Allocation for Transport in Strategic Economic Plans - East Midlands	9.5	01/04/2018	31/03/2021	NICP
9	East Midlands Development programme	9.5	01/04/2018	31/03/2021	NICP
10	East Midlands Construction programme	8.0	01/04/2018	31/03/2021	NICP
11	National Productivity Investment Fund Round 1 East Midlands	6.7	01/04/2019	31/03/2021	NICP
12	Challenge Fund - Tranche 2A East Midlands	2.6	01/04/2018	31/03/2019	NICP
13	Mine Water Treatment Schemes - New Scheme Build - East Midlands/Yorkshire	0.6	01/04/2020	31/03/2021	NICP
14	Severn Trent Water: Wastewater Service AMP6	58.5	01/04/2018	31/03/2020	NICP

AUTHORS
Doug Forbes
Adam Evans
Marcus Bennett

Version	Date	Details of modifications
1st draft (V3 & 4)	Nov / Dec 2018	First draft for consultation
Second draft (V5)	February 2019	Includes initial feedback
Version 5.2	February 2019	Corrections & amendments in response to feedback

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CITB, Bircham Newton, Norfolk, PE31 6RH
+44 (0)344 994 4400
www.citb.co.uk

CITB is registered in England and Wales Charity No 264289 and in Scotland Charity No SC044875

Whole Life Consultants Limited, Dundee University Incubator, James Lindsay Place, Dundee, DD1 5JJ
+44 (0)1382 224 304
enquiries@wlcuk.com

Whole Life Consultants Ltd is registered in Scotland as SC259987