



WHOLE LIFE CONSULTANTS LTD

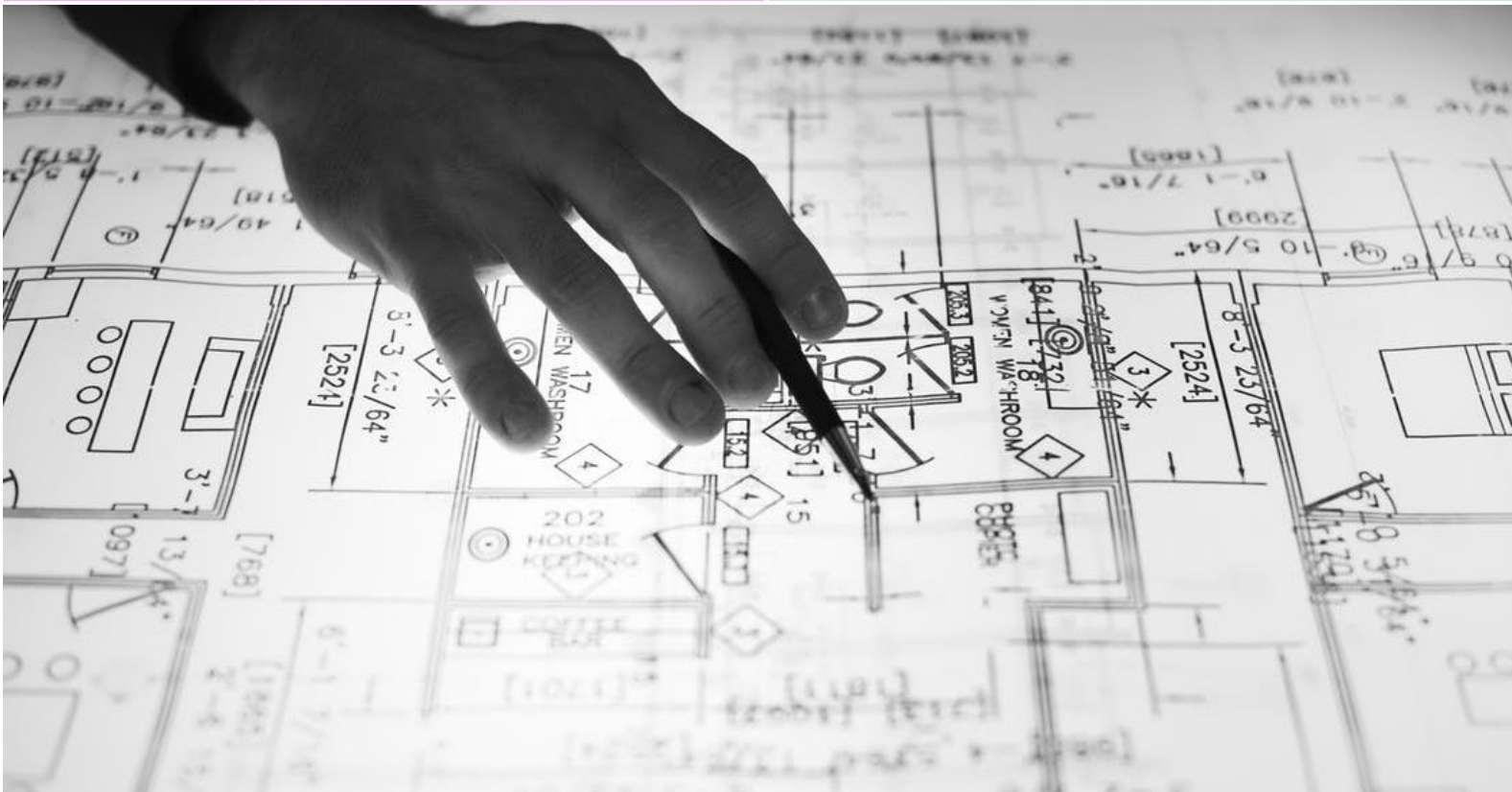


## CITB ANALYSIS

# Construction skills gap analysis for the The Marches LEP



An analysis of the opportunities  
presented by the construction  
landscape in The Marches LEP  
March 2020



## EXECUTIVE SUMMARY

The Marches LEP area can expect sustained spending on new construction projects of more than £480million per year.

To meet this anticipated demand a total construction workforce of around 20,600 people is required in 2019 increasing to more than 21,400 in 2023. Along with significant demand from neighbouring areas and an aging workforce resulting in retirement, there are also risks that The Marches LEP area may not always be able to meet demand for some occupations.

Across the area, new housing accounts for 51% of anticipated spend on new projects in 2019; with private commercial developments accounting for around 19%; infrastructure 18%; private industrial 9%.

### The Marches LEP area's opportunity

The LEP and local authorities' opportunities are to: support growing businesses; develop a more appropriately skilled and 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. But crucially it is also an enabler. It will create the new housing that is so desperately needed; will enhance the environment; will create better public spaces and facilities that we depend on; build the facilities for new technologies and manufacturing; and create new infrastructure that enables growth and prosperity. Construction opens up opportunities for major social and economic gains.

*The Marches LEP area will have a huge range of opportunities in construction trades and professions over the coming years. With well-paid and highly skilled job opportunities in a wide range of trades and professions, the construction industry together with businesses, local authorities, education and the third sector should be working together to encourage young people and career changers 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.*

*Sandra Stevens, Local Manager Midlands and North*

### High demand occupations

The top occupations for which there is greatest demand in the LEP area are:

- Wood trades and interior fit-out
- Electrical trades and installation
- Plumbing and HVAC trades
- Labourers
- Painters and decorators
- Other construction process managers
- Senior, executive, and business process managers
- Other construction professionals and technical staff
- Non-construction professional, technical, IT, and other office-based staff (excl. managers)

### At risk occupations

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

- Scaffolders
- Construction Project Managers
- Floorers
- Plasterers
- Painters and decorators
- Specialist building operatives nec\*
- Bricklayers
- Wood trades and interior fit-out

### Priority occupations

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

- Wood trades and interior fit-out
- Painters and decorators

## Occupations in context – the challenge

This report sets out a challenge to The Marches 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.

Construction offers a range of well-paid high skilled jobs for which there is demonstrable demand. The opportunity is to exploit the opportunities to 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 and risk associated with professional roles which require a significant length of training before candidates become qualified. Architects 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 Marches 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

Around 20 training providers have delivered construction related training (including apprenticeships) over the last five years. A core network of eight providers has delivered around 90% of that.

The Marches LEP area accounts for 9% of construction related training across the West Midlands. Provision of training reduced between 2012/13 and 2016/17, with new starters decreasing by 25%. In comparison, across the region construction training has declined by 52%, close to that of The Marches. Over the same period, apprenticeship starts have increased by 26% in the LEP area, whereas across the West Midlands the increase has been 22%.

## Recommendations

The report proposes recommendations that include:

- 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.

- Establish a construction skills strategy and action plan that recognises collective actions and solutions that may be required in and across the area.

- Develop skills and training pathways for both current and future skills needs. Ensure training is appropriate for local needs and businesses. Develop LEP area construction training so that it is appropriate for the needs of the construction industry and local circumstances, addressing risks of supply shortfalls.

- 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.

Use procurement as a lever to enable positive action. Develop smarter approaches to procurement to encourage wider contract award inclusivity of small and medium sized employers. With those tendering for construction and infrastructure contracts or those funding developments to be mandated to include provision for recruitment, training, apprenticeships and outreach.

# CONTENTS

<b>1.</b>	<b>Introduction</b>	
1.1.	The Commission.....	1
<b>2.</b>	<b>Labour Demand In The Marches LEP .....</b>	<b>2</b>
2.1.	Pipeline of Known Projects .....	2
2.2.	Estimate of Future Total Labour Demand .....	4
<b>3.</b>	<b>Construction Labour Supply in The Marches LEP Area .....</b>	<b>8</b>
3.1.	Main Points .....	8
3.2.	Existing Workforce.....	8
<b>4.</b>	<b>Training Provision .....</b>	<b>14</b>
4.1.	Main Points – Training Provision .....	14
4.2.	Apprenticeships .....	17
4.3.	Higher Education .....	20
4.4.	Career Progression.....	22
<b>5.</b>	<b>Mobility of the Workforce.....</b>	<b>23</b>
5.1.	Main Points – Mobility.....	23
5.2.	Work History .....	23
5.3.	Worker Origins.....	24
5.4.	Travel to Site.....	24
5.5.	Site Duration and Change .....	25
5.6.	Sub- Sector and Sector Mobility .....	25
5.7.	Leaving the Sector.....	25
5.8.	The Impact of Brexit.....	26
<b>6.</b>	<b>The Difference Between Demand and Supply .....</b>	<b>27</b>
6.1.	Main Points .....	27
6.2.	Gap Analysis.....	29
6.3.	Gap Analysis – Training Needs .....	32
<b>7.</b>	<b>Conclusions and Recommendations.....</b>	<b>33</b>
7.1.	Collaborative Partnerships.....	33
7.2.	Skills Strategy: Action Planning and Exploitation .....	35
7.3.	Develop Future Skills and Training Pathways .....	37
7.4.	Outreach: Build a More Positive Image of Construction With Young People, and Increase Recruitment Through New Entrance Points, Career Changers and Reskilling. ....	38
7.5.	Use Procurement and Planning Regulation to Enable Skills Development .....	39
7.6.	Maintaining & Enhancing the Evidence Base.....	39

## APPENDIX CONTENTS

Appendix A.	Demand analysis methodology.....	3
Appendix B.	Occupational definitions.....	7
Appendix C.	Glenigan projects removed from The Marches .....	10
Appendix D.	Significant Glenigan projects in The Marches .....	12
Appendix E.	NICP and LEP projects in The Marches.....	15

## LIST OF FIGURES

Figure 1: The Marches and surrounding areas .....	1
Figure 2: Location of significant Glenigan projects included in the analysis .....	3
Figure 3: Total construction labour demand including estimates for both R&M and estimates of other work .....	4
Figure 4: Total construction labour demand for 2019 by broad occupational group .....	5
Figure 5: Construction labour demand for skilled trades & operative occupations in the peak year .....	6
Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year .....	7
Figure 7: Year on year change in Construction Employment (Experian/CITB & NOMIS 2017) .....	9
Figure 8: Year on year change in Construction Businesses (UK Business Count, NOMIS 2017) .....	10
Figure 9: Distribution of construction businesses within The Marches LEP (UK Business Count, NOMIS 2018) .....	10
Figure 10: Construction employment by area within the Marches LEP area (2018, NOMIS) .....	11
Figure 11: Construction Businesses by Size (UK Business Count, NOMIS 2018) .....	12
Figure 12: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan) .....	27

## LIST OF TABLES

Table 1: Local authorities analysed .....	1
Table 2: New-build construction spend by project type in 2019 (total known projects).....	3
Table 3: Construction spend per infrastructure sub-type in 2019 (total known projects) .....	4
Table 4: Labour demand by project type in 2019 .....	7
Table 6: Competence qualification achievements in The Marches LEP as a % of total competence qualification achievements in the West Midlands region as a whole (Source: CITB/ESFA) .....	15
Table 7: Top seven training providers delivering training to The Marches LEP by number of starts – excluding apprenticeships (Source: CITB/ESFA) .....	16
Table 8: Unique Learner starts by area, construction subjects, all levels (Source: CITB/ESFA) .....	17
Table 9: Unique apprenticeship starts by area (The Marches LEP), all construction subjects (Source: CITB/ESFA) .....	17
Table 10: Unique apprenticeship starts by occupation (The Marches LEP), construction subjects (Source: CITB/ESFA) .....	17
Table 11: Unique apprenticeship starts by provider in The Marches LEP (subjects (Source: CITB/ESFA) .....	19
Table 13: Region / nation employer operates in, compared with region / nation working in .....	24
Table 12: Occupational breakdown of demand for The Marches LEP against current employment.....	29







## 2. LABOUR DEMAND IN THE MARCHES LEP

The following sections provide an estimate of the labour demand predicted by our Labour Forecasting Tool that construction investment will create across the LEP over the period 2019-2023. The tool and method of analysis are described in Appendix A.

### SUMMARY OF DEMAND

- Our estimate of the labour demand in The Marches is around 20,590 people in 2019. The projected growth between 2019 and 2023 suggest that the labour demand in 2023 will be around 21,370 people.
- Around 58% of the workforce is employed in Skilled trades & operatives, the other 42% 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 2,800 people.
- The skilled trade & operative occupations in greatest demand are:
  - Wood trades and interior fit-out with a requirement for 2,070 people;
  - Electrical trades and installation follow with 1,530 people.
  - Plumbing and heating, ventilation, and air conditioning trades rank third, with a demand of 1,290 people

### 2.1. PIPELINE OF KNOWN PROJECTS

#### 2.1.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database<sup>1</sup> and the National Infrastructure and Construction Pipeline (NICP)<sup>2</sup>. These comprise what are referred to as the known projects, and are forward- looking, meaning they are either ongoing or planned to start after quarter 2 of 2019.

An initial review of the Glenigan database identified 319 projects in The Marches LEP. Of the Glenigan projects, 40 projects were removed due to missing dates. Also excluded was 1 project which was clearly identified as a consultancy project. 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 2.7% 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 71 significant projects accounting for 76% 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 Marches can be seen in Figure 2 **Error! Reference source not found.**. The values of the projects are proportional to the sizes of the coloured dots. They are not reflective of the business size or employment numbers, but the actual spend of all construction incurred within an individual project.

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<sup>1</sup> 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 we have used the 2019/Q1 cut of data.

<sup>2</sup> 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 2018 which includes details of around 700 projects valued at some £627bn.

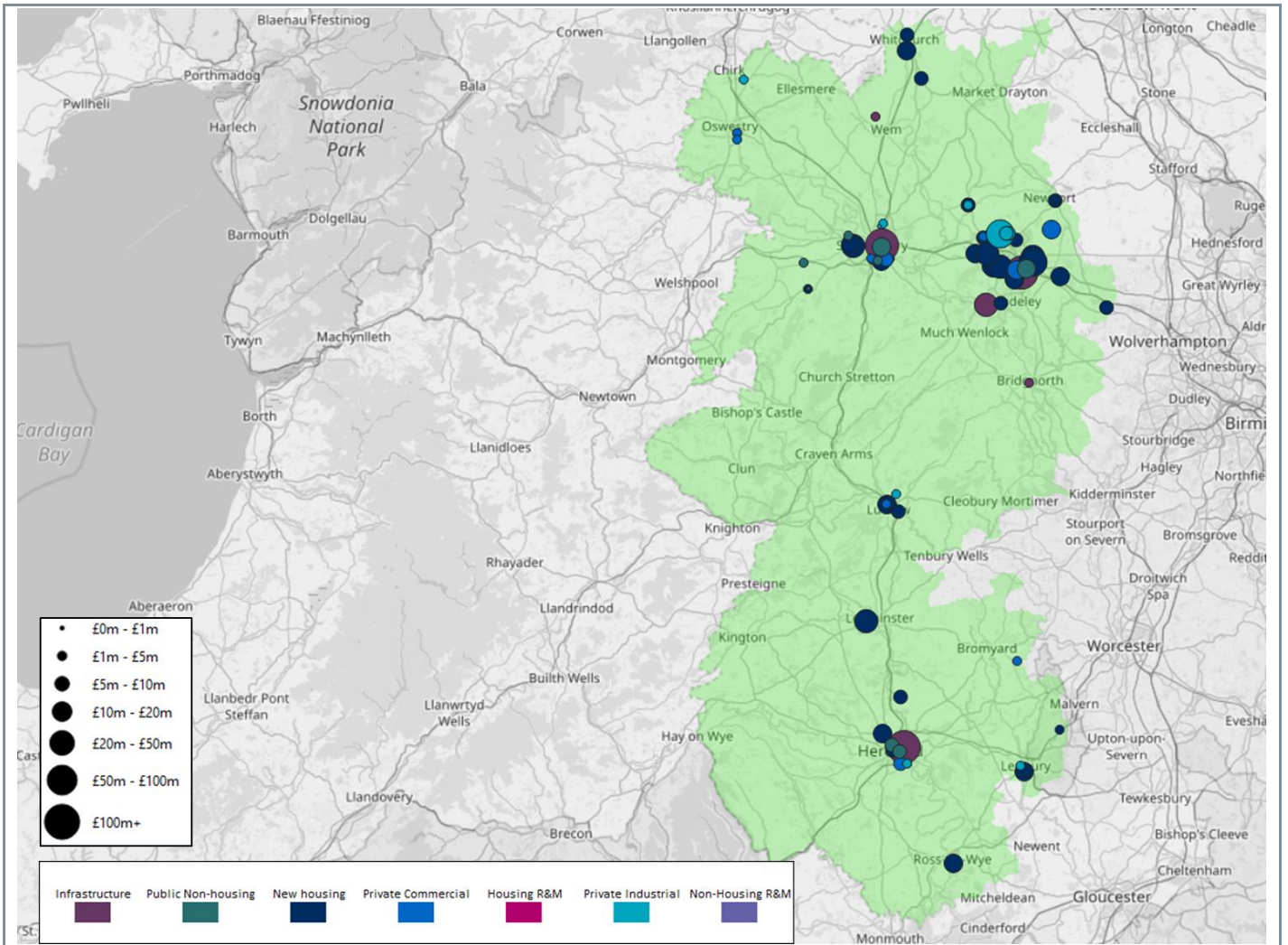


Figure 2: Location of significant Glenigan projects included in the analysis

### 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	244	51%
Private commercial	91	19%
Infrastructure	85	18%
Private industrial	44	9%
Public non-housing	16	3%
<b>Total</b>	<b>480</b>	<b>100%</b>

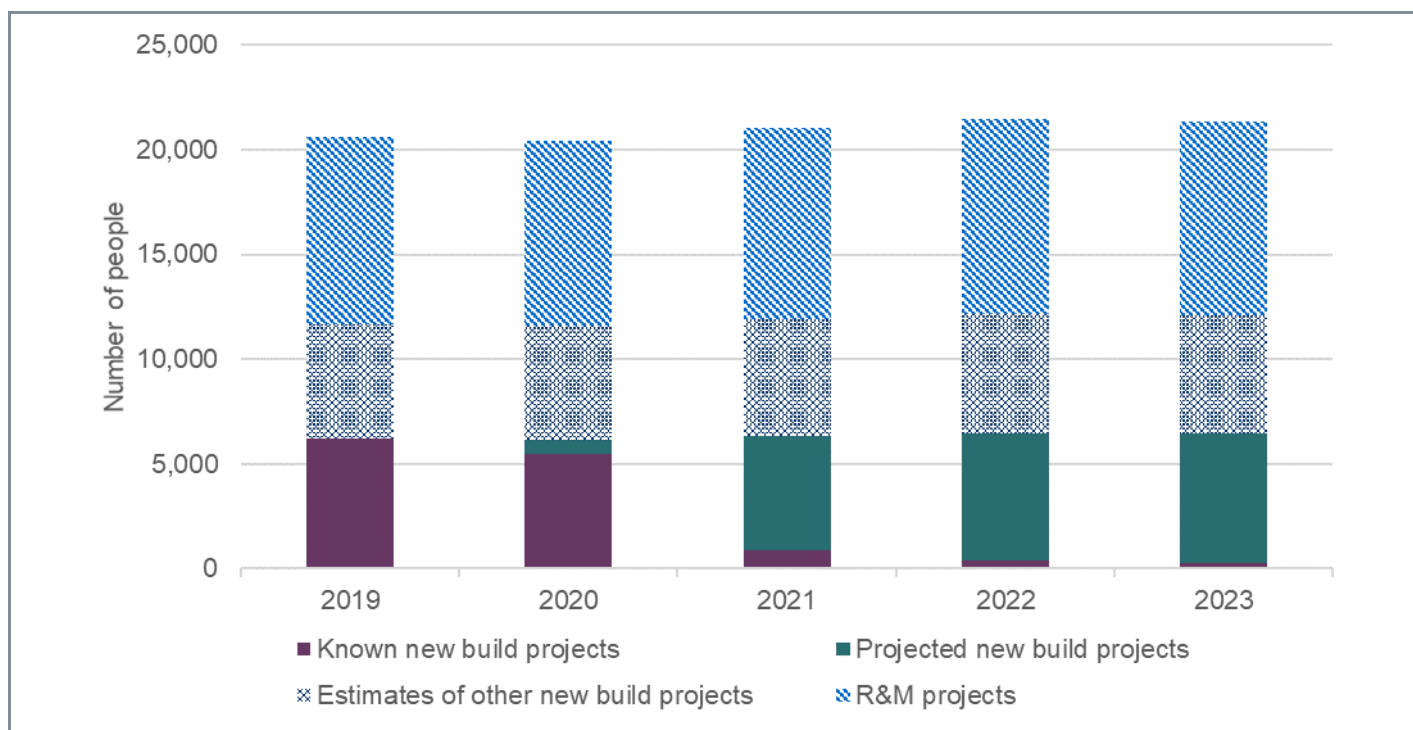
**Error! Reference source not found.** shows the infrastructure construction spend from the known projects in 2019 by infrastructure sub-type. Appendix E provides a full breakdown of the NICP and LEP projects and their construction values.

**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	46	54%
Water	28	33%
General infrastructure	7	8%
Energy	3	4%
Flooding	1	1%
Communications	-	0%
Mining	-	0%
<b>Total</b>	<b>85</b>	<b>100%</b>

## 2.2. ESTIMATE OF FUTURE TOTAL LABOUR DEMAND

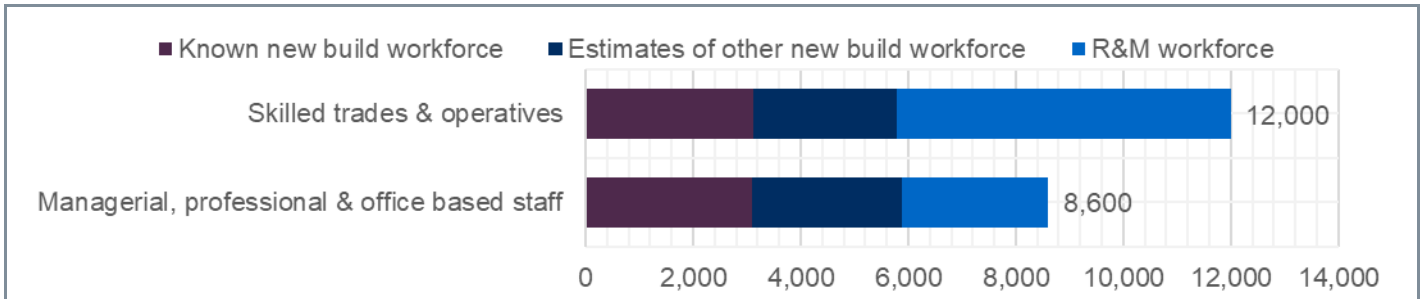
The known project pipeline may not include smaller projects or repair and maintenance work. Figure 3 shows the outcomes of the analysis of future labour demand with the forecast regional employment growth rate applied. The solid purple area shows the labour demand arising from the new build Glenigan 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 20,590 people in 2019. The projected growth between 2019 and 2023 suggest that the labour demand in 2023 will be around 21,370.



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

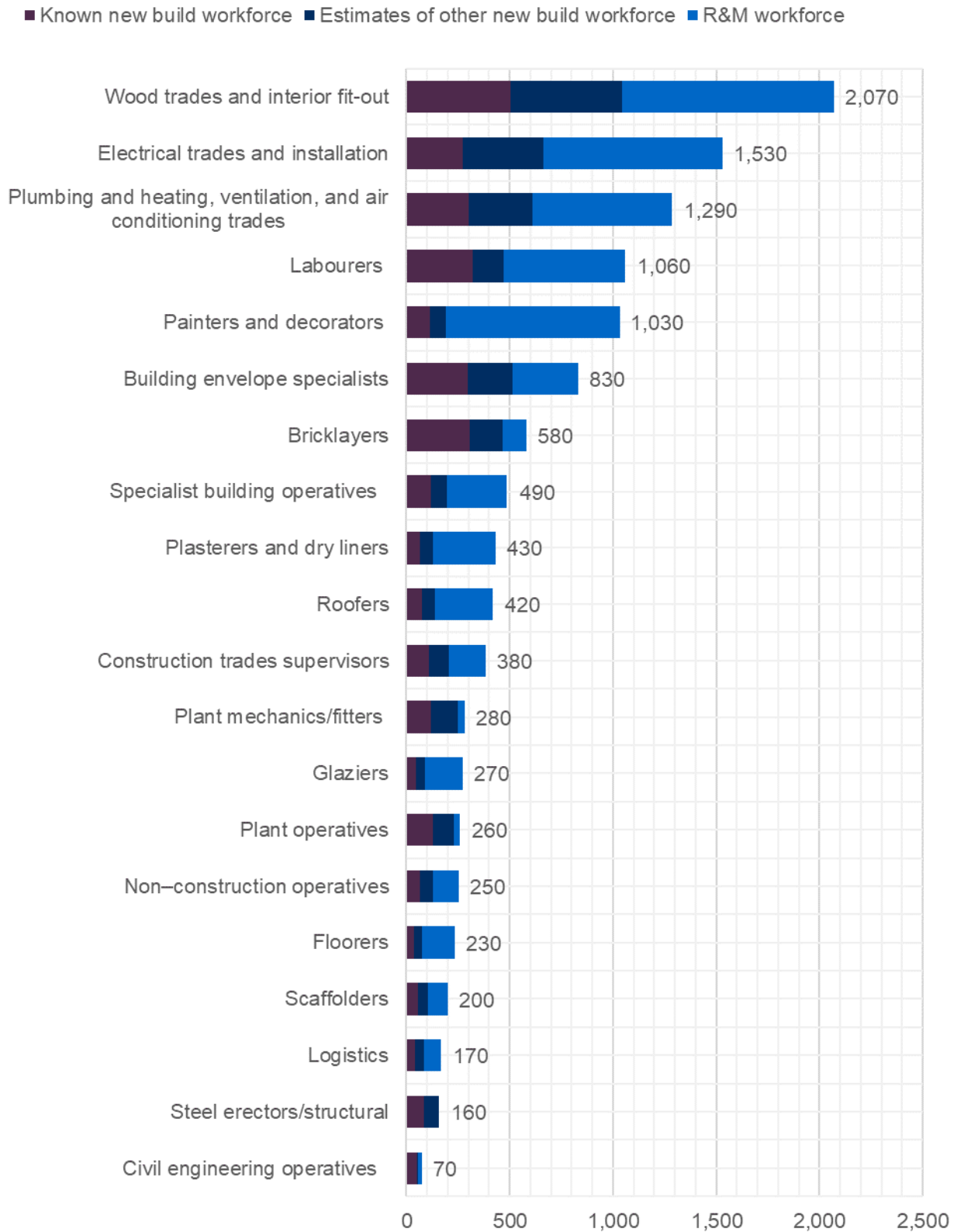
### 2.2.1. Breakdown of labour demand by occupation

Figure 4 presents the breakdown of labour for skilled trades & operatives and managerial, professional & office based staff. Around 58% 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.

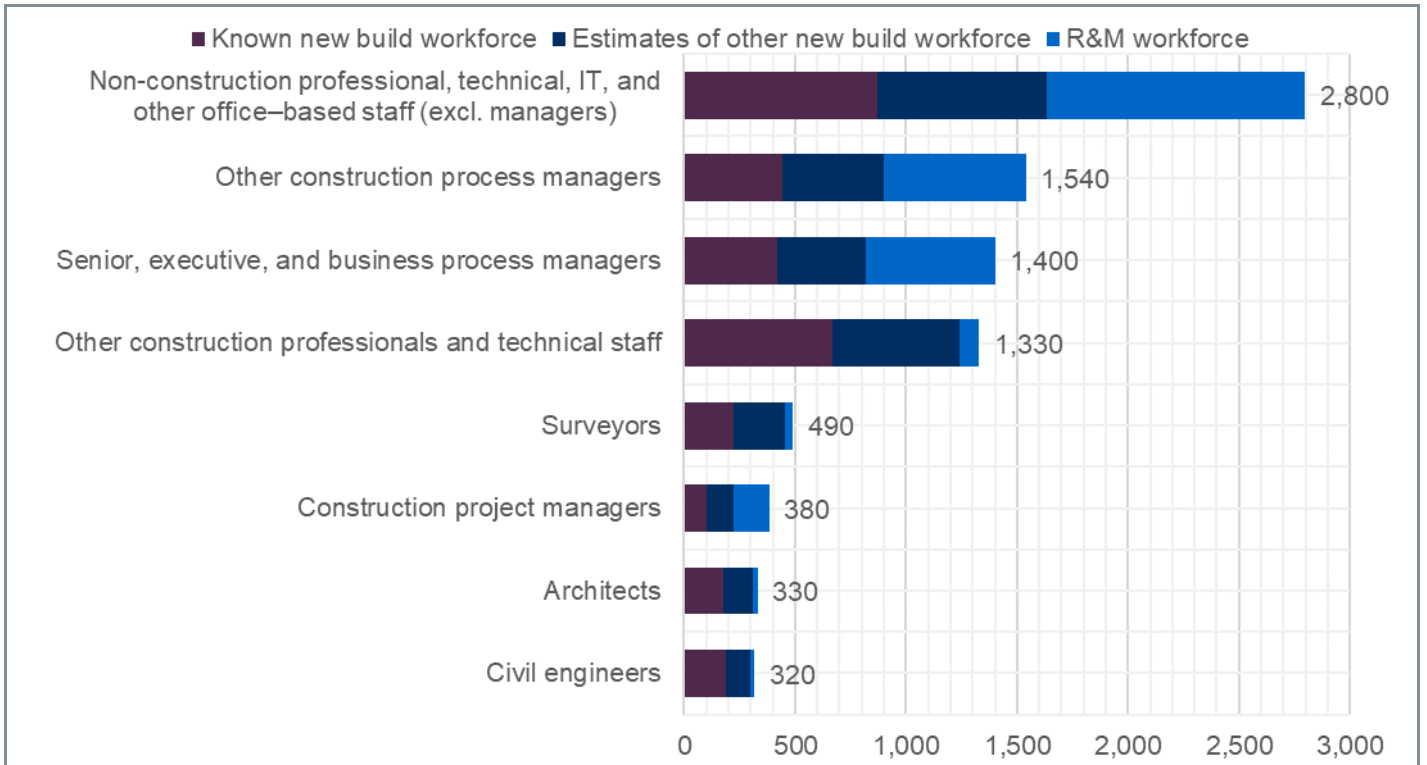


Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year

### 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
Private commercial	1,690	4,860	6,550	32%
Non-housing R&M	-	6,380	6,380	31%
New housing	2,580	530	3,110	15%
Housing R&M	50	2,490	2,540	12%
Private industrial	830	70	900	4%
Infrastructure	830	-	830	4%
Public non-housing	280	-	280	1%
<b>Total</b>	<b>6,260</b>	<b>14,330</b>	<b>20,590</b>	<b>100%</b>



### 3. CONSTRUCTION LABOUR SUPPLY IN THE MARCHES LEP AREA

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

The first element is to take a view on construction employment in the Marches LEP and how this relates to employment across the West Midlands (into which The Marches LEP falls entirely) and the UK, thus comparisons are made between these three areas. 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 element, whilst training occurs at Further Education (FE) and Higher Education (HE) levels, the main focus of this report is on the FE that takes place. FE tends to be sourced and delivered in a closer proximity to the home and workplace, whereas the length of study time and specialisms for Universities for HE typically give much greater degrees of mobility. Nevertheless, Higher Education in the region is also analysed, but should be considered in the context of the greater mobility levels of the learners at this level.

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

#### 3.1. MAIN POINTS

- Current construction workforce within the LEP area is estimated at around 26,400 workers.
- The majority of the workforce is located in Shropshire (45%), followed by Herefordshire (31%) and finally Telford and Wrekin (23%).
- It accounts for approximately 12% of the West Midlands total current construction workforce and 7% of its construction firms.
- Employment levels in The Marches LEP have steadily increased over the last seven years.
- Over the last five years approximately 45 training providers have delivered construction related training within the LEP; the top seven main providers delivered over 90% of provision.

#### 3.2. EXISTING WORKFORCE

- The Marches LEP construction workforce has experienced a substantial increase of 32% in the last 7 years
- 94% of The Marches LEP businesses are Micro sized (0-9 employees), identical to the West Midlands region as whole

An analysis of the Annual Population Survey shows that The Marches LEP area accounts for approximately 12% of construction employment in the West Midlands region as a whole. This is the number of workers employed by employers within The Marches LEP. Table 5 applies this percentage share across the CSN occupational breakdown for the West Midlands region as a whole to give an estimate of total employment at occupational and industry level in The Marches LEP area. For comparison, the West Midlands region has been included.

Over the last few years workforce growth has been steady in the LEP, following a small dip in 2012/ 13, which can be observed in Figure 7. Overall, 2010/ 11 to 2014/ 15 were relatively stagnant, but in 2015/16 the increase was noticeable, with an accelerated growth of 14% between 2014/15 and 2017/ 18.

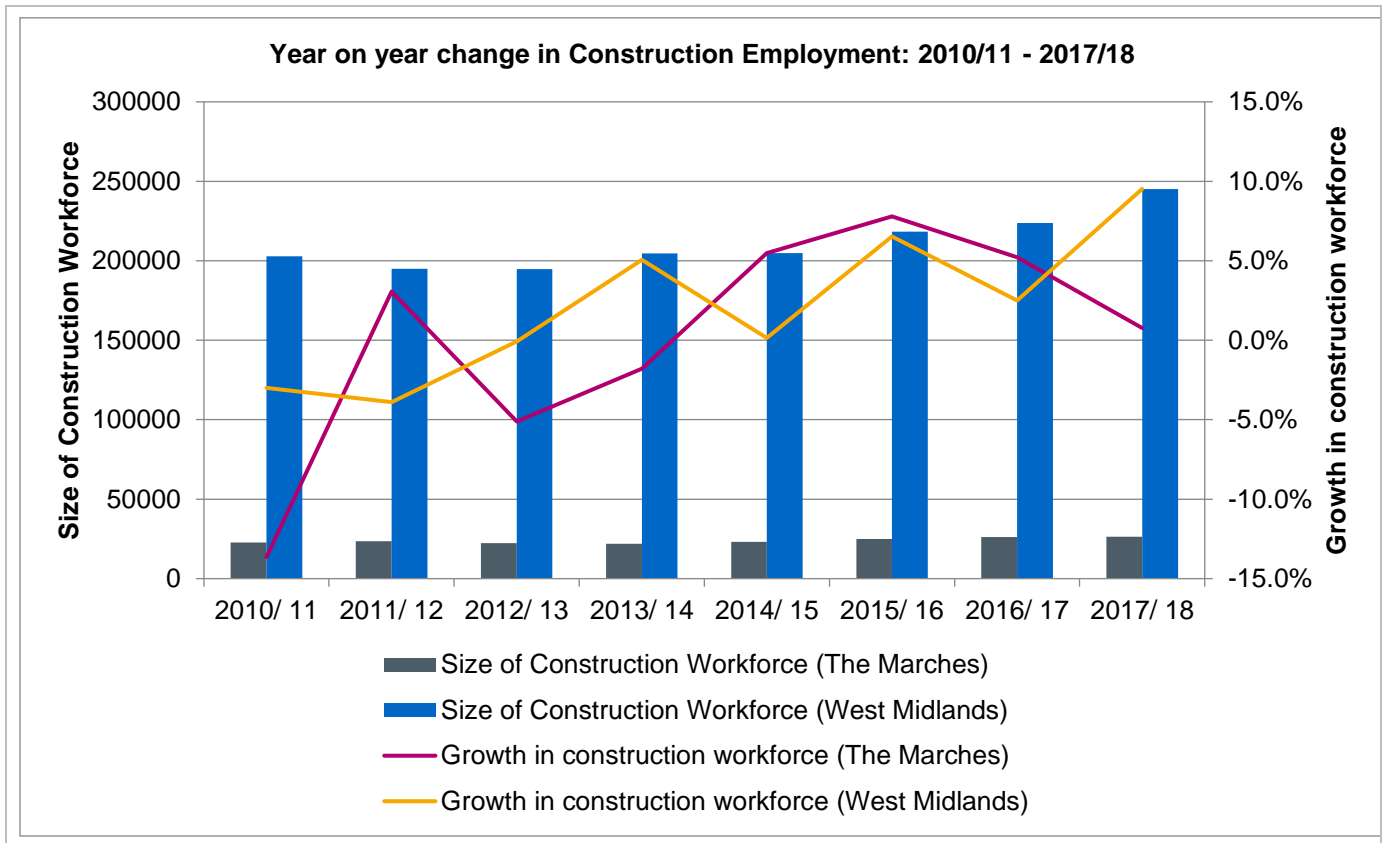


Figure 7: Year on year change in Construction Employment (Experian/CITB & NOMIS 2017)

The number of construction businesses within the LEP has stayed consistent at 15% of all construction businesses across the West Midlands between 2010 and 2015, decreasing marginally to 14% since. In actual numbers there has been a rise in construction businesses within the LEP, from around 3,000 in 2011 to 3,400 in 2018, an 11% increase in actual numbers. Looking at the South East, there was an increase of around 4,000 businesses within the area, over the same timeframe, a rise of 19% on 2011 levels.

Figure 10 shows the distribution of construction businesses within the West Midlands and Figure 11 shows the distribution of the construction workforce. There are clear differences between the two;

- Comparing business to workforce distribution indicates that the shares between Shropshire, Herefordshire and Telford and Wrekin are relatively similar
- Around 94% of firms within the LEP are micro sized (less than 10 employees), similar to that of the West Midlands as a whole.

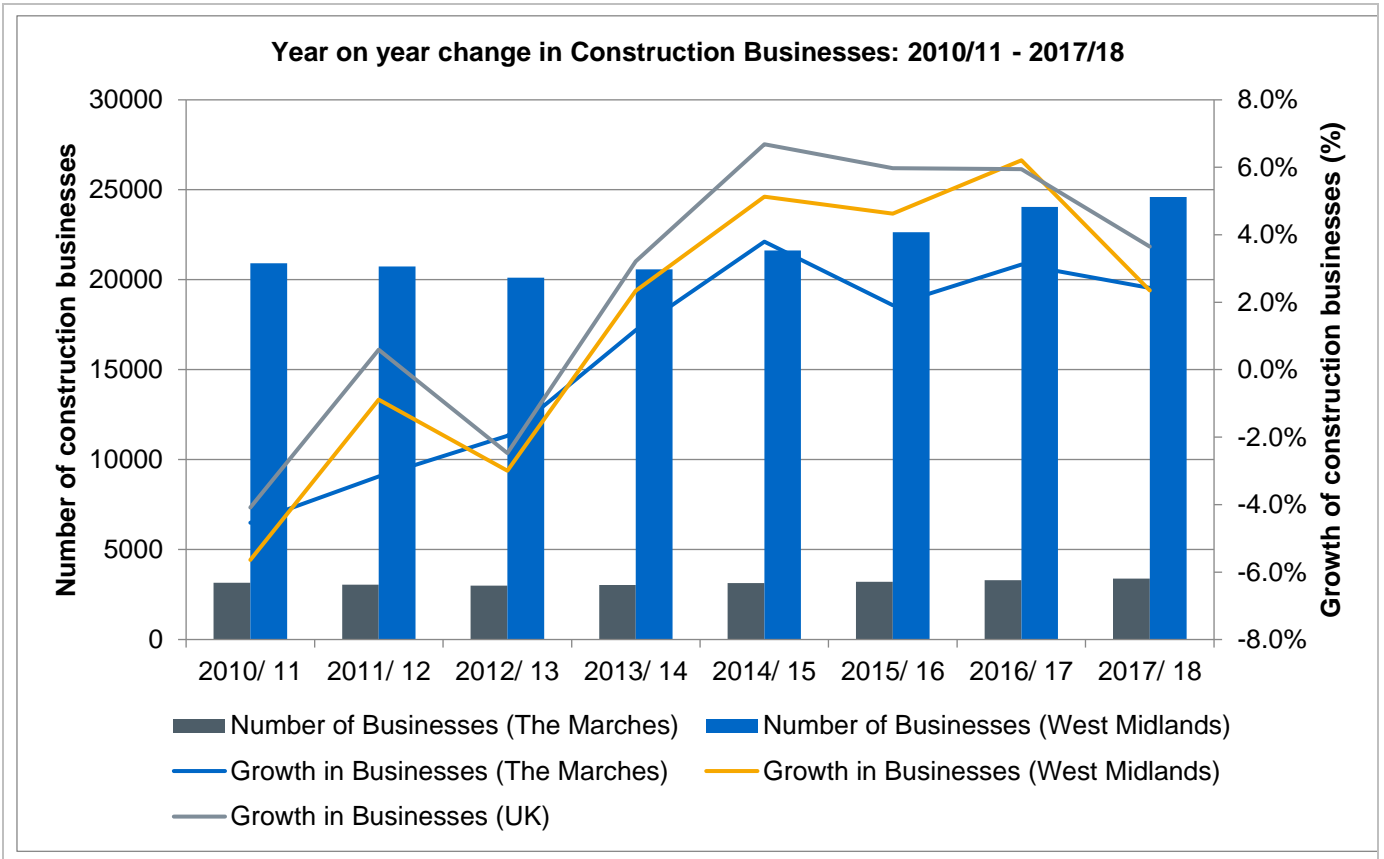


Figure 8: Year on year change in Construction Businesses (UK Business Count, NOMIS 2017)

The local authority in the LEP with the largest share of the businesses and workforce is Shropshire, accounting for 51% and 45% of the total, respectively.

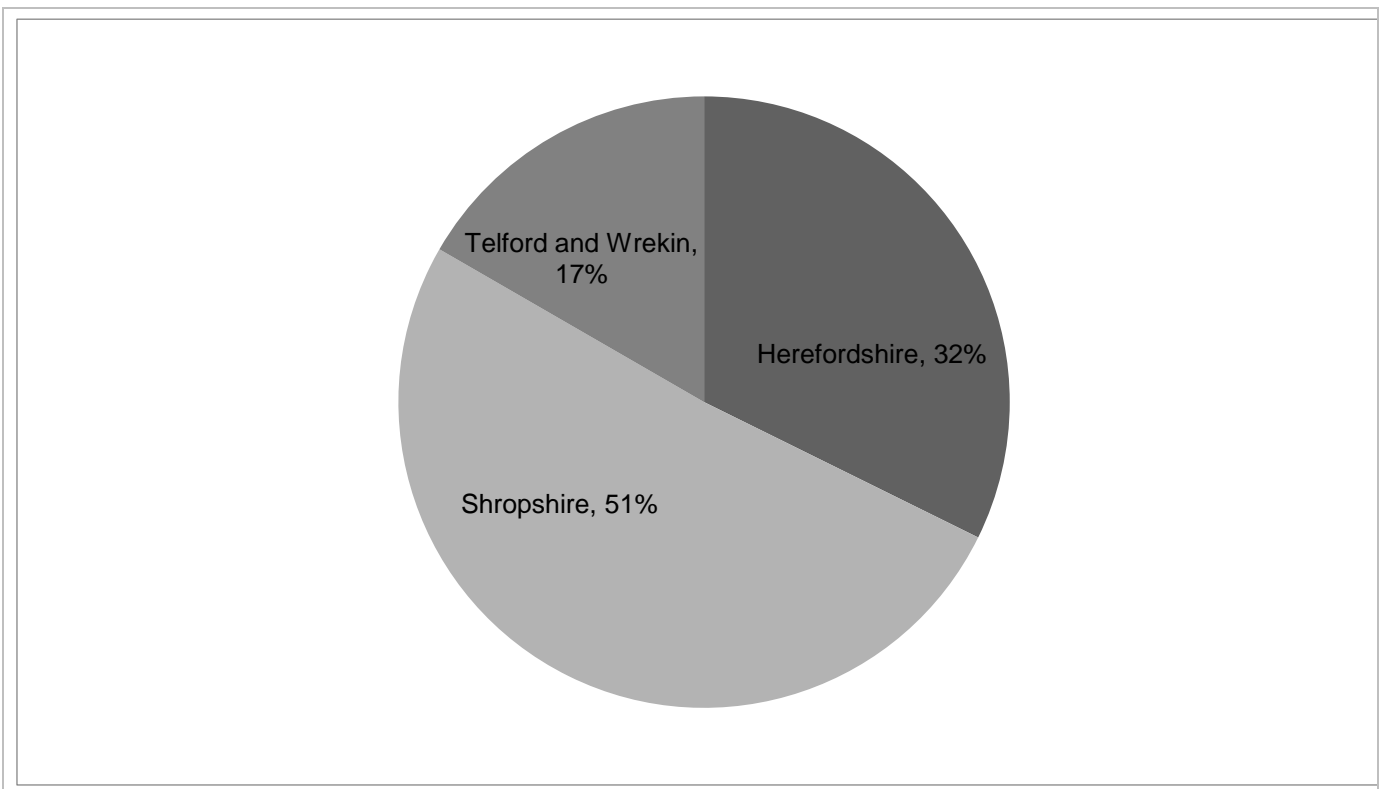
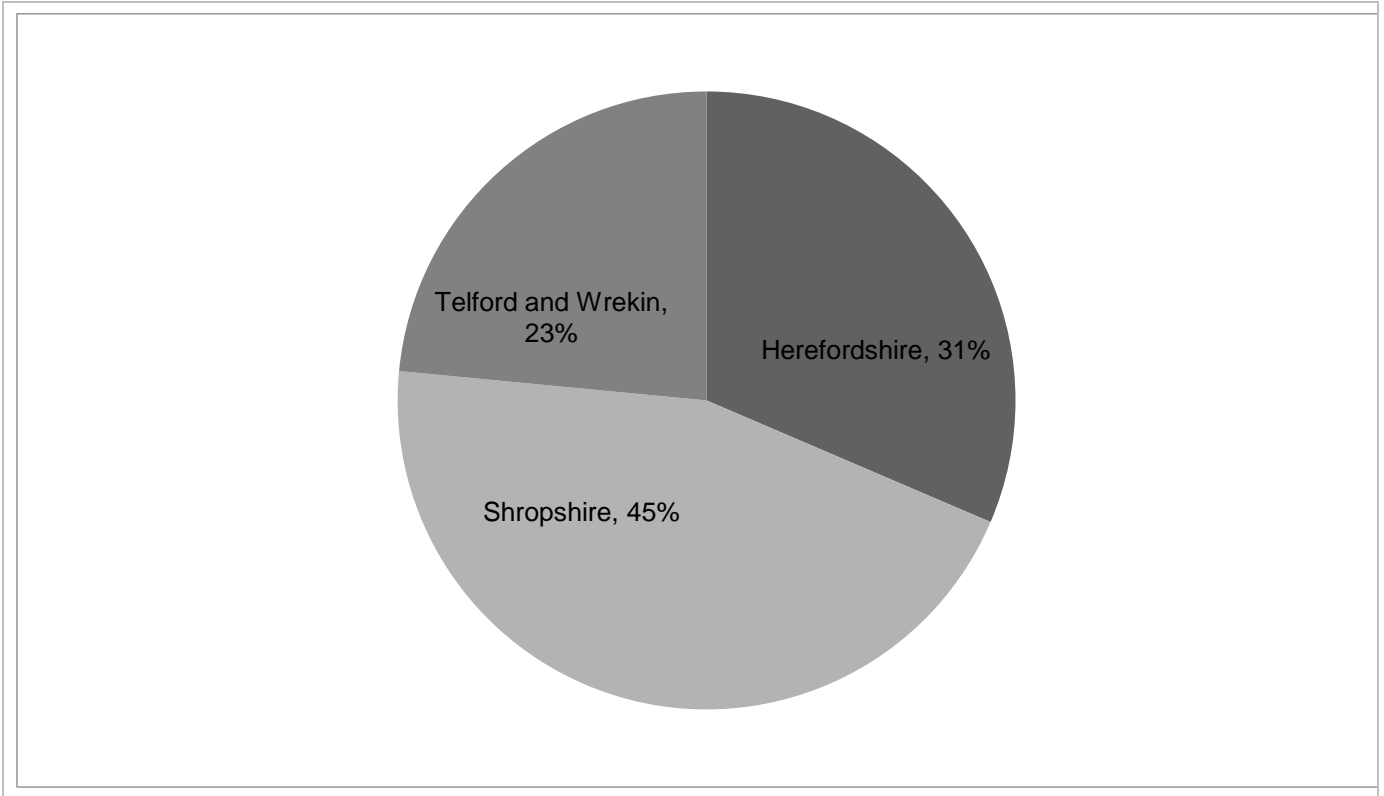


Figure 9: Distribution of construction businesses within The Marches LEP (UK Business Count, NOMIS 2018)



**Figure 10: Construction employment by area within the Marches LEP area (2018, NOMIS)**

When assessing the patterns between workforce and number of businesses it is important to note two main factors when looking at the construction sector:

- Direct employment vs self-employment
- Size of business.

The construction sector has high levels of self-employment with around 40% of the UK construction workforce being self-employed; this is higher in The Marches at 46%. The figure is marginally higher than that for self-employment in the West Midlands, at 42%.

When looking at business size, the distribution of companies across the LEP area is similar to the West Midlands and the United Kingdom. The majority of companies are micro sized: 94% apiece.

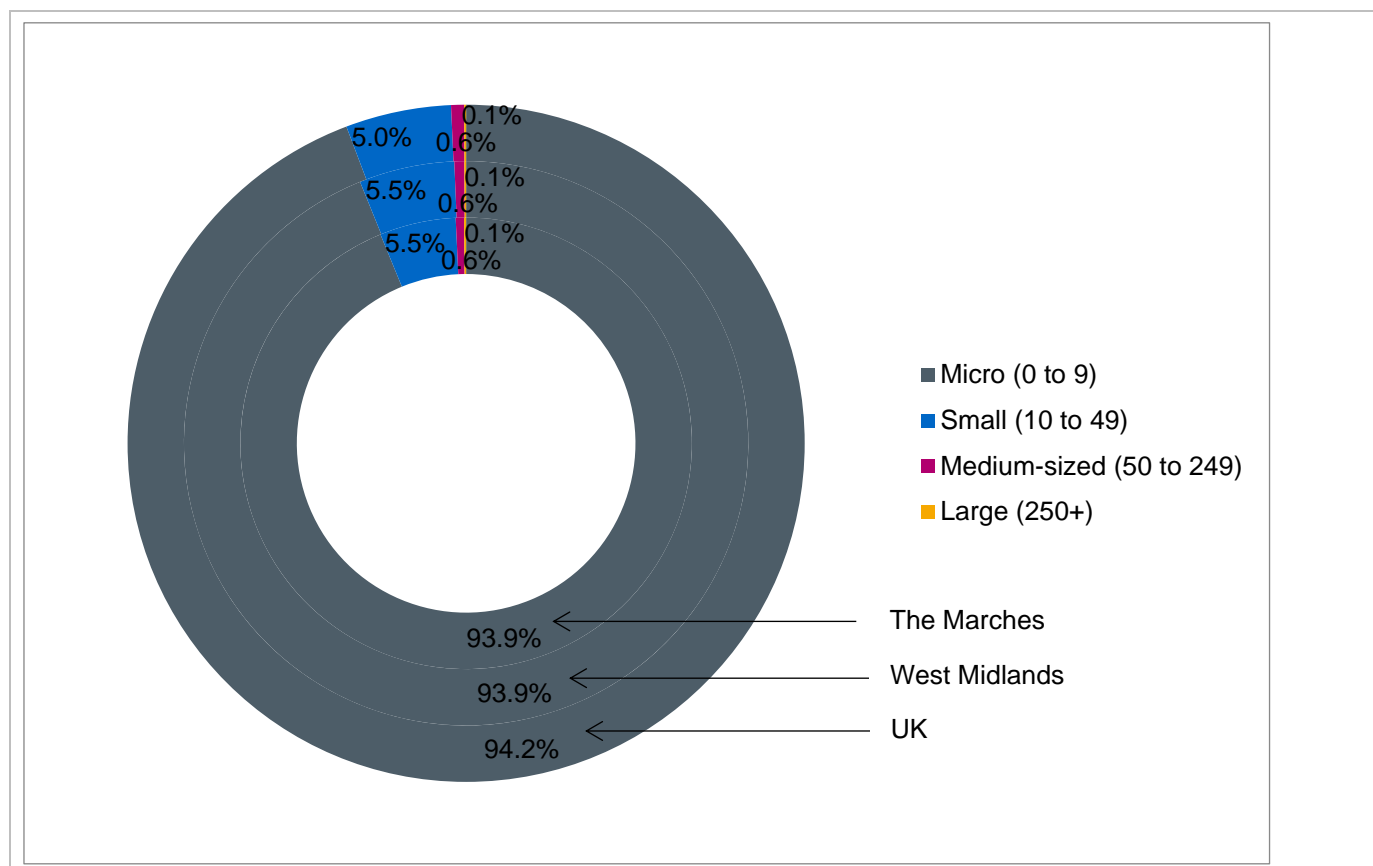


Figure 11: Construction Businesses by Size (UK Business Count, NOMIS 2018)

Table 5: Current construction workforce - occupational breakdown, 2017 (Source Experian & CITB)

Construction workers in The Marches area listed by occupation [Calculated as 12% of the CSN data for the West Midlands Region]	The Marches	West Midlands
Senior, executive, and business process managers	2,460	20,870
Other construction process managers	2,460	20,820
Other construction professionals and technical staff	1,810	15,300
Surveyors	710	6,050
Construction Trades Supervisors	480	4,090
Civil engineers	320	2,720
Construction Project Managers	290	2,460
Architects	180	1,540
Electrical trades and installation	1,990	16,870
Wood trades and interior fit-out	1,920	16,280
Plumbing and HVAC Trades	1,650	13,970
Labourers nec*	1,310	11,120
Building envelope specialists	930	7,890
Plant mechanics/fitters	920	7,830
Painters and decorators	830	7,020
Bricklayers	510	4,340
Roofers	480	4,060
Specialist building operatives nec*	420	3,590
Logistics	390	3,280

Glaziers	390	3,270
Plasterers	320	2,740
Steel erectors/structural fabrication	320	2,720
Plant operatives	300	2,500
Civil engineering operatives nec*	280	2,330
Scaffolders	260	2,170
Floorers	170	1,440
Non-construction professional, technical, IT, and other office-based staff	3,910	33,160
Non-construction operatives	390	3,320
<b>Total</b>	<b>26,400</b>	<b>223,750</b>

Note: numbers rounded to the nearest 10 (explaining difference in value between occupations and total)

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

<b>Key</b>
Manager/Professional occupations
Skilled Trades
Office-based Staff



## 4. TRAINING PROVISION

### 4.1. MAIN POINTS – TRAINING PROVISION

- Over the last five years around 45 training providers have delivered construction related training within the LEP; the top eight main providers delivered 90% of provision.
- Over the last five years, training volumes in the LEP have fallen, while apprenticeships starts have increased slightly
- Good levels of competence qualifications achievements are found within the following occupations: Electrical trades and installation, Wood trades and interior fit-out, Plumbing and HVAC Trades, Plant operatives and Civil engineering operatives nec\*

Overall, the volume of training in The Marches LEP has reduced significantly between 2012/13 and 2016/17, with the number of new starters decreasing by 25% over this period. This fall is larger than the decline witnessed in the West Midlands region as a whole of 19% 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 Marches LEP accounts for 9% of identified construction related training across the West Midlands region
- There has been a reduction in the total number of construction learners starting in The Marches LEP (-25%). A reduction is also found in the South East region of approximately -20%.
- Apprenticeship starts within The Marches LEP have increased over the period from 2012/13 to 2016/17 by 26%. This increase is slightly higher than the West Midlands Region, which saw a 22% increase over the same period.
- When looking at other Education and Training construction learner starts (i.e. non-Apprenticeship construction qualifications) there have been reductions both in The Marches LEP and in the West Midlands (-35% and -26% respectively).
- Over the last few years, Telford and Wrekin has experienced the largest reduction in construction learner starts, of almost 80%; Shropshire has reduced by almost 30%, whilst Herefordshire has experienced small, but positive growth (of almost 5%)

“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 shows qualification achievements over the last five years for the identified competence based qualifications, comparing achievement volumes against the overall pattern for the West Midlands as a whole. From this analysis there appear to be patterns for particular occupations. <sup>3</sup>

The majority of the achievements referred to in Table 6 are at:

- Level 2 (60%),
- Level 3 (40%)
- Level 4 and above (1%).

The percentage comparison with the West Midlands region as a whole is used to demonstrate how the provision of training in The Marches LEP by occupation is relatively high or low against the regional context.

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<sup>3</sup> The information shown in Table 6 has been produced by mapping qualification reference numbers and titles to the most appropriate Construction Skills Network occupations. This has been built up over a number of years by CITB with over 1,800 qualifications reviewed and linked where possible. Note: there are some qualifications that have broad or generic titles that cannot be linked to distinct occupations

The main training volumes identified are very similar to the overall training patterns seen in the West Midlands – although there is slightly less emphasis on Bricklayers in the LEP. The first group, ‘Main occupations’ contains Electrical, Wood and Plumbing and HVAC trades, as well as Plant operatives and Civil engineering operatives nec\* (those that work in road, rail and in the quarry). The qualification achievements are consistent with or slightly higher than the overall share of training being achieved in the LEP area or there is a larger volume of training being delivered against them – in this case, both apply. For Plumbing and HVAC Trades, the volume of training will be related to its 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).

**Table 6: Competence qualification achievements in The Marches LEP as a % of total competence qualification achievements in the West Midlands region as a whole (Source: CITB/ESFA)**

Construction occupations	12-13	13-14	14-15	15-16	16-17	Total Achievements	Total
<b>Main Occupations</b>							
Electrical trades and installation	18%	11%	11%	13%	11%	320	13%
Wood trades and interior fit-out	16%	13%	11%	13%	12%	300	13%
Plumbing and HVAC Trades	9%	3%	20%	16%	14%	290	12%
Plant operatives	5%	9%	6%	5%	0%	280	6%
Civil engineering operatives nec*	26%	10%	3%	22%	12%	240	14%
<b>Occupations to monitor</b>							
Bricklayers	9%	5%	6%	13%	4%	100	8%
Specialist building operatives nec*	11%	9%	2%	7%	11%	80	8%
<b>Low Overall Learner Volumes</b>							
Glaziers	0%	4%	2%	23%	2%	30	4%
Scaffolders	11%	6%	6%	7%	6%	20	7%
Building envelope specialists	0%	3%	1%	4%	21%	20	3%
Floorers	2%	15%	5%	12%	7%	20	7%
Construction Trades Supervisors	8%	3%	0%	3%	7%	20	6%
Painters and decorators	5%	2%	5%	1%	0%	20	2%
Roofers	7%	4%	20%	2%	0%	20	6%
Construction managers	14%	39%	100%	-	-	20	23%
Plant mechanics/fitters	0%	4%	4%	5%	3%	20	3%
Other construction professionals and technical staff	0%	7%	0%	9%	9%	10	6%
Plasterers	1%	8%	0%	2%	0%	10	2%

There is a second group of occupations with good provision: where there appears to be a higher level of provision for occupations such as Bricklayers and Specialist building operatives nec\*. It could be that there are providers with particular specialisms in these areas operating with the LEP, or a particular need for this type of training.

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. It is possible that individuals within The Marches LEP area may be travelling outside the area for this type of training.

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 The Marches LEP between 2012/13 and 2016/17, 21 different providers have been delivering training. The majority of training is being delivered by the seven main providers shown in Table 7.

Of the 79 qualifications covered in table 6, 6 compromise 52% of all qualification outputs. The top performing are:

- NVQ Diploma in Wood Occupations (Construction) (QCF) - 15%
- NVQ Certificate in Plant Operations (Construction) (QCF) - 10%
- NVQ Diploma in Plumbing and Heating (QCF) - 9%

- NVQ Diploma in Construction Operations and Civil Engineering Services - Construction Operations (Construction) (QCF) - 8%
- NVQ Diploma in Trowel Occupations (Construction) (QCF) - 5%
- NVQ in Electrotechnical Services - 5%

While it is not possible to determine the dropout rate on courses from this data, it is possible to isolate occupational courses on a national level. The following two occupations are considered priority by this report and the LEP themselves, and we can see the average overall achievement rate for both are very high:<sup>4</sup>

- Painters and decorators 84%
- Plasters 87%

**Table 7: Top seven training providers delivering training to The Marches LEP by number of starts – excluding apprenticeships (Source: CITB/ESFA)**

Provider	12-13	13-14	14-15	15-16	16-17	Total (Learner Aims)	% share of Total Quals	% Quals Ofqual Regulated
<b>Shrewsbury College of Arts and Technology*</b>	1080	630	360	390	-	2460	25%	68%
<b>Herefordshire and Ludlow College*</b>	350	340	620	520	420	2250	23%	74%
<b>LTE Group</b>	510	650	580	180	70	1990	20%	18%
<b>Telford College of Arts &amp; Technology*</b>	330	290	270	210	90	1200	12%	80%
<b>Shrewsbury Colleges Group*</b>	-	<10	<10	40	370	410	4%	86%
<b>North Shropshire College*</b>	20	60	70	90	60	300	3%	82%
<b>Total People Limited</b>	40	40	40	30	20	170	2%	100%

*\*Herefordshire and Ludlow College has merged with North Shropshire College since this data was published and is now called Herefordshire, Ludlow and North Shropshire College; New College Telford and Telford College of Arts & Technology have merged, forming Telford College; Shrewsbury Sixth Form College and Shrewsbury College of Arts and Technology have merged, forming Shrewsbury Colleges Group*

The LTE group would appear to sit out of The Marches LEP. The top two training providers in the LEP provide a high percentage of Ofqual registered qualifications (around 70%). The average for provision for the area as whole is above 60%.

This profile is typical of many LEP 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.

<sup>4</sup> National Achievement Rates Tables 2017 to 2018

**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	% Quals at Level 2+
Herefordshire	500	460	490	500	550	9%	58%
Shropshire	910	790	770	780	770	-16%	56%
Telford and Wrekin	640	470	310	380	190	-70%	61%
Grand Total	2000	1720	1560	1650	1500	-25%	58%

As a whole, The Marches LEP area is showing a significant decrease in the number of construction learner starts of -25% across the five years, when the wider South East region experienced a lower, but still significant decline of -19% over the same period.

In the LEP there has been a 23% increase in the number of apprenticeship starts 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 LEP has witnessed this increase in apprenticeships over these four years. Apprenticeships are investigated in more detail in the next section.

## 4.2. APPRENTICESHIPS

In The Marches LEP area overall volumes of training are declining, whereas numbers of apprenticeship starts within the area are increasing.

The only Local Authority within The Marches LEP making a contribution to this increase from 2012/13 to 2016/17 – a large one at that - is Shropshire, with an increase of approximately 70 apprenticeship starts. This is in spite of a neutral contribution from Herefordshire and Telford and Wrekin. Encouragingly, there is no negative growth in the area and overall apprenticeship growth is strong.

When looking at Table 10 the number of apprenticeship starts rose by 23% from 2012/13 to 2016/17, compared to a decrease (-25%) throughout the same time frame for the total number of construction learner starts within the LEP area. The increase in apprenticeship starts within the West Midlands region from 2012/13 to 2016/17 was almost the same as The Marches LEP, with a 22% increase.

**Table 9: Unique apprenticeship starts by area (The Marches LEP), all construction subjects (Source: CITB/ESFA)**

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Increase/decrease	% Net Change
Shropshire	150	150	170	160	220	70	47%
Herefordshire	110	90	80	90	110	0	0%
Telford and Wrekin	50	60	50	100	50	0	0%
Grand Total	300	290	300	360	370	70	23%

When considering apprenticeship starts by occupation between 2012/13 and 2016/17 the biggest increases in volumes have been in Plumbing and HVAC trades, and Electrical trades). Otherwise, movement is positively small, non-existent, or negatively small. In fact, numbers are so low that most of the LEP can be considered unmoving in its apprenticeship starts over the last few years.

**Table 10: Unique apprenticeship starts by occupation (The Marches LEP), construction subjects (Source: CITB/ESFA)**

Occupation	12-13	13-14	14-15	15-16	16-17	Increase / decrease
Plumbing and HVAC Trades	70	60	80	90	100	30
Electrical trades and installation	60	60	60	70	80	20
Bricklayers	20	30	30	30	30	10
Building envelope specialists	0	10	20	10	10	10

<b>Floorers</b>	<10	<10	<10	-	10	10
<b>Non–construction operatives</b>	-	-	<10	-	<10	10
<b>Plant operatives</b>	10	-	-	-	20	10
<b>Scaffolders</b>	-	<10	10	10	10	10
<b>Specialist building operatives nec*</b>	10	10	20	10	20	10
<b>Wood trades and interior fit-out</b>	70	80	50	80	80	10
<b>Construction Trades Supervisors</b>	<10	-	<10	-	<10	0
<b>Non-construction professional, technical, IT, and other office-based staff</b>	-	-	-	<10	-	0
<b>Painters and decorators</b>	10	<10	10	<10	10	0
<b>Glaziers</b>	<10	10	<10	<10	<10	<10
<b>Other construction professionals and technical staff</b>	10	10	-	10	<10	<10
<b>Plant mechanics/fitters</b>	<10	<10	10	10	<10	<10
<b>Plasterers</b>	-	-	<10	<10	<10	<10
<b>Roofers</b>	<10	<10	-	-	10	<10
<b>Civil engineering operatives nec*</b>	20	20	30	30	10	-10

Table 111 considers apprenticeship starts by provider. Over 50 different providers in total have delivered apprenticeships in construction for The Marches LEP area between 2012/13 and 2016/17. The bulk of training is being delivered by three providers which account for almost 70% of all provision in the LEP. Shrewsbury College of Arts and Technology delivered over 90 construction apprenticeships within the LEP in 2015/2016 and appears to be the leading provider in apprenticeship starts.

**Table 11: Unique apprenticeship starts by provider in The Marches LEP (subjects (Source: CITB/ESFA)**

<b>Local Authority</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>Total</b>	<b>% Share</b>
<b>Shrewsbury College of Arts and Technology</b>	110	120	120	90	0	440	27%
<b>Herefordshire and Ludlow College</b>	100	70	70	100	100	440	27%
<b>Shrewsbury Colleges Group</b>	10	40	60	80	150	340	21%
<b>CITB</b>	10	20	30	40	50	150	9%
<b>Telford College of Arts &amp; Technology</b>	10	10	20	30	10	80	5%
<b>JTL</b>	10	<10	10	10	10	40	2%
<b>Dudley College</b>	10	10	10	20	10	60	4%
<b>Total People Limited</b>	<10	<10	10	10	20	40	2%
<b>SBC Training Limited</b>	<10	0	10	10	<10	20	1%
<b>Walsall College</b>	<10	0	<10	10	10	20	1%



## 4.3. HIGHER EDUCATION

There are five broad HE qualifications that relate to construction: Architecture, Building, Landscape & garden design, Planning, Civil Engineering, and a small number of other courses linked to architecture, building & planning. All these courses are offered at universities accessible to The Marches LEP area. Of these construction related courses, the three that are most relevant to delivering construction projects are Civil Engineering, Architecture, and Building.

There are a number of significant challenges to address in understanding Higher Education's place in UK construction. Most significantly, those starting and completing HE level qualifications tend to be willing to travel significant distances to study and then find employment. For many students the opportunity to leave home and move to a new town or city is one motivation for entering Higher Education. In the UK, this has become normalised. University students are more likely to move into a region to study and then, once graduated, out of a region to find employment.

A 2014 study undertaken by Education Phase on behalf of TV Licensing indicated that the average distance from home to place of HE study was around 90 miles. This also indicated that of the sample, only around 5% of HE students were studying within 20 miles of home but that 78% moved 60 or more miles or were from overseas.

However, when questioned, different institutions respond differently – with some universities indicating that they believe they attract students from closer to home while others have a more national and often international focus. This is, in part, down to the course type and its availability elsewhere. But there appears to be a rough correlation between the UCAS points required for entry to some universities and the distance students' travel. Typically the most demanding universities draw students from a greater average distance.

### 4.3.1. Local provision

Within the area, higher education is provided in:

- Shropshire
- Herefordshire
- Telford and Wrekin

Specifically there are four major higher education establishments within the area:

- University Centre Shrewsbury
- NMiTE – New Model in Technology and Engineering
- Harper Adams University
- University of Wolverhampton (which has a campus in Telford)

Data from the Higher Education Statistics Agency reveals more (external) providers to the Marches LEP:

- Aston University
- Birmingham City University
- The University of Birmingham
- Coventry University
- The University of Warwick

Principal subjects delivered by these universities and number of their achievements in 2017/2018:

- Civil engineering > 680
- Building > 500
- Architecture > 210
- Planning (urban, rural and regional) > 90
- Landscape and garden design < 50

Also worth noting is the New Model in Technology and Engineering (NMiTE), an initiative backed by government, located in Hereford. Its aim is to address the shortages of Engineers across the UK.

#### 4.3.2. Degree level apprenticeships

Some provision for higher level training for professional roles is available as degree apprenticeship programmes that attract government subsidy and are available to potential students as debt free education.

This is an attractive opportunity that could be highlighted to applicants and employers but that also requires support from employers to recruit at age 18 rather than 21 (graduate). This may help fill some higher level skills gaps earlier as the apprentice can start to make a contribution in their professional roles after one year of study.

## 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:

- i. Some more experienced workers are able to move into supervisory roles.
- ii. Some experienced workers take on a greater variety of occupational skills (and are therefore able to say they have experience working in several occupations).
- iii. 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).
- iv. 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

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 West Midlands will be analysed in order to understand how this might impact on future training interventions and the supply of job opportunities for local people.

### 5.1. MAIN POINTS – MOBILITY

- Almost a third of all West Midlands construction workers have worked in the industry for at least 20 years (31%). A total of nearly two thirds have done so for 10+ years (63%).
- Eight in ten of all construction workers in West Midlands (84%) were interviewed in the same region in which they were living in when they started their construction career.
- Within West Midlands, the average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 22 miles.
- Around four fifths of all construction workers in West Midlands are confident that when they finish this job they will get a job that allows them to travel from their permanent home to work on a daily basis (79%).
- Overall more than half of all construction workers have only worked on one project type (58%).
- A third of construction workers say they definitely will be working in the industry in five years' time (35%) and a further almost five in ten think it is very or quite likely (48%).

### 5.2. WORK HISTORY

Almost a third of construction workers in the West Midlands have worked in the construction industry for over 20 years (31%) and almost two thirds have worked in the industry for at least 10 years (63%). The most likely reason for working in the region is because they grew up there/have always lived there (52%). Eight in ten (80%) construction workers in the region have remained in the West Midlands for all or most of their career.

Further proof of the stability of the construction workforce in West Midlands is emphasised by the finding that in the majority of cases (75%) workers reported their last site was also in the West Midlands.

In terms of the regions or nations in which workers' current employer operates in, the majority (92%) of workers in the West Midlands reported that their employer operated within the region they were currently working in, while 24% operated in the East Midlands, 15% in the South West, 14% in Wales, 11% in the South East and 11% in the North West. See Table 12.

Table 12: Region / nation employer operates in, compared with region / nation working in

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
<b>Unweighted bases</b>	<b>410</b>	<b>366</b>	<b>452</b>	<b>427</b>	<b>435</b>	<b>274</b>	<b>463</b>	<b>439</b>	<b>494</b>	<b>290</b>	<b>352</b>	<b>369</b>

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%

### 5.3. 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 eight in ten of all construction workers in West Midlands (84%) were interviewed in the same region in which they were living in when they started their construction career.

Furthermore construction workers in the West Midlands are likely to have stayed in the region where they studied for their first qualification (79%).

### 5.4. TRAVEL TO SITE

The majority of construction workers were interviewed on a site that was located within the same region/nation as their permanent home with 1 in 6 (18%) construction workers in West Midlands travelling into the region for work from another region in which their current residence is based (which includes those travelling to/from work from a neighbouring region).

Additionally more than four fifths (82%) of construction workers in the West Midlands were interviewed on a site that was located within the same region as their current residence.

Workers in the West Midlands were asked to indicate the furthest distance they have worked from their permanent or current home in the last 12 months. Two fifths have worked more than 50 miles away from their permanent home (41%), with more than a quarter that have worked between 51 and 100 miles away (28%). Workers based in West Midlands were amongst those least likely to have travelled more than 100 miles from their permanent home to work in the last 12 months (13%).

However, the average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 22 miles for West Midlands, the same as the UK average of 22 miles. This indicates that although workers can travel some distance to work, it is likely to be intermittent.

## 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 work at that specific site during this phase.

Around one in six of all construction workers in the West Midlands (16%) do not expect to work on that site for more than a month, including 5% that only expect to be there for about a week or less compared to three in ten who expect to stay on that site for a year or longer (31%). However a comparable proportion (25%) of workers did not know how much longer they could expect to be on site.

Three quarters of all construction workers in West Midlands are confident that when they finish this job they will get a job that allows them to travel from their permanent home to work on a daily basis (79%).

## 5.6. SUB- SECTOR AND SECTOR MOBILITY

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

Compared with 2012 there has been a significant increase in the proportion of construction workers that have been working on new housing within West Midlands; up from 51% to 88%. For all other types of projects the proportion of construction has reduced.

Overall more than half of all construction workers have only worked on one project type (58%), compared with around a quarter in 2012 (26%), which again suggests a pattern of increased stability in the sector.

## 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 5 years' time they will still want to be working in construction. Within the West Midlands, just over a third of construction workers say they definitely will be (35%); a further almost half think it is very or quite likely (48%).

Excluding those aged 60 and over (as those over 60 may be assumed to be considering retirement in the next five years): 37% believe they will definitely want to be working in the construction sector, 34% believe it is very likely they will want to be working in the construction sector and 15% believe it is quite likely they will want to be working in the construction sector. Only 8% think on any level that they will not want to be working in the construction sector in five years' time which is similar to 2012 (9%).

Overall the findings from the Mobility survey indicate a stable, well established workforce across the West Midlands. There is some evidence of movement between neighbouring regions, specifically the East Midlands, South West and Wales but on the whole the workforce have grown up in the region, undertaken their initial construction training in the region and have stayed there for the majority of their working life. Additionally optimism across the workforce is high with a majority expecting to still be in the construction industry in five years' time.

Setting the Mobility survey research against the overall workforce and business patterns noted earlier indicates that while the West Midlands as a whole region has a relatively stable workforce, workers within the West Midlands Construction Area will not be limited to working only within the area – they may travel to work in other neighbouring areas. Likewise, workers in other neighbouring areas will also be travelling to work within the West Midlands Construction Area.



## 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.

## 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:**

- Floorers
- Plasterers
- Painters and decorators
- Specialist building operatives nec\*
- Bricklayers
- Wood trades and interior fit-out

**Among professional and managerial roles:**

- Architects
- Construction Project Managers

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 Marches LEP area, whereas the supply figures are an extrapolation of data from the West 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.

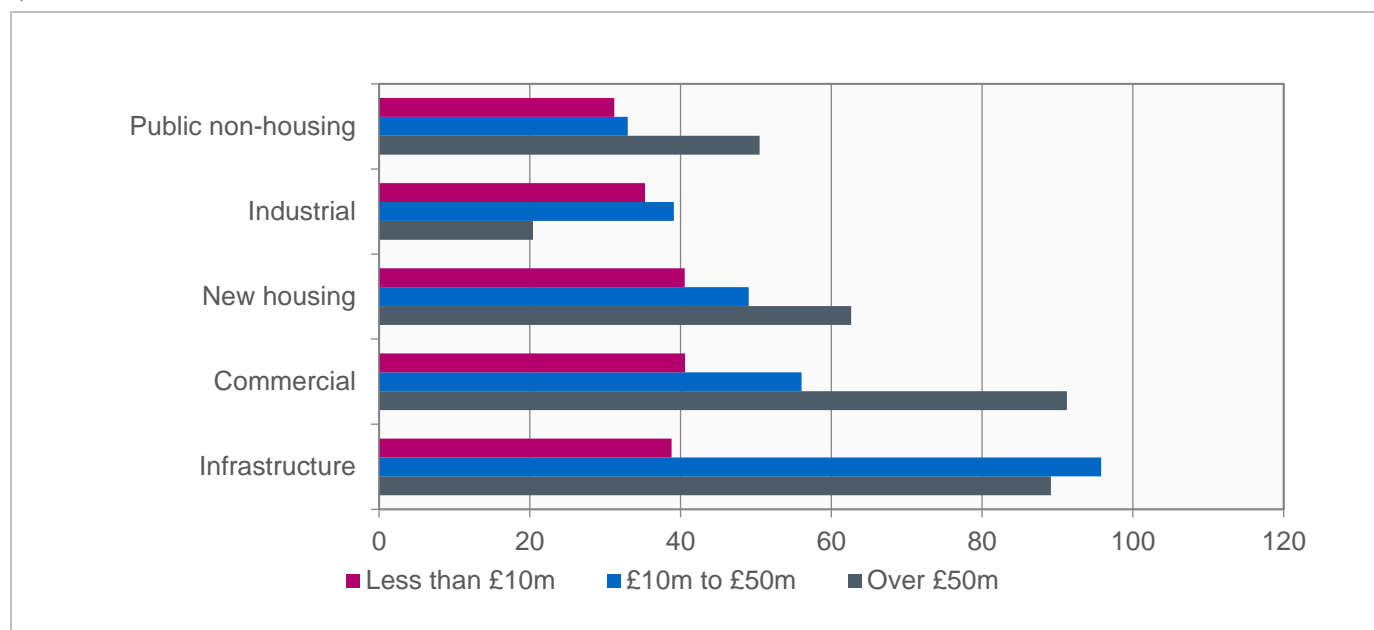


Figure 12: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan)

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.

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<sup>5</sup>.

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<sup>5</sup> CITB(2015) Workforce Mobility and Skills in the UK Construction Sector – North West

## 6.2. GAP ANALYSIS

The Marches LEP current construction employment is estimated at just over 26,000; this accounts for around 80% of the identified 2019 demand forecast. The demand forecast reduces in later years as current visibility for future identified projects decreases. Employment and demand by occupation for 2018 is shown in Table 13.

**Table 13: Occupational breakdown of demand for The Marches LEP against current employment**

	<i>The Marches LEP area 2019 Demand</i>	<i>Shortfall 2019</i>
<b>SKILLED TRADES</b>		
Floorers	340	1.4
Plasterers	430	1.3
Painters and decorators	1030	1.2
Specialist building operatives nec*	490	1.1
Bricklayers	580	1.1
Wood trades and interior fit-out	2070	1.1
Building envelope specialists	830	0.9
Plant operatives	260	0.9
Roofers	420	0.9
Labourers nec*	1060	0.8
Plumbing and HVAC Trades	1290	0.8
Scaffolders	200	0.8
Electrical trades and installation	1530	0.8
Glaziers	270	0.7
Steel erectors/structural fabrication	160	0.5
Logistics	170	0.4
Plant mechanics/fitters	280	0.3
Civil engineering operatives nec*	70	0.3
<b>PROFESSIONAL ROLES</b>		
Architects	330	1.8
Construction Project Managers	380	1.3
Civil engineers	320	1.0
Construction Trades Supervisors	380	0.8
Other construction professionals and technical staff	1330	0.7
Surveyors	490	0.7
Other construction process managers	1540	0.6
Senior, executive, and business process managers	1400	0.6
<b>NON CONSTRUCTION ROLES</b>		
Non-construction professional, technical, IT, and other office-based staff	2800	0.7
Non-construction operatives	250	0.6
<b>TOTAL</b>	<b>26,400</b>	<b>0.8</b>

Source: CITB/WLC

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

Table 13 shows that there are some possible disparities where demand is expected to outstrip the current estimates for employment available locally. These occupations show a relatively high 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 Marches LEP area (as described in the supply section of the report). This gives an indication as to the comparative shortfall between construction occupations.

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.
- **AMBER** – [Second quartile] appear to be at moderate risk of a shortfall and should be reviewed to determine where opportunities for further training and development exist
- **BLUE** – [Third quartile] do not appear to demonstrate an immediate risk of a shortfall but 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 most likely to be at risk appear to be:

**Among skilled trades:**

- Floorers
- Plasterers
- Painters and decorators
- Specialist building operatives nec\*
- Bricklayers
- Wood trades

**Among professional and managerial roles:**

- Architects
- Construction Project Managers

A LEP report from Stoke-on-Trent in 2018 reflects all but two of these occupations as being in high demand (Wood trades, and Construction Project Managers).

### 6.2.1. Construction specific occupations

The greatest risk of shortage is among Architects, and is a reflection of the wider UK shortage<sup>6</sup>. In absolute numbers, in 2016/17 there were just over 51,000 students, compared to more than 63,000 in 2007/8. For growth/reduction in student numbers, it is the fourth worst-performing subject area.<sup>7</sup>

The Migration Advisory Committee (MAC) has placed Architects on the Shortage Occupation List. 25% of architects registered in the UK are international – the vast majority of whom are from the EU. Since the referendum, the sector has experienced a drop-off in the number of the EU architects coming to the UK, which is having an impact on recruitment.

Anecdotal evidence suggests the shortage in architectural skills will be down to the large debts architecture students will accrue from tuition fees during its seven-year course. Additionally, as professionally qualified occupations, which tend to require degree qualifications, there will be several years of education and training before becoming qualified, plus years more to gain experience. And if new candidates are to be attracted to join professions, it is likely that encouragement is required some years before they start training.

Entry to 'at risk' skilled trades – floorers, painters, plasterers, bricklayers and wood trades - are normally through work experience. Training such as NVQs offer the quickest way to get qualified, with entry levels taking up to a year to complete (of course it can take much longer to become fully skilled and experienced). Overall, there is currently a low volume of training in the local area to meet existing demand, which has the potential to be increased should

<sup>6</sup> Migration Advisory Committee (MAC) Shortage Occupation List 2015

<sup>7</sup> 2018 Patterns and Trends report published by Universities UK

demand for these courses grow. Skilled workers could also travel from neighbouring regions to meet short-term spikes in demand.

It is therefore highly likely that the short-term demand increase identified would require workers to be drawn into The Marches LEP area from the surrounding regions. In the case of Plasterers, the Marches does not have a dedicated Plasterers Training Centre; a nationwide search indicates that the closest Plasterers Training Centre's are clustered around Birmingham.

It should also be noted that some professional 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.

### 6.2.2. Cross-sector occupations

As skills in these occupations can be used in other sectors, the degree to which demand can be met will be influenced by factors other than construction demand.

The 'at risk' skilled trades predominantly work within construction.

### 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?

Taking the first of these, **'is there the training in the areas of potential demand?'**

For Architects, much of this demand would typically be met from graduate level recruitment which would not be restricted to supply from within The Marches LEP area. Therefore, a training needs analysis specific to The Marches LEP area is unlikely to give useful information.

Poor levels of competency provision appear to be in place for the highest shortfall occupations; Floorers, Plasterers, Construction managers and Painters all have low overall volumes.

The high level of training for Wood trades provides comfort, but uncertain training supply for Bricklayers and Specialist operatives nec\* means the occupations should be very closely monitored.

**Is there the required volume of training across a good spread of occupations?**

For most trades training is at rates similar to the rest of the West Midlands region.



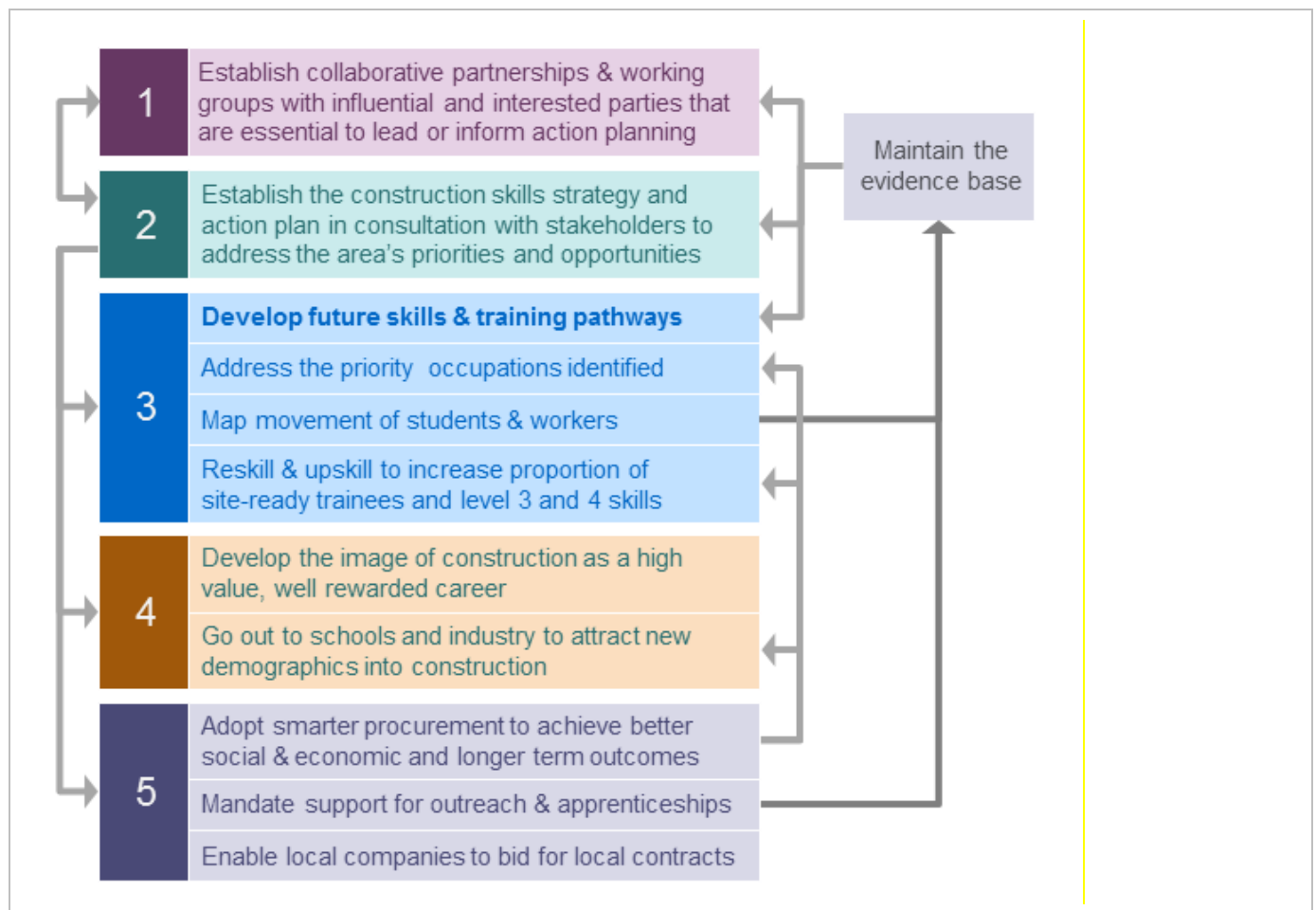
## 7. CONCLUSIONS AND RECOMMENDATIONS

The aim of The Marches LEP should be to achieve progress in addressing the long term and immediate challenges 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 Enterprise Partnership 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 strong evidence to suggest that The Marches LEP area will suffer a shortage for some 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.

### Action planning

It is the responsibility of the Local Enterprise Partnership and its 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 Marches area. The LEP need not deliver the action plan but needs 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 Marches LEP area work together.

Some significant initial progress has already been made with a network of colleges and private training establishments, sector specialists and other organisations already working together. However 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. Recommendation

- a. The LEP should ensure that relevant stakeholders and influencers are engaged. Share available evidence with them with a view to building collaborative 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 should 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. Early on, establish a construction working group comprising those with a remit to develop, or influence in, the built environment in the LEP area and neighbouring areas and task it with delivering outputs that achieve the LEP's desired social and economic outcomes. This should take ownership of 7.2 below.
- c. Longer term projections and the development of scenarios may enable an assessment of the potential impacts of major initiatives that may skew demand. Scenario planning and actions around skills pathways and career development should, in response, focus on delivering appropriate levels of high quality training to meet the future demand for site based trades (see related recommendations below).
- d. Identify demographic data available and associate actions with opportunities for target candidates where the greatest potential social and economic impact can be gained by addressing occupational shortfalls or other priorities.
- e. Establish processes whereby those responsible for: setting local regulation and funding developments can agree with construction suppliers holistic outcome-based approaches for tackling social and economic opportunities. This might consider moving towards a balance of awarding contracts based on good value for money and achieving wider benefits linked to: the built environment; training; support for apprenticeships; outreach; etc. This links to requirements outlined in the *Public Services (Social Value) Act*.

## 7.2. SKILLS STRATEGY: ACTION PLANNING AND EXPLOITATION

Establish (or develop) a construction skills strategy and action plan for The Marches, which recognises collective and potentially unique actions and solutions that may be required across the LEP area.

### 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 Marches LEP 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 include localised initiatives supporting training needed by particular groups to enable them to access more formalised elements of training and careers pathways.

In the Local Enterprise Partnership area over 90% 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 – mid levels. These may be a necessary introduction to construction in an individual's development but often are insufficient in meeting the needs of employers and so very often do not lead to a career in the occupation for which the individual has received trained. This is supported by an apparent mismatch between training achievements and supply for some occupations.

Also, construction employers have expressed concern that often those newly qualified and having gained site access through a CSCS card or similar are not equipped with the variety of skills required – these might include general competencies such as numeracy, literacy, timekeeping, productivity, interpersonal skills.

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 Marches LEP construction skills strategy along with an action plan that ensures priority is given to trades highlighted in this report as being:
  - In high demand AND at high risk of a shortfall ('priority occupations').
  - In high demand
  - At high risk of a shortfall

Priority occupations	High demand occupations	At risk occupations
<ul style="list-style-type: none"> <li>• Wood trades &amp; interior fit-out</li> <li>• Electrical trades &amp; installation</li> <li>• Painters and decorators</li> </ul>	<ul style="list-style-type: none"> <li>• Wood trades &amp; interior fit-out</li> <li>• Electrical trades and installation</li> <li>• Plumbing and HVAC</li> <li>• Painters and decorators</li> <li>• Senior, executive, and business managers</li> <li>• Other construction managers, professionals and technical staff</li> <li>• Non-construction staff</li> </ul>	<ul style="list-style-type: none"> <li>• Scaffolders</li> <li>• Plasterers and dry liners</li> <li>• Bricklayers</li> <li>• Glaziers</li> <li>• Architects</li> <li>• Non-construction operative</li> </ul>

- b. Most local authorities are under pressure 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 with local construction suppliers whether this trend is likely to continue and if so ensure that training provision addresses future demand for occupations of relevance, in particular site-based roles of relevance to house builders (see below).
- 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 the LEP area.

### Site based roles

While it is important to have sufficient provision of all construction roles locally, it is possible that in some cases the provision can be met from outside the LEP area.

Many professional roles such as architects, surveyors and senior managers may only need to visit the construction site occasionally. There may also be roles that are more mobile that travel to the site for a short duration but can operative over a large area – for example plant or scaffolding

However there are many roles that can only operate on the construction site and for which local provision is essential. Examples of those roles – also particularly relevant in house building include: bricklayers; building envelope specialists; electrical trades and installation; floorers; glaziers; painters and decorators; plasterers & dry liners; plumbing and HVAC trades; roofers; wood trades and interior fit-out. Most of the roles identified as being in high demand or at risk for The Marches LEP area are these site based roles.

- 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.
- f. Develop a co-ordinated approach to training and skills development that, as far as possible, integrates the development of multiple skills to enhance the success rates of initial construction training. (See 7.3 below.)

## 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.

Construction training needs to improve the success rate of producing site-ready, competent, multi-skilled workers.

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.

### 7.3.2. Recommendations

- g. By working together the major colleges should avoid duplication of effort or share resources, enhance specialisations and explore innovative ways of delivering the curriculum that meets employers’ and students’ needs.
- h. 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 need for new construction skills and balance the provision of training with anticipated demand from the construction contractors locally. Pilot a range of options incrementally to test validity and effectiveness and achieve the most expedient solutions.
- i. Introduce understanding of the need for other competencies so that training includes: understanding other construction roles; future skills; the potential career pathways between construction roles.
- j. For some candidates it may be that training should also incorporate development of other competencies such as: numeracy, literacy, interpersonal skills, time management, and productivity.
- k. 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 initial training leads individuals into more advanced and competency based training and high quality sustainable apprenticeships.
- l. Identify and facilitate how FE colleges and employers can engage with specialist training providers as well as with major projects, to establish greater provision for priority roles:
- m. Address any anticipated specific local needs and ensure that training delivers what employers need as part of a complete package of training initiatives.
- n. 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).
- o. In the longer term there may also be opportunities for the LEP 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 Marches LEP area and further afield and that will increasingly need to utilise developing technology e.g. Building Information Modelling (BIM).
- p. 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 worksites. This is particularly relevant for remote and sparsely populated places which, in The Marches area present challenges to some potential students

## 7.4. OUTREACH: BUILD A MORE POSITIVE IMAGE OF CONSTRUCTION WITH YOUNG PEOPLE, 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.

### 7.4.2. Recommendation

- q. 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.
- r. 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 construction 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](http://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.]*

- s. 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.
- t. 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.)
- u. For the long term, Careers advice should engage very young audiences – i.e. pre-secondary education – to address early on negative stereotypes that may deter some groups from construction careers.
- v. Early on careers advisors educators and parents should be targeted to change perceptions of construction among significant influencers.

Go Construct is one of the construction industry's initiatives; supported by CITB, aimed at helping to attract more young people into construction careers by improving understanding of the careers and rewards available.

## 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.

Public bodies have a requirement under the Public Services (Social Value) Act to ensure procurement addresses wider social, environmental and economic benefits.

The opportunities for small and micro companies (with limited resources and means) to respond to complex requirements, or invest in delivering services outside a basic construction contract, are severely limited.

Larger suppliers have expressed the view that some problems encountered with section 106 agreements include that: they are poorly thought out in terms of delivering tangible benefits; rarely are developed with contractors and agreed outputs are not measured and reported against.

### 7.5.2. Recommendations

- w. 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.
- x. Early engagement with employers to discuss any such approach should be adopted as standard 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 tender documents are published. Let construction contractors input to sections 106 discussion.).
- y. Provision could be made to hold contractors to account for commitments made. Such an approach could be co-ordinated through The Marches LEP and local authorities and be a requirement of planning applications and local authority and public sector contracts.
- z. Procurement of major contracts, or conditions of planning consent could mandate the sharing of supply and sub-contracting through a locally managed portal available to businesses based within the region.
- aa. Consideration of the use of smaller lots when procuring schemes and supporting access for small and medium sized employers onto frameworks and supply chains to enable them to grow their businesses which will build further delivery capacity across The Marches LEP area.

## 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 Marches LEP 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





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<b>First draft</b>	12/06/19	
<b>Second draft</b>	10/10/19	
<b>Final draft</b>	04/11/19	

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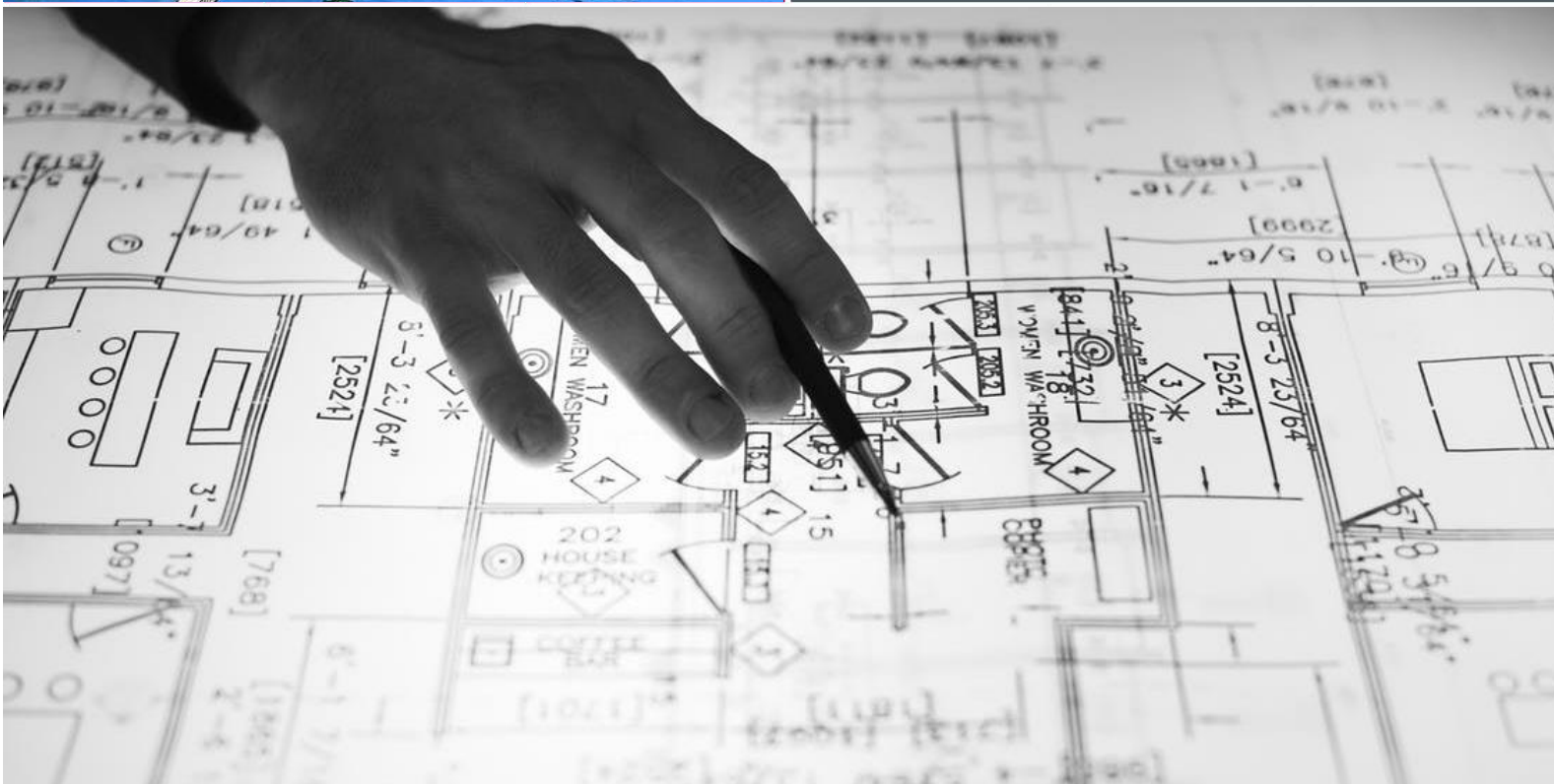


## CITB Analysis

# Construction skills gap analysis for The Marches LEP

Appendices to the Construction skills gap analysis for The Marches LEP

March 2020



## APPENDIX CONTENTS

Appendix A. Demand analysis methodology .....	3
Appendix B. Occupational definitions .....	7
Appendix C. Glenigan projects removed from The Marches.....	10
Appendix D. Significant Glenigan projects in The Marches .....	12
Appendix E. NICP and LEP projects in The Marches.....	15

## LIST OF TABLES

Table A1: Proportion of total value related to construction.....	4
Table A2: Occupation definitions .....	7
Table A3: Removed Glenigan projects from The Marches .....	10
Table A4: Significant Glenigan projects in The Marches.....	12
Table A5: Appendix Table 1: NICP and LEP projects in The Marches .....	15

# 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

### A.1.1.1. Data sources

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

### A.1.1.2. 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
<b>Flooding</b>	Flooding	90%
<b>Transport</b>	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%
<b>Water</b>	Water/wastewater treatment works	90%
<b>Communications</b>	Broadband/Digital infrastructure	20%
<b>Energy</b>	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%	
<b>Mining</b>	Mining	80%
<b>General infrastructure</b>	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.

### A.1.1.3. NICIP 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 NICIP 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 NICIP using the percentages in Table A1. Projects in the Glenigan dataset and the NICIP 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 NICIP (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.

### A.1.1.4. 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:

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

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:

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

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.



## 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).	
<b>1 Senior, executive, and business process managers<sup>8</sup></b>	
(1115) Chief executives and senior officials (1131) Financial managers and directors (1132) Marketing and sales directors (1133) Purchasing managers and directors (1135) Human resource managers and directors (1251) Property, housing and estate managers (1136) Information technology and telecommunications directors (2150) Research and development managers	(1162) Managers and directors in storage and warehousing (1259) Managers and proprietors in other services nec (1139) Functional managers and directors nec (2133) IT specialist managers (2134) IT project and programme managers (3538) Financial accounts managers (3545) Sales accounts and business development managers
<b>2 Construction project managers<sup>8</sup></b>	
(2436) Construction project managers and related professionals	
<b>3 Other construction process managers<sup>8</sup></b>	
(1121) Production managers and directors in manufacturing (1122) Production managers and directors in construction (1161) Managers and directors in transport and distribution (1255) Waste disposal and environmental services managers	(3567) Health and safety officers (3550) Conservation and environmental associate professionals
<b>4 Non-construction professional, technical, IT, and other office-based staff (excl. managers)<sup>8</sup></b>	
(3131) IT operations technicians (3132) IT user support technicians (3534) Finance and investment analysts and advisers (3535) Taxation experts (3537) Financial and accounting technicians (3563) Vocational and industrial trainers and instructors (3539) Business and related associate professionals nec (3520) Legal associate professionals (3565) Inspectors of standards and regulations (2136) Programmers and software development professionals (2139) Information technology and telecommunications professionals nec (3544) Estate agents and auctioneers (2413) Solicitors (2419) Legal professionals nec (2421) Chartered and certified accountants (2424) Business and financial project management professionals (2423) Management consultants and business analysts (4216) Receptionists (4217) Typists and related keyboard occupations (3542) Business sales executives (4122) Book-keepers, payroll managers and wages clerks (4131) Records clerks and assistants (4133) Stock control clerks and assistants (7213) Telephonists (7214) Communication operators (4215) Personal assistants and other secretaries (7111) Sales and retail assistants (7113) Telephone salespersons	(3541) Buyers and procurement officers (3562) Human resources and industrial relations officers (4121) Credit controllers (4214) Company secretaries (7129) Sales related occupations nec (7211) Call and contact centre occupations (7219) Customer service occupations nec (9219) Elementary administration occupations nec (2111) Chemical scientists (2112) Biological scientists and biochemists (2113) Physical scientists (3111) Laboratory technicians (3421) Graphic designers (2463) Environmental health professionals (2135) IT business analysts, architects and systems designers (2141) Conservation professionals (2142) Environment professionals (2425) Actuaries, economists and statisticians (2426) Business and related research professionals (4124) Finance officers (4129) Financial administrative occupations nec (4138) Human resources administrative occupations (4151) Sales administrators (4159) Other administrative occupations nec (4162) Office supervisors (7130) Sales supervisors (7220) Customer service managers and supervisors (4161) Office managers

<sup>8</sup> Managerial, professional & office based staff

<b>5 Construction trades supervisors<sup>9</sup></b>	
(5250) Skilled metal, electrical and electronic trades supervisors	
(5330) Construction and building trades supervisors	
<b>6 Wood trades and interior fit-out<sup>9</sup></b>	
(5315) Carpenters and joiners	(5442) Furniture makers and other craft woodworkers
(8121) Paper and wood machine operatives	(5319) Construction and building trades nec (25%)
<b>7 Bricklayers<sup>9</sup></b>	
(5312) Bricklayers and masons	
<b>8 Building envelope specialists<sup>9</sup></b>	
(5319) Construction and building trades nec (50%)	
<b>9 Painters and decorators<sup>9</sup></b>	
(5323) Painters and decorators	(5319) Construction and building trades nec (5%)
<b>10 Plasterers<sup>9</sup></b>	
(5321) Plasterers	
<b>11 Roofers<sup>9</sup></b>	
(5313) Roofers, roof tilers and slaters	
<b>12 Floorers<sup>9</sup></b>	
(5322) Floorers and wall tillers	
<b>13 Glaziers<sup>9</sup></b>	
(5316) Glaziers, window fabricators and fitters	(5319) Construction and building trades nec (5%)
<b>14 Specialist building operatives not elsewhere classified (nec)<sup>9</sup></b>	
(8149) Construction operatives nec (100%)	(9132) Industrial cleaning process occupations
(5319) Construction and building trades nec (5%)	(5449) Other skilled trades nec
<b>15 Scaffolders<sup>9</sup></b>	
(8141) Scaffolders, staggers and riggers	
<b>16 Plant operatives<sup>9</sup></b>	
(8221) Crane drivers	(8222) Fork-lift truck drivers
(8129) Plant and machine operatives nec	(8229) Mobile machine drivers and operatives nec
<b>17 Plant mechanics/fitters<sup>9</sup></b>	
(5223) Metal working production and maintenance fitters	(9139) Elementary process plant occupations nec
(5224) Precision instrument makers and repairers	(5222) Tool makers, tool fitters and markers-out
(5231) Vehicle technicians, mechanics and electricians	(5232) Vehicle body builders and repairers
<b>18 Steel erectors/structural fabrication<sup>9</sup></b>	
(5311) Steel erectors	(5319) Construction and building trades nec (5%)
(5215) Welding trades	(5211) Smiths and forge workers
(5214) Metal plate workers, and riveters	(5221) Metal machining setters and setter-operators
<b>19 Labourers nec<sup>9</sup></b>	
(9120) Elementary construction occupations (100%)	
<b>20 Electrical trades and installation<sup>9</sup></b>	
(5241) Electricians and electrical fitters	(5242) Telecommunications engineers
(5249) Electrical and electronic trades nec	
<b>21 Plumbing and heating, ventilation, and air conditioning trades<sup>9</sup></b>	
(5314) Plumbers and heating and ventilating engineers	(5319) Construction and building trades nec (5%)
(5216) Pipe fitters	(5225) Air-conditioning and refrigeration engineers
<b>22 Logistics<sup>9</sup></b>	
(8211) Large goods vehicle drivers	(3541) Buyers and purchasing officers (50%)
(8212) Van drivers	(4134) Transport and distribution clerks and assistants
(9260) Elementary storage occupations	
<b>23 Civil engineering operatives not elsewhere classified (nec)<sup>9</sup></b>	
(8142) Road construction operatives	(8123) Quarry workers and related operatives
(8143) Rail construction and maintenance operatives	
<b>24 Non-construction operatives<sup>9</sup></b>	
(8117) Metal making and treating process operatives	(9249) Elementary security occupations nec

<sup>9</sup> Skilled trades & operatives

(8119) Process operatives nec	(9233) Cleaners and domestics
(8125) Metal working machine operatives	(9232) Street cleaners
(8126) Water and sewerage plant operatives	(5113) Gardeners and landscape gardeners
(8132) Assemblers (vehicles and metal goods)	(6232) Caretakers
(8133) Routine inspectors and testers	(9241) Security guards and related occupations
(8139) Assemblers and routine operatives nec	(3319) Protective service associate professionals nec
<b>25 Civil engineers<sup>8</sup></b>	
(2121) Civil engineers	
<b>26 Other construction professionals and technical staff<sup>8</sup></b>	
(2122) Mechanical engineers	(3119) Science, engineering and production technicians nec
(2123) Electrical engineers	(3121) Architectural and town planning technicians
(2126) Design and development engineers	(3122) Draughtspersons
(2127) Production and process engineers	(3115) Quality assurance technicians
(2461) Quality control and planning engineers	(2432) Town planning officers
(2129) Engineering professionals nec	(2124) Electronics engineers
(3112) Electrical and electronics technicians	(2435) Chartered architectural technologists
(3113) Engineering technicians	(3531) Estimators, valuers and assessors
(3114) Building and civil engineering technicians	(3116) Planning, process and production technicians
<b>27 Architects<sup>8</sup></b>	
(2431) Architects	
<b>28 Surveyors<sup>8</sup></b>	
(2433) Quantity surveyors	
(2434) Chartered surveyors	

## APPENDIX C. GLENIGAN PROJECTS REMOVED FROM THE MARCHES

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 The Marches**

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	24 Flats	Shropshire	1.2			Missing dates
2	10 Flats	Herefordshire	0.5			Missing dates
3	7 Houses & 3 Bungalows	Herefordshire	0.8			Missing dates
4	Hotel (Extension)	Telford & Wrekin	0.3			Missing dates
5	Residential Care Health Unit	Herefordshire	1.4			Missing dates
6	Nursing Home (Extension)	Shropshire	0.6			Missing dates
7	Nursing Home (Extension/Alterations)	Herefordshire	2.7			Missing dates
8	15 Houses	Herefordshire	1.1			Missing dates
9	18 Houses	Shropshire	1.7			Missing dates
10	Car Dealership Trade Counters/Warehouse Unit	Shropshire	0.4			Missing dates
11	11 Houses	Shropshire	0.8			Missing dates
12	10 Houses	Shropshire	0.8			Missing dates
13	10 Houses	Shropshire	0.8			Missing dates
14	14 Flats	Herefordshire	0.7			Missing dates
15	Anaerobic Digester Plant	Shropshire	1.2			Missing dates
16	Dementia Nursing Care	Herefordshire	4.9			Missing dates
17	38 Houses	Shropshire	1.9			Missing dates
18	14 Industrial/Office/Storage & Leisure Units	Shropshire	1.1			Missing dates
19	Leisure Building & Swimming Pool	Shropshire	1.3			Missing dates
20	12 Houses	Telford & Wrekin	0.9			Missing dates
21	7 Industrial Buildings	Telford & Wrekin	9.4			Missing dates
22	10 Flats & 1 Office Unit	Herefordshire	0.8			Missing dates
23	Hotel & Restaurant (Extension)	Shropshire	1.9			Missing dates
24	Factory Storage & Office (Extension/Alterations)	Telford & Wrekin	0.7			Missing dates
25	10 Flats/1 Restaurant/1 Shop/1 Finance Service/Office	Shropshire	0.7			Missing dates
26	4 Town Houses/4 Flats & 2 Retail Units	Shropshire	0.8			Missing dates
27	10 Flats (Conversion/Extension)	Shropshire	0.5			Missing dates
28	Green Infrastructure Works	Shropshire	1.0			Missing dates
29	Multi Activity Space/Fitness Centre	Shropshire	0.6			Missing dates

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
30	14 Houses	Telford & Wrekin	1.1			Missing dates
31	24 Houses	Herefordshire	1.8			Missing dates
32	25 Houses	Herefordshire	1.9			Missing dates
33	Club House	Herefordshire	0.8			Missing dates
34	10 Houses	Telford & Wrekin	0.8			Missing dates
35	Office (Extension)	Herefordshire	1.4			Missing dates
36	8 Flats/4 Houses	Herefordshire	0.6			Missing dates
37	Light Industrial	Herefordshire	0.4			Missing dates
38	Garden Centre (Extension)	Telford & Wrekin	1.1			Missing dates
39	Industrial Office Unit	Shropshire	0.7			Missing dates
40	Industry Unit (Extension)	Telford & Wrekin	0.5			Missing dates
41	Highways Consultancy Services	Shropshire	30.0	4/1/2015	3/31/2022	Consultancy

## APPENDIX D. SIGNIFICANT GLENIGAN PROJECTS IN THE MARCHES

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 The Marches**

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	Highway Maintenance	Telford & Wrekin	87.5	4/1/2019	3/30/2026	Infrastructure
2	Highway Maintenance Services Contract	Shropshire	83.5	4/1/2018	4/1/2025	Infrastructure
3	Highways Maintenance	Herefordshire, County of	79.6	9/1/2013	9/1/2023	Infrastructure
4	395 Residential Units	Telford & Wrekin	60.0	10/1/2018	10/2/2023	New housing
5	Industrial/Warehouse & Distribution Development	Telford & Wrekin	59.4	10/28/2019	9/28/2020	Private Industrial
6	330 Houses & 45 Flats	Telford & Wrekin	37.5	11/11/2013	11/11/2022	New housing
7	200 Houses/16 Flats & 4 Bungalows	Telford & Wrekin	30.0	2/12/2018	2/10/2020	New housing
8	414 Houses & Flats	Herefordshire	28.0	6/3/2019	6/29/2020	New housing
9	425 Houses/Bungalows	Shropshire	25.9	5/11/2015	12/21/2019	New housing
10	362 Residential Units	Telford & Wrekin	24.2	11/8/2019	7/8/2021	New housing
11	Residential Development	Telford & Wrekin	22.0	11/4/2015	5/29/2020	New housing
12	Hotel (Conversion/Alterations)	Shropshire	20.0	11/12/2018	7/15/2019	Private Commercial
13	289 Residential Units	Telford & Wrekin	19.6	4/2/2018	11/1/2021	New housing
14	266 Houses & 24 Flats	Herefordshire	18.0	10/27/2019	6/27/2021	New housing
15	139 Houses & 99 Flats	Shropshire	17.9	8/3/2015	8/30/2019	New housing
16	105 Houses/6 Bungalows & 16 Commercial Units	Telford & Wrekin	17.7	10/15/2019	10/15/2020	New housing, Private Industrial, New housing
17	247 Residential Units	Herefordshire	16.9	10/24/2019	11/24/2020	New housing
18	Shopping Centre (Refurbishment)	Telford and Wrekin	16.8	8/20/2018	10/1/2019	Private Commercial
19	152 Residential Units	Telford & Wrekin	16.0	12/1/2018	12/1/2021	New housing
20	203 Houses/10 Flats & 1 Retail Store	Shropshire	14.6	11/30/2019	11/30/2020	New housing, Private Commercial
21	203 Residential Units	Herefordshire	14.0	12/18/2019	8/11/2021	New housing
22	Demolition	Shropshire	13.9	9/4/2017	11/16/2020	Infrastructure
23	187 Residential Units	Telford & Wrekin	12.8	10/24/2019	5/24/2021	New housing
24	99 Residential Units	Shropshire	12.0	8/6/2018	2/28/2020	New housing
25	164 Residential Units	Shropshire	11.3	9/3/2018	9/30/2019	New housing
26	156 Houses	Shropshire	10.8	6/10/2019	12/28/2020	New housing

	Description	Local authority	Value (£m)	Start date	End date	Project type
27	77 Flats (New/Conversion)	Herefordshire	10.0	3/11/2019	3/8/2021	New housing
28	125 Houses & 6 Flats	Shropshire	9.8	11/11/2019	1/11/2021	New housing
29	Industrial Unit	Telford & Wrekin	9.5	8/13/2019	4/21/2020	Private Industrial
30	137 Residential Units	Shropshire	9.5	10/24/2019	3/24/2021	New housing
31	Car Showroom	Shropshire	9.0	5/9/2019	3/5/2020	Private Commercial
32	110 Houses & 6 Bungalows	Shropshire	8.7	4/9/2018	5/13/2019	New housing
33	Industrial Unit	Telford & Wrekin	8.7	10/28/2019	7/6/2020	Private Industrial
34	123 Houses	Telford & Wrekin	8.6	7/19/2019	1/1/2021	New housing
35	100 Residential Units	Telford & Wrekin	7.5	3/2/2020	8/16/2021	New housing
36	Office/Lecture & Research Space (Alterations)	Herefordshire, County of	7.3	4/1/2019	11/6/2020	Private Commercial
37	102 Residential Units	Telford & Wrekin	7.1	1/7/2019	9/7/2020	New housing
38	100 Houses/Bungalows/Flats	Herefordshire	7.1	12/16/2019	6/7/2021	New housing
39	2 Industrial/Warehouse/Office Units	Telford & Wrekin	7.0	8/19/2019	4/27/2020	Private Industrial, Private Commercial
40	Supermarket & Petrol Filling Station	Shropshire	7.0	3/11/2019	9/30/2019	Private Commercial, Infrastructure
41	Council Office (Refurbishment)	Shropshire	7.0	9/16/2019	11/16/2020	Public Non-housing
42	89 Houses (New/Conversion)	Telford & Wrekin	6.7	10/8/2018	12/2/2019	New housing
43	90 Houses	Herefordshire	6.4	1/20/2020	2/20/2021	New housing
44	90 Houses	Telford & Wrekin	6.4	7/22/2019	8/17/2020	New housing
45	3 Petrol Filling Station/Cafe/office	Shropshire	6.3	7/15/2019	2/10/2020	Private Commercial, Infrastructure
46	Offices & Industrial Unit	Herefordshire	6.0	4/4/2019	4/4/2020	Private Commercial, Private Industrial
47	90 Houses	Shropshire	5.9	8/12/2019	9/4/2020	New housing
48	88 Houses & 3 Retail/Nursery/Community Units	Shropshire	5.8	11/22/2018	11/21/2019	New housing, Private Commercial, Public Non-housing
49	51 Houses & 23 Flats	Shropshire	5.6	10/1/2019	10/27/2020	New housing
50	Light Industry Unit	Shropshire	5.0	1/20/2020	9/20/2020	Private Industrial
51	26 Retirement Flats & 5 Houses	Herefordshire	5.0	6/17/2019	7/6/2020	New housing
52	Offices	Shropshire	5.0	12/10/2018	9/13/2019	Private Commercial
53	Fire Station (Refurb)	Telford and Wrekin	4.5	3/2/2020	3/1/2021	Public Non-housing
54	55 Houses & 5 Flats	Telford & Wrekin	4.3	10/14/2019	11/14/2020	New housing
55	Hotel	Herefordshire	4.0	9/3/2018	8/12/2019	Private Commercial
56	Supermarket & Care Home	Shropshire	3.8	3/18/2019	10/25/2019	Private Commercial, Public Non-housing



	Description	Local authority	Value (£m)	Start date	End date	Project type
57	Retail Unit	Shropshire	3.7	7/15/2019	2/15/2020	Private Commercial
58	24 Industrial Units	Shropshire	3.5	12/13/2018	6/20/2019	Private Industrial
59	Caravans Park & Leisure Centre (Conversion/Alterations)	Herefordshire	3.0	8/12/2019	3/23/2020	Private Commercial
60	2 Animal Buildings (Extension)	Shropshire	2.5	9/16/2019	3/23/2020	Private Industrial
61	Care Home	Herefordshire	2.4	1/8/2018	4/1/2019	Public Non-housing
62	Health Centre	Herefordshire	2.2	1/14/2019	10/14/2019	Public Non-housing
63	Roads (Refurbishment)	Telford & Wrekin	2.0	3/5/2018	6/3/2019	Infrastructure
64	2 Industrial Units	Herefordshire	1.9	9/23/2019	3/30/2020	Private Industrial
65	Recycling Facility (Extension)	Shropshire	1.7	5/6/2019	2/6/2020	Infrastructure
66	Discount Store (Conversion)	Shropshire	1.5	9/22/2019	1/5/2020	Private Commercial
67	Day Centre (New/Extension)	Shropshire	1.3	1/28/2019	10/28/2019	Public Non-housing
68	6 Retail Units & 1 Cafe	Telford & Wrekin	1.2	8/12/2019	11/8/2019	Private Commercial
69	Care Home (Extension/Alterations)	Shropshire	1.1	5/24/2019	2/14/2020	Public Non-housing
70	Shop/Warehouse (Conversion/Extension)	Shropshire	0.7	2/4/2019	4/1/2019	Private Industrial
71	Car Park	Shropshire	0.6	8/5/2019	9/23/2019	Infrastructure

## APPENDIX E. NICIP AND LEP PROJECTS IN THE MARCHES

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

**Table A5: Appendix Table 1:NICIP and LEP projects in The Marches**

	Name	Value (£m)	Start date	End date	Source
1	Severn Trent Water: Wastewater Service AMP6	70.8	4/1/2018	3/31/2020	NICIP
2	Severn Trent Water: Water Service AMP6	70.1	4/1/2018	3/31/2020	NICIP
3	Highways Maintenance Block Funding (SR10 allocation) West Midlands	26.8	4/1/2018	3/31/2021	NICIP
4	Local Enterprise Partnerships Allocation for Transport in Strategic Economic Plans - West Midlands	22.7	4/1/2018	3/31/2021	NICIP
5	Eon Central Networks West (WMID) RIIO	14.4	4/1/2018	3/31/2021	NICIP
6	Local Authority Major Schemes - Committed and Approved - West Midlands	13.1	4/1/2018	3/31/2021	NICIP
7	Integrated Transport Block - West Midlands	10.6	4/1/2018	3/31/2021	NICIP
8	NGGD West Midlands RIIO-GD1	10.4	4/1/2018	3/31/2021	NICIP
9	National Productivity Investment Fund Round 1 West Midlands	6.5	4/1/2018	3/31/2020	NICIP
10	West Midlands Development programme	4.8	4/1/2018	3/31/2021	NICIP
11	West Midlands Construction programme	2.1	4/1/2018	3/31/2021	NICIP

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Version	Date	Details of modifications
<b>First draft</b>	12/06/19	
<b>Second draft</b>	10/10/19	
<b>Final draft</b>	04/11/19	