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CITB ANALYSIS

Construction skills gap analysis for the West Midlands Combined Authority area



Analysis of supply and demand for construction skills across the West Midlands Combined Authority area and recommendations for action

May 2018



EXECUTIVE SUMMARY

The West Midlands Combined Authority (WMCA) can expect sustained spending on new construction projects of well over £3.8 billion per year for at least five years.

To meet this anticipated demand a total (peak) construction workforce of more than 150,000 is required for the forecast period. But with an aging workforce there are risks that the West Midlands may not be able to build everything on the wish list.

Across the Combined Authority area, new housing accounts for 43% of anticipated spend on new projects in 2018; private commercial developments for 19% and infrastructure for 16%.

THE WEST MIDLANDS COMBINED AUTHORITY'S OPPORTUNITY

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

Construction on its own makes up a huge part of the UK economy representing around 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 West Midlands has a wide range of construction job opportunities available over the coming years. These are well paid, high skilled jobs that we should be encouraging people to aspire to. These are the jobs that will shape the skyline and house people for generations to come. CITB is working with employers to attract and train new talent for these rewarding and valuable careers."

Lorraine Gregory, CITB Partnership Manager for the West Midlands

Priority occupations

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

- Plasterers & dry liners
- Painters and decorators
- Specialist building operatives nec*¹
- Bricklayers
- Wood trades and interior fit-out
- Building envelope specialists
- Plumbing and HVAC Trades
- Labourers nec*
- Other construction professionals and technical staff

Occupations in context – the challenge

This report sets out a challenge to the Combined Authority, namely to attract, train, recruit and maintain a high skilled construction workforce that meets anticipated demand.

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.

¹ * nec = not elsewhere classified

The Professions

There is high demand for several professional roles, jobs which require a significant length of training before candidates become qualified.

Architects, surveyors and civil engineers require higher level qualifications plus professional accreditation, so the effect of action now will only be felt in five to ten years' time. These are jobs in demand the world over.

However, these roles do not need to be permanently on-site so it is likely that some demand may be met by those working outside the region.

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

Training and education

Nearly 200 training providers delivered construction related training (including Apprenticeships) within the area over the last four years. Twenty main providers deliver 86% of provision.

The number of achievements across the West Midlands Combined Authority; almost halved between 2012/13 and 2015/16 (48% drop).

The number of starters on Level 2+ apprenticeships has increased across the West Midlands Combined Authority area (+23% between 2012/13 and 2015/16).

The largest providers of construction training for the West Midlands Combined Authority area are: South & City College Birmingham; Birmingham Metropolitan College; Walsall College; Dudley College; City of Wolverhampton College; Warwickshire College

Recommendations

A way forward has been agreed between CITB and the West Midlands Combined Authority:

1. Address the region's construction skills through new collaborations and a principle of shared endeavour.
2. Develop the West Midlands construction skills offer.
3. Develop the future skills needed to grow and transform the region's construction industry.
4. Promote high quality careers and opportunities across the region's construction industry.

GoConstruct 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.

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1. INTRODUCTION

This report is one step in maintaining an evidence base, to be utilised by the West Midlands Combined Authority (WMCA) and those interested in the growth, prosperity and built environment in the area to inform decision making that will help determine the employment and skills opportunities emerging in the construction industry.

Construction is a significant part of the economy and is a major employer. But it is also an enabler of economic growth and job creation and has a significant impact on enhancing the built environment, in creating the facilities required of a modern economy and addresses significant social issues, such as a shortage of housing.

It is also an enabler of other sectors' success by building the facilities required for commercial and industrial advances as well as the infrastructure that is, in turn, an enabler of growth. It is, therefore, essential for the West Midlands Combined Authority to invest in supporting the actions proposed in this report as well as referring to the wider evidence base available and involving stakeholders in the development of the associated plans.

This report represents the concluded research, seeking to identify issues so that a practical approach can be taken to realising the opportunities that activity in the construction sector can generate in developing skills, creating jobs and enhancing the local economy, built environment and opportunities.

The analysis starts to determine priorities for interventions to ensure local opportunities are maximised and that the West Midlands Combined Authority has the right future skills and training pathways in place to deliver demand led solutions.

1.1. THE WEST MIDLANDS COMBINED AUTHORITY AREA HEADLINES

1.1.1. Future Project Pipeline

The analysis assessed 1,418 new build construction projects with a value that looks likely to exceed £3.8 billion a year for the foreseeable future. (Some of these projects will already be underway; work on others may extend well into the future.)

Table 1: Summary of Glenigan projects analysed a summary of the distribution of Glenigan projects between the three LEP areas. Of these, 228 projects are of above average size. Relative to each of the three LEP areas projects of above average size represent:

- 82% of the value of construction for the Black Country;
- 82% of the value for Coventry and Warwick;
- 92% of the value for Greater Birmingham & Solihull.

This highlights the disproportionately large impact a relatively small number of projects can have on the profile of new build.

Table 1: Summary of Glenigan projects analysed

	Black Country:	Coventry & Warwickshire:	Birmingham & Solihull:	Combined Authority area
Glenigan projects analysed	257	376	600	1233
Projects of above average size	49	86	93	228
Proportion of spend on projects of above average value	82%	82%	92%	-
Peak year new build reviewed (2018) £m	£531m	£1,044m	£2,287m	£3,862m
Labour demand 2018	17,050	35,100	99,750	151,900
Labour demand 2022	17,500	36,050	102,500	156,050

Across the Combined Authority area, the distribution of the value of new build projects is:

- New housing accounts for 43% of anticipated spend
- Private Commercial for 19%
- Infrastructure 16%
- Private Industrial 11%
- Public Non-housing 11%

Table 2: Summary of construction spend on known new projects for peak year for the three LEP areas

	Black Country spend In 2018 (£M)	Black Country % of total	Coventry & Warwick Spend In 2018 (£M)	Coventry & Warwick % Of Total	Birmingham & Solihull Spend In 2018 (£M)	Birmingham & Solihull % Of Total	WMCA Spend In 2018 (£M)	WMCA % Of Total
New housing	188	35%	558	53%	906	40%	1652	43%
Private Commercial	49	9%	125	12%	573	25%	747	19%
Infrastructure	130	24%	109	10%	368	16%	607	16%
Private Industrial	108	20%	151	14%	163	7%	422	11%
Public Non-housing	56	11%	101	10%	277	12%	434	11%
Total	531	99%	1,044	99%	2,287	100%	3,862	100%

1.1.2. Skills Demands by occupation for the Combined Authority area

The future skills demands for the three LEP areas are shown in demand analysis in the report below. When totalled for the Combined Authority area, total construction labour demand including the volume of repair and maintenance (R&M) imputed peaks for the area in 2018 at more than 151,000.

The occupations with greatest demand are:

- | | |
|--|---|
| 1. Non-construction professional, technical, IT & office-based | 7. Plumbing and HVAC Trades |
| 2. Wood trades and interior fit-out | 8. Labourers nec* |
| 3. Electrical trades and installation | 9. Painters and decorators |
| 4. Other construction process managers | 10. Building envelope specialists |
| 5. Senior, executive, and business process managers | 11. Bricklayers |
| 6. Other construction professionals and technical staff | 12. Surveyors |
| | 13. Specialist building operatives nec* |
| | 14. Plasterers & dryliners |

1.1.3. Risk of shortages

The gap analysis in the main body of the report combines the demand for the three LEP areas and compares it with the provision of workers across the Combined Authority area. This provides a relative risk of a shortfall between the supply of workers and demand with the greatest risk appearing to be for the following occupations:

- | | |
|--|-------------------------------------|
| 1. Architects | 8. Wood trades and interior fit-out |
| 2. Construction Project Managers | 9. Plant operatives |
| 3. Plasterers & dry liners | 10. Roofers |
| 4. Floorers | 11. Scaffolders |
| 5. Painters and decorators | 12. Construction Trades Supervisors |
| 6. Specialist building operatives nec* | 13. Building envelope specialists |
| 7. Bricklayers | 14. Civil engineers |

1.1.4. Priority occupations

Across the Combined Authority area the occupations that appear to be experiencing high demand (1.1.2 above) and high risk of a shortfall (1.1.2 above) are:

1. Plasterers & dry liners
2. Painters and decorators
3. Specialist building operatives nec*
4. Bricklayers
5. Wood trades and interior fit-out
6. Building envelope specialists
7. Plumbing and HVAC Trades
8. Labourers nec*
9. Other construction professionals and technical staff

1.1.5. The Industry

The West Midlands Combined Authority (WMCA) accounts for 67% of construction employment in the West Midlands region. The construction workforce within the WMCA is estimated at just over 147,000 workers. Half of that workforce is located within Greater Birmingham and Solihull LEP (50%), 30% in the Black Country LEP and 20% in Coventry and Warwickshire (20%).

The profile of the WMCA area construction companies is:

- 93.9% are micro (employing fewer than 10 people),
- 5.4% are small (employing between 10 and 49 people),
- 0.6% are medium (employing between 50 and 249 people),
- 0.1% large employers (those with over 250 people).

1.1.6. Training and Education

Nearly 200 training providers delivered training (including apprenticeships) within the area over the last four years, however 20 main providers delivered 86% of provision and the top ten delivered 67%.

There is FE training available across the full range of construction occupations plus relatively good provision of competence qualifications, which are valued by the construction industry.

There have been decreases in the number of achievements across the Combined Authority area; almost halving between 2012/13 and 2015/16 (48% drop). This can be explained to a large extent by declines in plant operative training and is typical of decreases seen in other regions.

The number of starters on Level 2+ apprenticeships has increased across the Combined Authority area (+23% between 2012/13 and 2015/16).

1.2. SCOPE

The report, reviews the area covered by the three LEPs that make up the West Midlands Combined Authority. Namely Black Country LEP, Coventry and Warwickshire LEP and Greater Birmingham and Solihull LEP, the local authorities that are included in the research are shown in Table 3.

Table 3: Local authorities analysed

Black Country	Coventry and Warwickshire	Greater Birmingham and Solihull
Dudley	Coventry	Birmingham
Sandwell	North Warwickshire	Bromsgrove
Walsall	Nuneaton and Bedworth	Cannock Chase
Wolverhampton	Rugby	East Staffordshire
	Stratford-on-Avon	Lichfield
	Warwick	Redditch
		Solihull
		Tamworth
		Wyre forest

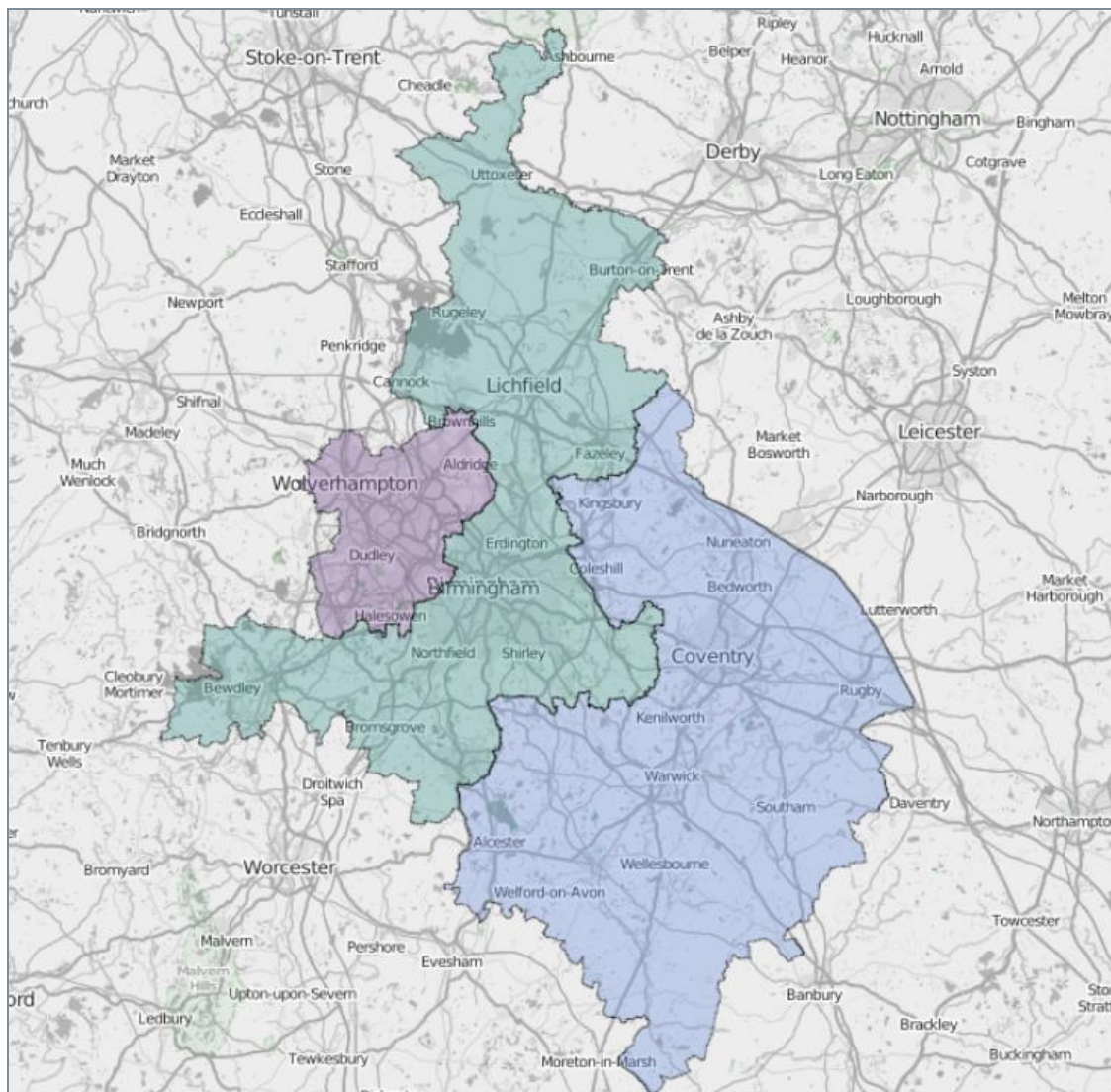


Figure 1: West Midlands and surrounding area

The following three sections provide analysis of the construction and labour demand for each of the WMCA's three LEP areas determined from the analysis described in Appendix A.

2. LABOUR DEMAND IN THE BLACK COUNTRY LEP

The following provides an estimate of the labour demand that construction investment will create across the Black Country LEP over the period 2018-2022.

2.1. MAIN POINTS – SUMMARY OF DEMAND

The labour demand arising from the construction spend in the Black Country LEP area peaks at around 17,500 people in 2022, taking account of estimates of other work including repair and maintenance (R&M) in addition to the pipeline of denominated projects.

- Around 60% of the workforce is within skilled trades & operative occupations, the other 40% are within managerial, professional & office based staff.
- During the peak year (2018) of the denominated projects pipeline demand, the most labour-intensive occupation group is “non-construction professional, technical, IT and other office-based staff” with an annual demand of 2,250 people.
- The estimate of labour demand for the skilled trade & operative occupations for the peak year of 2018 are as follows:
 - The trade occupation for which demand is highest is wood trades and interior fit out with a requirement for 1,750 people;
 - Electrical trades and installation follow with 1,400 people.
 - Plumbing and heating, ventilation and air conditioning trades rank third, with a demand of 1,100 people

2.2. PIPELINE OF DENOMINATED PROJECTS

2.2.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database² and the National Infrastructure and Construction Pipeline (NICP)³. These comprise what are referred to as the denominated projects.

An initial review of the Glenigan database identified 306 projects in the Black Country LEP area. Of the Glenigan projects 45 projects were removed due to missing dates. Also excluded were three projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate. A full set of the projects which were omitted from the analysis is provided in Appendix C. The spend in projects that were removed because of missing dates is around 3% of the total pipeline value. It is possible that this work will take place at some undefined 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 will be indirectly included in the estimates of other work from the additional projects.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects. The process identified 49 significant projects accounting for 82% 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 2018. The location of the significant projects within the Black Country LEP can be seen in Figure 2.

² The Glenigan database 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. For the purposes of this analysis we have used the 2017Q3 cut of data.

³ The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compile a pipeline of UK infrastructure and construction projects and the associated annual public and private investment. For this report we have used the autumn 2017 NICP which includes details of around 700 projects valued at some £463bn.

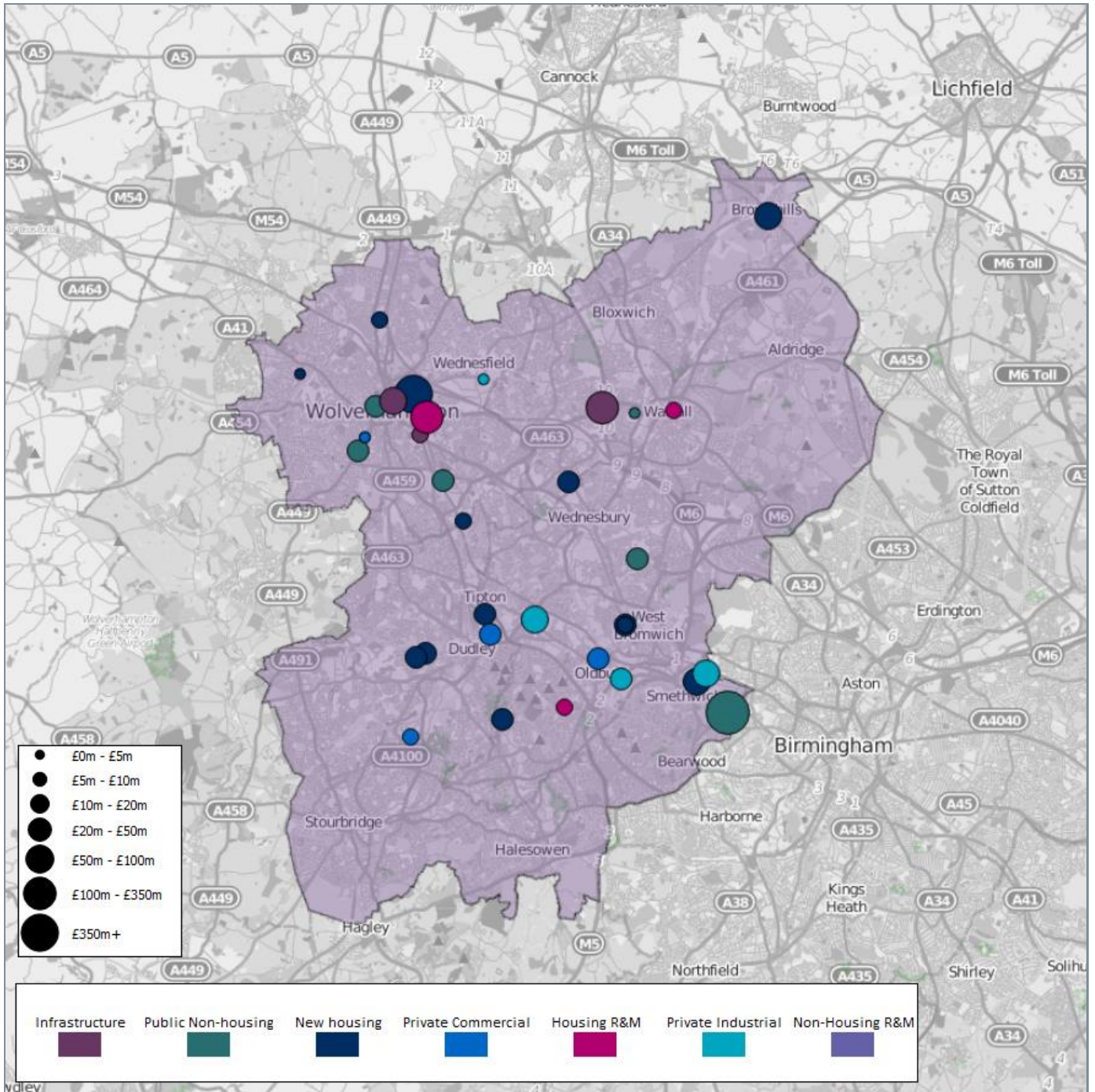


Figure 2: Location of significant projects included in the analysis

2.2.2. Glenigan & NICP spend analysis

Implementing the methodology outlined in Appendix A leads to the following findings for the peak year for denominated projects of 2018. The peak year is used because the tail off in the denominated projects is more likely to be due to a lack of future planning rather than an actual tail off in workload.

Table 4 shows the distribution by sector of new build spend for the total pipeline of denominated projects.

Table 4: New-build construction spend by project type in 2018 (total denominated projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
New housing	188	35%
Infrastructure	130	24%
Private Industrial	108	20%
Public Non-housing	56	11%
Private Commercial	49	9%
Total	531	100%

Table 5 shows the infrastructure construction spend from the denominated projects in 2018 by sub-sector.

Table 5: Construction spend per infrastructure sub-type in 2018 (total denominated projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
Transport	56	43%
Water	43	33%
Energy	22	17%
General Infrastructure	6	5%
Flooding	2	1%
Other	1	1%
Total	130	100%

2.3. ESTIMATE OF FUTURE TOTAL LABOUR DEMAND

As outlined in Appendix A the denominated 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 (included any in Glenigan or the NICP) is also shown along with the likely total labour demand arising from estimates of other work. The total construction labour demand ranges from 17,000 people in 2018 to a peak for the area in 2022 at 17,500 people.

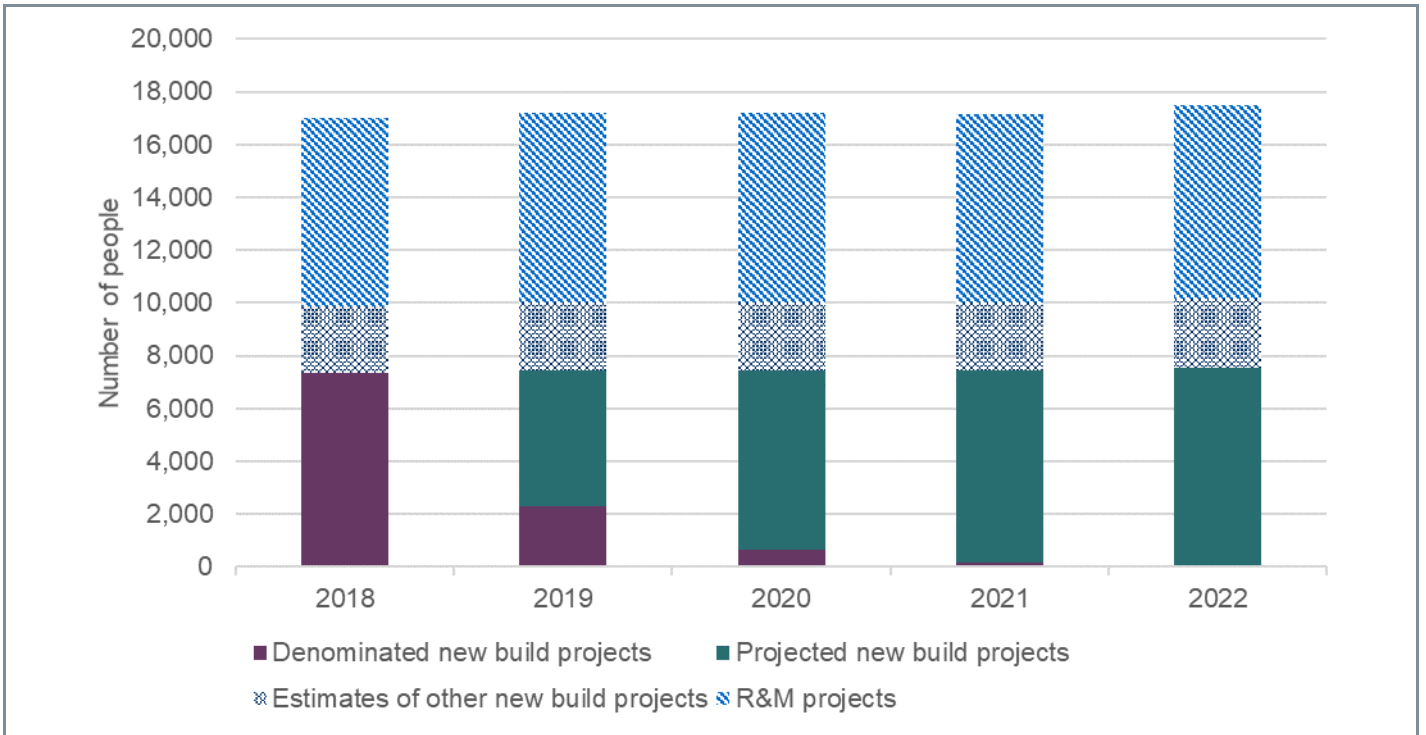


Figure 3: Total construction labour demand including estimates for both R&M and estimates of other work

2.3.1. Breakdown of labour demand by occupation

Figure 4 presents the breakdown of labour by the two groups of skilled trades & operatives and managerial, professional & office based staff. Around 60% of the workforce are in skilled trades & operative occupations.

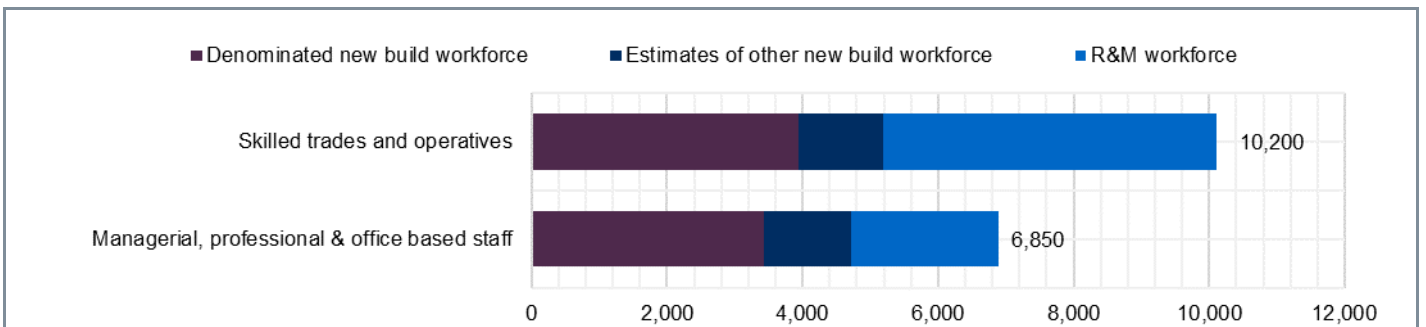


Figure 4: Total construction labour demand for 2018 by broad occupational group

For the peak year in Glenigan of 2018 the detailed breakdown by each of the 20 skilled trade & operative occupational groups is shown in Figure 5. This shows the breakdown by occupation for both the pipeline of denominated projects, the estimates of other new-built work and the R&M work. These occupations will be predominately based on or near the location of the work.

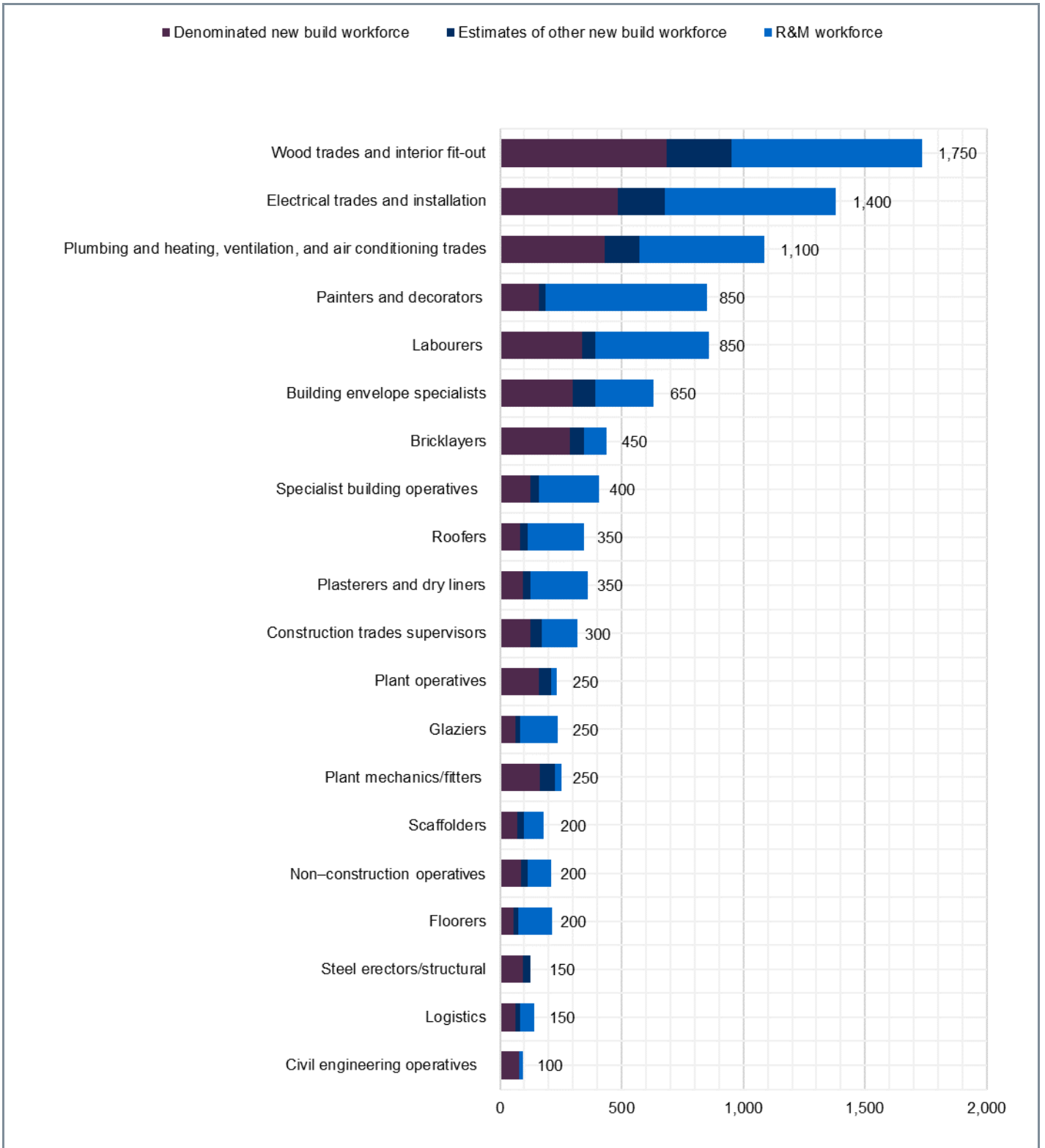


Figure 5: Construction labour demand for skilled trades & operative occupations in the peak year

Figure 6 shows a breakdown of the occupations which are in the managerial, professional & office based roles. The chart shows the workforce which will be generated by the pipeline of work taking pace in the area but due to the nature of these roles there is not necessarily a requirement for them to spend all of their time in the area or on site.

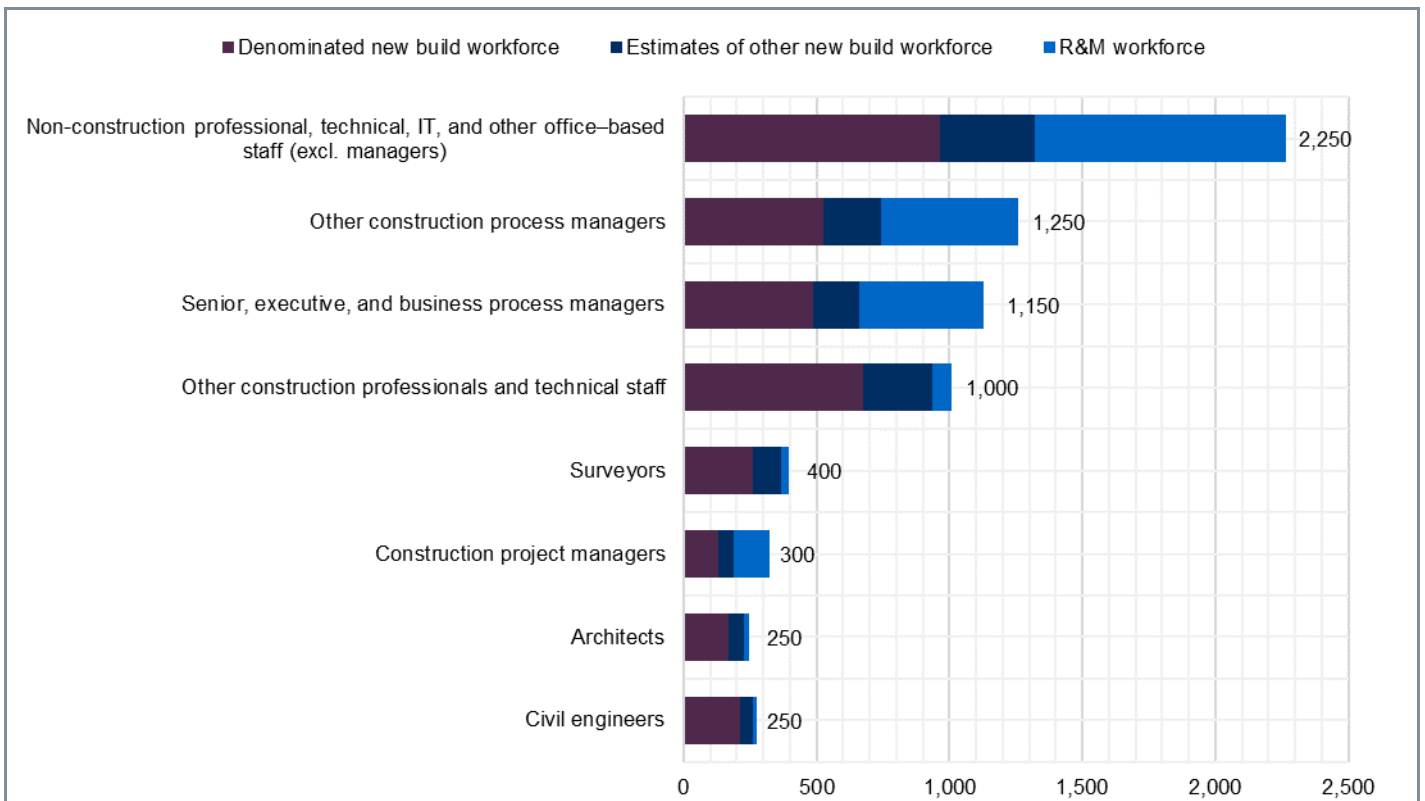


Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year

2.3.2. Breakdown of labour demand by project type

Table 6 shows the labour demand generated by the denominated projects and the estimates of other work in 2018

Table 6: Labour demand by work type in 2018

Project type	Denominated pipeline labour demand in 2018 (people)	Estimates of other work labour demand in 2018 (people)	Total labour demand in 2018 (people)	% of total in 2018
Non-housing R&M	-	5,400	5,400	32%
Private commercial	900	2,250	3,150	18%
New housing	2,300	-	2,300	13%
Private industrial	1,950	300	2,250	13%
Housing R&M	1,700	-	1,700	10%
Infrastructure	1,200	-	1,200	7%
Public non-housing	1,050	-	1,050	6%
Total	9,100	7,950	17,050	100%

3. LABOUR DEMAND IN THE COVENTRY & WARWICKSHIRE LEP

The following provides an estimate of the labour demand that construction investment will create across the Coventry and Warwickshire LEP over the period 2018-2022. (As described in Appendix A.)

3.1. MAIN POINTS – SUMMARY OF DEMAND

- The labour demand arising from the construction spend in the Coventry & Warwickshire LEP area peaks at around 36,050 people in 2022, taking account of estimates of other work including R&M in addition to the pipeline of denominated projects.
- Around 59% of the workforce are within skilled trades & operative occupations, the other 41% are within managerial, professional & office based staff.
- During the peak year (2018) of the denominated projects pipeline demand, the most labour-intensive occupation group is “non-construction professional, technical, IT and other office-based staff” with an annual demand of 2,250 people.
- The estimate of labour demand for the skilled trade & operative occupations for the peak year of 2018 are as follows:
 - The trade occupation for which demand is highest is wood trades and interior fit out with a requirement for 3,700 people;
 - Electrical trades and installation follow with 2,750 people.
 - Plumbing and heating, ventilation and air conditioning trades rank third, with a demand of 2,350 people

3.2. PIPELINE OF DENOMINATED PROJECTS

3.2.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database⁴ and the National Infrastructure and Construction Pipeline (NICP)⁵. These comprise what are referred to as the denominated projects.

The initial review of the Glenigan database identified 426 projects in the Coventry and Warwickshire LEP area. Of these, 42 projects were removed due to missing dates. Also excluded were five projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate, and a further one because it was a duplicate of a project in the NICP. One project was removed since there was no value provided. 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 1% of the total pipeline value. It is possible that this work will take place at some undefined 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 will be indirectly included in the estimates of other work from the additional projects.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects. The process identified 86 significant projects accounting for 82% 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 2018. The location of the significant projects within the Coventry and Warwickshire LEP can be seen in Figure 7.

⁴ The Glenigan database 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. For the purposes of this analysis we have used the 2017Q3 cut of data.

⁵ The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compile a pipeline of UK infrastructure and construction projects and the associated annual public and private investment. For this report we have used the Autumn 2017 NICP which includes details of around 700 projects valued at some £463bn.

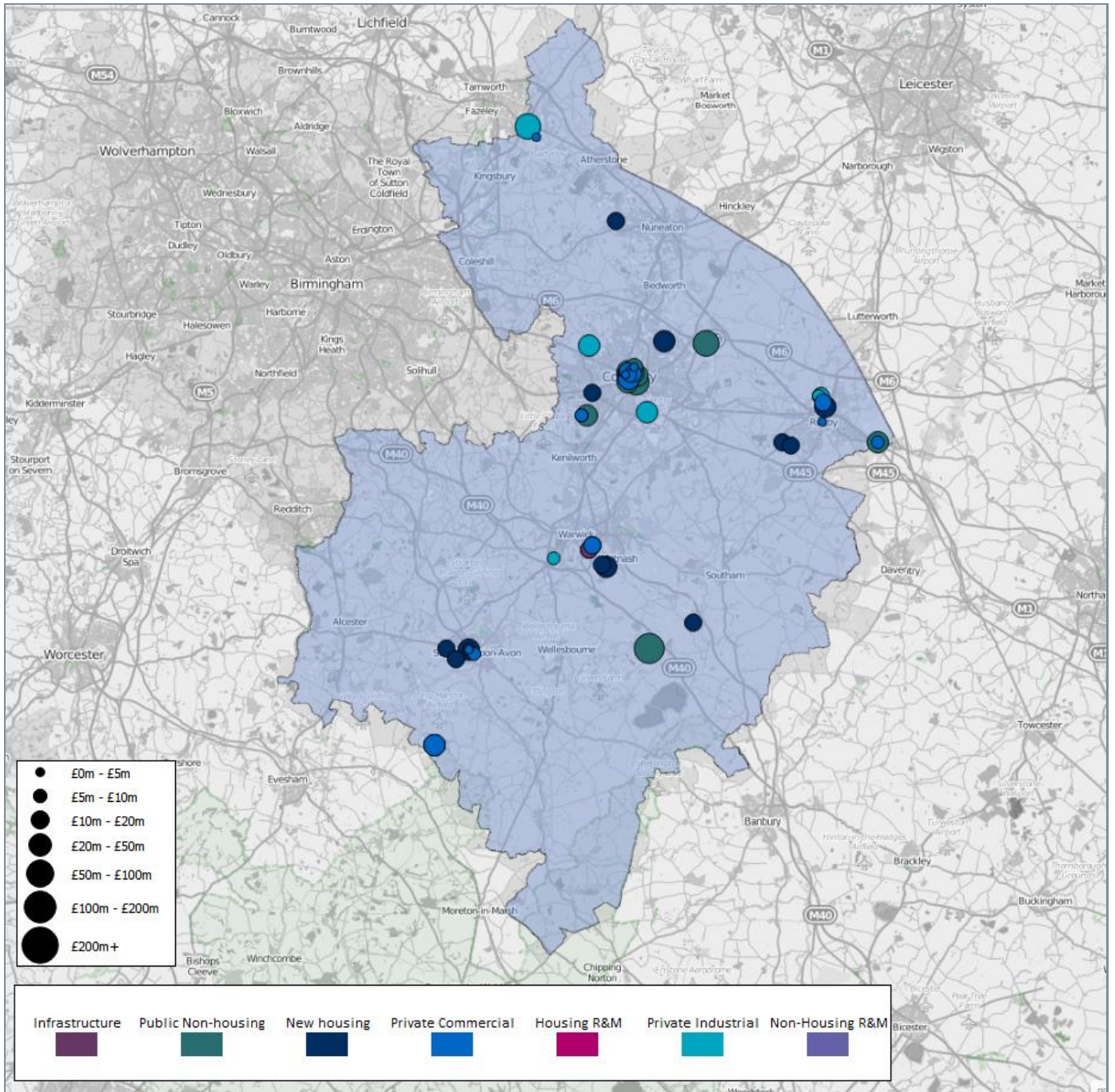


Figure 7: Location of significant projects included in the analysis

3.2.2. Glenigan & NICP spend analysis

Implementing the methodology outlined in Appendix A leads to the following findings for the peak year for denominated projects of 2018. The peak year is used because the tail off in the denominated projects is more likely to be due to a lack of future planning rather than an actual tail off in workload.

Table 7 shows the distribution by sector of new build spend for the total pipeline of denominated projects.

Table 7: New-build construction spend by project type in 2018 (total denominated projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
New housing	558	53%
Private industrial	151	14%
Private commercial	125	12%
Infrastructure	109	10%
Public non-housing	101	10%
Total	1,044	100%

Table 8 shows the infrastructure construction spend from the denominated projects in 2018 by sub-sector.

Table 8: Construction spend per infrastructure sub-type in 2018 (total denominated projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
Transport	57	53%
Water	34	31%
General Infrastructure	9	8%
Energy	7	6%
Flooding	1	1%
Total	108	100%

3.3. ESTIMATE OF FUTURE TOTAL LABOUR DEMAND

As outlined in Appendix A the denominated project pipeline may not include smaller projects or repair and maintenance work. Figure 8 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 and the NICP) is also shown along with the likely total labour demand arising from estimates of other work. The total construction labour demand ranges from 35,100 people in 2018 to a peak for the area in 2022 at 36,050 people.

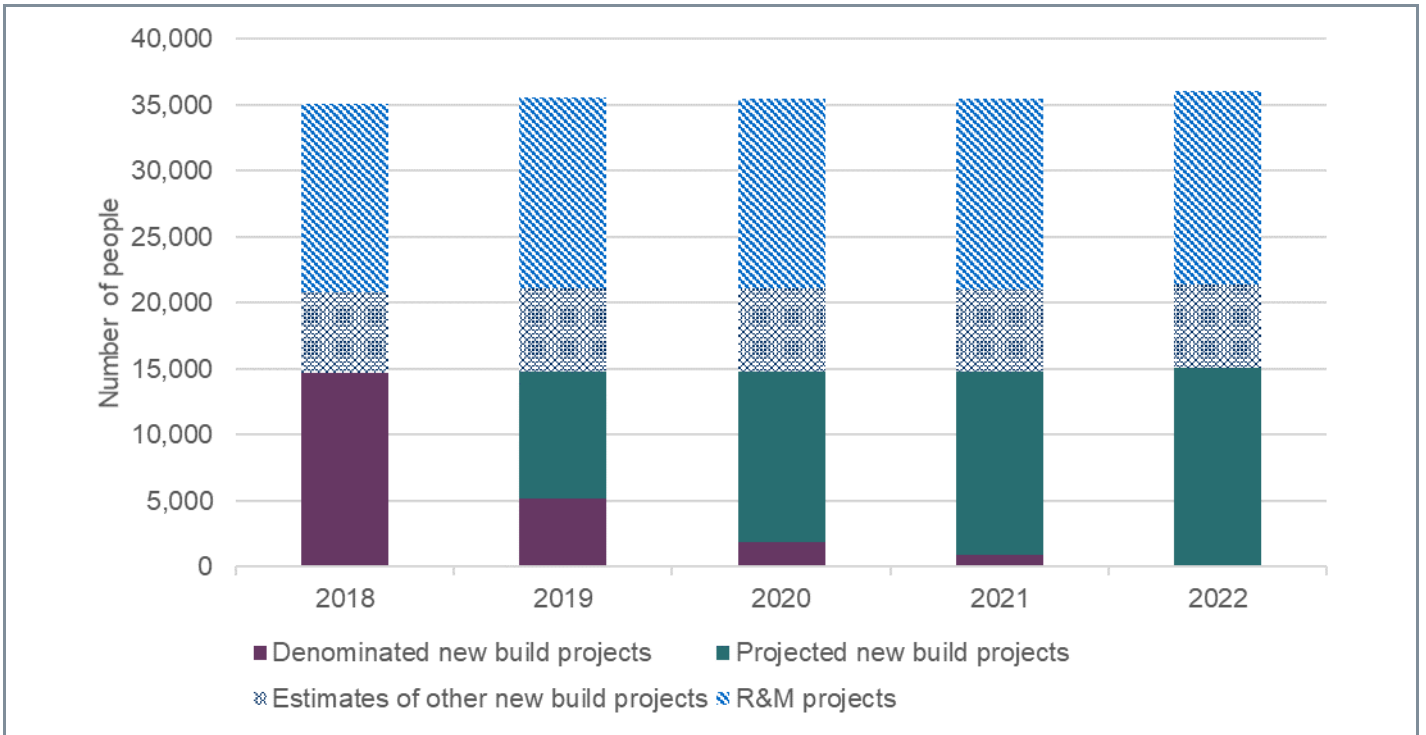


Figure 8: Total construction labour demand including estimates for both R&M and estimates of other work

3.3.1. Breakdown of labour demand by occupation

Figure 9 presents the breakdown of labour by the two groups of skilled trades & operatives and managerial, professional & office based staff. Around 59% of the workforce are in skilled trades & operative occupations.

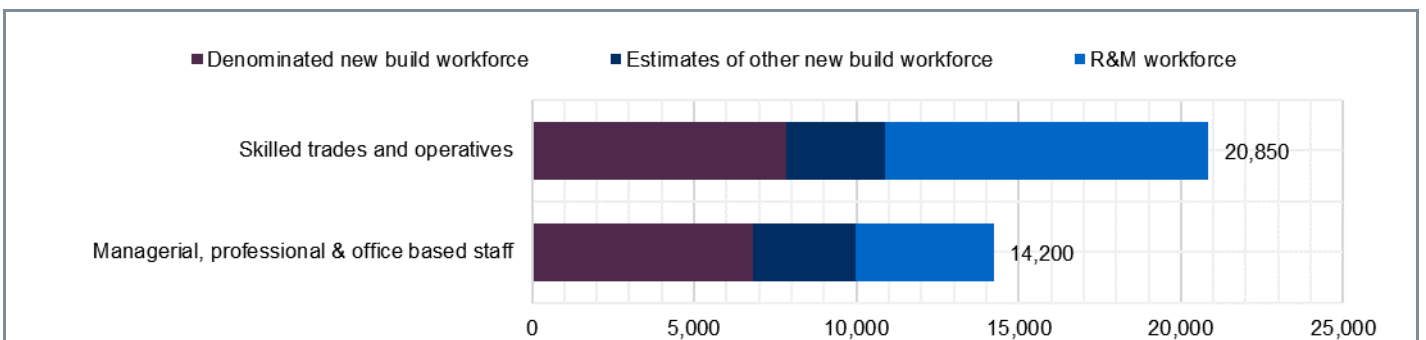


Figure 9: Total construction labour demand for 2018 by broad occupational group

For the peak year in Glenigan of 2018 the detailed breakdown by each of the 20 skilled trade & operative occupational groups is shown in Figure 10. This shows the breakdown by occupation for both the pipeline of denominated projects, the estimates of other new-build work and the R&M work. These occupations will be predominately based on or near the location of the work.

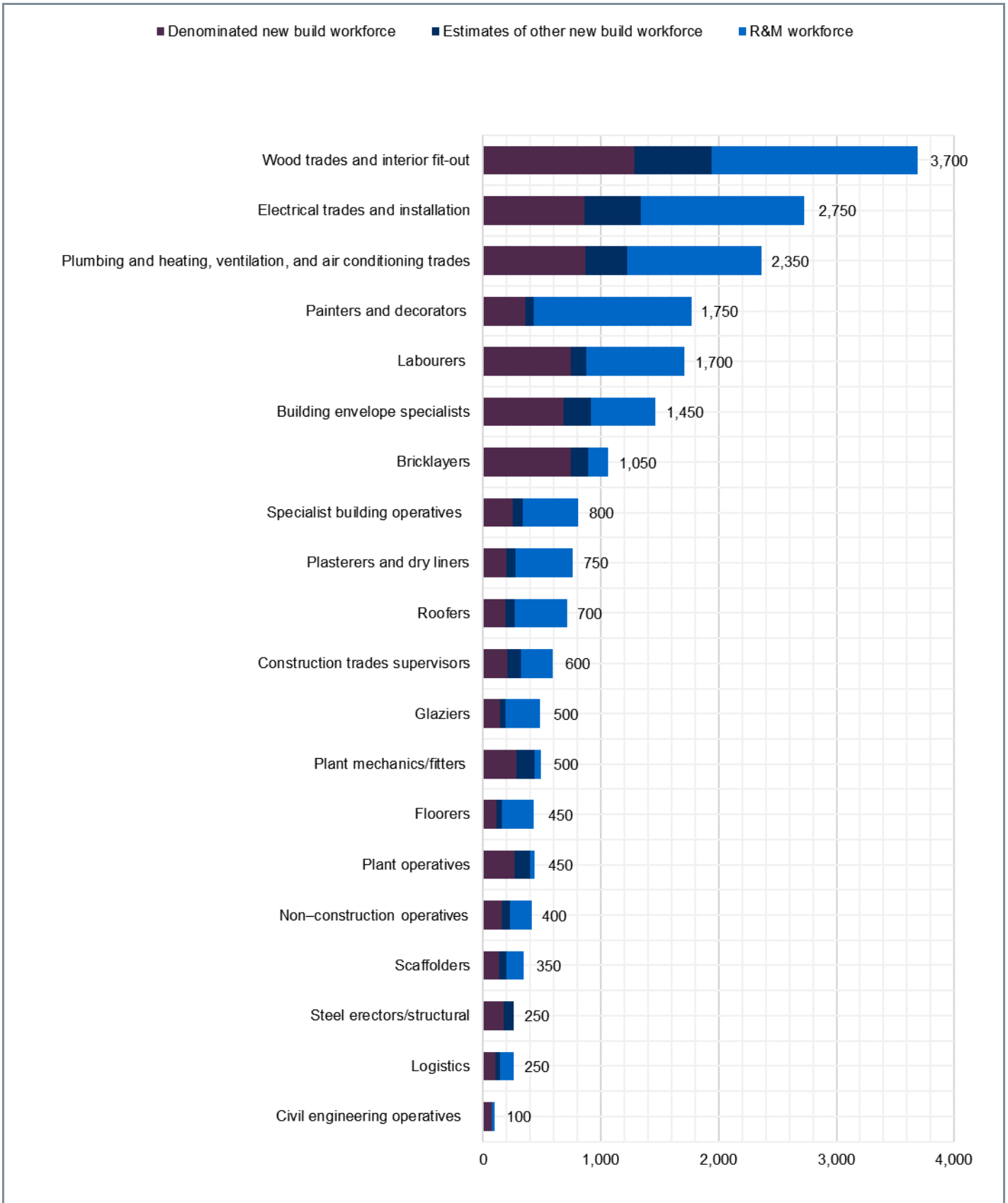


Figure 10: Construction labour demand for skilled trades & operative occupations in the peak year

Figure 11 shows a breakdown of the occupations which are in the managerial, professional & office based roles. The chart shows the workforce which will be generated by the pipeline of work taking pace in the area but due to the nature of these roles there is not necessarily a requirement for them to spend all of their time in the area or on site.

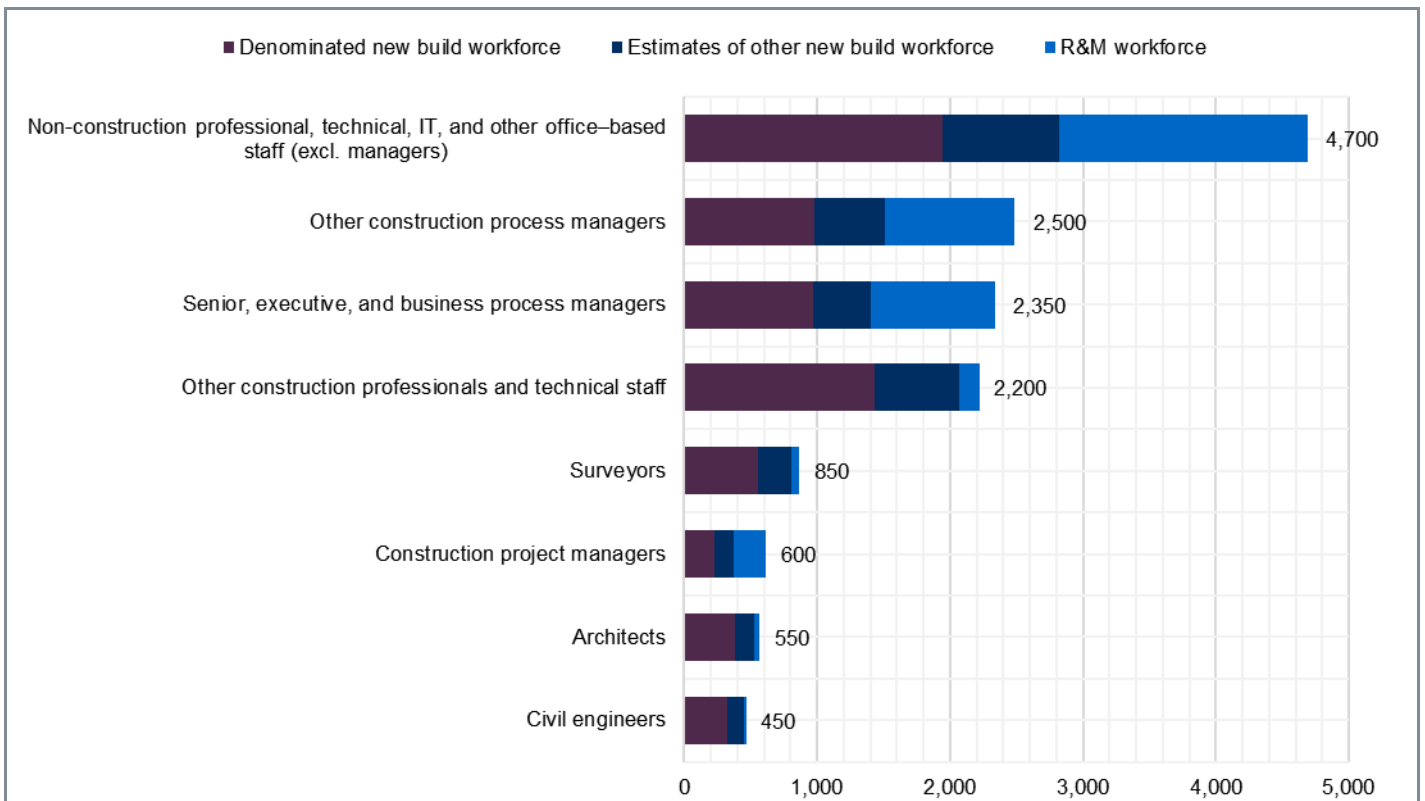


Figure 11: Construction labour demand managerial, professional & office based occupations in the peak year

3.3.2. Breakdown of labour demand by project type

Table 9 shows the labour demand generated by the denominated projects and the estimates of other work in 2018

Table 9: Labour demand by work type in 2018

Project type	Denominated pipeline labour demand in 2018 (people)	Estimates of other work labour demand in 2018 (people)	Total labour demand in 2018 (people)	% of total in 2018
Non-housing R&M	-	9,150	9,150	26%
Private commercial	2,350	5,800	8,150	23%
New housing	6,800	-	6,800	19%
Housing R&M	1,250	3,850	5,100	15%
Private industrial	2,700	400	3,100	9%
Public non-housing	1,850	-	1,850	5%
Infrastructure	950	-	950	3%
Total	15,900	19,200	35,100	100%

4. LABOUR DEMAND IN THE GREATER BIRMINGHAM & SOLIHULL LEP

The following provide an estimate of the labour demand that construction investment will create across the Greater Birmingham and Solihull LEP over the period 2018-2022. (As described in Appendix A.)

4.1. MAIN POINTS – SUMMARY OF DEMAND

- The labour demand arising from the construction spend in the Greater Birmingham and Solihull LEP area peaks at around 102,500 people in 2022, taking account of estimates of other work including R&M in addition to the pipeline of denominated projects.
- Around 58% of the workforce are within skilled trades & operative occupations, the other 42% are within managerial, professional & office based staff.
- During the peak year (2018) of the denominated projects pipeline demand, the most labour-intensive occupation group is “non-construction professional, technical, IT and other office-based staff” with an annual demand of 13,600 people.
- The estimate of labour demand for the skilled trade & operative occupations for the peak year of 2018 are as follows:
 - The trade occupation for which demand is highest is wood trades and interior fit out with a requirement for 10,100 people;
 - Electrical trades and installation follow with 7,850 people.
 - Plumbing and heating, ventilation and air conditioning trades rank third, with a demand of 6,100 people

4.2. PIPELINE OF DENOMINATED PROJECTS

4.2.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database⁶ and the National Infrastructure and Construction Pipeline (NICP)⁷. These comprise what are referred to as the denominated projects.

The initial review of the Glenigan database identified 686 projects in the Greater Birmingham and Solihull LEP area. Of these, 72 projects were removed due to missing dates. Also excluded were 13 projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate and a further two were duplicates with the projects in the NICP. One project was omitted because there was no value provided. 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 less than 1% of the total pipeline value. It is possible that this work will take place at some undefined 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 will be indirectly included in the estimates of other work from the additional projects.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects. The process identified 93 significant projects accounting for 92% 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 2018. The location of the significant projects within the Greater Birmingham and Solihull LEP can be seen in Figure 12.

⁶ The Glenigan database 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. For the purposes of this analysis we have used the 2017Q3 cut of data.

⁷ The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compile a pipeline of UK infrastructure and construction projects and the associated annual public and private investment. For this report we have used the Autumn 2017 NICP which includes details of around 700 projects valued at some £463bn.

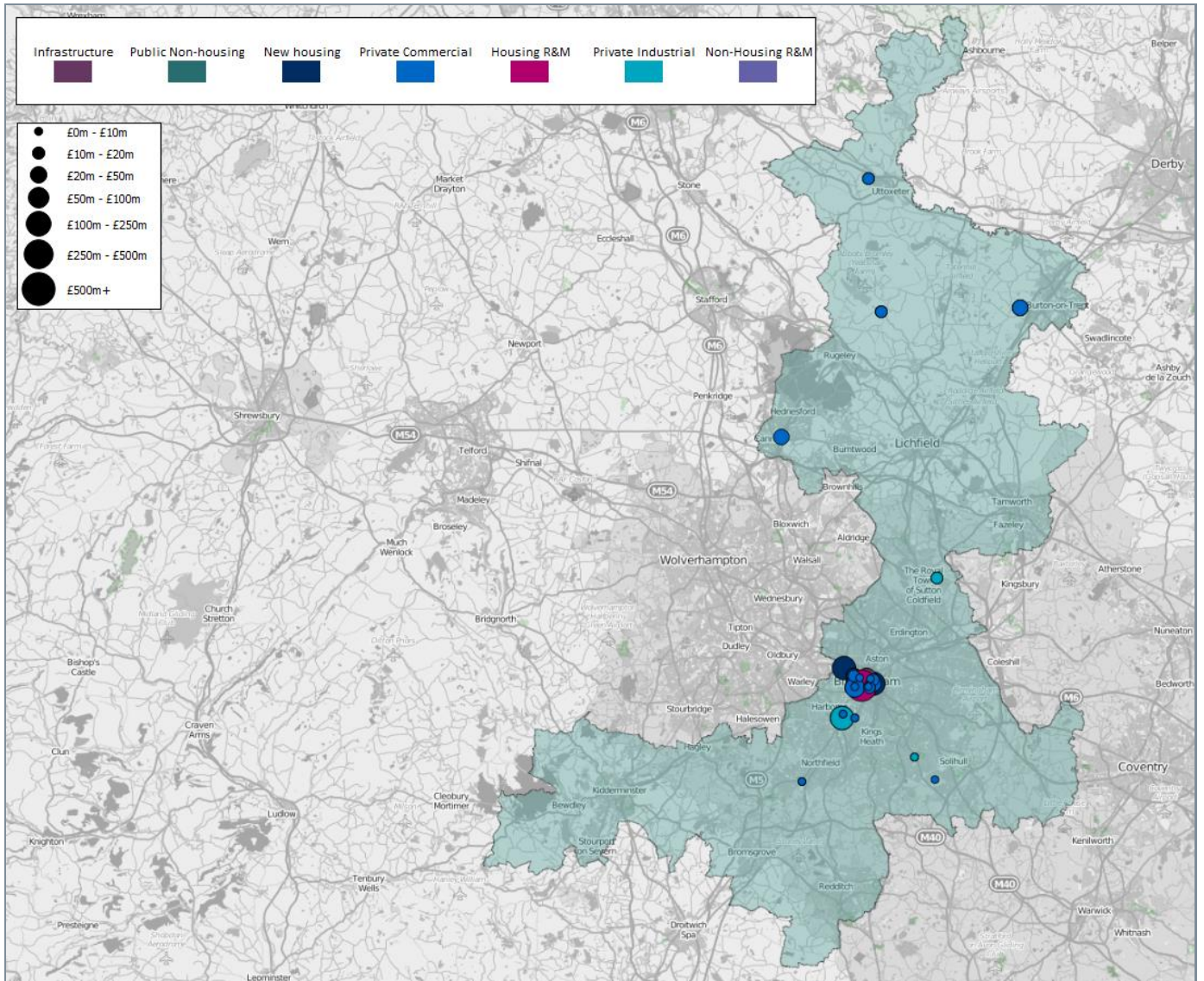


Figure 12: Location of significant projects included in the analysis

4.2.2. Glenigan & NICP spend analysis

Implementing the methodology outlined in Appendix A leads to the following findings for the peak year for denominated projects of 2018. The peak year is used because the tail off in the denominated projects is more likely to be due to a lack of future planning rather than an actual tail off in workload.

Table 10 shows the distribution by sector of new build spend for the total pipeline of denominated projects.

Table 10: New-build construction spend by project type in 2018 (total denominated project pipeline)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
New housing	906	40%
Private commercial	573	25%
Infrastructure	368	16%
Public non-housing	277	12%
Private industrial	163	7%
Total	2,287	100%

Table 11 shows the infrastructure construction spend from the denominated projects in 2018 by sub-sector.

Table 11: Construction spend per infrastructure sub-type in 2018 (total denominated project pipeline)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
Transport	203	55%
Water	133	36%
General Infrastructure	16	4%
Energy	10	3%
Flooding	6	2%
Total	368	100%

4.3. ESTIMATE OF FUTURE TOTAL LABOUR DEMAND

As outlined in the Appendix A the denominated project pipeline may not include smaller projects or repair and maintenance work. Figure 13 shows the outcomes of the analysis of future labour demand with an employment growth rate included. 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 (included any in Glenigan or the NICP) is also shown along with the likely total labour demand arising from estimates of other work. The total construction labour demand ranges from 99,750 people in 2018 to a peak for the area in 2022 at 102,500 people.

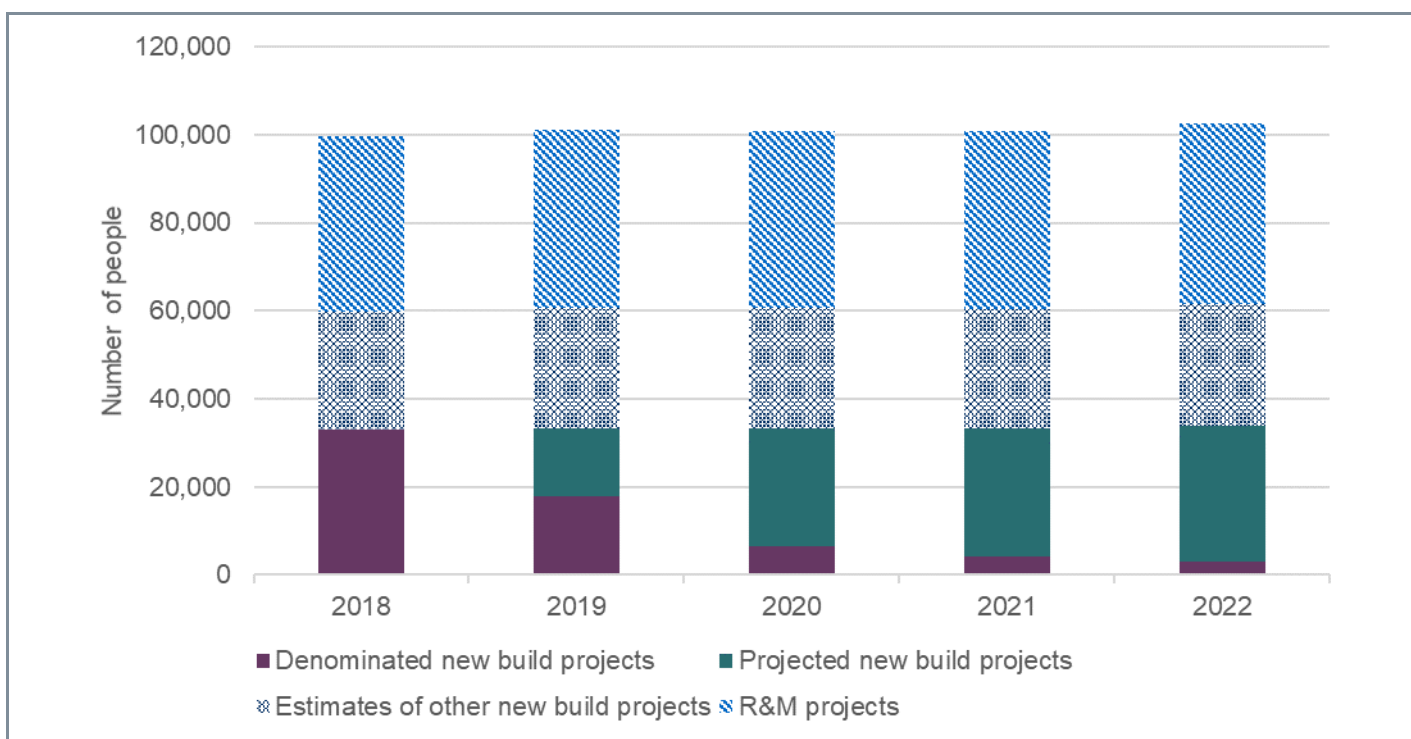


Figure 13: Total construction labour demand including estimates for both R&M and estimates of other work

4.3.1. Breakdown of labour demand by occupation

Figure 14 presents the breakdown of labour by the two groups of skilled trades & operatives and managerial, professional & office based staff. Around 58% of the workforce are in skilled trades & operative occupations.

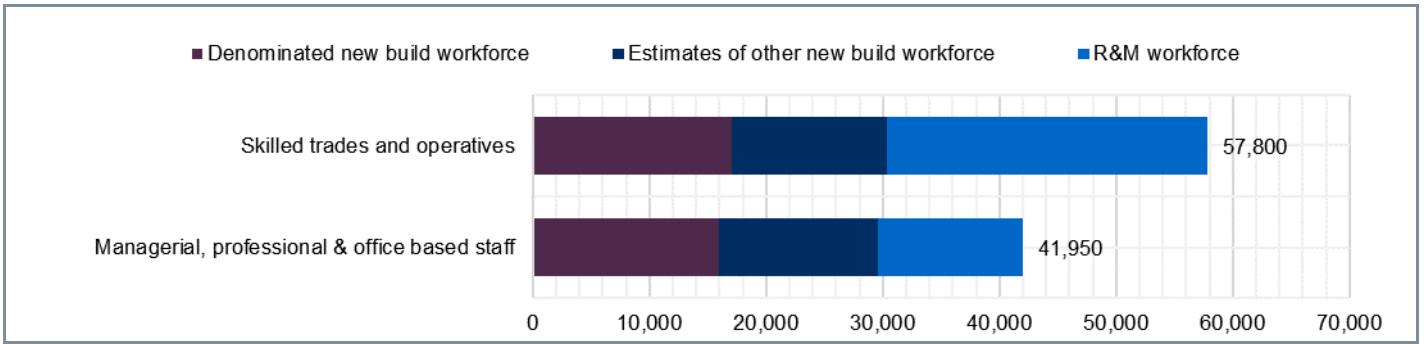


Figure 14: Total construction labour demand for 2018 by broad occupational group

For the peak year in Glenigan of 2018 the detailed breakdown by each of the 20 skilled trade & operative occupational groups is shown in Figure 15. This shows the breakdown by occupation for both the pipeline of denominated projects, the estimates of other new-build work and the R&M work. These occupations will be predominately based on or near the location of the work.

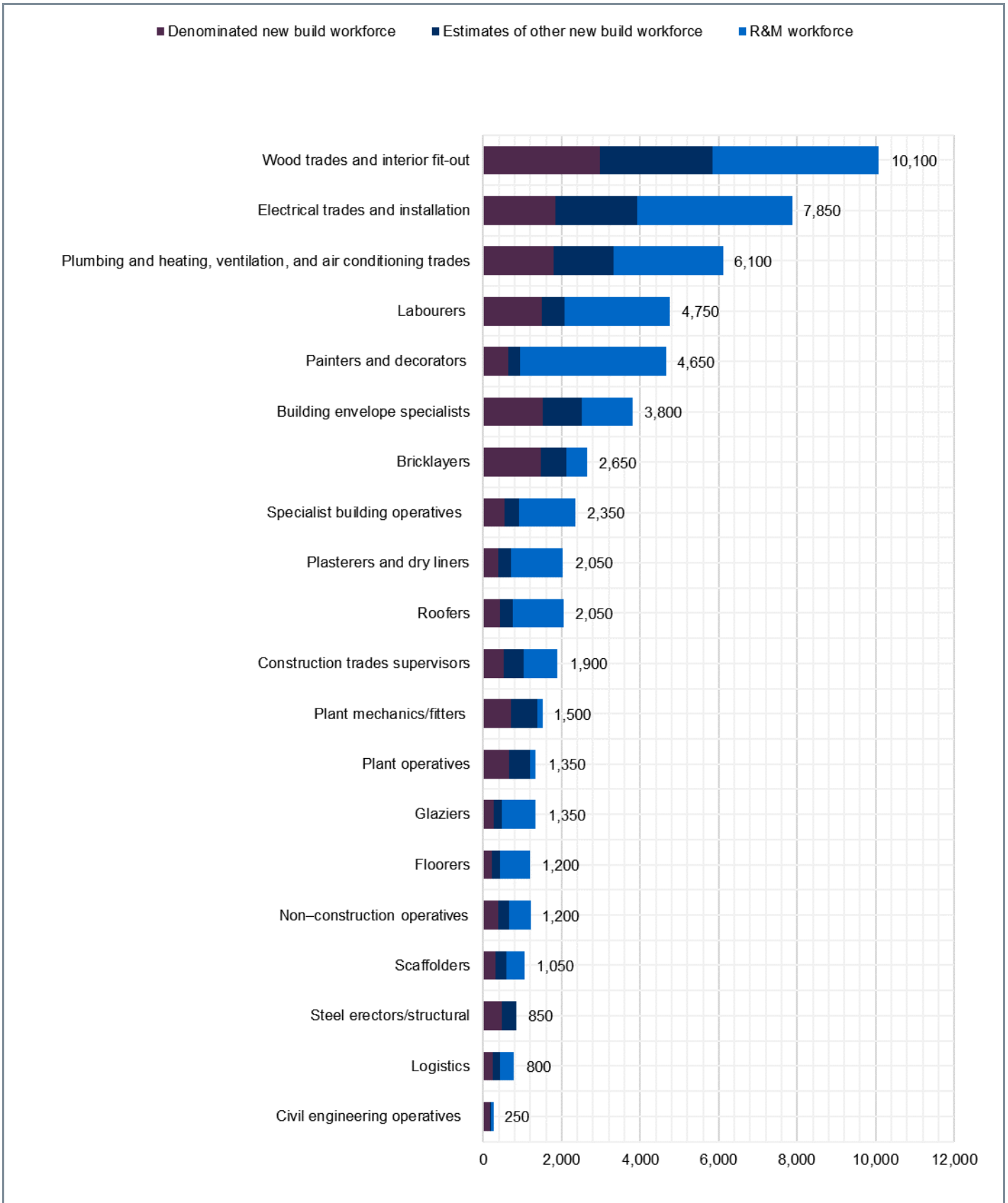


Figure 15: Construction labour demand for skilled trades & operative occupations in the peak year

Figure 16 shows a breakdown of the occupations which are in the managerial, professional & office based roles. The chart shows the workforce which will be generated by the pipeline of work taking pace in the area but due to the nature of these roles there is not necessarily a requirement for them to spend all of their time in the area or on site.

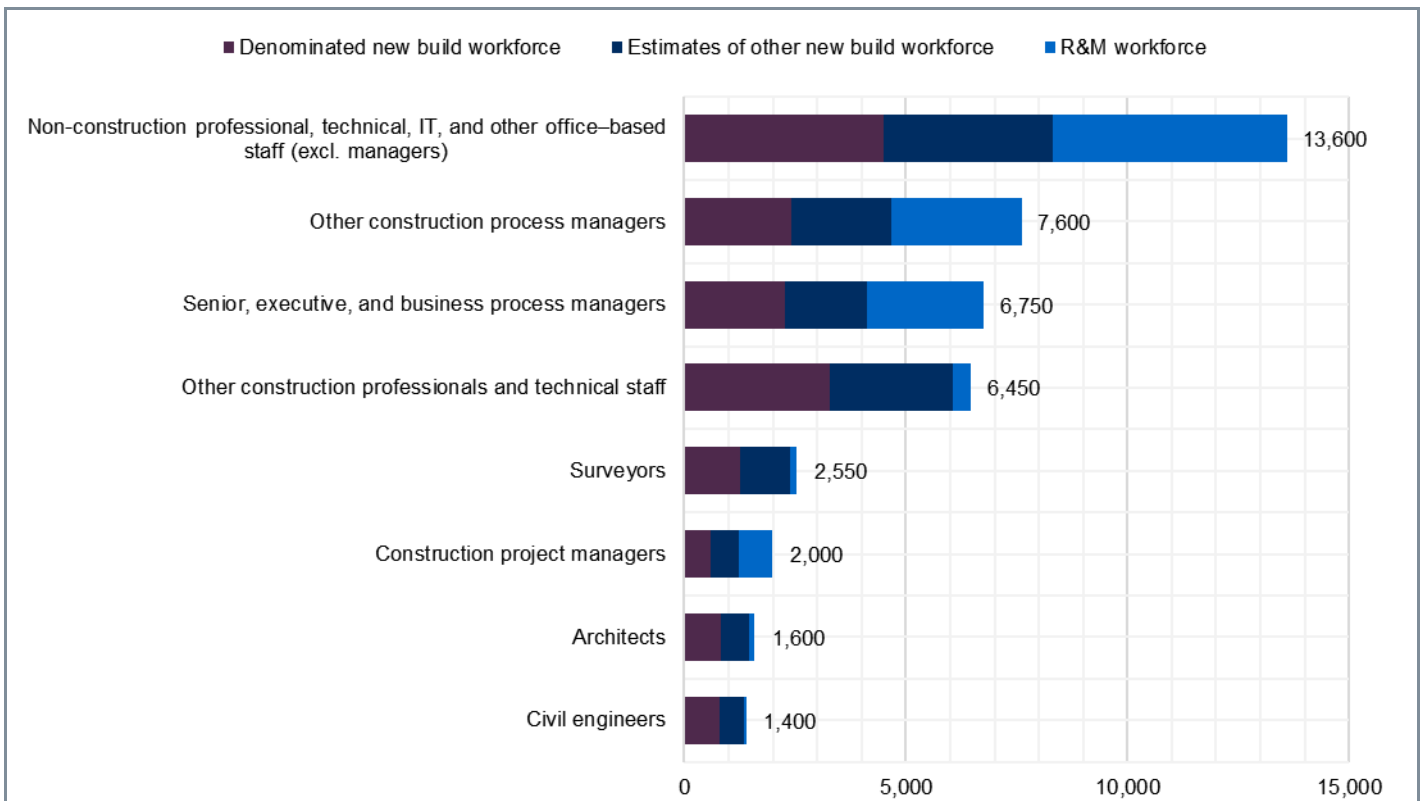


Figure 16: Construction labour demand managerial, professional & office based occupations in the peak year

4.3.2. Breakdown of labour demand by project type

Table 12 shows the labour demand generated by the denominated projects and the estimates of other work in 2018

Table 12: Labour demand by work type in 2018

Project type	Denominated pipeline labour demand in 2018 (people)	Estimates of other work labour demand in 2018 (people)	Total labour demand in 2018 (people)	% of total in 2018
Private commercial	10,200	26,500	36,700	37%
Non-housing R&M	-	31,550	31,550	32%
New housing	11,450	-	11,450	11%
Housing R&M	3,850	4,400	8,250	8%
Public non-housing	5,250	-	5,250	5%
Private industrial	2,850	400	3,250	3%
Infrastructure	3,300	-	3,300	3%
Total	36,900	62,850	99,750	100%

5. HIGH SPEED TWO (HS2)

High Speed Two Ltd has been granted the powers by Parliament to begin the construction of Phase One of HS2 which will be the new high speed line between Birmingham and London.

The HS2 route passes through the West Midlands Combined Authority Area, to the South West of Coventry and then running to the East of Birmingham to Lichfield, where the Phase one route will join the West Coast Main Line.

The West Midlands Combined Authority estimates HS2 could boost the economy by £14bn and support over 100,000 jobs. Around the new Curzon Street station, Birmingham City Council regeneration plans see the creation of 36,000 jobs in the creative, digital, and professional services sectors and 4,000 new city centre homes. To the east of the city, around the new Interchange station, UK Central proposals envisage a new business district to deliver 16,000 jobs and 1,900 homes at the core of plans for wider growth at key locations in the M42 corridor.

One of the two National College for High Speed Rail (NCHSR) locations is based North East of Birmingham city centre. The college opened in September 2017 and will see over 1,000 people graduate each year. The college will train the future rail workforce as well as the existing workforce in the skills that the rail industry demands.

5.1. INDICATIVE SCHEDULE – PHASE ONE

The Government's information on the subjects states that:

The construction of the whole Phase One route will take approximately eight years, from the moment that site clearance work starts to the completion of railway installation. This will be followed by a period of testing and commissioning before the first services commence in 2026.

Most places along the Phase One route will only experience active construction for periods much shorter than eight years. For example, where there are no major structures, the period of active construction could be approximately two years prior to railway installation works. However, in some areas along the route, and at stations, construction will take longer.

5.2. HS2 LABOUR AND SKILLS FORECASTING

High Speed 2 has commissioned its own analysis of the demand for construction and the potential impact on the construction industry along the route. At the time of writing, this report has not been published and it is hoped that this will be made publicly available during 2018.

An interview with HS2 was published in Construction News in November 2014 in which it indicated a need for a monthly average total construction workforce of around 11,500 workers during construction with a peak construction workforce of more than 22,000. While many of these workers will need more traditional construction skills the expectation is for there to be skills gaps for modern construction methodologies. The interview reports an expectation that half the workforce will need skills at NVQ level 3 or above (where at the time of writing the estimate was for 80% of workers to be trained to NVQ level 2) suggesting that there is a need for upskilling of construction workers.

To some extent, HS2 is attempting to address some of these potential gaps with the creation of the new National College for High Speed Rail (NCHSR).

LINK – [The article can be read at the Construction News website.](#)

5.3. CONTEXT

The anticipated peak workforce for High Speed 2 is likely to be active across the anticipated route rather than be concentrated at a single geographic point at a moment in time. Particular centres of activity are likely to be around specific infrastructure challenges (such as junctions, tunnels and viaducts) as well as at the major centres of construction such as terminus and interchange stations.

Work will pass through the regions: the West Midlands; the South East; the East Midlands; the North West; Yorkshire & Humber.

The West Midlands region has a construction workforce of around 230,000 and the East Midlands 180,000. So the total peak demand for workers for HS2, estimated at about 22,000 represents approximately five and a half per cent of the two regions' construction workforce.

While HS2 is likely to have an impact on demand, training needs and associated factors there is no suggestion, that it will have a significant negative impact by drawing large numbers of workers away from other projects. Rather, it is likely to present opportunities for which there should be ample time to plan, as better data about the route and specific construction elements becomes available.

6. A PICTURE OF SUPPLY

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

The first element of this section takes a view on current employment levels for the West Midlands Combined Authority and how this relates to overall employment across the wider region. The West Midlands Combined Authority includes the Greater Birmingham and Solihull Local Enterprise Partnership (LEP), Black Country LEP and the Coventry and Warwickshire LEP – all within the West Midlands region. Data from CITB's Construction Skills Network (CSN) is used along with official Government sources.

For the second element of this section, while training occurs at Further Education (FE) and Higher Education (HE) levels, the focus of this report is on FE training that takes place. This is because 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 at HE typically give much greater degrees of mobility. The much longer period of time taken to acquire qualifications and experience mean most HE qualified occupations are outside the period that this report can consider.

[That does not mean that the West Midlands Combined Authority should not have ambitions to move workers through to higher level training and education. There may also be opportunities for more leadership and management, as well as specialist, training and development.]

The demand forecasts can then be compared against employment, training and workforce mobility to give an indication of possible gaps and or occupational pinch points.

6.1. MAIN POINTS

- Within the West Midlands Combined Authority, half of the construction workforce is located within Greater Birmingham and Solihull LEP (50%), with almost a third located in Black Country LEP (30%) and the remaining fifth in Coventry and Warwickshire (20%).
- Current construction workforce within the WMCA is estimated at just over 147,000 workers.
- Construction employment in the West Midlands Combined Authority accounts for 67% of construction employment in the West Midlands region.
- Nearly 200 training providers delivered training (including Apprenticeships) within the area over the last four years, however there are 20 main providers delivering 86% of provision.

6.2. EXISTING WORKFORCE

Recent trends in the workforce and businesses are as follows:

- The West Midlands Combined Authority workforce has expanded broadly in line with the West Midlands region.
- 93.9% of West Midlands Combined Authority businesses are Micro sized (0-9 employees) almost identical to West Midlands region.

An analysis of the Annual Population Survey⁸ shows that the West Midlands Combined Authority accounts for 67% of construction employment in the West Midlands. Table 13 applies this percentage share across the CSN occupational breakdown for the West Midlands to give an estimate of total employment at occupational and industry level in the West Midlands Combined Authority.

The chart below (Figure 17) uses CSN and Annual Population Survey data to show changes in construction workforce employment from 2013-16 across the West Midlands region and the West Midlands Combined Authority. The chart shows that construction workforce numbers in the WMCA have broadly moved upward in line with those of the wider region, albeit with a slight dip in 2015. Construction employment in the West Midlands Combined Authority at the end of 2017 was around 147,000, around 12% higher than it was in 2013.

⁸ ONS/NOMIS (2016) Annual Population Survey workplace analysis by industry to June 2017.

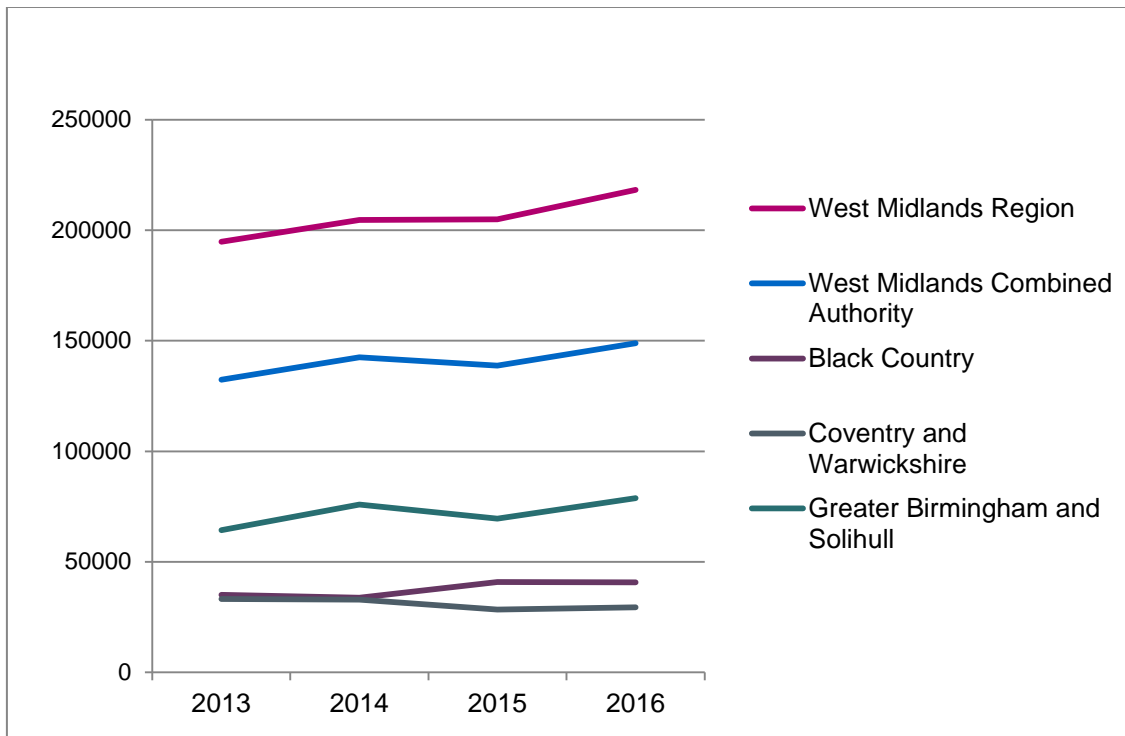


Figure 17: Year on Year change in Construction Employment (CITB Experian / APS Workplace Analysis 2017)

Similar to workforce details, the number of construction businesses within the West Midlands Combined Authority has increased by 1,925 to 14,980 in 2016 from 2013 with similar growth across the wider West Midlands region.

Figure 18 shows the distribution of construction businesses within the West Midlands Combined Authority, and Figure 19 shows the distribution of the construction workforce.

Comparing business to workforce distribution indicates that the three areas have a broadly similar distribution of businesses to workforce jobs (within 3 percentage-points difference). Coventry and Warwickshire has a slightly higher density of businesses compared to construction workforce but the differences are not great.

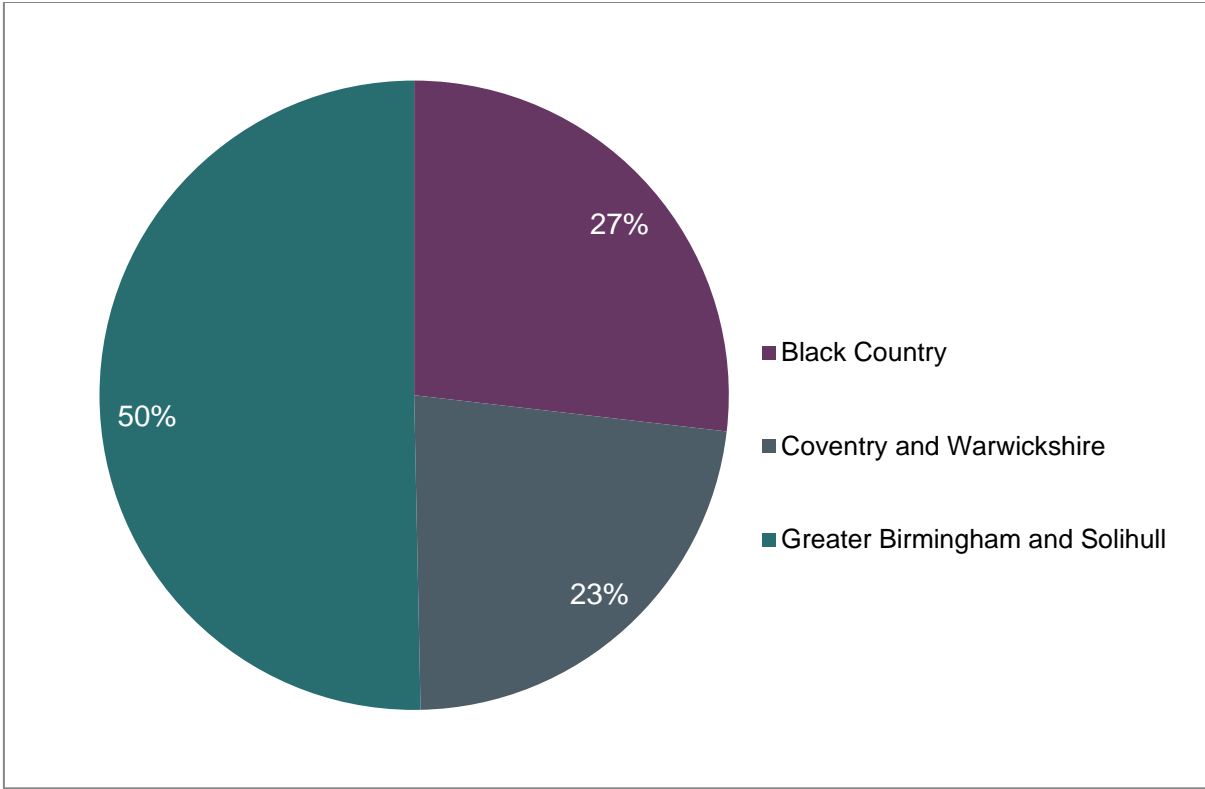


Figure 18: Distribution of construction businesses within West Midlands Combined Authority (UK Business Count, NOMIS 2017)

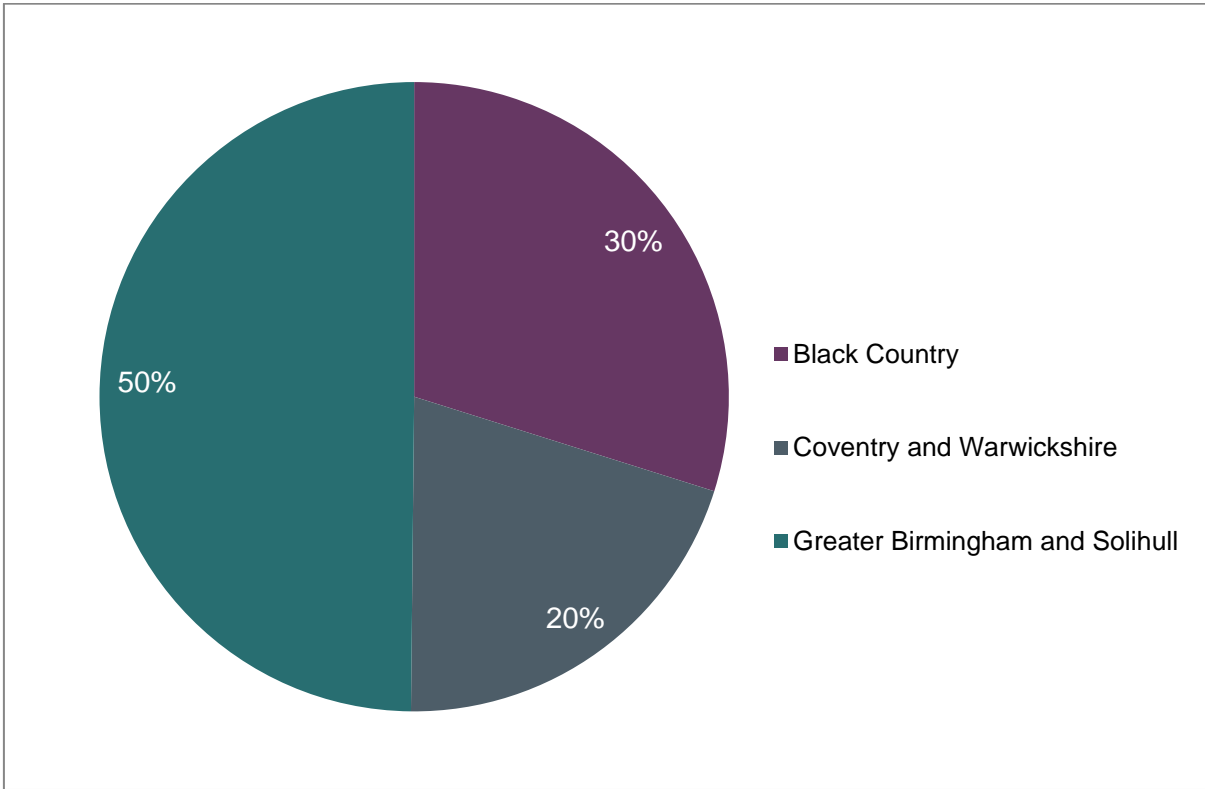


Figure 19: Construction employment by area within West Midlands Combined Authority (2017, NOMIS)

Overall, the construction sector has high levels of self-employment with around 40% of the GB construction workforce being self-employed. The proportion of self-employment in the West Midlands region is also 40%, slightly higher than the 37% proportion in the West Midlands Combined Authority.⁹

When it comes to business size (excluding self-employment), the distribution of companies across the West Midlands Combined Authority is very close to the pattern seen across West Midlands, with the majority of construction companies being micro sized, i.e. fewer than 10 employees – shown in Figure 20.

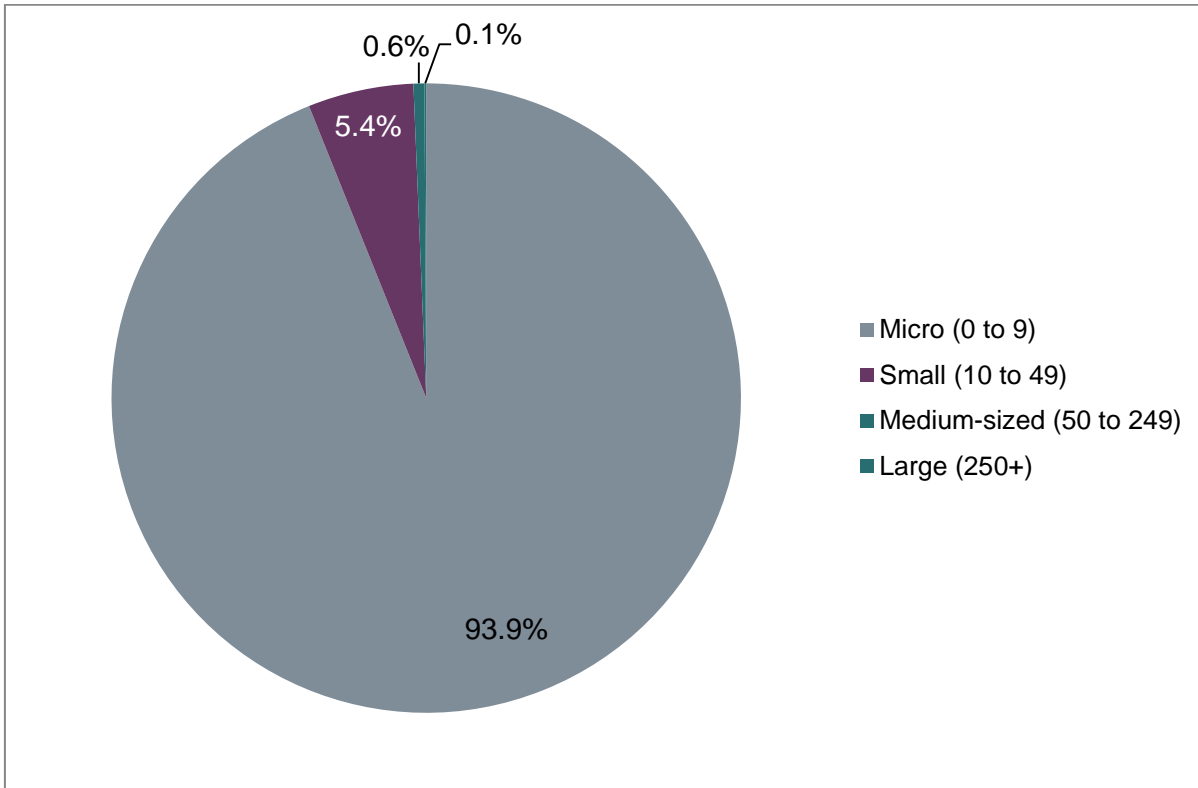


Figure 20: Size of Construction Businesses within West Midlands Combined Authority (UK Business Count, NOMIS 2017)

The proportion of micro-sized construction businesses across the West Midlands Combined Authority at 93.9% is almost identical to the wider West Midlands region at 93.8%. This high proportion of micro-sized businesses means that clients and or main contractors may need to engage with a wide pool of sub-contractors when working on future projects.

⁹ Source: Annual Population Survey: Workplace Analysis, NOMIS, 2017.

Table 13: Construction occupational breakdown, 2017 (Source Experian & CITB)

Occupation	West Midlands Combined Authority	West Midlands region
Non-construction professional, technical, IT, and other office-based staff	21,844	32,410
Other construction process managers	13,669	20,280
Senior, executive, and business process managers	12,786	18,970
Wood trades and interior fit-out	11,883	17,630
Electrical trades and installation	12,307	18,260
Other construction professionals and technical staff	9,375	13,910
Plumbing and HVAC Trades	9,005	13,360
Labourers nec	7,043	10,450
Building envelope specialists	5,298	7,860
Plant mechanics/fitters	4,799	7,120
Painters and decorators	4,307	6,390
Surveyors	4,415	6,550
Bricklayers	3,168	4,700
Construction trades supervisors	2,507	3,720
Specialist building operatives nec*	2,622	3,890
Roofers	2,487	3,690
Steel erectors/structural fabrication	1,982	2,940
Glaziers	2,002	2,970
Logistics	2,062	3,060
Civil engineers	1,988	2,950
Non-construction operatives	2,029	3,010
Construction project managers	1,557	2,310
Plasterers	1,725	2,560
Scaffolders	1,328	1,970
Civil engineering operatives nec*	1,429	2,120
Plant operatives	1,530	2,270
Floorers	1,051	1,560
Architects	944	1,400
Total	147,141	218,310

Note: nec*: not elsewhere classified

HVAC: Heating, ventilation and air-conditioning.

7. 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.

7.1. MAIN POINTS

- 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%).

7.2. 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 14.

Table 14: Region/nation employer operates in, compared with region/nation working in currently

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

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

7.3. 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%).

7.4. 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.

7.5. 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%).

7.6. 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.

7.7. 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.

8. TRAINING PROVISION

8.1. MAIN POINTS

Nearly 90% of learner volumes covered by 20 main providers.

Nearly 200 training providers delivered training (including Apprenticeships) within the Combined Authority area over the last four years.

Training has been provided across the full range of construction occupations.

Good levels of competence qualifications achievements linked to nine occupations with the top four being plant operatives; plumbing and HVAC trades, wood trades and electrical trades.

CITB analysis of Education and Skills Funding Agency (ESFA) Individualised Learner Records from 2012-13 through to 2015-16 academic years for construction learners shows that:

- Construction related training in the West Midlands Combined Authority accounts for 76% of the total across the West Midlands region.
- The data indicates annual decreases in the number of achievements across the West Midlands Combined Authority; almost halving between 2021/13 and 2015/16 (48% drop) with a corresponding drop in numbers across the West Midlands region (42% drop).
- The drop can largely be explained by declines in plant operative training and is typical of decreases also seen in other regions.
- The number of starters on Level 2+ Apprenticeships has increased across the West Midlands Combined Authority (+23% between 2012/13 and 2015/16).

Table 15: Competence qualification achievement in West Midlands Combined Authority as a % of total achievements in West Midlands region (all qualification levels).looks at qualification achievements over the last four years for the identified competence based qualifications, comparing achievement volumes in the West Midlands Combined Authority against those in the West Midlands region.

[The information shown in Table 13: 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.]

Table 15: Competence qualification achievement in West Midlands Combined Authority as a % of total achievements in West Midlands region (all qualification levels).

Construction Occupations	2012-2013	2013-2014	2014-2015	2015-2016	Total Achievements West Midlands region	Total
Total	78%	76%	77%	69%	16740	76%
Occupations with good provision						
Plant operatives	82%	81%	80%	60%	4330	80%
Plumbing and HVAC Trades	70%	81%	58%	59%	2010	68%
Wood trades and interior fit-out	70%	68%	76%	75%	1700	72%
Electrical trades and installation	67%	73%	76%	71%	1640	72%
Civil engineering operatives nec*	63%	80%	92%	69%	1420	79%
Bricklayers	67%	74%	71%	61%	1060	68%
Specialist building operatives nec*	78%	80%	93%	82%	820	82%
Glaziers	91%	81%	68%	29%	680	75%
Painters and decorators	69%	77%	77%	73%	630	74%
Occupations to monitor						
Building envelope specialists	97%	61%	81%	98%	510	80%
Plant mechanics/fitters	73%	58%	68%	47%	340	62%
Floorers	81%	68%	83%	79%	270	78%
Scaffolders	74%	69%	85%	85%	270	79%
Construction Trades Supervisors	84%	66%	40%	88%	260	79%
Plasterers and dry liners	67%	77%	96%	88%	240	81%
Roofers	84%	94%	70%	85%	210	83%
Low overall learner volumes						
Other construction prof & tech staff	100%	93%	100%	81%	140	92%
Steel erectors/structural	100%	100%	96%	89%	90	98%
Construction managers	88%	56%	0%		70	77%
Non-construction operatives		93%	93%	63%	70	89%

*nec – not elsewhere classified

Note: Total achievements are across the period 2012-13 to 2015-16 and have been rounded to the nearest 10.

The percentage comparison with the West Midlands region is used as a device to demonstrate the provision of training in West Midlands Combined Authority by occupations relative to one another to gauge where provision is relatively high or low. Relatively low provision in comparison with the region or a decline are highlighted in red.

The occupations highlighted green indicate good levels of training provision. These occupations include:

- Plant operatives
- Plumbing and HVAC trades
- Wood trades and interior fit-out
- Electrical trades and installation
- Civil engineering operatives nec*
- Bricklayers
- Specialist building operatives
- Glaziers
- Painters and decorators

For occupations such as wood trades and plumbing, the volume of training will be related to their share of employment, while for others such as plant operators and specialist building operative, 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.

Occupations highlighted red indicate much lower levels of training. While the training provider network can adjust to cover changes in demand, there will be a requirement for a certain volume of training to make it viable for a provider to deliver it. These occupations could suffer from this intermittent demand or learners could be travelling further afield to more specialist training providers.

In terms of training providers, from 2012/13 through to 2015/16 nearly 200 different providers have delivered training (including Apprenticeships) in the West Midlands Combined Authority, however, there is a consistent pattern with nearly 90% of training being delivered by a core network of providers.

The main providers located within the West Midlands Combined Authority, in volume order, are:

- South & City College Birmingham
- Birmingham Metropolitan College
- Walsall College
- Dudley College
- City of Wolverhampton College
- Warwickshire College

The largest provider of Apprenticeships is CITB which accounts for 17% of all Apprentice starts. CITB operates across England in liaison with existing college providers as well as delivering direct training.

The typical profile of many geographic areas is that 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.

Table 16: Main training providers to the West Midlands Combined Authority area
– all construction qualification starts

Institution	12-13	13-14	14-15	15-16	Total	Total %
South & City College Birmingham	2,903	2,715	2,491	1,861	9,970	17.8%
Birmingham Metropolitan College	1,414	2,205	1,914	1,527	7,060	12.6%
Walsall College	641	891	1,152	1,098	3,782	6.7%
Dudley College	1,243	1,233	604	627	3,707	6.6%
City Of Wolverhampton College	824	792	668	629	2,913	5.2%
Warwickshire College	603	700	713	653	2,669	4.8%
Solihull College	704	474	433	480	2,091	3.7%
Bournville College	467	568	483	477	1,995	3.6%
City College Coventry	386	423	622	552	1,983	3.5%
CITB	384	467	502	465	1,818	3.2%
Stourbridge College	1,548				1,548	2.8%
Sandwell College	407	331	324	392	1,454	2.6%
BCTG Limited	141	443	562	256	1,402	2.5%
Heart Of Worcestershire College	545	330	264	181	1,320	2.4%
South Staffordshire College	244	230	330	253	1,057	1.9%
Milton Keynes College	150	202	220	399	971	1.7%
Carillion Construction Limited	170	264	165	209	808	1.4%
Calderdale College	212	286	135		633	1.1%
Leicester College	265	181	111	52	609	1.1%
West Nottinghamshire College	344	121	17	80	562	1.0%
Total	15,822	15,094	13,705	11,414	56,035	100.0%

9. DEMAND AGAINST SUPPLY

9.1. MAIN POINTS

The West Midlands Combined Authority construction workforce is estimated at a little over 147,000 people. The demand for construction workers for the Combined Authority area is expected to exceed 151,000 for the foreseeable future.

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

- Plasterers
- Floorers
- Painters and decorators
- Specialist building operatives nec*
- Bricklayers
- Architects
- Construction project managers

However it is likely that some demand will be met by the mobility of construction workers travelling into the Combined Authority area. And many professional and office based roles may be delivered by people working outside the region.

Before looking at demand against supply, 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.

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 UKCG (Figure 21) 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 took the longest time whereas lower value work in general along with work in the industrial sector was able to get on site quickest.

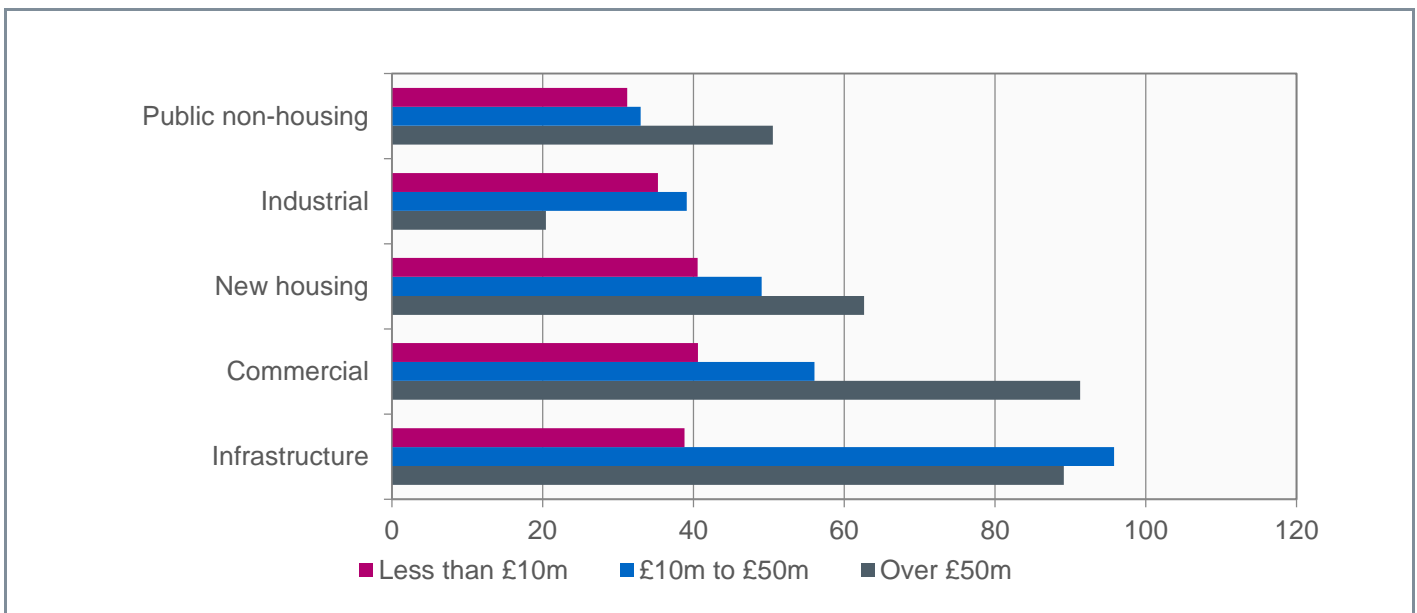


Figure 21: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan)

There will also be work carried out that does not require planning permission, for example household repair and maintenance (R&M) work, and this can account for a significant share of work in the construction sector. Current estimates for R&M work in the West Midlands indicate that it accounts for 37% of yearly construction output¹⁰.

Also, while different types of projects can be categorised by their type of build, such as housing, commercial and 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 different sectors. For example, evidence from the 2015 Mobility research¹¹ shows that occupations such as plasterers and banksmen/bankspersons are most likely to have only worked on one project type, while bricklayers, site managers, dryliners, and scaffolders are more likely to have worked on a wide range of building projects.

¹⁰ CITB(2017) Construction Skills Network – West Midlands

¹¹ CITB(2015) Workforce Mobility and Skills in the UK Construction Sector – West Midlands

9.2. GAP ANALYSIS

With current construction employment estimated in the West Midlands Combined Authority at 147,140 (see Table 13) the identified demand forecast from projects in Glenigan in the West Midlands Combined Authority accounts for just over 100% of current employment in 2018 before reducing, as the identified projects visibility decreases. This shortfall is not uniform across all occupations, supply should comfortably meet demand in several occupations while falling seriously short in others ref. Table 17.

Table 17: Occupational breakdown of demand for West Midlands Combined Authority against the risk of a shortfall (Source CITB/WLC)

Occupation	West Midlands Combined Authority Employment	Risk Rating Short fall of workers: 2018 demand versus 2017 employment
SKILLED TRADES		
Plasterers	1,720	1.82
Floorers	1,050	1.75
Painters and decorators	4,300	1.69
Specialist building operatives nec*	2,620	1.35
Bricklayers	3,170	1.31
Plant operatives	1,530	1.30
Wood trades and interior fit-out	11,880	1.30
Roofers	2,490	1.25
Scaffolders	1,330	1.19
Building envelope specialists	5,300	1.11
Plumbing and HVAC Trades	9,000	1.06
Labourers nec*	7,040	1.04
Glaziers	2,000	1.03
Electrical trades and installation	12,310	0.97
Steel erectors/structural fabrication	1,980	0.62
Logistics	2,060	0.57
Plant mechanics/fitters	4,800	0.47
Civil engineering operatives nec*	1,430	0.33
PROFESSIONAL ROLES		
Architects	950	2.53
Construction project managers	1,560	1.87
Construction trades supervisors	2,510	1.11
Civil engineers	1,990	1.08
Other construction professionals and technical staff	9,380	1.03
Surveyors	4,410	0.86
Other construction process managers	13,670	0.83
Senior, executive, and business process managers	12,790	0.80
NON CONSTRUCTION ROLES		
Non-construction professional, technical, IT, and other	21,840	0.94
Non-construction operatives	2,030	0.90
Total	147,140	1.03

Note: nec*: not elsewhere classified

HVAC: Heating, ventilation and air-conditioning.

Table 17 shows that while many occupations are likely to be at or slightly exceeding full capacity during 2018, there are some where local demand outstrips current local employment estimates and should be the focus of any immediate action.

In Table 17 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 RED – [Second quartile] appear to be at risk of a shortfall and should be reviewed to determine where opportunities for further training and development exist

AMBER – [Third quartile] still demonstrate a risk of a shortfall but should be monitored and tested to compare with local qualitative opinions.

GREEN – [Bottom quartile] appear to be at relatively 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 roles appearing to be at greatest risk of a shortfall compared with local supply are:

Among skilled trades:

- Plasterers
- Floorers
- Painters and decorators
- Specialist building operatives nec*
- Bricklayers
- Plant operatives
- Wood trades and interior fit-out
- Roofers
- Scaffolders
- Building envelope specialists

Among professional and managerial roles:

- Architects
- Construction Project Managers
- Construction Trades Supervisors
- Civil engineers

It should be noted that in many cases the apparent shortfall may be being met by workers moving into the Combined Authority area just as gaps in neighbouring regions will be met by workers from the West Midlands. (See section 7.)

9.2.1. Construction specific occupations

Demand for **Architects** and **Construction Project Managers** is high, and as with all professionally qualified occupations, which tend to require degree qualifications, there will be many years of education and training before becoming qualified plus years more to gain experience. If new candidates are to be encouraged to join these professions, it is likely that encouragement is required some years before they start training. Training for Construction Managers is also available at FE level, although few providers offer such training in the LEP area.

Demand for **Plasterers, Painters & Decorators, and Floorers** appears very high. Entry to these occupations is normally through work experience, with training such as NVQs offering 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). There is currently adequate training in the local area to meet existing demand, which has the potential to be increased should demand for these courses grow. Skilled workers could also travel from neighbouring regions to meet short-term spikes in demand.

Demand for **Wood Trades, Bricklayers, and Roofers** is also quite high. As with other skilled trades training tends to be NVQs, however, as has already been discussed these occupations appear to be well served in the LEP area in terms of training provision and so could be expected to cope with any spike in demand for skilled workers.

Specialist Building Operatives nec include a range of workers who undertake tasks such as operating insulating equipment, fixing plasterboard or dry linings to ceilings and walls, helping to construct, maintain, repair and demolish buildings and clean and resurface eroded stonework for example. There are no formal academic entry requirements for this role and training is typically provided on-the-job. NVQs in General Construction Operations are relevant, and offered by several providers in the LEP area with good levels of provision.

9.2.2. 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.

Around a quarter of: **scaffolders**, **construction project managers** and **civil engineers** work outside construction.

9.2.3. Plant operatives

Plant operatives are crucial to the progress and productivity of the construction industry and the risk of shortages are relatively high but are less acute than the experiences of individual local expert witnesses suggest. This is a complex situation and there are a number of factors that may help explain this disparity:

- Plant operatives may work across sectors. Around 21% of UK plant operatives work within construction. Although the analysis is specific to the construction sector, the plant equipment and services providers will often work across multiple sectors and many skills for some equipment types will be transferable. So workers may move between sectors.
- Plant supply firms and therefore the plant operatives are relatively mobile and so are thought more likely than some occupations to travel over a larger area to undertake work. This may also skew research findings where supply may be met from outside a project's region and demand may draw operatives away from a region.
- Training provision appears often to exceed expectations. Within the construction sector there are two main causes for this:
 1. Plant operatives will often be required to work with multiple types of machinery and require certification for each significant equipment type – so may hold multiple certifications.
 2. Other professions – notably site based roles, such as bricklayers and labourers – may be required to use plant on-site for which they have gained certification.
- In addition, the implication in relation to training provision for a group of occupations that are mobile is that while training provision may be delivered in one location, the benefits of that training may be felt in different regions and more likely on a national level.
- Shortages may be for specific equipment types while overall the statistics may indicate good levels of provision. This is particularly the case with complex infrastructure works, where unusual specialist machinery is required but for which there is a shortage of appropriately qualified workers. This may go some way to explain shortages highlighted by individual commentators.
- Plant operative employers also operate with different business models and this can complicate the picture:
 - some employ their own operatives and own the plant,
 - some will employ operatives and hire the plant,
 - some will provide the plant for hire while agencies provide the operatives.

9.3. GAP ANALYSIS – LONG TERM

When looking at the longer term the amount of known work in the LEP area decreases. To give a view on the gap analysis over the longer term, the annual Average Recruitment Requirement (ARR) taken from the West Midlands CSN 2017-2021 report can be used. Given that the West Midlands Combined Authority has consistently accounted for almost 70% of regional employment in recent years, it is likely that the West Midlands Combined Authority will face similar long term demands as the region as a whole.

The CSN 2018-2022 ARR is consistent with the analysis in identifying a requirement for:

- Construction Project Managers
- Wood Trades and Interior Fit-out

For both these occupations the ARR is a significant share compared to current employment at around 4%. This emphasises a potential short term and longer term gap for these occupations.

The CSN 2018-2022 ARR does however identify some other occupations with relatively high occupational requirements. These occupations are:

- Scaffolders (% of employment)
- Labourers (% of employment)
- Construction trade supervisors (% of employment)
- Other construction professional and technical staff (% of employment)
- Other construction process managers (number of people)

Table 18: Long term occupational breakdown of demand for West Midlands Combined Authority 2018-2022 (Source CITB/Experian)

Occupation	West Midlands Combined Authority	ARR 2018-2022 / (LEP)	ARR as % of 2016 Employment Forecast
Senior, executive, and business process managers	12,790	-	-
Construction Project Managers	1,560	60	3.9%
Other construction process managers	13,670	275	2.0%
Construction Trades Supervisors	2,510	130	5.2%
Civil engineers	1,990	65	-
Other construction professionals and technical staff	9,380	410	4.4%
Surveyors	4,410	100	-
Architects	950	<40	-
Wood trades and interior fit-out	11,880	470	4.0%
Bricklayers	3,170	80	2.5%
Building envelope specialists	5,300	<40	1.3%
Painters and decorators	4,300	35	0.8%
Plasterers	1,720	-	-
Roofers	2,490	-	-
Floorers	1,050	-	-
Glaziers	2,000	-	-
Specialist building operatives nec*	2,620	35	1.3%
Scaffolders	1,330	45	3.4%
Plant operatives	1,530	-	-
Plant mechanics/fitters	4,800	-	-
Steel erectors/structural fabrication	1,980	55	2.8%
Labourers nec	7,040	215	3.1%
Electrical trades and installation	12,310	145	1.2%
Plumbing and HVAC Trades	9,000	-	-
Logistics	2,060	<40	-
Civil engineering operatives nec	1,430	<40	-
Non-construction professional, technical, IT, and other office-based staff	21,840	65	0.3%
Total	145,110	2,280	1.8%

Other construction process managers is identified in volume terms because it has high employment levels, accounting for 12% of the long term demand for all construction workers. For Scaffolders, Labourers and Construction trade supervisors, Wood Trades, and Other construction professional and technical staff the ARR as a percentage of current employment is way above the regional average, which indicates a potential occupational pressure to meet forecasted demand.

With these occupations the ARR will be picking up the long term trend across the region, covering both new work and R&M. Although this may seem to be different to the gap analysis based on the Glenigan details, it will be picking up the full range of work that is forecast to happen and the slightly different view would also reflect occupations that would be more involved with R&M work.

9.4. 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?” The demand analysis and CSN identify Construction Project Managers, Wood trades, Scaffolders, Labourers, Construction Trade Supervisors, Other construction professional and technical staff, and Other construction process managers as being in demand, with the demand analysis also identifying, Architects, Bricklayers, Painters and Decorators, Plasterers, Roofers, Floorers, Specialist building operatives nec, and Plant Operatives.

For architects, Construction Managers, and Other Construction Professional and Technical Staff demand would typically be met from graduate level recruitment, which would not be restricted to supply from within the West Midlands Combined Authority. Workers would also be more likely to travel from neighbouring regions to meet demand.

The West Midlands Combined Authority, like the wider area, already delivers a significant volume of plant operative and bricklayer training. Within plant operations one of the factors will be the exact type of training required, i.e. is an operative trained to use a particular type of machine or perform a niche task. Further work would have to be carried out to determine the extent to which specialist skills in these areas would match future demand.

The second question “is there the volume of training required across the spread of occupations?” is possibly mixed in response. There would appear to be:

- Provision for training across the range of occupations
- A core of providers who deliver the majority of training
- Good provision of competence qualifications for certain occupations

However:

- There are occupations, such as Plasterers where the levels of local competence based training appears to be slightly low.
- For some professions such as Civil Engineers and Surveyors there are indications of wider national shortages. Often the problem may be not the numbers of those studying degree level qualifications but difficulty from the construction sector attracting graduates in the face of completion from other sectors and then retaining and developing those graduates to become skilled professionals over time.

10. RECOMMENDATIONS

CITB AND THE WEST MIDLANDS COMBINED AUTHORITY HAVE AGREED THE FOLLOWING WAY FORWARD.

The West Midlands Combined Authority (WMCA) is committed to enabling a world class construction industry renowned for its innovation and skills.

The West Midlands is experiencing unprecedented economic growth with the construction industry benefiting from multi-billion pound investment over the next few years. We have an opportunity to ensure that this growth is shared with more of our residents – through a targeted series of actions that will genuinely deliver more jobs, apprenticeships and career opportunities for communities across the West Midlands.

The WMCA, in partnership with CITB, has brought together construction employers, trade bodies, colleges, universities, and training providers to look at how we can support the growth of the industry, training more residents with the skills employers need now, and in the future.

New regional partnerships will bring employers and skills providers in to new collaborations working in a spirit of shared endeavour to co-design and deliver skills solutions that meet industry's needs. This will include greater emphasis on supporting the region to move in to, and develop global expertise, in advanced methods of construction and new remediation techniques.

This research provides the evidence we need to better shape the skills and training offer so we can collectively respond to current and future need.

Supplemented by key stakeholder consultation, a series of actions have been proposed to deliver our ambition.

10.1. ADDRESS THE REGION'S CONSTRUCTION SKILLS THROUGH NEW COLLABORATIONS AND A PRINCIPLE OF SHARED ENDEAVOUR

The Combined Authority will encourage key stakeholders to commit to new public-private sector partnerships, bringing together demand and supply sides to co-design new and innovative skills solutions to address regional skills needs.

- Through a Construction Taskforce, supported by CITB, the Combined Authority will act as a strategic convener, bringing together employers, ranging from house builders to design engineers, skills providers and other key stakeholders to develop high quality and agile skills solutions that will deliver the future workforce that the West Midland's needs.
- The Taskforce will be action focused – with employers articulating their skills needs, commenting on the suitability of existing provision and working with the region's colleges, universities and training providers to source future talent and upskill existing employees. In turn, the region's skills providers will respond to industry needs, ensuring provision is fit for purpose, developing new courses and qualifications to meet future requirements.
- The Taskforce will support the WMCA's commitment to Social Value procurement, ensuring that all major investment in the region drives new opportunities for local businesses and communities. This will include working with HS2 to deliver a West Midlands Employment and Skills framework so that more local residents are able to benefit from this significant investment. It will also ensure that the region's Housing Deal will offer more employment and skills opportunities for local communities, particularly in developing skills in advanced methods of construction.
- The Taskforce will continue to review and act on evidence to inform decision making and plans.

10.2. DEVELOP THE WEST MIDLANDS CONSTRUCTION SKILLS OFFER

The West Midlands Construction Taskforce will oversee the development and delivery of a West Midlands Construction Skills Offer. This will reflect current training and skills provision – and better promote existing opportunities to young people, adults and employers. The offer will also be further developed to address training gaps and meet future skills needs. To include:

- Current construction training provision, across all trades, professions and levels – to better signpost existing provision to employers.
- Clear identification of gaps in the current training offer – particularly those where demand is forecast to increase, including in advanced methods of construction - and develop a regional approach to addressing these.
- Clear progression pathways for learners – to enable more young people and adults to progress between local providers and institutions as they develop their construction careers. This will include links with key national providers, like the National College for High Speed Rail, that offer additional specialist training.
- Promote the role out of higher level Apprenticeships to deliver skills, increasing volumes in key shortage areas such as quantity surveying, town planning and design.
- Better links between employers and providers of higher education, to include a focus on improving graduate retention in key professional roles.
- A coherent regional strategy to engage with hard-to-reach communities and promote opportunities in the construction sector.
- A new West Midlands Construction Retraining scheme, to provide unemployed people and low-skilled/low paid workers with the skills they need to progress into well-paid, sustainable construction careers. This will be designed with industry so that learners receive site-ready skills and support.

The West Midlands Construction Training Offer will identify the full range of support available to employers, including:

- Support to train up the unemployed with entry level skills required by industry.
- Support to enable contractors to meet their social value obligations
- Technical skills across trades and professions, available to young people and adults looking to re-train.
- Apprenticeship provision – available for new and existing employees.
- Higher level skills, including degrees and degree apprenticeships.
- Bespoke courses to meet individual employer needs.

10.3. DEVELOP THE FUTURE SKILLS NEEDED TO GROW AND TRANSFORM THE REGION'S CONSTRUCTION INDUSTRY

The WMCA is committed to growing the region's construction sector and supporting the industry's shift to advanced methods of construction and new, digitally enabled building technologies. This will include support to design and deliver new skills provision in construction design, BIM, off-site and modular construction and other advanced methods of construction.

- The West Midlands Construction Taskforce will provide oversight for the implementation of Construction Technical Levels for 16-18 year olds, from 2020, increasing young people's awareness and access to a wide range of construction careers.
- The WMCA is supporting a regional proposal for an Institute of Technology that focuses on advanced construction methodologies.
- The WMCA is also working with the University of Wolverhampton to develop plans for a new National Institute of Brownfield Remediation that will deliver world class skills in brownfield remediation and sustainable housing.
- The West Midlands Local Industrial Strategy will include a focus on the development of new digital, design and building technologies. This will be reflected in the development of new technical and higher level skills that support the transformation of the region's construction industry.
- Through its Housing Deal, WMCA will bring forward new sites and enable the building of new homes using advanced methods of construction, giving industry the confidence to invest in the infrastructure and workforce required to embrace new innovations in house building.

10.4. PROMOTE HIGH QUALITY CAREERS AND OPPORTUNITIES ACROSS THE REGION'S CONSTRUCTION INDUSTRY

The West Midlands Combined Authority will support the further role out of existing initiatives and programmes designed to promote the industry and encourage more young people and adults to consider careers in construction

This will include:

- Promotion of, and better linkages between existing initiatives, such as CITB's Go Construct and Construction Ambassadors initiatives; The Prince's Trust Get Into Construction scheme, JobCentre Plus Work Coaches and programmes working with ex-offenders, ex-military etc.
- Develop a regional approach to promoting construction careers through the WMCA's ambition to develop an all age careers offer with the Careers and Enterprise Company and the National Careers Service.
- Support the successful implementation of Technical Levels in Construction, with an appropriate volume of good quality work experience placements.

END

AUTHORS

Doug Forbes
Martin Turner
Alan Tanner
Kirsty Woolsey
Marcus Bennett

Version	Date	Details of modifications
First draft	January 2018	Collated demand and supply data
V8	May 2018	Updated data, amendments following consultation

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

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

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

Whole Life Consultants Ltd is registered in Scotland as SC259987, VAT number
852809506 Registered office c/o 14 City Quay, Dundee DD1 3JA



CITB Analysis

Construction skills gap analysis for the West Midlands Combined Authority area



Appendices to the Construction skills gap analysis for the West Midlands Combined Authority area
May 2018



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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 Office for National Statistics (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 take account of any shortcomings in the sources of data;
- and how the LFT converts output into labour demand.

Calculating construction output

Data sources

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

Glenigan

The original purpose of the Glenigan database is to allow contractors to identify leads and to carry out construction market analysis. It is updated every quarter to provide details of planning applications from local authorities supplemented with additional project-specific data. Of particular relevance to this report, it provides a description of each project, its name, location, value, and in most cases, projected start and end dates. It contains many tens of thousands of projects. The Glenigan pipeline does not identify every single project in an area: 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 Appendix Table 1. 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.

Appendix Table 1: Proportion of total value related to construction

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

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

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

NICP data

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

The NICP data is examined to identify infrastructure projects or programmes of work taking place in the West Midlands that are not included in the Glenigan database. The construction cost is calculated from the total cost reported in the NICP using the percentages in Appendix Table 1. Projects in the Glenigan dataset and the NICP are combined (ensuring that there is no double counting) to create a pipeline of 'denominated' projects for the area. We have only considered those projects which are specifically allocated to the West Midlands in the NICP (i.e. projects at a national level have not been considered).

The Autumn 2016 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 with data in Glenigan.

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.

3. Considering the government region within which the West Midlands lies (in this case, the North West), identify only the new build in the denominated projects by removing all repair and maintenance projects.
4. Compare the output identified in the denominated 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.
5. If in any sector the denominated 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 denominated project is factored by the following ratio:

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

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 denominated projects and those whose value or probability of realisation is over-optimistic.

6. To take account of housing repair and maintenance (R&M) at the LEP level, it is assumed that the proportion of the total output represented by housing R&M is the same at the 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

7. 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 denominated 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 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 Appendix Table 1.

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.

Appendix Table 2: Occupation definitions

Occupations included within construction occupational aggregates (Four-digit codes refer to Office for National Statistics Standard Occupational Classification Codes).	
1 Senior, executive, and business process managers	
(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
2 Construction project managers	
(2436) Construction project managers and related professionals	
3 Other construction process managers	
(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
4 Non-construction professional, technical, IT, and other office-based staff (excl. managers)	
(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

5 Construction trades supervisors	
(5250) Skilled metal, electrical and electronic trades supervisors	
(5330) Construction and building trades supervisors	
6 Wood trades and interior fit-out	
(5315) Carpenters and joiners	(5442) Furniture makers and other craft woodworkers
(8121) Paper and wood machine operatives	(5319) Construction and building trades nec (25%)
7 Bricklayers	
(5312) Bricklayers and masons	
8 Building envelope specialists	
(5319) Construction and building trades nec (50%)	
9 Painters and decorators	
(5323) Painters and decorators	(5319) Construction and building trades nec (5%)
10 Plasterers	
(5321) Plasterers	
11 Roofers	
(5313) Roofers, roof tilers and slaters	
12 Floorers	
(5322) Floorers and wall tillers	
13 Glaziers	
(5316) Glaziers, window fabricators and fitters	(5319) Construction and building trades nec (5%)
14 Specialist building operatives not elsewhere classified (nec)	
(8149) Construction operatives nec (100%)	(9132) Industrial cleaning process occupations
(5319) Construction and building trades nec (5%)	(5449) Other skilled trades nec
15 Scaffolders	
(8141) Scaffolders, staggers and riggers	
16 Plant operatives	
(8221) Crane drivers	(8222) Fork-lift truck drivers
(8129) Plant and machine operatives nec	(8229) Mobile machine drivers and operatives nec
17 Plant mechanics/fitters	
(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
18 Steel erectors/structural fabrication	
(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
19 Labourers nec	
(9120) Elementary construction occupations (100%)	
20 Electrical trades and installation	
(5241) Electricians and electrical fitters	(5242) Telecommunications engineers
(5249) Electrical and electronic trades nec	
21 Plumbing and heating, ventilation, and air conditioning trades	
(5314) Plumbers and heating and ventilating engineers	(5319) Construction and building trades nec (5%)
(5216) Pipe fitters	(5225) Air-conditioning and refrigeration engineers
22 Logistics	
(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	

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

APPENDIX C. GLENIGAN PROJECTS REMOVED FROM THE WEST MIDLANDS

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

Appendix Table 3: Removed Glenigan projects from Black Country LEP

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	210 Houses	Sandwell	15.8			Missing dates
2	3 High-Rise Blocks of Flats (Refurbishment)	Dudley	6.0			Missing dates
3	Gas Fuelled Power Generation Plant	Sandwell	7.0			Missing dates
4	Care Home	Sandwell	2.8			Missing dates
5	Training Centre & Offices	Sandwell	2.3			Missing dates
6	Industrial Building	Sandwell	2.0			Missing dates
7	26 Residential Units	Sandwell	2.0			Missing dates
8	2 Industrial/Warehouse Units	Dudley	1.9			Missing dates
9	Church (Extension/Alterations)	Wolverhampton	1.8			Missing dates
10	39 Residential Units (New/Conversion)	Sandwell	1.6			Missing dates
11	School Sports Hall (Extension)	Walsall	1.3			Missing dates
12	12 Residential Units & 3 Retail Units	Dudley	1.1			Missing dates
13	Vehicle Preparation Building	Walsall	1.1			Missing dates
14	20 Flats	Sandwell	1.0			Missing dates
15	Shopping Centre (Extension/Alterations)	Walsall	1.0			Missing dates
16	4 Commercial Units (New/Alterations)	Sandwell	1.0			Missing dates
17	Cemetery (Extension)	Walsall	0.9			Missing dates
18	4 Supermarket/Retail Units	Wolverhampton	0.8			Missing dates
19	11 Houses	Dudley	0.8			Missing dates
20	12 Flats & 4 Shops	Sandwell	0.8			Missing dates
21	13 Flats	Sandwell	0.7			Missing dates
22	Banqueting Hall (Extension)	Sandwell	0.6			Missing dates
23	School (Extension/Alterations)	Sandwell	0.5			Missing dates
24	Community Centre (Extension/Alterations)	Wolverhampton	0.5			Missing dates
25	Church (Extension)	Walsall	0.5			Missing dates
26	Hotel (Extension)	Sandwell	0.4			Missing dates
27	Convenience Store (Conversion)	Dudley	0.3			Missing dates
28	Supermarket (Extension)	Walsall	0.3			Missing dates
29	2 Retail Units (Extension/Alterations)	Dudley	0.3			Missing dates
30	Office (Extension)	Sandwell	0.3			Missing dates
31	10 Flats	Walsall	0.5			Missing dates
32	10 Flats	Dudley	0.5			Missing dates
33	11 Flats	Walsall	0.6			Missing dates
34	Factory Storage Unit (Extension)	Sandwell	0.6			Missing dates
35	16 Flats (Conversion)	Dudley	0.8			Missing dates
36	Office (Extension/Alterations)	Wolverhampton	0.9			Missing dates
37	Ground Engineering Works	Wolverhampton	1.0			Missing dates
38	14 Houses	Wolverhampton	1.1			Missing dates
39	Restaurant/Public House	Sandwell	2.5			Missing dates
40	Student Accommodation	Wolverhampton	5.0			Missing dates
41	Industrial Unit	Sandwell	0.7			Missing dates

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
42	5 Industrial Units	Dudley	1.0			Missing dates
43	Academy (Extension)	Sandwell	1.4			Missing dates
44	Industry/Warehouse Unit	Walsall	3.0			Missing dates
45	Theatre (Extension/Alterations)	Wolverhampton	6.5			Missing dates
46	West Smethwick Park Restoration	Sandwell	5.6	02/04/2018	07/02/2022	Consultancy
47	Design Consultants Framework	Wolverhampton	1.8	06/06/2019	08/06/2023	Consultancy
48	Employers Agents & Quantity Surveyors Framework	Sandwell	2.0	19/06/2018	14/06/2022	Consultancy
49	Carriageway Surfacing Term Contract	Dudley	36.0	09/06/2016	11/06/2020	Duplicate

Appendix Table 4: Removed Glenigan projects from Coventry and Warwickshire LEP

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	Electricity Substation	Rugby	0.0	30/12/2018	08/10/2019	Missing Values
2	73 Care Flats/Houses (New/Conversion)	Rugby	9.1			Missing dates
3	Visitor Centre	Stratford-On-Avon	8.4			Missing dates
4	84 Houses	Nuneaton & Bedworth	7.0			Missing dates
5	3 Retail Units (New/Alterations)	Stratford-On-Avon	4.0			Missing dates
6	60 Extra Care Flats	Coventry	3.0			Missing dates
7	Care Home	Rugby	2.8			Missing dates
8	Hotel (Extension)	Rugby	2.5			Missing dates
9	Petrol Filling Station & Retail Unit	North Warwickshire	2.2			Missing dates
10	Car Park (Extension)	Coventry	1.5			Missing dates
11	2 Industrial Units (Extension)	Nuneaton & Bedworth	1.5			Missing dates
12	Hotel (Extension)	North Warwickshire	1.2			Missing dates
13	Museum Building	Stratford-On-Avon	1.0			Missing dates
14	Gypsy/Traveller Site	Coventry	1.0			Missing dates
15	Industrial/Office/Storage (Extension)	Nuneaton & Bedworth	0.8			Missing dates
16	Storage Building	Rugby	0.7			Missing dates
17	14 Flats & Multiple Occupancy	Rugby	0.7			Missing dates
18	Office Building	North Warwickshire	0.7			Missing dates
19	12 Sheltered Flats & 1 Care Home	Stratford-On-Avon	0.7			Missing dates
20	11 Flats & 1 Retail Unit	Coventry	0.6		29/01/2018	Missing dates
21	Pavilion	Rugby	0.6			Missing dates
22	10 Flats	Nuneaton & Bedworth	0.5			Missing dates
23	Car Park	Warwick	0.5			Missing dates
24	Community Centre	Rugby	0.4			Missing dates
25	3 Industrial/Office/Storage/Distribution Units	Coventry	0.4			Missing dates
26	Industrial Unit	Coventry	0.3			Missing dates
27	Leisure/Gymnasium (Extension)	Warwick	0.3			Missing dates
28	Doctors Residences (Refurbishment)	Coventry	0.3			Missing dates
29	Office Building	Stratford-On-Avon	0.5			Missing dates
30	13 Flats (New/Extension)	Coventry	0.7			Missing dates
31	Restaurant Building	Coventry	0.7			Missing dates
32	Material Recycling Facility	Warwick	0.9			Missing dates
33	2 Industrial Units	Coventry	1.0			Missing dates
34	Club House	Warwick	1.1			Missing dates
35	24 Houses	Coventry	1.8			Missing dates
36	Vehicle Maintenance	Warwick	3.5			Missing dates

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
37	University Building (Extension/Alterations)	Coventry	7.5			Missing dates
38	330 Houses/Flats	Nuneaton & Bedworth	24.8			Missing dates
39	Rugby Club	North Warwickshire	2.2			Missing dates
40	Broiler Building	North Warwickshire	2.5			Missing dates
41	Industrial Unit & Warehouse	Coventry	7.9			Missing dates
42	University	Coventry	22.0			Missing dates
43	Student Accommodation	Coventry	52.5			Missing dates
44	Professional Services Framework Agreement	Warwick	50.0	02/04/2018	04/04/2022	Consultancy
45	Consultancy Services Framework.	Coventry	0.8	11/04/2017	11/04/2021	Consultancy
46	Engineering Consultancy	Coventry	6000.0	01/04/2014	01/07/2022	Consultancy
47	Police Stations	Warwick	1.9	25/07/2011	25/06/2018	Consultancy
48	Consultancy Services Framework	Coventry	1.5	20/08/2018	20/08/2022	Consultancy
49	Battery Laboratory Building	Stratford-On-Avon	200.0	10/03/2017	10/03/2019	Duplicate
50	Water & Waste Water	Coventry	2,300.0	01/10/2018	01/10/2023	In NICP

Appendix Table 5: Removed Glenigan projects from Greater Birmingham and Solihull LEP

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	Grain Store	Lichfield	0.0	10/11/2017	10/05/2018	Missing Values
2	Care Village	Birmingham	31.3			Missing dates
3	Student Accommodation (New/Conversion)	Birmingham	17.5			Missing dates
4	Hotel	Solihull	16.9			Missing dates
5	95 Flats & 5 Houses (Extension/Alterations)	Lichfield	16.0			Missing dates
6	Shopping Centre (Extension)	Solihull	10.6			Missing dates
7	Office Building & Restaurant/Cafe	Birmingham	9.3			Missing dates
8	University Building (Extension)	Birmingham	8.0			Missing dates
9	Hotel Building	Wyre Forest	7.4			Missing dates
10	2 Care Homes	Solihull	6.8			Missing dates
11	Dementia Care Home	Birmingham	5.3			Missing dates
12	Nursing Home	Birmingham	5.2			Missing dates
13	4 Retail Units	Birmingham	5.0			Missing dates
14	Solar Photovoltaic Farm	East Staffordshire	5.0			Missing dates
15	Bypass	Tamworth	4.5			Missing dates
16	55 Student Flats (Conversion/Extension)	Birmingham	4.1			Missing dates
17	39 Houses & 12 Flats	Solihull	3.8			Missing dates
18	45 Houses & 2 Flats	East Staffordshire	3.5			Missing dates
19	Offices & Retail	Birmingham	3.4			Missing dates
20	49 Houses	East Staffordshire	3.2			Missing dates
21	39 Residential Units	Cannock Chase	2.9			Missing dates
22	13 Offices	Redditch	2.3			Missing dates
23	5 Industrial Units & 1 Warehouse Unit (New/Alterations)	Cannock Chase	2.1			Missing dates
24	6 Residential Units/1 Dementia Unit (New/Refurb)	Bromsgrove	1.8			Missing dates
25	24 Houses (New/Conversion)	Lichfield	1.8			Missing dates
26	23 Flats & 9 Houses	Birmingham	1.6			Missing dates
27	Rowing Club (New/Extension)	Birmingham	1.4			Missing dates
28	Hotel (Extension/Alterations)	East Staffordshire	0.8			Missing dates
29	26 Extra Care Flats	Lichfield	1.2			Missing dates
30	Factory/Warehouse (Extension)	Bromsgrove	1.1			Missing dates
31	Infrastructure Works	Cannock Chase	1.0			Missing dates
32	13 Houses	Redditch	1.0			Missing dates
33	Warehouse & Laboratory/Office	Birmingham	0.8			Missing dates
34	Community Hall	Wyre Forest	0.7			Missing dates
35	14 Flats	Birmingham	0.7			Missing dates
36	4 Town Houses/4 Flats & 1 Restaurant/Cafe	Birmingham	0.7			Missing dates
37	Care Home	Cannock Chase	0.5			Missing dates
38	2 Houses & 1 Retail/Warehouse/Offices	Birmingham	0.5			Missing dates
39	10 Flats (Conversion/Extension)	Birmingham	0.5			Missing dates
40	Workshop & Farm Shop (New/Extension)	Solihull	0.5			Missing dates
41	Industrial Unit (Extension)	East Staffordshire	0.4			Missing dates

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
42	2 Office/Research & Innovation Centre	Lichfield	0.3			Missing dates
43	School	Birmingham	0.3			Missing dates
44	Hotel (Extension/Alterations)	Birmingham	0.4			Missing dates
45	6 Flats & 1 Retail Unit/1 Bookmakers	Birmingham	0.4			Missing dates
46	Hotel (Extension)	Wyre Forest	0.5			Missing dates
47	Hospital (Extension)	Solihull	0.5			Missing dates
48	Care Home (Extension/Alterations)	Bromsgrove	0.6			Missing dates
49	Care Home (extension)	Bromsgrove	0.6			Missing dates
50	7 Flats & 5 Houses (New/Extension)	Wyre Forest	0.6			Missing dates
51	14 Flats (Conversion)	Redditch	0.7			Missing dates
52	6776 Solar Photovoltaic Panels	Lichfield	1.0			Missing dates
53	27 Flats	Solihull	1.4			Missing dates
54	School (New/Extension)	Birmingham	2.0			Missing dates
55	Hotel Functions Suite & Spa Facility	Wyre Forest	2.1			Missing dates
56	Rangers House & Visitor Centre	Bromsgrove	3.0			Missing dates
57	18 Flats & 16 Houses	Birmingham	3.5			Missing dates
58	73 Flats	Birmingham	3.7			Missing dates
59	Shops/Restaurant/Cafe & Assembly/Leisure Centre	Birmingham	4.0			Missing dates
60	Conference & Restaurant	Birmingham	4.1			Missing dates
61	School	Redditch	5.7			Missing dates
62	140 Houses	East Staffordshire	10.5			Missing dates
63	223 Flats & Live/Work Units & Retail/Office Units	Birmingham	11.2			Missing dates
64	10 Office/Industrial/Storage & Distribution Units	East Staffordshire	13.5			Missing dates
65	Health Care Building	Birmingham	25.0			Missing dates
66	Hospital (Extension)	Cannock Chase	0.4			Missing dates
67	Industrial Unit (Extension)	Lichfield	0.6			Missing dates
68	15 Flats (Conversion)	Birmingham	0.8			Missing dates
69	Warehouse	Birmingham	1.5			Missing dates
70	Elephant Safari Park Building	Wyre Forest	2.6			Missing dates
71	University	Birmingham	4.2			Missing dates
72	Mixed Use Development	Lichfield	8.0			Missing dates
73	304 Apartments	Birmingham	15.2			Missing dates
74	Junction (Improvements)	Birmingham	10.0	07/05/2018	08/05/2023	Consultancy
75	Area 7 Design Services Consultancy	Birmingham	50.0	01/07/2016	01/10/2021	Consultancy
76	University Mechanical & Electrical Consultancy Framework	Birmingham	5.0	12/02/2018	07/03/2022	Consultancy
77	Consultancy Framework	Birmingham	300.0	22/11/2017	07/06/2021	Consultancy
78	University Project Management Framework	Birmingham	0.5	17/04/2017	19/04/2021	Consultancy
79	Consultancy Framework	Birmingham	6.0	28/08/2015	23/08/2019	Consultancy
80	Rapid Transit Consultancy Support	Birmingham	10.0	12/04/2018	08/04/2021	Consultancy
81	Contractor & Consultancy Framework	Birmingham	250.0	17/03/2014	17/03/2018	Consultancy
82	Consultancy Services	Birmingham	30.0	01/04/2014	01/04/2018	Consultancy
83	Professional Services (Design) Contract	Birmingham	7.5	23/06/2015	26/06/2018	Consultancy
84	Development Consultancy Services Framework	Birmingham	75.0	01/09/2018	01/09/2022	Consultancy

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
85	Airport (Extension)	Birmingham	1.5	17/10/2018	17/04/2020	Consultancy
86	Contractors Framework	Birmingham	100.0	01/04/2019	01/04/2029	Consultancy
87	Capital Works (Framework)	Birmingham	400.0	14/11/2013	14/11/2017	Duplicate
88	Maintenance and Response Contract	Birmingham	422.0	11/07/2016	03/01/2022	Not in the area
89	Construction Works Framework	Birmingham	434.0	01/04/2016	03/04/2020	Not in the area

APPENDIX D. SIGNIFICANT GLENIGAN PROJECTS IN THE WEST MIDLANDS

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

Appendix Table 6: Significant Glenigan projects in Black Country LEP

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	Strategic Construction Partnership	Wolverhampton	550.0	19/08/2013	24/09/2018	Housing R&M
2	60,000 Homes Green Retrofit Works Framework	Birmingham	304.0	14/01/2013	14/04/2021	Housing R&M
3	Retrofit Partnership and Delivery Framework	Walsall	202.7	27/01/2014	27/01/2024	Housing R&M
4	Housing	Wolverhampton	140.2	13/06/2007	13/03/2018	New housing
5	Housing Refurbishment (Framework)	Sandwell	130.0	03/02/2014	03/01/2018	Housing R&M
6	Residential Development	Wolverhampton	107.5	02/09/2013	30/03/2018	New housing
7	Hospital	Sandwell	107.1	02/11/2015	02/05/2019	Public non-housing
8	Housing Refurbishment	Wolverhampton	94.0	01/10/2013	01/10/2019	Housing R&M
9	Housing Development Framework	Birmingham	84.5	04/01/2016	06/01/2020	New housing
10	Housing Refurbishment Contract	Sandwell	50.7	17/10/2016	21/10/2019	Housing R&M, Infrastructure
11	15 High-Rise Tower Blocks Revamp	Sandwell	43.2	07/09/2016	01/09/2021	Housing R&M
12	Trading Estate Revamp	Sandwell	38.2	16/04/2018	22/10/2018	Private industrial
13	Distribution Centre	Wolverhampton	36.0	20/11/2017	28/05/2018	Private industrial
14	288 Dwellings	Walsall	34.6	01/08/2017	30/04/2022	New housing
15	Highway Maintenance Contract	Birmingham	32.7	01/07/2014	01/07/2019	Infrastructure
16	Collaborative Delivery Framework (CDF)	Birmingham	32.5	11/11/2014	08/09/2020	Infrastructure
17	155 Houses	Sandwell	30.8	01/01/2017	01/03/2020	New housing
18	403 Houses & 9 Flats	Walsall	28.9	17/11/2014	17/11/2017	New housing
19	Residential Development	Walsall	26.2	11/04/2016	01/05/2018	New housing
20	26 Industrial/Warehouse Units	Sandwell	23.0	18/12/2017	25/06/2018	Private industrial
21	Housing (Repairs & Maintenance)	Birmingham	22.2	01/09/2012	01/12/2020	Housing R&M
22	Housing (Refurbishment)	Birmingham	20.2	23/09/2012	23/12/2020	Housing R&M
23	Junction Improvements Works	Walsall	19.7	05/02/2018	07/02/2020	Infrastructure
24	130 Residential Units	Dudley	18.7	15/05/2017	13/05/2019	New housing
25	188 Houses	Sandwell	17.8	01/11/2016	31/03/2019	New housing
26	Road Network (Maintenance)	Birmingham	17.5	14/06/2010	14/09/2018	Infrastructure
27	157 Dwellings	Dudley	17.3	02/11/2015	01/07/2018	New housing
28	Black Country Framework Contract for Minor Works	Sandwell	15.3	25/10/2016	25/10/2020	Infrastructure
29	High Speed Two Enabling Works	Birmingham	13.7	22/11/2017	03/02/2021	Infrastructure
30	58 Flats & 36 Bungalows	Sandwell	13.1	10/04/2017	16/03/2018	New housing
31	117 Houses/9 Flats & 4 Bungalows	Dudley	12.8	01/07/2017	31/07/2019	New housing
32	Roads/Highways (Framework)	Birmingham	12.4	01/10/2014	26/09/2018	Infrastructure
33	Casino & Bingo Hall Building	Dudley	12.0	15/01/2018	08/07/2019	Private commercial
34	152 Houses & 18 Flats	Walsall	11.9	01/08/2016	03/08/2018	New housing
35	Supermarket & Retail/Restaurant/Take Away	Sandwell	11.4	12/03/2018	08/10/2018	Private commercial

	Description	Local authority	Value (£m)	Start date	End date	Project type
36	Industrial Development	Sandwell	11.3	01/03/2017	13/10/2017	Private industrial
37	Housing Maintenance Framework	Birmingham	10.0	08/08/2016	10/08/2020	Housing R&M
38	Railway Station	Wolverhampton	9.8	12/11/2018	29/07/2019	Infrastructure
39	Flats (Refurbishment)	Sandwell	9.7	01/09/2017	01/03/2019	Housing R&M
40	35 Bungalows and 58 Flats	Sandwell	9.3	13/03/2017	09/03/2018	New housing
41	106 Houses & 36 Flats	Dudley	9.2	17/06/2018	17/01/2020	New housing
42	Retail Unit (Conversion)	Dudley	8.2	13/11/2017	13/04/2018	Private commercial
43	Repairs, Maintenance & Construction Framework	Solihull	7.2	01/07/2013	01/07/2023	Private commercial
44	2 Car Showroom/Workshop Buildings	Wolverhampton	7.0	12/06/2017	05/03/2018	Private commercial, Private industrial
45	143 Flats (Conversion)	Walsall	6.7	13/10/2017	13/11/2018	Housing R&M
46	Midland Metro (Extension)	Wolverhampton	6.7	05/03/2018	24/09/2018	Infrastructure
47	93 Houses	Wolverhampton	6.5	15/01/2018	11/02/2019	New housing
48	University Building	Wolverhampton	6.1	04/12/2017	02/09/2019	Public non-housing
49	School	Sandwell	5.7	02/11/2015	27/10/2017	Public non-housing
50	Civic Centre Building (Alterations)	Wolverhampton	5.5	14/03/2016	05/03/2018	Public non-housing
51	School (Extension/Alterations)	Wolverhampton	5.2	17/07/2017	20/07/2018	Public non-housing
52	Road (Widening)	Sandwell	4.6	08/04/2019	12/06/2020	Infrastructure
53	School (Extension)	Wolverhampton	4.5	15/01/2018	08/10/2018	Public non-housing
54	58 Extra Care Flats	Wolverhampton	4.5	03/04/2017	03/04/2018	New housing
55	Schools	Birmingham	4.1	07/09/2015	02/09/2019	Public non-housing
56	6 Industrial/Warehouse Units	Wolverhampton	3.7	12/06/2017	22/01/2018	Private industrial
57	77 Free Schools	Coventry	3.5	04/09/2017	04/09/2022	Public non-housing
58	Overhead Lines	Warwick	3.4	01/04/2014	01/04/2018	Infrastructure
59	National Housing Prime Framework	Birmingham	3.4	31/08/2015	25/08/2025	Public non-housing
60	Chase Line Electrification	Walsall	3.3	03/10/2016	03/04/2018	Infrastructure
61	Tram Network (Improvement works)	Wolverhampton	2.7	11/06/2017	22/12/2017	Infrastructure
62	National Capital Works (Framework)	Birmingham	2.2	01/01/2014	27/12/2017	Public non-housing
63	Road Improvements	Dudley	1.9	03/05/2017	03/05/2018	Infrastructure
64	Hospital (Extension)	Walsall	1.5	05/03/2018	03/12/2018	Public non-housing
65	9 Primary School	Coventry	0.6	03/07/2017	03/07/2022	Public non-housing
66	Hospital (Refurbishment)	Dudley	0.6	31/07/2017	08/11/2017	Public non-housing
67	Energy Network (Upgrades)	Coventry	0.2	01/06/2017	01/06/2021	Infrastructure

Appendix Table 7: Significant Glenigan projects in Coventry and Warwickshire LEP

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	5000 Residential Units	Rugby	350.5	03/01/2018	03/01/2022	New housing
2	Highways Works	Warwick	77.0	05/05/2016	04/05/2023	Infrastructure
3	800 Homes & Commercial/Leisure	Stratford-On-Avon	74.6	09/03/2015	05/03/2018	New housing, Private Commercial, Public Non-housing
4	Industrial Unit/Storage/Distribution Development	North Warwickshire	68.2	17/06/2018	17/12/2018	Private Industrial
5	Housing Responsive Repairs	Coventry	66.2	01/04/2014	01/04/2022	Housing R&M
6	Research Building	Stratford-On-Avon	60.7	10/03/2017	10/03/2020	Public Non-housing
7	Highways Maintenance Contract	Warwick	47.5	05/05/2016	05/05/2026	Infrastructure
8	900 Residential Units & Hospital	Coventry	41.8	10/07/2017	09/07/2018	New housing, Public Non-housing
9	102 Extra Care Flats/58 Flats & 29 Houses/2 Retail Units	Stratford-On-Avon	37.4	03/04/2017	04/10/2019	New housing, Private Commercial
10	Leisure Facility & Destination Water	Coventry	37.0	13/03/2017	22/03/2019	Private Commercial
11	520 Houses/Bungalows	Warwick	36.5	16/11/2015	17/06/2018	New housing
12	735 Houses/Flats & 1 Neighbourhood Centre	Warwick	35.2	04/09/2017	28/09/2018	New housing, Public Non-housing, Private Commercial, Infrastructure
13	Construction Works	Warwick	31.4	02/06/2014	02/06/2018	Infrastructure
14	Powertrain Development Facility	Coventry	31.1	20/11/2017	12/02/2018	Private Industrial, Infrastructure
15	Student Accommodation & Retail Units	Coventry	28.6	17/10/2016	07/09/2018	Public Non-housing, Private Commercial
16	Storage & Distribution Unit	Coventry	28.0	03/01/2017	03/04/2018	Private Industrial
17	372 Houses/Flats	Coventry	26.1	17/04/2017	14/05/2018	New housing
18	Offices	Coventry	25.9	23/04/2018	29/04/2019	Private Commercial
19	995 Student Flats & 3 Retail /Commercial Units	Coventry	24.3	15/05/2017	25/06/2018	Public Non-housing, Private Commercial
20	138 Houses & 93 Flats	Rugby	22.4	01/08/2016	31/12/2019	New housing
21	2 Factory Buildings (Extension/Alterations)	Rugby	18.8	06/03/2018	11/09/2018	Private Industrial
22	262 Houses	Nuneaton & Bedworth	18.4	16/04/2018	16/05/2019	New housing
23	Research Centre - Centre of Competence	Coventry	18.2	23/06/2014	23/10/2017	Public Non-housing
24	Training/Leisure Centre & Retail/Restaurant/Cafe	Rugby	17.8	09/01/2017	18/12/2017	Public Non-housing, Private Commercial
25	174 Houses & 76 Flats	Coventry	17.5	03/04/2017	03/04/2020	New housing
26	247 Residential Units	Rugby	17.3	13/11/2017	10/12/2018	New housing
27	426 Residential Units/1 Medical Centre & 1 School	Warwick	16.6	10/07/2017	06/08/2018	New housing, Public Non-housing, Infrastructure
28	Student Accommodation	Coventry	15.8	04/12/2017	07/12/2020	Public Non-housing
29	8 Shops/1 Restaurant/Cafe	Rugby	15.0	27/02/2017	03/11/2017	Private Commercial
30	250 Houses	Rugby	14.9	13/02/2017	13/02/2019	New housing
31	62 Flats & 5 Commercial Units (New/Alterations)	Coventry	14.3	05/03/2018	04/03/2019	New housing, Private Commercial

	Description	Local authority	Value (£m)	Start date	End date	Project type
32	202 Houses	Stratford-On-Avon	14.2	16/04/2018	16/05/2019	New housing
33	146 Houses & 54 Flats	Stratford-On-Avon	14.0	16/04/2018	16/05/2019	New housing
34	801 Student Flats	Coventry	14.0	04/07/2016	27/07/2018	Public Non-housing
35	208 Houses/Flats	Warwick	13.7	12/02/2018	25/03/2019	New housing
36	171 Houses & 24 Flats (New/Alterations)	Stratford-On-Avon	13.7	16/04/2018	16/05/2019	New housing
37	Student Accommodation & Village Hall	Warwick	13.6	06/11/2017	04/11/2019	Public Non-housing
38	Indoor/Outdoor Sports & Leisure Development	Coventry	11.2	17/04/2017	27/11/2017	Public Non-housing, Private Commercial, Infrastructure
39	Student Accommodation	Coventry	9.7	09/10/2017	01/07/2019	Public Non-housing
40	Industrial/Distribution Unit	Rugby	9.7	10/04/2017	10/11/2017	Private Industrial
41	4 Industrial Units	Warwick	9.5	04/05/2018	14/11/2018	Private Industrial
42	7 Restaurant & 1 Gymnasium/1 Shop (Extension/Alterations)	Coventry	9.0	02/10/2017	02/03/2018	Private Commercial
43	Hotel (Extension/Alterations)	Stratford-On-Avon	8.2	10/04/2017	20/07/2018	Private Commercial
44	Student Accommodation & Cafe/Retail Building	Coventry	6.8	20/11/2017	31/12/2018	Public Non-housing, Private Commercial
45	110 Residential/Commercial Units	Stratford-On-Avon	5.2	10/07/2017	06/11/2017	New housing, Private Commercial
46	Postal Sorting & Distribution Centre	North Warwickshire	4.9	29/08/2017	08/12/2017	Private Commercial
47	4 Restaurants (Conversion)	Rugby	3.5	07/05/2018	06/08/2018	Private Commercial
48	77 Free Schools	Coventry	2.7	04/09/2017	04/09/2022	Public Non-housing
49	Overhead Lines	Warwick	2.7	01/04/2014	01/04/2018	Infrastructure
50	Underground Cables	Warwick	0.5	01/04/2014	01/04/2018	Infrastructure
51	9 Primary School	Coventry	0.5	03/07/2017	03/07/2022	Public Non-housing

Appendix Table 8: Significant Glenigan projects in Greater Birmingham and Solihull LEP

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	Off Site Manufacturers Contracts	Birmingham	1,878.6	23/11/2017	27/01/2031	New housing
2	Construction Framework	Birmingham	1,061.6	01/09/2011	15/04/2019	Public Non-housing
3	60,000 Homes Green Retrofit Works Framework	Birmingham	520.6	14/01/2013	14/04/2021	Housing R&M
4	Railway Track/Viaduct	Lichfield	239.9	06/11/2017	06/11/2022	Infrastructure
5	Railway Tunnel	Birmingham	239.9	05/11/2018	05/11/2023	Infrastructure
6	353 Residential/Commercial Units (New/Refurb)	Birmingham	190.2	12/03/2018	12/03/2020	New housing, Private Commercial
7	342 Apartments/Hotel/Office	Birmingham	177.0	24/09/2018	24/09/2022	New housing, Private Commercial
8	Campus Development	Birmingham	148.5	01/06/2016	31/12/2021	Public Non-housing, Infrastructure
9	Housing Development Framework	Birmingham	144.6	04/01/2016	06/01/2020	New housing
10	2500 Residential & 14 Commercial Units	East Staffordshire	109.1	06/11/2017	09/11/2020	New housing, Private Industrial, Private Commercial, Public Non-housing
11	309 Residential Units	Birmingham	66.6	08/11/2017	08/11/2019	New housing, Private Commercial
12	Highway Maintenance Contract	Birmingham	53.4	01/07/2014	01/07/2019	Infrastructure
13	Collaborative Delivery Framework (CDF)	Birmingham	53.0	11/11/2014	08/09/2020	Infrastructure
14	188 Apartments and Restaurant	Birmingham	51.0	18/07/2016	14/10/2019	New housing, Private Commercial
15	82 Flats/11 Town Houses & 37 Retail/Commercial Units	Lichfield	47.6	11/09/2017	09/09/2019	Private Commercial, New housing, Public Non-housing, Infrastructure
16	334 Flats	Birmingham	47.6	09/05/2016	09/05/2018	New housing, Private Commercial
17	289 Flats & 13 Town Houses & 8 Commercial Units	Birmingham	47.6	11/07/2016	13/07/2018	New housing, Private Commercial
18	48 Retail Units and a Multi Storey Car park	Cannock Chase	45.2	08/01/2018	07/01/2019	Private Commercial, Infrastructure
19	Housing (Repairs & Maintenance)	Birmingham	38.1	01/09/2012	01/12/2020	Housing R&M
20	Housing (Refurbishment)	Birmingham	34.6	23/09/2012	23/12/2020	Housing R&M
21	700 Homes & Commercial Buildings	East Staffordshire	32.5	18/05/2018	18/05/2019	New housing, Public Non-housing, Private Commercial, Private Industrial
22	223 Residential Units/1 Retail	Birmingham	31.0	05/12/2016	08/06/2018	New housing, Private Commercial
23	206 Flats & 1 Retail/Restaurant/Leisure Unit	Birmingham	29.5	03/07/2017	01/07/2019	New housing, Private Commercial
24	Road Network (Maintenance)	Birmingham	28.6	14/06/2010	14/09/2018	Infrastructure
25	221 Flats/Retail Space (New/Conversion)	Birmingham	28.5	12/03/2018	04/11/2019	New housing, Private Commercial
26	High Speed Two Enabling Works	Birmingham	22.3	22/11/2017	03/02/2021	Infrastructure
27	University Campus (Extension)	Birmingham	21.5	09/05/2016	09/10/2017	Public Non-housing, Private Commercial
28	Roads/Highways (Framework)	Birmingham	20.2	01/10/2014	26/09/2018	Infrastructure
29	Housing Maintenance Framework	Birmingham	17.2	08/08/2016	10/08/2020	Housing R&M
30	Car Showroom/MOT Centre & Offices	Solihull	15.8	09/04/2018	05/11/2018	Private Commercial, Private Industrial

	Description	Local authority	Value (£m)	Start date	End date	Project type
31	Schools	Birmingham	14.3	07/09/2015	02/09/2019	Public Non-housing
32	Repairs, Maintenance & Construction Framework	Solihull	12.3	01/07/2013	01/07/2023	Private Commercial
33	318 Extra Care Flats/56 Houses & 1 Petrol Filling Station	Solihull	9.6	14/06/2017	11/07/2018	New housing, Infrastructure, Public Non-housing
34	Student Accommodation and Commercial Units	Birmingham	9.5	13/04/2017	13/09/2018	Public Non-housing, Private Commercial
35	Student Accommodation & Commercial Unit	Birmingham	9.0	24/07/2017	03/09/2018	Public Non-housing, Private Commercial, Infrastructure
36	Cinema/Gymnasium/Restaurant	Birmingham	7.0	19/03/2018	29/10/2018	Private Commercial, Public Non-housing
37	National Housing Prime Framework	Birmingham	5.8	31/08/2015	25/08/2025	Public Non-housing
38	University (Extension/Alterations)	Birmingham	5.3	17/07/2017	09/04/2018	Public Non-housing, Private Commercial, Infrastructure
39	National Capital Works (Framework)	Birmingham	3.7	01/01/2014	27/12/2017	Public Non-housing

AUTHORS

Doug Forbes
Martin Turner
Alan Tanner
Kirsty Woolsey
Marcus Bennett

Version	Date	Details of modifications
First draft	January 2018	Collated demand and supply data
V8	May 2018	Updated data, amendments following consultation

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

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No 264289 and in Scotland Charity No SC044875

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

Whole Life Consultants Ltd is registered in Scotland as SC259987, VAT number
852809506 Registered office c/o 14 City Quay, Dundee DD1 3JA

