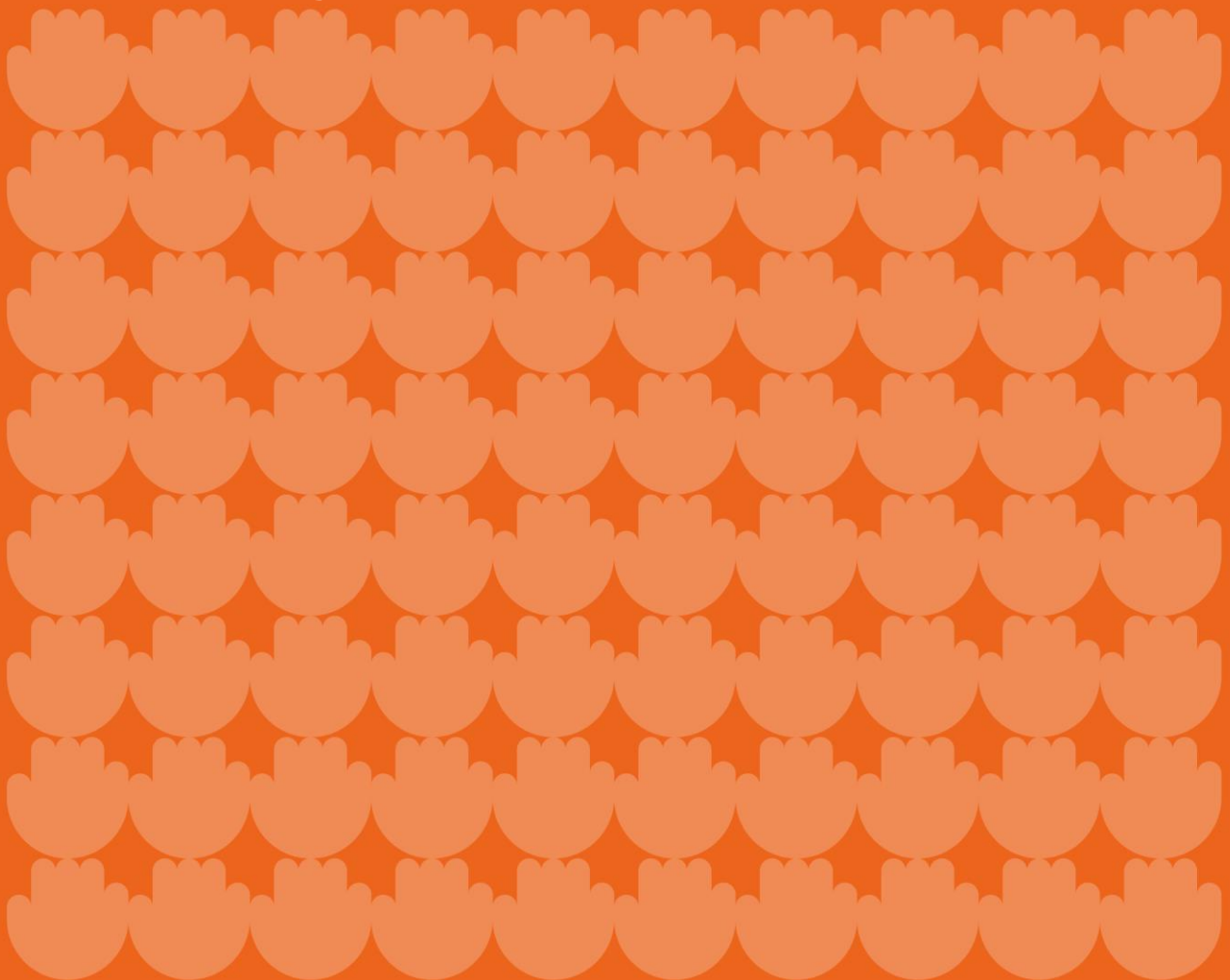


# Industry Labour Market and Skills Intelligence Report

Construction and Infrastructure

Published August 2021



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## Purpose of Report

This report provides an employer led and current understanding of skills and talent needs required across our Construction industry in Greater Manchester (GM). The intelligence has been gathered from a large variety of sources including existing employer networks and organisations who work with employers including but not exclusive of; Universities, MIDAS, Growth Company, Local Authorities and national construction skills facilitating organisations.

The report is intended for a large variety of stakeholders to support in understanding the skills and talent needs within our regional construction industry.

Recommendations made will not necessarily lead to GMCA led work and skills activity. They are intended to help summarise and support stakeholders to understand where their actions may fill gaps and support talent development for the industry. The Construction sector will play a vital role in the “Green Growth”

objectives, identified as one of the 4 key sectors for Greater Manchester in the [Local Industrial Strategy](#) (published June 2019).

GMCA will coordinate wider dissemination and translation of this intelligence for different audiences in GM. GMCA will also look across our devolved powers in our work and skills team to see where we can better align provision based on this intelligence. The overall vision for this work is to be a key contributor in developing a fully aligned labour market response in GM where there is credible, current, employer led and shared understanding of the jobs, talent and competencies employers need across our Local Industrial Strategy (LIS) frontier and foundation sectors.

The report sets out an overview of the intelligence available relating to the skills required to meet our Construction Sector requirements across Greater Manchester. The objectives of this intelligence are as follows:

- Provide a better understanding of the progression pathways to roles within the Construction sector in GM
- Identify which occupations need to be prioritised
- Better inform and guide existing skills provision for the benefit of GM residents and Construction employers
- Identify opportunities for the skills system to increase the available pathways for new entrants and upskilled/reskilled workers into priority occupations needed
- Understand how skills provision can best fit with COVID-19 recovery plans.

This intelligence is accurate as of the release date of this report and is an initial version of a report which will be built on and updated by GMCA. The COVID-19 pandemic continues to shift the economy as well as new technological developments and pipeline of development evolving at a fast pace - GMCA understands the need to regularly update this intelligence accordingly.

## Executive Summary

Greater Manchester is a hub of construction activity in the North West, with the city centre attracting some of the highest levels of investment in the country. As a region, the North West is second only to London and the South East for construction output. As a result, the construction sector is crucial to both the region and to Greater Manchester both in terms of employment of residents, and the growth of the wider economy. This report looks primarily at the skills and labour challenges in construction and aims to better inform and guide responses from GMCA, local authorities, employers, training providers and other stakeholders.

Key findings from this report include:

- Increasing **investment in the sector is driving changes in the number and types of roles** required. Over the next 5 years, Greater Manchester will see approximately £14.1bn of new construction projects start.
- This increased **investment combines with existing shortages to drive demand and shortages**; skilled tradespeople and labour are in high demand across the region. Evidence from employers suggests that order books are full, often for months in advance.
- The sector has **shown resilience over the COVID19 pandemic**, with sites opening back up only a few weeks after first lockdown. Outdoor environments and rigid Health and Safety focus enabled this.
- Employers feel like the sector is **not well respected as a career option by teachers, parents, and careers advisors**. Despite this, **demand for jobs and training in the sector from young people and adults is growing**, driven by wage increases and relative job security (at least compared with hard hit sectors during the pandemic).
- Although both the supply and demand sides of the skilled labour issue are seemingly in place, there are **a number of structural issues** which create barriers to the development of skilled workers:

- Competitive pressures have caused companies and skills to become more specialised. This means that the number of employers able to offer a range of training to young people is lessening.
- Pricing efficiencies from main contractors and developers result in lengthy supply chains and short-term contracts.
- An unclear or uncertain pipeline of work creates instability for workers in the sector.
- Nearly 40% of the workforce in the sector is self-employed, so have little time/funding to commit to upskilling or supporting new entrants.
- **Apprenticeships are well respected** as an entry route into trades. Graduates are preferred in the professional support roles (architecture, civil engineering, etc.).
- Because of the various structural issues, it is **common for main contractors or developer to use labour agencies** as part of projects – employment on this basis can be lucrative but is often insecure and unreliable.
- **Construction will play a key role in the switch to net-zero.** The retrofitting of older buildings along with updates to transport infrastructure are crucial to meeting the challenge set by climate change.

## Recommendations

Full and detailed recommendations are given at the end of this report, but a list of the core recommendations can be found below. These recommendations are not likely to be short-term fixes, and several require a long-term system change around construction. They serve to summarise key areas of activity based on the greatest need – activity which will need input from all corners of the sector, including employers, skills providers, schools, local government, and sector bodies.

Key recommendations from this report include:

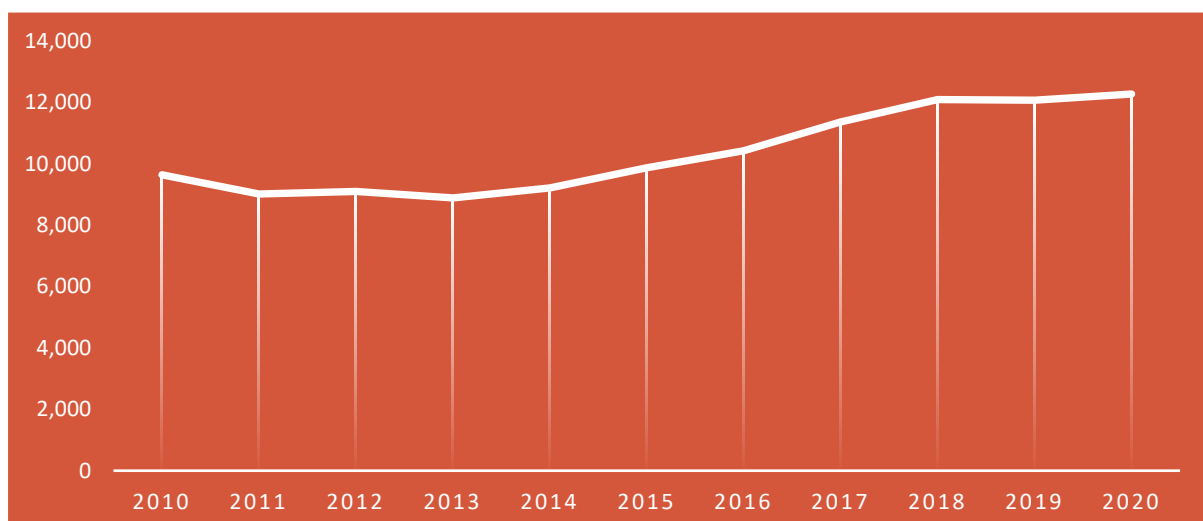
1. Commissioning activity should take place to fill **immediate skills gaps in various occupational pathways**.
  - Project management, technical skills, plant operation, etc.
2. Employers should be encouraged to **take ownership of the skills problem themselves, opening up traineeship, apprenticeship, or kickstart positions** for young people to gain occupational competence as well as qualifications
3. Further **Adult Education Budget funding should be deployed to support entry level roles** within the sector – in particular, the number and type of cards and licences supported should be expanded
4. Local authorities, developers, and main contractors should **review social value (SV) commitments included as part of procurement and planning permissions**, to ensure they are fully meeting the need of the sector.
  - Adaptation of SV objectives to be direct, outcome focused.
  - Data gathering and recording of SV objectives should be shared across LA and other public bodies.
5. **Incentive payments from government and the CITB should be reviewed** to ensure they are meeting objectives correctly. Employers should not be disincentivized from taking on skilled young people and job seekers who have already completed a relevant qualification because they would not receive grant support.

6. FE **Curriculum and training provision should include further reference to future skills** like retrofit, sustainable building materials, modular building, and wider modern methods of construction.
7. Occupations and **careers advice should position construction careers as “Green jobs”**. Environmental and sustainability issues are a high priority for young people when choosing a career pathway – the sector should use this to encourage young people to take up roles in the sector.
8. Employers should ensure that that they are **working to improve representation in the sector**. While this is a long-standing issue, more and better engagement with young people from women and workers from ethnic minority backgrounds would be beneficial.

## 1. Introduction

- (1.1) Serving as a foundation sector of the Greater Manchester economy, Construction and Infrastructure is an important sector for the region, both in terms of the employment and skills development of residents, and in terms of public and private investment and growth. Anecdotally, Manchester is seen as undergoing a regeneration boom – it's obvious to all residents, workers, and visitors to the city centre. New development, buildings, and infrastructure projects are seen as almost a permanent feature of the city centre. This development is also seen in all 10 of Greater Manchester's local authority areas.
- (1.2) The total number of Construction businesses in Greater Manchester has risen steadily for the past 10 years. As of June 2020 (the latest available data), there were 12,270 registered Construction businesses in the region, 92% of which were Micro (0 – 9 employees) businesses<sup>1</sup>. This stability and growth indicates that Construction is a moderate growth area for the region. While this data does not capture self-employment figures or national companies registered elsewhere in the UK, it does show that the number of businesses in the sector in GM is growing.

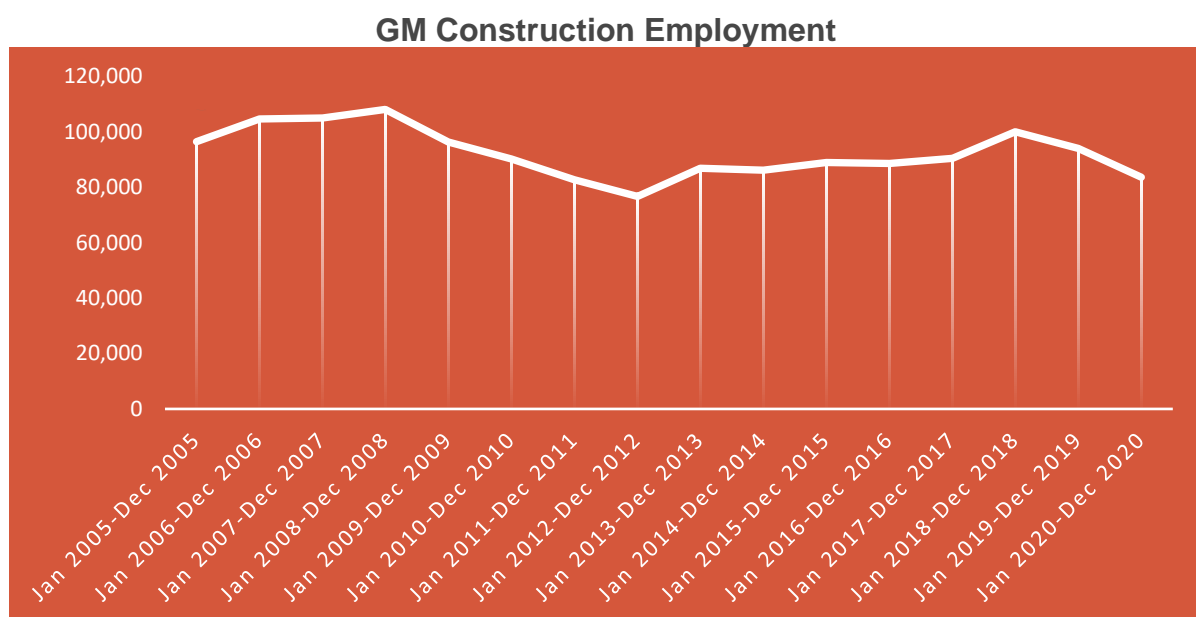
**GM Construction Business Count**



<sup>1</sup> GMCA Analysis of [NOMIS Data Extract](#) – June 2021



- (1.3) One thing the business count figures do not show is the high levels of self-employment in the sector. Approximately 35% of the UK Construction sector<sup>2</sup> in Greater Manchester is composed of self-employed workers – significantly higher than most other sectors. There are a number of structural causes for this, and it has a real impact on how skills development works within the sector. The added complications of self-employment in terms of sick pay, pension contributions, and tax all contribute to instability for many. The skills implications of this sector characteristic are discussed later in this report.
- (1.4) In line with increased business numbers in the region, the number of construction jobs within Greater Manchester has increased over the past 5 years. GMCA estimates that the sector employs 85,800 people in the region, representing around 6.3% of the total workforce.



- (1.5) While these numbers do indicate that the Construction sector is stable within Greater Manchester, it does have some unique properties. There is a split between existing construction maintenance staff (i.e. plumbers, heating engineers) who respond to the needs of building owners, and project workers – the builders, civil engineers, and tradespeople who work on new building

<sup>2</sup> GMCA Analysis of [NOMIS Data Extract](#) – June 2021

projects. It is estimated that in the last five years, this type of maintenance work makes up around a third of the overall construction output<sup>3</sup>, with new building projects making up the remaining two-thirds. The nature of this project work means that any employment figures are always a best guess and fluctuate on a seasonal basis.

(1.6) ONS data<sup>4</sup> generally breaks construction output down into 5 distinct categories – Housing, Infrastructure, Public Non-Residential, Private Industrial, Private Commercial. While global and macroeconomic trends do impact the wider sector, these categories often grow and contract independently to one another. To define further, they refer to the following categories of building projects:

- Housing – Includes public, private and third sector new housebuilding
- Infrastructure – Includes investment in rail, highways, utilities
- Public Non-Residential – Includes investment in public buildings like schools, healthcare facilities, etc.
- Private Industrial – Includes warehousing, industrial space
- Private Commercial – Includes office, retail space

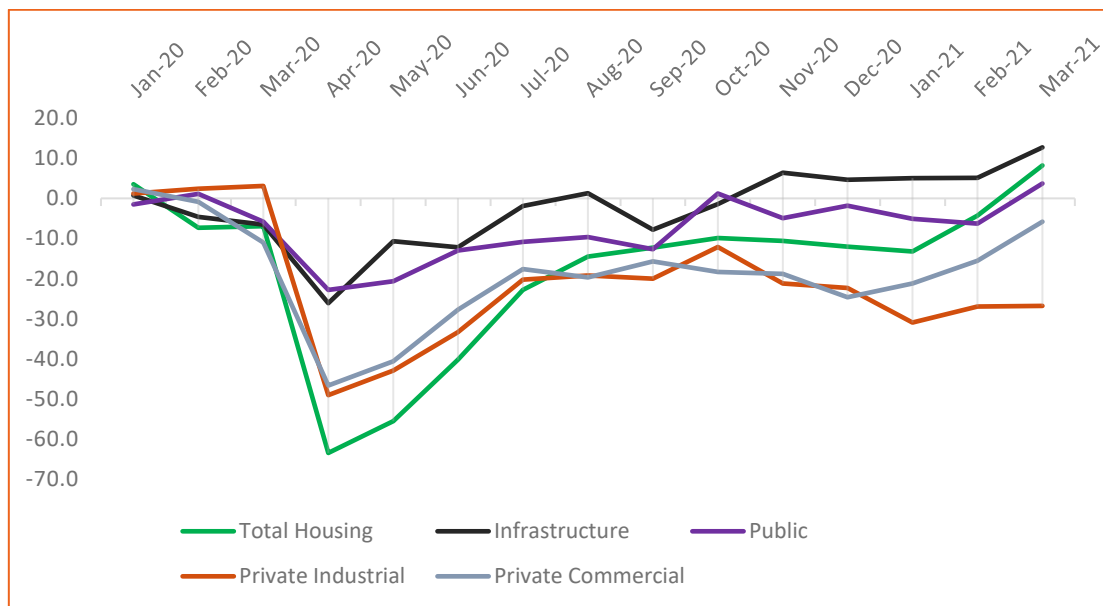
(1.7) As can be seen in the graph below, each of these areas was impacted significantly during the first few months of the COVID19 pandemic. Every area saw output decrease by 20% or more, when compared with the same month a year earlier. Worst hit was housing, which in April saw output drop by 63.4% when compared with April 2019. After the initial drop in April 2020, each of the 5 areas has seen a different recovery trend, which reflects some of the employer intelligence gathered as part of this report.

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<sup>3</sup> Statista – <https://www.statista.com/statistics/565511/construction-industry-structure-uk/>

<sup>4</sup> ONS – [Output in the Construction Industry](#) – May 2021

### UK Construction Output Volume (Seasonally Adjusted) - Percentage change on a year earlier



(1.8) As of March 2021, Housing, Infrastructure, and Public output are all now fully outperforming on output when compared with March 2020. This reflects some of the political conversation that public investment in the sector will be crucial for recovery from the pandemic. Private Industrial output in March 2021 remains 26.8% below March 2020 levels. This is surprising given some of the conversations with employers who expected demand for warehousing to outstrip demand for office space in light of the change in working and consumer practices during the pandemic. However, given this data is UK-wide (more local data is not yet available), this may reflect national trends more than GM trends. Greater Manchester has certain areas with particularly strong logistics bases, so it's possible to reconcile the data from the ONS with the anecdotal evidence from sector employers.

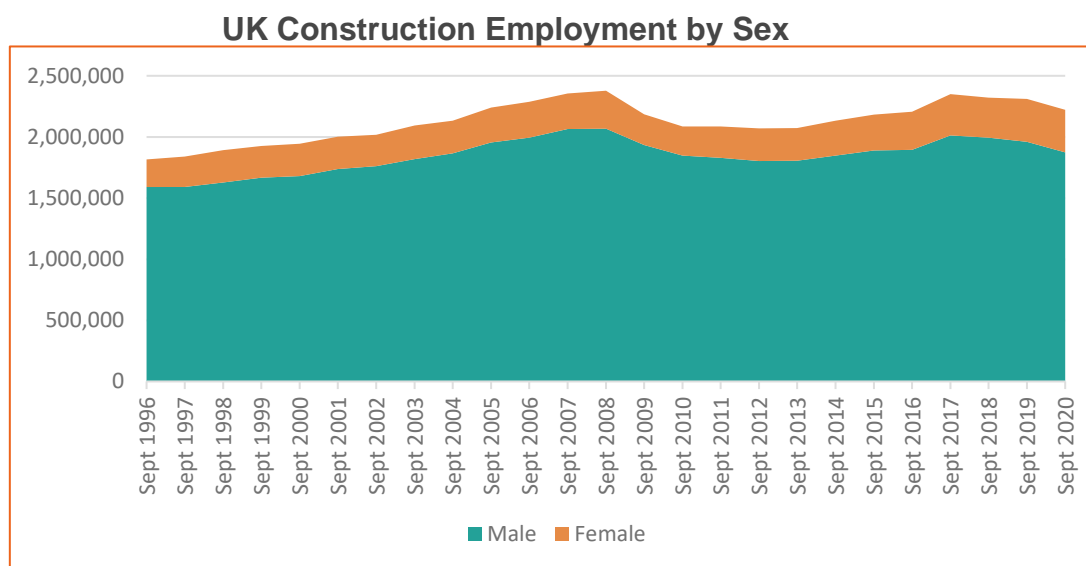
### Challenges and Opportunities

(1.9) On a national scale, the construction sector faces various challenges and opportunities. These are largely reflected in Greater Manchester.

- The COVID-19 pandemic has shown Construction to be a mostly resilient sector, at least in comparison to the harder hit sectors like Hospitality, Retail, and Tourism. After the first lockdown was introduced, there was a brief period of uncertainty and furlough as contractors and staff re-organised work schedules, site logistics, and project plans to meet with social distancing guidelines.
- Low-carbon and green construction considerations are of rising importance across the sector. There is an understanding at central and local government levels of the importance of the sector, both in terms of increased carbon efficiency of new buildings and in terms of the retrofitting of older buildings.
- Electrification of both housing and infrastructure will both be necessary steps towards the UK and GM's zero-carbon ambitions. Electric Vehicle infrastructure and charging points will be of particular importance. As a result, the construction sector is likely to benefit more than most from the shift to net-zero carbon.
- Digitalisation has the potential to both disrupt and transform the sector. Applications of new technologies like the Internet of Things (IoT), Robotics and Drones, and Building Information Modelling (BIM) are still being experimented with by trailblazers. If and when these technologies are adopted remains to be seen.
- Globalised supply chains came under massive pressure in 2020, and for many UK companies, this pressure continued into early 2021 with the UK's departure from the European Union and the ongoing pandemic. Certain building materials which are often imported are in short supply, delaying projects.
- Shifts in working culture resulting in falling building occupancy rates (particularly in the city centre) may impact the number of new building projects. As employers become more comfortable with their staff working from home, there may be reduced demand (and as a result falling prices) for city centre office and retail space.

## Industry Context

(1.10) Anecdotally, the sector is known for being a male-dominated profession. The evidence supports this<sup>5</sup> – between 1996 and 2018, the proportion of males in the sector varied between 88% and 85%. In 2019 and 2020, the proportion dropped below 85% for the first time – as of September 2020, it stands at 84.27%. While there are many reasons for the stark ratio, this perception is a vicious cycle for Construction – a perception of it being male dominated effects career decisions early in life, which in turn results in fewer female applicants for most positions.



(1.11) The UK's Construction workforce has an age profile reasonably distributed across various age brackets, with a slight skew towards older workers. Certain subsectors (i.e. rail) have a greater skew towards older workers – some in the sector expect a retirement “cliff-edge” where many in the sector retire around the same time. The graphic below from a CIPD report<sup>6</sup> shows the profile of workers against a few other sectors, with male workers shown in teal and female shown in orange.

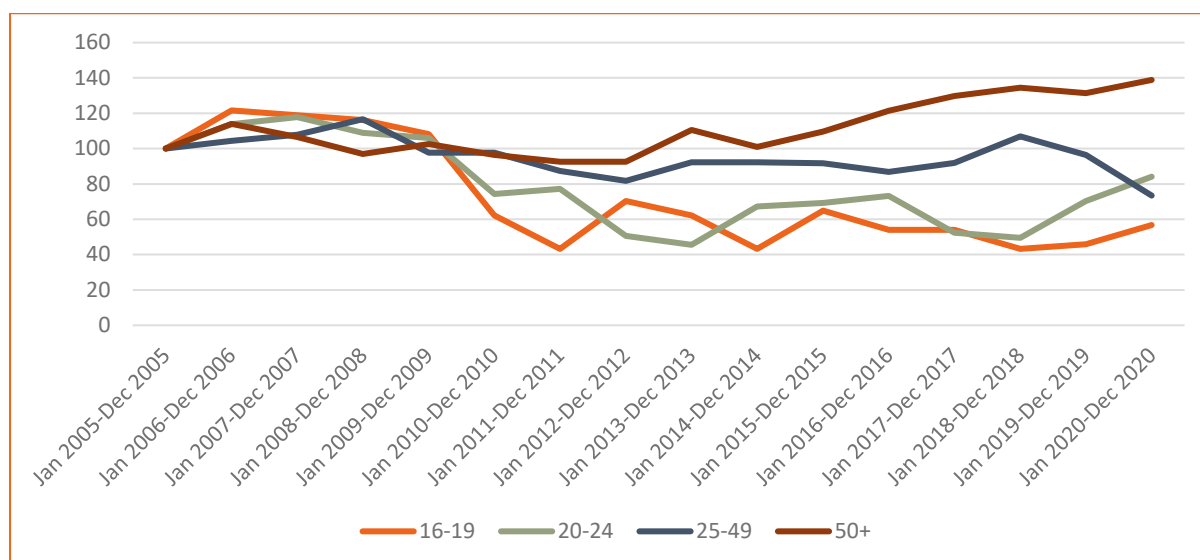
<sup>5</sup> GMCA Analysis of [NOMIS Data Extract](#) – March 2021

<sup>6</sup> [CIPD – Benefits of an Older Workforce](#) – October 2019



(1.12) Looking further into the change in the workforce over time reveals a more concerning trend. The graphic below shows the trend in each age group, indexed to employment numbers in 2005. The clearest conclusion from this is the increase in recent years of the 50+ construction workforce (an increase of nearly 40%) supporting the anecdotal evidence from the sector. Similarly, the decrease in the 16-19 and 20-24 workforce are easy to see – dipping specifically around 2009 (during the global recession) and struggling to recover since then. An increase in 50+ workers in the sector isn't necessarily a problem; it could be a sign of a healthier workforce and increased job quality. However, the sustained depression of intake of 16-24 employees is concerning – once the 50+ workforce approaches retirement, there will be fewer experienced employees ready to take up senior positions.

Change in GM Construction Workforce<sup>7</sup> (indexed) 2005 - 2020



(1.13) A demographic skew can also be seen in the proportion of the workforce from different ethnic backgrounds. The proportion of the workforce from white backgrounds is 95.6%<sup>8</sup> (data shown here is for the North West as a whole – GM specific data is not available). All other groups are under-represented within the sector, when compared with the wider NW workforce. It is unclear why this is the case.

Ethnic Background	NW Workforce	NW Construction Workforce	NW Differential	UK Differential
White	90.5%	95.6%	5.1	6.4
Mixed/multiple ethnic group	1.0%	0.9%	-0.1	-0.4
Indian	1.5%	0.5%	-1.0	-1.5
Pakistani	2.4%	1.4%	-1.0	-0.8
Bangladeshi	0.6%	*	*	-0.5
Chinese	0.4%	*	*	-0.3
Any other Asian Background	0.6%	*	*	-0.8
Black/African/Caribbean/Black British	2.0%	0.8%	-1.2	-1.4
Other ethnic group	1.0%	0.5%	-0.5	-0.6

\*Proportion is negligible (<0.1%), so differential cannot be calculated

<sup>7</sup> GMCA Analysis of [NOMIS Data Extract](#) – May 2021

<sup>8</sup> GMCA Analysis of [NOMIS Data Extract](#) – March 2021

(1.14) One area of note from the NOMIS data above is that the Construction Sector in the North West is performing better than the UK average on the same measures of diversity. In particular, the disparity for residents of Indian, Pakistani, and Black/African/Caribbean heritage is slightly better in the North West than the UK average. More work needs to be done at all levels to address the imbalance seen here and to attract more diverse applications to job roles within Construction. On a positive note, the past 10 years have seen a general trend towards greater representation within the sector, with the proportion of the workforce from White backgrounds reducing from around 97% to 95.5%.



## 2. Background

### Policy Landscape

- (2.1) Construction plays an important foundational role for employment – it is regularly cited as a priority for government as an area for development. The Department for Business, Energy and Industrial Strategy released the Construction Sector Deal<sup>9</sup> in July 2019, detailing key policy aims across 5 areas to support the sector. With government priorities shifting towards green growth and now recovery from the pandemic, the sector is more important than ever.
- (2.2) Additional government support comes with the upgrading of the UK's digital infrastructure – billions have been committed to this objective already, with more expected in the coming years. The aim is to accelerate the rollout of the UK's Gigabit and 5G networks, enhancing productivity in all growth and foundation sectors. It is estimated that around 70,000 jobs will be created over the coming years to meet this infrastructure need.
- (2.3) As with most other sectors, there is a drive towards expanding the use of low carbon materials and technologies. In July 2019, Greater Manchester declared a climate emergency and set targets surrounding various environmental conditions. The current headline aim is for GM to be carbon-neutral by 2038 – 12 years ahead of the UK as a whole. While much of this work will be across various sectors like travel and energy use, a large proportion of the work required is in Construction. All new houses built from 2028 will be zero-carbon, and the existing stock is to be retrofitted and updated to meet new energy standards.
- (2.4) Empowered and supported by central government, the CITB is one of the strongest skill-related sector bodies in the country. The CITB is unique in that it is permitted to levy payroll from sector employers – this is then used on programmes related to training and skills development. Employers in the

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<sup>9</sup> [BEIS](#) – July 2019

sector pay both the CITB levy and the apprenticeship levy (if they are of the appropriate size). Both are based on the size of a company's payroll bill and can be reclaimed to fund approved courses and apprenticeships.

- (2.5) March 2021 saw the launch of a Skills Plan<sup>10</sup> formulated by the Construction Leadership Council, a group of public and private sector experts which focuses on policy for the sector. The recommendations of the Skills Plan pay particular attention to the issues of attraction/routes into the sector and poorly defined career pathways. It also draws attention to the short-term approach many employers take in response to their skills needs. Objectives and the following actions detailed in the report match up closely to the ambitions of GMCA, which is in a unique position to act to improve the sector on a local level.
- (2.6) The UK Government are in the process of rolling out T Levels – qualifications designed to be roughly equivalent to A Levels, but in technical sector-specific subjects, tying in work experience placements as part of the programme. Only one of the pathways released in 2020 was relevant for the sector – “*Design, surveying and planning for construction*”. Take-up of these programmes has been limited from employers, candidates, and educational institutions. There are a number of relevant pathways launching in September 2021 – these are looked at in more detail later in this report.
- (2.7) A recent CITB report<sup>11</sup> found that the wider UK Construction sector is composed of approximately 90% UK workers. An additional 8.2% of the sector workforce are EU workers. These workers are disproportionately located in the South East and London. There is a minor concern within the sector that if the number of these workers decreases as a result of new immigration rules, then higher wages in the South East and London will attract workers from other regions, draining the talent pools in the northern regions.

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<sup>10</sup> [CLC](#) – March 2021

<sup>11</sup> [CITB](#) – January 2021

This is not likely to be seen quickly, but it something for northern sector bodies and employers to be aware of.

- (2.8) 2020 saw materials shortages and rising prices – timber prices are up 20%, stocks of roofing tiles are running low, and there has been a nationwide shortage of plaster at most builders' merchants. This has likely been caused by a number of issues, including stress on supply chains due to COVID19, border delays in recent months due to the end of the Brexit transition period, and an increase in DIY/renovation activity throughout the lockdowns. It is expected that this will largely impact SMEs rather than larger employers in the sector, who will have supply chain partners.
- (2.9) Over the course of the COVID19 pandemic, another policy was implemented to stimulate the housing market – an increase of the stamp duty threshold to £500,000. With average stamp duty costs dropping by £4,500, this was intended to improve the property market which was badly hit by the first national lockdown. Generally speaking, it has worked – the number of mortgage approvals (an indicator of people moving home) has recovered to 103,000 in December, after dropping from 73,300 in February to just 9,400 in May. This surge in demand should be positive for the housebuilders in the Construction sector. With the policy ending on 30<sup>th</sup> June 2021, the impact of the threshold returning to normal levels remains to be seen.
- (2.10) Procurement is widely used as a tool by public sector bodies to encourage skills development and work towards social value objectives. Many local authority, housing association, and central government contracts will come with stipulations for the winning contractor to meet certain requirements. These are often geared towards the recruitment of local residents, the use of apprenticeship programmes or traineeship programmes, and engagement with third-sector organisations working with long-term unemployed, disabled, care-leaver, or ex-offender candidates. While these are often seen as more of a chore by employers in the sector, some employers are starting to embed social value work as part of their normal operations, giving themselves a competitive advantage for these public-sector contracts.

## **Greater Manchester Construction Ecosystem**

(2.11) As with many city regions, the bulk of new construction projects within Greater Manchester take place in the city centre. The clearest sign of this is the city centre population, which has grown from 10,000 in 2008 to 70,000 in 2018. Office blocks, apartment buildings, and city centre regeneration form a large part of the activity across Manchester and Salford local authority areas. The Deloitte Crane Survey of 2020<sup>12</sup> found a picture of resilience and consistency around new project starts in the city centre. The report found a continued trend towards residential development in the city centre, with the number of units being built increasing dramatically over the past 10 years. Office building project starts have faltered in 2020, perhaps as a result of the decreased demand for office space due to COVID19 lockdowns and the trend towards remote working.

(2.12) Like most regions on the UK, Greater Manchester contains a full range of Construction companies. There are a number of main contractors, developers, architects, civil engineering consultancies, labour agencies, subcontractors, and sole traders. With the fastest growing economy outside London, supportive local authorities, and with the region containing large and varied infrastructure project bases, it is easy to understand why the region is attracting international investment. Employers report that part of this is due to the increase in well-paid graduate jobs in the city, encouraging more students to stay in GM after graduating, instead of leaving London (where housing costs have become increasingly expensive).

(2.13) In addition to high levels of activity in the city centre, Greater Manchester also sees many focused pockets of activity in all of the local authority regions. These include housebuilding and infrastructure upgrades at the Junction 19 development in Rochdale, an upcoming re-development of the shopping centre and public space in Wigan town centre, and a major expansion of the Royal Oldham Hospital. All of these projects have been recently announced,

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<sup>12</sup> [Deloitte – Manchester Crane Survey – 2021](#)

adding to the picture of confidence in the GM economy as it recovers from the COVID19 pandemic. The challenge for sector bodies and for GMCA is to ensure that the high levels of investment bring long-term improvements to the full region, improving the lives of residents with new infrastructure, jobs, and skills.

(2.14) Infrastructure works on highways and the Metrolink and rail networks tend to be more widespread and are usually administered by TfGM and Network Rail in partnership with the local authorities. All 10 local authority areas have seen recent works on infrastructure. Additional funding secured from the UK Towns Fund will support further infrastructure development in the regions awarded funding (Stockport, Rochdale, and Bolton). Because of the centralisation of transport infrastructure in GM through TfGM, the region has a well-integrated network – this enables the construction of larger and more ambitious infrastructure projects.

(2.15) One of the 4 key pillars of the Greater Manchester Local Industrial Strategy<sup>13</sup> is a commitment to the Clean Growth Grand Challenge. This includes work towards low-carbon buildings, retrofitting of old buildings, and development of new modern methods of construction. Many of these ambitions will require close work with construction sector – including housebuilders, infrastructure bodies, and public/private sector commissioners. While the appetite at a national and regional level for green growth is high, there is a good opportunity for GM's Construction sector to become a national leader in this area.

(2.16) In recent years, the 10 GM local authorities have been working together to support the Construction sector by putting together the GM Spatial Framework. This is a long-term plan designed to ensure that the GM is building the right amount of housing in the right areas, partially by freeing up local authority land to be built on. At the end of 2020, Stockport Council dropped out of these discussions and intends to proceed with a specific

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<sup>13</sup> [GMCA](#) – 2017

separate plan for Stockport. The remaining 9 local authorities are proceeding with a shared plan, which will be formalised over 2021, providing a boost to the prospects of housebuilding in GM.

(2.17) Greater Manchester also reflects UK trends on the mobility of workers within sector. Most construction professions are entirely place-based (i.e. performed on-site at a specific physical location). This means that the labour force is required to “follow the work”, especially in cases of large infrastructure projects. As a result of this, construction workers are more comfortable than most other professions with working away from home, long commute times, and sometimes moving home to be closer to a work site. Less than a third of construction workers surveyed in 2019 had worked solely within 20 miles of their residence<sup>14</sup>. This reflects the shifting workplaces often seen in the sector and makes it difficult to project accurate measurements of the size and makeup of the labour market. While the construction labour market is naturally fluid, workers in the North West are more likely to work closer to home than in areas like London or the South East, where large infrastructure projects pull workers from a wider area.

### **Greater Manchester Construction Pipeline**

(2.18) Taking an accurate measure of the upcoming pipeline of construction work has a number of obstacles. Translating that pipeline into skills and labour requirement has further obstacles. However, a recent piece of work conducted by GM Chamber of Commerce and CITB on behalf of THINK consultancy and Manchester City Council has produced an estimate of construction pipeline over the coming years. Verified pipeline of ongoing projects across GM until 2040 amounts to £25.5bn<sup>15</sup>.

(2.19) Below is a breakdown of the pipeline over the next five years (2021 – 2025) which is approximately £14.1bn. ONS category breakdowns reveal a concentration of projects in the housebuilding sector – this accounts nearly

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<sup>14</sup> CITB - 2019

<sup>15</sup> GMCC/CITB 2021 Pipeline - Unreleased

half of the total pipeline. This headline number speaks to the strength of the sector and is higher than the equivalent 5-year forecast (£8.8bn) in 2017 report. The increase further confirms the resilience of the sector after the COVID19 pandemic.

**GM Construction Pipeline 2021 – 2025 (£ million)**

Category	2021	2022	2023	2024	2025	Total
<b>Housing</b>	1,992.6	2,333.3	1,520.9	765.8	294.0	6,906.6
<b>Infrastructure</b>	307.6	200.3	55.9	42.8	23.6	630.2
<b>Private Commercial</b>	1,130.5	1,167.2	665.2	262.5	26.8	3,252.2
<b>Private Industrial</b>	456.0	393.5	119.6	57.8	31.3	1,058.3
<b>Public Non-residential</b>	1,102.2	835.8	153.4	87.9	62.4	2,241.6

(2.20) There are some important points to pull out of this work, the most important of which is that visibility of pipeline drops off after a few years. This is intrinsic to the sector, given investment decisions in both public and private organisations. This was seen in the previous report<sup>16</sup>, so values should be treated as the minimum – further projects will enter the pipeline closer to the delivery dates. Employers reported that a more long-term view of pipeline would be useful when it comes to planning their projects and commitments.

(2.21) While the pipeline figures give a good indication of the strength and upcoming labour requirements of the GM Construction sector, they do not tell the full story. Approximately a third of construction output is in the repair and maintenance of existing buildings and infrastructure. Because this pipeline data is pulled from forecasts and planning systems, output in the repair and

<sup>16</sup> GMCC/CITB GM Construction Pipeline - 2017

maintenance subset is not included in the pipeline figures. It does, however, make up a large proportion of the construction labour market. As a result of this, shifts in demand for repair and maintenance work or new building work can restrict availability of labour in each area. The labour implications of this updated pipeline are discussed later in this report.

## **Key Projects**

(2.22) There are several key projects coming to Greater Manchester in the next decade – the most high-profile of which is the High Speed 2 rail expansion, often referred to as HS2. The line between Crewe and Manchester is a later stage of the project (which currently is still being constructed in between Birmingham and London). In February 2021, the “Phase 2a” project (Birmingham to Crewe) was passed into law, starting the initial stages of the project. While HS2 is years away from being “shovel-ready” in GM, the scale of the project will require thousands of skilled workers.

(2.23) While at a similar stage to HS2, also worth including is Transport for the North’s investment plan<sup>17</sup> for Northern Powerhouse Rail. GM is at the core of this plan, which covers the entire north of England, sees a series of upgrades to existing rail infrastructure to reduce journey times, improve passenger flow, and increase capacity. With increasing calls from many corners for further investment in the North, further infrastructure programmes will be a great opportunity for the region to create jobs, improve skills, and increase productivity. One major rail project is the Transpennine Route Upgrade, which has commenced early works in April 2021. Further options for the Transpennine line (from Manchester to York) are being developed and will likely be confirmed mid-2021 in the Integrated Rail Plan. It is expected that the work will involve the full electrification of the line, a lengthy project which will provide stability for rail contractors for years to come.

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<sup>17</sup> [Transport for the North](#)



- (2.24) The rollout of the UK's upgraded digital infrastructure will bring investment to Greater Manchester over the coming years. With the 5G mobile network installation along with the laying of optical fibre cables for broadband providers, hundreds of specialised networking engineers and installers will be required. While the immediate investment will be a big positive for the region, the subsequent upgraded infrastructure will improve the business environment even further, providing additional benefit for GM.
- (2.25) Regeneration work taking place in North Manchester is already in progress in early 2021 – the Northern Gateway project. Estimated to be £4bn of investment, the project will see housing and infrastructure built across much of the disused land in the area. The 20-year plan involves as many as 15,000 new homes. A social value strategy is in place with stipulation around the labour involved in the project, along with community engagement to keep as much of the investment in the area as possible.

### Modern Methods of Construction

- (2.26) On the global stage, the UK has been slow off the mark with the shift towards MMC. Countries like Japan, Germany, and the Netherlands have all been leading the market in the development of new techniques and innovations. Some market leaders in the area are starting to reach the UK, as evidenced by the recent investment by Sekisui Homes<sup>18</sup> in British MMC pioneers UrbanSplash. With a long way to go before the UK reaches the capability of other comparable countries in this area, it's important for policy makers and government to support the shift to MMC.
- (2.27) The reasons to pivot towards MMC are many – structures built using the techniques should be cheaper, more energy efficient, simple to build, and involve fewer third-party contractors. However, it seems that these reasons are not enough to provide the impetus for change by themselves. Property developers and builders say that more needs to be done by government to

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<sup>18</sup> [UrbanSplash](#) – June 2019

better embed modern methods. This includes freeing up land to be used, commissioning more social housing, and funding research into the application of new materials and techniques.

- (2.28) When fully implemented on a construction project, MMC makes the process more like modern manufacturing than traditional construction. Raw materials are refined and then built into sub-assemblies (i.e. bathroom “pods”, parts of exterior structure, walls with windows embedded), which are then transported to the site to be assembled fully. End-to-end, the process is quicker than traditional construction – one organisation, Ilke Homes<sup>19</sup>, assembled a full house from modular parts in 36 hours to demonstrate. Companies engaging in MMC tend to be more vertically integrated than traditional construction companies – they often act as the developer, manufacturer, and builder at once. In March 2021, the Treasury<sup>20</sup> announced the development of an MMC Taskforce for the whole UK, backed by £10m of seed funding to develop the sector nationwide.
- (2.29) One challenge to the expansion of MMC lies in consumer preferences and the desirability of buildings. Given the type of methods included, the homes built under MMC often look different to traditional brick-built homes, and as such look “out-of-place”. The materials used are usually pre-assembled panels, including pre-cast concrete or metallic elements, glass, and acrylic/plastic materials. These are all widely used already, but rarely constitute the full outer layer of buildings, in particular, houses. Unless and until architecture and consumer trends change to accept this, full-scale MMC is unlikely to be preferred. The public sector plays a role in driving these trends, issuing construction contracts for public infrastructure like schools, health facilities, prisons, and social housing to contractors using MMC. This stimulates the market as well as changes preferences.

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<sup>19</sup> [Guardian](#) – November 2018

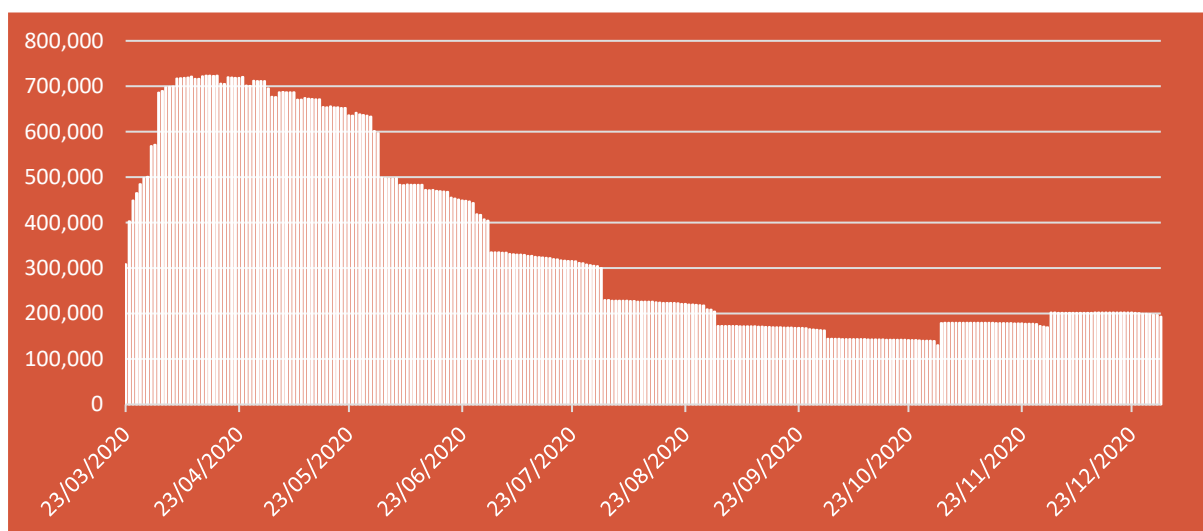
<sup>20</sup> [HM Treasury – Budget 2021](#) – March 2021

(2.30) Another factor impacting the wider rollout of MMC lies in the priority given to social value elements in the bid/tender process. Because many local authorities, client organisations, and housebuilders wish to support the local areas, the procurement process often includes heavy weighting towards social value commitments around local employment and training. Use of MMC often involves off-site assembly and manufacturing, where much of the work takes place many miles from the site of the building. Where a contractor has made social value commitments, they may be reluctant to use MMC companies, given this would have an adverse effect on their ability to support local employment and skills development. While the scale of this issue is currently unclear, one possible solution is to have MMC commitments blended into Social Value commitments, given the cost and sustainability benefits.

### 3. COVID-19: Impact on Construction

- (3.1) At the end of March 2020, the UK Government implemented the first lockdown to deal with the worsening COVID-19 pandemic. This lockdown, in addition to the new requirements for social distancing and shifts in consumer buying had a number of effects on the wider UK economy. The peak number of furloughed employees in Construction was 723,600 on 14<sup>th</sup> April 2020, during the first national lockdown<sup>21</sup>. The sector recovered reasonably quickly, seeing reductions in furlough numbers by the end of each month, before ticking up at the end of 2020 as further lockdowns and the tier systems were introduced.

**UK Construction Jobs Furloughed**



- (3.2) While many employers in the sector have utilised the Job Retention Scheme throughout the pandemic, the picture was different for the large proportion of the sector who are sole traders or self-employed. The initial payments for furloughed staff were payable from April 2020 whereas anyone applying for the Self-Employment Income Support Scheme (SEISS) had to wait for June. Any newly (under 1 year) self-employed people were not included in the support at all. Additionally, as the policies were updated as the pandemic

<sup>21</sup> [CJRS Statistics](#) – December 2020

progressed, it became clear that they were leaving some workers in the sector without support. Because of the difference in the way self-employed and sole-traders take wages and dividends (often with smaller wages and larger dividends), the support has been unreliable and lower than for furloughed staff in many cases.

- (3.3) Many areas of Construction have inherent advantages over other workplaces when it comes to social distancing measures. On-site staff are generally working in well-ventilated environments, often across large areas. Compared with offices or manufacturing production sites, very few changes had to be made to these workplaces to make them COVID19 secure. Employers reported that this is part of the reason that the sector has recovered relatively quickly. With rigorous Health and Safety procedures already in place across most sites, employers reported that the move to adopt social distancing measures was a relatively small burden, in order to get back to site.
- (3.4) Anecdotally, the sector has been resilient and agile in responding to the requirements of the pandemic. This resilience plays out very clearly in the demand picture – the number of vacancies<sup>22</sup> in Construction has not only recovered since the start of the pandemic but is now higher than pre-COVID19 levels. This is the strongest of any sector. The recovery is also reflected in terms of Construction Output<sup>23</sup> – following a sharp dip in April 2020, it recovered back to pre-pandemic levels by the late-Summer. Additional evidence of the sector's advanced recovery can be seen in the Construction Purchasing Manager's Index – an index of confidence across around 170 employers in the sector. The PMI rose to 61.7 in March 2021<sup>24</sup>, signalling the strongest rate of construction output growth since September 2014.

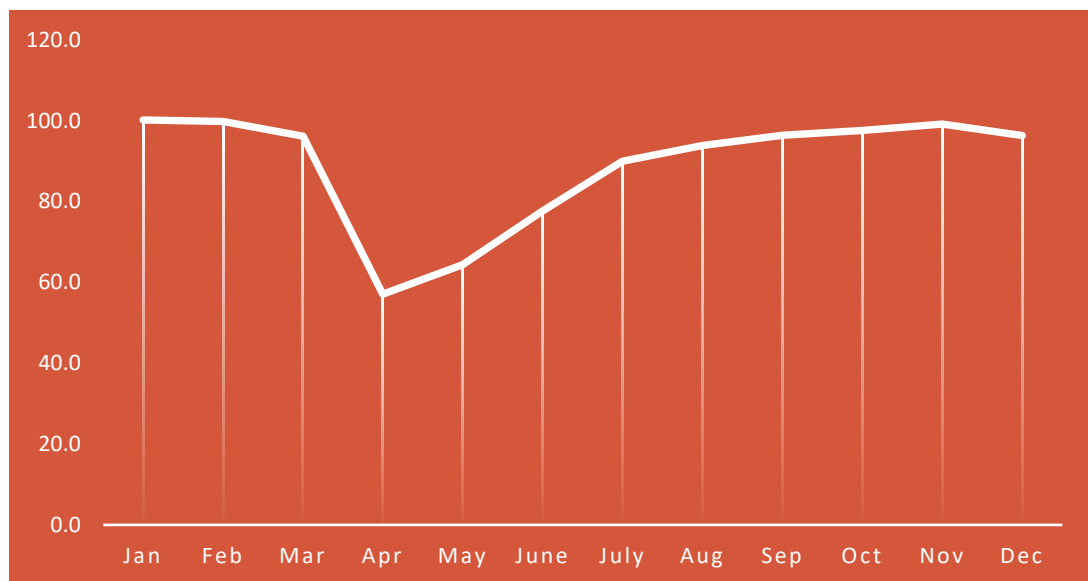
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<sup>22</sup> [Indeed Hiring Lab](#) – Feb 2021

<sup>23</sup> GMCA Analysis of [ONS Data](#) – Jan 2021

<sup>24</sup> [TradingEconomics](#) – March 2021

UK Construction Output - 2020



- (3.5) Additional effects on the sector are likely to be seen over the next few years as the permanent impacts of the pandemic start to take shape. It's widely acknowledged that the pandemic has accelerated certain trends. Two important trends for Construction are the shift to remote-working and the increase in online shopping. While both of these areas were already on the rise, they have been forcibly accelerated by government policy. Similarly, many smaller retailers have started ecommerce projects, developing websites and payment systems to continue trading through the lockdowns. Now that these systems are in place, some will stay as ecommerce businesses permanently, reducing demand for retail space.
- (3.6) Lockdown orders and social distancing measures have forced the reduction in office space for many companies. If these trends continue after the pandemic as many expect demand for office space will decrease (hitting city and town centres harder than other regions). These trends are shown most starkly in the performance of Real Estate Investment Trusts (REITs) on financial markets, where many lost 50% of their value in the first (March/April) lockdown and are yet to recover to pre-pandemic share prices. Investors do not expect these firms to recover to pre-pandemic levels of turnover. Where previously organisations were nervous about drops in productivity from home-working, confidence has been built over the pandemic as many businesses

adapted their processes to the virtual environment. Many businesses are looking at blended “return-to-work” models however, so there may be a rise in shared-working space in many office environments, even while the overall office space falls.

- (3.7) Contrasting the fall in office space, demand for well-connected warehousing and logistics spaces has increased dramatically. The fortunes of some logistics and warehousing companies lie in stark contrast to many other firms – warehousing operator Segro<sup>25</sup> saw a 10.3% increase in their property and a 10.8% increase in profit in 2020. As online shopping grows, demand for more sophisticated warehousing space will increase. As the effects of the pandemic become clearer, Construction companies will still see high levels of demand for new buildings. However, it’s likely that the demand will be for warehousing/industrial space rather than office/retail space, changing the dynamics of the sector. This represents a good opportunity for areas of GM like Rochdale and Wigan, which are well connected to transport networks and are home to logistics hubs.

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<sup>25</sup> [FT](#) – February 2021

## 4. Construction Labour Market

- (4.1) As a rule, the construction labour market is varied, inter-connected, and flexible in terms of working patterns. It is difficult to pick out trends or types of company structure which seem to be preferred. There is a high amount of both agency labour and self-employment within Construction, for different reasons. Company size ranges from hundreds of thousands of self-employed workers and micro-businesses to large contractors who employ thousands of individuals. The project-based nature and cost-driven culture within the sector has driven many individuals and companies to become hyper-specialised. As an example, employers reported that although a joinery firm may be able to perform a variety of different tasks related to the trade, they would often specialise in one (e.g., staircases, roofing, furniture fitting).
- (4.2) Generally, occupations can be sorted into 4 rough categories – Ancillary Support, Site Support, Site Trades, and Site Advanced. Ancillary support roles consist of the pre-project work like bidding, estimating, and design. Site support roles consist of the on-site wraparound work like logistics, ecologists, or labourers. Site trades consist of the skilled tradespeople and are seen as the “traditional” pathways. Site advanced consists of specific technical roles that often work on one type of project. While some occupations will fit into multiple areas under this classification, it is a reasonably clear way to break down the various roles common in the sector. The classification given can also be mapped onto a construction project more specifically – the support roles are often more prevalent earlier in a project than the Site trades or Site advanced roles. Although some are primarily offsite, most occupations within the sector require site visits at various points within the project.

Ancillary Support	Site Support	Site Trades	Site Advanced
Estimator	Site Logistics	Plumber	HSE Lead
Planner	Labourer	Plasterer	Site Management
Project Manager	Groundworker	Painter/Decorator	Electrical Engineer
Bid Manager	Gatekeeper	Roofer	Plant Operator



CAD Technician	Maintenance	Carpenter	Rail Engineer
Buyer	Environmental	Joiner	Highways Engineer
Architect	Consultant	Gas Engineer	Network Engineer
Civil Engineer	Ecologist	Bricklayer	
Network Designer	Surveyor	Electrician	
		AC Engineer	
		Heating Engineer	

- (4.3) More so than other sectors, Construction has a clearly defined “card”/“passport”/“license” system for many on-site roles. When contractors or smaller employers come to recruit for specific workers, they will usually be able to provide a clear job description including the certification required. This will often refer to various levels of site Health and Safety understanding and equipment skills. A good example, (and the most common card) is the Construction Skills Certification Scheme (CSCS) card, often seen as the most important entry-level certification. Further certifications open up other career paths (i.e. working at height, health and safety, track safety, plant operation). Because of this structure and because of the highly-prioritised safety element, the sector is fairly rigid in terms of which worker can take up which role.
- (4.4) While the number of job postings dropped sharply at the start of the first lockdown in March 2020, the recovery to pre-pandemic levels has been strong. UK wide, Construction is now one of just two sectors seeing higher levels of vacancies advertised in 2021 than in 2020 or 2019<sup>26</sup> (the other being Transport and Logistics). This is reflected in the levels of vacancies for Greater Manchester. Resilience like this should be promoted widely as a strength of the sector – commercial, along with central and local government infrastructure investment will be a key driver of the recovery of the wider economy from the COVID19 pandemic.

<sup>26</sup> [ONS](#) – April 2021

- (4.5) One thing unique to the Construction sector labour market is the prevalence of self-employed workers and sole traders. According to NOMIS data<sup>27</sup> from September 2020, Construction employed 6.1% of the total workforce in the North West, but 17.4% of the self-employed workforce. This translates to approximately 1 in 3 workers in the sector being self-employed – compared to 1 in 7 for Transportation and Storage, 1 in 12 for Education, and 1 in 16 for Manufacturing. Many individuals classified as self-employed work as contractors on larger projects, in addition to many who operate entirely as sole traders, largely in maintenance roles (plumbers, electricians, etc.). The likelihood of self-employment also increases with time spent in the sector<sup>28</sup> – supporting the anecdotal evidence that workers often start off employed, before eventually “setting up on their own” after they have gained enough experience and industry contacts.
- (4.6) Another characteristic widely seen in Construction is the use of agency workers. It’s estimated<sup>29</sup> that 56% of employers in the sector have increased the share of agency workers they employ in the 5 years leading up to 2018 – higher than all other sectors. This largely driven by several factors – the project-based nature of the sector, the need for specialist skills at certain times, and the need to cover sickness/absence to keep to contractual timescales. In particular, employers cite the flexibility required for most construction project stages, which sees large variation as to which professions are required at each stage.

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<sup>27</sup> GMCA Analysis of [NOMIS Data Extract](#) – March 2021

<sup>28</sup> [CITB](#) - 2019

<sup>29</sup> [Resolution Foundation](#) – Feb 2018

## 5. Skills Demand

### The Skills Gap

- (5.1) The Construction sector is often cited as seeing the worst skills and labour gaps when compared with other industries. It helps to understand why this is the case. There are several issues which are intrinsic properties of the construction sector which cause this. For the purposes of this report, there are three worth understanding in further detail – the make-up of the business stock, the pricing pressures of primes/contractors, and the project-based nature of the work.
- (5.2) Part of the ongoing skills issue within the sector is due to the make-up of the business stock. A large proportion of the workforce are either self-employed, or part of a micro business with a few employees. Small employers are less likely to spend on skills development than larger employers<sup>30</sup>, with firms with 1 – 9 employees well below the average. There are several reasons for this – cost and time are generally cited by employers as the biggest barrier. Both of these barriers are seen in Construction, particularly the time barrier – employers in the sector are often extremely busy and have work booked in for months in advance.
- (5.3) The second issue exacerbating the skills situation in the sector is the pricing pressures on primes/contractors. In recent years, there has been a tendency towards hyper-specialised businesses taking on different parts of contracts. While this does make efficiency savings for the client, prime, or main contractor, it results in the contractors, sole traders, and SMEs becoming “pigeonholed” into specific skillsets. For example, a joinery firm may specialise in roofing timber, or staircases, or built-in furniture. While the workers may be able to work in all of these areas, they will often only be contracted on one type of work. The knock-on effect of this to skills development is that any skilled workers in this situation see a degradation of

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<sup>30</sup> BEIS – [Longitudinal Small Business Survey](#) - 2018

general skills along with an improvement of specialist skills. Additionally, young people or new entrants may struggle to get experience in and apply the wide skills which are part of an apprenticeship or qualification.

- (5.4) The third challenge to skills development which is relatively unique to the sector is the project-based nature of the work. Most construction projects (new or refurbishment) tend to have clearly defined start and end dates, often dictated by the client. This then filters down in the supply chain, such that subcontractors are brought in for specific, time-limited, project work. This type of work makes up the bulk of the industry, which often translates into the “boom or bust” reputation of the sector. A lack of long-term project work and often uncertainty around the next piece of work creates a level of instability in the sector, which particularly impacts skills development. For example, taking on a young person or new entrant is a risk when work pipelines are not secure.
- (5.5) These factors combine with a sense of confusion among employers in the sector over the accountability for the skills gap. Employers often expect colleges to prepare learners well for the world of work, and as such don't take direct responsibility. The role of the CITB is somewhat unclear – some employers expect the CITB to be the central body solving the skills gap. Providers and FE Colleges deliver the technical skills and training required but can't guarantee placements to secure workplace competence – this has to come from employers. The skills challenge is therefore compounded by the diffusion of responsibility.

### **Diagnosing Skills Demand in GM**

- (5.6) With such a varied and complex ecosystem of employment, sole-traders, and labour agencies, demand for skills within Construction is difficult to fully pin down. There are some advantages to the sector in this regard – many main contractors already have systems to calculate the amount and type of skills needed for each type of project. Additionally, the CITB has a labour forecasting tool used to measure skills requirements over the coming years on

a regional and sector basis. Tapping into tools like these allow for reasonably confident predictions of the types of skills needed.

- (5.7) The GM Construction Pipeline given in (2.19) serves as the “best guess” for labour requirements over the next few years. The forecast completed<sup>31</sup> by CITB/GM Chamber of Commerce predicts that the labour demand will hit a peak in February 2022, with projects across GM requiring 77,125 workers. This represents a 16% increase on the requirement determined in the previous analysis conducted in 2017. However, the expected demand differs by occupational group. A summary of the expected demand is given in the table below:

Occupational Cluster	Demand 2017-2018	Demand 2021-2022	Change (%)
<b>Structural and Building Envelope Trades</b>	8,121	9,182	13.1%
<b>Interior Trades</b>	7,099	8,001	12.7%
<b>Exterior Trades</b>	4,222	4,685	11.0%
<b>Mechanical &amp; Electrical</b>	6,537	8,096	23.9%
<b>Supervisors, Operatives and Labourers</b>	4,530	4,887	7.9%
<b>Professional (Ancillary Support)</b>	27,036	31,968	18.2%

- (5.8) A few things stand out in this analysis – the Mechanical & Electrical requirement is the proportional highest increase. This supports the idea that increased electrification and changes to heating, ventilation and air conditioning trades driven by the low-carbon ambitions are creating further demand in the sector for these occupations. Within the Exterior Trades statistic, bricklayers are still in significant demand, driven largely by the

<sup>31</sup> GMCC/CITB 2021 Pipeline - Unreleased

increased demand for housing, where traditional brick-built structures are still preferred. There is also a significant increase in the Professional occupational cluster – project management skills, process managers, architects, surveyors are all in higher demand. These occupations were identified as acute needs in the 2017 CITB/GMCC report, so it is perhaps unsurprising to see them again here.

- (5.9) In terms of numbers, the average requirement across all professions in 2021/22 in this forecast is 66,820 – approximately 8,000 more workers than the sector reported in 2019 in GM. One of the difficulties with predicting the demand vs. supply is the mobility of the sector – workers are often willing to travel in order to work. As a result, it's probable that Greater Manchester draws in workers from other regions to work on projects. While this initially seems like the problem may “fix itself”, there have been some predictions of a “London Drag”. Because of the severe labour shortages across the sector in London because of reduced numbers of EU workers (which made up a higher proportion of the sector pre-Brexit), it is possible that the higher London wages may act as a drain for labour UK-wide. As such, relying on the mobility of the sector's workers to fix any gaps is unreliable – local action is necessary.
- (5.10) The time taken to fill skills gaps within construction varies greatly between sub-sectors and occupations. Some certifications and qualifications can take a few days to complete, where others take several years. A good example of this is the difference between upskilling a construction worker to operate a specific piece of plant or machinery (which can be done in a matter of days), to the training seen for surveyors, civil engineers, or architects (which are usually degree level programmes taking several years). This variance, while not unique to construction, needs to be considered when assessing skills gaps and solutions.

### **Industry Wide Labour Gap**

- (5.11) Anecdotal evidence from employers suggests that their challenges stem from a labour gap rather than a specific skills gap – the skills system generally meets demand, but there simply aren't enough workers moving into the sector

to train up. This is reflected in the evidence from the Employer Skills Survey around sector skills vacancies, with Construction topping the proportion of unfilled vacancies<sup>32</sup> (39% go unfilled for lack of qualified candidates). Current workers often have the skills required to do their jobs well, but there are too few of them. Most employers would benefit from more workers moving into entry level positions.

- (5.12) On-site support roles are in highest demand from all contractors because they are required on most types of project. The requirement for more staff in groundworker and civils roles is one of the most acute needs for many employers in the sector. These are the staff who prepare the ground, lay foundations, and transform the terrain on-site in advance of any building work beginning. Often referred to as “Civils Gangs”, they are often employed by labour agencies, and move from project to project. Because this step is usually first in many projects and because it is needed across all sectors, workers are in high demand. Employers across Digital Infrastructure, Rail, and Highways all reported that this was a key “pinch-point” for them.
- (5.13) There are a few reasons for the civils/groundworker labour gap – high demand for these skills from all construction projects combines with low job satisfaction. While entry requirements are reasonably low, these roles are not generally seen as a long-term career – employers reported that they are seen mainly as a stepping-stone to further roles, usually into another trade. Additionally, because the roles are physically demanding (often more so than other trades), workers tend to leave these roles as they get older. A Level 2 Groundworker apprenticeship was developed and launched in 2018, however, in 2019/20, only saw a single enrolment in Greater Manchester. This speaks to the fact that young people are choosing trade pathways over Groundworks as a career preference.
- (5.14) Other elementary occupations are in high demand across the sector – employers reported an increasing need for scaffolders and steel-fixers. These

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<sup>32</sup> [DfE](#) - 2020

roles, while not strictly trades, are more advanced and often require further training than entry-level groundworker or labourer roles. In particular, there are further CISRS accredited cards and associated qualifications to achieve before progressing. Employers reported a shortage in this area for a number of reasons. As an occupation, it consists of a high level of outdoor working compared with “indoor” trades like plasterers or electricians, so is often disrupted by weather. It is often seen as more unstable than other trades due to the nature of when scaffolding is required during a project – usually assembling the scaffolding at the start of the project then disassembling at the end. These stages are often months or even years apart, with little work for a scaffolder in between.

(5.15) Employers also reported a shortage in a few ancillary occupations – Civil Engineers, Surveyors, and Project Managers were all suggested as areas which are sometimes difficult to recruit. These professional occupations (particularly civil engineers) are often filled by graduates, as they require degree-level (Level 6/7) skills. Project Management has become a productive career path for people already within the sector – having an understanding of the stages of project and types of works involved is a pre-requisite to good project management in Construction.

(5.16) Employers across the sector reported a wide variety of shortages in particular trades. As the economy recovers from the COVID19 pandemic, the increase in public investment along with the pent-up demand of homeowners and landlords is creating a shortage of certain trades. The combination of hospitality/leisure/retail lockdowns and travel/tourism restrictions has left some portions of the population with extra savings, much of which is now being spent on home improvements. As a result, trades like bricklayers, glaziers, plumbers, and electricians are in high demand.

### **Digital Transformation in Construction**

(5.17) As with all sectors, construction has been undergoing a digital transformation for the past decade or two. Use of digital technology has seen a mixed take-up across the sector. Some desk-based ancillary roles have become almost



entirely digital, where some trades are still very manual and don't include any element of digital technology. As a result, there is a wide range of digital skills in the sector. Some areas, like project management software, are widely used in other sectors. Others are specific to the sector, so are worth discussing here.

- (5.18) One area where digital skills are of increasing importance is in Building Information Modelling (BIM) – the use of specialised CAD-derived software in the design process to allow different elements of the design team to contribute to the same 3D model. It is often used to bring the design, engineering, and construction teams together to develop architectural plans, which are then rendered in a 3D environment. It was estimated in January 2021<sup>33</sup> that 72% of companies involved in the design process planned to use it in the next 5 years. Modern courses in construction at Level 3-4+ will often include some element of BIM as part of the course. There are a number of different software packages used for this purpose, so individuals in the sector will sometimes specialise in one, but generally have a good understanding of all.
- (5.19) Along with the growth of BIM, the sector has seen a recent increase in the use of Geographical Information Systems (GIS) – a framework for gathering and analysing geographical data, putting a project into context with its surroundings. GIS and BIM, while similar, complement each other by focusing on different areas of a project. A number of different methods are used to gather the data, including an increasing use of live-feed cameras and drones. In particular, GIS data is often used during infrastructure projects, where environmental and contextual considerations are more important.
- (5.20) Both of these trends show that the sector is changing with the increased adoption of digital technologies, but only in certain occupations. The majority of trades have seen little impact from the increase, aside from communication methods, new sales/marketing techniques, and small productivity gains. While there is a growing requirement for specialists in things like BIM and GIS, there

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<sup>33</sup> [PBC Today](#) – January 2021

is little evidence of a gap in terms of digital skills for most of the sector. Some employers were hopeful that the increase in digital occupations would attract more young people to the sector. Given there is increasing demand for these professional ancillary roles, a greater emphasis of digital skills in recruitment would be useful.

### **Rail Skills Gaps**

- (5.21) Uniquely placed within the construction sector, the rail industry is one which has seen chronic skills and labour shortages. Given the scale, scope, and timeline of many rail projects, the occupations involved are varied both by project stage and type. Trends within the sector towards electrification and sustainability are creating further demand for electrical engineers and early-stage roles like ecologists. Employers reported that the most acute need is a labour gap in track operatives – these are skilled and safety-accredited workers who do a variety of jobs onsite often maintaining, altering, or building lines and associated facilities.
- (5.22) Because of the complexity of most rail projects, the sector is stricter and more rigid than most when it comes to certification and accreditation. This is largely for safety reasons – the basic introductory qualification is the Personal Track Safety certificate (PTS). There are additional courses and certifications required to work in further roles and in different environments – for example, working on active lines, working in tunnels, or working on overhead lines. This gives the sector a reasonably clear line of progression, with increasing responsibility coming with further qualifications and certifications.
- (5.23) The Rail sector sees several challenges and restrictions, often over and above the general challenges seen in the wider construction sector. Most employers in the sector will only recruit candidates who are aged 18 or over – for safety reasons under-18s are not permitted to be on “track-side” sites. This has a knock-on effect in that many young people who would be considering a career in Construction may already be completing a Level 3 qualification or an apprenticeship by this point (starting at 16). While this does benefit the sector

with employers reporting higher retention rates and maturity levels, it does restrict the potential pool of new entrants.

- (5.24) One additional challenge that employers mentioned for the rail sector stems from the way the industry as a whole is set up. Because of the centralisation of the sector around Network Rail, they set the agenda when it comes to scheduling and contracts. Since 1995, Network Rail have structured the schedule around “Control Periods”<sup>34</sup> – 5-year long windows in which projects and work is completed. The current window is Control Period 6 (CP6), which started 1<sup>st</sup> April 2019 and runs to 31<sup>st</sup> March 2024. The Department for Transport issue contracts on this basis, which are then filtered through Network Rail to prime and sub-contractors.
- (5.25) While this Control Period structure allows for clear timelines, reporting, and structured projects, it often creates issues for workers in the sector. Employers reported that there are often delays to contract awards and starts, particularly around the end of one and start of another Control Period. This period of instability creates an “exodus” out of the sector every 5 years, with staff leaving when contracts expire, and their future becomes less certain. This is damaging for the sector, as these workers leave for more secure employment after having built up valuable rail-specific and wider skills. The level of support for these workers as contracts end varies dramatically by employer – more should be encouraged to support workers to stay in the sector.
- (5.26) There are existing and emerging skills gaps in a few areas of the Rail sector, particularly in technical skills. In addition to the industry-wide demand for construction workers, rail engineering and signalling expertise are in high demand over many contracts. Employers reported that large projects like Crossrail and HS2 are currently drawing much of this labour out of other regions into the South of England. In many cases, service operators and contractors struggle to find both engineering skills and track maintenance

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<sup>34</sup> [Network Rail](#) - 2021

operatives. Given the upcoming arrival in Greater Manchester of the Transpennine Route Upgrade and Phase 2b of the HS2 line over the next few years, more should be done to equip the residents of the region to work in the sector in these technical high-paying occupations.

### **Digital Infrastructure Skills Gaps**

(5.27) A fast-growing area of construction, the need for digital infrastructure is forecast to be a large area of skills and labour needs in the future. Employers in the sector point to examples of well-connected cities like Milton Keynes and Coventry, where recent works have improved broadband connectivity to private residences and businesses alike. With Greater Manchester's ambitions to be a digital city, this is a key sub-sector of construction which must be supported. Improved digital connectivity is vital to productivity and quality of life improvements, working towards the "SmartCity" model and improving school and business connections. Additionally, digital infrastructure presents an opportunity for the construction sector as a whole in attracting young people to hard-to-fill roles. Given the digital career ambitions of many young people, and the creation of many jobs in the sector that don't exist as career options yet, there is huge potential for anyone moving into the sector to work.

(5.28) Employers in the sector reported the same issues as other sub-sectors like rail and housing, citing the need for groundworks, civils, and logistics operatives. Some employers believed they were at a disadvantage in this regard – laying cables and fibre optic is often disruptive work. Because of the nature of the work often being upgrading old lines, much of the initial work involves groundwork on public roads or pavements. This means that civils work on digital infrastructure projects compares unfavourably with other civils works on new housing or rail projects, for example.

(5.29) One particular area of skills need in digital infrastructure is on Network Planning. Also called City Planners or Fibre Planners, these are relatively new technical roles, which are made up of complex duties including on-site work, project management, and scheduling. Understanding of digital networks, the

market of service and infrastructure providers, and efficient planning are required to excel in this role. Crucial to the successful rollout of “fibre to the premises” (FTTP) networks, Network Planners often have a background in Computer-aided Design (CAD) work, Geographic Information Systems (GIS), or civil engineering. Employers reported that there are too few applicants for this sort of role, resulting in unfilled positions.

- (5.30) Employers also reported a poor understanding of digital infrastructure in the rest of the construction workforce. As networks become more complex, the need for future-proofing and scalable infrastructure grows. Tall residential buildings were cited as an example of particularly disjointed approaches. When a developer comes to fit the network access points in tall residential buildings, they will often only build in space for one or two providers. This then limits the choice of service provider for the future residents of the building, decreasing competition and ensuring future monopolies or duopolies of providers. Residents will often then ask for other providers’ services, resulting in the provider re-digging recently laid cables, roads, or access points to lay their own. While this is to some extent unavoidable, developers should be encouraged to take a “dig-once” approach, keeping digital infrastructure in mind at the design and build stages of their projects.

### **Future Skills Gaps – Green Skills and MMC**

- (5.31) While construction exhibits acute and immediate skills needs in several areas, the industry is undergoing several large changes. The shift of government and company priorities towards green ambitions is introducing new considerations and skills requirements on many projects. It also represents a big opportunity for the sector to attract climate-conscious young people into key roles. While there is no clearly defined “Green Economy” and few explicitly “Green Jobs”, the construction sector will play a big role in the transition to net-zero, with every job effectively becoming a “Green Job”. A report produced by the CITB<sup>35</sup> in March 2021 pointed to the market failure of

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<sup>35</sup> [CITB](#) – Building Skills for Net Zero – March 2021

demand-led development of green skills provision, and the need for culture shift and government intervention. This is particularly acute in “retrofit” skills needs – the skills involved in updating and improving the carbon efficiency of existing properties.

- (5.32) In this area, skills supporting the installation of systems like heat-pumps, external wall insulation (EWI), and photovoltaic (PV) solar panels will be in increasing demand. The next 10 years will also see an increased drive towards green infrastructure, with the installation of electric car charging networks, zero carbon heating solutions like heat pumps, and the upgrading of renewables infrastructure projects nationwide. Because GM does not contain any major renewables projects like hydro-plants or wind farms, the main challenge will be the development of skills among the general construction workforce. GMCA has developed a separate report<sup>36</sup> and action plan based on this need, and skills interventions are being developed as of mid-2021, with two dedicated programmes worth a total of £1.5m.
- (5.33) One shift which employers seem to be conscious of is the change in some traditional trades linked to fossil fuels. Specifically, there are a large number of construction workers who specialise in the installation and maintenance of gas-based heating systems. Nearly all of these individuals will need to be retrained throughout the transition to net-zero. There is some speculation about the future of gas-based heating systems – particularly whether they will be replaced entirely by electric boilers and heat pumps, or whether they can be adapted to burn hydrogen-based fuel to provide heat. If the former is more likely, reskilling gas engineers will be important. If the latter is more likely, it may be that their occupation doesn’t change much. Some gas boilers installed now are “future-proofed” in order to utilise Hydrogen for if and when this change takes place.
- (5.34) More contentious than the shift to net-zero is the increasing use of pre-manufactured materials through Modern Methods of Construction (MMC).

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<sup>36</sup> [GMCA](#) – August 2020

While Greater Manchester has few MMC specialists, it is increasingly being used by developers in some locations – some work on residential developments in the city centre have tapped into MMC. Long discussed in the sector as a possible future trend, the skills implications of this shift are varied in impact. The primary concern is that widespread adoption of MMC would both reduce the number of jobs in the sector and change the area where the workforce is employed. There are some benefits, however, particularly in the quality and attractiveness of the occupations available.

- (5.35) Taking the first of these, the concerns around MMC involve changes in how and where construction work is completed. With many pre-manufactured elements, the only onsite work required is assembly. So where previously a construction site would need a wide variety of different tradespeople and specialists at different stages of the project, an MMC site would require mainly logistics staff and assemblers. This represents a net decrease in the types of skilled trades and occupations that would be required in the overall economy. However, along with this decrease in onsite trades would come an increase in manufacturing and engineering professionals to work in the off-site production facilities. Given GM has relatively high land and labour cost, the risk is that the jobs wouldn't be within the region; MMC manufacturers may look to set up in cheaper locations then transport the pre-manufactured elements to site from there.
- (5.36) On the face of it, this is concerning, representing a reduction in well-paying jobs and skilled occupations in the region. However, there are some positive aspects if the sector sees a widespread adoption of MMC. The nature of work in the construction sector is one of the reasons for its poor reputation – particularly the manual and outdoor elements common with many onsite jobs. Jobs in MMC will be closer to manufacturing jobs, which are almost always less manual and only take place in indoor production environments. If the sector shifts towards MMC in future, this may serve as a catalyst for a change in perception, improving the reputation of the sector and attracting more new starters at all levels.

## 6. Skills Provision

- (6.1) There is a huge variety of construction skills provision in GM. All 10 local colleges provide some form of construction provision at Level 1-2, and some specialise to deliver higher level 3-4 qualifications. There is also a wide and varied range of independent training providers in GM, often serving the apprenticeship market. HE institutions in GM deliver a range of construction, engineering, and design programmes. Once workers have started in their careers, they are served by a market of private commercial providers delivering CPD and additional certifications/cards for the sector.
- (6.2) However, from the perspective of a young person, jobseeker, or career switcher looking for training, it is easy to understand why the provision market looks fragmented and confusing. Across the colleges and training providers, there are a number of issues with the information provided:
- Varying entry requirements for the same programme
  - Inconsistent wording and names of courses e.g. “Brickwork” vs. “Bricklaying”
  - Poorly explained qualifications – e.g. distinction between levels of provision, or distinction between Awards, Certificates, and Diplomas
  - Funding options for adult learners
- (6.3) One shift the pandemic has caused is the shift to online provision. The CITB<sup>37</sup> estimate that although 96% of providers are still delivering at least some training face to face, around 66% are also using some form of remote provision. While the extent to which this has impacted learner engagement and programme quality is unclear, it is likely to have had more impact in the sector than in most others. Employers value the hands-on element of training above all others – understandably so in such a practical sector where physical

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<sup>37</sup> CITB – GB Customer Voice Summary – May 2021



skill and dexterity is important. Apprentices receiving remote provision may lack some of the practical skills required due to this shift.

- (6.4) Another issue which stands out across the sector and seems to be increasingly difficult to solve is the retention of staff in the FE and apprenticeships provision. Given the high (and increasing) demand for skilled tradespeople in the sector, wages paid to experienced staff are substantially higher than working in education. This issue is not unique to construction, but it has been made worse by the increasing skills and labour shortage in the sector. The result is a vicious cycle, where employers need more skilled workers, but in meeting the immediate need by increasing wages, this has drawn some tutors and trainers away from the provision market, risking the future supply of provision.

### **Schools and Further Education**

- (6.5) Much has been done in recent years to promote Construction as a career pathway in schools, with a particular focus on the lack of women in the sector. Employers reported that the sector is still seen as a low-paid, with poor progression opportunities, often taking on a “last resort” character in the eyes of young people and parents. Many people have pre-conceptions about the sector as being difficult manual work and being unsuited to any academically strong students. As a result, construction careers advice is often directed towards less academically capable learners, resulting in high achievers not even considering the sector as a career possibility.
- (6.6) Generally speaking, most school curriculum develops skills required for productive careers in Construction. More advanced roles like Civil/Rail Engineers, Architects, and Surveyor/Inspectors benefit from traditional STEM learners. Some employers emphasised the value of artistic and creative learning as well. For more advanced roles such as Network/Site Planners, Designers, and Building Information Modellers, a creative mindset is highly valued, often more so than STEM specific skills. These types of roles are rarely understood by teachers and careers advisors, so often aren’t promoted to young people. Employers and schools should do more to dispel

misconceptions, inspire young people, and provide valuable workplace experience to young people.

- (6.7) Post-16 options for Construction are varied and are offered by all local colleges across Greater Manchester. These programmes range from short Level 1 qualifications, to full HNC/HND qualifications, and cover most trades and topics within the sector. Some colleges encourage a clear progression route through these qualifications (e.g. from Level 1 Plumbing to Level 2 to Level 3). Learners then often finish the programme and start an apprenticeship or full-time employment. Provision is mainly focused on the traditional trades – plumbing, bricklaying, gas/electric. Fewer programmes support the ancillary occupational areas like scaffolding, groundworking, or steel-fixing.
- (6.8) Employers told us that the way the FE/Apprenticeship system is currently set up creates an advantage for apprentices. Because of the additional grant funding attached to apprenticeships (both at a central government and a CITB level), it is more beneficial for an employer to take on a new apprentice than taking on a college leaver. This is seen as the case even when the college leaver has completed a Construction related NVQ or course – employers expect to have to “train them our way” regardless. This is creating a strange disincentive where a learner having done a qualification in the sector is at a disadvantage to lesser-qualified candidates. The scale of this problem is not fully clear, but this will also be a concern when it comes to the promotion of T Levels as a viable alternative. FE College could link their provision closer to apprenticeships, ensuring that Level 1 / Level 2 classroom learners smoothly progress into relevant apprenticeship opportunities.
- (6.9) Rollout of the first T Levels in 2020 saw the first students enrolling onto the *Design, surveying and planning for construction* pathways, the first pathway to start delivery. Greater Manchester colleges were not among these early adopters, Greater Manchester colleges were not among these early adopters, but Oldham Sixth Form college did enrol learners onto other T Levels in digital. The bulk of learners in construction in GM will likely be on three

pathways; the two other pathways launching in September 2021 are *Building services engineering for construction* and *Onsite construction*.

- (6.10) As of March 2021, most colleges in Greater Manchester are in the process of planning their delivery on the T Level pathways to start in September 2021 and September 2022. Although the funding for T Level learners will likely be higher than for regular Level 2 or Level 3 NVQ or BTEC learners, most colleges will initially run both programmes in parallel. There are some concerns about various aspects of the T Level delivery model. The number and quality of relationships with local employers varies hugely among FE institutions – some manage these well, others don't see it as a priority. Additionally, the disparity in funding between apprenticeships and T Levels will likely impact the decision-making process for FE institutions when deciding which pathways to deliver with limited resources.
- (6.11) The big opportunity for the FE ecosystem with T Levels is in the opportunity for employer co-design. While the curriculum has been based on the (employer designed) apprenticeship standards, they often involve input from larger organisations over SME requirements. With T Levels, local employers of construction apprentices will be able to partner with colleges to offer the work placement element of the course and request certain delivery on the college-delivered portion of the programme. This will allow employers to take responsibility in shaping their talent pipeline. The sector should make the most of the opportunity presented here – offering work placements to as many learners as they can, with the intention of taking these learners on either as apprentices or employees at a later date.

One example of good practice is the Build Salford initiative. Featuring input from the Salford City Council, Salford City College, and a variety of local employers and social enterprises, the programme has grown in size to become a well-respected route for young people in Salford. The area sees an above-average level of investment from the Construction sector, while also having some challenges in deprivation and youth opportunities. Build Salford works to connect the two elements, providing opportunities for local residents in the growing sector.

A consortium of employers work alongside the council and college to provide access to traineeship placements, skills provision, and workplace experience. Employers in the consortium invest directly in the programme, contributing small amounts of funding to run the programme, ensuring a good level of engagement and commitment even from a token level of contribution. Getting employers involved in the programme like this ensures that the traineeship pre-work curriculum is relevant to real workplace requirements. While the programme is relatively small scale (supporting approximately 100 young people over 6 years), it has achieved a lot with limited resourcing.

Build Salford represents a blueprint for other local authority areas across GM to adopt. With the right resource, political impetus, and employers, a similar programme would likely work well across the whole region. Locality is of importance in this – past programmes have often failed because of a wide scope covering Greater Manchester as whole. Where a programme can be run by local stakeholders for local residents, it should be. Schemes like Build Salford should be explored by other local authorities. Where possible, they should set up similar programmes, tapping into varied funding streams to support both the sector and young people across the region.

### Apprenticeships

(6.12) Traditionally, there has always been a strong culture of apprenticeships within construction – learning on the job for manual and tools-based trades has long

been the preferred route for both employer and trainee. This is despite the fragmented nature of project work – providing sustained continuous employment for apprentices is often something only larger contractors can do, but there are several examples of schemes which have worked well to ensure high quality apprenticeships in the sector. One impact of the nature of the sector is that only 85% of apprentices in construction have a written contract<sup>38</sup> – the second lowest of all sectors.

(6.13) After the introduction of the apprenticeship levy in 2017, the numbers of most apprenticeships in most sectors declined. The number of GM apprenticeships in Construction pathways, however, remained stable<sup>39</sup> – from 1,220 in 2016/17 to 1,286 in 2017/18 to 1,232 in 2018/19 to 1,188 in 2019/20. This speaks to the strong culture of apprenticeships in the sector, and to the support from sector bodies like the CITB who have various projects to encourage the uptake of apprenticeships and is particularly impressive given the effect of the COVID19 pandemic. The age profile of these learners is relatively young – with 85% of learners in 2019/20 under 24.

(6.14) Employers reported that the content of some apprenticeships is often seen as unnecessary for certain roles. The main reason for this is because of the specialisation of roles and companies within the sector. As an example, a level 3 Advanced Carpentry and Joinery apprenticeship includes content covering structural joists, staircases, window- and doorframes, and roofing. However, in the workplace, they may work for an employer which focuses on one of these areas, for example, specialising in roofing. While it is useful for the apprentice to “future-proof” and learn several areas of a particular trade, it may not always be beneficial in their immediate day-to-day job role.

(6.15) The vast majority of apprenticeship provision is delivered by FE colleges, with Bolton College and Salford City College topping the list of GM’s providers in terms of volume. There are several reasons why the apprenticeships

<sup>38</sup> [BEIS – Apprenticeship Pay Survey](#) 2018/19 – January 2020

<sup>39</sup> [DfE](#) – February 2021

provision is dominated by the FE institutions. There is a natural progression from many of the Level 2 FE programmes onto the apprenticeships – some employers will contact the colleges to recruit directly from these programmes. This provides continuity for the learner – both in terms of tutors and training location. There is also a high barrier to entry into the apprenticeship training market when Construction programmes are involved. Many providers use specialised training centres, tutors with specialised industry experience are sometimes difficult to find, and the cost of equipment for training learners can be high.

- (6.16) A March 2020 release from the Department for Education<sup>40</sup> on apprenticeship trends found that Construction apprentice are much more likely to work for smaller employers than most other sectors. Approximately 60% of apprentices in the sector are employed at firms with 0-49 staff – reflecting the large proportion of small businesses and contractors in Construction. These are encouraging signs that the incentives for small employers are working. However, the increased proportion of apprenticeships in large employers in recent years (largely driven by the levy), may start to draw the already small pool of apprentice candidates away from smaller employers.
- (6.17) By far the most popular of the Intermediate/Advanced apprenticeship Standards in GM is the Carpentry and Joinery Level 2, accounting for 239 of the 1,188 starts in 2019/20. This is followed by Advanced Carpentry and Joinery Level 3 (69), Bricklayer Level 2 (57), Plumbing & Heating Technician Level 3 (55), and Property Maintenance Operative Level 2 (44). Also encouraging is the rapid adoption of degree apprenticeships in the sector – 2019/20 saw 69 starts on the Chartered Surveyor and 48 starts on the Civil Engineer Degree Apprenticeships. These are mostly existing members of staff using the new Standards as a chance to study towards a full degree. With shortages in both of these areas, employers and providers should be encouraged to offer this opportunity.

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<sup>40</sup> [DfE](#) – March 2020

(6.18) As is common in most sectors, there is a heavy weighting in starts towards the L2-L3 apprenticeship pathways, representing the fact that apprenticeships are widely used for entry-level positions. In terms of higher-level apprenticeships, there is a weighting towards the Level 6 degree apprenticeships – in 2019/20, there were only 67 apprenticeship starts in GM on L4-L5 pathways, compared to 141 starts on L6+ pathways. However, it is possible that many workers in the sector at this level complete apprenticeships not categorised as being specific to construction e.g. Project Manager L4, Team Leader L3. Below is a list of some of the most common pathways in the sector – this informed by the occupational maps listed by the Institute for Apprenticeships & Technical Education.

### Construction Apprenticeship Pathways

Entry Level (L2 - L3)	Intermediate (L4 - L5)	Advanced (L6+)
<div>Trainee Trades</div> <div>Groundworks and Ancillary</div> <div>Trainee Technical</div>	<div>Supervisors</div> <div>Advanced Technical</div> <div>Maintenance</div>	<div>Management</div> <div>Architecture</div> <div>Engineering</div>
Bricklayer L2 Carpentry & Joinery L2 Property Maintenance Operative L2 Plumbing & Heating Technician L2 Scaffolder L2 Wall & Floor Tiler L2 Roofer L2 Adv. Carpentry & Joinery L3 Civil Engineering Technician L3	Construction Management L4 Construction Site Engineering Technician L4 Construction Quantity Surveying Technician L4 Construction Management L5 Building Services Engineering Technician L4	Chartered Surveyor L6 Civil Engineer L6 Building Services Design Engineer L6

Plasterer L3 Plumbing & Domestic Heating Technician L3		
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(6.19) While the range of pathways within the sector is impressive, the picture depends on the delivery of these by the FE sector and Training Providers. Employers reported that some of the apprenticeship pathways they wanted to engage with have little to no provision in Greater Manchester. This creates a barrier, with employers having to engage with apprenticeship provision which is further away, causing additional travel time for both apprentices and provision staff. In particular, Wall and Floor Tiling, Roofing, and Drylining programmes are in required by employers, but either aren't widely delivered by providers, or are oversubscribed and unable to meet the demands of the sector.

(6.20) In April 2021, the government announced consideration<sup>41</sup> of “flexible apprenticeships” – designed so that learners can work for several different employers over the course of their programme. This will be followed by £7m funding for employers/providers/ATAs to bid for. The intention of this is to support the growth of apprenticeships in sectors where non-traditional working patterns often result in fragmented, short-term, or project work, like creative industries, agriculture, or construction. While this is the first time it has been explored on a national basis, the CITB has been running regional programmes in this style for over a decade. The shared apprenticeship programme in GM is part of a wider scheme in the North West called “Constructing the Future” – run in partnership with CITB and Calico Enterprise.

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<sup>41</sup> [DfE](#) – April 2021



The Shared Apprenticeship Scheme, started in 2010, serves as an attempt to solve one of the structural issues within the sector – that SME employers don't often have long-term secure contracts to enable apprenticeship training. The Shared Apprenticeship Scheme operated by Calico Enterprise in the North West (project name: Constructing the Future), creates full time apprenticeship opportunities by pooling together short term placements, keeping apprentices working locally and overcoming the barrier of travel to work for young people, and the risk of short-term projects. The programme typically supports SMEs who can't offer full-time or long-term roles.

Key to making programmes like this work is the concentration of the programme and being able to ensure that enough employers participate. When every employer and apprentice engage through the same team, the programme benefits from a virtuous cycle network effect. More apprentices means vacancies are filled quicker, attracting more employers, improving the quality and continuity of the programme, attracting more apprentices. Government and stakeholder partners should ensure that the new funding does not dilute the market for these programmes. While there would be some benefits to a place-based approach, too much competition for apprentices and employer placements would degrade the quality of the programme as a whole.

Running this programme ensures long-term employment and development on short-term projects. The biggest challenge is the extent of the network and the quality of the placements. Employers in GM and across the wider North West should be encouraged to engage with this programme. Calico are working towards embedding the programme as part of the planning system, with local authorities referring employers to the programme as part of their social value commitments. This works well as an alternative to the current trend of embedding skills and work outcomes in social value commitments by connecting it to an existing "easy" programme for employers to engage with. GM local authorities should be encouraged to review both procurement and planning procedures to include reference to "Constructing the Future".

## **Higher Education**

- (6.21) While not relevant for many Construction workers, higher education plays an important role for certain professions within the sector. Civil Engineers, Architects, and ancillary roles like Project Managers and Ecologists are often university educated. The two universities in Manchester which train the greatest proportion of students on relevant degrees are Manchester Metropolitan University and the University of Salford. The student bodies of these institutions have 3% and 8% (respectively) of their students on relevant degree programmes.
- (6.22) The total number of university students on these programmes has risen slightly in recent years, from 2,435 in 2014/15 to 3,070 in 2018/19. This includes students on courses related to Architecture, Building and Planning pathways. This compares favourably against comparable subjects like Engineering and Technology, which saw a decline. However, the rate of increase in Architecture, Building and Planning is modest in comparison to popular growth subjects like Computing or Health/Medicine. However, aside from the students on construction specific pathways, many on the engineering pathways will also start their career in the construction sector – many projects need Electrical Engineers, Mechanical Engineers, and Materials Engineers.
- (6.23) Professional occupations which support the sector are heavily reliant on graduates to recruit. Architects and surveyors are often university educated, with employers reporting that there are few other ways to find staff trained to a suitable level. While there are now degree apprenticeships in some areas like this, graduates still dominate these occupations. The highly technical and academic learning required in these areas make learning on the job more difficult. Generally speaking the HE provision in this area is suitable, with employers reporting only a few issues – a greater understanding of the workplace and occupational competence being chief among these.
- (6.24) Currently under construction at the University of Salford is the “Energy House 2.0” facility. The project is part funded by the ERDF and is intended as a research and training facility for low-carbon building and technology

development. Designed as an enclosed environment containing several full-sized houses, the Energy House 2.0 will allow for testing of heating technologies under a variety of conditions, including simulated snow, rain, and low temperatures. Learners training at the University will have unparalleled experience in these areas, which are likely to be increasingly important to the Construction sector. This facility will be unique and will serve as a powerful asset for the region when it comes to the development of skills, technology, and research.

### **Adult Education**

- (6.25) Construction pathways are a staple of Adult Education provision. Of the 1,444 learners in GM who completed a construction pathway in 2019/20, 412 of these completed the BTEC Certificate in Construction. This is a short Level 1 qualification which teaches basic site skills like team-working, health and safety, and logistics. It allows learners to apply for a CSCS Green card afterwards, taking their first step to working on a construction site. Programmes like this are an important part of the ecosystem, enabling ready pools of new entrants for sector employers and agencies to recruit from.
- (6.26) Over the course of the pandemic, delivery of these pathways has been particularly resilient. Between August 2020 and January 2021, 665 people completed Construction pathways funded through the Adult Education Budget (an equivalent half-year measure for the previous year would have been 722 completions). A full year comparison will be possible once the final numbers are released in July 2021. This speaks to the adaptations that learning providers have been able to make in order to continue delivery. Signs are encouraging that these courses are producing a good number of outcomes for learners under the AEB.
- (6.27) Government plans for a rollout of the £2.5bn National Skills Fund have been delayed somewhat due to the impact of the COVID19 pandemic. It was announced in September 2020 that part of the funding would contribute towards a “lifetime skills guarantee”, allowing adults to study a level 3

qualification funded by the government. On 26<sup>th</sup> February 2021, the list<sup>42</sup> of available pathways for adults was released. 61 Level 3 qualifications are available under the Building and Construction category, including popular NVQs and Diplomas in Civil Engineer, Carpentry, and Painting and Decorating. While the eligibility for these qualifications is fairly restrictive, providers should be encouraged to offer these qualifications under the government funding, and individuals should be encouraged to participate.

(6.28) One recent area of training for adults has been the Construction Skills Fund, which was extended to the end of March 2021. The programme was delivered by a variety of different providers nationwide, with The Growth Company and ProcurePlus delivering the service for Greater Manchester. It has been particularly successful for career switchers – people moving from other sectors comprised a large proportion of the engagements. The programme saw particular success with entry level positions like labourers, trainee scaffolders, groundworkers, traffic management, and site logistics. Both providers will be helping residents secure jobs until the end of June 2021, however, the programme is due to finish after this.

### **Commercial Provision**

(6.29) CPD is a common feature of many Construction environments – the requirement to stay up to date with changing regulation in many areas makes CPD a necessity for many companies and workers. With a number of certifications required to work on certain projects (like CSCS, CISRS, NEBOSH, PTS, etc.), the sector has a particular focus on workers gaining these certifications through accredited programmes, especially when moving between projects, or progressing in their career path. While some funding is available for them through CITB, many of these programmes are delivered commercially.

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<sup>42</sup> [ESFA](#) – February 2021

- (6.30) One area particularly served by commercial provision is the accreditation of licences to operate various plant and machinery like cranes, excavators, dump trucks, and rollers. Employers reported a large shortage in these areas, despite the licences being a clear and simple progression route for most workers in the sector. This training is provided usually through CITB levy funded programmes, employers' own training budgets, or workers self-funding the programmes. These cards are reasonably expensive, often costing between £300 - £2,500 depending on the length of the programme. With around £10,000-£25,000 per SME available from the CITB levy, a high-quality course represents a good portion of the levy funding. Even when funding is available, it often only covers part of the cost.
- (6.31) One advantage the sector has regarding the availability of commercial training is the centralisation of the sector that the CITB brings. Most of the approved commercial providers and courses are listed on the CITB's website, along with detail around cost and the availability of grant funding. This does help employers to understand what is available especially when compared to other sectors where there is no dominant sector body. This centralisation of training options helps employers assess different training options and engage with a variety of providers.
- (6.32) There is a potential market failure regarding the provision of commercial-style certifications due to the structure of the sector and project work. Because so many of these positions (i.e. plant operators) are important, but only at certain stages of an overall project, employers reported that some main contractors don't bother to invest in the training for their direct employees, assuming that they will be able to subcontract for this skillset. The current shortage in this area implies that a lot of employers have taken this stance and would prefer to hire in the skills when they are needed rather than train people (who may then leave). Employers should be encouraged to invest in their own staff instead, spending CITB levy on these programmes – the whole industry will benefit if this becomes the case.

One example of employers working together to improve the skills picture within their sub-sector has been a group started by Transport for Greater Manchester – the GM Highways Academy. Comprised of staff from TfGM and the 10 local authorities, the group aims to provide a platform for knowledge-sharing, skills development, and networking across the Highways teams within each organisation. Understanding that they face similar challenges is useful for many of the individuals involved and provides a greater sense of community.

Training sessions held on a quarterly basis have been organized for this group, which have continued over the COVID19 pandemic. The topics covered are wide ranging and cover technical skills as well as important soft skills – including commercial contracting, sustainability, and programme management. These sessions are a great opportunity for GM Highways workers to take part in valuable CPD and expand their professional networks.

While a group like this is fairly unique in that it is a natural network built from organisations which are required to collaborate with each other, further sectors should use it as a model. Industry networks like this are valuable in a number of ways – sharing of best practice increases productivity, training larger groups is more cost effective, and progression and collaboration is made easier. More networks like the Highways Academy should be encouraged across the private sector, possibly facilitated by Local Authorities, or around major projects like rail and digital infrastructure.

## 7. Summary

- (7.1) This section aims to collate the learning and recommendations from the intelligence gathering process, giving key recommendations for sector employers, training providers, and sector stakeholders. A further detailed action plan featuring both commissioned and non-commissioned work will be produced mid-late 2021. A number of recommendations are given at the start of this report, some of which will feed into GMCA action-planning.
- (7.2) Recommendations made in this report will not all be progressed or lead to future work from GMCA. Their aim is to support stakeholders across employers, business networks and membership organisations, skills providers, schools, and sector bodies, with a deep and detailed understanding of the current state of the skills challenge for the construction sector. Given the scale and nature of the challenges in the sector, no one organisation can provide a comprehensive solution. Some recommendations will address existing challenges within GMCA's remit, while others will work towards future talent/skills development with partners and other stakeholders.

### Construction occupations – Deciding on a career



### Challenges

- (7.3) The main challenges for individuals and employers at the early stage of the talent pipeline are crucial to get right. The main issues facing the sector at this level are:
- The reputation of the sector among young people, parents, and teachers is poor. Construction roles are often seen as low-skilled and unacademic – few teachers/parents recommend jobs in the sector.

- Persistent negative stereotypes around the construction workforce – some of which are justified. Workforce largely seen as male, middle-aged, and white.
- Insecure employment and high levels of self-employment are off-putting to many young people and new entrants.
- Price pressures, extensive subcontracting, and short-termism are common among businesses of all types, meaning they are often unable or unwilling to take on new untrained talent.
- Over the pandemic and in recent times, temporary lockdowns and safety concerns have reduced the opportunity for site visits as part of careers engagement.

### Recommendations

(7.4) On the basis of findings from this report, GMCA would make the following recommendations to support jobseekers, young people, schools, FE and HE Institutions:

- There should be more and better careers engagement activity from employers in the sector to promote careers across the sector.
- In particular, the sector would benefit from more representative role models – women and people from ethnic minority backgrounds should be encouraged to work with young people.
- The sector would benefit from longer term contracts and stability – it would create more entry level opportunities. Private and public buyers should offer longer term contracts where possible to ensure stability.
- Teachers, parents, and influencers should be better informed of the career pathways within construction and be open-minded about progression into the sector.
- Colleges and schools should do more to bring real workplace experience to existing provision – occupational competence is crucial



### Construction occupations – Seeking Training



### Challenges

(7.5) The construction provision market is varied and generally meets the needs of employers. There are some areas where curriculum could be improved, but content and delivery are generally good at providing technical skills. However, there are challenges for individuals and employers finding relevant training:

- At the FE level, provision information is often inconsistent and confusing. Colleges and ITPs should be encouraged to improve and clarify the information available about provision options.
- Across GM, there is a stark mismatch between the number of starts on FE provision (approx. 3,000 pa), and the number of starts on apprenticeships (approx. 1,000 pa). Either these individuals are moving straight into employment, or learners aren't progressing from FE programmes to apprenticeships as they should.
- Hyper-specialised companies and subcontractors reported that FE and apprenticeship provision is not always totally relevant to job role (generally because courses try to cover a whole topic).
- Many employers in the sector acknowledge that they need more staff, but don't want to be the ones to train these staff – few companies take the initiative to offer site experience to new entrants.
- Detail given by providers regarding exemptions for prior learning and experience is often unclear and inconclusive.

## Recommendations

(7.6) Given the challenges for individuals seeking training, whether this is young people enrolling onto FE, apprenticeship, or HE provision, or for existing workforce looking for upskilling and professional development opportunities, GMCA would recommend the following:

- Colleges and training providers should be encouraged to standardise the quality of information available to prospective students.
- Teachers, parents, and careers advisors should do more to position jobs in the construction sector as an attractive option. They should emphasise high average pay.
- More work should be done to convert FE leavers to apprentices – this should include a review of employer and provider incentives.
- Construction employers should make progression routes explicit for all new staff – this is already done well within the sector but would benefit from a stronger link between CPD and role progression.
- Employers in the sector must acknowledge that they must collectively provide on-site experience to new entrants, and not rely on agencies or overseas labour.

## Construction occupations – Effective Training



## Challenges

(7.7) Provision for the sector is generally effective. By the nature of the sector, much of it consists of on-site, practical skills delivery; some of this has been hampered by the pandemic and ongoing lockdowns. Virtual delivery has

increased, but is not the preferred choice for employers, providers, and learners alike. There are some challenges in provision:

- Training is most effective when it teaches practical “hands-on” skills – this is impossible to translate into a virtual format.
- Industry experienced workers can often earn higher wages working in the sector than in skills delivery, so skilled experienced staff are hard to come by in the provision sector.
- While employers recognise the value of formal skills training, they often prefer workplace experiences over qualifications – a qualification does not guarantee that a candidate can work comfortably in a construction environment.
- The sector is changing, with the introduction of new materials and building methods. This often isn’t covered in construction provision, with content focusing more on traditional methods.
- Training often doesn’t include certification/accreditation along with the qualification (i.e. construction FE courses not granting CSCS cards), which are required to work on site.

### Recommendations

(7.8) To improve the effectiveness of construction provision in Greater Manchester, all parties must build connections and work closer with each other. GMCA recommendations include:

- Employers, particularly small organisations, should be encouraged to offer workplace experience in partnership with colleges and training providers.
- Small and Medium sized Employers should be encouraged to take part in the North West Shared Apprenticeship Scheme run by Calico Enterprise. Similarly, local and central government should support schemes like this to improve the quality of apprenticeships.

- Providers should make further and sustained efforts to engage with the sector directly, both to better understand employers needs, and to secure placements for their learners.
- Qualifications where possible should include certification and cards – funding in some cases should increase to accommodate this.
- Employers would appreciate a more flexible approach to apprenticeship modules – acknowledging that some modules won't be relevant to all apprentices.
- GMCA should aggregate both supply and demand side data, and feed this into the provider network – providers working closer together to meet the industry needs is a desirable outcome.
- Providers should be encouraged to offer more programmes in construction – particularly on niche courses which are less common in GM e.g. Wall & Floor Tiling, Roofing, etc.

### Construction occupations – Effective Training



### Challenges

(7.9) The Construction job market is generally healthy from a candidate perspective – there are a good number of opportunities available at most levels. Most trades have a shortage of skilled workers, so candidates with the right qualifications and enough experience don't struggle to find positions. There are a few challenges:

- Construction workers often work through labour agencies due to the unstable and project-based nature of the work.

- Roles often require specific certifications (i.e. PTS in rail, CSCS, etc.), which are not always provided as part of training programmes.
- Entry-level positions as site labourers are often relatively low-paid (£8 – 12 per hour) positions, despite being crucial to the operation of a site
- Some employers reported that the shift working common in some sectors is off-putting for many workers. Rail construction has a particular issue with this.
- While many large construction employers will provide Personal Protective Equipment (PPE), some SMEs and agencies require workers to provide their own. This is a barrier to entry, especially where compared with other minimum wage or entry level jobs.
- Given the nature and location of some construction projects, driving licenses are often essential, creating a barrier for those who use public transport.
- With less access to the European labour market after both immigration changes after Brexit and COVID19 travel restrictions, employers may have more trouble finding the right sort of skills.

### Recommendations

(7.10) To improve the job market for construction in Greater Manchester, GMCA would make the following recommendations:

- Employers should be encouraged to generate more entry level positions which accommodate training as part of the role.
- Local authorities, developers, and main contractors should be encouraged or required to include better job-generating (and sustaining) social value criteria as part of their procurement.
- Review government and CITB incentives provided to employers for generating entry level positions.

- Funding for FE colleges and providers should be distributed to increase the number and quality of placements secured for learners.
- Local authorities, developers, and main contractors should seek compliance with the Construction Supply Chain Payment Charter<sup>43</sup> – 30 day payment terms would help SMEs generate more entry level positions.

### Construction occupations – Effective Training



### Challenges

(7.11) Existing construction workers generally work in good conditions, and wages are high for skilled tradespeople. Support from employers varies, but the overall picture is that SME organisations struggle to provide CPD opportunities and upskilling for their staff, whereas large employers can support this. There are challenges for the existing workforce:

- Stability and job security are often low. Both skilled and unskilled roles are subject to the project-based nature of the sector, and see fluctuations, giving the sector its “boom or bust” reputation.
- Unsociable shift patterns are common in the sector – working evenings and weekends can often be required, particularly in infrastructure work.
- Progression and job opportunities are often linked closely with the acquisition of further cards/licences/accreditations – employers often expect these to be self-funded by workers.

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<sup>43</sup> [Gov.uk](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/544443/Construction_Supply_Chain_Payment_Charter_June_2021.pdf) – Construction Supply Chain Payment Charter – June 2021

- Intense competitive pressures have led to the hyper-specialisation of sub-contractors and tradespeople. Trainees and workers wanting to upskill often don't get exposure to a wide variety of projects.
- Labour shortages have led to the order books of many companies and workers being full – some tradespeople report being booked out for months in advance. This lessens the incentive to upskill into future technologies (e.g. new materials, sustainable construction, retrofit).
- High levels of self-employment often mean that workers often need to research, fund, and undertake training by themselves – in other sectors this often the role of L&D or HR teams.

### Recommendations

(7.12) To improve conditions, upskilling and progression opportunities for workers in the construction sector, GMCA would recommend the following:

- Funding should be deployed for upskilling programmes with wider strategic objectives (e.g. training on green technology, materials, etc.)
- Employers should be encouraged to make occupational pathways and progression opportunities within the sector/company clearer.
- Local authorities, developers, and main contractors should provide longer contract terms where possible, to improve the stability and job security of workers in the sector.
- Employers should fund additional cards/licences/accreditation for staff that wish to progress – expecting to easily recruit these skillsets is less reliable than ever.
- Employers should be encouraged to adhere to the GM Good Employment Charter and pay a Real Living Wage, improving conditions for new starters, and the attractiveness of the sector.

## 8. Next Report

(8.1) Intelligence gathering will be an ongoing activity for GMCA and partner stakeholders. The data and intelligence gathered as part of this report will be enhanced and added to as the sector, policy landscape, and economic situation develops. A further revised version of this report is planned for release in 2022.

(8.2) Areas which require deeper research and intelligence gathering include:

- *Sub-Sector Differences* – Construction is a wide and varied sector – projects can differ wildly in terms of both length, type, and the skills involved. Further research into specific subsectors (e.g. Rail) will be needed to get a better grasp on the specific skills needs of those sectors.
- *Modern Methods of Construction* – Trends within the sector point to wider adoption of new materials, pre-fabricated modules, and new techniques. What sort of impact this will have, and how fast it will take place are both still unclear.
- *Brexit Impact* – Further medium- and long-term analysis of the impact of Brexit on the construction labour market would be useful to determine the shifts that we may see, especially concerns around a “London drag” on labour from the region.
- *Green Economy* – Much of the work needed to meet Greater Manchester’s net-zero ambitions will be related to Construction. Both the retrofitting of old homes and the installation of electric vehicle (EV) networks will involve construction work.
- *New Policy Decisions* – Government encouragement of shared apprenticeship schemes, along with the ramp-up in T Levels in September 2022, the face of skills provision for construction will change significantly. What changes this will cause are unknown.

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