

WMCA Construction Sector Action Plan
Work in Progress
November 2020

Black Country *LEP*

Overview

This action plan is a sub-set of the West Midlands’ overarching industrial strategy that is currently in development. It aims to outline a regional strategy specific to the construction industry in this context. This plan aims especially to recognise the current state of the sector in the West Midlands. It proposes potential solutions to the challenges and approaches to the distinct opportunities presenting themselves. The plan reflects the changing economic landscape and also particular issues construction now faces as a result of the COVID-19 pandemic. It is, thus, integrated closely with the Construction Leadership Council’s (CLC) *Roadmap to Recovery* 24-month strategic plan of ‘Restart, Reset and Reinvent’ (<http://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2020/06/CLC-Roadmap-to-Recovery-01.06.20.pdf>) which corresponds, in turn, to the WMCA’s *Recharge the West Midlands* plan of ‘Reset, Rebuild and Recharge’ (<https://www.wmca.org.uk/media/3975/west-midlands-economic-recovery-our-ask-and-offer-hd-spreads.pdf>). Notably, the former document is the blueprint around which the construction industry and its component business, both large and small, will coalesce and work together to address a built environment and infrastructure ecosystem in the new normal.

At the time of writing no additional commitments or funds are attached to this action plan, but through a strategic focus and buy-in from a range of sector stakeholders, we aim to make the case for further investment and intervention in the West Midlands construction sector so that it can fulfil its potential.

This action plan has been produced by Black Country Consortium on behalf of the West Midlands Combined Authority and, crucially, in partnership with key regional construction sector stakeholders.

Ultimately this Action Plan will be owned and led by the construction sector in conjunction with sector bodies and the public sector. It relates to specific market opportunities and failures that, together, we can address. An overarching feature of the industrial strategy is that it is steered by the public sector, but, importantly, led by and delivered with industry.

In terms of timescale, this strategy is based on a 5-year plan up until 2025.

Local Industrial Strategy

The Government’s Industrial Strategy sets out intentions for building a prosperous and more inclusive country for the long-term.

As shown in the diagram to the right, the national industrial strategy is driven by 5 “foundations of productivity”: ideas, people, infrastructure, business environment and places. In this action plan we summarise the importance of these foundations in a construction context, particularly in the West Midlands. Places does not feature as this has cross-cutting relevance within all aspects of our “local industrial strategy.”

Our five foundations align to our vision for a transformed economy



The ‘local’ element is a key part of the Industrial Strategy, with areas across the country in the process of developing local industrial strategies. A trailblazer in developing an industrial strategy, the West Midlands was the first locality to publish its

LIS (May 2019). It sets out the priorities to increase the productivity of the West Midlands and to drive inclusive growth across the region.

Multiple components come together to create the overarching framework that will help drive a successful delivery of the West Midlands LIS. This framework is displayed in the diagram below, demonstrating the relationship between the foundations of productivity, the key West Midlands sectors and four major market opportunities specific to the region:

- The Future of Mobility
- Data-Driven Healthcare and Life Sciences
- Modern Services
- Creative Content, Techniques and Technologies

Taking advantage of these market-driven opportunities is central to the West Midlands LIS, requiring action across key policy areas, reflected in the inclusion of key foundations of productivity: people, ideas, infrastructure and business environment.

Crucially, the region's key sectors will ultimately deliver the benefits of the strategic opportunities, including firms of all sizes and from across supply and value chains. Different sectors will have a varying impact on the four opportunities, but it is vital to recognise sector-led growth in this way rather than the strategic opportunities in isolation. A mix of horizontal policies, through the productivity foundations, and sector-led actions, is the best way to maximise success in achieving the strategic opportunities.

Sector-led actions are being developed within a suite of sector action plans such as this one. As depicted in the above framework, the sector action plans sit below the strategic opportunities as their vital delivery vehicles, each within the context of the foundations of productivity and led by the needs and ambitions of industry. The four major market opportunities should be seen as opportunities for all sectors to capitalise on, driven through the sector action plans and eventual implementation of these.



The Impact of Construction on the Four Major Market Opportunities

The four strategic opportunities are designed to appeal to all sectors and therefore have broad, wide-ranging definitions. This means that the link between construction and the strategic opportunities may be more apparent than first thought. We intend to link each of our construction sector interventions to at least one of the strategic opportunities, showing how sector-led action in construction can contribute to the delivery of all of the key West Midlands opportunities identified

This sector action plan will outline the priorities for maximising the potential of the West Midlands construction sector, ensuring it contributes significantly to the region’s ambitions within the four strategic opportunity areas and beyond. Throughout this document we intend to make the link between our potential interventions and the strategic opportunities clear, but we also provide a summary of this alignment below.

In the interventions table across, we indicate the alignment using the symbols used below.

Future of Mobility	Health and Life Sciences	Modern Services	Creative Content
 <ul style="list-style-type: none"> • Harnessing the HS2 opportunity to drive transformative change: e.g. in business support, innovation (e.g. 5G), procurement, skills. • Integration of manufacturing thinking in the sector, crucial in supporting efficient logistics for offsite. • Collaborating with transport sectors in design, build and delivery processes. 	 <ul style="list-style-type: none"> • Utilising best practice in construction projects to drive efficiency in health sector construction. • Importance of improving wellbeing in construction to increase social value and reduce health costs, including via digital means (e.g. 5G) • Enhancing diversity in the sector to drive equality improvements. 	 <ul style="list-style-type: none"> • Maximising the quality of key supporting services, e.g. skills support, account management, procurement and collaboration. • Implementing key frameworks, e.g. Design Charter, procurement frameworks. • Delivery of HS2 Growth Strategy through a range of stakeholders. 	 <ul style="list-style-type: none"> • Advanced methods of construction, including innovative and creative practices like offsite/modular. • BIM and other digital techniques that drive up the quality of design in construction. • National Brownfield Institute • New WM-led approaches such as Design Charter and Single Commissioning Framework • 5G testbed opportunity with construction focus

Full List of Proposed Interventions

Before going into the detail of the full document, the table on the next page lists all of this action plan’s proposed interventions. These have been developed in partnership with industry and are backed up by robust evidence, including that of distinct market failures that currently hold the industry back. The proposed interventions are grouped under the industrial strategy foundations of productivity and the relevant strategic opportunities that they will help deliver. Some of the proposed interventions are government asks, whilst others are industry suggestions and ideas. Importantly, the proposed interventions are not committed to and all will require further detail and appropriate business cases.

We believe that changes in these areas can provide the West Midlands construction industry with the right environment to succeed in the future.

IS Foundation	Proposed Intervention	Strategic Opportunity
Ideas	1 Encourage and guide investment in digital, accelerating the use various regional strength, assets and innovation initiatives in digital and construction technologies including BIM and 5G .	  
	2 Utilise the region's advanced manufacturing cluster to build a Modern Methods of Construction (MMC) specialism in the West Midlands, uniting WM-wide AMC capabilities, NBI research, MTC/CIH, Homeworld and engagement with the CLC on innovating and developing capacity and skills in productivity and digitisation.	 
	3 The WMCA will develop an appropriate and effective definition of AMC that delivers efficiency beyond traditional building techniques and provides real additionality to current housing supply	 
	4 New funding to support a suite of AMC factories in the region, make the West Midlands the AMC centre of excellence in the UK and provide the industry with an AMC pipeline on sites that have previously been designed around traditional methods of construction	 
	5 Maximise the potential of the developing National Brownfield Institute in Wolverhampton within the emerging Springfield campus development.	 
	6 Support construction companies to collaborate in order to win contracts, through maximisation of existing programmes, catalysing and curating of consortia building and the development of new ones (e.g. CITEC and The Future of Mobility). These activities will help to stabilise and grow the demand pipeline for new work emerging from beyond the COVID-19 crisis.	 
People	7 Address construction skills shortages - both for now and in the future (exploring especially digital, environmental and safety areas and jobs, and skills for the future and the 'new normal') - through innovative technologies, new collaborations and shared endeavours, via the delivery of Construction Gateway for example. Emphasise collaboration across sectors to maximise transferable skills and increase cross sector collaboration.	
	8 The WMCA will work with partners, especially CITB , to develop the future skills needed to grow and transform the region's construction industry, particularly digital skills.	 
	9 Work with partners across sectors and disciplines to develop and spearhead new skills and training models of delivery where required which respond to industry demand. This includes supporting the development of an Institute of Technology in Dudley.	 
10 Promote high quality careers and opportunities across the region's construction industry, utilising activity like GoConstruct and the Careers & Enterprise Company . Focus on current industry and wider economic and societal needs, but also have an eye on the road ahead and the future jobs required.	  	

Business Environment	11 Provide a scaled-up contractor account management resource for maximising the impact of key projects – particularly HS2 , Commonwealth Games and the Housing Deal. Opportunities provided for companies from all tiers.	  
	12 Map and raise awareness of sector business support products - filling gaps where required and better aligning with skills support. Interact with other sector ecosystems to exchange best practice and maximise coordination under the new normal. Engage businesses with the Productivity Factory . Connect struggling firms to help and resources during COVID-19.	
	13 Better align business support and skills support within the industry.	
	14 Advocate more intelligent commissioning and procurement across the region, including adhering to the WMCA's new Single Commissioning Framework (SCF) . Focus on connecting industries and supply chains to meet triple bottom line goals of economy, environment and society. Champion fair business practices.	 
Infrastructure	15 The WMCA will work with local authorities to develop a new Design Charter building on existing best practice from the region and beyond.	 
	16 Provide focus and investment for increasing energy efficiency within infrastructure, contributing to a whole system approach to integrating embodied and operational decarbonisation and continue to lobby Government on the priorities set out by the Regional Energy Commission .	 
	17 Lead the way on brownfield land remediation by maximising the new National Brownfield Institute (NBI) in Wolverhampton engaging in national and international communities of practice to maximise reach and reputation.	 
	18 Work with the sector to encourage construction companies to integrate manufacturing thinking into their business model, particularly crucial to the supporting logistics of AMC.	  

Defining the Construction Sector

Construction is a very large and complex sector. It is essential to recognise the breadth of the industry and the diverse stakeholders it comprises. The diagram below attempts to set out the key aspects and broad operations of typical construction activities, with a focus on the West Midlands. The key outputs of construction lie within many areas of the built environment. The construction canvas covers housing and infrastructure sub-sectors: residential properties; public non-residential buildings and infrastructure; and private commercial and industrial build. The delivery of these crucial assets is down to a multiplicity of actors, delivering to the specifications of private, public and third sector clients. These actors comprise:

'Tier 1' - large developers and consultancies who hold direct contracts with clients;

'Tier 2' - contractors supplying products (including materials/ goods) and services to Tier 1 companies, and;

'Tier 3' (and below)- smaller subcontractors supplying products (including materials/ goods) and services to Tier 2 companies.

The supply chain is extremely varied combining: raw materials suppliers, builders merchants/ materials suppliers; a skilled and semi-skilled vocational workforce; design, architecture and engineering services; and non-site based managerial, professional and administrative staff and services, to name the sector’s key elements.

Robust supply chain relationships and collaborations between these actors are vital to achieve both the successful delivery of contracts and, in these times, what the *Roadmap to Recovery* calls the ‘restart’-to-‘reinvent’ journey of the sector. This maps a transition from rescue through to success and growth within the new normal of COVID-19. Notably, this action plan supports a sector model that is mindful of both the sub-sectors of construction and its tiers. These two elements have particular nuances that will shape the way we deliver support to companies through each of the five Foundations of Productivity action sets.

Beneath the day-to-day construction sector activity of designing, building and maintaining infrastructure, we have identified key supporting activities/strands that are particularly important to the success of West Midlands construction: Digitising to enable maximum productivity and quality; utilising Modern Methods of Construction (MMC) and Advanced Methods of Construction (AMC) to build faster, better and more safely; reforming purchasing and procurement to increase the contributions of and benefits to SMEs; rethinking land remediation techniques and business models; addressing environmental sustainability and energy usage and commercialising ‘green innovation’; and making logistics smarter and more efficient. As technology continues to disrupt construction, these strands are becoming increasingly fundamental to delivering successful and sustainable developments and a prosperous sector, at strategic and operational levels. Additionally, two overarching enablers support sector improvement – skills development and business support. Ensuring that these elements are well supported, resourced and delivered (and working closely with industry sector support organisations and businesses to do this) will enable the region’s construction sector to overcome barriers to success in the immediate and long-term.

West Midlands Construction Sector Model



The narrative and suggestions central to this document relate largely to improving the core activity in the upper section of this diagram, i.e. the construction sector delivering strategic housing and

infrastructure. To supplement this, we have provided detailed foci on supporting activities – digitisation, MMC and AMC, purchasing and procurement, land remediation, environmental sustainability and logistics – within the Foundations of Productivity sections and subsequent actions. The evidence and actions for skills and business support are located in here too (under the ‘People’ and ‘Business Environment’ headings).

The Impact of COVID-19 on the Construction Sector

A Complex Picture

COVID-19 has drawn mixed changes within and reactions from the construction sector. Statistics give a varied picture of reinvigoration coupled with rising undercurrents of sector vulnerability. Our regional sector leaders have communicated a multi-dimensional approach to address these positives and negatives. And their direction of thinking and action maps well onto the national plans characterised by the *Roadmap to Recovery*. The suitable match of regional and national bodes well although success will ultimately be determined by how priorities manifest in practice and how they are addressed in order, timing and combination, especially using our region’s knowledge and unique assets to harness industry engagement and investment and funding.

Overall, the pandemic has not plunged the sector into sudden crisis, as it has with some manufacturing and service industries. Indeed, the delivery of private, public and third sector build contracts returned rapidly to life almost immediately after lockdown lifted. The HIS Markit/ Cips UK Construction Purchasing Managers’ Index rose to 55.3 in June 2020 up from 28.9 in the previous month, showing the extent of the bounce back. But buoyant financial activities conceal growing job losses and difficulties experienced by many smaller business in the low tiers (i.e. Tier 3 and below). At the time of writing this report (August 2020), productivity has also remained down by 35% (Source: infrastructureintelligence.com) from pre-COVID 19 levels. The biggest concerns within UK construction across the tiers have been workforce capacity (principally due to furlough, social distancing and the prospects of shortages of EU labour) and the availability of materials and supplies (given that the UK construction industry imports much of these). Moves are afoot to address both of these issues, nationally and these are covered in the CLC’s *Roadmap to Recovery*. Indeed, indications of forward thinking and recovery activity are promising, as the industry is already evolving rapidly ways of working in the new normal.

Regional Sector Perspectives

Sector representatives in the region have spoken cautiously but surprisingly positively of a ‘necessary shake-up’ that has highlighted the need for increases quality, efficiency and collaboration around:

- **Safe working practices** during and post-COVID-19
- The **evolution of financial policies and regulations**, and **emergency packages**, to rescue and stabilise the most vulnerable areas of the sector
- **Improving industry standards and business models** in the areas of **quality and compliance**
- Improving **public procurement** methods and criteria to increase opportunities to benefit all tiers of the industry
- Improving **supply chain integration** and the greater self-reliance of the UK market
- Better **supply and demand side integration**
- Reinvigorating the **contract and income pipeline**
- Maximising productivity and improving risk mitigation through **digitisation**

- Establishing **environmentally sustainable construction practices** not just to comply with legislation but to **harness new market opportunities** through ‘green’ technological and business model innovation
- **Unlocking land** for developers to ‘ease in’ affordable and appropriate development
- Urgently addressing **current skills and future skills** to keep productivity strong and mitigate against future industry disruptions

Alignment of West Midlands and National Construction Plans

The points noted above must be addressed in an integrated way in order to maximise impact. This integrated approach is reflected throughout the latest revisions within the WM LIS/ LIRS Construction Foundations of Productivity Actions. Moreover, this position is much in line with the Construction Leadership Council’s *Roadmap to Recovery*:

- **Restart:** increase output, maximise employment and minimise disruption (0-3 months);
- **Reset:** Drive demand, increase productivity, strengthen capability in the supply chain (3-12 months);
- **Reinvent:** Transform the industry, deliver better value, collaboration and partnership (12-24 months).

In more detail, these three stages consist of:

Restart (1-3 months)

1. Restart work on all projects and programmes, and increase this to the highest level possible consistent with Government guidance
2. Maximise employment of all those working in the construction industry and supply chain
3. Minimise disruption due to contractual disputes

Reset (3-12 months)

1. Demand and Pipeline - demand and supply-side measures to increase workload across infrastructure, construction, housing and domestic new build and RMI. Develop a robust pipeline of work across the whole construction ecosystem, including contracting, SMEs, merchants and manufacturers.
2. Productivity – new approaches will be needed to compensate for the loss of productivity due to the requirement to implement Government guidelines across construction and the built environment
3. Professionalism – investing in training, collaborative business models, fairer contracts and payment

Reinvent (12+ months)

1. Transformation – sustain economic growth through the adoption of digital and manufacturing technologies to consistently deliver low carbon, sustainable and better-quality outputs and outcomes
2. Value – adopting procurement models and approaches across the industry and clients to deliver better value and whole life performance
3. Partnership – stronger partnerships between the industry and its clients, supply chain firms, investment in upskilling the workforce

Uncertainty, Drivers of Change and Ways Forward

As a sector driven predominantly by regulation and profit margins rather than product and service differentiation, construction is often a late adopter of change and innovation. However, COVID-19 and Brexit uncertainties have combined to accelerate an internal rethink. Sector bodies and many firms are aligning their strategies and activities in a much more innovative frame of mind in terms of embracing new business models, technology and digitisation and closer cross-sector collaboration.

The construction subsectors have fared variously well to badly emerging immediately from lockdown. The private commercial real estate subsector has been particularly vulnerable (Source: McKinsey and Co), especially when connected with retail (Source: RICS.org). In contrast, many companies in residential and public infrastructure construction are still enjoying the security of delivering contracts agreed before COVID-19. However, it remains to be seen what the industry's fortunes will be across the board moving forwards into 2021 and beyond. Furthermore, the ways in which buildings and other infrastructure are used are beginning to change, which is likely to reconfigure the market further. There are many drivers for change on the horizon underpinned by survival/ staying alive, competition/getting ahead and changing market needs.

The pandemic has foisted a sense of working for survival to mitigate risks of closure and shrinkage within construction's **business environment**. So, has there has been a move, nationally, for companies to consolidate resources, become more agile in a changing market and increase productivity to establish competitive differentiators. For many businesses this can only be achieved by means of accessing emergency grants and renegotiating credit schedules, loans and insurance policies. This is the first port of call for the most vulnerable firms. The region's sector leaders are right to point out that financial assistance of this kind is paramount. They recognise, also, that a more fundamental shift in approaches to 'access to finance' is needed for West Midlands companies to forge ahead in the competitiveness stakes. In sum, this calls for influencing policy, regulatory reform and connecting funding and investment to innovative product and service development (including applied R and D). Furthermore, they support the need for consolidating business support services, utilising the region's Growth Hubs, in particular, to increase visibility and access of help to the region's business and particularly its SMEs.

Recognising changes in not only supply side needs, but the way in which the demand side is reconfiguring is essential. A dual emphasis has been put on public procurement and private investment, in our Action Plan, relating to the WM Single Commissioning Framework and contract account management streamlining. Intrinsic to the thinking behind this is the urgency of removing long-standing bottlenecks to market entry and supply chain interaction. At this present time, this may ease any additional pressures especially on construction smaller firms caused by COVID-instigated market shrinkage. Moreover, as contracting down the tiers can be complex and opaque in the construction sector this has made the sector entry of newcomers particularly difficult. (This must be addressed particularly now as firms are crossing sector boundaries in attempts to survive and diversify.) Attention has been paid in this Action Plan to increasing transparency, creating accessible entry points and including selection criteria that prioritise quality and outcome-based productivity, which will become increasing differentiators with markets tightening as we enter our current UK recession.

The **skills** agenda has been flagged as an urgent and high-priority need. How much of this has been prompted by COVID- 19 alone is up for debate. Indeed, this agenda has, for several years, been at a tipping point due to changing demands and expectations from clients, an ageing workforce, the greater use of technology in the workplace overall and so on. However, COVID-19 has forced the industry's hand especially in areas such as digitisation and safety where greater quality control,

remote working and COVID-19-induced social distancing obligations have called for increasingly higher skills, aptitudes and competencies to deliver work to time and specification.

The region is in a strong position to meet both long-standing and new challenges. It has a very strong presence of FE, HE and independent education and skills providers, with many specialising in construction. It is informed by a well-integrated regional CITB providing intelligence. Plans to develop a pan-sector Skills Factory are underway. It enjoys the prominent representation of construction sector expertise within its LEPs. All afford us robust coherence in evidence gathering, decision making and delivery. Additionally, concerted efforts by the CA, LEPs and CITB to boost WM employer-led skills collaborations will eliminate second-guessing and ensure skills provisions meet real need. These elements will make a difference in both the immediate and longer terms.

We have sought to recognise, in our Action Plan, the importance of both workforce agility and the transferability of skillsets. Construction has been a highly siloed industry to date, but it has natural connectivity with many other sectors. So whilst some construction-specific skills sets may need to be filled with immediate effect, the long view expressed in this Actions Plan is to recognise also the evolution of more porous boundaries between sectors and the importance of understanding and collaborating with a demand side that comprises clients in many sectors.

Interestingly, the construction industry's greatest weaknesses are also the areas most ripe for market opportunity **ideas**. Digitisation and environmental sustainability have been pinpointed, by almost all of the region's industrial representatives approached to form this narrative, as being of critical importance. COVID-19 has highlighted that firms behind on the technology curve have fared much worse than their more digitised counterparts. Moving into the future, businesses unable to keep up with burgeoning environmental legislation will simply not survive.

The West Midlands is fortunate to have expertise and unique assets in digitisation and environmental sustainability relating to construction. Wolverhampton's growing NBI capabilities and the surrounding Construction Futures Centre (MMC and AMC), EnTRESS (circular economy) and BECCI (sustainable construction) initiatives are growing the region's digital, sustainability and circular economy strengths. The region also has a particularly strong network of MMC and AMC knowledge, capabilities and facilities. Moreover, the West Midlands has a sizeable inter-sector technology canvas (e.g. our developing 5G testbeds and Smart/ Future of Mobility activities), a large and dynamic digital and creative sector, sizeable environmental influencing power (e.g. the Regional Energy Policy Commission and Energy Capital) and a thriving innovation and collaboration ecosystem that is particularly cross-sector rich (e.g. IAWM and the West Midlands Innovation Programme). All of these aspects have been brought together under the Ideas Foundation of Productivity actions. The approach of all of these entities above is geared emphatically towards challenge and opportunity-based commercialisable innovation. Care has been taken to integrate the Construction industry into this innovation infrastructure.

Prior to COVID, the West Midlands' view of **infrastructure** was already highly dynamic, which has stood the construction sector in good stead at this precarious time. The approach taken in this Action Plan is one characterised by stakeholders working with physical, digital and environmental/ energy infrastructures as integrated entities. This has been a feature of much of the work of the CA and LEPs and several industry sectors for some years. It is now enabling doors to be opened with respect to the construction sector working with and meeting the needs of other sectors (as noted above), in areas such as productivity, quality, skills and safety. It also underpins the development of the sector's R and D capabilities, its policy influencing capacity and its ability to gain and act on current market intelligence.

The two Infrastructure actions in our Plan involving the National Brownfield Institute and the Regional Energy Policy Commission, respectively, address two major Achilles heels of the region in relation to construction. These are the high proportion of contaminated land in and around our urban areas, and high pollution levels emitted from current construction methods, manufacturing production outputs and transportation and logistics inefficiencies. Our infrastructure actions will target operational implications for construction business of all sizes, e.g. at NBI this will be through scientific, digital and economic analyses and recommendations to businesses. They will also address wider systemic 'blockers'. In terms of land development an example would be revising remediation and reclamation costs and business models that determine site viability for developers. In relation to energy and environmental matters, an example would be tackling high embodied and operational carbon issues, waste management and manufacturing energy prices. Our approaches address existing difficulties whilst fostering pathways towards future successes.

Place-based considerations and plans have not changed substantially since the outbreak of COVID-19, in this sense 'Place' has been the most unaffected of the Five Construction Foundations of Productivity when it comes to the construction industry. The sector's major place-related action has been to work towards a sustainability- focussed Design Charter that will be taken up by the local authorities in the West Midlands geography. However, given the way in which our lives have changed since the onset of COVID-19, design considerations around our living and working spaces and the travel routes in-between need similarly to alter. Our economic, environmental and social sustainability and wellbeing may need to be revised accordingly and these will be reflected in the design and roll- out of the Charter.

1) Sector Summary

Within this work, the Construction sector comprises the following sub-sectors with the given SIC codes

Sub-Sector	SIC Codes
Building Construction & Engineering	SIC 41-43 - Buildings construction, engineering & specialised construction activities
Other Building Services	SIC 81 - Services to buildings and landscape

1a) Sector Strength Regionally

Construction is a significant part of the local economy and is a major employer (over 100,000 jobs in the WMCA area). It's a key enabler of economic growth and job creation and has a significant impact on enhancing the built environment, creating the facilities required of a modern economy and addressing shortages of housing and employment facilities.

There are a large number of construction projects underway and planned across the WMCA, ranging from HS2 to new homes. The Chancellor's 2018 Spring Statement identified an additional 215,000 homes would be built in the region over the next twelve years which will be partly funded by a £350m Housing Deal with Government. This welcome commitment will contribute to the growing demands for housing within an ageing society and the need for inclusive growth in the region. The sector will need to go further to meet its ambitions though, and this will include embracing the technological opportunities disrupting construction, improving skills and developing more intelligent commissioning and procurement systems.

In 2018, the construction sector generated £7.2bn of GVA and employed 121,000 people in the WMCA. These mean that construction makes up 6.9% of total WMCA GVA and 6.6% of jobs, confirming it as an extremely important industry locally. Of the WMCA's initial 7 transformational sectors, only Advanced Manufacturing & Engineering and Business, Professional & Financial Services are larger in terms of GVA. The majority of our region's construction sector is within the traditional 'Building Construction & Engineering' sub-sector. Construction productivity as measured by GVA per employee is £59,645 in the WMCA, above the average for all sectors of £56,900. WMCA productivity in this sector has been in line with the national average in the past and has only recently dipped below it again.

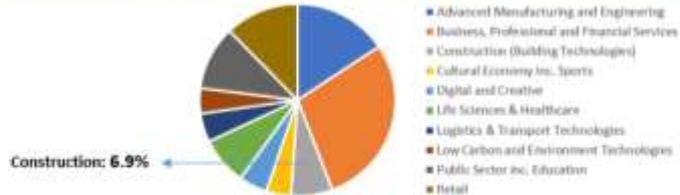
The data sheet on the next page overviews the construction sector data for the WMCA area, including the GVA, jobs and productivity data referenced above. Also included is a reference to the 2030 ambitions, outlined by the WMCA SEP across sectors. For construction the ambition for 2030 within the 'Vision' scenario is to increase GVA by £3.6bn to £10.9bn and grow jobs by 113,000 to 234,000 in total. This is followed by an industry profile which outlines some of the key Construction assets that contribute to the strength of the sector in the WMCA area.

Construction Sector Data Sheet

Pre-Covid Summary Statistics: Construction

- **£7.2bn GVA** attributed to construction in WMCA, with 2030 ambition of **£10.8bn**.
- **121,000 jobs** in the sector locally. In 2030, the ambition is to have 234,000 construction jobs in the WMCA area.
- The **majority (69%) of jobs & GVA (89%)** appear within the 'Building Construction and Engineering' SIC code category.
- **GVA per employee: £60,000**, above the average across all sectors in the WMCA of £56,900
- Analysis produced using SIC codes 41, 42, 43 and 81. The following SIC codes that make up the Mining and Quarrying sub sector are also.

GVA 2018: **£7.2bn** 2030 Ambition: **£10.8bn (+£3.6bn)** **6.9%** of total WMCA GVA



Jobs 2018: **121,000** 2030 Ambition: **234,000 (+113,000)** **6.6%** of total WMCA jobs.



Businesses 2019: **18,855** **13.0%** of total WMCA businesses



Sources

- Business Register and Employment Survey (BRES)
- UK Business Counts
- Regional gross value added (balanced) by Industry; all NUTS level regions
- Oxford Economic Model

Construction: Industry Profile

Our Competitive Advantage

- Major infrastructure investment in the region (i.e. HS2) - £10bn worth in construction brought to market in March 2018.
- Ambition to build **215,000 homes by 2031**, with backing from government through a Housing Deal.
- SIA identified "Sustainable Construction" as one of four Market Strengths.
- R&D and commercial deployment by industry of energy efficient and lower carbon building technologies.
- Opportunities of BIM technologies, building materials and technologies, and zero-carbon building and efficiency measures.
- High LQ's confirm presence of a construction sector in WMCA (see next slide)
- Links in well with significant presence of manufacturing sectors.

Products, Services & Brands

- Homeserve PLC** provide home emergency and repair services to over 7 million homes worldwide.
- Fortel** have worked on major motorway projects including the central reservation works at Junction 4 of the M5.
- BriggsAmasco** has installed a high performance green roof system at the British Museum's stunning new £135 million World Conservation and Exhibitions Centre (WCEC).

- A **Balfour Beatty** joint venture has been awarded HS2 contracts valued at circa £2.5 billion.
- Barhale** was awarded a £21 million contract by the ODA, to design and construct a primary foul sewer and pumping station, as part of the Olympic Park development.

Centres of Excellence/Assets

University Centres

- The Built Environment, Information Systems & Learning Technology Research Centre, University of Wolverhampton
- The Centre for Environment and Society Research (CESR), Birmingham City University
- The Centre for Low Impact Buildings, Coventry University
- Institute for Future Transport and Cities, Coventry
- Department of Civil Engineering at UoB

Colleges

- Stourbridge College Construction Centre
- University of Wolverhampton's developing Springfield Campus, home to the West Midlands Construction-UTC.

Other

- HS2's national construction HQ
- Alternative Raw Materials with Low impact

LEP Programmes/Investment

- School of Architecture and Built Environment (SOABE)
- Dudley Brownfield Land Improvement Phase 1
- Dudley Advance and Innovation Centre
- Secondary sector for inward investment so more reactive in focus except:
 - Construction technologies – modular/ offsite manufacture where under Advanced Manufacturing for inward investment
 - Investment related to the National Centre for Sustainable Construction
 - Priority: Medium

Implication of New Covid-19 Guidance

Increased costs for suppliers as a result of providing additional PPE for staff

Increased difficulties in recruiting and retaining employees as a result of fears around the virus

Sustained problems with sourcing materials if retail remains closed

Difficulties around securing Building Regulation approval if inspectors are not allowed on site

Greater insurance costs associated with maintaining increased HSE requirements etc.

Difficulties meeting demand-side environmental and societal/ quality of life expectations due to dearth of resources.

Super Strengths

Modular Construction, Sector Skills Development, Brownfield Land Remediation, Internal Structures

Compared to other areas of the UK, the West Midlands is relatively strong in the construction sector. Using the definition of the broad Construction sector (F) – which only includes our ‘Building Construction & Engineering’ sub-sector – the WMCA 7MET area has an employment location quotient (LQ) of 1.1. This means that the region has a higher share of employee jobs in construction than the sector’s share of national employee jobs. WMCA local authority areas with the highest LQ for construction are Cannock Chase (2.25), Bromsgrove (1.88) and North Warwickshire (1.84).

From 19 broad ONS sectors, the 1.1 LQ puts construction 7th highest for LQ in the WMCA, and whilst 1.1 may not seem considerably high, there are areas within the construction sector which appear to have particular relevance locally and thus more significant LQ’s. The West Midlands Science and Innovation Audit (SIA) used LQs to reveal specific strengths in the region within its key identified ‘market strengths’ – one of which is identified as Sustainable Construction. The audit uses the below table of location quotients to demonstrate the local sector strength in construction.

WMCA Construction Sector Location Quotients (WM SIA)

	Employment	LQ
Construction activities		
Development of building projects	1,750	0.4
Construction of residential and non-residential buildings	26,000	1.3
Construction of roads and railways	2,000	0.6
Construction of utility projects	225	0.2
Construction of other civil engineering projects	4,500	0.6
Demolition and site preparation	5,000	3.4
Electrical, plumbing and other construction installation activities	25,000	1.1
Building completion and finishing	14,000	1.1
Other specialised construction activities n.e.c.	15,000	1.6

As displayed in the table, for most of the detailed construction SIC code descriptions used by the SIA, the WMCA has an LQ higher than 1, meaning the region’s employment share is higher than that of the national average. There’s a considerable cluster within the large sub-sectors of ‘Construction of residential and non-residential buildings’ and ‘Other specialised construction activities n.e.c.’ (1.6 and 1.3 LQ’s respectively). ‘Demolition and site preparation’ has the largest cluster compared to the UK average though, with 5,000 jobs representing an LQ of 3.4.

The SIA also highlighted the local presence of technical expertise and practical know-how across key technology and market drivers in construction. These include building information modelling (BIM), off-site manufacture, modular construction, building materials and technologies, and zero-carbon building and efficiency measures. As a region, the WMCA is very well placed to respond to these major growth opportunities, including the growing demand for lower carbon construction and refurbishment products and services. This is supported regionally by a well-developed network of research and innovation assets within construction. Birmingham University is one of the top UK universities for Civil and Construction Engineering, with particular research strengths in structural engineering, including research with industry on novel structural materials, energy-producing

structures, renewable energy structures and low and zero-carbon buildings. The Manufacturing Technology Centre (MTC) at Ansty Park also works extensively in the construction sector, bringing significant expertise in modelling, applying the potential of BIM technologies for productivity improvements.

In its section on sustainable construction, the SIA concludes that “our Market Strength is particularly focused around the R&D and commercial deployment by industry of energy efficient and lower carbon building technologies, across commercial and residential construction and infrastructure, leveraging the scale and quality of our education, research and technology transfer base.”

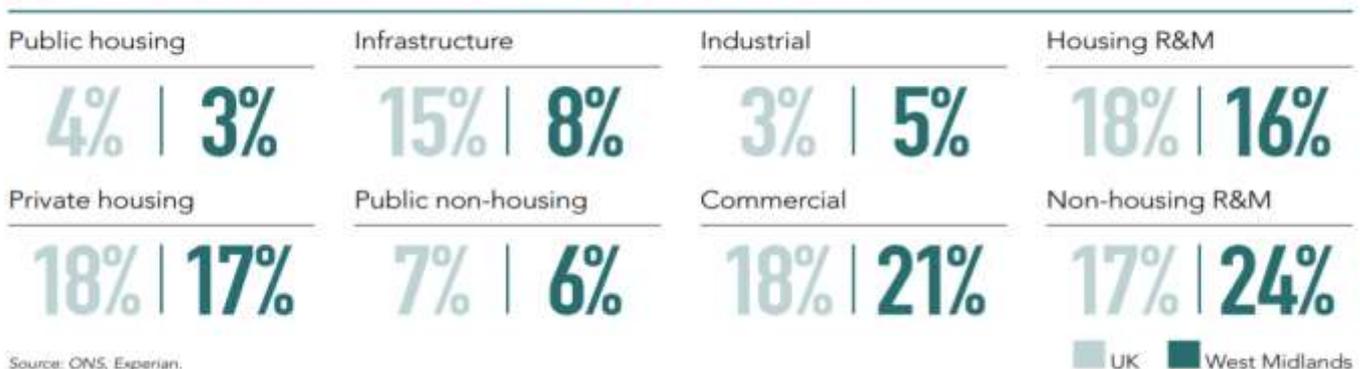
Another important characteristic of construction in the West Midlands is the presence of a number of globally significant firms with their HQs or major facilities in our area. Balfour Beatty, Saint-Gobain, Morgan Sindall, Interserve and Cemex all have major operations in the WMCA area, with many key construction firms across the supply chain having their HQ in the region – for example Barhale, Hill & Smith and A&H Construction. West Midlands businesses in this sector have worked all over the world on major construction projects, often being involved in some interesting and vitally important activities. For example, Angle Ring based in Tipton “put the arch in Wembley” through their metal bending, and RMD Kwikform helped install the roof of the Aquatics Centre for London 2012.

The West Midlands hosts companies from across the construction supply chain, from large contractors to sub-contractors and product manufacturers/suppliers. There are some cross-overs with the significant local presence of advanced manufacturing which help ensure manufactured products for construction are easily available in the region.

Locally operating businesses throughout the construction supply chain are the driving force behind the industry, and according to Barbour ABI, 11% of construction contracts awarded in the 2017 were in the West Midlands region. This is the joint second highest region outside of London (with the North West).

Regional research by CITB suggests that compared to the UK overall, the WM has a greater share of construction work within industrial, (5% of industry compared to 3%), commercial (21% compared to 18%) and non-housing repair & maintenance (R&M) (24% compared to 17%) – see below. Infrastructure is substantially underrepresented in the region compared to the UK average (15% of the industry in UK compared to 8% in the West Midlands), though this is forecast to grow at an annual average rate of 10.6% in the five years to 2021, driven by the impact of HS2.

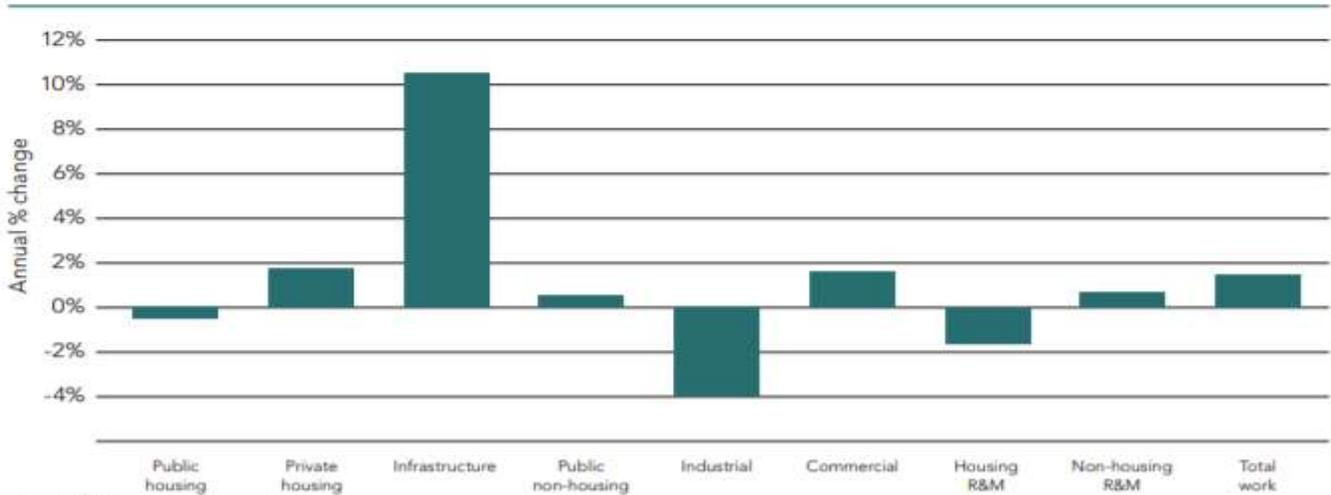
CONSTRUCTION INDUSTRY STRUCTURE 2015 – UK VS WEST MIDLANDS



For construction overall, CITB’s analysis suggests the West Midlands region was forecasted to grow at an annual average rate of 1.3% between 2017 and 2021, higher than all regions outside London except

the North West and South East. However, these estimates must now be revised in the light of COVID-19 and its impacts on the sector. Infrastructure will be the fastest growing sub-activity by some distance (10.6%), with all other sub-activities expected to grow by less than 2% a year or contract. The below chart demonstrates this annual average construction output growth for the West Midlands region.

ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2017-2021 – WEST MIDLANDS



Source: CSN, Experian.
Ref: CSN Explained.

The evidence given, from both regional and national sources, suggests a considerable construction sector cluster in the WMCA area, underpinned by a strong base of firms across the supply chain, world-class research and innovation assets, and major investments in the near future such as HS2 and accelerated housebuilding. Given these features of the local economy, the WMCA as a region is well-placed to take advantage of the key opportunities disrupting the construction, but also must evolve – particularly to improve its skills, digital capabilities and commissioning and procurement procedures.

Any construction sector strategy like this one must consider interventions that not only suit construction but suit a thriving metals and materials sector that underpins it. The West Midlands has an historic presence within metals manufacture and treatment, but also contains the largest concentration of materials related jobs in the UK. The success of these foundation sectors is crucial to the success of construction as many products used in the industry are created by the foundation industries of metals and materials. Without a successful, innovative and sustainable supply of metals and other materials (such as rubber, plastics etc), the local construction sector will not maximise the potential outlined in this document.

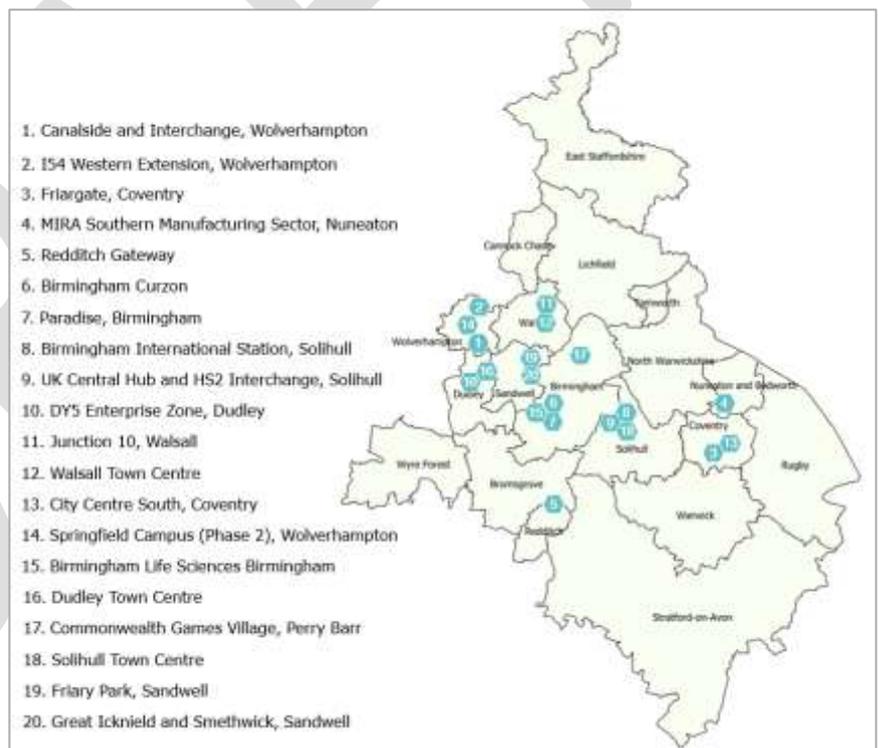
The interrelation of sectors cannot be underestimated as a catalyst for what the CLC's *Roadmap to Recovery* calls 'Reset' and 'Reinvent'. Taking the example from above, the close geographical proximity and the variety offering of materials and products presented by the metals and materials sector is an excellent example of a multiply advantageous synergy. Fostering a relationship between the two industries can: keep logistics and transport costs down and reduce carbon emissions; enable cross-sector working to develop finely-tuned innovative products to meet evolving client needs; and engender cordial working partnerships that encourage transparency and fair working practices and pricing.

1b) West Midlands Construction: Opportunity Now

The years ahead will see very significant investment in transport, housing and other infrastructure projects across the West Midlands. Local Authority Leaders and the Mayor have agreed an ambitious but achievable plan to integrate different strands of investment to maximise impact on residents, businesses and communities. Linking up centres of employment, population and existing and emerging business clusters, through new metro routes, very light rail and sprint routes all ensuring that nowhere in the West Midlands will be more than 40 minutes from an HS2 station and alongside 215,000 additional new homes by 2031.

CITB estimates that sustained spending on new construction projects will amount to £3.8 billion per year for at least five years – just some of the region’s project pipeline are included on the below map. The £350m Housing Deal for the West Midlands will support not just 215,000 net additional houses, but all local authorities have agreed an approach to delivery that will drive up quality, lever social and affordable housing to support growth and prioritise transforming the end to end process of building homes, from shared planning commitments to large scale investment in advanced methods of construction and developing the skills needed for new approaches to construction and over £200m investment in brownfield remediation and strategic site assembly. New technology and techniques will drive an increase in annual housing delivery of over 40% and the Commonwealth Games and Coventry City of Culture will further drive investment in our transport infrastructure.

Around half of the spending is made by the public sector, therefore there is an opportunity to think about how we can drive productivity, quality and social value through the contracting process. The Spatial Investment and Delivery Plan (SIDP) funding principles will set an ambitious benchmark for quality across the region. WMCA and Homes England are currently developing a shared delivery resource and considering a Memorandum of Understanding (MOU) to underpin the shared ambition of both bodies to support and accelerate development in the region.



HS2’s national construction headquarters are based in Birmingham, providing the WMCA area with the HQ of Europe’s largest infrastructure construction project. Additionally, the National College for High Speed Rail will provide significant construction research, innovation and market opportunities for our region. HS2 is one of the most demanding and exciting transport projects in Europe which is creating thousands of opportunities for the West Midlands. It’s the single biggest infrastructure project in Europe and thus provides an important strategic asset for which to drive success in the industry. HS2 offers long-term legacy benefits to the West Midlands region through the increased productivity and global competitiveness of the regions supply chains, and upskilling of the people they

employ. Capitalising on the HS2 opportunity by implementing the Midlands HS2 Growth Strategy can ensure the region's construction sector is successful in bidding for major global infrastructure projects for years to come.

A more efficient, skilful and innovative construction sector in the West Midlands will enable the significant infrastructure and housing investments both locally and nationally to prosper, helping to build communities, employment land and deliver inclusive growth. We are determined to take this opportunity to ensure that local people have the skills needed by housebuilders and companies building the big transport infrastructure schemes and commercial developments coming on stream.

DRAFT

2) Construction Sector Strategy by Theme

In this section, each industrial strategy foundation is considered in turn, importantly reflecting the issues and potential interventions within each that could contribute to an improved, more productive and successful construction sector in the West Midlands. Whilst there are supplementary suggestions and wider opportunities, this document generally highlights five key areas that construction needs to address in a West Midlands-level action plan, as outlined in the previous model diagram of the regional sector:

1. **Advanced Methods of Construction (AMC) and Modern Methods of Construction:** *See Ideas section*
2. **Land Remediation and the National Brownfield Institute (NBI):** *See Ideas section*
3. **Improving and enhancing skills, through both upskilling and attracting new people:** *See People section*
4. **Enhancing the business support offer:** *See Business Environment section*
5. **Logistics:** *See Infrastructure section*

In addition, the region can harness the maximum regional impact of the above through landmark opportunities such as, but not limited to, **HS2**. Within each section below we set how large construction projects like HS2 can catalyse the key activities and interventions suggested through a commissioner/client-led, top-down approach – these large organisations will shape the construction strategy, with the construction supply chain executing the delivery. Whilst HS2 is an extremely important construction project for the region that drives positive change in the industry, this action plan aims to provide a strategy for all future industry opportunities, not just this one. HS2's immediate opportunity does, however, means that we will utilise it and focus on it frequently in this action plan to demonstrate its distinct offer to the region across the Foundations of Productivity.

HS2 is a once-in-a-generation opportunity to drive economic growth and prosperity across the West Midlands. It will create further growth across our region, with globally significant development sites at UK Central and Birmingham Curzon Street. It is also a catalyst for investment in transport and digital infrastructure over the next 10 years. Maximising the HS2 opportunity will require a collaborative and unified approach between regional partners, government and industry. The construction sector has a major role to play in delivering the Midlands' HS2 Growth Strategy, getting our people, businesses and places ready for HS2. The West Midlands Local Industrial Strategy commits to joint-working on the delivery of the HS2 Growth Strategy and this action plan designates the construction sector as a major partner within this ecosystem.



3a) Ideas

Opportunity

The impact of digital technology, automation, and AI will bring significant opportunities for transformational change in the industry. The rise of digitisation and robotics in construction will bring about an increase in productivity and different employment opportunities, including through the use of big data, automation and standardisation. It is crucial that the West Midlands capitalises on this transition to more advanced methods of construction (AMC).

There is an opportunity to grow the construction sector regionally through the adoption of AMC and, where appropriate and complementary, Modern Methods of Construction (MMC). AMC, employed correctly, can foster technological opportunities and market drivers disrupting construction, particularly digital construction, off-site manufacture, modular construction, building materials and technologies, and zero-carbon building and efficiency measures. The UK Government has set the precedent on AMC, using their spending power to drive a paradigm shift in favour of offsite construction and incorporate AMC KPIs into MHCLG. Future buildings and connecting infrastructure will be shaped increasingly by these technologies and the new thinking and business models around them. The West Midlands construction sector is particularly well-placed to deliver key projects through the inception of these innovations, especially thanks to the business, university and research technology organisation base in the region. This is outlined in subsequent sections of this document and in more depth within the West Midlands Science & Innovation Audit.

To deliver major investments (such as HS2, the Commonwealth Games and UK Central) with maximum impact, the WMCA must embrace the disruptive technologies open to the construction industry. The ability of West Midlands and, in general, British companies across the supply chain to build using smart digital technologies and techniques (and especially those that can enhance human safety and environmentally sustainable practices) will be fundamental to enhancing their national and global competitiveness.

The emerging **West Midlands Innovation Programme** provides a timely mechanism for which to guide innovation investment in the construction sector. Leading the delivery of this programme, **Innovation Alliance West Midlands (IAWM)** have a growing focus on the construction sector and are developing early project proposals to drive the uptake of new technologies in the industry. Once the WM Innovation Programme is fully developed and funded, this can provide a key framework for guiding construction investment in innovation – whether it be for digital, 5G or offsite/modular technologies; this will therefore be a crucial delivery vehicle for all the suggested innovation interventions (see below). Within this work, IAWM will work alongside industry to embed innovation in the sector, learning from other sectors such as automotive and energy.

The overarching focus of the Innovation Programme is ‘to drive up levels of demand-led business innovation across all areas of the region’, including ‘deepening innovation networks and supporting improvements to business capacity’. As featured in the final West Midlands LIS document, an underpinning **Innovation Framework** will prioritise five core pillars of an effective innovation ecosystem:

- Networks and linkages
- Investment programmes
- Talent
- Intelligence

- Culture

Overview of Current and Planned Work

The WMCA area has a very well-developed network of research and innovation assets for the construction sector, located across the region. Birmingham University is ranked as one of the top higher education institutions in the UK for Civil and Construction Engineering. It has particular research strengths in structural engineering, including research with industry on novel structural materials, energy-producing structures, renewable energy structures and low and zero-carbon buildings.

The Manufacturing Technology Centre (MTC) in Ansty also works extensively in the construction industry. Their focus is around four key themes of digital, manufacturing, whole life performance and skills; the MTC has significant expertise in modelling, applying the potential for BIM technologies to improve productivity and lower costs due to improved information flow and greater collaboration, and is increasingly seeking to work with the construction industry on the potential for 'construction robots'. The MTC has recently put together a new team working under the banner of 'Working Together: Transforming Construction'. This will support the sector in meeting its targets set out in the Government's 2025 strategy, particularly at the local level.

Separately, it was recently announced that the University of Wolverhampton is to be the home to a new brownfield research centre that will help tackle the housing shortage. The National Brownfield Institute is being funded as part of the £350m Housing Deal for the West Midlands. It will be home to a team of specialist researchers, consultants and industry experts who will advise on all aspects of brownfield development from dealing with contaminated land to repurposing buildings and sites. The Institute will seek to work closely with industry providing commercial lab testing space and looking at new technology.

Other construction specific university assets exist in the WMCA in supplement. These include:

- The Built Environment, Information Systems & Learning Technology Research Centre at the University of Wolverhampton which researches Engineering, Information Systems, the Built Environment and Sustainability.
- The Centre for Environment and Society Research (CESR) at Birmingham City University, which carries out applied research at the interface between the built and natural environment.
- The Centre for Low Carbon Research also at Birmingham City University where 'intelligent and sustainable' buildings are a key research focus.
- The Centre for Low Impact Buildings at Coventry University, which is focused on research in the areas of dynamic performance of buildings, occupant and owner responses, impacts of uncertainty, whole-life decision-making, smart civic structures, and monitoring buildings.
- In September 2016, Stourbridge College opened a newly refurbished £1.5 million Construction Centre, providing state-of-the art learning facilities in the fields of carpentry and joinery, plumbing, gas and electrical installation, and the Built Environment.

Looking forward, there are two major developments which will add significant value to the WMCA's construction industry from a research and innovation perspective:

1) The University of Wolverhampton's Springfield Campus is seeking to position itself and the wider area as a national and international hub of excellence for construction and the built environment. Already home to the West Midlands Construction UTC, the Campus will also include an expanded School of Architecture and Built Environment, Built Environment and Climate Change Innovations programme, and the Elite Centre for Manufacturing Skills.

2) HS2's national construction headquarters is based in Birmingham, providing the WMCA area with the HQ of Europe's largest infrastructure construction project. Additionally, the National College for High Speed Rail provides significant construction research, innovation and market opportunities for our region.

Furthermore, the WMCA have recently formed an AMC Advisory Panel, comprising representatives from local industry, academia and housing providers. The panel are working to map current and emerging capability in the region, and to highlight opportunities to improve the construction sector. The panel will drive a change in demand, making AMC a more attractive offer to residents, workers and businesses, with full private sector sign off.

Issues

Where other manufacturing industries have achieved significant annual productivity gains, growth for construction has remained relatively flat since 1995. Failure to modernise has resulted in dramatic underperformance from the sector; 30% of mistakes are avoidable and 80% of projects are delivered late and overbudget. The construction industry has not harnessed the full potential of AMC to reshape their products and services, thus it remains fairly low-tech and low productivity part of the economy, although there are pockets of innovation. Where innovation does exist it is often in isolation and limited to small pilots or trials.

Underinvestment in product and service innovation is particularly prevalent within smaller firms who work in the lower tiers (i.e. Tier 3 and lower) of the sector. However, this is of little surprise. Contract values tend to be well below £1m and are often under £100k at this level. Additionally, contracting and subcontracting tends to be on most economically advantages tendering (MEAT) criteria, i.e. awards are based on the lowest cost. This instigates a race to the bottom. So with minimal financial leeway, historically, to innovate and next to no commercial incentive the external impetus to engage with a long tail business strategy is almost entirely absent. However, there is some hope for change in the shape of burgeoning environmental legislation and demands on quality and productivity that can only be achieved properly with digitisation, from clients and the upper tiers of the sector. Those with most purchasing power may want to and even need to pay for increasing standards, which will drive up costs and thus enable all levels of the supply chain to engage in challenge and opportunity-based innovation.

There are issues not only of economic and financial disincentives in relation to technology adoption, but also limited understanding of its potential. This is especially true of Building Information Management (BIM) software. BIM's potential can assist in supporting more efficient design and construction, the adoption of modular construction techniques and more efficient building operation and asset management. Making BIM level 2 a contract requirement is not currently driving the implementation of digital adoption and efficiency – companies need to understand the specific benefits they can gain from the adoption of digital techniques. Furthermore, BIM is no longer new and should be seen as a necessity rather than a "nice to have". In fact, the current wave of digital construction goes way beyond BIM, incorporating the use of augmented reality (AR), virtual reality (VR), drones/UAVs, 3D printing, artificial intelligence, wearable tech and the Internet of Things. The realisation gap of these technologies has recently been drawn out by CITB research – this found a lack of understanding of how digital technology and data can be used to solve construction problems.

Modular construction is estimated to be worth £2-3bn per year in the UK, with Modular Build growing by 25% per year. The move to more standardised buildings can reduce building times, shorten bad weather delays, lessen environmental waste impacts and improve productivity, quality and

performance. The activity currently has a mixed reputation, though, with a lack of standardisation in the market. If standardisation is improved and there is a continuity of demand, we can use the West Midlands' excellent manufacturing knowledge-based capabilities to build a world class advanced construction manufacturing base. Also, skills need to be provided to meet the surge in offsite methods. 38% of businesses expecting to use offsite in the next 3-5 years said they will need new or significantly improved skills in their workforces – this will require a proactive skills system to ensure innovation can flourish.

Furthermore, innovation support mechanisms have been too supply-side focused in the past, and the region's local industrial strategy provides us with an opportunity to boost demand-led approaches as well. We will need more innovation pull to complement successful local idea/technology push approaches in order to optimise the impact of innovation on productivity. This will particularly help SMEs in industries like construction which often find ideas falling in the so-called 'valley of death'; de-risking this through extended innovation pull initiatives will be vital for increasing the region's innovative capacity across sectors, including construction. A proposed Framework for Leading Innovation through Challenge (FLIC) (through Innovation Alliance WM) offers an enhanced and joined up approach to stimulating demand for and pull through of innovation into public and private markets in the West Midlands, stimulated by market and societal challenges.

Potential Solutions

Utilise the emerging West Midlands Innovation Programme to encourage and guide investment in digital, accelerating the use of various digital construction technologies

The region should aim to invest in the digital technology that has the potential to support a revolution in the construction industry, improving data management and increasing automation. For example, BIM can support a move towards more standardised components and Design for Manufacture (DfMa) and should be a particular focus area for investment, particularly given the mandatory BIM requirements to be eligible for government contracts (e.g. HS2). Our construction companies should be aspiring to be at least BIM level 3 proficient.

However, digital construction is now much wider than BIM and this should be reflected in regional actions going forward. A step-change in the perception and roll-out of digital technologies in construction is required, making firms aware of revolutionary technologies such as VR, AR, drones and 3D printing and their usefulness for effective construction activity.

If awareness of the capabilities of digital construction is improved and technologies are rolled out at scale, they will successfully support the following in the region:

- More efficient design and construction
- Adoption of modular construction techniques
- More efficient building operation and asset management

5G is another exciting opportunity for the region. The West Midlands is already the home to the UK's first 5G test-beds and smart construction has been identified as the focus area for the Wolverhampton 5G testbed. Partners will work together to develop project proposals around this to ensure we maximise this unique opportunity for the sector to improve connectivity and productivity.

National sector deal commitments from government such as the Manufacturing Better Buildings programme (from the Industrial Strategy Challenge Fund) should be targeted by the region as a way

of bringing investment for these technologies. Much of this delivery and co-ordination will be carried out through Innovation Alliance West Midlands through the emerging Innovation Programme and Innovation Framework.

Through a pilot scheme, utilise the regional advanced manufacturing cluster to build an AMC specialism in the West Midlands

Advanced methods of construction are already being utilised – offsite construction represents over 15% of total construction sector output – with significant future growth expected, including the WMCA ambition of delivering 25% of homes through AMC by the early 2020s and the majority of delivery by 2031. Offsite construction offers excellent productivity opportunities through a reduction in labour costs and an increase in automation. Increasing offsite activity in the region can boost local employment and innovative activity.

There is a real opportunity to utilise the strong advanced manufacturing capability across the WMCA area (Rolls Royce, JCB, Jaguar Land Rover etc) to help develop a world class offsite manufacturing capability, making the region a national pilot for this innovative activity. This could be developed into an integrated approach to supporting the promotion of STEM subjects and digital technologies across the region.

There's an employment opportunity within offsite manufacturing which can contribute to wellbeing inclusive growth, but an improvement in standardisation & continuity of demand for this activity is required to maximise impact. As with other new technologies, the industry needs direction and confidence to use offsite/modular methods, and this can largely be done by procurement from large organisations and projects. HS2, for example, has considerable power when commissioning work and offering contracts to shape the nature and standards of that work. HS2 and other commissioners/clients can catalyse a meaningful shift towards the greater use of offsite construction methods by investing in innovative practices. This commitment would help drive innovation throughout construction value chains.

Without intervention, a lack of offsite training provision is one of the biggest potential drags on exploiting the growth of offsite construction – new skills gaps will arise. A fusion of digital, manufacturing and construction skills provision is required for the WMCA to maximise this opportunity, one which can provide multi-skilled roles and will appeal to the digitally-native generation with a potentially safer working environment.

Building this offsite specialism could include providing additional modular housing factory facilities to the region, and implementing manufacturing thinking and processes – such as 'Kaizen' - has the potential to have a transformative effect on construction sector productivity.

The WMCA will develop an appropriate and effective definition of AMC that delivers efficiency beyond traditional building techniques and provides real additionality to current housing supply.

Through existing structures, such as the WMCA's AMC panel, and new partnerships, we will make AMC the default choice for our residents by developing a quality benchmark over and above that of the open market, lowering cost of occupation and improving wellbeing. We will utilise AMC and quality targets as funding criteria, to channel WMCA investment and encourage uptake by public sector clients, including all local authorities within the WMCA. As far as it possibly can, the WMCA will aim to influence an uptake in AMC across the region.

The poor ‘pre-fab’ perception will be proven myth as AMC kick-starts an uplift in quality across the wider sector, and traditional housebuilders look to keep up with new, aspirational consumer demand. A single, regional definition and guaranteed pipeline for manufacturers will give them the certainty to invest in facilities here. We’ll highlight the benefits of off-site construction to waste reduction, continuity of business and reducing construction related accidents on and off site. We’ll invest where there are viability issues to ensure the quality we promise is delivered to site, and we’ll open up the conversation with lenders to ensure developers are confident taking up new products, and residents are able to buy them.

Maximise the region’s land remediation potential by developing the National Brownfield Institute in Wolverhampton

A crucial asset for tackling land availability shortages for housing and employment land will be the developing National Brownfield Institute at the University of Wolverhampton. It will be home to a team of specialist researchers, consultants and industry experts who will advise on all aspects of brownfield development, from dealing with contaminated land to repurposing buildings and sites.

The National Brownfield Institute will be a part of Wolverhampton’s developing Springfield Campus. The site of the former Springfield brewery is being transformed into Europe’s largest specialist construction and built environment campus bringing together businesses and the education sector to maximise the impact on the economy. As the home of the West Midlands Construction University Technical College, the University’s School of Architecture and Built Environment, the Elite Centre for Manufacturing Skills and an emerging National Centre for Construction Excellence, Springfield Campus will be a central part of the region’s growth ambitions, particularly in the construction sector—this is further supplemented by Dudley Advance II, Dudley College’s new centre dedicated to advanced building technologies.

The new brownfield centre puts Wolverhampton and the West Midlands at the centre of UK capability within brownfield research, supplying us with a great opportunity to unlock sites cost effectively and quickly. Partnership working must ensure the region maximises the impact of the centre through key research and cross sector engagement in public sector policy reform and private sector innovation activity. Beyond innovation centres must come connections with procurement, planning and, ultimately, creating brownfield propositions that are ready and affordable for developers and their supply chains to engage with. Enabling this to happen will ensure that the National Brownfield Centre and the construction innovation clustering activities taking place in and around it lever maximum impact.

Support construction SMEs to collaborate in order to win contracts, through maximisation of existing programmes and the development of new ones

Construction is a fragmented industry that often fails to collaborate successfully. Other sectors in the region benefit from a single organisation that can support SME and supply chain collaboration from a West Midlands base (e.g. Midlands Aerospace Alliance and the Rail Alliance). Both of these sector bodies are also signed up to the emerging CITEC proposal, an example of a programme that’s also relevant for construction sector firms locally.

The ambition of CITEC is to facilitate R&D projects that transfer technology between industry supply chains (i.e. “horizontally”) for commercial exploitation. It will focus on Midlands Engine priority markets and three enabling competencies identified in the ME Science and Innovation Audit. It will mobilise key Midlands business cluster networks which will work collaboratively to identify and

mentor projects, harnessing guidance from leading major firms to accelerate the unrealised potential of many supply chain firms to innovate.

At a value of £120m over 2017-2021 (50% of which is industry matched funds), CITEC could be delivered at different geographies, either the Midlands as a whole or specifically in the WMCA area. The programme recently received £40,000 from Midlands Engine funds to develop the concept; we are clear in our ask for further commitment and funding to this demand-driven and cross-sectoral innovation project.

Further working with wider partners will be required to maximise the sector’s engagement with multiple support offers. For example, the Manufacturing Technology Centre is delivering a national Core Innovation Hub, a key element of the Transforming Construction programme. Additionally, organisations like Constructing Excellence should be utilised to harness the innovative capacity of construction firms in the region.

Ideas – Proposed Interventions by Type

Super-charge	Build	Maintain	Consolidate
Encourage and guide investment in digital, accelerating the use various regional strength, assets and innovation initiatives in digital and construction technologies including BIM and 5G.	The WMCA will develop an appropriate and effective definition of AMC that delivers efficiency beyond traditional building techniques and provides real additionality to current housing supply		Maximise the potential of the new National Centre for Brownfield Research in Wolverhampton
Utilise the region’s advanced manufacturing cluster to build a Modern Methods of Construction (MMC) specialism in the West Midlands, uniting WM-wide AMC capabilities, NBI research, MTC/CIH, Homeworld and engagement with the CLC on innovating and developing capacity and skills in productivity and digitisation.	Support construction companies to collaborate in order to win contracts, through maximisation of existing programmes, catalysing and curating of consortia building and the development of new ones (e.g. CITEC and The Future of Mobility). These activities will help to stabilise and grow the demand pipeline for new work emerging from beyond the COVID-19 crisis.		

3b) People

The Opportunity

The West Midlands is experiencing substantive economic growth, with the construction industry benefitting from multi-billion-pound investment, ranging from HS2 to a Deal with Government to build an additional 215,000 new homes by 2031.

Our ambition is to support and grow a world class construction industry, renowned for its quality, innovation and skills.

By prioritising a series of targeted actions, the WMCA has a stated ambition of delivering more jobs, apprenticeships and career opportunities for communities across the region, ensuring all sections of the community can share in the proceeds of growth.

Providing a skilled, flexible workforce, and matching skills provision with employer demand, will support the successful delivery of current and planned infrastructure investment. Developing a better equipped regional construction workforce will ensure that the West Midlands – including West Midlands residents - is able to maximise opportunities as they arise.

Overview of Current and Planned Work (Pre-Covid, 2018)

Construction Skills Mapping and Gapping

During the last 12 months, the WMCA has been working closely with CITB to identify the size and nature of demand from the construction pipeline. Using the CITB's Labour Forecasting Tool, the CITB analysis (February 2018) looked at new build construction projects. The table below shows a summary of the distribution of projects between the 3 LEP areas.¹

	Black Country	Coventry & Warks	GBS	WMCA 3 LEP
Glenigan Projects Analysed	257	376	600	1233
2018 Spend (£m)	£531	£1,044	£2,287	£3,862
Labour Demand 2018	17,050	35,100	99,750	151,900
Labour Demand 2022	17,500	36,050	102,500	156,050

The CITB analysis also analyses the spend (2018) by project type:

	Black Country	% of total	Cov Warks	% total	GBS	% total	WMCA	% total
New housing	£188m	35%	£558m	53%	£906m	40%	£1652m	43%
Private commercial	£49m	9%	£125m	12%	£573m	25%	£747m	19%
Infrastructure	£130m	24%	£109m	10%	£368m	16%	£607m	16%
Private Industrial	£108m	20%	£151m	14%	£163m	7%	£422m	11%
Public non-housing	£56m	11%	£101m	10%	£277m	12%	£434m	11%
Total	£531m	100%	£1044m	100%	£2287m	100%	£3862m	100%

¹ The following tables are taken from Construction skills gap analysis for the West Midlands Combined Authority area, CITB Feb 2018

When totalled for the Combined Authority area, total construction labour demand, including the volume of Repair & Maintenance is 151,000 workers in construction across various trades and specialisms. The occupations with the greatest demand (2018) are:

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

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

Relative risk of gap by occupation (co-efficient)	
Architects	2.53
Construction project managers	1.87
Plasterers & dryliners	1.82
Floorers	1.75
Painters & Decorators	1.69
Specialist building operatives	1.35
Bricklayers	1.31
Wood trades & interior fit	1.30
Plant operatives	1.30
Roofers	1.25
Scaffolders	1.19
Construction trades supervisors	1.11
Building envelope specialists	1.11
Civil engineers	1.08
Plumbing & HVAC trades	1.06

In addition to the above, in September 2018, HS2 Ltd published its demand analysis of construction demand which suggests that at its peak in 2021/22, a West Midlands workforce of 9,000 will be required across Construction, Management and Design activities. ²

Based on the above intelligence, WMCA with CITB support, have prioritised a number of occupations which:

- **Ideally should be filled with locally sourced labour** (for example the demand for architects can be serviced from other geographies, is low volume and therefore not a priority)
- **Where WMCA and our partners in the learning and education sector have a direct opportunity to deliver change.**

WMCA, with CITB support and consultation among key players in the regional construction industry, have clustered the key risk occupations into the following priority groups, which is already influencing the programmes being delivered through the WMCA's Construction Gateway pilot, funded through the National Retraining Scheme.

1. Construction professionals and technical staff
2. Wood trades / interior fit

² High Speed Two labour and skills demand and supply forecasting and analysis, August 2018

3. Plant Operatives/Fitters & ground works
4. Form work / steel fixers & concrete
5. Bricklayers

Skills Delivery

The CITB analysis looked at employer demand and the pool of available labour which can service this demand in the immediate term.

However, a longer-term analysis of demand and supply necessarily involves taking into account the *future supply of people skilled in construction-related trades*, in other words the output of our education and learning institutions. Preliminary mapping and gapping of construction training provision has already been carried out, based on the ESFA Data Cube and highlighting the number of apprenticeship starts from West Midlands providers to West Midlands residents.

Enrolments on AEB-funded construction provision in 2016/17 were 3,697. This is 6.7% of total AEB enrolments excluding 'Preparation for Work' course components. This suggests a 'gap' in that Construction accounts for 8% of regional GVA and 9% of regional jobs (see above p 4).

A more detailed analysis of demand against supply of Adult Learners, Apprenticeships and Higher Education is one of the key Actions to be undertaken in this Plan. The current regional training offer can be found on www.goconstruct.org

Key Actions

1. **The WMCA will address the region's construction skills shortages - both for now and in the future (exploring especially digital, environmental and safety areas and jobs, and skills for the future and the 'new normal') - through innovative technologies, new collaborations and shared endeavours. Emphasise collaboration across sectors to maximise transferable skills and increase cross sector collaboration.**
 - We will convene a **Construction Skills taskforce**, supported by CITB, which brings together employers representing house building to civil engineers. The taskforce (which met for the first time in October 2018) will provide strategic leadership and guidance and make recommendations to the WMCA Skills Board. The Taskforce will also take forward a number of practical projects among member employers such as a 'guaranteed interview' scheme
 - WMCA will run a series of **Immersion workshops** which focus on the employment clusters outlined above, bringing together employers and providers to address key areas of mutual benefit. Four workshops have already been delivered and the findings and Recommendations collated to be prioritised and formerly considered by the Taskforce.
 - We will leverage the West Midlands **Social Value Policy** and work with Local Authority lead officers to prioritise Section 106 opportunities to work with developers and leverage skills and employment outcomes.
 - We will identify and map the local skills and training pathways in each LEP, providing job seekers with the information, skills and training they need for local job opportunities.
 - We will work closely with employers and learning providers to deliver **Construction Gateway** activity aligned to infrastructure and housing
2. **The WMCA will work with partners, especially CITB, to develop the future skills needed to grow and transform the region's construction industry, particularly digital skills.**
 - In partnership with CITB we will publish the **current training provision** across all trades, professions and levels including Apprenticeships

- We will undertake a comprehensive **mapping and gapping analysis**, focusing on areas where demand is forecast to increase such as digital.
 - We will establish clear **progression pathways** through technical and higher education, helping learners and employers to better navigate the skills system and benchmark learner progress.
 - We will work with Further and Higher Education to create a regional Higher-Level Apprenticeship offer
 - A **community engagement strategy** will create a regional map of funded provision to engage with hard to reach communities and promote opportunities in the construction sector.
- 3. Work with partners across sectors and disciplines to develop and spearhead new skills and training models of delivery where required which respond to industry demand. In doing so, create use cases and continuous learning that feeds into skills and training content and delivery.**
- We will establish a stakeholder group and a project plan for the implementation of **T Levels** for 16-18 year olds from 2020
 - We will continue to support the development of an **Institute of Technology** based at Dudley College, building on the Centre for Advanced Building Technologies
 - We will engage with the Housing and Regeneration team to ensure that skills proposals are aligned to the **Brownfield strategy** for remediation and sustainable housing
 - We will support and where applicable respond to **CITB commissions/ pilots** to address the region's construction skills gaps.
 - Harnessing the potential of already established and successful models of delivery such as **Black Country Skills Factory**.
- 4. The WMCA will promote high quality careers and opportunities across the region's construction industry, utilising activity like GoConstruct and the Careers & Enterprise Company. Focus on current industry and wider economic and societal needs, but also have an eye on the road ahead and the future jobs required.**
- We will **promote better linkages** between existing initiatives including CITB's Go Construct, Prince's Trust Get into programme and WMCA sponsored initiatives.
 - Create a collaboration plan with CITB linked to the development of a set of actions focused on **improving the image of construction** and promoting careers to a wide range of people across all ages.
 - We will establish a project plan that supports high quality **Industry/Work Experience** placements through all provision from schools through to T Levels.
 - Maximising **Careers and Enterprise Company** activity within construction by enticing more industry personnel to engage and provide careers advice in schools.

People – Proposed Interventions by Type

Super-charge	Build	Maintain	Consolidate
The WMCA will work with partners, especially CITB, to develop the future skills needed to grow and transform the region’s construction industry, particularly digital skills.	Address construction skills shortages - both for now and in the future (exploring especially digital, environmental and safety areas and jobs, and skills for the future and the ‘new normal’) - through innovative technologies, new collaborations and shared endeavours. Emphasise collaboration across sectors to maximise transferable skills and increase cross sector collaboration.		Promote high quality careers and opportunities across the region’s construction industry, utilising activity like GoConstruct and the Careers & Enterprise Company. Focus on current industry and wider economic and societal needs, but also have an eye on the road ahead and the future jobs required.
Work with partners across sectors and disciplines to develop and spearhead new skills and training models of delivery where required which respond to industry demand. In doing so, create use cases and continuous learning that feeds into skills and training content and delivery.			

3c) Business Environment

Opportunity

The opportunities for the region’s supply chain through contracts linked with HS2 and beyond are extensive, but challenges faced in the delivery of the current programme have to date not enabled us to take full advantage of these opportunities and provide the right support to regional businesses.

Through improved, proactive engagement with already established businesses or those looking to diversify, and supporting their growth aspirations aligned to real time contract opportunities, we will aim to provide the tangible outcomes that will encourage regional businesses to invest time, resources and funding to support their own business aspirations to secure HS2 and other contracts, whilst also creating an exemplar regional supply chain for the sectors.

The WMCA is uniquely placed to establish a consistent and effective procurement strategy and project management office to drive productivity and skills across a more collaborative and efficient construction supply chain. This will support the development of a long-term integrated supply chain and associated investment in R&D.

A co-ordinated approach to strategic commissioning in the West Midlands, applicable to the rest of the UK, would help deliver the targets set out by the government’s Construction 2025 vision. In addition to this, action to ensure a more coherent and collaborative West Midlands construction

industry could ensure future opportunities are maximised. This activity can complement the WMCA's Social Value policy.

Overview of Current and Planned Activity

Through the three LEPs, the region has local Growth Hubs operating across its entire geography. This combined with membership organisations and industry trade bodies such as the Chambers of Commerce, Federations of Small Business, Institute of Directors, The Civil Engineering Contractors Association (CECA) and The Construction Industry Training Board (CITB) provides an extensive network of engagement bodies that already exist.

Underpinning this, there are numerous business support offers including; access to finance, leadership training, skills programmes and growth support offers. Whilst more work needs to be done to fully understand the impact of these programmes and ensuring they are meeting the needs of the construction industry, we need to acknowledge that there is already an existing network of local interfaces and support offers that could be developed further to support the wider communications and engagement activity that is required for the sector.

Issues

The construction sector has a wide-ranging diverse business support offer which can be confusing to SMEs and the supply chain. Furthermore, there are key awareness issues reflect the industry's fragmented nature. Particular regional business environment challenges for construction include:

- A lack of awareness of the different types of opportunities (e.g. associating HS2 contracts with rail when many contracts are construction-based).
- Limited understanding of contract requirements at tender stages.
- Regional businesses not being compliant or contract ready for projects such as HS2.
- A reluctance to invest in training, certifications etc without contract certainty.
- Limited resources (people) available through existing business support infrastructure

Importantly, a further challenge has also been identified in relation to engagement activity with larger suppliers/Tier 1s, insomuch as the region's geography and many business support partners are too vast and complex for contractors to engage with on a one to one basis. They are not resourced to carry out such roles and struggle to understand the various layers of governance and accountability. In parallel to this the regional business support partners (Growth Hubs and Chambers) are also either not set up or resourced to take on account manager type roles like this.

On procurement, the public sector commissions 50% of construction capital spend yet does so in such a way that increases outturn uncertainty, and limits long term investment in skills and innovation – reducing social value impacts and increasing inflationary risk. Whilst short-term procurement hampers investment in skills and innovation, long-termism enables investment in facilities and R&D. Traditional commissioning and procurement is holding the West Midlands construction sector back.

Potential Solutions

Provide a scaled-up contractor account management resource for maximising the impact of key projects

Within the WMCA HS2 programme team, account management has been provided to the region's Tier 1 HS2 joint ventures (JVs). In line with the aspirations of the WMCA HS2 Growth Strategy, the programme team have acted as a single point of contact for all HS2 enquiries. Working closely with

contractors who are onsite is where real value can be achieved, and there's an opportunity to extend this activity within and beyond HS2.

Projects like HS2 are driving the requirements and standards of construction companies throughout the value chain. For example, for an organisation to tender for a HS2 supply chain opportunity, they require:

- Company registration(s), track record, key employees, staff, finances and references
- Professional standing
- Insurances
- Health and safety management
- Environmental management
- Quality management
- Competency around BIM (Building Information Management)
- Approach to responsible procurement
- Certain policies including Equality, Diversity & Inclusion, modern slavery
- Education, Employment and Skill
- Sustainability, innovation and collaboration

If the WMCA is to maximise the opportunities available to its region's supply chain through HS2, then it is imperative that businesses are supported to become 'HS2 Ready'. Working closely with major regional contractors through an accelerated account management function, the requirements for winning contracts need to be clearly communicated to local business with dedicated support developed where gaps or further support is required. Contracts are already being made available and regional businesses need to have not only the understanding of what will be required from them but the support to achieve and evidence these necessary certifications, standards, and competencies. This extended support offer will evolve as our construction sector bids for major projects regionally, nationally and globally. HS2's immediate importance and opportunity means it's a current driving force for improvements across the construction sector, but making regional supply chains more proficient and productive can have a long-lasting effect on success.

Not only will this account management function strengthen the competitiveness of West Midlands businesses, but has the potential to improve longevity of employment, quality of life, increased productivity and reduced sick pay through a workforce that is available to work.

Map and raise further awareness of construction sector business support products, filling gaps with new projects where required. Interact with other sector ecosystems to exchange best practice and maximise coordination under the new normal. Engage businesses with the Productivity Factory. Connect struggling firms to help and resources during COVID-19.

A mapping exercise will ensure a clearer understanding of all the construction business support products available to West Midlands firms. Furthermore, outlining all that is available will ensure awareness raising becomes easier. The objective of this should be a dedicated effort from Growth

Hubs and Chambers (and others) to communicate the offers available to businesses, many of them free – for example the Supply Chain Sustainability School and Meet the Buyer events. Additionally, where gaps in support are identified by industry, partners can work together to develop new projects and programmes. One example of this might be a mentoring type scheme like the Rail Mentoring Scheme ran by the Rail Alliance – endorsed by HS2.

Better align business support and skills support within the industry

A closer relationship between business support and skills support is required. Ensuring construction firms access both of these often requires a hook, such as HS2 contract opportunities. Business support and tender events could include communication around skills support, including products such as the Black Country Skills Factory.

Advocate more intelligent commissioning and procurement across the region, including adhering to the WMCA's new Single Commissioning Framework (SCF)

Evidence shows that improved performance can be achieved through better procurement approaches. There is also compelling evidence that a fragmented project-based approach to delivery is slow and costly, and that there are significant benefits from aggregation into a programme approach, enabling development of integrated teams, investment in skills, research and development and plant and equipment. Companies in other sectors who have adopted collaborative approaches to procuring services and suppliers have reported substantial improvements in the performance of their projects and the bottom-line of their business.

To implement this in construction will require a change to the current commissioning and procurement approach, towards long term programmes of work with a clear focus on the wider desired outcomes, not just the capital cost of construction (e.g. whole life (including operational) costs and local social / economic benefits delivered through the construction phase). The WMCA's newly developed Single Commissioning Framework (SCF) – which went live in April 2019 - can catalyse the change needed within housebuilding.

Having demonstrated that a scheme delivers on one or more key outputs (e.g. new housing, brownfield land remediation), the SCF then proposes that investment will only be made in schemes that can clearly demonstrate all of the following:

- That funding is not available from other sources at reasonable rates or on terms commensurate with the speedy delivery of development; and where the investment sought will also be required to be an acceptable balance of risk and reward to the WMCA.
- Enhanced standards of design and quality and contribution to wider placemaking.
- For schemes including housing delivery: the greater of LPA policy compliant levels of affordable housing; or a minimum of 20% subject to the availability of Homes England social housing grant where this is proved necessary.
- Appropriate densities to support placemaking including enhanced densities of residential development at public transport nodes, along public transport corridors and in town and city centres.

The SCF proposes that investment will be prioritised into schemes which achieve WMCA '**Inclusive Growth**' objectives; and deliver the following as appropriate:

- Unlock brownfield land.
- Achieve delivery using Advanced Methods of Construction.
- Create/enhance value in lower value areas.
- For schemes involving housing, ensure that the majority of homes are occupied as principle private residences.

- For commercial schemes, deliver a component of quality, affordable space to encourage SME business growth.
- Maximise job densities.

The SCF should define more effective and beneficial commissioning and procurement in the region. Its adherence should be encouraged by the WMCA across the region to ensure a widespread impact. A similar model should be followed for other procurement, particularly related to transport infrastructure and commercial buildings – these will have different requirements to housebuilding but the WMCA and local partners still have a vital role to play in encouraging more effective and efficient procurement in the sector.

The WMCA and industry should also continue to explore wider solutions to improve procurement systems, such as CITB’s ‘Improving performance through better procurement approaches’ commission.

Business Environment – Proposed Interventions by Type

Super-charge	Build	Maintain	Consolidate
Advocate more intelligent commissioning and procurement across the region, including adhering to the WMCA’s new Single Commissioning Framework (SCF). Focus on connecting industries and supply chains to meet triple bottom line goals of economy, environment and society. Champion fair business practices.			Map and raise awareness of sector business support products - filling gaps where required and better aligning with skills support. Interact with other sector ecosystems to exchange best practice and maximise coordination under the new normal. Engage businesses with the Productivity Factory. Connect struggling firms to help and resources during COVID-19.
Provide a scaled-up contractor account management resource for maximising the impact of key projects – particularly HS2, Commonwealth Games and the Housing Deal. Opportunities provided for companies from all tiers.			Better align business support and skills support within the industry

3d) Infrastructure

Opportunity

WMCA and local authorities across the region share support for the highest aspirations for creating great places for local residents and for design quality in new developments including ways in which development can promote good health and healthy living. A well-coordinated and vibrant construction sector will allow the West Midlands to indigenously deliver the exciting infrastructure planned, for the benefit of local communities.

Overview of Current and Planned Activity

Spatial Investment Delivery Plan (SIDP): The WMCA's SIDP seeks to set out the requirement for the right quality of development in the right places, with the right supporting infrastructure. The SIDP aims to secure higher quality, higher density and more innovative housing delivery solutions than have been seen before in this region. This comprehensive and coordinated approach is the only way to meet the challenge of accelerating the pace of development in the West Midlands.

The SIDP responds directly to the work of the Land Commission and the shared work of the local authorities in the region on a Land Delivery Plan which has successfully unlocked significant additional government resources through the Devolution deals and the Housing Deal.

Issues

In some areas of the West Midlands, there's a lack of high-quality sites and availability of facilities, to be used for both housing and employment. Additionally, the demand for a more energy efficient and green society continues to rise; the construction of homes and other buildings in an environmentally-friendly way is a crucial part of delivering this.

The shift towards more offsite construction (through AMC) will create greater demand on road networks as more building components are transported around the region. This requires a holistic approach to the importance of ensuring effective delivery by the logistics sector, preparing roads for greater freight demand.

Potential Solutions

Logistics

The construction sector can learn from manufacturing to implement lean and streamlined logistics processes that optimise product delivery and productivity. Incorporating a 'just-in-time' style system into the construction value chain will become essential as the uptake of AMC becomes more and more frequent. Getting construction companies to integrate manufacturing thinking into their business model will be crucial to the success of AMC and its supporting logistics. This will require knowledge sharing, greater collaboration and an awareness of the transformative shift in the industry – so that businesses adjust their attitudes and behaviours accordingly.

Land Initiatives

The WMCA will work with local authorities to develop a new Design Charter building on existing best practice from the region and beyond. All schemes will be expected to meet the standards in the Charter to qualify for WMCA investment.

The region should look to lead the way on brownfield land remediation by maximising the new National Brownfield Institute (NBI) in Wolverhampton engaging in national and international communities of practice to maximise reach and reputation. This work develops an institute that builds upon expertise already present at Wolverhampton University and grows it into a national vanguard of innovation that will unlock construction developments and cross-sector opportunities nationwide.

Energy availability and efficiency

Energy efficiency and carbon neutrality are likely to be a significant force for change and there will be a move towards energy conservation and efficiency of use. There will be increased emphasis on air-tightness and hence on quality of construction. On new-build, this may in turn encourage greater prefabrication, panelised construction, and growth of off-site production. There will be increased

emphasis – albeit to a varying degree – on improving the energy efficiency of the existing building stock, as well as that of newbuild. These activities will require new skills and the need to locally train designers, builders and installers for low-carbon heating, energy and water efficiency, ventilation and thermal comfort, and property-level flood resilience.

Importantly, the region needs to ensure power supplies are at the right level to support the major investments being carried out; the trend of electric vehicles will further put pressure on energy demand. Government should provide backing to the proposals set out in the West Midlands Regional Energy Commission which will address the energy supply challenge, benefitting certainty in the construction industry.

Infrastructure – Proposed Interventions by Type

Super-charge	Build	Maintain	Consolidate
Work with the sector to encourage construction companies to integrate manufacturing thinking into their business model, particularly crucial to the supporting logistics of AMC.	The WMCA will work with local authorities to develop a new Design Charter building on existing best practice from the region and beyond		
Lead the way on brownfield land remediation by maximising the new National Brownfield Institute (NBI) in Wolverhampton engaging in national and international communities of practice to maximise reach and reputation.	Provide focus and investment for increasing energy efficiency within infrastructure, contributing to a whole system approach to integrating embodied and operational decarbonisation and continue to lobby Government on the priorities set out by the Regional Energy Commission		

3) Proposed Interventions/Actions

3a) Construction Supercharge Actions across Foundations

Ideas	People	Business Environment	Infrastructure
Encourage and guide investment in digital, accelerating the use various regional strength, assets and innovation initiatives in digital and construction technologies including BIM and 5G.	Address construction skills shortages - both for now and in the future (exploring especially digital, environmental and safety areas and jobs, and skills for the future and the 'new normal') - through innovative technologies, new collaborations and shared endeavours. Emphasise collaboration across sectors to maximise transferable skills and increase cross sector collaboration.	Provide a scaled-up contractor account management resource for maximising the impact of key projects – particularly HS2, Commonwealth Games and the Housing Deal. Opportunities provided for companies from all tiers.	Provide focus and investment for increasing energy efficiency within infrastructure, contributing to a whole system approach to integrating embodied and operational decarbonisation and continue to lobby Government on the priorities set out by the Regional Energy Commission
Utilise the region's advanced manufacturing cluster to build a Modern Methods of Construction (MMC) specialism in the West Midlands, uniting WM-wide AMC capabilities, NBI research, MTC/CIH, Homeworld and engagement with the CLC on innovating and developing capacity and skills in productivity and digitisation.	The WMCA will work with partners, especially CITB , to develop the future skills needed to grow and transform the region's construction industry, particularly digital skills.	Map and raise awareness of sector business support products - filling gaps where required and better aligning with skills support. Interact with other sector ecosystems to exchange best practice and maximise coordination under the new normal. Engage businesses with the Productivity Factory. Connect struggling firms to help and resources during COVID-19.	Lead the way on brownfield land remediation by maximising the new National Brownfield Institute (NBI) in Wolverhampton engaging in national and international communities of practice to maximise reach and reputation.
The WMCA will develop an appropriate and effective definition of AMC that delivers efficiency beyond traditional building techniques and provides real additionality to current housing supply	Work with partners across sectors and disciplines to develop and spearhead new skills and training models of delivery where required which respond to industry demand. In doing so, create use cases and continuous learning that feeds into skills and training content and delivery.	Better align business support and skills support within the industry	Work with the sector to encourage construction companies to integrate manufacturing thinking into their business model, particularly crucial to the supporting logistics of AMC
Maximise the potential of the developing National Brownfield Institute in Wolverhampton within the emerging Springfield campus development.	Promote high quality careers and opportunities across the region's construction industry, utilising activity like GoConstruct and the Careers & Enterprise Company. Focus on current	Advocate more intelligent commissioning and procurement across the region, including adhering to the WMCA's new Single Commissioning Framework (SCF). Focus on connecting industries and supply chains	The WMCA will work with local authorities to develop a new Design Charter building on existing best practice from the region and beyond

	industry and wider economic and societal needs, but also have an eye on the road ahead and the future jobs required.	to meet triple bottom line goals of economy, environment and society. Champion fair business practices.	
Support construction companies to collaborate in order to win contracts, through maximisation of existing programmes, catalysing and curating of consortia building and the development of new ones (e.g. CITEC and The Future of Mobility). These activities will help to stabilise and grow the demand pipeline for new work emerging from beyond the COVID-19 crisis.			

DRAFT

4) Full List of Proposed Interventions

IS Foundation	Proposed Intervention	Strategic Opportunity
Ideas	1 Encourage and guide investment in digital, accelerating the use various regional strength, assets and innovation initiatives in digital and construction technologies including BIM and 5G .	  
	2 Utilise the region's advanced manufacturing cluster to build a Modern Methods of Construction (MMC) specialism in the West Midlands, uniting WM-wide AMC capabilities, NBI research, MTC/CIH, Homeworld and engagement with the CLC on innovating and developing capacity and skills in productivity and digitisation.	 
	3 The WMCA will develop an appropriate and effective definition of AMC that delivers efficiency beyond traditional building techniques and provides real additionality to current housing supply	 
	4 New funding to support a suite of AMC factories in the region, make the West Midlands the AMC centre of excellence in the UK and provide the industry with an AMC pipeline on sites that have previously been designed around traditional methods of construction	 
	5 Maximise the potential of the developing National Brownfield Institute in Wolverhampton within the emerging Springfield campus development.	 
	6 Support construction companies to collaborate in order to win contracts, through maximisation of existing programmes, catalysing and curating of consortia building and the development of new ones (e.g. CITEC and The Future of Mobility). These activities will help to stabilise and grow the demand pipeline for new work emerging from beyond the COVID-19 crisis.	 
People	7 Address construction skills shortages - both for now and in the future (exploring especially digital, environmental and safety areas and jobs, and skills for the future and the 'new normal') - through innovative technologies, new collaborations and shared endeavours, via the delivery of Construction Gateway for example. Emphasise collaboration across sectors to maximise transferable skills and increase cross sector collaboration.	
	8 The WMCA will work with partners, especially CITB , to develop the future skills needed to grow and transform the region's construction industry, particularly digital skills.	 
	9 Work with partners across sectors and disciplines to develop and spearhead new skills and training models of delivery where required which respond to industry demand. This includes supporting the development of an Institute of Technology in Dudley.	 
	10 Promote high quality careers and opportunities across the region's construction industry, utilising activity like GoConstruct and the Careers & Enterprise Company . Focus on current industry and wider economic and societal needs, but also have an eye on the road ahead and the future jobs required.	  

Business Environment	<p>11 Provide a scaled-up contractor account management resource for maximising the impact of key projects – particularly HS2, Commonwealth Games and the Housing Deal. Opportunities provided for companies from all tiers.</p>	
	<p>12 Map and raise awareness of sector business support products - filling gaps where required and better aligning with skills support. Interact with other sector ecosystems to exchange best practice and maximise coordination under the new normal. Engage businesses with the Productivity Factory. Connect struggling firms to help and resources during COVID-19.</p>	
	<p>13 Better align business support and skills support within the industry.</p>	
	<p>14 Advocate more intelligent commissioning and procurement across the region, including adhering to the WMCA’s new Single Commissioning Framework (SCF). Focus on connecting industries and supply chains to meet triple bottom line goals of economy, environment and society. Champion fair business practices.</p>	
Infrastructure	<p>15 The WMCA will work with local authorities to develop a new Design Charter building on existing best practice from the region and beyond.</p>	
	<p>16 Provide focus and investment for increasing energy efficiency within infrastructure, contributing to a whole system approach to integrating embodied and operational decarbonisation and continue to lobby Government on the priorities set out by the Regional Energy Commission.</p>	
	<p>17 Lead the way on brownfield land remediation by maximising the new National Brownfield Institute (NBI) in Wolverhampton engaging in national and international communities of practice to maximise reach and reputation.</p>	
	<p>18 Work with the sector to encourage construction companies to integrate manufacturing thinking into their business model, particularly crucial to the supporting logistics of AMC.</p>	