

## WMCA Housing & Land Delivery Board

<b>Date</b>	30 September 2019
<b>Report title</b>	Modern Methods of Construction: Update and Next Steps
<b>Portfolio Lead</b>	Councillor Mike Bird
<b>Accountable Employee</b>	Gareth Bradford, Director of Housing & Regeneration, WMCA Patricia Willoughby, Head of Policy (Housing & Regeneration) (Senior Reporting Officer), WMCA Rachel-Ann Atterbury, Report Author, WMCA
<b>Report has been considered by</b>	Housing & Land Delivery Steering Group (11.09.2019)

### Recommendation(s) for action or decision:

#### The Housing and Land Delivery Board is recommended to:

- a) Note progress in developing a vision, routemap and strategy for Modern Methods of Construction ('MMC').
- b) Note WMCA will seek to secure additional technical and industry expertise to support this agenda through:
  - o The appointment of a dedicated MMC programme manager
  - o Creation of an MMC Expert Advisory Panel
- c) Agree the proposal to be an early adopter of MHCLG's MMC definition framework in the West Midlands.
- d) Subject to agreement to the above, agree the proposal to move towards a pre-qualification requirement for use of MMC categories 1 and 2 in new developments that are coming forward through the Single Commissioning Framework.

### 1.0 Purpose

- 1.1 The purpose of this paper is to provide an update on work to date on the Modern Methods of Construction programme in the West Midlands and next steps to December 2019. Additionally, this paper proposes some immediate actions to accelerate the uptake of MMC in the West Midlands, including the adoption of an MMC definition and target.

## **2.0 Background**

- 2.1 The Land Commission identified the need to accelerate housing delivery in the West Midlands to meet targets set out in the Housing Deal and Strategic Economic Plan, and highlighted the role that advanced construction technologies could play in achieving this. WMCA have since committed to increasing the uptake of advanced construction technologies in WMCA's 2019/2020 Annual Plan.
- 2.2 Precedent has already been set within the region - a number of Local Authorities have already adopted or are piloting modular build for social housing stock. Several housing associations and some private developers (notably in the Commonwealth Games Village) have already started deploying MMC on specific projects and are committed to further uptake. Additionally, under the SCF, WMCA have already invested in and are currently supporting a number of schemes that are committed to using modular construction methods.
- 2.3 Furthermore, the region has already committed to increasing uptake of Advanced Manufacturing and maximising new enhanced digital connectivity to drive innovation and productivity in the construction sector as part of the Industrial Strategy and emerging Construction Sector Action Plan.
- 2.4 Nationally, government are also prioritising MMC for residential development, by using its spending to drive a presumption in favour of off-site construction and incorporating MMC KPIs into MHCLG and Homes England funding decisions. This is a significant commitment on the part of central government and could provide the opportunity for WMCA to access additional funds.
- 2.5 Additionally, MHCLG is already undertaking work to support the mortgage finance, insurance and valuation communities in better understanding and supporting use of MMC in residential development. This has included the development of a 'definition framework' (Appendix 1) which identifies 7 MMC categories across a spectrum, from homes built entirely off-site to improved on-site processes. This definition framework will also be used by Homes England within their procurement framework.
- 2.6 Further information on the rationale behind WMCA's MMC Programme and work to date is included in Appendix 1 and Table 1.

## **3.0 Next Steps**

- 3.1 To avoid replicating work already coming out Government, it is suggested WMCA focuses on addressing the issues surrounding supply and quality as opposed to those around financing and warranties.
- 3.2 Due to its technical nature, designing a robust routemap and strategy to drive up MMC supply will require a significant amount of time and industry knowledge. For this reason, WMCA will seek to bring in a dedicated programme manager over Autumn/Winter 2019, with knowledge of the MMC market and its specific challenges.

- 3.3 In the meantime, it is important that WMCA takes immediate steps to ensure MMC becomes both the industry and consumer choice as soon as possible and make good early progress on delivering the Local Industrial Strategy. Based on soft market research in the region, and the work of Homes England and the Greater London Authority's on this agenda, It is proposed that WMCA could demonstrate its commitment to MMC by working towards a pre-qualification requirement for its use in those sites and developments in which it intervenes.
- 3.4 Through the Single Commissioning Framework, WMCA could begin to test a minimum MMC target across developments in which it intervenes. This would mean that WMCA could encourage and test the appetite for MMC immediately whilst developing more robust policy throughout Autumn and Winter this year. This target should be ambitious but also reflect what is currently achievable in the region.
- 3.5 It is suggested that WMCA adopt MHCLG's Definition Framework when implementing this target to limit confusion around the definition of MMC. This will ensure WMCA's MMC strategy aligns with work in MHCLG around financing and warranties, as well as with work by Homes England who also use the framework. Using this framework, WMCA can prioritise types of MMC based upon its housing and wider regeneration ambitions.
- 3.6 Based on previous conversations with investors and developers, it is understood that WMCA could feasibly enable increased uptake of MMC under the SCF process, initially through its commissioned partnerships and tailored conversations. It is suggested that WMCA work towards a pre-qualification requirement within the Single Commissioning Framework for 20% of units to utilise MMC as described in categories 1 and 2 of the MMC definition framework. For the purposes of simplicity, these categories cover volumetric and advanced panellised systems. WMCA will monitor and evaluate the impact of any requirement for MMC in practice on specific schemes.
- 3.7 To ensure WMCA can sufficiently assess the impact of the pre-qualification requirement on viability and pace of delivery, it would likely to be beneficial to undertake a phased implementation period. It is suggested that, initially, the requirement would only apply to large sites (200 units+). WMCA could then seek to expand the requirement to smaller sites, subject to its effect on the market and MMC uptake. This approach would provide sufficient certainty of investment to the MMC supply chain and developers, as well as clarity on WMCA's definition and use of MMC whilst ensuring its approach does not prevent new development.
- 3.8 To support or implement this work, WMCA is therefore planning to:
- Produce an MMC Strategy (to be commissioned by the end of September 2019 with anticipated completion date of end of December 2019) – this will broadly follow the presentation produced by Mark Farmer and given at the meeting on 11<sup>th</sup> September 2019. It is likely to focus on driving innovation, quality, skills and employment and securing a pipeline for MMC in the West Midlands.

- Convene an MMC Expert Advisory Panel, to help drive the MMC programme, offer technical expertise and insight as well as acting as a critical friend to the definition, emerging strategy and routemap.
- Continue discussions with development partners (private sector and housing associations) to incorporate and support uptake of MMC into new projects.
- Identify a series of MMC principles, based upon the emerging strategy, which could inform discussions under the SCF process and support the MMC target.

## **6. Financial Implications**

- 6.1 Any additional costs arising from the appointment of specific MMC resource will be met through existing resource.

## **7. Legal Implications**

- 7.1 Section 113A(1)(a) of the Local Democracy, Economic Development and Construction Act 2009 gives the CA a power of competence appropriate for the purposes of carrying-out any of its functions. Part 4 of The West Midlands Combined Authority Order 2016 (2016 No 653) confers that the functions relating to any Economic development and regeneration in the constituent councils are exercisable by the CA. Part 3 of The West Midlands Combined Authority (Functions and Amendment) Order 2017 confers functions corresponding to the functions of the Homes and Communities Agency has in relation to the combined area. Paragraph 10 (2) (a) of the 2017 Order confers the function of improving the supply and quality of housing to the Combined Authority, 10 (2) (b) to secure the regeneration or development of land or infrastructure in the combined area, 10 (2)(c) to support in other ways the creation, regeneration or development of communities in the combined area or their continued well-being and 10 (2)(d) confers the function of contributing to the achievement of sustainable development and good design.
- 7.2 It is suggested that the requirements for MMC be included in the Pre- Qualification Criteria and the Legal Team will advise further if and when required

## **8. Equalities Implications**

- 8.1 There are no direct equalities implications as a result of this report.

## **9. Inclusive Growth Implications**

- 9.1 The proposals themselves are neutral in terms of inclusive growth. However, implications may arise through the development of the vision, strategy and routemap in terms of who benefits from their application. As such, they should be devised with responsibility to deliver inclusive growth.

## **10. Geographical Area of Report's Implications**

- 10.1 The proposed MMC target, vision, routemap and strategy would be used to guide WMCA investment decisions across the whole geography of the WMCA area, including the 3 LEPs and non-constituent Member authorities.



**West Midlands**  
Combined Authority

**11. Other Implications**

11.1 There are no other implications.

**12. Schedule of Background Papers**

12.1 There are no background papers.

## Appendix 1

### 1.0 Rationale

1.1 WMCA recognises that its ambitious housing targets and Local Industrial Strategy goals cannot be met through traditional construction methods alone, and that MMC could support the delivery of high quality housing at pace and scale and, in particular, expedite build out on development sites. The potential advantages of adopting MMC include:

- Accelerated delivery, achieved through faster build out
- Predictability of the build out programme and reduced weather-related delays
- Improved quality, delivered through a factory-controlled environment with consistent processes
- Certainty of cost, quality and timescale at programme start due to consistent processes
- ‘Cleaner’ construction careers, providing opportunities in multi-skilled disciplines with improved health and safety conditions.
- Improved whole life efficiency, user comfort and costs, enabling housing to make a sizeable contribution to wider energy and environment ambitions

1.2 Despite these advantages, a number of challenges to widespread adoption of MMC remain, including:

- Lack of discernible pipeline, limiting continuity of supply and adding risk to upfront investment in MMC technologies
- Lack of volume, continuity of demand and standardisation, across products and amongst buyers, make it difficult to achieve and benefit from economies of scale
- Lack of standardisation and limited supply leading to increased development risk
- Limited guidance applying directly to MMC and MMC qualifications
- Potential loss of demand for traditional construction skills and, simultaneously, the need to resource a new construction sector.

1.3 Addressing these barriers will be key to achieving WMCA’s target of 215,000 new homes by 2031 and the strategic goals of the Construction Sector Action Plan. However, MMC and advanced construction technologies should not be seen as a distinct approach to or replacement for traditional methods of construction. Rather, they provide an opportunity to bridge the gap between what the construction industry currently delivers and the output the West Midlands needs alongside maximising the benefits of the 5G construction cluster and cross-cutting digital agenda of the Local Industrial Strategy.

### 2.0 Understanding MMC in the region

2.1 WMCA have already taken steps to understand MMC uptake and the private sector position in the West Midlands. An Advanced Methods of Construction Advisory Panel was established in September 2018 to support a mapping of current and emerging capability in the West Midlands, to advise WMCA on emerging strategy and to provide

expert private sector input into the development of an agreed definition of current market-led terminology.

- 2.2 Additionally, work was undertaken to understand the unique opportunity presented in the West Midlands to embrace new construction technologies and skills, including the Skills Agreement and Construction Gateway, National Brownfield Institute and Springfield Campus, Dudley College and existing suppliers. Additionally, the Industrial Strategy identifies a number of areas to use construction as a key lever for economic growth, including encouraging diversity and new entrants into the market and accelerating the use of innovative processes.

### **3.0 Reviewing work undertaken elsewhere**

- 3.1 MMC is not a new term but has existed in various forms for a number of years. Already, a significant amount of research has been undertaken by government and industry bodies. WMCA can learn from others' research and practice when designing a vision, plan and delivery programme. A number of key documents are summarised in Table 1 (Research Review).

Table 1 – Research Review

Document	Publisher	Identified Benefits	Identified Drawbacks	Barriers to uptake	Recommendations
<a href="#">Modern Methods of Construction</a> (2006)	HBF	<ul style="list-style-type: none"> <li>- Greater business efficiency</li> <li>- Enhanced design and quality</li> <li>- Improved customer satisfaction</li> <li>- Enhanced building performance</li> <li>- Increased housing supply</li> <li>- Enhanced environmental performance</li> </ul>	<ul style="list-style-type: none"> <li>- Difficult to achieve economies of scale due to uncertainties including changing planning policy, approval process and land supply</li> <li>- Inadequate certification process that limits innovation</li> </ul>	<ul style="list-style-type: none"> <li>- Inflexibility – on site, in demand patterns, design requirements</li> <li>- Regulatory complexity and change not suited to MMC</li> <li>- Different training and certification needs</li> <li>- Building regulations prescriptive, not performance-based</li> </ul>	<ul style="list-style-type: none"> <li>- Guidance and training to increase awareness of benefits, advantages and necessary skills across industry</li> <li>- Develop testing methods for MMC and promote as best practice</li> <li>- Develop an objective, industry-wide approach for assessing business cases</li> <li>- Develop a mechanism for whole project costing that provides cost basis and performance benchmarking</li> <li>- Develop a mechanism to assess and quantify risk with accompanying accredited standard</li> </ul>
<a href="#">Farmer Review: 'Modernise or Die'</a> (2016)	CLC	<ul style="list-style-type: none"> <li>- Faster build programme</li> <li>- Time predictability</li> <li>- Improved quality</li> <li>- Reduced long-term cost</li> <li>- Easier operation and maintenance (build to rent)</li> </ul>	<ul style="list-style-type: none"> <li>- Appetite for new approaches may wane if labour market improves and build costs reduce</li> </ul>	<ul style="list-style-type: none"> <li>- Funders continue to see MMC has carrying added risk</li> <li>- Non-collaborative culture in industry (focus on lowering immediate cost rather than long term innovation and cost-reduction)</li> <li>- Lack of scale and capacity in current market</li> </ul>	<ul style="list-style-type: none"> <li>- Implement a strategic level direct investment/building programme for MMC homes</li> <li>- Work with Registered Providers to deliver/co-invest in an Affordable Housing programme more specifically linked to influencing innovation</li> <li>- Investment in the private rented sector linked to influencing innovation</li> </ul>
<a href="#">Modern Methods of Construction – Views from the Industry</a> (2016)	NHBC	<ul style="list-style-type: none"> <li>- Faster build programme</li> <li>- Improved build quality</li> <li>- Improved health and safety</li> <li>- Improved site efficiencies</li> <li>- Reduced cost</li> <li>- Reduced site waste</li> <li>- Addresses construction skills shortage</li> </ul>	<ul style="list-style-type: none"> <li>- Reduced costs, improved cashflow and faster sales revenues only identified in strong sales markets</li> <li>- Less flexibility for on-site design changes (early freeze)</li> <li>- Supply chain capacity and choice of suppliers</li> <li>- Need for more comprehensive procurement planning</li> </ul>	<ul style="list-style-type: none"> <li>- Unfamiliar methods</li> <li>- Increased capital cost</li> <li>- Lack of suppliers</li> <li>- Buyer reactions</li> <li>- Lack of sub-contractor skills</li> <li>- Supplier's inability to meet delivery programme</li> </ul>	<ul style="list-style-type: none"> <li>- Share best practice case studies and cost/benefit models</li> <li>- Encourage suppliers to enter market and improve their knowledge of house-building sector</li> <li>- Grant or subsidy-funded development</li> </ul>
<a href="#">Modern Methods of Construction – Who's doing what</a> (2018)	NHBC	<ul style="list-style-type: none"> <li>- Better quality</li> <li>- Improved efficiency</li> <li>- Accelerated delivery</li> <li>- Increased productivity</li> <li>- Addresses labour/skills shortage</li> <li>- Sustainability</li> </ul>	<ul style="list-style-type: none"> <li>- Supply-side constraints, particularly concerns about procurement and continuity of supply</li> </ul>	<ul style="list-style-type: none"> <li>- Procurement challenges</li> <li>- Manufacturing capacity</li> <li>- Unsuitable for planning system</li> <li>- Lack of funders/lenders</li> <li>- Mortgageability</li> <li>- Skills shortage</li> </ul>	<ul style="list-style-type: none"> <li>- Note number of firms looking to make investment or co-investment in a factory (24%)</li> <li>- Note impact of Brexit on labour supply as a likely driver of uptake.</li> </ul>