

Housing & Land Delivery Board

Date	27 April 2020
Report title	Advanced Manufacturing in Construction (AMC): Update and future work programme
Portfolio Lead	Councillor Mike Bird, Leader, Walsall Council
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Report has been considered by	Delivery Steering Group, 8 April 2020

Recommendation(s) for action or decision:

The Housing & Land Delivery Board is asked to:

- 1) **Note** the AMC pre-qualification requirement is within the Single Commissioning Framework as amended (April 2020)
- 2) **Agree** the future programme of work on AMC and specific deliverables including the proposal to bring an AMC Charter to Board in Summer 2020, followed by a full AMC strategy by the end of the year.

1.0 Purpose

- 1.1 The purpose of this paper is to update the Housing & Land Delivery Board on progress in implementing the decisions made by the Board on 15 January 2020 regarding its Advanced Manufacturing in Construction (AMC) Programme; specifically, the decision to move towards mainstreaming AMC on sites coming through the Single Commissioning Framework for WMCA investment and the decision to produce a new regional AMC strategy and routemap.

2.0 Background

- 2.1 WMCA committed to increasing the uptake of advanced construction technologies in WMCA's 2019/2020 Annual Plan in response to the findings of the West Midlands Land Commission and national 'Farmer Review of Construction Skills' which highlighted the role that advanced construction technologies could play in accelerating housing delivery.
- 2.2 At the 15 January 2020 meeting, the Housing & Land Delivery Board received an update on the work on AMC in the region. The Board endorsed a programme of work and series of AMC principles (Appendix 1) to support the implementation of the pre-qualification criterion¹. This included agreement to the development of a routemap and strategy. The rationale for the routemap is addressed in detail in Appendix 2, but the primary purpose is to ensure that AMC delivers not only numbers, but social value, inclusive growth and environmental benefits.
- 2.3 Since the January meeting, conversations through the Officer working group, with suppliers and with the skills sectors, have sought to identify the main challenges, risks and opportunities around implementing our bold AMC ambition in the West Midlands. Based on these conversations, a project execution plan for delivering the strategy and routemap has been produced.
- 2.4 The broad contents of the AMC routemap are discussed in the following sections of this report and the Board are recommended to agree these.

3.0 Proposed Structure and Contents

- 3.1 Through the routemap, WMCA will seek to understand the extent to which AMC could and should deliver additionality as prescribed by the Housing Deal and in recent business cases to Government for further brownfield funding. This would be used to inform deliverable action plans that balance the long term ambition for AMC, with the pragmatic short-term actions required to meet the 2031 housing target.
- 3.2 To ensure that the routemap is accessible to those less familiar with the AMC sector, but robust enough to inform credible actions, a two-part structure is proposed:
 - An Executive Summary - which would be a standalone, focussed and accessible document. The summary would broadly address the opportunities and challenges provided by AMC, and the key strategic and policy drivers for the West Midlands. As well as this, it would suggest short, medium and long term actions, with recommended next steps.

¹ 20% units on large sites (>200 units) to utilise categories 1 and 2 of MHCLG's definition framework.

- A detailed report – which would underpin the summary, providing a comprehensive evidence base and analysis of the AMC sector in the West Midlands.

3.3 Supporting both parts would be a series of research pieces that seek to clarify the position of the AMC sector at the regional scale and the West Midlands' position in the sector. The main purpose of this research would be to provide a high-level mapping of the West Midlands AMC eco-system and to monitor the effectiveness to date of the AMC requirements in the Single Commissioning Framework.

3.4 Three key research areas have been identified and are detailed below:

- a) An AMC eco-system research review - which would seek to assess existing supply, development, research and skills capacity in the region. This mapping exercise would enable WMCA to both calculate the growth potential of AMC in the region, and to identify how it might differentiate itself from other regions who are undertaking similar work.
- b) An Economic Assessment – which work seek to quantify the impacts of engaging with AMC, including job creation, carbon savings, health and wellbeing improvements and other perceived benefits
- c) An assessment of AMC and construction skills provision – which maps the current provision and scale of jobs and existing businesses and report on the skills and training requirements for expanding the sector.

3.5 The routemap would conclude with both key recommendations and immediate next steps that would enable short term momentum building, medium term capacity building and a long-term vision for AMC in the region.

4.0 Governance arrangements

4.1 Throughout the routemap development process, WMCA will continue to engage the Officer Working Group on a monthly basis, maintaining link to local work and seeking sense checks and challenge on the routemap's recommendations.

4.2 Additionally, WMCA has convened an Expert Advisory Group, chaired by Mark Farmer, which will steer the scope of routemap and provide peer review. This group will meet three times between now and the routemap launch.

5.0 Next steps

- 5.1 Work on the routemap will begin imminently, with a more detailed outline of contents presented for comment at the officer working group in April.
- 5.2 As agreed by the Board in January 2020, officers will revisit the principles and look to form these into a charter that could be released ahead of the full routemap. This will be presented at the next Housing & Land Delivery Board.
- 5.3 A good draft of the routemap will be presented to Housing & Land Delivery Board in July, followed by a final version and later launch in Autumn 2020.

6.0 Financial Implications

- 6.1 There are no direct financial implications from the information contained in the report. The Single Commissioning Framework provides a single set of criteria and governance systems that will be applied to all applications for available devolved WMCA Housing, Land and Property Development funds, together with a consistent process and timelines for decision.
- 6.2 WMCA investment in the proposed Advanced Manufacturing in Construction would be governed and administered through the Single Commissioning Framework, WMCA assurance Framework and in line with the accounting and taxation policies of the WMCA and HMRC

7.0 Legal Implications

- 7.1 Section 113A(1)(a) of the Local Democracy, Economic Development and Construction Act 2009 gives WMCA 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 WMCA. 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 noted that the purpose of this paper is to update the Housing & Land Delivery Board on its decision to move towards mainstreaming AMC on sites coming through the Single Commissioning Framework for WMCA investment and the decision to produce a new regional AMC strategy and routemap. Legal advice should be sought as and when required in the development of the AMC strategy and routemap. Any additional

requirements identified as a result of the research and analysis on the effectiveness of the AMC requirements in the Single Commissioning Framework should be reflected in the relevant funding agreements on a case by case basis through agreed wording.

8.0 Equalities Implications

8.1 There is no equality impact in relation to these reports.

9.0 Inclusive Growth Implications

9.1 The proposed AMC Charter and strategy are intended to increase the availability of good quality housing for all West Midlands residents and provide new employment and upskilling opportunities in the construction sector. As this is a relatively new area of innovation, implementing the strategy in a phased way will give WMCA time to sufficiently understand its inclusive growth impacts and who benefits from these.

10.0 Geographical Area of Report's Implications

10.1 The proposed AMC Charter and routemap would be used to guide WMCA investment decisions across the whole geography of the WMCA area.

11.0 Other Implications

11.1 There are no other implications.

12.0 Schedule of Background Papers

13.1 There are no background papers.

Appendix 1 Proposed AMC Principles

The following principles were agreed by the Housing & Land Delivery Board as a basis for WMCA's AMC strategy at its 15 January 2020 meeting:

Principle/Theme	Principle	Supporting Information
Leadership	It is proposed that WMCA adopts a leadership position, in prioritising the development of genuinely advanced manufacture, and seeking opportunities for the regional supply chain to benefit from that.	Currently the UK manufacturing market for homes is in its infancy, with a wide variation in the extent to which new homes genuinely utilise advanced manufacturing, with some manufacturers deploying broadly traditional approaches, albeit in factory settings.
Consumer Choice	It is proposed that the WMCA actively prioritises AMC models that maximise consumer choice and customisation.	One clear potential benefit of AMC is the opportunity for a product-led mindset to deliver high-quality, design flexibility and opportunities for mass customisation in new homes in a manner that is beyond what is possible in traditional construction.
Design Quality	It is proposed that WMCA actively prioritises AMC models that achieve a high standard of design and enable a varied response to the local context.	New AMC homes should balance the efficiencies of standardised manufacturing processes with good quality architectural design, opportunities for variation in form and to respond to the local context.
Achieving Zero Carbon	It is proposed that WMCA prioritises AMC models that offer the zero-carbon homes now, or the potential to achieve that in the future.	Advanced manufacture in construction, in controlled conditions, offers great potential to move towards carbon neutral homes. AMC processes minimise construction waste, achieve



		very high standards of in-use energy performance, and can minimise construction vehicle movements, with follow-on air quality benefits.
Skills and Employment	It is proposed that the AMC strategy has a specific and detailed focus on construction work and skills opportunities.	AMC has the potential to support fundamentally different roles compared to traditional construction. The AMC workforce will have specialisms in, for instance, complex logistics, digital product design and manufacture and robotics. Equally, as current MMC providers move towards AMC models, they can offer a different work experience for construction workers, and opportunities to transition and upskill for some of the current workforce
Modernisation	It is recommended that the AMC strategy should also consider how modernisation might be achieved on all homes on all sites, and opportunities for the WM supply chain and workforce to benefit from this.	The MMC definition framework includes seven categories (the latter of which are effectively process and technology improvements that can be deployed on traditional sites). It is important to recognise that there will be a transition from traditional to AMC that will incorporate the entire spectrum of the framework, over a number of years and in various ways; and that this process is likely to provide additional opportunities to improve quality, process and outcomes for residents and the supply chain.

Appendix 2: Purpose of an AMC routemap

- 1.1 As agreed by the Housing and Land Board in January, the rationale for moving towards AMC in the West Midlands is multi-faceted, with the following considered some of the key drivers:
- Meeting housing need, and the targets in the WMCA/HMG Housing Deal
 - The construction sector's skill and capacity challenge, exacerbated by Brexit and potential recession in late 2020.
 - Wider ambitions around carbon reduction and the risks of continuing with status quo in meeting WM2041 targets.
 - Wider ambitions around housing quality and reducing the performance gap.
 - Opportunities to provide better construction careers, with improved worker health and safety.
 - Supporting local industrial growth and ambitions in the Local Industrial Strategy through construction.
- 1.2 Despite opportunities presented by the AMC sector, there are still a number of barriers to uptake - the majority of which exist at a national scale. Central to this issue is that the AMC industry is still in its infancy and escalating production at a local or regional scale is likely to require significant changes to traditional construction processes, including skills programmes, financing, procurement and approaches to standardisation.
- 1.3 For this reason, it is not possible to simply raise the AMC pre-qualification target and expect the market to deliver. A routemap is therefore required to ensure the region's approach focuses not just on investing in more AMC units, but on wider changes to the construction industry in the West Midlands that also deliver inclusive growth, social value, quality and improved environmental performance.