1. STRATEGIES FOR COLLABORATIVE RESEARCH IN ARCHITECTURAL PRACTICE: COMMUNICATING METROPOLITAN WORKSHOP'S *A NEW KIND OF SUBURBIA*

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Despite evidence that architects are increasingly conducting research in practice, few have published detailed accounts of their experience of designing and implementing research projects within commercial architectural practices. This represents a distinct barrier to establishing a shared culture of research within a profession that relies on learning through practice. This chapter considers *A New Kind of Suburbia*, a practice-based research project conducted by Metropolitan Workshop, before discussing strategies to enhance collaboration through research dissemination and shared research agendas. This is intended to complement guidance offered by others concerning research design, implementation and dissemination for shared learning in practice settings.[1] The case study and subsequent guidance considers the need to reconcile research with the commercial priorities of architectural practice. These insights are useful for architects undertaking practice-based research, and potentially, for academics wishing to collaborate with architects to define and implement their research agenda within commercial practice.[2]

Undertaking Research in Architectural Practice

Research in architectural practice is increasingly promoted internationally to advance the professional knowledge base, enhance business practice, and evidence the value of the architecture profession.[3] In the UK, recent calls to expand research culture within the architecture profession resonates with initiatives by the RIBA dating back to the 1960s,

which sought to articulate practitioner knowledge and bolster the architecture profession's position by influencing policy-makers, attracting clients and aligning it with other disciplines in increasingly competitive market.[4] Contemporary architects undertake practice-based research to stimulate innovation and develop their practice expertise, introduce new thinking and attract new talent to their studios, advance their passion projects, and potentially generate commissioned research.[5] More radically, others participation in practice-based research seeks to redefine the boundaries of the architecture profession, critique relationships between academic and practice knowledge production, and examine the potential of speculative research processes liberated from the constraints of the academic institutions.[6] An expanding collection of case studies demonstrate the capacity of practitioner research to generate valuable findings, recommendations and applications for architectural practice, the profession and wider built environment.[7] Moreover, cases testify to the diversity of research across all scales of practice, with and without specialist research staff, or collaboration with academic institutions.

Architectural practice demands a great deal of practice-based research, and tends to blur boundaries between the research process and its prospective contributions to wider commercial objectives. This embeddedness is understandable given that practice research is part of a single creative endeavour, perhaps undertaken by the same architect or project team also responsible for everyday commercial practice. However, clarity about what constitutes research is necessary for research quality, developing collaborations that enhance research dissemination and application, and reconciling research processes with practice management to deliver organisational objectives (e.g. distinguishing speculative research from fee earning practice).

Research is a systematic process of inquiry that generates new knowledge, or creatively analyses and synthesises existing knowledge, to produce original understanding or applications. To constitute research, an inquiry must collect and analyse relevant data using

appropriate research methods, and document results (i.e. collecting relevant information without analysing it to generate communicable knowledge is not research). For example, gathering and exhibiting engaging data without undertaking analysis during its preparation and communicating this analysis in its presentation is unlikely to constitute research. Dissemination of research processes and outcomes is also critical if research is to shape professional practice knowledge and scholarly discourse.

Investment in practice-based research and effective dissemination are components of complex strategies adopted by architects to achieve distinction within competitive markets for architectural services and create credibility to forge new collaborations within practice and academia. Practice-based research may not often translate directly into economic benefits (e.g. patents for new technological innovations), but it does offer a means of articulating enhanced and transformational technical, social, cultural and commercial expertise with the potential for economic reward (e.g. demonstrating added value during public procurement processes).[8] Findings and recommendations generated during practice-based research, when combined with architects' capacity to explain their practical application, represents an opportunity to create communication strategies of depth and relevance to a range of audiences. As one experienced practitioner explains "research under the auspices of… design practice can take many guises in terms of process and output", but it "must translate into marketing and communications collateral".[9]

Architects conducting research within their studios are well-placed to examine and resolve intricate, ambiguous practice problems, because their pre-existing professional knowledge, familiarity with their workplace, and capacity to engage peers within practice communities as participants or collaborators offers an informed perspective from research design, through data analysis, to dissemination. This embeddedness offers architects undertaking practice-based research opportunities to access practice data and harness professional networks to gain feedback on research findings and recommendations, unavailable to most university-

based academics. Potential drawbacks of undertaking practice-based research include difficulty adapting academic research methods to practice settings in order to demonstrate research quality, limited available academic literature on selected practice issues, undue influence of dominant professional or institutional approaches and discourses that may constrain innovation, and the absence of standardised procedures to support ethical research (e.g. managing confidentiality).

Practice research is exhilarating when it leads to personal development that enhances design practice, but it is time-consuming and labour-intensive, and may potentially distract practitioners from more routine, direct routes to professional recognition within architectural practice. Research processes can lead architects to uncover evidence and make recommendations that are difficult to reconcile with their personal values and professional identity, or produce conclusions that peers find difficult to accept (e.g. where research clarifies complicity with suboptimum practice or destabilises claims made by the profession).

Critical reflection can account for potential biases and evaluate the effects of power relations on research design, data collection and analysis, and also findings and recommendations to enhance research quality and manage proximity innate in practice-based research.[10] But reflection is of limited practical benefit to early and mid-career researchers confronted by powerful practitioners resistant to the research process, or willing to influence it detrimentally. This can be mitigated if the potential for conflict is recognised, and researchers engage proactively with senior managers who act as organisational gatekeepers during early research design (e.g. when preparing research proposals). Success by early and mid-career practitioner-researchers hinges on the degrees of practical support afforded by senior managers such as access to knowledgeable colleagues and practice data, assistance to develop a research proposal and achieve organisational conformity with ethical requirements, and necessary paid time for analysis and writing.

Upfront, open negotiation between researchers, senior managers, and external collaborators about the basis of their collaboration is necessary to avoid exploitation, promote trust and add value to research processes and outcomes.[11] This is particularly relevant where an employee has won their own research funds or is completing a research project as part of formal training endorsed by the practice. Collaboration during practice-based research should encourage architects without formal research training to participate and learn through the research process, enable the adaptation and modification of established research practices to achieve research quality within architectural practice, and generate communicable findings and recommendations useful to architects and practice collaborators. Put simply, collaboration within and without the profession during practice-based research should enhance research design and implementation, support the dissemination and application of research recommendations through relevant practice communities, and enable practice development through shared learning inside and outside the studio.

A New Kind of Suburbia: A Case Study of Collaboration in Practice-based Research

Metropolitan Workshop was founded to examine "the power of collaboration and creative exchange in the design process".[12] This aspiration defined a shared vision for research among senior managements, which conceived research as a vehicle to promote dialogue with external designers, developers and policymakers, and a means to enhance design practice to address emerging issues. In 2019, Metropolitan Workshop committed to a research programme to enhance collaboration within and between studios in London and Dublin, and enable the practice's commercial interests by supporting a developing communications strategy for external audiences and contributing to staff development.

Metropolitan Workshop's first extended research project, *A New Kind of Suburbia* was completed in 2021. It sought to enhance understanding of the challenges faced by existing and new suburban communities, and to enable design practice to harness social and technological innovations to enhance residents' quality of life. The project responded to the practice's expanding portfolio of suburban housing projects, and an existing interest in suburban innovation best demonstrated through the evolution and application of the Homestead as a typological device to multiple proposed built projects.[13].

The project began with the production of a working paper by the London studio, which framed project aims in relation to academic literature, emerging policy and market research, and assembled suburban precedents by the practice and leading architecture studios.[14]. The working paper was the product of multiple qualitative methods of data generation and analysis, including interviews with industry experts, case studies examining current and future directions in suburban design and construction created inside and outside the practice, auto-ethnographic accounts by studio members of formative suburban experiences, and recollection of relevant writing.[15] This work was subsequently reinterpreted within the Dublin studio to better reflect the societal challenges and opportunities of suburban design and development in the Republic of Ireland.[16] Content developed within the working papers formed the basis of exhibitions held in Metropolitan Workshop's London and Dublin studios to coincide with national architecture events.[17]. The practice invited exhibition talks by developers, academics, local authorities, and design quality advocates to encourage critical thinking in relation to the production of current and future suburban places.[18]

Several participatory methods were used to disseminate initial insights and findings among peers, to refine analysis and recommendations by considering alternative industry perspective outside the practice, and facilitate shared learning inside the practice. Most significantly, working papers, peer feedback on exhibitions, and provocation in the form of exhibition talks, provided a rich resource for a wide-ranging roundtable where invited

practitioners and academics shared expertise in the production and use of suburban places. The roundtable generated new perspectives on Metropolitan Workshop's design practice, and identified productive intellectual trajectories for future practice-research and practice development.[19] Research and practice agendas emerging from critical discussion creating a need to:

- challenge assumptions about suburban morphologies,

- examine suburban homes as sites of domestic consumption and production,

- mediate social inequality within suburban neighbourhoods by addressing inadequate infrastructure,

- enhance choice of suburban accommodation, and sustain shared semi-public spaces through community-led approaches.

These broad themes were reinterpreted and integrated into recommendations to form strategic questions to be considered when designing new suburban places or intervening in existing suburban neighbourhoods relating to: suburban intensification, sustainable transport, inclusive neighbourhoods, responsive typologies, choice of accommodation, and the role of the housebuilder.[20] The research team recognised that the strategic nature of recommendations required additional interpretation to be beneficial for the everyday practice of the studio. So, the project concluded with a practice-wide workshop, including contributions by external experts that explained the applicability of findings and recommendations from a range of practitioner perspectives.[21]

Metropolitan Workshop distributed working papers in hardcopy at its exhibitions, and through its website on an open-access basis enabling promotion via social media.[22] Later, companion publications reporting research processes and resulting recommendations were circulated to practice collaborators. While managing intellectual property is an everyday

consideration for commercial practice, research dissemination was essential to fulfil Metropolitan Workshop's intention of refining suburban design practices with peers. This commitment to collaboration extended to sharing ongoing evaluation of approaches to practice-based research used during *A New Kind of Suburbia.*[23]

Developing a Shared Culture of Research in Practice

A New Kind of Suburbia was an ambitious practice-based research project shaped by the commercial and social interests of the practice and its collaborators. It contributed to the strategic goals of an emerging research programme that sought to promote dialogue with external collaborators to enhance the practice's response to emerging practice issues and develop approaches to practice research at Metropolitan Workshop that promote collaboration. The shared experience of delivering the research project created a collective understanding of the effort required to deliver an extended practice-based research project, and provided a shared model to evaluate and refine collaboration in subsequent projects. Reflection on the implementation of *A New Kind of Suburbia* generated valuable lessons for enhancing collaboration during practice-based research, including approaches to planning research strategies that deliver a shared vision for practice-based research, harness expertise within and outside the practice to enrich data analysis and generate recommendations applicable for future practice, and balance external dissemination with opportunities for practice development through shared learning.

Metropolitan Workshop's research programme developed organically, and continues to do so. *A New Kind of Suburbia* was a complex project, which enabled the evaluation of diverse approaches to research and dissemination for relative cost, effort and forms expertise required, and the value of the outcomes for practice. This shared experience offered a realistic basis for planning future research projects within practice resources, and

compensates for the limited availability of cost information for delivering social research within practice settings.[24]

Planning Research Dissemination to Recognise Collaboration within Studios

The impact of practice-based research is difficult to assess, as value materialises gradually from application, evaluation and adaptation of new approaches through architectural practice and its networks. However, a straightforward means of determining whether research is valued in the short-term is to test its reception with practice and academic audiences through publication.[25]

Practice knowledge uncovered during *A New Kind of Suburbia* was disseminated by Metropolitan Workshop through journal articles and invited chapters, contributions to professional training and university teaching, abridged articles for professional journals, and invited podcasts.[26] This list of research outputs is ordered to indicate reducing research impact, as judged from an academic perspective on the benefits of peer-review.[27] However, the practice felt essential to invest in forms of dissemination that were immediate and accessible to fellow and future professionals without economic barriers. Positively, open-access publication also enabled scholars to reanalyse and share Metropolitan Workshop's approaches to suburban intensification and community participation for healthier homes.[28]

While practice-based research may be commissioned in anticipation that findings and applications will enhance practice communication strategies it is helpful for research quality and effective practice management to distinguish between data collection, analysis and reporting within the research team, and to avoid prioritising premature publicity. It is essential that sufficient, regular time is allocated for written analysis and dissemination within research teams at project milestones, to ensure research processes are adapted in an

informed way and to aid shared learning. Sharing intermediate analysis and findings externally may be valuable if wider participation enables data collection, refines analysis, and tests recommendations through peer feedback. However, any advantageous publicity generated should be considered secondary to benefits to the research process. This creates a tension between ensuring sufficient data collection and analysis has been undertaken to justify claims to new knowledge, and immediate commercial pressure to generate valuable media content. Arguably, this reflects a broader tension between practice-based design cultures that value immediacy of visual display, and academic approaches that demonstrate research quality through systematic, written analysis.[29]

Conflict between research and publicity objectives may be managed by developing a communication strategy that respects sequencing within research design, anticipates well-timed interim outputs, and creates platforms for dissemination that recognises the different requirements of practitioner and academic audiences. Communication strategies should also recognise that to be named as a co-author for a research output, it is necessary to make a significant contribution to research reported, and be accountable for its contents (i.e. share responsibility for resolving questions about the accuracy and integrity of published work).[30] Mere seniority within the research team or architectural practice is no guarantee of an authorship credit. Neither is the design and production of the output unless it explicitly constitutes a research method (e.g. exhibition design as a participatory practice). Discussing the criteria for authorship at project inception is useful for avoiding potential conflict given that architectural practices are structured by explicit and tacit hierarchies, and identifying authors may appear inconsistent with research processes promising collaboration. This is particularly relevant when collaborating with external academics. During *A New Kind of Suburbia*, the practice recognised the authorship of all contributing authors to edited publications, acknowledged external research participants, and identified studio members responsible for supporting project through communications and graphic design. This research practice is intended to reflect the collaborative character of practice-based

research, while identifying those responsible for creative research design and implementation.

Managing Research Programmes to Enhance Collaboration through Practice Management

Practice-based research occurs within studios governed by practice management processes necessary to ensure creative, architectural practice is professionally responsible and commercially viable. It is necessary to reconcile research projects with organisational strategies, to create opportunities for practice members to participate in research and dissemination. Metropolitan Workshop's continued expansion and creation of its permanent Dublin studio required research to planned more carefully to achieve collaboration for staff development and ensure projects contributed to other strategic and operational practice management objectives.

Systematically integrating research into the work of an architectural practice can begin by agreeing a shared *mission statement for research* with colleagues that explains the rationale for commencing a research programme, and how practice-based research will contribute to the broad vision for the practice.[31] Mission statements can be developed into a *strategic plan for research*, which outlines long-term and short-term objectives for the research programme; justifies the appropriateness of intended research projects against programme objectives; identifies practice research leads, equitable approaches for enabling studio members to participate in research, and criteria for external collaboration.

Adopting a transparent, structured approach to planning research can enable practices to align expected research outcomes to their commercial priorities (e.g. demonstrating expertise enter new markets), relate research costs and sources of funding to practice

finances (e.g. deciding to fund project-based research through fees or seek external funding by bidding with an academic partner), avoid tensions between resourcing design projects and finding time for research (e.g. formalising approaches within human resource policies to release studio members to conduct research and dissemination), and anticipate the management of research ethics within a practice setting. Developing a robust organisational approach is also likely to be advantageous when preparing *research proposals*, and assessing their feasibility and value to the practice.[32]

Practice managers will be reassured by planned research programmes, and corresponding project proposals, that demonstrate that interrelated business needs have been addressed, resources are appropriately allocated, and staff understand their responsibilities when conducting research. More innovative leaders will see the potential of developing research programmes collaboratively with practice representatives. Such inclusivity offers opportunities to identify shared interests, existing expertise and membership of networks, to agree commercial and social priorities for knowledge generation, and importantly, collectively committing to the work required to realise a 'research culture of architects'.[33] Collectively generating a research agenda and agreeing practical steps to achieving it enables studios to monitor progress together, evaluate the benefits and limitation of applying different research method within their practice or research interest, and use shared judgement when deciding to deviate from their research plan to capture unexpected opportunities. Metropolitan Workshop diverted resources to respond to an opportunity to collaborate with leading academics to examine homeowner aspirations, because it built research capacity within the practice and generated publications related to a growing expertise in modern methods of construction for housing.[34]

Establishing a shared commitment to research culture is essential for practices to ensure their research projects and the knowledge they generate enrich their wider creative endeavour. For smaller and emerging practices developing a detailed, written strategic

research plan may only become a necessary as research practice gains momentum, and a plan is required to coordinate research within practice management, and communicate the value of research processes and outcomes to new studio members and those outside the practice's research culture.

A pragmatic first step for any size of practice embarking on a research project or programme, is to use the structure of research mission statement and strategic plan to facilitate a practice-wide discussion to examine practical implications, and transformational potential, of committing to research. Effective sessions will define practice-based research through examples from architectural practice to inform discussion; demonstrate support for research in principle by senior managers with responsibility for practice management; integrate perspectives from architectural, support staff and existing consultants to gain an appreciation of areas of potential interest, gauge willingness to participate in research practice and assess existing capacity within the practice. It may be time-effective to invite an experienced practitioner-researcher familiar with architectural practice to facilitate practice workshops to explain the potential of practice-based research, capture consensus or dissent about potential scope of research programme, and interpret staff feedback and generate some cost-effective strategies for the practice to move forward with a shared purpose.

References and Notes

[1] KA. Martindale, *Research for Architectural Practice* (Abingdon, Oxon: Routledge, 2022); R. Lucas, *Research Methods for Architecture* (London: Laurence King Publishing, 2016), 59-68; F. Samuel, *Why Architects Matter: Evidencing and Communicating the Value of Architects* (Abingdon, Oxon: Routledge, 2018), 191-200; A. Akšamija, *Research Methods for the Architectural Profession* (New York: Routledge, 2021). L. Groat & D. Wang, *Architectural Research Methods* (Hoboken, New Jersey: John Wiley & Sons, 2013).

Several accessible guides are available to guide architects undertaking practice-based research, and provide informative cases aligned to a range of disciplinary perspectives. Martindale offers comprehensive advice including the development of research proposals, handling research ethics, gaining research funding, implementing research processes, and disseminating research in academic and practice contexts. Ray provides a highly accessible introduction to a variety of research methods, including a discussion of productive frameworks for cross-disciplinary collaboration. Samuel outlines models of academic and practice collaboration. Akšamija summarises differences between pursuing a research career in industry and academia, maps research processes against the architectural design process to support project-based research, and gives guidance on the integration of research into architectural practice.

[2] A. Yaneva, *Made by the Office for Metropolitan Architecture: An Ethnography of Design*. (Rotterdam: 010 Publishers, 2009); T. Yarrow, *Architects: Portraits of a Practice* (Ithaca, NY: Cornell University Press, 2019).

Yaneva and Yarrow offer valuable, recent insight into social realities of architectural practice, from the perspectives of academic researchers conducting research within practice as outsider-researchers.

[3] F. Samuel, 'Supporting Research in Practice', *The Journal of Architecture*, 22/1 (2017), 4-10, https://doi.org/10.1080/13602365.2017.1280288

[4] F. Duffy & L. Hutton, *Architectural Knowledge: The Idea of a Profession* (London: E&FN Spon, 1998); R. Hay, N. Shasore & F. Samuel, 'Research at the RIBA: an institutional history 1958-1971', *Architectural Research Quarterly*, 21/4 (2017), 328-337, https://doi.org/10.1017/S135913551800012X; Akšamija, *Research Methods for the Architectural Profession,* 26-27.

At the time of writing, the Royal Institution of Architects (RIBA), American Institute of Architects (AIA), and Architectural institute of Japan (AIJ) offered examples of professional bodies with well-developed strategies for promoting research by architects and practitioners within extended fields of architecture.

[5] Martindale, *Research for Architectural Practice*, 3-34.

[6] D. Saunt, T. Greenall & R. Marcaccio, eds., *The Business of Research: Knowledge and Learning Redefined in Architectural Practice* (Chichester, West Sussex: John Wiley & Sons, 2019).

[7] A. Dye & F. Samuel, eds., *Demystifying architectural research: adding value to your practice* (London: RIBA Publishing, 2015); Martindale, *Research for Architectural Practice*, 121-237; RIBA, *Research in Practice Guide* (London: RIBA, 2013), https://www.architecture.com/-/media/gathercontent/home-improvements-housing-research-in-practice/additional-documents/ribaresearchinpracticeguidepdf, accessed 4 March 2022; RIBA, *How Architects Use Research: Case Studies from Practice*, (London: RIBA, 2014), accessed https://www.architecture.com/knowledge-and-resources/resources-landing-page/how-architects-use-research, accessed 4 March 2022; RIBA, President's Awards for Research 2016: Knowledge and Research Practice (London: RIBA, 2016), https://www.architecture.com/knowledge-and-resources/resources-landing-page/knowledge-and-research-in-practice accessed 4 March 2022.

[8] Samuel, *Why Architects Matter,* 201-204.

[9] K. Firth, 'A Fruitful Coupling', *Urban Design Group Journal*, 157 (2021), 18-22, https://www.udg.org.uk/publications/journal/urban-design-157-winter-2021, accessed 4 March 2022.

[10] J. Dean, *Doing Reflexivity: An introduction* (Bristol: Polity Press, 2017); P. Drake & L. Heath, *Practitioner Research at Doctoral Level: Developing coherent research methodologies* (Abingdon, Oxon: Routledge, 2011); M. Alvesson & K. Skoldberg, *Reflexive Methodology: New Vistas for Qualitative Research* (London: SAGE Publications, 2000).

The value for research quality of researchers 'becoming reflective/ reflexive' is well-established in qualitative research whether conducted in practice or academia.

[11] Samuel, *Why Architects Matter*, 2; Lucas, *Research Methods for Architecture,* 59-68.

[12] N, Deely, 'Introduction', in L. Mallett, ed., *People Make Places Make People: 12 year anniversary book* (London: Metropolitan Workshop, 2017), 4.

[13] DA. Sookhoo, 'Reflections on A New Kind of Suburbia', *Urban Design Group Journal*, 157 (2021), 23-26, https://www.udg.org.uk/publications/journal/urban-design-157-winter-2021, accessed 4 March 2022; J. McKenna,

'The Homestead: the basic building block of a new type of suburbia', in *RIAI Journal*, 308, November/ December (2019), 35.
The Homestead is a typological device that aims to structure new types of suburban development that are efficient in form, respond to changing market conditions through flexible densities, typologies and tenure mixes, and are capable of optimising private and public space to enhance the public realm for greater sociability.

[14] DA. Sookhoo, N. Deely & G. Bansor, eds., *A New Kind of Suburbia (Prospects 1)* (London: Metropolitan Workshop, 2019). External practice contributors included: Dinah Bornat (ZCD Architects), Mark Latham (Urban Splash), Jo McCafferty (Levitt Bernstein), Richard Partington (Studio Partington), and Toby Carr (Sarah Wigglesworth Architects).

[15] DA. Sookhoo, 'Suburbia Making Architects', in DA. Sookhoo, N. Deely & G. Bansor, eds., *A New Kind of Suburbia (Prospects 1)* (London: Metropolitan Workshop, 2019), 51-61; T. Mitchell, ''Building Community Through Play: Discussing the legacy and lessons of the provision of informal and planned playspaces and sports facilities in Crawley New Town', (4 Nov. 2021), https://metwork.co.uk/research/people-powered-places, accessed: 4 April 2022; N. Deely, 'Semi-detached', in D. Levitt & J. McCafferty, eds., *The Housing Handbook: A good practice guide* (London: Routledge, 2019), 20-21. Practice members were invited to produce auto-ethnographic accounts to reflect on how their formative experiences as suburban residents informed their aspirations for the suburban places they created in their professional work (e.g. desire to create opportunities for community through play).

[16] J. McKenna, D. Murray & DA. Sookhoo, eds., *A New Kind of Suburbia (Prospects 1- Dublin Version)*, Dublin: Metropolitan Workshop, 2-4.

[17] DA. Sookhoo, E. Warwick & N. Deely, eds., *A New Kind of Suburbia: Reflections for Future Practice and Thinking: Record of Exhibition Talks, Roundtable Findings and Practice Recommendations* (London: Metropolitan Workshop, 2021), 1. The London exhibition contributed to the Clerkenwell Design Week and London Festival of Architecture, and the Dublin exhibition contributed to the Irish Architecture Foundation's 2019 Open House Dublin.

[18] DA. Sookhoo, E. Warwick & N. Deely, eds. *A New Kind of Suburbia: Reflection for Future Practice and Thinking*, 3-13. Exhibition talks were delivered by David Birkbeck (Design for Homes), Peter Freeman (Argent), Mark Latham (Urban Splash), Gus Zogolovitch (Unboxed Homes), John O'Mahony (O'Mahony Architects), Michael Pike (GKMP), Joe Brady (School of Geography, UCD), Eddie Conroy (South Dublin County Council) and Brian Moran (Hines).

[19] DA. Sookhoo & E. Warwick, 'Future Suburban Practice, Future Suburban Places', in DA. Sookhoo, E. Warwick & N. Deely, eds., *A New Kind of Suburbia: Reflections for Future Practice and Thinking: Record of Exhibition Talks, Roundtable Findings and Practice Recommendations* (London: Metropolitan Workshop, 2021), 14-23. Roundtable participants included Elanor Warwick (Clarion), Andy von Bradsky (then, MHCLG), Keith Brown (then, community organiser, Nationwide Building Society), Graham Cherry (Countryside), Vincent Lacovara (Enfield Council), Chris Langdon (ENGIE), Stephen Proctor (Proctor Matthews Architects), Mark Swenarton (Liverpool University), Sarah Wigglesworth (SWA), Dhruv Sookhoo (then, Metropolitan Workshop) and Neil Deely (Metropolitan Workshop).

[20] DA. Sookhoo, E. Warwick & N. Deely, 'Recommendations for Future Practice (and Research) for Suburban Development', in Metropolitan Workshop, *A New Kind of Suburbia: The Takeaway* (London: Metropolitan Workshop, 2021).

[21] Metropolitan Workshop, 'A New Kind of Suburbia', *Metropolitan Workshop* (1 November 2021), Research, https://metwork.co.uk/research/a-new-kind-of-suburbia/, accessed, 4 March 2022.

[22] Metropolitan Workshop, 'A New Kind of Suburbia'.

[23] Sookhoo, 'Reflections on A New Kind of Suburbia'.

[24] Universities apply a standard approach to costing research projects based on decades of experience of bidding for funds competitively, and delivering projects within academic settings with established specialist labour costs for researchers, shared access to academic managers with an understanding of research and dissemination processes, and efficiencies arising from the routine research procedures and processes. It is reasonable to assume that architectural practices undertaking a research project for the first time will be less efficient as they develop approaches that are cost-effective, flexibility delivered and achieve research quality, in relation to the constraints and opportunities measured by practice management processes.

[25] Martindale, *Research for Architectural Practice*, 109-120. Martindale offers detailed guidance on the dissemination of research through self-publication and peer reviewed books, academic journals, conference papers and exhibitions.

[26] M, Latham & DA. Sookhoo, 'New suburbia, now: The possibilities of modular construction', *Architectural Research Quarterly,* 23/2 (2019), 195–200, https://doi.org/10.1017/S1359135519000253; D. Prichard & DA. Sookhoo, 'Recalling Milton Keynes: visions of suburbia', *Architectural Research Quarterly,* 23/3 (2019), 288-295, https://doi.org/10.1017/S1359135519000344; Sookhoo, 'Reflections on A New Kind of Suburbia'; DA. Sookhoo & A. Ely, 'Fundamentals of Creating Local Identity', session presented to Code School, Urban Design London, virtual (7 May-8 July 2021); DA. Sookhoo & K. Patel, 'Oakfield Village: A Healthier Kind of Suburb', guest lecture presented to Masters of Urban Design, Newcastle University, Newcastle upon Tyne (25 Nov. 2021); A. Odedun, 'Places, Spaces and Sociality', People, Places and Community: belonging in unprecedented time (Future of London) [blog post] (9 Dec. 2021), https://www.futureoflondon.org.uk/knowledge/people-place-community/, accessed 4 April 2022; J. McKenna & DA. Sookhoo, interview with R. O'Ceallaigh, 'A New Kind of Suburbia:

Practice-based Research' [podcast], *Green Urbanist* (29 March 2021), https://greenurbanistpod.com/, accessed 4 April 2022. See Metropolitan Workshop, 'A New Kind of Suburbia' for full list of outputs.

[27] Akšamija, *Research Methods for the Architectural Profession*, 20-29.

[28] R. Cowan, *Essential Urban Design: A Handbook for Architects, Designers and Planners* (London: RIBA Publishing, 2021), 187; T. Townshend, *Healthy Cities?: Design for Wellbeing* (London: Lund Humphries, 2022), 82-4.

[29] Sookhoo, 'Reflections on A New Kind of Suburbia', 26.

[30] B. Macfarlane, E. Devine, T. Drake, A. Gilbert, M. Robinson & I. White. *Co-authorship in Humanities and the Social Sciences: A global view.* (2017), 8-10, https://authorservices.taylorandfrancis.com/wp-content/uploads/2017/09/Coauthorship-white-paper.pdf, accessed 4 March 2022. Co-authorship is earned by being responsible for the conception and design of a research project, analysis and interpretation of data, drafting the paper and revisiting it critically for intellectual content, or potentially, approval of the final version to be published. There is limited consensus on the order that author's names should appear, but a good rule of thumb is to consider how essential each author was to activities listed above, and order from the most critical to the less critical.

[31] Akšamija, *Research Methods for the Architectural Profession*, 24-29. An effective *research agenda* will reflect the practice's structure, and interests in specific markets, building types or areas of expertise to be examined or expanded through research. Developing a *research agenda* may act as an intermediate stage between preparing a *mission statement* and *strategic plan.*

[32] Martindale, *Research for Architectural Practice*, 58-65. Martindale offers detailed guidance on the preparation of research proposals for architectural research.

[33] Samuel, 'Supporting Research in Practice', 8.

[34] K. Scalon, F. Blanc, J. Drage, C. Reid & J, Cook. *A portrait of aspirant homeowners in London: LSE London report with Pocket Living and Metropolitan Workshop* (London: London School of Economics, 2020), https://blogsmedia.lse.ac.uk/blogs.dir/119/files/2020/07/Final-Report-LSE-London-MW-and-Pocket-Living-Research-2020.pdf, accessed 4 March 2022.; J. Drage, DA. Sookhoo & N. Deely, 'Case Study: Mapleton Crescent, Wandsworth, London', in S. Bayliss, S. and R. Bergin, R., eds., *The Modular Housing Handbook* (Newcastle upon Tyne: RIBA Publishing, 2020), 183-192.