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Project Report

Mobility, Mood and Place—Co-Designing Age-Friendly Cities: A Report on Collaborations between Older People and Students of Architecture

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Abstract: *Mobility, Mood and Place* explores how places can be designed collaboratively to make pedestrian mobility easy, enjoyable and meaningful for older people. The built environment often excludes marginalised groups such as older people, single mothers and others with special needs. 'Co-design' is emerging as an important approach in architectural and urban design, which diversifies stakeholder participation and representation. Participatory co-design approaches can include such stakeholders so as to address their priorities and ensure that other stakeholders empathise with their perspective. This can enhance students' methodological flexibility and empathy. This paper critically reflects on architecture students' experiences, together with older adults (including stroke-survivors and those with dementia), in producing co-design research on age-friendly environments and offers some methodological insights. It also discusses competing objectives between a co-design research project that involved students of architecture and landscape design on post-graduate academic programmes. Finally, the paper will offer contributions to architects interested in designing places that take into account the needs of older people.

Keywords: co-design; older people; architectural design; environment; pedagogy

1. Introduction

All academic studio design projects are subject to forces generated by people and critical apparatus that pull the project and its envisaged destination in different directions. One of the most important aspects of our work as teachers and designers is to comprehend and understand these forces, and to shape their influence on the design process and its intended products in order to achieve educational and productive outcomes that are in relation to the project's goals.

Research-led studio vehicles are becoming increasingly popular in UK architectural education. The opportunity to focus on key sociocultural, economic, political and environmental issues at local, national and international levels through carefully designed pedagogic studio models is a challenge that many schools have responded to since the recognition of the need for a more compelling relationship between teaching and research (Jenkins et al. 2004, 2006; EAAE 2011). In architectural education this research agenda manifests itself in analytical, methodological and design-based forms (Downton 2003; Frayling 1993). However, the needs of a funded research project and an academic studio programme can potentially be in competition. One compelling form of research-led studio project is the 'live-project' model where students engage with people and communities to address 'real-world' issues, sometimes with real clients and built projects and often with meaningful public participation and critique of existing policy (Harriss and Widder 2014; Jenkins and Forsyth 2009).

One strand of live participation, 'Co-design', is emerging as an important approach in architectural and urban design that diversifies stakeholder participation and representation (Cruickshank et al. 2013). However, this engagement introduces another competing force into

the research/studio project mix, with the introduction of real people with contradictory views, heterogeneous needs and a value system often at odds with the academic one (Scott 2011).

The Mobility, Mood and Place Architectural design studio in the Edinburgh School of Architecture and Landscape Architecture has attempted to negotiate a path through these competing forces of academic studio project, research project and live participation. Research and co-design undertaken with postgraduate students and older people into what makes cities age-friendly have been used to generate a range of design proposals for Architecture, Urban design and Landscape Architecture that operated at a series of scales in discrete one-year studio projects in Manchester and London. Research methods employed included co-design workshops, fieldwork techniques of environmental analysis and critical review of developing proposals.

Methodological insights into effective forms of engagement with older people have been developed into a tool-kit entitled 'MMP A-Z of Co-Design'. Some key methodological insights will be discussed here along with a critical analysis of design products produced by students that operated at a series of scales and add to our knowledge of what makes places more psychologically and physically enabling for older people.

2. Mobility, Mood and Place Research Project & Academic Studio Context

2.1. Research Project

Mobility, Mood and Place is a three-year interdisciplinary research project (2013–2016), funded by Research Councils UK[1], involving academics from the Universities of Edinburgh, York, Heriot-Watt and King's College London. The research is partnered by a range of stakeholders, including organizations and individuals from local government, health, housing and social care alongside private practitioners from planning, urban design, architecture and landscape to charitable organizations and individual participants.

A central premise of the research proposal was that mobility in the built environment is vital for the health and wellbeing of older people. To date much design guidance has focused on overcoming barriers in the environment and establishing minimum design standards. Removing barriers is necessary but not sufficient to increase mobility. Interventions in the built environment designed to improve the mobility and independence of older people commonly focus on security, accessibility and functional performance: ramps, handrails, surface treatments, signage, seating, visibility, security, alarm systems, legibility, toilet provision, and assistive technologies (Biggs and Tinker 2007; Parsons 2008). However, researchers and designers need to pay attention to what makes a place attractive and enabling, environmentally, socially and emotionally, as well as accessible to people at different stages in the life-course (Sugiyama and Thompson 2007).

In addressing these issues the Mobility, Mood and Place (MMP) research project took a whole-systems approach through four interrelated work packages: WP1-'Co-Created Environments', is the work package this paper is principally concerned with, whilst WP2-'Environment & Affect' employed mobile electrocelenography (EEG) assistive technologies to record real-time emotional responses to place (Mavros et al. 2012). WP3-'Life-course of Places' examined how built and social environments evolved over time and considered whether these processes were implicated in explaining inequalities in health-related mobility in older age. Through the final *Work Package 4* research findings are being disseminated in the current UK policy context and internationally, including design exemplars, methodological contributions and interdisciplinary best practice for policy makers, professional practitioners and third sector groups.

Work Package 1-'Co-Created Environments' sought to examine design issues from the first-person perspective, as perceived and informed by diverse older participants, including older people with

[1] Standard note on funding for MMP Research project.

dementia and those who had suffered a stroke, through a series of co-design workshops that formed part of a trio of architectural design studios over a three-year period. (This paper focusses on years 1 and 2 of Work Package 1.) Data generated from these workshops and other participatory methods employed were utilised by students of Architecture and Landscape Architecture to generate proposals for age-friendly environments.

2.2. Academic Studio Context

The two-year Edinburgh Master of Architecture Programme offers a design and research-led teaching landscape that aims to be a fertile ground for understanding and augmenting the theory-practice foundations and potentials of the discipline. The programme has developed a reputation for its focus on architecture and the city, and in the context of the recently formed Edinburgh School of Architecture & Landscape Architecture (ESALA), is opening up joint inquiry into architecture and landscape. Critical and complementary, parallel methodologies and pedagogies are offered in the programme as curriculum pathways, which are structured as one- or two-year design studios. Studios are typically anchored around a European city or territory. In both pathways, the aim is intelligent and creative architectural design informed by rigorous critical enquiry through thematically directed studios. Both one- and two-year studios aim for the student to produce an architectural thesis that is generated in response to the studio research theme and individual inquiry. The design of the elements of the architectural project, from urban design and landscape through building and detail design, are then driven along in support of the thesis narrative. In the MMP studio students were encouraged to develop 'Age-Friendly (AF)' theses, potentially giving the projects powerful age-friendly reasons for making design decisions, rather than incorporating AF issues as a checklist (as they tend to be presented in the available literature).

In the first two years of the MMP project the focus was on the relationship between older people and the City (as opposed to rural or remote environments, which was studied in year 3). Single-year studios were based in Manchester in academic session 2013–2014 and then in the Hackney Wick and Olympic Park districts of London in 2014–2015. The Manchester-based studio incorporated 15 students of Architecture, whilst the London studio incorporated 14 students of Architecture and seven from Landscape Architecture, working in an interdisciplinary relationship. In 2013–2014 all students were in the final year of their Master of Architecture degree, however in 2014–2015 Architecture students were incorporated from both years 1 and 2, whilst students from the Master of Landscape Architecture were all in their final year of study.

3. Aligning Research, Co-Design & Studio Project Ambitions

The dynamic between the need to satisfy research demands, engage in meaningful public participation and co-design whilst achieving expected academic studio outcomes, needed to be addressed from the very outset of the project. As soon as research funding for the MMP project was confirmed, the author was required to think hard about how these very different forces could not only be aligned but how the demands they exerted could be turned into positives to create *additional value* for research and studio staff, students and the MMP project. Taking Frayling's typology (developed by Downton) (Frayling 1993; Downton 2003) of the different forms research can take in relation to studio (analytical, methodological and design-based forms, including forms of representation), it was an aspiration that research work and outputs would occur within all three domains.

This meant research methods and products could occur in three particular ways.

1. Age Friendly Lens Focussed on Manchester and London. A series of analytical products resulting from research into issues relating to age friendliness in urban environments, creating an 'Age-Friendly Lens' that could then be trained on a particular context to understand concrete, age-friendly issues in a place-specific way. Place-specific forms of engagement here would include ethnographic walking tours and co-design activities. Different and original forms of representation would be encouraged.

1.1 Interviews/focus groups with older people in the City of Edinburgh. A second set of analytical outcomes could result from a further series of methodological engagements with older people (including those with dementia and stroke), which would not be required to be place-specific but could be utilised to inform the design process at a later stage and could also be available to the research team in the creation of outputs independent of the design process.

2. Methodological insights could be gained from the careful design of research methods and their effective implementation, particularly in relation to engagement with older people through techniques of co-creation. Whilst staff would clearly lead in researching and designing effective methods, students would be actively involved in their implementation and analysis of their effectiveness.
3. Design products would exist principally in the form of physical proposals for age-friendly urban environments designed to operate at different scales from the urban to the body. This would include the creation of and reflection on well-designed places and spaces that contribute to the emotional well-being of older people and others, rather than simply dealing with physical issues. Potentially, the forms of representation utilised in the depiction of propositions could also be considered as products of design and research. Whilst many of these products would be speculative in nature, they would contribute to our knowledge of what makes places age-friendly through a holistic application of existing generic age-friendly, environmental recommendations in a concrete, contextualised way.

It was also clear to us that we wished for students to be involved as 'active researchers', involved as much as possible in designing research methods, implementing and analysing them, and utilising the data and analysis in ways that would inform their design work, rather than simply being utilised as an efficient labour force in the implementation of methods. Involving students as active researchers brings enormous resource benefits for the research project; however, staff need to carefully manage this commitment to allow students to meet all of their academic and professional obligations in design. The most obvious solution to this issue is that research occurs early in semester 1. This is a typical structure for most architectural design studios, with early research and fieldwork occurring largely at the beginning of the project as a tool for analysing places and setting up agendas. Conversely, this approach would clearly compress research activity into too short a time frame for the research project. So we decided to investigate a way of structuring the research so that it could inform design at different stages, ideally informing the students with data that would work at the different scales of the architectural design project.

These two forms, defined previously here as 1 and 1.1, would ideally work from both ends of the studio project scale-structure, defined as City, Neighbourhood, Building, Space and Body, with 1a operating at the city and neighbourhood scales and 1b generating data that would inform work at the scales of space and body, with both approaches informing design thinking at the building scale (See Appendix A.)

3.1. Research Engagements 1. (above)

In the first instance students worked in small groups to uncover key concepts and knowledge related to older people and the city, informed by research into existing relevant literature and guidance. Topics and questions contained within them were generated with reference to the WHO *Global Age-Friendly Cities Guide* (World Health Organisation 2007), covering issues of transport, mobility and social space along with a key issue generated by the MMP project of 'mood', involving questions of such as 'How might the psychological and emotional needs of older people differ from other people in relation to their experience of the built environment'? And 'How might we as designers generate emotionally positive responses to the built environment in older people'? As both the Manchester &

London studios attempted to generate findings and design solutions for people with dementia and those who had suffered a stroke, topics relating to those particular groups were also included.

This bank of knowledge was then shared amongst the entire student group in order to create an early understanding of generic, 'Age-Friendly' issues related to urban environments. Armed with this 'Age-Friendly Lens', students could then go 'into the field' to investigate how these issues became contextualised and transformed by the physical form and ontological forces contained within a place. In conducting fieldwork within both Manchester and London, students utilised a series of techniques to uncover these place-specific forces, including, co-design, older person interviews and focus groups, environmental survey, use of film and photography, mapping strategies, analysis of place-specific statutory guidance, historical and social survey among others.

Students carried out these field-work and co-design activities during a site visit in week 3 of semester 1. Drawings and models were then produced that clearly represented contextualised age-friendly issues and generated design ideas that had arisen not only from existing generic guidance but from contextual engagements with older people.

3.2. Research Engagements 1.1 (above)

In years 1 and 2 of the MMP project it was agreed that as part of their overall urban strategy students would incorporate housing designed for older people, including older people with dementia and those who had suffered a stroke. With reference to J.J. Gibson's theory of affordances, (Gibson 1997) students were required as part of their scheme to design and draw three sets of environmental affordance, one for each cohort. Work at these scales of the project, (building, space and body), was informed by data generated through a series of focus groups and individual interviews carried out in Edinburgh with older people, including stroke survivors and people with dementia. This programme was designed to elicit data on existing domestic living conditions and 'ideal living environments' and was run in late semester 1 and early semester 2. It was decided that this programme could be run in Edinburgh as in dealing with conditions of domestic living it was not be necessary to relate to the location of the studio projects in Manchester and London. Interviews were carried out in participants' homes, attended by a student and a member of the research team. Once the interview programme was complete, analysed data were fed back to students to facilitate the detailed design of each environmental affordance. The objective was to create a clear alignment between project detail design and MMP research engagements at the more intimate scales so that in considering detailed issues of structure, materiality and environment, students would consider age-friendly affordance in relation to those concerns. This programme of interviews ran during the year 1 MMP Manchester studio, but with the data generated being available to the year 2 MMP London cohort. As previously highlighted, data from these engagements were also available to the research team for discrete research outputs related to particular areas of interest (Brookfield et al. 2015).

One further research engagement with both the Manchester and London participants occurred midway through semester 2 of the design project with a review of 'work in progress', which trialled different ways of hosting this process most effectively. In this way research methods were strategically placed within the studio project structure to enable a clear relationship between the form of engagement and the timing of its delivery with the different stages of the design project and its relevant scales.

Clearly the requirement to satisfy both research demands and co-design engagements with real people places a great degree of pressure and control on the structure of the studio project. However, with careful consideration as to the form and placement of research methods and design tasks, an alignment can be achieved that provides a clear framework and added benefit for all.

4. Studio Project Structure: Designing from the City to the Body

The structure of the studio project was basically the same for each of the two years of the Manchester and London studios. Clearly the studio project structure required to map over the research plan described above (see Appendix A.)

Semester 1 involved three linked projects, each of which overlapped with each other. Mobility, Mood and Place 1 (MMP1), lasting for the first three weeks of semester 1, involved the students in small groups in uncovering issues relating to older people and the city. Presentations were shared amongst the entire group, including PowerPoint and booklet formats. Field trips to both places to carry out research work on site and including co-creation activities with older people occurred during this phase, during week 2.

MMP2 then involved the students in a five-week project involving the study of place-specific forces through the 'Age-Friendly Lens'. This project involved the creation of three critical tools: a series of research drawings, a manifesto and a model of place (see Figure 1.)

(**a**) (**b**) (**c**)

Figure 1. (**a**) Research drawings; (**b**) a manifesto; and (**c**) a place model (Lawson, Rasmussen, Scott and Sim).

Firstly, students produced research drawings that represented and critically interpreted the data produced by all of the fieldwork and research methods employed. Having completed this work, students then proposed a manifesto for an architectural project that responded in a positive way to the issues generated. This manifesto would also propose a programme for the architectural project. It was required to include housing for older people, including housing for people with dementia and in stroke recovery, with related socioeconomic and cultural activities. The final component of this second phase was the creation of a site model or 'place-specific installation'. The site-based installation was to act as a representational tool that articulated observations about the physical and experiential landscape of each place. All models were required to be capable of further transformation to accommodate a series of design iterations.

Semester 1 was completed with a four-week project involving urban, landscape and architectural design that responded to and developed research and manifesto themes and developed a critical engagement with the place in terms of its situation and spatial and material language. (See Figure 2.)

Students generally worked in small groups during this phase to produce a group urban strategy.

In Semester 2 students continued with the design of these architectural and landscape architectural projects to a level where their formal and spatial arrangements, and relationship to landscape and experiential properties, were clearly represented at the scales discussed previously, including a series of architectural details that clearly described the articulation of ground, structure, materials, enclosure and environmental conditioning, accommodation of activities and utilisation of resources. Midway through semester 2 the group returned for the previously-mentioned, review session with older participants on students' developing proposals. This was an opportunity for older people to comment on and influence the designs of the projects themselves rather than the themes that underpinned them. Comments from older participants reflected a series of concerns from the programme of activities generated by the project and their potential benefit for older people, their placement on the site and relationship to existing elements, to the specific environmental qualities generated by the proposals. Participants used their considerable experience to give feedback on issues ranging from setting up intergenerational

activities to designing for the senses and tranquillity. Issues surrounding orientation and the use of public art received very detailed input on the design of pathways and green spaces. All of this feedback clearly aided students in considering age-friendly arrangements at different project scales.

(**a**) (**b**)

Figure 2. Models and drawings of urban design strategies for (**a**) Hackney Wick, London, and (**b**) Castlefield, Manchester (Knight, Sharpe, Phillips, Z. Wang).

Different methods of engagement were trialled in Manchester and London with feedback invited from participants as to their effectiveness. At both sites, participants were asked to complete a short questionnaire. The questionnaire explored participants' views on each method employed, and their thoughts on one method in relation to another. The first part of the questionnaire asked participants to indicate their agreement, using Likert scales, with a series of statements that focused on a small number of issues. Issues included whether a method was considered enjoyable, whether a method was thought able to provide opportunities for participants to discuss things that were important to the design of environments, and whether a method was judged an effective way of exploring views on the design of environments. The second part of the questionnaire asked participants to rank the methods—first, second, third and so on—in terms of enjoyment, ease of use and effectiveness for exploring views on the design of environments. Overall, most participants at both sites found most of the methods enjoyable, most believed they enabled them to discuss topics that were important to the design of environments, and most felt they were effective means for exploring views on the design of environments. Findings suggest, then, that diverse engagement techniques might be suitable for use with older adults in participatory design projects. With regards to ranking the methods, participants adopted different approaches to this and, consequently, it was not possible to draw meaningful conclusions on the most and least favoured methods. The results of the participant feedback in Manchester informed the design and choice of methods employed in London. The feedback collected at both sites contributed to the research project providing insights into older adults' perceptions of diverse engagement techniques.

5. Employing Co-Design & Other Research Methods

The overall research strategy and issues with respect to its alignment with studio and co-design objectives have been described in Section 3. This section presents a short review of the historical development of co-design approaches, whilst reflecting on some of the methods implemented along with thoughts on their effectiveness for research and studio production. It also discusses organisational issues and difficulties encountered in setting up and carrying out the selected methods.

5.1. Co-Design

Co-design in relation to architecture and urban design has become an established, public, participatory method of engagement, with a series of contested definitions and multiplicity of applied methodologies (Cruickshank et al. 2013).

Forms of public participation emerged in environmental design in the 1960s. *The Skeffington Report* of 1969 advocated greater public participation in the preparation of local planning policy and development plans as a response to what was previously perceived as a 'top-down system' (The Skeffington Committee 2014). In the 1970s and 1980s there were a number of architects in the United Kingdom, including Ralph Erskine, Walter Segal and RIBA President Rod Hackney, who advocated a more inclusive approach, specifically in the design of housing, viewing themselves more as enablers of individuals and communities in envisaging and creating houses and communities that were a reflection of the values and aspirations of the people themselves, rather than an all-powerful provider of new and original solutions.

A national review of Architectural Education by Stanfield Smith in 1996 concluded that the key to a successful profession was hinged on the ability to achieve quality and high standards but also to represent the values and aspirations of the society it served (Stansfield Smith 1999). More recently, the traditional role of the 'professional' has been questioned by an increasingly commercialised global society and governmental policies empowering the public voice, exemplified in new planning policy that hands more power to local communities. "It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and requirements of their communities". (National Planning Policy Framework 2012, p. 1).

Certainly an understanding of user issues is fundamental to the creation of buildings and places that are 'fit for purpose'. This is reflected in the latest ARB Technical criteria (Architects Registration Board 2010), which fairly comprehensively cover issues of social and user engagement, with five of the 44 general criteria now specifically citing issues of user engagement. In the previous set, published in 1997, people issues were "fragmented and vague, thus diminishing their importance in the minds of those who teach architecture" (Morrow 1996, p. 44).

Co-design and other participatory techniques can support the needs and interests not just of laypeople but of diverse parties (Sanders and Stappers 2008; Sleeswijk Visser et al. 2005). The built environment has traditionally excluded and marginalised groups with more particular needs and desires, such as those with special needs, older people, single mothers and others. The Disability Discrimination Act (1995) and the Equality Act (2010) have gone some way to mitigating these deficits, without really addressing the needs of older people beyond issues of accessibility (UK Government 1995, 2010). Co-design and participation in relation to particular groups can begin to address some of these deficits as well as equipping students with "a flexible variety of methods and empathetic skills, but—more importantly—also question established ideas about what can be learnt from and what constitutes an 'expert'" (Chivers 2015, p. 78).

5.2. Place-Specific Research Methods

Co-design activities in year 1 of the MMP Research project focussed on environment and behaviour research methods intended to provide a deeper understanding of place through the eyes of an older inhabitant. These included 'Walkaround': The participants were invited to a one-hour walk-round of the site context, paired with a student, where conversations and environmental behaviour were recorded in short films. During the walk, participants were asked to record 15 significant photographic images of the site context and take part in a short interview about the site. The interview questions were designed to elicit liked or disliked elements, activities and environmental qualities. (See Appendix B for an example.) Following this, participants were invited to discuss the reasons for their image selections and to pick their three most meaningful images. Students then randomised the selected images before organising them into sets of three. Each participant was then presented with the 15 sets

of three images and asked in each case to select the image that was most important to them and give two reasons for their selection.

This direct engagement between students and older participants was very much enjoyed but students commented on the difficulty of navigating a route, ensuring the participants' safety, helping with technological tools being used and conducting an open interview.

Data generated from these activities were analysed by staff to generate tables of most-liked and -disliked elements, activities and qualities, which were then utilised by students to articulate clear age-friendly environmental aims for their design projects, represented in analytical research drawings.

Elements: Elements relating to Age Friendliness and mobility were the most cited by participants, (30 mentions) including better age-friendly signage and clearer maps. The lack of benches with places to rest and bad positioning of street furniture was seen as a drawback. Many surfaces on the site were not considered to be age-friendly, in particular cobbles for being difficult to walk on. The lack of public toilets was also seen as a particular negative. The next most important broad theme was natural elements (23). Many participants enjoyed greenery, including trees on the site, and would like to see more. The canals were also enjoyed, though the quality of the water was much commented on and clearly needed improvement.

The next important theme was existing elements (positive), as in elements to which the participant had a positive as opposed to a negative or neutral reaction. (16 mentions). Of these most enjoyed was the character of the existing historical, industrial architecture. Red bricks and bridges were also highlighted.

Qualities: The top two categories were accessibility (both into and around the site) and maintenance/cleanliness, both generating 15 responses. The peacefulness and tranquillity of the site were seen as positive qualities creating a sense of calm (11). Safety and security on the site was also seen as a key concern (9). The industrial history of the area was seen as a key positive to be built on. Many remarked on a desire for the area to be treated in an intergenerational way, using phrases like 'balanced community', 'intergenerational' and 'inclusivity'.

Activities: Different forms of socialising including meeting friends, having a drink/meal and visiting cafes and bars was seen by the group as their preferred activities on the site. Clearly participants saw the site as a social space with further potential. Interestingly, many participants indicated a desire to introduce wives and grandchildren to the site, indicating that they saw the potential for the site to become intergenerational in its inhabitation and activity. Clearly participants also felt the site would benefit from further activities, this being the second broad theme generated by the data. Proposed new activities were both commercial and cultural, with more shops, especially food shops, higher on the agenda. The desire for a market appeared to indicate a preference for specialist foodstuffs. Cultural activities such as art fairs and boat tours were also cited. The opportunity to rest on the site was seen as an important activity, as was exercise, with walking preferred. Participants were also keen to learn more about the area and its strong industrial heritage.

All of this data generated a clear body of age-friendly concern to be addressed in the students' design projects.

Focus group discussions investigated participants' feelings about the age-friendliness of the city in relation to the WHO's global age-friendly cities guide. Two focus groups were held in Manchester around the themes of 'Crime and Safety' and 'Welcoming and Engaging City'. The focus groups allowed for group discussions and personal opinions to be aired. Student researchers took full part in these discussions, which were chaired by a member of staff. Both focus groups were audio- and video-recorded. Key themes generated by the discussions were: modifying travel behaviour to reduce risks, inclusive places with natural policing through windows overlooking, the feel of places at different times of day and night, the vulnerability of ageing and the importance of multi-culturalism and a sense of place.

Year 2 of the project also utilised some of these methods to provide students and participants with an understanding of context before embarking on a shared architectural and urban, co-design exercise (see Figure 3.) Students worked with participants over a two-day period, with day 1 devoted to activities related to site analysis intended to provide an environmental understanding of the place.

These techniques were similar to those employed in year 1 but with some refinements. Day 2 involved three design-based activities:

1 *Save It/Change It*: In teams, participants and students created a 'save it' drawing and a 'change it' drawing. One identified buildings, spaces, features and qualities of the site they would like to retain—giving the reasons why. The second drawing identified all the aspects of the site the participants would like to change with a short written account explaining why and how these items should be changed. Participants' photos from the previous day's site walk-round, and materials collected by students during weeks 1 and 2 of the overall project, were used to prompt discussion.
2 *Design it/Master-Plan It*: Using the information collected from the previous activities, students and participants (in their teams) developed a three-dimensional master-plan for their site—using drawing and modelling techniques, indicating where redevelopment might occur and giving an indication of potential new built forms with building heights and massing. Potential uses of new buildings proposed on the site were to be proposed.
3 *Share it!*: Teams briefly outlined their proposals to the wider group, setting out the key, core features of their design followed a short question and answer session.

Figure 3. Co-design activities in Hackney Wick, London.

Finally, a short evaluation of methods employed was carried out with participants providing feedback on the two days of activities. In preparation for the design sessions, students pre-prepared a 1:500 site model of the Hackney Wick and Olympic Park area. This was divided into seven key districts related to the seven teams and was constructed of blue foam board with accurately constructed grounds and detachable buildings, making it easily transportable.

5.3. Interview and Focus Group Programme

Older people are considered potentially vulnerable participants in research, with special safeguards required to protect their well-being and ensure that informed consent is in place on behalf of participants at all stages of the research study. This requirement was particularly acute where students would be engaging with stroke survivors or people with dementia in their own homes. In looking to engage with older people with dementia and stroke survivors, it was necessary for us to make an application to the UK National Health Service for full ethical approval. This took a considerable amount of time and effort.

Focus groups were facilitated by members of staff. One set of focus groups explored participants' emotional responses to places and their favoured and less favoured indoor (domestic and non-domestic) and outdoor environments. A second set involved participants reviewing and commenting on the design proposals developed by the students. Members of staff described these proposals to the participants in non-technical language and encouraged discussion of their merits.

Individual interviews utilised three particular tools to elicit aspects of the home environment and immediate neighbourhood that were seen as important for the three participant groups of stroke

survivors, people with dementia and comparatively healthy older people. Research tools employed had to be useable with all three groups, some of whom may have issues with effective communication (Jenkins et al. 2012).

Tools employed were open-ended interviews, photo-elicitation interviews and 'Talking Mat' picture exchange interviews (Murphy and Cameron 2008). Interview questions explored perceptions and use of the home, perceptions of outdoor environments and the relative importance of various aspects of the home and outdoor environments. The tools were developed following analysis of literature on the determinants of satisfaction in relation to residential environments amongst older adults and the essential components of an age-friendly city found in the World Health Organisation's *Global Age-Friendly Cities: A Guide* (World Health Organisation 2007)—specifically those found in the chapters on outdoor spaces and housing. These recommendations provided a framework through which to explore participants' thoughts on the home and its surroundings. The WHO's guide is positioned as "a tool for a city's self-assessment and a map to chart progress towards becoming a more age-friendly city" (World Health Organisation 2007, p. 11). It sets out a checklist of policy based and environmental improvements that cities can undertake with a view to becoming more age-friendly. Some UK cities have actively taken up the guide and its recommendations, including Edinburgh, Manchester and London. This focus created an opportunity to explore the relationship between policy aspirations and the lived experience of older adults. The interviews were carried out by staff, with students occasionally sitting in, throughout the course of semester 2.

The interview and focus group data were analysed by members of staff with findings made available to the students to inform their design proposals.

Involving students with real users and particular demographic groups again comes with a series of competing objectives. Often the needs and desires of lay people may be at odds with more rarefied concepts forged in the intellectual world of contemporary architectural theory. In a more particular sense, projects involving participatory techniques and particularly co-design need to negotiate a path between the different value systems of lay people with specific needs and the more academic and esoteric value system and culture within which their work will be assessed. These competing objectives can certainly become confusing for students if not managed in an appropriate way by staff.

5.4. Co-Design Issues

In relation to MMP the issue of representation of ideas for different groups became particularly pertinent. In architecture schools drawings and models often require particular skills in being able to read and de-codify the images presented, with semantic complexity encouraged along with textual dexterity in the explanation of concepts. The use of jargon is an accepted norm. However, explaining propositions (both visually and verbally), not just to lay people but to older people with different skill sets, more particular needs, and sometimes physical and mental issues in the form of visual, aural or mobility impairments, required a complete re-appraisal of what constituted effective communication, from the complexity of visual imagery to the size of text on a drawing.

Co-design exercises were embraced enthusiastically by all who took part, including staff, students and participants. Students clearly valued the depth of knowledge and understanding that could be achieved through considered forms of engagement. The wealth of data produced in a short time can be of immense value to students (and designers) in the understanding of place-specific forces through the eyes of a particular user group. Of greater surprise to students was the tenacity and boldness with which the older people generated often daring concepts and design propositions, from the transformation of an existing viaduct into a linear park with housing above in Manchester to 'walkways in the sky' engaging with inaccessible graffiti art in Hackney Wick, London. Students clearly anticipated a certain design-based conservatism amongst older people and the fact that more often the opposite was the case ran delightfully counter-intuitive to the student group's expectations.

6. Age-Friendly Outcomes

Age-friendly outcomes from the first two years of the Mobility, Mood and Place, Work Package 1 studio project have fallen within the three domains explained previously.

1. Analytical.

   Age-Friendly Lens focussed on Manchester and London.
   Interviews/focus groups with older people in the City of Edinburgh.

2. Methodological—Co-Design
3. Products of Design

Through fieldwork and co-design activities in Manchester and London, we discovered a reasonable fit between the World Health Organisation's *Global Age-Friendly Cities Guide* and other key UK guidance such as ID'GO toolkit on *The Design of Streets with Older People in Mind* (ID'GO 2007) and the concerns of older people in these cities. Key concerns were: assisted movement, close proximity to amenities, connections to nature, a legible environment, opportunities for physical activity, safety and security and social inclusion. Through the fieldwork techniques explained previously, students were able to then produce contextualised representations of these generic issues that illustrated clearly for designers and others how these issues manifested themselves in the particular places studied.

In the particular study locations of Castlefield, Manchester and Hackney Wick, London, there were a number of key concerns for project participants such as a lack of places to sit and rest in the urban realm, a lack of accessible and connected up green space, challenges in the physical landscape due to barriers to mobility, distances to essential amenities, unclear routes and difficulties with way-finding, absence of feelings of safety, among others. Research representations of these particular age-friendly issues used mappings, diagrams, annotated photographs and three-dimensional drawing to illustrate a body of 'place-specific, age-friendly concern' (see Figure 4).

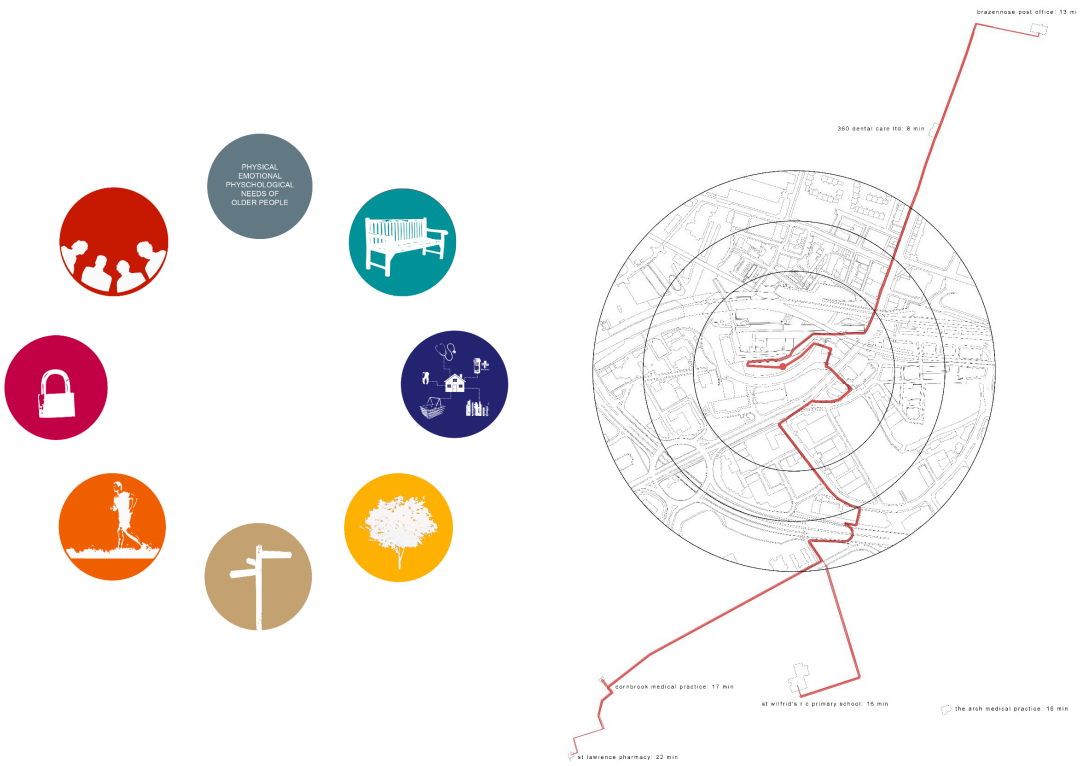


Figure 4. *Cont.*

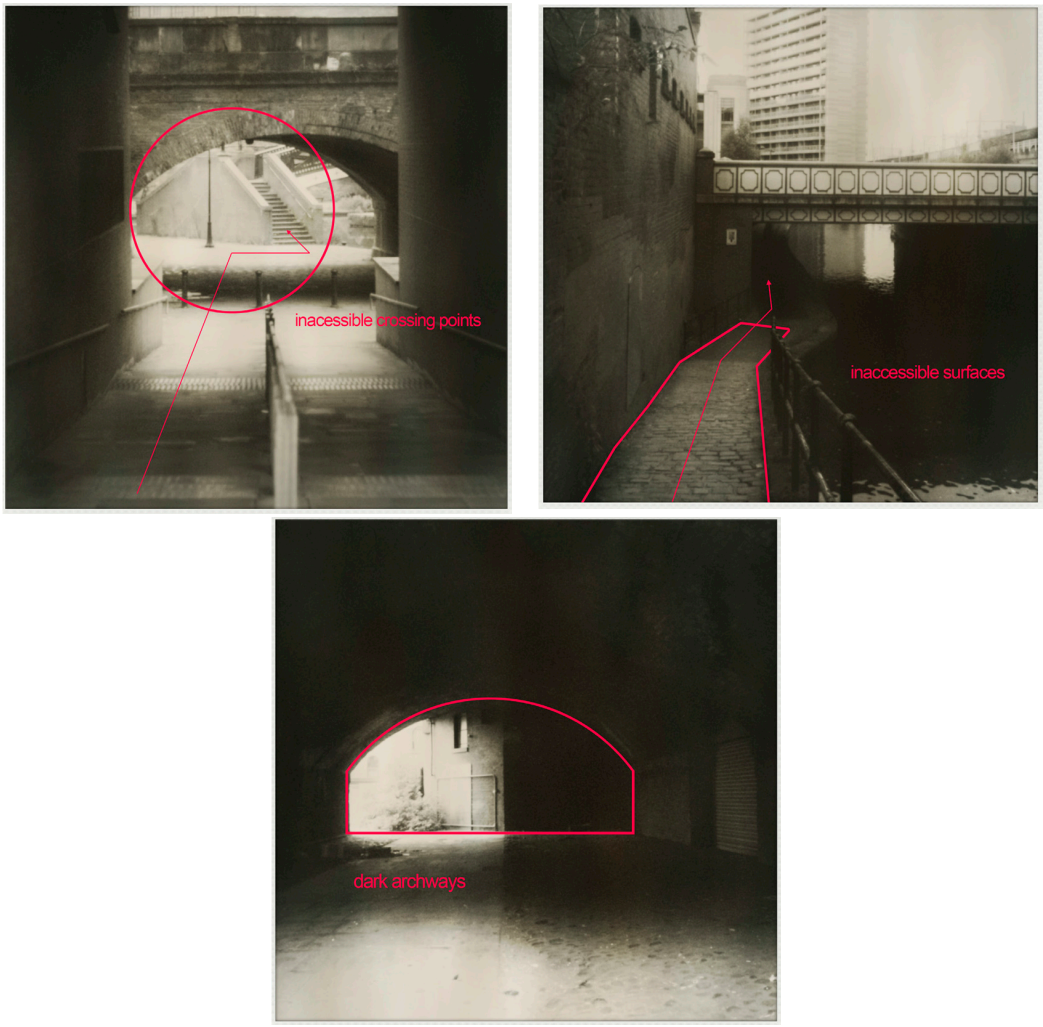


Figure 4. Mapping and recording older people's concerns on a journey through Castlefield, Manchester. (Knight, Sharpe and Phillips.)

The dataset generated by the programme of focus groups and interviews with older people (including people with dementia and others who had survived a stroke) was made available to the students to help in the design of domestic and neighbourhood qualities, including building details which carefully considered the older body.

Data from this part of the research project have also been utilised in the production of further research outputs. Firstly, a study related to the home as an enabler of more active lifestyles among older people, examined the role of the design of the home environment in preventing sedentary behaviour amongst older adults and promoting more active, healthy lifestyles (Brookfield et al. 2015). Secondly, a study of how everyday components of the built environment can complicate or enable increased mobility in older adults has been presented at conference (Brookfield 2016).

6.1. Methodological Insights

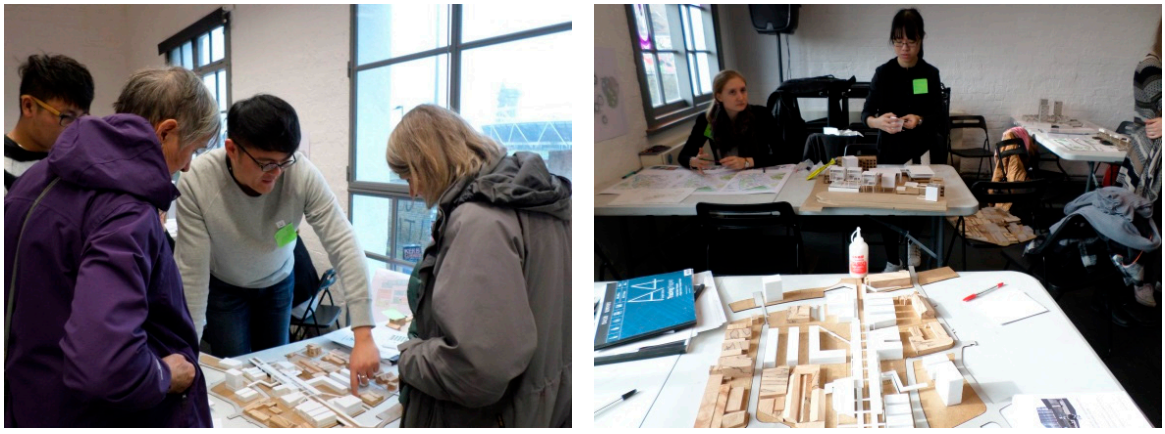
Methodological insights from the three years of MMP are being disseminated through a tool-kit detailing an *A-Z of Age-Friendly Co-Design*, highlighting a compendium of approaches to be considered in designing engagements with older people. Targeted at designers, user groups, community groups and policymakers the tool-kit will provide a shorthand guide to key issues to consider, along with references to further published material.

As the guide contains a compendium of 26 outlined issues to consider, only an overview of the key findings and issues highlighted are listed here.

Running effective and meaningful co-design activities is time consuming and expensive. Practitioners need to be clear about this. Accruing relevant skills and knowledge, recruiting appropriate participants, designing effective methods, organising the event, implementing and running the activities, managing and analysing data, and creating products that disseminate outcomes effectively are all activities that take an enormous amount of time as well as human and financial resources. Methods need to be carefully designed to be suited to the areas of concern and to be capable of effective implementation without raising any ethical concerns. The capacities of the participant group need to be carefully considered. In working with older adults, the amount of time given over to activities and the potential for tiredness was a key concern.

Different user groups clearly necessitate differing approaches to reflect the skill sets and strengths and weaknesses of those taking part. Engagements must be designed to be enjoyed. If participants are enjoying what they are doing, they contribute much more effectively. In gathering data on older people's feelings about particular places, ethnographic walking tours were both useful and enjoyed, whilst also fitting well with the requirement of our exercise to generate some place-specific knowledge and understanding before making propositions. The place-specificity or appropriateness of methods used must also be considered and walking tours for older adults in busy and sometimes dangerous urban environments need to be carefully planned to ensure the safety of those taking part.

MMP co-design sessions seemed to work most effectively when participants were offered a choice of activity and could choose their method and duration of engagement, rather than being offered a single point of focus. Clearly this is more difficult to organise and can potentially require more facilitators, but this approach allows participants to engage in relation to their own perceived strengths and interests. Some participants in the MMP project were confident in contributing to drawing and model-making, whilst others preferred just to chat and jot down thoughts. Some were confident making contributions in group settings, whilst others were happier with one-to-one situations. In year 2 of the MMP Project the semester 2 participant review of developing proposals was changed from a presentation-based workshop where designers gave short presentations to a participant audience; to an interactive, informal 'design fair' where participants could informally walk around, engage with the proposals and chat to the designers (see Figure 5.) Again, this more informal approach that allowed participants more control over the form and duration of their engagement worked better.



(**a**) (**b**)

Figure 5. (**a**,**b**) Design fair review session with feedback from older participants in Hackney Wick.

6.2. Design Products

Originality in the design of age-friendly environments occurred in different ways. Firstly, through the programmatic incorporation of existing age-friendly guidance in an holistic way; from attractive and well-defined public space to accessible transport interchanges, well-considered surfaces, adequate provision of public toilets, provision of places to rest within the public realm and the provision of well-maintained green space.

More thematic environmental concerns such as way-finding, safety and social inclusion were also dealt with in different ways through the provision of intense mixed-use public space that included housing for older people in proximity to shopping outlets, theatres and other work spaces. Clear and navigable urban spaces with appropriate landmarks and elements of orientation were strived for. Older people clearly stated during the co-design exercises their wish to be included in intergenerational public spaces but with the opportunity to take a more passive role in any public activity. In attempting to address this desire students considered in great detail the layers of public space within their designs to afford edges that offered opportunities to 'retreat, rest and regard' with respect to public activity (see Figure 6.) The layers of defensible space between public and private realms for older people were also the subject of intense design speculation.

Figure 6. Detail of communal lounges below age-friendly housing to the green line in Castlefield. (Knight, Sharpe & Phillips.)

Many older people expressed a desire to see the older artefacts of the city such as viaducts and other forgotten infrastructure, warehouses and abandoned buildings invested in and 'given new life' by the students' designs. This became an important thematic driver for many in pursuing propositions that peeled back the layers of history of built form in an archaeological way before intervening, as a way of uncovering the deeper layers of cultural and social history embedded within the city and its artefacts.

Age-friendly affordance was designed at all of the scales from the city to the body, from the provision of well-designed and connected green space at the city scale in both Manchester and East London to the design of soft infrastructure providing for well-protected and adaptable spaces between buildings, to facades that in their detailing and adaptability provided for comfort in a range of conditions, to the very particular design of handrails and seats in public spaces that provided affordance to the older body (and others) in both public and private contexts (see Figure 7.)

Figure 7. Lightweight adaptable facades within arches in Castlefield, Manchester (M. Scott.)

In our engagements in Manchester and London it seemed clear to us that older people wanted very similar things to people of other age groups in the design of their city spaces and neighbourhoods, the issue being more that if designers do not deal with these thematic issues in a clear and positive way then older people are more likely than others to be excluded from the city and its public realm.

7. Conclusions—Potential Added Value for All

Going outdoors is essential for maintaining health and well-being into later life. There are many aspects of the design of our urban environments that need to be clearly considered by designers to make going outdoors easier, more enjoyable and meaningful for older people. From our work with students and older people these include: well-lit spaces, legible environments, access to services, access to nature, social opportunities, optimising mobility, a mixture of uses, safety and security, enhancing cultural memories, and designing for the senses and for goal setting.

Much of this article highlights competing features and objectives in the design of a pedagogic studio project that also forms a part of funded research and engages in live techniques of public participation.

If understood and considered early in the pedagogic design, the added value that can accrue for all parties can be considerable. If the actors at play in such a project seem to be the students, the research project, the studio vehicle and the live participants then the added value(s) that can potentially result (from our experience of running the Mobility, Mood and Place studio) are as follows:

7.1. Added Value for Students

Students are clearly enthused by live participation and involvement in funded research. Certainly our groups were energised by being part of a real research project; however, students find it difficult to make a meaningful connection between research and design. A clear framework needs to be presented to allow them to make fruitful use of the products of research in generating project aims and resultant design outcomes.

Students enjoy the fact that they might make a contribution to a knowledge canon through analytical or design-based contributions. They can potentially gain a clearer understanding of

appropriate research techniques and methods, thereby contributing to their effective implementation and critique of their effectiveness.

Students have access to a wider range of academics and knowledge than would typically be the case (especially in an interdisciplinary project like MMP), with members of the research team potentially making studio project contributions.

Students have an opportunity to engage with real people and develop communication skills and concrete understanding in relation to people-based issues and particular groups, develop skills in negotiating differing value systems in relation to their work, and develop an understanding of issues of appropriate representation to different parties.

7.2. Added Value for Research Project

The research project will benefit from increased human and intellectual resources, in tapping into the creative and critical acumen of students. A group of students, all implementing research methods (including interviews and co-design techniques), can generate a wealth of data in a short space of time that can then be shared amongst the student group and the wider research team. Organisation and critical analysis of data needs to be carefully considered as students are not skilled in these tasks and do not typically have much time for these activities within their studio pedagogic framework. This can place a burden on staff.

The research project can potentially generate new knowledge within the unusually different domains of analysis, methodology, design and representation and can also generate data that can be used to generate discrete research outputs not necessarily directly related to studio production.

7.3. Added Value for Studio

The studio will benefit from engagement with 'real-world issues' in a more objective way than some studio-based projects along with the cache, additional resources and organisation that comes from being part of a funded research project.

The opportunity to generate properly researched, analytical insights that underpin design aims and objectives provides further additional value.

7.4. Added Value for Participants

Our older participants certainly appeared to enjoy the activities and resultant social interaction that went with them, along with a sense that the knowledge and understanding accrued over a lifetime can be shared with others and has value.

Participants can also benefit from feeling that a contribution is being made to help improve issues related to their own demographic group and people in general.

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Data Availability: Where anonymisation is possible, the data associated with this work will be considered for deposit in the data repository operated by the authors' institution in 2017 when the research programme associated with this work ends.

Research Ethics: All work outlined in this paper was subject to ethics approval from the Edinburgh College of Art Research Ethics Committee. The research carried out during year 1 of the project was also subject to NHS ethics approval. R& D Reference: NHS Lothian 2013/0090.

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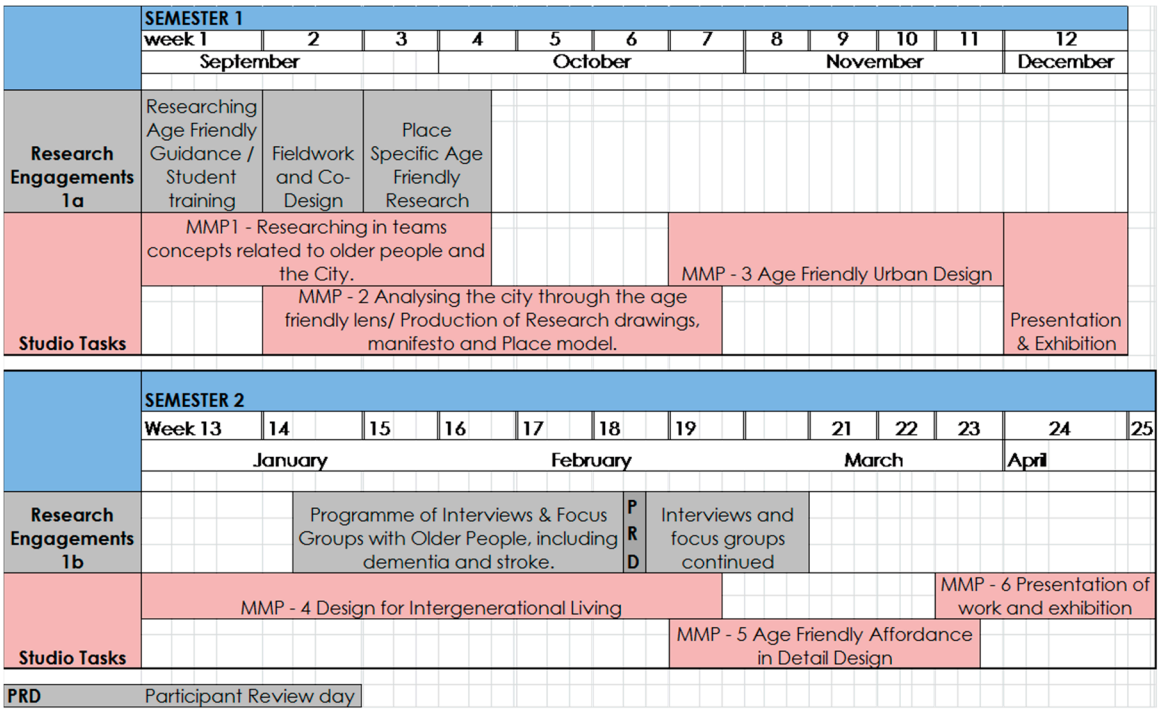
Appendix A Programme Illustrating Relationship of Research Engagements & Studio Tasks



Appendix B

Site Interview

1. What do you like about this place? Why?
2. What do you not like about this place? Why?
3. What would you enjoy doing when you are here?
4. What would you like to do here that wouldn't be possible?
5. How could this place be better?
6. Other observations

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