CO-MOTION: CASE FOR SUPPORT

The PI and team: The ‘Co-Motion Consortium’ is led by Prof Rebecca Tunstall. She is Director of the Centre for Housing Policy and Joseph Rowntree Professor of Housing Policy, University of York, holds an MA in Urban Design from Oxford Brookes University, as well as a PhD in Social Policy from LSE, and has 20 years’ experience of policy oriented research on housing and urban neighbourhoods, and resident experiences and attitudes. The Consortium is senior and multi-disciplinary. It draws members from the Departments of Computer Science and Health Sciences, the Stockholm Environment Institute, and the Centre for Housing Policy, all at the University of York, the Institute for Transport Studies, University of Leeds; the School of Architecture, Planning and Landscape, University of Newcastle; and the Department of Psychology, Northumbria University. The project CIs (Prof Petrie, Drs Cinderby, McInnes and Edwards, Mss Gilroy and Hodgson and Mr Matthews) are all experienced, senior researchers, and all will be directly involved in intensive information gathering and prototyping work with older people and stakeholders.

Track record in designing and delivering major research projects: The PI, CIs and other team members have substantial track record in planning and managing large, multi-year research and intervention projects. These include projects presenting similar challenges to the present proposal: inter-institutional, multidisciplinary teams, stakeholder partnerships, extensive participation, and product development.

Prof. Tunstall has been PI and CI on neighbourhoods and social inclusion research worth £700,000, and is currently PI for two small ERSC and AHRC projects (ES/J010391/1 and AH/J01217). Dr Cinderby was PI on ‘Design and implementation support tools for integrated local land use, transport and the environment (DISTILLATE)’ (GR/S090629/01, £1,377,318), and the ‘Inclusive and sustainable infrastructure for tourism and urban regeneration scoping study’ (EP/D011671/1, £153,933), and also worked on worked on the AUNT SUE EPSRC programme. Ms Croucher is currently PI on ‘Dementia and Sight Loss: Developing Social Care Practice’ (NIHR, grant number (T976/T11-084/UYKC, £205,800). Dr McInnes was PI on ‘New metrics for exploring the relationship between mobility and successful ageing’ as part of the ‘New Dynamics of Ageing’ programme (all UK councils) (RES – 352–25 – 0023, £241,041). Prof Petrie was a consultant on the BRAVIS Project: ‘Haptic and vision display for the blind’, which investigated using image processing to assist blind people to navigate (EU, FP7 SME Programme), team member of the PACCIT Programme ‘LBS4All: Location-based services for all’ which investigated using location-based services for personal navigational support for visually impaired people (EPSRC/ESRC/DTI). She was Project Coordinator for ‘MultiReader’, which developed a multimodal, multimedia navigation and reading system (European Commission, £1,018,131), and Project Manager for another PACCIT Programme ‘VISTA: Virtual Interface for a Set-Top box Agent’ in partnership with broadcasters (£432,367).

The team has a track record of successful implementation of all the relevant processes and methodologies for this project: gaining ethical approval for research and engagement with vulnerable people including the older old, systematic review, participatory and deliberative research, in-depth interviewing and engagement with vulnerable people, wellbeing and other psychological testing, co-design, design, engineering and testing of assistive technologies, and the development and evaluation of policy and practice guidance.

Track record of academic publishing from research: The PI and team members also have a track record of publication in their multiple disciplinary research on ageing and mobility, wellbeing, housing and neighbourhoods, social inclusion, and driving; cognitive and sensory impairment, wellbeing technology; inclusive design of the built environment, transport, human computer interface; mobility and travel, transport planning and engineering, accessibility metrics; neighbourhood types, and care homes. They aim to build on this record and to publish a total of c25 articles from the Co-Motion project. Some key publications by team members (in bold) include:
• Gilroy, R (2012) ‘Promoting choice and independence for all ages’ in Wellbeing and Place, Abingdon: Ashgate;
• Cinderby, S (2009) ‘Participatory Geographic Information Systems for inclusive urban design in UK cities’, Area, 42(2) 239-251; and Lord, S, Chastin, SFM,
• Lupton, R; Fenton, A, Tunstall, R and Harris, R (2010) Using and developing place typologies for policy purposes: A toolkit London: CLG

Track record in creating impact from research: In addition, the team has a strong track record in creating impact from research through influence on policy and guidance, and through practical development of new technologies and products. Prof Petrie holds the ACM Social Impact Award for new technologies for disabled and older people, and both she and Mr Matthews have developed ‘apps’ to support mobility. With an industrial partner, Trackfon, Dr McInnes’ ‘New Dynamics of Ageing’ project developed tracking technologies for use by older people. Prof Tunstall, Drs Ziegler and Bevan, and Ms Gilroy and Croucher have carried out policy and practice research and consultancy for numerous local authorities, housing and care providers. The Design Council have an unvilled reputation for turning ideas into impactful prototypes and businesses, through networks, dissemination skills and industry awareness. The team aim to build on this record, with a strong dissemination and pathways to impact plan. (See staff CVs for further details).
PROPOSED RESEARCH AND ITS CONTEXT

The context of the research: Wellbeing in later life is linked to the maintenance of independence, physical mobility itself and the sense of being able to get about. Mobility is vital for accessing services, resources and facilities, for participation in communities and society, and for avoiding loneliness. Thus mobility has been described more broadly as ‘engagement with the world’. The design of the built environment has a key role to play in enabling - or frustrating - mobility (Kerr, 2012; Newton et ai, 2010). Thus appropriate design or redesign of the built environment can expand horizons and support wellbeing. However, in this project we focus on complements or alternatives to physical design or redesign of the built environment, which can be personalised to individual needs, may bypass conflicts and contradictions, may have wellbeing impacts in their own right, and provide additional options for stakeholders.

Firstly, design and adaptation cannot meet all needs at once. There are growing calls for research and innovation to address potential conflicts in the built environment arising from the varied mobility needs and interests of different people. A key national stakeholder, the pedestrian advocacy group Living Streets, who are supporting our work, said: “we need to understand better what works for different users and whether the needs of all users can be adequately addressed. We therefore call for Government investment in further research.” (2009, p10). Older people have very varied mobility desires and capacity: from ‘well-off, active ‘younger old’ using cars for national mobility and planes for global mobility, to those who need support of others, of vehicles or technology to leave their homes, and those with special barriers to mobility due to physical, sensory or cognitive impairments.

Such diversity can exist within a single city, neighbourhood, household, and needs and wants may vary substantially within a single household and for one individual over time. Over the life course, people pass through key transitions which may dramatically change mobility and wellbeing. Time turns most drivers into pedestrians; death may take the only driver in a household; sensory loss may make a confident independent person into someone who has to re-skill their way finding abilities; poor health may exclude previously used transport modes or route ways. This issues forms another focus for our research.

Secondly, adaptations and technologies which provide ‘solutions’ for some problems and some groups compound accessibility problems for others. These include tactile surfaces, home zones, shared spaces and ‘naked streets’, and mobility aids such as scooters (eg Atkin ud). For example, specific design features such as tactile pavements intended to improve mobility for people with visual impairments (IDGO, 2012) can cause difficulties for people who use mobility scooters. The use of mobility scooters has itself come under increasing scrutiny (Transport Committee, 2010), and raises the issue of how spaces such as footpaths and roads are shared with other users.

In addition, adaptation to promote mobility can be in conflict with other agendas, including sustainable development, the minimisation of private car use, promotion of pedestrianism and cycle use, and the protection and improvement of historic environments. In their letter of support (attached), The North of England Civic Trust refers to the conflict between choice of surfaces for heritage reasons and for mobility. Similarly, York Blind and Partially Sighted Society refer to the conflict between the needs of partially sighted people and plans to reduce street lighting to save money and environmental resources.

Finally, design and adaptation is time and resource intensive. Many well-understood mobility barriers remain in place, and resources for change are limited. Adaptation of the built environment is a major cost for local authorities, now facing some years of constrained budgets, and technologies which enhance mobility via alternatives are likely to be attractive and might receive third sector or public-sector co-funding.

Research aims: The Co-Motion project is of national importance. While it builds on the substantial foundation of research and policy and practice innovation, it extends this work and offers the potential for a step-change in mobility and wellbeing for older people, by responding to these contextual challenges. The Consortium will work very closely over the
course of the project with a relatively large and diverse group of older people and stakeholders from three diverse areas of the UK. It aims to develop new concepts and knowledge, but also to develop and test a suite of complementary practical interventions that have potential to be readily implemented, and to create real benefits within limited resources. Co-Motion’s five distinctive objectives are to:

1) Explore mobility and wellbeing for older people going through critical but common life transitions, and over the medium term;
2) Investigate and address variation and contradictions in needs of different groups of older people, and between built environment agendas and guidance promoting the needs of different groups and of different goals in addition to mobility;
3) Carry out participatory research and development, which may have wellbeing impacts in its own right;
4) Focus on complements or alternatives to physical design or redesign of the built environment, which can be personalised to individual needs, may bypass conflicts and contradictions, may have wellbeing impacts in their own right, and provide additional options for stakeholders;
5) Provide not only new concepts and knowledge but a suite of implementable new tools and prototypes for stakeholders, which will promote mobility and wellbeing.

The methods: Co-Motion involves intensive interaction in three sites between older people, other local and national stakeholders and researchers. The sites and participants will be purposively selected to explore a full range of mobility, wellbeing and intervention issues. The project will make use of a range of research methods, from qualitative interviewing, ‘mobile methods’, administration of psychometrics, to programming, participatory GIS and product design.

Project management: The team is intentionally senior and relatively large, to benefit to the full from the interdisciplinary and multiple methods requirements of the project. Co-Motion will be delivered through 11 Workpackages, most carried out by small, interdisciplinary sub-teams, each with its own leader/s. Project management will remain the responsibility of the PI, and will be based on a combination of monthly formal mini-team meetings (when each workpackage is active) and PI updates. There will be quarterly face-to-face whole team meetings incorporating mutual training on methods in early stages and seminars feeding back results later on. The team will be supported by a mixed academic and practitioner advisory group, with annual face-to-face and six-monthly virtual meetings.

Workpackages and methods in detail: The Workplan (attached) indicates how the various phases will be phased over the project. In general, successive Workpackages are dependent on and integrated with the findings of the preceding ones.

Part I : Workpackage 1, Foundations, runs from Q1-Q3 and is led by the PI, Prof Tunstall. It will commence with a team-building session hosted by Design Council advisors on the methods for ‘inquiry by design’. It will incorporate finalisation of methods, preparation of research instruments, and application for ethical approval. It will confirm the choice of fieldwork sites. Fieldwork and workshops and co-design are likely to be based in the diverse built environments found in the settlements of York, Leeds and Hexham and its surrounding rural communities. Their design, topography and infrastructure present diverse accessibility and adaptability issues. Their populations and mix of stakeholders are also varied. Key stakeholders from these sites are already committed to participate (see Letters of Support). The Foundation stage will also establish an academic and stakeholder advisory group.

Workpackage 2, National stakeholders, runs from Q1-Q4 and is led by Ms Croucher. It includes a brief national policy review and interviews with c20 national stakeholders in Year 1. to explore older people’s mobility wants and barriers, wellbeing and the link with mobility, conflicts between the needs of different groups and different built environment agendas, and potential solutions. Stakeholders who have already indicated interest include the Royal Town
Planning Institute, the Thomas Pocklington Trust and Age UK. With Design Council advisor guidance, we may also approach key innovative ‘non-stakeholders’, who may have transferable ideas from non-cognate fields. National stakeholders will be invited to attend national feedback events alongside others in Year 2 and 3, and will be interviewed again in Year 3, to assess any changes, to discuss results, and as a means to commence dissemination and impact. This stage will inform and assist subsequent Workpackages, provide a foundation for dissemination and impact activity, and result in independent output in a contribution to the final report output.

Workpackage 3, Local stakeholders, runs from Q2-Q4 and is led by Dr Bevan. The work starts in Year 1 with a brief local policy review. Another team member will take individual responsibility for each of the three proposed sites: Leeds (Dr Andrews), York (Dr Ziegler) and Hexham (Ms Gilroy) (assuming this site choice is confirmed). Researchers will establish relationships with c15 local stakeholders in each site, and c45 overall. It is intended that these relationships will last throughout the project and beyond. Stakeholders who have already expressed interest include, for example, York City Council’s Supporting People team, its i-Travel team. In Year 1, interviews will be carried out to explore similar issues to those in Workpackage 2. They will also be used to recruit local older person participants for subsequent Workpackages. Local stakeholders will be invited to attend feedback events alongside others in Year 2 and 3. Again, this stage will inform and assist subsequent Workpackages, provide a foundation for dissemination and impact activity, and result in independent output in a contribution to the final report.

Workpackage 4, Places, led by Prof Tunstall, will create a typology of built environments in relation to mobility, adaptability and wellbeing and suitability for different interventions. This will be drafted in Year 1, drawing on national and local policy reviews, older person and stakeholder interviews, and refined and concluded in Year 3. The aim is to provide a guide for national and local stakeholders detailing the generalisability and implementation of ideas to promote mobility and wellbeing.

Part II: Workpackage 5, Transitions, consists of an innovative tracking study of both mobility and wellbeing over the medium-term, working with c120 older people (c40 in each site). The package will run from Q2 in Year 1 to Q3 in Year 3, and will be lead jointly by Ms Croucher and Dr Bevan, who have worked together on numerous projects, and who will carry out a large part of the fieldwork. However, as above, another team member will take individual responsibility for each of the three proposed sites: Leeds (Dr Andrews), York (Dr Ziegler) and Hexham (Ms Gilroy). The aim is provide new knowledge on transitions over time in mobility and wellbeing and how they co-relate (building on work done by I’DGO on responses to interventions over time). Findings from ‘Transitions’ will be used to confirm the choice and develop the detail of the subsequent workshop and co-design activities (Workpackages 6-8).

A purposive sample of older people will be drawn up to represent a spectrum of the life course, of mortality and of wellbeing, including the ‘younger old’ from 55 years upwards and the ‘older old’. We will focus on people experiencing one or more of critical but common life transitions: Losing a driving license, Losing sight, Losing a partner, Becoming a carer, Going into care, or having a partner going into care, and Starting to use a mobility scooter. With the exception of the latter, these transitions are often seen as key points for deterioration in mobility and wellbeing. Each person experiencing a transition will have new insights into how the built environment and other factors affect their mobility, and how mobility affects wellbeing. Transitions also offer key points for support and intervention. We will work with c10 people experiencing each transition; although over the life of the project, some participants will experience additional changes. Participants will be recruited largely through the local stakeholder organisations; several have already offered to help (see Letters of support). Participant numbers have been selected to allow for 25% drop-out over the study. The study will track participants over 24 months from Year 1 to Year 3. It will
involve an in-depth face-to-face meeting in Year 1, six quarterly briefer phone contacts, and a closing face to face interview.

Interviews will explore older people’s mobility, mobility goals and barriers. They will map key personal journeys, key activities and social contacts, and explore wellbeing, including through a formal test, developed with Prof Croudace. They will ask particular questions about the experience and the impact of transitions. Participants will receive a high street voucher to as token of thanks for their time for face to face interviews, and will be invited to participate and stakeholder events in Year 2 and 3.

Part III: The next Workpackages 6-9 will run in parallel, starting in Q2 of Year 2 and concluding in Q3 of Year 3. They will involve working with small groups of older people from the case study sites in workshops, co-design and proto-typing. Similar recruitment methods to those from Workpackage 5 (Transitions) will be used to find c60 older people interested in active involvement. ‘Transitions’ participants will be invited to take part if they are interested in doing so. Evidence indicates that for many people, such participation may be of wellbeing value in its own right: this will be formally tested. Participants will receive a more substantial high street voucher as a token of thanks for their time for face to face interviews, and will be invited to events in Year 2 and 3. Again, numbers of participants have been selected to allow for a 25% drop-out rate.

Workpackages 6-9 aim to produce useful and implementable tools with the potential to advance older people’s mobility and wellbeing. Each of the workpackages will involve a series of three day-long meetings between researchers, older people, and (in some cases), selected stakeholders, over a year. Participants will work interactively and iteratively on problem definition, solution identification, development and testing. The first session is likely to involve collective consideration of mobility wants and barriers, focusing on issues raised in Workpackages 1-5. In most cases this will involve some ‘mobile’ methods and the support of Living Streets: group walkabouts, short journeys or visits to problematic sites, which will be recorded on video. Researchers will offer to visit those unable to attend, and will use a variety of methods to go through the workshop discussions with them. The project will also cover the costs of carers attending or cover for caring responsibilities if necessary. Researchers will continue to develop ideas between meetings. In each of Workpackages 6-9, results will be demonstrated to local and national stakeholders likely to be interested.

Workpackage 6, Co-information, led by Dr Cinderby, includes workshops on experimental crowdsourcing (collation of data from numerous participants) and Participatory Geographical Information Systems. These will demonstrate how information from multiple individuals (including Transitions interviews) can be collated, analysed, and discussed, to identify potential consensus, potential conflicts and priorities. Crowdsourcing would seek information from beyond the direct participants themselves, via social media and other networks. This method is widely used by local authorities and voluntary bodies to collate information on environmental problems. The result is likely to be low-fi and costed models of participatory GIS and crowdsourcing, with comments on the circumstances under which they can be set up and work well.

Workpackage 7, Co-operation, led by Ms Croucher and Dr Bevan, with the support of Living Streets, will consist of deliberative workshops with selected groups of older people and stakeholders. The older people will have varying needs and interests. The stakeholders will be responsible for guidance to meet different needs, or for promoting other agendas in addition to mobility. Deliberative techniques explore potential for consensus and principles for priorities in cases of conflicting needs and interest, (eg Nielsen et al. 2008). Again, the outcome will include description of the deliberative methods, but is also likely to include some principals for prioritisation derived from the work, and potentially proposed adaptations to existing local and national design guidance which generally focussed on one type of need at a time.

Workpackage 8, ‘App’ co-design, led by Prof Petrie, with Drs Edwards and Swallow, the programmer RA and Mr Matthews, involves co-design workshops with older people to explore mobile technologies based on SmartPhones, to assist in overcoming key blockages
to mobility, depending on results of earlier phases. Low-fi prototypes of promising mobile technologies will be developed and trialled with older people. Prof Petrie has carried out similar work with blind people; Mr Matthews has done similar work with disabled people, and local stakeholders in York have experimented with web-based versions. The outcome will be one or more apps ready for use, and for widespread use after further refinement.

Workpackage 9, Scooter co-design, led by Drs Ziegler and Andrews, involves co-design workshops with older people, stakeholders and manufacturers to explore the feasibility of one or more potential mobility scooter adaptations. Depending on results of earlier phases, these could include driving simulators, web-based or live training and safety innovations including balance sensors. The outcome will be a series of proposals as alternatives or complements to regulation of scooter use.

Part IV: Workpackage 10: Feedback and dissemination runs throughout the project. It will be led by Prof Tunstall, with the whole team making an active contribution. It consists of a substantial number of activities during and at the end of the programme, both feeding back to research participants and communicating with additional audiences.

Workpackage 11: Legacy, also led by Prof Tunstall, takes place in Year 3 explicitly intends to focus on the legacy of the project in local areas, and at national level.

Ethics and research governance: Approval for the projects will be sought from the University Research Ethics Committee at the University of York in Q1 as part of Workpackage 1. Applications for ethical approval may also be submitted simultaneously to other Co-Motion consortium partners’ ethics committees. The project will also comply with the Research Councils UK Code of Conduct. Working with people who may be vulnerable due to experiencing difficult transitions in their lives, and who may have a diverse range of impairments and conditions, raises ethical issues, especially regarding making contact, obtaining informed consent, and avoiding harm. The research team will follow specific and established procedures to comply with the Mental Capacity Act. Participants will be assured that all information will be treated anonymously and used for the purpose of research only. Assurances will also be given that any personally identifiable data will be stored in a secure, password protected, environment in accordance with data protection regulations. Repeat interviews and contact in workshops require renewed informed consent. It is possible that some participants’ vulnerability and ability to give informed consent or to participate may change over the course of the work. Numbers of participants have been selected to allow for a 25% drop-out rate. Some workshops are intended to explore differences in needs and interest, which could potentially be distressing for some participants if not well handled. Potential ethical concerns related to stakeholder participation will not be overlooked.

Project outputs and outcomes: Outputs will include: a project website, accessible annual interim and summative reports to project stakeholders and others, summative report, articles for academic journals across team member disciplines, trade press articles for relevant professionals, potentially video or new media, a local stakeholder and older person conference and national ‘Roadshow’, as well as other dissemination events (see below). Outcomes to be reflected in these outputs include: Insights into overlaps and conflicts in needs of diverse groups, and different urban agendas and design guidance; evidence on the potential of crowdsourcing and participatory GIS for information gathering and analysis; evidence on the potential of deliberative methods to identify consensus and priorities; proposed adaptations to existing local and national design guidance; a selection of tested prototype technologies to provide alternatives and complements to changes to the built environment; further evidence on the relationship between mobility and wellbeing, and evidence on any relationship between deliberation and prototype technologies and wellbeing; a typology of places to enable appropriate dissemination; new/strengthened stakeholders and older person networks in research sites; and increased capacity in multidisciplinary ageing, mobility and wellbeing research and technology.
References: Atkin, R (ud) Sight line: Designing better streets for people with low vision London: Design Council
Cinderby, S (2009) 'How to reach the 'hard-to-reach': the development of Participatory Geographic Information Systems (P-GIS) for inclusive urban design in UK cities' 42(2) 239-251