

Institution: University of Glasgow

Unit of Assessment - C16: Architecture, Built Environment and Planning

A. OVERVIEW

Over the past 25 years, Urban Studies at the University of Glasgow (hereafter referred to as USG) has evolved into one of the leading international centres for research on neighbourhoods, cities and regions. Its concerns span all aspects of social, economic and physical change in cities, and include communities, governance, health, housing, inequalities, planning, transport and real estate.

Between 2008 and 2013, USG's research base has been significantly strengthened through strategic investment and growing collaborative endeavour. This period has been one of substantial transformation and expansion at the University of Glasgow, in which the number of active USG researchers has grown by over 40% to 24.6 FTE, enabling sustained post-2014 innovation and enhancement. Detailed evidence is provided throughout this template to show how the vitality and sustainability of USG's research environment, and specifically its strategy, staffing, resources and collaborative ethos, is indeed conducive to producing research of the highest international quality.

USG is now a constituent member of the School of Social and Political Sciences within the College of Social Sciences. Our research structures are increasingly characterised by flexibility and inter-disciplinarity, as reflected in the work of our three research groups (see B.2 to B.4) which provide a focus for intellectual debate, funding applications, knowledge exchange and practical collaboration around the respective agendas of *Neighbourhoods & Well-Being*, *Housing & Urban Economics*, and *Governance & Quality of Place*. These three research groups are of roughly equal size.

B. RESEARCH STRATEGY

B.1 Strategic Aim, Approach and Objectives

Urban research, at its best, is multi-dimensional in nature and international in outlook. It emphasises connectivity between urban issues, searches for new ways to conceptualise them and explores new methods to analyse them. In a fast-changing world, urban researchers must have the ambition to drive forward new research agendas that anticipate emerging challenges, as well as reflect long-standing ones. This explains why USG sees its strength as a broadly-based centre with the capacity to respond rapidly, dynamically and flexibly to a range of new research problems.

Within this context, *our strategic aim is to sustain and enhance USG as a world-leading centre for international and interdisciplinary urban research, making an outstanding contribution to academic thinking and policy development.* To deliver this, we seek to recruit, retain and motivate academics of international standing who wish to achieve ambitious expectations at Glasgow, through:

- Developing distinctive areas of research strength with vitality, creativity and intellectual energy.
- Securing funding from the most competitive, peer-reviewed sources.
- Publishing theoretical and applied research of the highest quality in top-rated journals.
- Ensuring a healthy doctoral programme to develop the next generation of urban academics.
- Connecting research to the complex challenges facing urban society through knowledge exchange with policymakers, practitioners and citizens.

These objectives, which frame USG's approach to creating and sustaining a vibrant research environment, necessarily involve collective as well as individual endeavour. Although large enough to create breadth and depth of academic expertise, USG is small enough to function as a supportive academic community. As a result of our strongly inclusive research culture, *we are returning 100% of eligible USG staff to the REF* with no-one having failed to meet the University's stringent selection criteria. Research groups are an essential part of this research culture and strategic approach. Meeting every six weeks, they bring together researchers at every academic level within our three distinctive areas of strength, from senior professors to research students. Our research groups provide an important opportunity to map out research agendas, enhance draft publications, support funding applications, and provide space to debate and respond to broader policy initiatives. Sections B.2 to B.4 summarise each group's contribution during the REF period, while B.5 reflects on priority areas set in 2008, before B.6 highlights key future directions.

B.2 Neighbourhoods and Well-Being Research Group (led by Professor Hastings)

Glasgow has a longstanding reputation for excellence in neighbourhood research, with Kearns having led the former ESRC Centre for Neighbourhood Research. This agenda has been refreshed in the past five years with major studies of how neighbourhoods shape individual and collective outcomes in health, crime and education. With the economic downturn, USG has also been at the forefront of emerging research into the impact of recession and austerity on urban neighbourhoods. To provide intellectual focus in this field, we created a specific Neighbourhoods and Well-Being Research Group in 2009 under the leadership of Hastings. Its strength derives from bringing together well-established researchers (*Bailey, Hastings, Kamete, Kearns, Kintrea, Mackenzie and Wang*) with those at an earlier career stage (*Jackson, Lawson, Livingston, Mason, Pearson*) along with a keen group of doctoral researchers. There are strong international linkages here, including a new strategic partnership with Geography and Planning at the State University of New York at Albany.

Key projects of recent years have focused on:

- *Health and Well-Being*: Kearns leads the USG part of Go-Well: a 10-year longitudinal study of how housing and neighbourhood regeneration impact on people's health and well-being. This is funded by the Scottish Government, NHS Scotland and Glasgow Housing Association. Outputs to date include 30 journal articles, 24 practitioner briefing papers, 20 research reports, as well as policy seminars and local events. Other work in this area includes Mackenzie's research into domestic abuse and health inequalities (Keep Well, part of £1m NHS funding) and Pearson's study of the implementation of the Disability Equality Duty (DWP funded).
- *Crime and Disorder*: With strong links to the Scottish Centre for Crime and Justice Research, Kintrea & Bannister (now Manchester Met University) reshaped perceptions on urban disorder through successive projects on territoriality and youth gangs (JRF and Scottish Government funded). Rodgers' recruitment adds an important international dimension to this theme.
- *Neighbourhood Dynamics*: Bailey, Kearns & Livingston have recast thinking on neighbourhood change and place attachment through theoretical and empirical work funded by ESRC & JRF.
- *Service Delivery, Austerity and Neighbourhood Inequity*: Hastings has led two successive JRF funded projects on the local impact of the economic crisis, revealing how the poorest neighbourhoods and localities bear the greatest impact of public-sector cuts.

B.2 Housing and Urban Economics Research Group (led by Professor Gibb)

USG's expertise in housing systems, policy, finance and markets goes back more than 25 years to its origins in the then ESRC Centre for Housing Research. Recent work has yielded important new insights, both theoretical and practical, into how housing markets actually work, and connected these issues to the growing challenge of climate change. USG's urban economic expertise now extends well beyond housing to encompass real estate and urban change more generally. Led by *Gibb* and involving *Adams, Hong, Kintrea, Munro, Orr, Pryce, Sprigings, Thakuriah and Wu*, HREUE provides a valuable forum to debate and understand market operations from both mainstream and institutional approaches. Although now retired, *Emeritus Professor John B Parr* remains a highly active member of this group, continuing to publish in the top international journals.

Key projects of recent years have focused on:

- *Climate Change and Housing Markets*: Within the £1.6m EPSRC Community Response to Extreme Weather Programme, Pryce and Chen created pioneering socio-economic models with Fingleton (Cambridge) and Osland (Norway), using innovative statistical methods to investigate the implications of climate change for house prices & employment at the city level.
- *Scottish Model of Housing Supply & Affordability*: The Glasgow team of Gibb, Orr, O'Sullivan, Leishman (now Heriot-Watt) & Chen (now Sheffield) worked with other leading researchers at Reading & Strathclyde Universities to produce a valuable bespoke model of affordability, now widely adopted by the Scottish Government (who funded the work) & Scottish local authorities.
- *Speculative Housebuilding Practices*: Two DCLG funded projects by Adams & Leishman with Watkins (Sheffield) highlighted the importance of trust and reputation within industry networks and revealed how the business practices of speculative housebuilders increase house prices.

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- *Institutional & Behavioural Economics*: Theoretical work by Gibb has advanced institutional and behavioural perspectives on the economics of housing choice, engendering greater realism.

B.4 Governance and Quality of Place Research Group (led by Professor Adams)

Fresh strategic investment created the opportunity for this new cross-cutting group in 2012 focused on urban governance and its implications for place quality. Led by *Adams*, and involving *Hewitt, Kamete, Rodgers, Thakuriah, Varna, Wang and White*, its agenda is bringing together theoretical, historical and policy analyses of government interventions in space and place. Key work includes:

- Adams and Tiesdell's linkage of urban design, public policy and real estate in two new books: 'Shaping Places' and 'Urban Design in the Real Estate Development Process'.
- International explorations by Kamete and Rodgers of the 'dark side' of urban governance.
- Historical research by Hewitt into the growth of the civic movement.
- Thakuriah's interest in access and mobility and in evaluating policy measures to promote them.

B.5 Evaluation of post RAE 2008 Strategy

In 2008, we identified 11 priority research areas, which were allocated to the then research groups of Housing (H), Social Dynamics (S) and Urban Change & Policy (U). The table below summarises how these have been delivered through key outputs and achievements.

Priority Areas in RAE 2008 Submission		Indicative Key Outputs and Achievements
H.1	Cross-fertilise theoretical ideas & analytical methods between new and existing strengths in property and housing markets to illuminate broader processes of urban change in novel ways.	Mason 3, Munro 3 & 4, Orr 2, Pryce 2 & 4, Gibb 1 & 2, Wu 1
H.2	Connect housing market analysis with climate change & flood risk predictions, turning EPSRC consortium into major success.	Pryce 1 & 3 (Best paper award for Pryce 1)
H.3	Develop complementarities between microeconomic and institutional theories of social housing systems.	Gibb 3 & 4, Springs 1, 2 & 4, Wang, 1, 2 & 3
H.4	Analyse role of design in real estate processes, including the developer-designer nexus, building on professional networks.	Adams 1 & 2, White 1 and Adams & Tiesdell's books
S.1	Multidisciplinary studies of health, education and crime to address key policy challenges for disadvantaged communities.	Kearns 2-4, Kintrea 1, Mackenzie 1-3, Rodgers 1
S.2	Continue critical engagement with theory and methodology in evaluating complex and long-term interventions.	Kearns 2-4, Mackenzie 1, Rodgers 4, Thakuriah 1
S.3	Build new Criminal Justice Centre to develop understandings of tolerance, respect and incivility in urban social interaction.	Kintrea 2 & 3, Rodgers 3
U.1	Build original theoretical & practical knowledge of resurgent city dynamics/catalysts through international comparative research.	Gibb 1, Munro 2, Livingston 3, Rodgers 2
U.2	Understand causal relationships behind social fragmentation & segregation, with focus on education & environmental justice.	Bailey 2, Hastings 1-4, Kintrea 1 & 4, Livingston 1
U.3	Develop our unique capacity to deepen understanding of neighbourhood dynamics and sustainable communities.	Bailey 3 & 4, Kearns 1, Mason 2, Thakuriah 4
U.4	Analyse the transformation of cities through strategic infrastructure & planning for different forms of built environment	Rodgers 1, 2 & 4, Wang 4

B.6 Key Future Initiatives

Major initiatives already in the pipeline or planned over the next five years include:

- *Chinese Urbanisation*: Wang will lead this new strategic partnership with Chinese academics at Nankai University in Tianjin and Sun Yat-Sen University in Guangzhou to investigate the relationship between urban development, housing provision and real estate development.
- *Go-Well*: Led by Kearns, this major programme will continue to investigate housing, regeneration and public health until at least 2015, having secured £3m of funding since its launch in 2005, including a substantial extension for a longitudinal analysis of the impact of the

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2014 Commonwealth Games on the people and communities of Glasgow's east end.

- *Poverty and Social Exclusion Survey*: With £4.5m of ESRC funding across six UK universities, this study will define, measure and analyse poverty and social exclusion over the next decade. Bailey will lead USG's team in exploring the urban & neighbourhood aspects of disadvantage.
- *Smart and Socially-Just Transport*: With Thakuria and Hong's arrival, USG's longstanding concern with urban social justice will be linked to an international analysis of policies and methods intended to support sustainable and equitable mobility, especially in mega-cities.
- *Urban Securityscapes*: This large-scale comparative project led by Rodgers will explore the dynamics and typologisation of violence in cities across the world.
- *Urban Segregation & Inequality*: Within AQMeN (see Section E) this new £1.1m ESRC project, led by Pryce, will exploit large-scale datasets with cutting-edge research methods to transform understanding of the measurement, causes and consequences of residential segregation.

C. PEOPLE

This section explains the seven main aims that have characterised our 'people' strategy, namely:

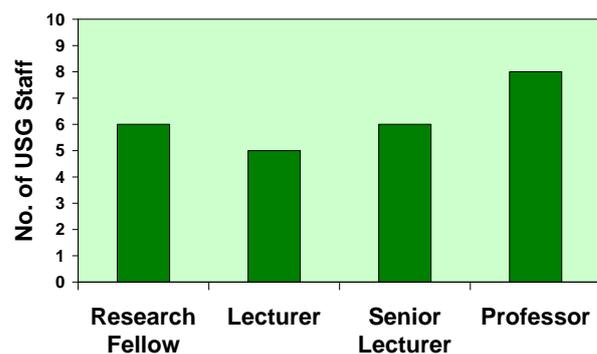
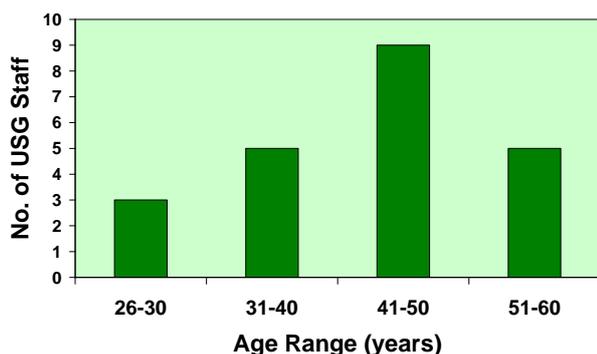
1. To internationalise our expertise by seeking to recruit academic talent from across the world.
2. To enable postdoctoral researchers to strength their expertise & build their academic careers.
3. To prioritise staff development and international conference participation.
4. To ensure protected research time through workload planning and study leave.
5. To promote equality of opportunity and sensitivity to issues around equalities and diversity.
6. To ensure we meet the highest ethical standards of social science research.
7. To provide a well-managed and integrated programme of research supervision and training.

Sections C.1 to C.7 now show how we have delivered each of these aims.

C.1 Staff Recruitment – Achieving Successful Internationalisation

The 25 staff (24.6 FTE) now submitted comprise 15 in post in 2008 (11 of whom were submitted to RAE 2008) and 10 new appointments who together strengthen our capacity for international urban research especially on Africa, Australia, China and the Americas. The new appointments are Professors Rodgers, Thakuria and Wang, and Drs Kamete (SL), Hong, White, Wu (Ls), Hewitt, Jackson and Varna (RFs). Rodgers' expertise is on urban violence and conflict in Nicaragua, Argentina and India. Thakuria, recruited from the University of Illinois is an innovative joint appointment with Engineering. She brings an outstanding record of transport research from North America and Asia. Wang, recruited to the new Chair of Global City Futures, is an expert in Chinese urban development. Kamete has first-hand knowledge of African planning, especially in relation to the informal sector. Hong and White both gained their PhDs in North America, with respective focus on US travel behaviour and urban development/design in Toronto. Wu's PhD provided an econometric analysis of public investment, property prices and homeowners' happiness in Beijing. Varna, a Romanian, gained her PhD at USG and then worked at the University of Turku, Finland.

Our healthy demographic profile and excellent balance between staff at different career stages, shown in the charts below for all 25 staff, reflects strong commitment to succession planning and serves to reinforce our research momentum, especially as nearly two-thirds of professors and senior lecturers are aged 50 or under.



C.2 Postdoctoral and Contract Researchers – Prioritising Career Development

We have a long track record of offering prestigious three-year Urban Studies Foundation Research Fellowships (USRFs) funded from the profits of the Urban Studies Journal to attract the most talented postdoctoral researchers, enabling them to develop their own independent research agendas. The last recruitment round in 2011, when Hewitt and Jackson were appointed, attracted 95 applications internationally. Livingston also holds a USRF, while Varna's position is broadly similar. Lawson and Mason are also on longer-term contracts. Recent USRFs now in permanent lectureships elsewhere include Drs Chen (Sheffield) Madgin (Leicester) and Siemiatycki (Toronto). In 2010 Glasgow was one of the first institutions to gain the HR Excellence in Research Award for its commitment to implementing the Concordat for the Career Development of Researchers. There is comprehensive researcher development training for all postdoctoral staff. All USG research staff enjoy full access to conference and research support funding. As a group, they reinforce our research culture by organising our programme of Monday workshops, Friday seminars, and co-ordinating our Visiting Fellows scheme. Their elected representative is a full member of the Urban Studies Management Team. Researchers participate fully in annual Performance and Development Reviews (PDRs), in which career objectives are set. Lawson, Livingston and Mason were all promoted in the current REF period. Apart from Varna (recently appointed), all six USG research fellows submitted to the REF have won internal seedcorn funding (see Section D.2) for projects they themselves initiated. No USG research fellows eligible for the REF have been excluded from this submission.

C.3 Staff Development – Institutional and International

Glasgow offers extensive opportunities for research training at all levels through the Staff Development Service and Adam Smith Research Foundation (ASRF), including special courses on developing international collaboration, winning research income, project management and refereed journal publication. Research objectives and performance are embedded within PDRs and benchmarked against Russell Group averages. USG sees international conference participation as an essential component of staff development and provides generous funding to support this. In the current REF period we have funded USG staff to present over 120 papers worldwide at top international academic conferences, including those organised by the AAG, ACSP, AESOP, APNHR, ENHR, ERES, EURA, HSA, ISA, ISPAH, RGS-IBG, RSAI, RUSE, SPA and UAA.

C.4 Study Leave and Workload Planning – Protecting Research Time

In 2009, USG introduced a rolling programme of study leave, allowing staff to concentrate for six months at a time on major research commitments, including books, funding applications and international exchange. Between 2009 and 2013, 15 USG staff benefited from this programme. To protect research time further, we introduced formal workload planning in 2009 and have refined the model year by year. It now allocates at least a third of each person's time to research, with additional recognition for preparing major grant applications. Where funded research covers or 'buys out' researchers' time, full acknowledgement is then given in workload allocation.

C.5 Equality of Opportunity – Acting on Policies and Commitments

In 2007, Glasgow was the first Scottish HEI to establish a dedicated Equality and Diversity Unit (EDU). It has since driven forward the University's commitment to promoting equality across all its activities and providing a work, learning, research and teaching environment free from discrimination and unfair treatment. In 2012, the University received an Athena SWAN Bronze Award in recognition of its commitment to eliminate gender bias. As part of the College's Gender Equality Action Plan, data are collected on the relative gender balance across all staffing grades and on comparative pay levels. The College also sponsors a women's mentoring scheme to provide support for career development. Some 40% of the staff included in this submission are female (close to the proportion of female academics across the whole university), while 20% come from ethnic minorities. All Glasgow staff are encouraged to undertake the online training produced by the EDU, and those involved in REF selection decisions have been required to do so. Some 92% of staff in this submission undertook equality and diversity training between 2008 and 2013.

C.6 Quality Assurance – Delivering Research to the Highest Standards

All research involving human subjects undertaken at the University of Glasgow, whether by undergraduates, postgraduates or members of staff, is required first to obtain ethical approval from the appropriate College committee and this policy is strictly enforced. Research applications under £100K are peer reviewed at School level. Those above this sum are peer reviewed at College level. In 2009, USG adopted a Code of Practice on Authorship to ensure that the authorship of any research output includes all those making a substantial contribution to the original research.

C.7 Research Students – Nurturing the Next Generation of Researchers

The high quality of research training and supervision at USG has long been recognised by the ESRC. Some 33 research students were based or part-based in USG in October 2013. Research students have regular access to two supervisors, with formal meetings every 4-6 weeks, and informal contact as needed in between. Annual progress reports are submitted by the student and supervisory team to the USG Doctoral Convenor and then onwards to the College of Social Sciences Graduate School (CSSGS). We aim to ensure all full-time PhD students complete within four years, and all part-time students within six years. This target was met by 87% of PhD students returned in REF4a. Close liaison between the Doctoral Convenor, students and supervisory teams helps identify bespoke training requirements for each student and means that when students encounter problems, they are likely to be spotted and resolved as early as possible. The Doctoral Convenor is an important member of the USG Management Team and has overall responsibility for managing admissions, supervisors, student progress, pastoral care, and vivas.

Since 2011, USG has been part of the new *ESRC Scottish Doctoral Training Centre* in the Social Sciences through its Urban Planning and Real Estate Pathway (see Section E for more details). During the current REF period, we have attracted some 18 prestigious/competitive studentships, of which 9 have been funded by the ESRC, 4 by the Urban Studies Foundation, 4 through the annual LKAS competition across the whole university and 1 from the ASRF competition for the College.

USG's strong community of research students is well embedded within our broader research activities through membership of research groups (see Section B) and participation in our workshop and seminar programmes. There is a longstanding tradition of collegiality with the student community, with a strong emphasis on peer support and review. Second-year research students are supported and funded to organise an annual peer-led conference for the PhD community as a whole reflecting on the PhD journey and thinking about subsequent employability.

Our well-established *M.Res programmes in Urban Research and Public Policy*, which are delivered in partnership with College Graduate School, provide the main focus for postgraduate research training. Quantitative and qualitative research methods along with social theory are taught by the College, while USG delivers urban theory and policy analysis. Students can then choose relevant USG modules in planning, real estate, urban or public policy, or from those taught across the university in business and management, education, politics, public health, sociology or statistics. Doctoral students who do not first study for an M.Res are expected to take relevant M.Res courses in their first year.

A more generic 30-session programme, co-ordinated by the Graduate School Administrator and College Employability Officer, provides full coverage of the Vitae Researcher Development Framework (RDF), in which career development and employability is central. Each workshop is explicitly mapped against key RDF domains such as knowledge and intellectual abilities, personal effectiveness, research governance and organisation, and engagement, influence and impact.

D INCOME, INFRASTRUCTURE AND FACILITIES

D.1 Infrastructure and facilities

Glasgow is a leading research-intensive university, committed to research that is fully supported by a strong resource base throughout all its operational levels. All USG staff but one are co-located in a well-equipped building, with immediate access to meeting rooms and video-conference facilities.

Research fellows occupy rooms in pairs; all other staff have their own individual rooms. Networked computers, provided individually for all staff, are replaced triennially. Advanced statistical software is purchased for those researchers who require it. College IT Services is located in the building next to USG and provides ready support on request. The University Library is close at hand. Its comprehensive collection includes extensive electronic resources, which include virtually all the main journals relevant to Urban Studies, as well as a wide range of relevant databases. Website development skills are provided by a trained administrator located within the School Office. PhD students are mostly accommodated in the same building as staff in rooms with one or two other students, normally at the same stage of the PhD process. They have dedicated desk and storage space, individual networked computers and the same access to IT and library facilities as staff.

Recent examples of University investment in facilities to support USG research include the provision of a secure data room to hold confidential criminal records from one research project, the upgrading of library computer rooms for AQMeN research training courses and the refurbishment and equipment of large base room to accommodate staff appointed to the same project.

D.2 Income generation

Research opportunities are notified to staff electronically within 24 hours of any public announcement via the University's subscription to the Research Professional database. Comprehensive listings of all current opportunities are also circulated electronically every two to four weeks. Close working relations as well as the more formal research group structures facilitate rapid response to research opportunities as evidenced by the Scottish Government Framework Agreement, where Gibb co-ordinated a successful submission covering four themes and involving 15 USG researchers and 12 external consultants in only 5 weeks in 2012.

All USG staff, including Research Fellows, are encouraged to compete for internal 'seedcorn funding' available from both within USG and from the College's Adam Smith Research Foundation. Some 14 USG researchers gained internal seedcorn awards totalling £28,600 during the REF period, which has already generated 8 research applications (including three successful ones to the Research Councils) and 8 refereed journal publications.

Excellent support is available within the School, College and University for grant applications. Research Finance Officers are located at School level to provide immediate administrative and costing expertise. They work closely with the College Research Office and the University's Finance Office to facilitate timely approval and submission of grant applications. The College also makes funds available to support workshops and seminars to develop large collaborative bids, to attend such meetings outside Glasgow and the UK and to host meetings with relevant policy-makers in Brussels. Large strategic bids are supported at College level by additional PhD studentships, seedcorn funding and visiting research overseas fellows.

As the table below shows, *virtually all USG's external research income comes from highly competitive, peer-reviewed sources*, with the three most important being UK government bodies etc, the main charitable foundations (JRF, Leverhulme etc) and the Research Councils (including AHRC, ESRC and EPSRC). We have a *strong track record of turning research reports into refereed journals publications* – indeed of the 78 refereed journal papers listed in REF2 in this submission, 72% can be traced directly to externally funded research work.

External Funding Sources	No of grants	Income £
UK central government bodies, local authorities, health & hospital authorities	24	1,973,008
UK-based charities (open competitive process)	25	966,868
BIS Research Councils, Royal Society, British Academy & RSE	13	854,425
Other sources	10	213,984
UK industry, commerce and public corporations	3	156,578
EU government bodies	1	51,846
Grand Total	76	4,216,709

E. COLLABORATION AND CONTRIBUTION TO THE DISCIPLINE AND RESEARCH BASE

E.1 Academic research collaboration

Urban Studies represents an interdisciplinary approach to research that spans the social sciences, and indeed well beyond. USG staff come from a wide variety of disciplinary backgrounds. In the current REF period, staff have worked with academics beyond USG from the disciplines of economics, education, engineering, geography, law, linguistics, mathematics, planning, real estate, sociology, statistics and theology. Academic research collaborations from 2008 to 2013 have involved over 40 universities/HEIs worldwide, namely:

- In the UK with Bristol, Cambridge, Edinburgh, Heriot-Watt, LSE, Manchester, Reading, Sheffield, Sheffield Hallam, St Andrews, Stirling and Ulster.
- In Europe with Amsterdam, Copenhagen, Estonian Academy of Art, HafenCity, Hasselt, Madrid, Royal Institute of Technology, Sweden, Stord/Haugesund, TU Delft, Valenciennes, Versailles, Vienna Technical.
- Beyond Europe with Adelaide, Auckland, Beijing, Cleveland State, Curtin, Duke, HK Baptist, Illinois, Lanzhou, Melbourne, New Delhi, New South Wales, Queensland, RMIT, Shanghai, SUNY Albany, Tasmania, Toronto, Wayne State, Western Sydney, Wisconsin-Milwaukee.

Research undertaken in active collaboration with non-academic partners (rather than that simply funded by non-academic clients) has involved Centre for Cities, Glasgow Centre for Population Health, Glasgow Housing Association, Homes for Scotland, Institute of Public Policy Research, NHS Health Scotland, Renfrewshire Council and the Scottish Government.

E.2 Contributions to the discipline base

Three major international journals are edited from USG: *Urban Studies* (Rodgers and until recently Gibb), *Housing Studies* (Munro) and *URISA* (Thakuriah). Between them, USG staff hold 20 further appointments on *editorial boards* of peer-reviewed international journals. Gibb also co-edited the *Handbook of Housing Studies* (Sage 2012) and was section editor of the *Encyclopaedia of Housing and Home* (Elsevier 2012). Adams, Bailey and Rodgers have also authored or edited *scholarly books* during the REF period. USG hosted the *2009 ISA Housing Conference* in Glasgow and helped organise the *2012 ERES Conference* in Edinburgh. Its own Friday afternoon seminar series attracts academics, policy-makers and practitioners from Scotland and beyond. USG has *extensive connections with user networks* (see Impact Template). Examples include Adams' work as an Adviser to the Scottish Government's Land Reform Review Group, Gibb's appointment as Adviser to the Scottish Parliament's Infrastructure and Capital Investment Committee, Hastings' role as a Director of the Scottish Urban Regeneration Forum, and Pryce's work as Academic Representative on the UK Government Statistical Service's Review of Housing Market Statistics.

E.3 Doctoral programme

The *Scottish Graduate School of Social Science* is a partnership of 16 universities that manages the ESRC Doctoral Training Centre in Scotland. USG collaborates with Aberdeen and Heriot-Watt in delivering the Urban Planning and Real Estate pathway. Across USG's doctoral programme, we have co-supervised PhD students with Glasgow colleagues in Business and Management, Economic and Social History, Politics, Primary Care, Public Health, Sociology and Statistics. USG's interdisciplinary approach to doctoral supervision is further illustrated by one recent PhD graduate who subsequently published in both urban studies and sociology peer-reviewed journals and another whose publications span urban design and geography.

Finally, as an example of collaboration and contribution to the discipline and research base, the *Applied Quantitative Methods Network* is building quantitative methods (QM) capacity across Scotland through research projects, high quality training and knowledge exchange involving social scientists at all levels, including PhD students. Led by 4 co-directors from Glasgow and Edinburgh Universities, including Pryce, the network now has over 1,500 members and involves a large, multidisciplinary team of researchers from the UK and abroad. With over £5m funding from the ESRC and SFC from 2009 to 2017, AQMeN is strongly linked to Glasgow's £1.44m ESRC/Nuffield Q-Step centre, again directed by Pryce, which will further reinforce QM social science capacity.