Institution: University of the West of England

Unit of Assessment:16 Architecture, Built Environment and Planning

a. CONTEXT

UWE's Architecture, Built Environment and Planning research has had an impact by advancing debates, practices and policies on major contemporary challenges in urbanism and the built environment. We have influenced the fields of: transport and mobility, sustainable urban environments, building design, urban governance, healthy cities, construction management, and climate change. We have improved the ways that society travels, plans and governs its cities, and designs and constructs its buildings. Our research has had benefits for those involved in the production, management, planning and use of built environments, as well as for the environment and economy.

In RAE 2008, UWE's Town and Country Planning submission was noted for its 'strong relationships with research users'. We have continued to work with partners to deliver more sustainable, healthy, resilient and accessible places, and to produce new research evidence, guidance, tools and techniques. We have cultivated close and sustained relationships with non-academic collaborators and beneficiaries locally, nationally and internationally, and have strong and growing relationships with our communities of practice, relevant industries and end users.

Our research is housed in three Research Centres and a Collaborating Centre. All are within the UWE-wide Institute for Sustainability, Health and the Environment *(ISHE)*, established in 2009.

1. **The Centre for Transport and Society *(CTS)*** is led by *Professor Graham Parkhurst*. Its research has influenced debates and practice on the inter-relationship between social processes and travel patterns, including travel behaviours. This has affected, e.g. the design and delivery of travel information; the way that travel time is considered in economic appraisal of transport schemes; provision for older people's travel; and the car-free development debate. Beneficiaries include transport professionals, policy communities and regulators (e.g. in DfT, NHS, DEFRA and Local Authorities), third sector organisations (e.g. Sustrans and Living Streets), citizens' groups (e.g. older drivers, pedestrians, public transport users and cyclists), and transport operators.
2. **The Centre for Sustainable Planning and Environment *(SPE)*** is led by *Professor Katie Williams*. Its research has influenced policy and practice on sustainable urban form, neighbourhood and building design, spatial governance and climate change adaptation. It has provided practical guidance on, e.g. the design of climate-ready neighbourhoods, ICT solutions for urban management, territorial governance in Europe, and innovation in civic leadership. Within SPE, *The World Health Organisation Collaborating Centre for Healthy Urban Environments* ***(WHO CC)*** *i*s led by *Associate Prof Marcus Grant*. It is a leading exponent of 'healthy urban planning' globally, providing training and advice to formal networks of hundreds of cities. *SPE's* and *WHO CC's* beneficiaries include: urban and environmental policy makers at international, national and local scales (e.g. OECD, EC, DCLG, South West RDA, local authorities); professional bodies (e.g. RTPI, RICS); international planning and development organisations (World Bank, WHO); health, built environment professionals; civic leaders; community activists; developers and the public.
3. **The Construction and Property Research Centre *(CPRC)*** is led by *Associate Prof Colin Booth*. Its research has demonstrably improved processes and outcomes in the construction industry, helping deliver a more efficient, resilient and sustainable built environment. Its research has led to training and guidance on, e.g. the role of constructors in delivering sustainable communities, protecting properties from flooding (e.g. World Bank, RICS), supply chain collaboration, process improvement and technology integration (e.g. Constructing Excellence SW, Future Foundations). Beneficiaries are private and public construction clients, construction companies and professionals, policy makers (e.g. DEFRA, Environment Agency), insurers, local authorities, and user groups such as households at risk from flooding.

b. APPROACH TO IMPACT

Achieving impact from our research has always been central to the Unit's culture and practice. Hence, since 2008 we have continued to be user-focused, but diversified and deepened our relationships with non-academic collaborators, and maximised our influence using 'amplifier' organisations, networks and funded programmes. Specifically, we have employed the following interrelated mechanisms:

1. **Partnered with non-academic collaborators on major projects:** We have achieved impact by working with over 200 external project partners since 2008 to co-create and use new knowledge. For example, ***CTS*** secured a framework contract with DfT for social research in collaboration with a national market research company, which influenced senior civil servants' understanding of attitudes to transport, road safety and road pricing. This has fed directly into

transport policy and influenced future commissions. ***CPRC*** and ***SPE*** worked intensively with non-academic partners to influence international and national policy and practice on preparedness for floods, droughts and heat waves (via projects funded by EPSRC, TSB, World Bank and RICS). They have influenced the National Adaptation Plan, Green Deal and the 42 climate-related partner organisations involved in their research (incl. DECC, DCLG, DEFRA, the EA). **All Centres** have had an impact through long-standing relationships with industrial and policy partners on EU-projects, leading to, e.g. 42 innovative mobility projects across Europe *(Ricci)*, and a knowledge platform to support European cities to develop sustainability policies (*Atkinson).*

2. **Acted as expert advisors:** We have influenced policy and practice through input to panels, commissions, and National Standards Boards. For example: *Hambleton (SPE)* was Special Advisor to the Royal Commission of the Governance of Auckland, recommending a directly elected mayor (the radical policy was adopted); *Atkinson (SPE)* was advisor to the Polish Government of territorial policy (as Poland took the presidency of the EU) and informed the debate on the urban dimension on cohesion policy; *Parkhurst (CTS)* advised Transport for London on 'Park and Ride' schemes, leading to their dismissal as a policy option in London's zones 1-6; *Ludlow (SPE)* advises the EU Expert Group on the Urban Environment, giving on-going impetus to Europe-wide policy on sustainable cities; and *Proverbs* is a member of the British Standards Steering Group developing principles for the mitigation and recovery of water damaged buildings.
3. **Developed tools and guidance for practitioners:** We have co-developed outputs with clients and users, and turned research findings into usable formats. E.g. ***CTS*** developed a toolkit for social care professionals to help older people facing the end of their driving careers, and another for commuters to make productive use of their journey time. ***WHO CC*** continually produces training material for 100 'Healthy Cities' globally. It also developed a Health Audit Tool for local authorities to assess their policies for health impacts, and a commercially available decision support method (SPECTRUM) to assess the sustainability of proposed developments. ***CPRC*** produced guidance for the flood-risk community (for World Bank and RICS), and developed management tools and software for project managers to improve the efficiency of construction industry supply chains.
4. **Led and participated in networks, events and secondments with government, industry, and users:** We are pro-active in developing initiatives that bring together academics and non-academics to innovate and inform practice. For example, ***CTS*** co-led a series of policy-focused seminars on Smart Growth in the South West. ***WHO CC*** hosts Europe-wide events to inform practitioners, leads study tours to Europe for health and planning professionals, and set up the national Spatial Planning and Health Group (with RTPI). ***CPRC*** (*Mahdjoubi)* founded the 'Counteracting Children's Inactivity by Design Forum', linking police, head teachers, designers and others to improve the design of play space in the UK. Staff have also participated in successful secondments: e.g. *Grant* undertook a consultancy at the Future Focus Unit at DTI/BERR/BIS and has a five-year secondment to the public health team at Bristol CC. We have also secured Knowledge Exchange and Public Engagement funding: e.g. *Ricci* (ESRC) to improve public awareness of sustainable energy; *Buser* (AHRC) to promote understanding of place-based activism; and *Ludlow* (EU) to advance public engagement in environmental monitoring in Europe.
5. **Developed our interdisciplinary research and engagement:** We have pursued interdisciplinary research specifically to influence debates, policy and practice beyond traditional boundaries. For example*,* ***CTS's*** work with gerontologists has influenced policy on older people's travel, an***d SPE's*** collaboration with ICT professionals has influenced how data is used for spatial planning across Europe. The new *Institute for Sustainability Health and the Environment,* also hosted practitioner-focused conferences at UWE on cross-cutting themes such as healthy cities, behaviour change and air quality, attracting over 1,000 non-academic attendees since 2009.
6. **Disseminated UWE's research through the media:** We have gained maximum reach for our research through the media, supported by UWE's Press Office. National coverage (e.g. on BBC News, BBC Breakfast News, ITV News, The Daily Telegraph, The Guardian, Radio 4) was given to research on: the design of play space *(Mahdjoubi)*; risks of overheating from climate change (*Williams*); mayoral elections and civic leadership (*Hambleton*); and car-free developments (*Melia).*
7. **Provided research-based courses and training:** We have an established CPD and Short Course Unit offering 112 courses to advance professional understanding. New courses have been developed on, e.g. intelligent transport systems, climate change and planning, flood risk management, and construction skills and BIM (with and for professional bodies). Each uses the Unit's research to enable professionals to rapidly make use of new knowledge.

c. STRATEGY AND PLANS

Looking to the next five years, the Unit will work to embed, incentivise and sustain across all staff an active culture of impact and engagement with non-academic partners. This will be achieved through external and internal investment, resource allocation planning, HR processes and research management. Specifically, the strategy is to:

1. **Adopt a more strategic approach to partnering to achieve impact:** We will continue to work with the large network of partners and organisations we have established in each Centre, but will carry out a gap analysis of our networks (in the UK and internationally) and seek new collaborations. We will monitor EU, industry and government consultations and respond with key partners, and will seek further Government framework contracts.
2. **Continue UWE's strengths in developing materials for non-academics, taking up advisory roles, and developing training by targeting external funding:** In addition to funding for fundamental research, we will apply for funding that ensures the Unit's research has the widest possible reach. This includes follow-on, proof of concept, accelerator and dissemination funding (e.g. through TSB, RCUK, EC and industry). Themes that we will pursue include multi-disciplinary research on flood resilience and novel ICT applications for transport.
3. **Increase the number of secondments and exchanges with the private and public sectors:** We will build on UWE's successful placements by setting up a scheme to encourage and support staff to take up periodic external positions. This will be facilitated through workload management, and external funding (e.g. building on UWE's successful KTP Programme).
4. **Equip staff at all levels with the skills to achieve impact from their research:** We will review and improve services for staff at all levels to acquire the skills to help them increase impact, through training, mentoring, and opportunities to engage in impact-generating activities. UWE has recently introduced new HR processes that reward performance in knowledge exchange and impact through promotion. We will review contributions to impact as part of the annual Performance and Development Review process.
5. **Monitor and share good practice from Research Centres' impact strategies:** Centres will continue to set out their plans for impact each year in their annual Business Plan. The Faculty will monitor their performance as part of the bi-annual centre review process. This system will be used to critically reflect on good practice and share insights across Centres.

d. RELATIONSHIP TO CASE STUDIES

The case studies exemplify the approaches described in points 1-7 in Section b. **Informing Travel Choices** builds on research funded by EPSRC, DTI and DfT and demonstrates the benefits of a direct and sustained relationship between *CTS* and central government (DfT). *CTS* scoped and conceptualised the views of users, and *Lyons*, in a secondment to the DfT (as part of an 'expert client team'), used these insights to inform the development of Transport Direct (The National Travel Planning and Information Service, with over 110 million user sessions), from concept to reality. **Advancing Policy and Practice for Sustainable, Climate Ready Suburbs** exemplifies the benefits of partnering with multiple non-academic stakeholders within the climate change community. *SPE* worked with academic and practitioner networks to provide clear messages on suburban planning, including the risks of overheating in homes, and on the need to simultaneously adapt to, and mitigate against, climate change when considering retrofitting neighbourhoods. Its findings have influenced International Urban Growth Policies and UK adaptation policy, and informed local planning solutions. **Integrating Health into Urban Planning** demonstrates the success of a prolonged endeavour to develop and operationalise the concept of 'healthy urban planning'. It builds on research funded by WHO, EPSRC and NICE and shows the value of developing conceptual tools and appraisal methods which can be widely used in practice. It illustrates how engaging, over time, in large international networks (WHO Healthy Cities) and providing training, resources and policy guidance has led to a step change in healthy planning internationally. **Improved Performance in Construction Supply Chains** demonstrates how *CPRC* translated best practice, derived from research, for construction professionals through Knowledge Transfer Partnerships, business consultancies, national publications for industry, and collaborations with two national initiatives to act as 'amplifiers' (Construction Knowledge Exchange and Constructing Excellence). It shows how the provision of management toolkits, software for project managers, international staff exchanges and action learning supported a change in practice for over 1700 individuals and 400 businesses.