

Research themes

The research of the Resilience and Urban Living group is clustered around a number of key themes:

- [Enhancing the economic resilience of cities and regions \(#Enhancingtheeconomicresilienceofcitiesandregions\)](#)
- [Responding to insecurity and disaster \(#Respondingtoinsecurityanddisaster\)](#)
- [Developing community and neighbourhood resilience \(#Developingcommunityandneighbourhoodresilience\)](#)
- [Adaptive human behaviours \(#AdaptiveHumanBehaviours\)](#)
- [Responding to demographic change \(#Respondingtodemographicchange\)](#)
- [Energy resilience and adapting to climate change \(#Energyresilienceandadaptingtoclimatechange\)](#)

Enhancing the economic resilience of cities and regions



Economies are in a continual process of change as the drivers of economic competitiveness evolve or are transformed. Change is driven by continual product and process innovation combined with alterations in the macroeconomic environment that supports economic activity. Successful firms are also in a continual process of becoming as they engage in continuous process and product innovation. Resilience is critical for regional and firm competitiveness. For regions resilience rests upon effective critical local infrastructure. In this context, infrastructure includes both hard engineered infrastructure as well as softer infrastructure related to local concentrations of skills. Resilient firms are led by effective leaders who understand the importance of continual innovation and adaptation.

This research area combines projects that focus on firm level resilience through processes of adaptation with research that also explores the drivers of regional economic change and transition. Projects are on-going on firm-level resilience in the UK, China, and the US and comparative research is underway that explores regional resilience in Turkey, the West Midlands, and Chicago.

For further information on the *Enhancing the economic resilience of cities and regions* theme please contact [Professor John Bryson \(/staff/profiles/business/bryson-john.aspx\)](#) or [Dr Vald Mykhnenko \(/staff/profiles/gees/mykhnenko-vlad.aspx\)](#).

Responding to insecurity and disaster

In the era of global uncertainties where anticipatory risk management strategies are increasingly being deployed at the urban scale to reduce vulnerability, resilience to risk from threats as diverse as natural disaster, crime and terrorism is ever more important to the way cities and associated urban spaces and critical infrastructure are materially designed.

The resilient design of urban areas can therefore be seen as a holistic activity involving a range of activities which shape and manage the built fabric so as to reduce its vulnerability to and ability to withstand, recover from, and mitigate for the impacts of extreme natural and human-induced hazards. It is concerned with both the spatial form and redesign of the built environment as well as the processes that help shape it. As such the need to design and build resilient cities needs to be embedded within the everyday practices of a range of built environment professionals and emergency managers who will need to collaborate to ensure resiliency is a core goal of city planning and design.



Developing community and neighbourhood resilience

Today's disruptive challenges test old forms of individual and communal resilience, necessitating a broader historical and inter-cultural understanding of how individuals, communities and organisations respond to change by developing or enhancing resilience. From this perspective, building the resilience of the individual, the family, institutions, and the neighbourhood, is the pathway to resilience of the whole. In the context of place and communities it is the ability of communities to withstand external shocks to their existing networks that is of greatest significance and concern.



Work in this theme focuses upon creating resilient communities that will have the adaptive capacity to take control of their communities, and to build strong, healthy and vibrant areas where people want to live. Here resilience is most effective when it involves a mutual and accountable network of civic institutions, agencies and individual citizens working in partnership towards common goals within a common strategy.

For further information on the *Developing community and neighbourhood resilience* theme please contact [Dr Peter Lee \(/staff/profiles/gees/lee-peter.aspx\)](#) or [Dr Lauren Andres \(/staff/profiles/gees/andres-lauren.aspx\)](#).

Adaptive human behaviours

Increasingly within policy circles attention is being placed upon the cognitive, affective and social processes that influence behaviour and support adaptation to and utilization of urban environments. This centrally involves how people relate to space and the built environment. This is not a new area of research, having origins in post-war studies of human adjustments to hazards and within behavioural geography and environmental psychology where an individual's appraisal of and response to environmental stressors were of central importance.



More recently, work in the fields of psychology and neuroscience has identified the role of cognitive, affective and motivational factors in the performance of a range of adaptive and maladaptive behaviours. This can be seen in to operate in a range of policy interventions from the design of public spaces, to the encouragement of particular behaviours related, for example, to smoking, obesity, speeding, recidivism and wasteful energy consumption. Such 'behaviour change' policies which attempt to predict and modify behaviour are central to the development of adaptive capacity and ultimately the formation and maintenance of individual and community resilience.

Responding to demographic change

The resilience of places and individuals in response to uncertain, volatile and rapid change has increasingly emerged as a key focus of academic and policy attention. However, there has arguably been less attention to date on the complex inter-relations between processes of migration and mobility, demographic change, 'place effects' and the resilience of different types of individuals and groups, including migrants and the 'established' population. This is important, particularly given that existing geographical work on mobility commonly focuses on the ways in which movement can facilitate access to resources and act as an empowerment tool. Arguably, such notions need to be challenged and hence there is a need to consider how groups and individuals adopt both formal and informal coping strategies in the face of transience or intransience, (local) 'place' effects and broader economic, social, cultural and political influences.



In turn, such a focus also helps to inform contemporary debates over the costs and benefits of demographic change on particular localities, the implications for national

and local policy, and associated issues of service delivery. It is also of relevance given on-going attempts by policy makers to consider the ways in which the interaction between demographic pressures, urban morphology and social relations shape aspects of resilience.

Energy resilience and adapting to climate change

Cities are playing an increasingly important role in the climate change agenda. They are responsible for a significant part of GHG emissions, both directly as generators of such emissions and indirectly as end-users of fossil fuel based energies and other goods and services. They have become key strategic vehicles for promoting climate policies and ensuring green growth.



Through a range of international research projects and networking activities, the initiative's work in this domain addresses questions of, *inter alia*, energy vulnerability / resilience – with recent work undertaken in various EU states, and among older people in the UK – as well as the configuration of energy demand in households and communities. We have also explored the public perceptions of, and engagement with energy technologies, with work on nuclear power/nuclear waste and renewable energy technologies such as wind and biomass. A separate strand of research has focused on spatial planning to achieve greater resilience in the energy sector (energy security, climate security), as well as the promotion of low carbon homes, communities and cities.

In our work we draw on a wide range of research methods, from ethnographies and focus groups to the use of GIS and thermal imaging equipment. We strongly engage with policy, especially with regard to urban regeneration, renewable energy policy, nuclear waste management, fuel poverty, energy security and climate change mitigation strategies. Many of these activities take place under the auspices of the *Energy, society and space research unit*.

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