

Reimagining Cities for the 21st Century:

Technology and Land Economy at the University of Cambridge

A proposal prepared for Ian Hawksworth and Capital & Counties Properties PLC

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The vision

The University of Cambridge, on behalf of the Department of Land Economy, is seeking seed funding to embed Future Cities in the research and engagement profile of the Department, through establishing a new three-year Visiting Fellowship and an annual conference. The proposed partnership between **Capital & Counties Properties PLC** and Cambridge will capitalise on our common commitment to rising to the opportunity presented by future cities, by bringing together the world-class talent, research and international networks of the University with a global industry leader.

The global challenge

The world's growing population is rapidly urbanising. More than half of us already live in cities, and by 2030 this proportion will reach 75%, making the challenges of future cities a dominant concern for government and investors.

With urbanisation and digital technology two of the most potent forces reshaping how we work and live, we need to rethink how we build new infrastructure for cities, how we live in cities, and how we make them functional, affordable, adaptable and resilient.

How can academic research and commercial and government engagement contribute to how we design, develop, govern and thrive in cities? How can we bring together socially intelligent, technologically-driven systems for transport and housing, waste management and water, energy and health that make the most of new innovations and remain resilient to future needs?

Expertise in urban development and the application of technology

The Department of Land Economy bridges the critical gap between cutting-edge expertise and industry and policy-making, bringing together leading academics, outstanding students from around the world, and strong partnerships across science, technology and the social sciences with governments and industry in a truly collaborative environment.

The study of urbanisation and the application of technology in the Department draws on research, teaching and external engagement that is both national and international in outlook, with a focus on policy and practice in the modern world. It also makes a significant contribution to the body of work being conducted on future cities across the University.

Beyond geography, planning and real estate, the Department's teaching, research and engagement spans the city pathway, from investment, finance, planning and regulation through to environmental, urban and regional economics, climate change and energy, with an increasing focus on new technologies. For example, the Cambridge Centre for Climate Change Mitigation Research (4CMR) is leading research into the application of technology for green buildings and adaptable systems; through the new Real Estate Research Centre, Professor Colin Lizieri is leading research around future proofing real estate investment that takes into account current technological trends and shifts in the nature of demand for property such as driverless cars and drone delivery; and Professor Phil Allmendinger is leading research on the impact of expanding cities on housing and transport demands, and how to adapt planning processes to take new technologies into account.



Inter-disciplinary collaborations

The Department also leverages the relevant strengths across the physical sciences, engineering, history, geography, economics, psychology, architecture, social and political science, and statistics, to further develop practical tools and techniques that distil specialist knowledge of cities into ideas that reshape the urban environment for societal benefits and well-being.

With Dr Rosamunde Almond, Executive Secretary for the Cambridge Forum for Sustainability and the Environment and member of the Faculty in the Department of Applied Mathematics and Theoretical Physics, the Department is looking at technology and new transport, information and governance systems of sustainable cities.

With the Departments of Engineering and Materials Science & Metallurgy, Dr Douglas Crawford-Brown, Director of 4CMR, is looking at new materials for more efficient and technologically-flexible buildings.

Professor Colin Lizieri is looking at new ways of investing in buildings and infrastructure that reflect both trends in urbanisation and the need for risk management as part of the World Economic Forum's Emerging Horizons on Real Estate project.

With the look, feel and function of cities later this century dependent on the decisions being taken now, our academics are also policy-facing. They work with public and private representatives through networks such as the Cambridge Centre for Science

and Policy and the Government's Office for Science Future of Cities Foresight initiative to ensure that the Department's growing evidence base is contributing to current debate and fully participate in professional bodies such as the ULI, EPRA, INREV and the IPF.

The Department has committed itself to increasing global engagement for faculty and students through exchanges and joint research. A growing proportion of the Department's research funding and students, particularly postgraduates, come from overseas – and with this we have an increasingly international alumni base. Our research into issues in real estate, planning, environmental law, and sustainability are of significant interest to individuals and organisations across the globe, particularly in China and bolstered by annual Departmental trips to China and Hong Kong. At the same time, understanding the rapid growth

experienced by other societies helps inform existing approaches closer to home.

Embedding future cities in the Department of Land Economy

There is an urgent need to unite the academic study of the social, economic, political and technical dimensions of cities and emerging technologies to build understanding and commercial practice that can be used to help set cities on the right course.

Over the next three years, the Department of Land Economy proposes two initiatives that will capitalise on our teaching, research and inter-disciplinary collaborations to embed future cities as a focus of strategic development.



Establishing a Visiting Fellowship

Creating a new Visiting Fellowship will enable the Department to bring in an outstanding scholar and/or practitioner working in the broad field of land economy with a focus on technology, urban development and futurology, and specialist knowledge and skills in resilience and adaptability.

Spending two weeks per year in the Department for three academic years, the Fellow will establish a bespoke research and lecturing programme around future cities and technology that is innovative, inter-disciplinary and industry-relevant. After the research kick-started by the Fellow expands in breadth and profile, it is envisaged that it will become a self-sustaining programme through the creation of a dedicated Lectureship.

The Fellow will carry out his or her research, support PhD and post-doctoral students in this area, provide lectures and participate fully in the Department's activities. They will also play a central role in developing a bespoke, flagship annual conference aimed at driving debate, policy and practice around the role of new technologies in emerging future cities.

With their specialised insight, they will bolster the Department's capacity to contribute to University-wide networks concerned with cities and technology, including Strategic Research Initiatives in Energy, Big Data and Conservation, and ongoing inter-Departmental projects, such as those with Engineering, Materials Science & Metallurgy and the Cambridge Judge Business School.

Of direct relevance to Capital & Counties, the Fellow also has the

opportunity to establish a knowledge transfer and exchange partnership between the Department and Capital & Counties. Through forums such as staff seminars, the Fellow can advise on those issues critically relevant to investors and on the bespoke, applied research the industry – and in particular Capital & Counties – needs to maintain its growth and responsible development

Establishing an annual conference

The Department also aims to establish an annual conference focused on future cities and technology that will run in parallel to the Fellowship over three years.

The one to two day conference will bring together an expert community of academics, practitioners, decision makers – including real estate developers and investors – and policy-makers from the urban sphere. The conference will provide a unique opportunity for creative, innovative investors and developers to look at how they can address risks and responsibilities in the context of the environment and society, how they can make the most of new technologies, and how they can discover new opportunities around future cities.

Through a varied programme of keynote speakers, presentations and small group discussions, the conference will act as a unique point of contact for dissemination and engagement, and it is planned that papers and summaries of discussions will be published as an output of the conference each year.

The conference will capitalise on the many existing connections that

Land Economy and wider Cambridge academics have with Government and city development groups worldwide, including in roles such as Chief Scientific Advisers, Special Advisers to national governments and city administrations, and members of Government task forces on urban issues, as well as former governmental decision makers taking up roles in Cambridge.

Significantly raising the profile of relevant research and engagement being conducted by the Department, including the Fellow's work, the conference will position the Department and Capital & Counties as leading thinkers in this field.

Benefits of partnership for Capital & Counties Properties PLC

Through becoming a key partner of the Department by establishing a Visiting Fellowship and Annual Conference for a three-year term, Capital & Counties would have unprecedented access to relevant research that helps guide long-term strategic development and informs its positioning on policy and related technological issues.

Direct benefits for Capital & Counties include: **naming rights** for the Fellowship and conference; **branding rights** for post-conference publications; **invitations** to Departmental events, including annual lectures, conferences, and private dinners; and greater name **recognition** among the Department's brightest graduates, improving the talent pipeline to Capital & Counties.

Indicative costs

The Department of Land Economy is seeking £120,000 to create a Visiting Fellowship and an annual conference focused on land economy, future cities and technology, for a three-year term:

- £30,000 will support a distinguished international academic or practitioner to spend two weeks per year for three years lecturing in the Department and establishing a research programme on future cities and technology; and
- £90,000 will support the hosting of a high-profile, inter-disciplinary conference for one to two days each year for three years.

Platform for the future

The long-term goal of the Department is to bring together our expertise from across the disciplines to build a rigorous and integrated understanding of cities, emerging trends in development and technological innovation, and the implications these hold for future investment.

Supporting the founding of a Visiting Fellowship and annual conference that will become self-sustaining will make a strategic contribution to the Department's vision – in embedding future cities and technology in our work, in expanding our programme in sustainable urban development more broadly, and in contributing to the broad inter-disciplinary body of work being conducted on future cities across the University.

With this platform, the Department will have the skills, networks and visibility to embark on a more sustained future cities initiative that will build on these strengths, attracting the best from around the world to shape and share understanding between theory and policy, practice, communities and professions, and guiding the development of cities in the 21st century.

Further information

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