Extracts from

The Complete UrbanBuzz

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Welcome to UrbanBuzz

In 2007, University College London (UCL) received an unprecedented £5 million of public funds from the Higher Education Innovation Fund, and leveraged this to create the £7.75 million UrbanBuzz: Building Sustainable Communities knowledge exchange 'impact' programme. This book describes how UrbanBuzz used this risk capital to unlock potential; funding 27 projects over an intense two-year period. UrbanBuzz has delivered a portfolio of new tools and processes grounded in the evidence base; targeting those charged with placemaking and shaping our world in a more inclusive and sustainable manner.

UrbanBuzz set out to challenge the 'conventional' approach to disbursing funds by creating a system that brought together unlikely stakeholders in an open and collaborative manner. This process aimed to deliver real outcomes and real legacies of benefit to end-users. *The Complete UrbanBuzz* captures the learning and successes of this unique enterprise, and provides clear signposts directing the reader to its many free outputs.

This book will become an essential reference for practitioners in the professional, trade, policy, academic and community sectors – in particular where the acquisition of new techniques and processes are key to personal and professional development. It will make a valuable contribution to learning at every level, and will contribute to a greater understanding of the real issues in this domain.

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UCL was delighted to have the University of East London (UEL) as its prime partner for the UrbanBuzz programme, thereby creating a powerful pan-London collaborative axis.

As demonstrated so emphatically in the 2008 Research Assessment Exercise, UCL has world-class expertise in architecture, planning, civil engineering, transportation, geography, environmental science, health and social sciences, all of which impact on sustainable development. UEL also has key strengths in these areas, in addition to excellent community links and regional networks: it is a strategic partner in the Thames Gateway and Olympic regeneration areas, the largest programme of new urban development since post-war reconstruction.

The Complete UrbanBuzz tells a story of improbable working relationships, risky ventures and triumph over unreasonable deadlines. The programme will be remembered by many of the 150-plus participating organisations for its unique culture of openness (for example, it was not even possible to bid for funding without sharing ideas publicly on the programme website), and for its focus on outcomes. The enduring human and virtual networks created by UrbanBuzz will be harnessed by UCL and UEL to help deliver future aspirations: the UCL Grand Research Challenge on Sustainable Cities, to be launched during 2009, and the planned new Thames Gateway Institute for Sustainability.

All enquiries regarding this publication and its contents should, in the first instance, be directed to David Cobb, UrbanBuzz Programme Director, at d.cobb@ucl.ac.uk

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The Complete UrbanBuzz

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There often seems to be a gap between people's ingenuity and their capacity to act. In times of crisis this first becomes obvious to all, and then a point comes where the social conditions inhibiting action change, and action takes place.

The question facing us at present is whether the time is yet ripe for action in the face of the crisis of sustainability. UrbanBuzz follows a proposition: that universities hold a strategic position and a special responsibility with respect to catalysing action in the face of the unsustainable behaviours of humanity.

This is for two reasons. First, that universities are heavily implicated in the construction of the problem. Academia and the pursuit of science under a western model have, in essence, divided the world in order to understand it. Their products, in terms of technology and understanding, have been immense.

However, alongside these advances has come a series of social divides within the culture of science, engineering and the world at large. These divides now inhibit our ability to coordinate understanding to tackle the complex real-world interactions that characterise our relationship to the physical and natural environment. Effectively, our knowledge of the world has become segmented and the structure of academia defines this segmentation and works actively to reproduce it. University departmental structures are defined according to these segmented domains of understanding, while the professions that we train define themselves according to bodies of knowledge that these produce. In effect, universities produce and reproduce the segmented structure of our contemporary knowledge-based society.

Second, universities hold the keys to constructing the solution. It is exactly these segments of in-depth domain knowledge that first identified the problems facing the planet: climate change, global warming, the ozone hole and the globalisation of culture and the economy, for example, all have been identified through academic research. It is these bodies of knowledge, and the technologies they make possible, that are necessary for solutions to be defined.

It will be up to the professionals and policymakers that we train to take the lead in resolving the problems facing us in the coming years. As active producers of knowledge, and reproducers of the social structures of our professions, it is the universities that must take a lead in developing solutions.

New fields of science, in domains as diverse as ecology, spatial planning and complexity mathematics, that investigate the systemic interactions between multiple levels of the domains concerned with sustainability, are developing rapidly, and this knowledge of systems and emergent dynamics will be critical to success.

UrbanBuzz sits in this context. It was defined in recognition of the strategic position that universities hold, and framed its processes of action against this background. What we aimed to do was intervene in a complex social structure, and to spawn a reconfiguration of the social networks involved in the production and reproduction of dominant bodies of knowledge relating to sustainable communities. This involved both internal reconfiguration of communication networks within and between universities (UCL worked with UEL, Oxford University, Oxford Brooks University and others), and external reconfiguration amongst organisations in the public, private and voluntary sectors. Most importantly, it involved academics opening up their good 'within discipline' external contacts to others outside their department and discipline.

Essentially, this involved building a shared vocabulary, a shared vision and a degree of trust between individuals and organisations in knowledge domains that historically have not interacted well. Cultural change at this level is a risky venture. For individuals, much is at stake.

It is too soon to say whether or not the UrbanBuzz adventure has succeeded in its aim to catalyse widespread change, and whether the risks have paid off. If it does succeed, it will not be easy to disentangle the effects of the programme from those of the flavour of the times. What can be said is that this novel approach to intervening in academia's relations with its public and user communities has succeeded in constructing a wealth of personal contacts and new shared understanding.

Amongst the projects sponsored by the programme, all have delivered different kinds of lasting change to their target communities. Some have succeeded beyond expectation; others have faced insuperable challenges. The accounts in this book give some idea of what has been achieved, and the lessons learned.

A time for action?

Do universities, through programmes such as UrbanBuzz, have a responsibility to act as a catalyst in the face of the unsustainable behaviours of humanity? Professor Alan Penn, lead academic on the UrbanBuzz programme, considers the issues

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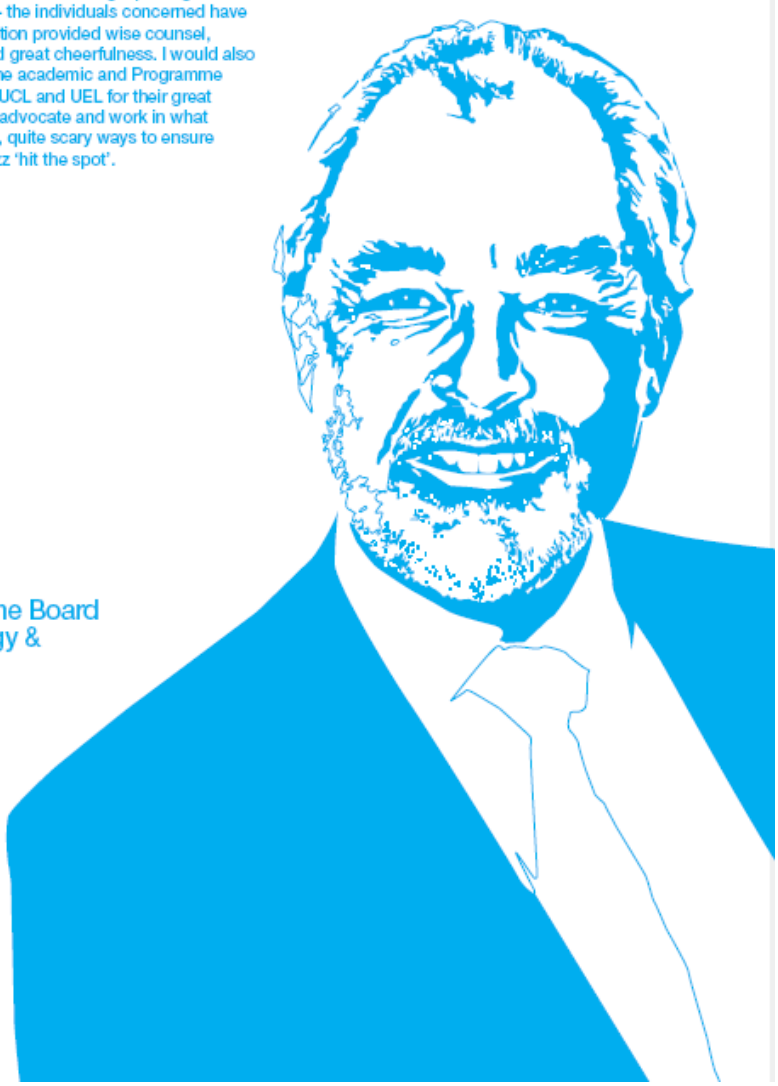
A lasting legacy

It has been my privilege to chair the Programme Board of UrbanBuzz. This board has helped shape the range of activities undertaken within the UrbanBuzz programme by developing and implementing the governance procedures that underpinned the ways that proposals were sought, projects were managed and dissemination was conducted. A privilege certainly, but also a big responsibility. Get it right and we would allow UrbanBuzz to fulfil its potential as a short-term 'impact' programme through which £5m of public money would be used wisely: both to transfer knowledge and to build a lasting legacy of new methods and, more importantly, novel networks of people and organisations. Get it wrong, and we would have wasted both money and opportunity.

It is perhaps early days, but the indications are that UrbanBuzz has succeeded. A well-balanced programme of 27 individual projects was developed, many of which have included innovative groupings of people from academia, public and private organisations and the voluntary sector. The projects, all of which have been externally audited, have led to a range of knowledge transfer activities, but have also provided a number of exciting new insights on how more sustainable communities might be nurtured and managed.

I would like to thank my colleagues on the Programme Board for turning a privilege into a real pleasure – the individuals concerned have without exception provided wise counsel, dedication and great cheerfulness. I would also like to thank the academic and Programme Office staff at UCL and UEL for their great willingness to advocate and work in what were, at times, quite scary ways to ensure that UrbanBuzz 'hit the spot'.

Finally, I would like to thank my employer, Halcrow, for its strong support of my UrbanBuzz activities. The company's strapline has for a number of years been 'sustaining and improving the quality of people's lives'. UrbanBuzz has provided, is providing and will continue to provide, part of the means by which we can 'walk our talk'.



Professor Tim Broyd

Chair, UrbanBuzz Programme Board
Group Director of Technology & Innovation, Halcrow

Making an impact

We need to be able to draw upon any and all disciplines in coping with the complex problems of the modern world. I well recall three years ago, along with other leaders of the UrbanBuzz programme, contemplating the bid that we should make to the Higher Education Innovation Fund (HEIF). The purpose of HEIF is to draw universities more into the 21st century and to open their vistas into the transfer of knowledge – not just the understanding, creation and development of knowledge targeting the next generation of scholars – but, as with UCL's bid, to spin it out laterally to impact on the way communities and individuals lead their lives.

One of the great challenges facing universities is overcoming the barriers of our own construction that confine knowledge within artificial silos. Only universities are able to do this, and so UCL has announced four Grand Research Challenges across the whole institution: 'Global Health'; 'Human Wellbeing', including healthy ageing; 'Intercultural Interactions' and finally 'Sustainable Cities' – of which UrbanBuzz's legacy will become a vital component.

We accept the obligation that goes with the privilege of being a university – an obligation that ensures our talent is used for social good. The close of this programme marks the end of 'phase one' of this process, beyond which lies a longer process of dissemination and engagement with partners, including the recently-formed Homes and Communities Agency, the agenda of which strongly resonates with all that is good about UrbanBuzz.

I'd like to pay a particular tribute to those who have led the programme; both in its conception and inception, and here in particular I mention my colleagues David Cobb and Alan Penn, but also those involved in its implementation over the two years of funding.

During this phase, UrbanBuzz not only engaged scholars from The Bartlett Faculty of the Built Environment, which has been the lead programme faculty at UCL, it has engaged 53 members of academic staff across 10 departments. More than 150 people worked directly on projects from outside UCL, including 15 local authorities. It has engaged with the University of East London, UCL's prime partner, and has proved to be an outstanding example of inter-university cooperation. It has generated and engaged with, in just two years, a much bigger community – a virtual community – comprising a staggering 3,000 members!

Thank you to everyone who has made this programme possible, most of whom are listed at the back of this publication (see page 212). To those of you to whom it is a new experience; I commend to you the new tools and processes developed by UrbanBuzz.

Professor Malcolm Grant

President and Provost,
University College London

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Crossing boundaries

UrbanBuzz has been successful because it has used institutional diversity as an asset in fostering partnership and innovation, responding to demand and in the creation of new ideas. I think this is how higher education should work; breaking down silos and crossing boundaries to apply expertise to the solution of real-life problems.

Universities are unique organisations. They have the ability to work almost anywhere, and on any subject. They are not bounded in the way that many organisations are. UrbanBuzz has enabled UCL and UEL together to demonstrate that crossing boundaries adds value. Some of those boundaries exist historically between universities with different missions and between the professions whose staff we train. UrbanBuzz has provided us with excellent examples of the fact that it is in both the public and commercial interest for us to create expert partnerships that break down such barriers.

The Thames Gateway Institute for Sustainability, in which both UEL and UCL are partners, was launched at the 2008 Thames Gateway Forum by Communities Secretary Hazel Blears. This body is an excellent illustration of what UrbanBuzz has been about. It is very much the fruit of collaboration in the sustainability field between government, the private sector, institutions of international research standing such as UCL and institutions like UEL, a key player in, and critical element of, the London and Thames Gateway regeneration infrastructure. The trail blazed by UrbanBuzz will have practical legacy in the creation of sustainable communities.

Professor Susan Price

Acting Vice-Chancellor,
University of East London

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Section one: The UrbanBuzz programme

Section two: The UrbanBuzz projects

'The 21st century will be shaped by some very profound forces,' says Peter Bishop, Design Director in the office of the Mayor of London, speaking at the UrbanBuzz conference in December 2008. 'Oil, energy, population growth and food shortages will be the factors shaping the cities that we are designing.'

This short statement highlights the key issues tackled by the 27 UrbanBuzz projects. From food production capacity in cities to social cohesion and low-carbon lifestyles, each project is rooted in the need to create innovative tools and processes that support sustainable living.

Although they may have addressed very different issues, the project teams share a view on what sustainability means in practice. Sustainable communities use resources effectively and efficiently. They are low-carbon, low-crime, inclusive democracies in which agents for economic change thrive. Residents benefit from integrated transport, housing supply and tenure. As Bishop noted, there is much work to be done: 'There's no simple solution, due to the complexity and the diversity of our environments. Looking at the placemaking agenda, we have to answer some simple questions.' Do we want dysfunctional, failing cities, or thriving cities designed around human beings that provide a sound foundation for 21st century life? 'There is,' says Bishop, 'a compelling need to equip "placemakers" with evidence-based tools to help them create the public and private realms of the future, generating activity, vibrancy and a sense of proud association.'

With this in mind, each project has tackled one or more aspects of the complex interaction between the physical, social, environmental and economic processes that underpin sustainable communities. Key outcomes are new and effective processes and practical tools that can be used by public, private, community and third sector partners. More than 150 organisations have been involved in the programme, and most projects involved local communities where, ultimately, the benefits of UrbanBuzz will be most strongly felt and appreciated.

The wide-ranging sharing of knowledge is key to involving, and engaging, professionals and communities in a collective future. 'That is what the UrbanBuzz projects are all about,' says Jean Venables, President of the Institution of Civil Engineers (ICE). 'We need to use the best science available to make considered judgments, and then use these skills and judgments to design communities for the future. Many practitioners don't necessarily know where knowledge lies. Often they rely on central organisation research facilities to inform them of the latest thinking and processes. UrbanBuzz has been different. It has been proactive in promoting the benefits that new tools and processes can offer.'

This proactive approach has seen a wide range of project participants working together. The 27 projects, which ran for between six and 20 months, were led by academics (17), private sector organisations (7), a local authority (1) and voluntary sector organisations (2). UrbanBuzz support ranged from just £7,000 to £383,000 per project. 'Contributions in kind' added £2.75 million to the total value of the programme.

Changing the way we think

The 27 UrbanBuzz-funded projects, so varied at first glance in terms of partners, objectives and outcomes, shared an overarching theme of knowledge exchange. All projects were innovative and multi-disciplinary, as befits a programme designed to produce tools and processes that will change the way we think about sustainable communities

The projects: outputs and outcomes

At a practical level, the approach taken by UrbanBuzz to maximise ongoing knowledge transfer and dissemination of project outputs and outcomes was threefold:

01 Education Ensuring that academic partners incorporated outcomes of projects into university courses and, wherever possible, created discrete educational and/or e-learning modules.

02 Training Ensuring that outcomes of projects have appropriate linkages with existing training delivery agencies and, in particular, making sure that outputs from projects are made available on web portals and existing communication channels, and so accessible to a wide range of audiences.

03 Case studies Journal articles and academic papers are being generated by project leaders to ensure that knowledge and understanding is disseminated effectively to interested parties (see page 48).

Classifying the projects

Knowledge is not an easy concept to define or evaluate. It can be distributed (only certain people can do/know certain things), ambiguous (it may or may not fit with a pre-existing mental view of the world) or disruptive (it could change practice). Each project has confronted these challenges, and the initial evaluations are presented here in graphic form.

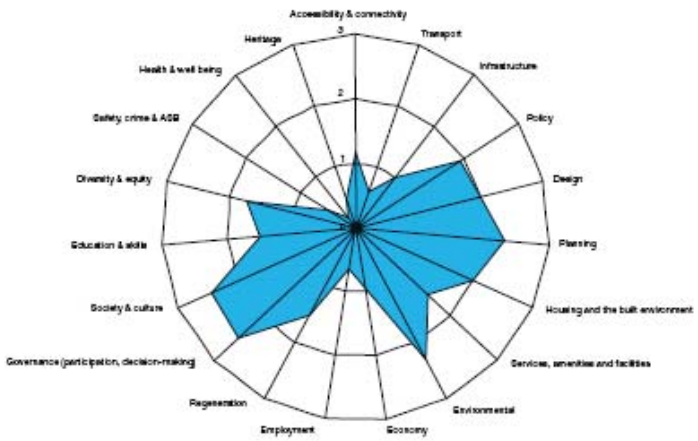
There are inherent limitations with any classification process, especially for projects that are complex in both their nature and approach. Nevertheless, to communicate and understand the projects, their relation to each other and how they fit into the programme, classification is a necessary process. Three key classification themes are outlined on the following pages:

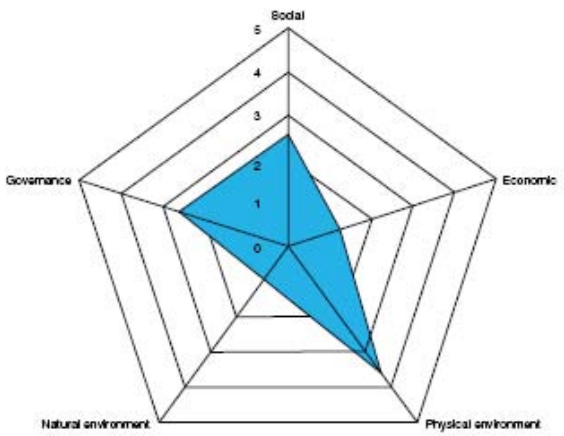
01 facets of sustainability;
02 broader contributions to sustainability;
03 collaboration and end users – organisations (project collaborators and end users); physical, information, social outputs and outcomes.

01

Facets of sustainability

The typology of projects being funded is illustrated here. The top radar diagram (below) illustrates the average scores against 19 key facets of sustainability, whilst the bottom diagram illustrates average scores against primary sustainability indicators. Both diagrams are based on feedback scores from the project originators.





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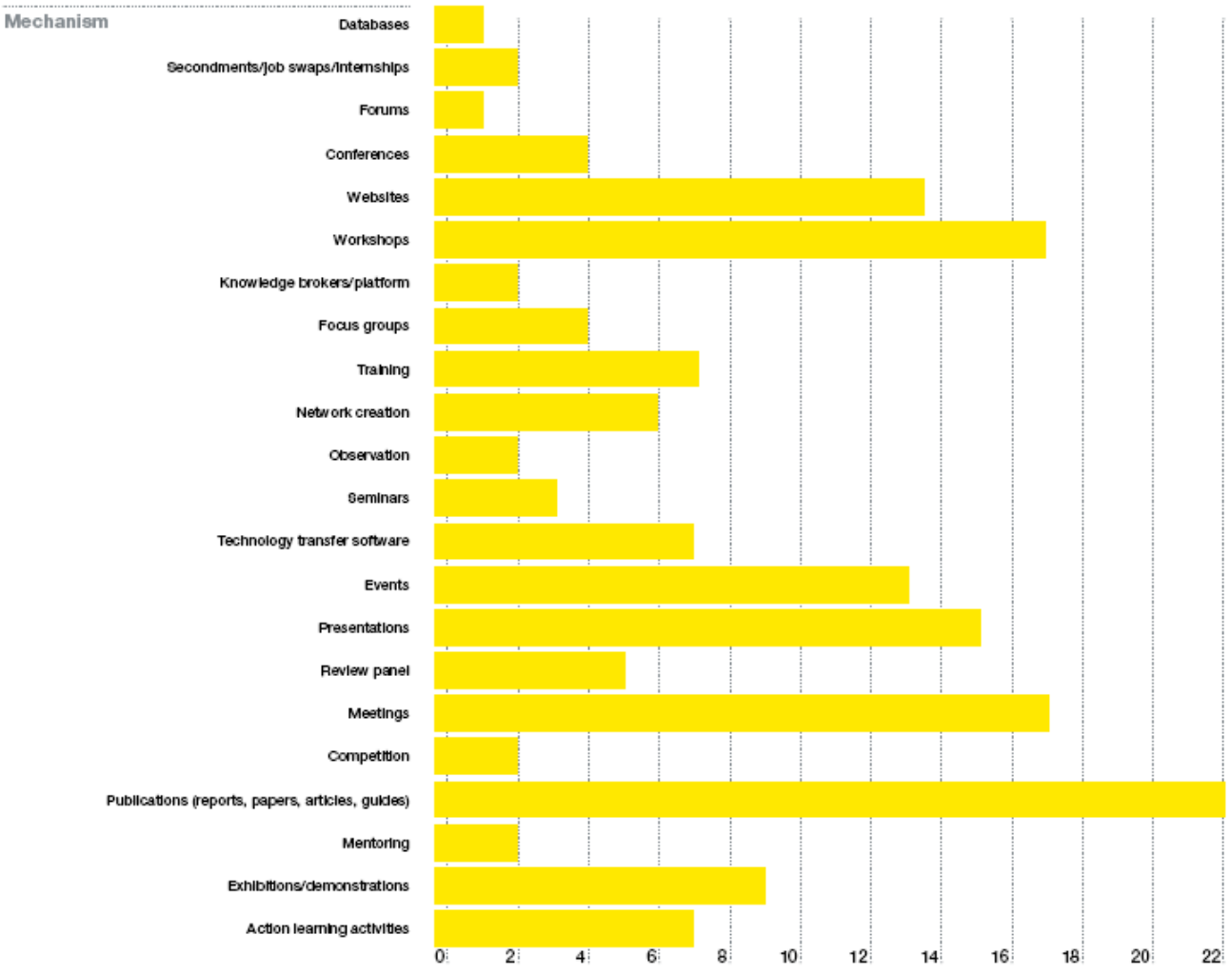
Knowledge exchange mechanisms

The knowledge exchange mechanisms selected by projects generally addressed in-project collaboration, with perhaps less consideration being given to post-project dissemination. Where there was a shortfall in planning, UrbanBuzz stepped in to provide further support in order to harness project value and increase outreach dissemination activities. The project chapters provide further details on the level (between whom) and types (mechanisms) of knowledge exchange.



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Contents
The 27 UrbanBuzz projects

ABUNDANCE: Activating Blighted Urban Niches for Daring Agricultural Networks of Creativity and Endeavour

Lead organisation
UCL

Project coordinators
Yves Cabannes, Robert Biel

Project start and end dates
November 2007 to November 2008

Total UrbanBuzz funding
£17,063.25

Total CIK
£11,513

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Urban agriculture for all

The ABUNDANCE project is rooted in the potential of cities to produce food. A community in Brixton, South London, has created a flourishing urban agriculture demonstration plot and is working through the issues involved to create and sustain such plots across the city

The context: sustainable food cultivation

'Surveys suggest that a significant amount, as high as 60 per cent, of food needs could be met within cities if all available space were to be cultivated, including rooftops, balconies, allotments and urban green space,' says project coordinator Robert Biel.

A key driver for ABUNDANCE is the emerging global food crisis and the desire to reduce food miles, with food and fuel prices soaring and global urban populations outstripping rural ones for the first time. This project brings in extensive experience from countries that have been forced by circumstance to cultivate all available land – Cuba and Argentina, for example.

In Argentina, community gardens were created to mitigate the effects of the 2001 economic collapse. As the economy recovered, the popular concept was reworked into government-run urban agriculture programmes providing unemployed workers with food and an income. It would seem that adversity breeds sustainability, as many London plots, parks and gardens were last cultivated during the food shortages of wartime Britain.

Another key aspect of the project is the need to explore the policy and planning arrangements that lie behind land cultivation. The UK policy context is complex: do residents have the right to cultivate land on social housing estates? How can we create common property management criteria to manage the space and distribute food? 'These issues have been investigated in some detail in the Latin American context, but they're completely new here,' says Biel.

Key project objectives

The project team wished to demonstrate the potential of currently unused urban green space within London by creating a community-managed agricultural garden on vacant land belonging to a London social housing estate. The key aims were:

01 to demonstrate the effectiveness of a high-yield, low-input style of urban agriculture that has been delivering good results in Argentina, Cuba and several Latin American countries;
02 to develop guidance for managing the institutional process of developing an urban agriculture plot, including managing land ownership, permissions, community engagement and access rights;
03 to engage local residents, as well as communities across London, in the process of designing, creating and managing urban agriculture plots;
04 to create training and educational modules using the plots developed by the project partners as exemplars;
05 to feed good practice from the project experiences into the urban planning situation, and inform future policy on urban agriculture; and
06 to promote knowledge exchange between the global south and north.

EASY: Evidencing Adaptable Sustainability

Lead organisation
UEL

Project coordinator
Professor Allan Brimicombe

Project start and end dates
June 2007 to November 2008

Total UrbanBuzz funding
£172,311

Total CIK
£90,823

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An evidence base for social infrastructure planning

A new model is delivering accurate and up to the moment estimates of demographic change across the London Thames Gateway, based on small area geographies and locally accessed datasets

The context: social infrastructure planning

In May 2008, MPs called on the Government to 'improve the population count as a matter of urgency'. According to Sir Michael Fallon MP, chairman of the Commons Treasury Select Committee: 'It is now impossible to accurately estimate the UK population.'

The Community Infrastructure Levy comes into play after 2009, alongside the current Section 106 arrangements (planning agreements that encourage developers to provide community benefits). Borough revenue is best accessed via a social infrastructure plan based on evidence-based population projections.

Much of the Thames Gateway is experiencing uncertainty in demographic composition. Data on population change is crucial to the boroughs and Primary Care Trusts (PCTs) because funding relates to population. Every individual unaccounted for equates to approximately £1,700 per annum, according to one PCT manager. Roughly speaking, if Office of National Statistics (ONS) projections are around 15,000 people short, a PCT could lose more than £25 million a year.

Key project objectives

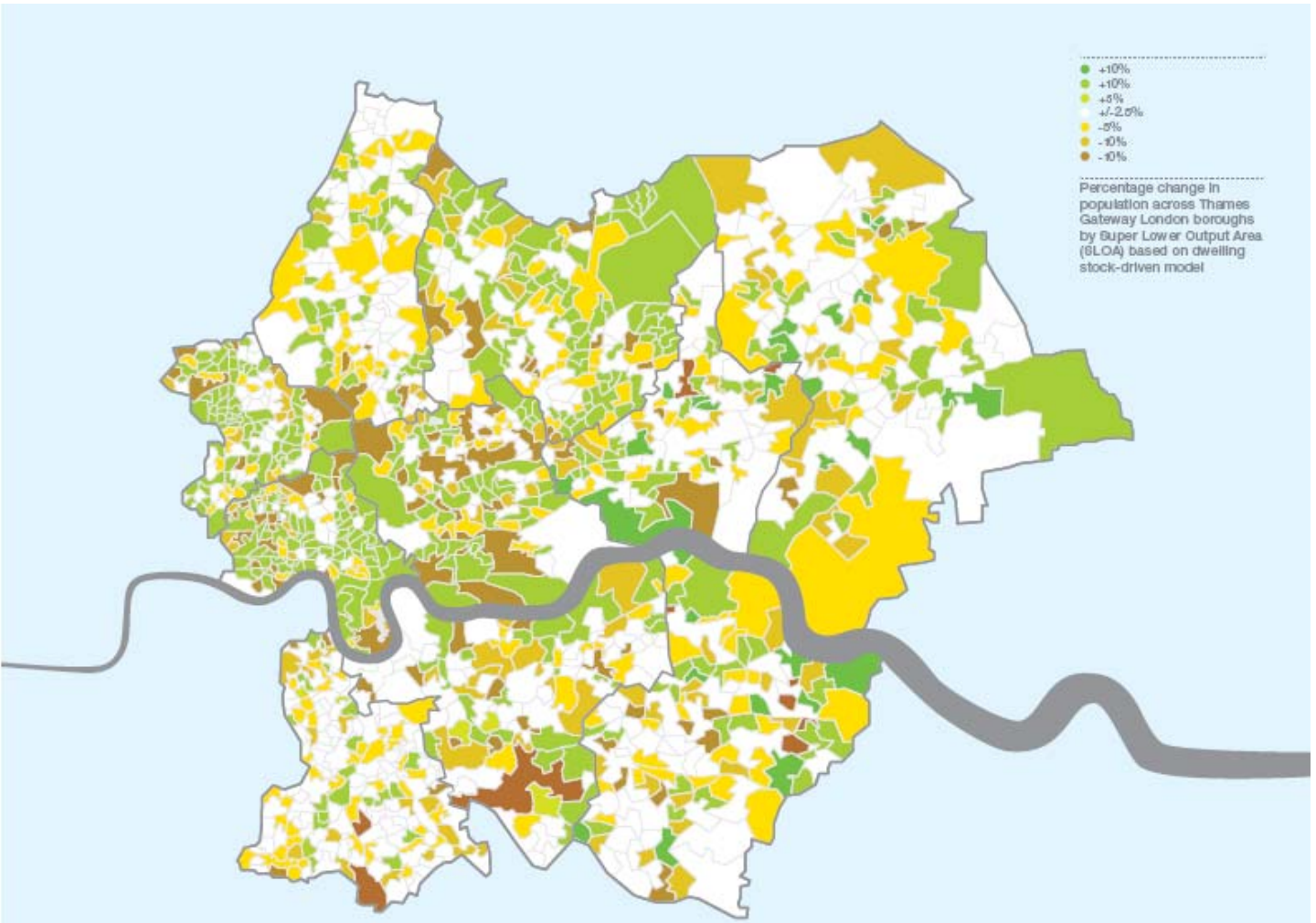
Sustainable communities must have an appropriate and fair provision of infrastructure for its population, so the need for robust and accessible data is critical. There are issues of accuracy and consistency over time that stop existing population data sources such as the census being the 'gold standard' that we might like, says Professor Allan Brimicombe, project coordinator. 'There are fundamental differences across official statistics. Our purpose is not to say that any particular source of official statistics is inadequate, but simply to say that we have a new view.' The project aimed to:

01 develop a new approach to modelling populations, and create demographic models for 11 east London boroughs;
02 enable local authority staff to access the models to promote information-sharing and evidence-based decision-making;
03 develop models for use in social infrastructure planning, and refine them for use with the tools typically used by borough staff;
04 assess support for social infrastructure planning using the London Profiler and the TGLP Knowledge Platform: web-based online data services portals for London and for the Thames Gateway;
05 make the modelling approach available to organisations involved in social infrastructure planning, for example the NHS London Healthy Urban Development Unit (HUDU); and
06 integrate the models into NHS and Department of Health tools supporting strategic health planning.

The project response

The team has developed a robust multi-stage multiple regression model to obtain population estimates from locally held data at small area geographies. This is a new approach to estimating populations, being model-based rather than count-based. Each borough's model is fine-tuned, using significant variables that relate to context.

The second phase of the project involved bringing project participants and stakeholders together in order to discuss the potential impact of the Community Infrastructure Levy (CIL). Participants also explored existing and future channels for the sharing, dissemination and visualisation of fine-scale data, such as that delivered by the EASY model, across borough boundaries, so facilitating more robust social infrastructure planning across the Thames Gateway region.



Project impact

Building sustainable communities means making tough decisions about infrastructure planning and provision; negotiating who should bear the costs and reap the benefits. These decisions must rest on robust evidence that allows stakeholders and communities to share a common understanding of facts and values. EASY provides a new approach to modelling populations within London boroughs, addressing issues faced by local authority planners and other areas of local service delivery. 'We believe that in the medium-term, as part of the UrbanBuzz legacy, the project is changing thinking at all levels on how to approach population estimates from administrative data sources,' says Brimicombe.

EASY offers estimates of populations based on routinely collected local data sources such as school registrations as an improvement on extrapolation from ONS census data. This allows projections at a finer scale, and with more detail than usually provided. The outputs from the model give clear examples of how public data can be used in an appropriate manner without compromising data protection concerns, whilst still addressing political concerns about the equitable provision of services. The results of the modelling have generated considerable interest amongst local authorities, Primary Care Trusts, the Office for National Statistics (ONS), NHS Healthy Urban Development Unit (HUDU) and the Department for Communities and Local Government (CLG), London Development Agency (LDA) and Thames Gateway London Partnership (TGLP). HUDU, for example, has commissioned the team to map accessibility to specific local amenities, for example dentists and GPs, against borough demographics and the needs of specific patient groups. ›

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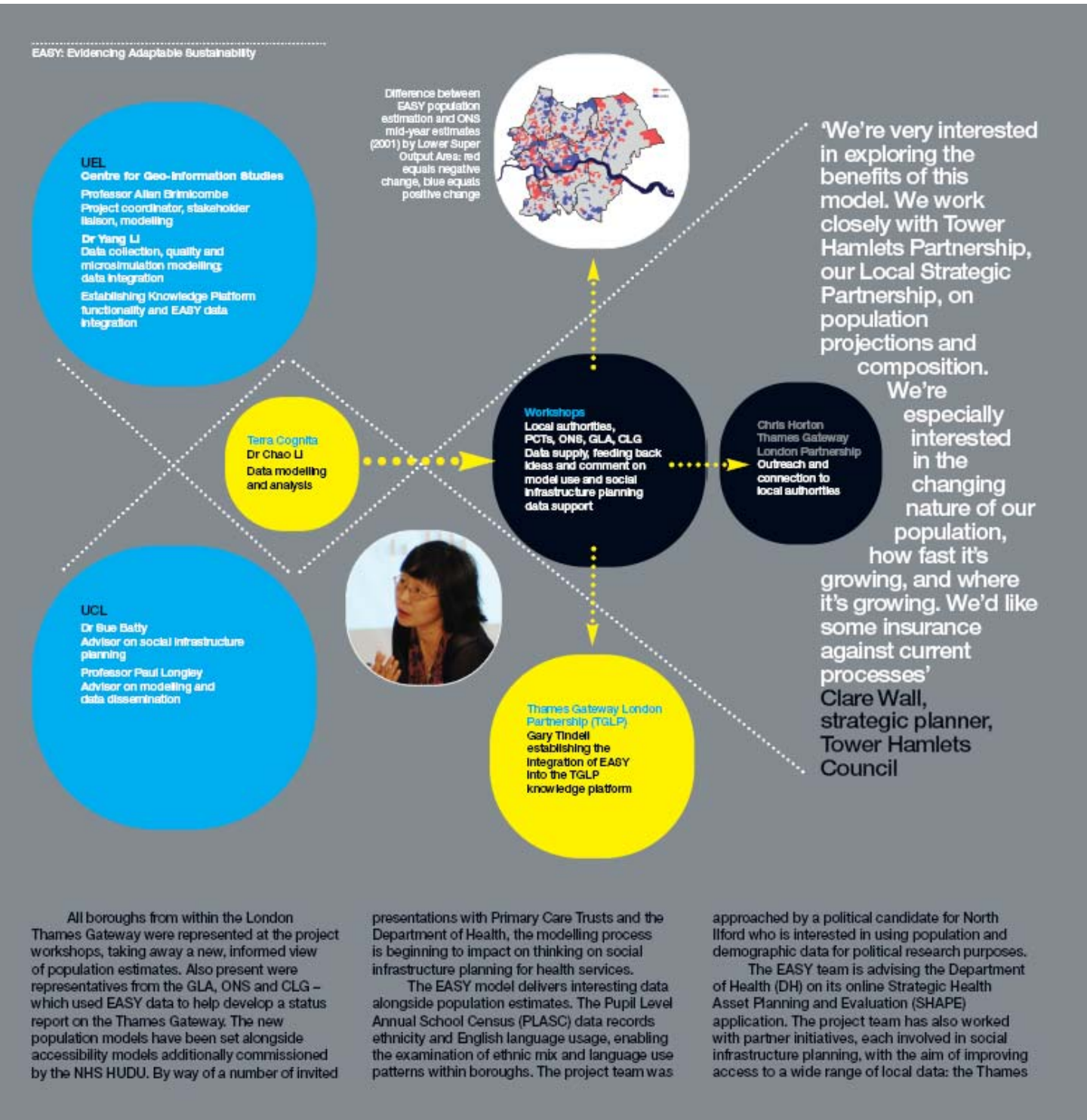
EASY: Evidencing Adaptable Sustainability



All boroughs from within the London Thames Gateway were represented at the project workshops, taking away a new, informed view of population estimates. Also present were representatives from the GLA, ONS and CLG – which used EASY data to help develop a status report on the Thames Gateway. The new population models have been set alongside accessibility models additionally commissioned by the NHS HUDU. By way of a number of invited presentations with Primary Care Trusts and the Department of Health, the modelling process is beginning to impact on thinking on social infrastructure planning for health services.

The EASY model delivers interesting data alongside population estimates. The Pupil Level Annual School Census (PLASC) data records ethnicity and English language usage, enabling the examination of ethnic mix and language use patterns within boroughs. The project team was approached by a political candidate for North Ilford who is interested in using population and demographic data for political research purposes.

The EASY team is advising the Department of Health (DH) on its online Strategic Health Asset Planning and Evaluation (SHAPE) application. The project team has also worked with partner initiatives, each involved in social infrastructure planning, with the aim of improving access to a wide range of local data: the Thames

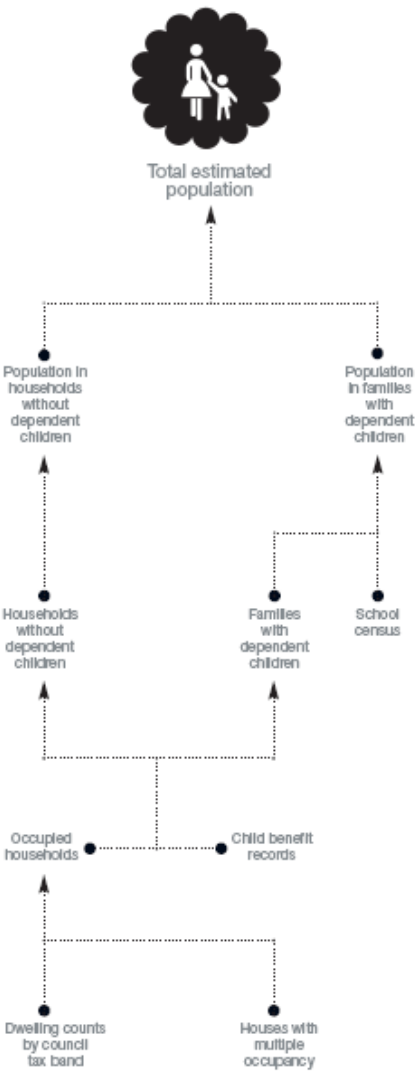
The EASY model is a multi-stage, multiple regression model. The broad aim of the project has been to use quality administrative datasets to evidence demographic, social and cultural change by small area geographies, and to promote the use of such evidence in the planning of social infrastructure.

The study area for building and testing the models has been the 11 boroughs of the London Thames Gateway region.

The unit of modelling is the Lower Super Output Area (LSOA). The purpose of the models is not to replace, or compete with, either the ONS mid-year estimates (MYE) or with the GLA estimates for wards. The new models provide a different view with which to triangulate population change and should be able to provide up-to-the-moment estimates, using the latest datasets.

There is a separate model for each borough. The data sets used are: dwelling counts by council tax bands, multiple occupancy, child benefit records and school census data (PLASC). The data sets have been sourced from central agencies such as the ONS rather than from individual boroughs in order to ensure consistency in data robustness across the study area.

'We're taking sets of variables, fixing their relationship to the 2001 census, and working out how we move them forward each year,' says Brimicombe. 'If data exposes major new trends, for example an explosion in single parent families in one borough, then the model would require adjustment. Following each census, models need to be recalculated based on available data.'



Gateway Knowledge Platform (TGLP) and the London Profiler (CASA, UCL). At a series of workshops and presentations, the team brought together local authority and PCT partners to demonstrate the potential of such online routes for the dissemination, sharing and visualisation of fine-scale data. Such platforms could support knowledge and decision-making, with a focus on the integration of existing tools that facilitate social infrastructure planning.

Knowledge exchange

A range of project partners has been involved in exploring new dissemination routes that can add value to routinely collected local data sources. 'A key further development for the Thames Gateway Knowledge Platform will be to enable locally-gathered data to be entered and displayed,' says Gary Tindall, TGLP. 'As we – local residents, public agencies, voluntary and community groups and private businesses – strive to shape the future of the Thames Gateway, we will need to work in partnership.'

Project participants from CASA, UCL, took the idea of data-sharing and dissemination, using online databases and Web 2.0 platforms, much further, outlining the future impact of a region-wide interrogative database hosting mapping, transport, building detail, land use, business class, rental and sale values, density, amenity, green space and accessibility data, available at fine scales, currently in development at UCL.

Combined with existing and future web-based technologies, such applications could revolutionise data provision for social infrastructure planning. 'Users of web-based services can take on the role of producers as well as consumers of information,' says Dr Hudson Smith, CASA, 'with sharing becoming a dominant mode of adding value to such data. These developments are growing Web 2.0 from the ground up, enabling users to derive hitherto unknown, hidden and even new patterns and correlations in data that imply various kinds of social networking.' The project team will continue to investigate new ways of collating, displaying and disseminating fine-scale data that could be of great benefit to those involved in social infrastructure planning.

Education and training

Learning from the project will be feeding into a new module on social sustainability within UCL's MSc Environmental Design and Engineering.

The future: demographic change

There is considerable interest from local authorities and PCTs in using the new models. Whilst EASY models are already informing decisions around social infrastructure planning, their drawback is that they are not, as yet, 'official statistics' and this will limit their use to support local planning policy and Local Area Agreements (LAA) and funding formulae. Population estimates are politically loaded and, in London, with a choice of ONS and GLA estimates at borough level, local authorities will naturally opt for the highest estimate. 'Where our figures appear to reinforce a lower ONS estimate (compared with the GLA estimate) our models are less welcome than where they support higher estimates,' says Brimicombe.

Project resources
www.ucl.ac.uk/geo-information/EASY

A range of project presentations, reports, academic papers, references and links can be found on the project website

VIBAT LONDON: Looking over the horizon: transport and global warming – Visioning and Backcasting for Transport in London

Lead organisation
Halcrow

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London's low-carbon transport challenges

The capital's transport emission reduction targets can be achieved only through a combination of behavioural change, technological innovation and robust policy implementation. The VIBAT project has highlighted the city's options

The context: transport sector emissions

The issues relating to climate change have risen to the top of the national political agenda, and the importance of transport in contributing to reduced levels of CO_2 is clearly evident. Transport has been highlighted as the sector that contributes least to CO_2 emission reduction targets. Within London, the transport sector is responsible for approximately 9.6 million tonnes of carbon (21 per cent) of total CO_2 emissions. Road transport accounts for most of this figure, generating about 80 per cent of the total.

Any future review of the Mayor's Transport Strategy and London Plan will need to set out and refine the strategic policy approach for the transport sector. The current forward-looking approach is set out in the T2025 document from Transport for London (TfL), 2006. The Greater London Authority (GLA) Act (2007) includes a duty of regard to address climate change. The new Mayor has also produced his own initial vision for transport in London (*Way to Go*, GLA 2008). The Climate Change Action plan (GLA, 2007) sets out a strategy for London.

A target has been adopted for a 60 per cent reduction in CO_2 by 2025. Much positive work is being carried out on this issue, yet the difficulty remains that the likely carbon reduction impact of potential behavioural change remains largely unquantified. Reducing emissions consistent with strategic aspiration remains a huge challenge.

Key project objectives

This project aims to quantify the carbon efficiency of the current transport strategy (the Mayor's Transport Strategy and T2025) in London and contribute to the development of a strategy for a 60 per cent and 80 per cent reduction in transport emissions by 2025 and 2050. The project team aims to develop the work carried out at the national and EU levels on this topic, but with a specific London focus. The key project objectives are:

01 to develop a 'backcasting' approach to transport planning in London from now until 2025 and 2050. Practically, this means outlining the incremental steps that London planners, policymakers and citizens need to take from now on if the 2050 target is to be met;

02 to provide a means of successfully communicating future lifestyle and behavioural choices to stakeholders and the public; and

03 to create an interactive scenario-testing tool that would allow stakeholders and the public to 'road test' the impact of potential policy packages.

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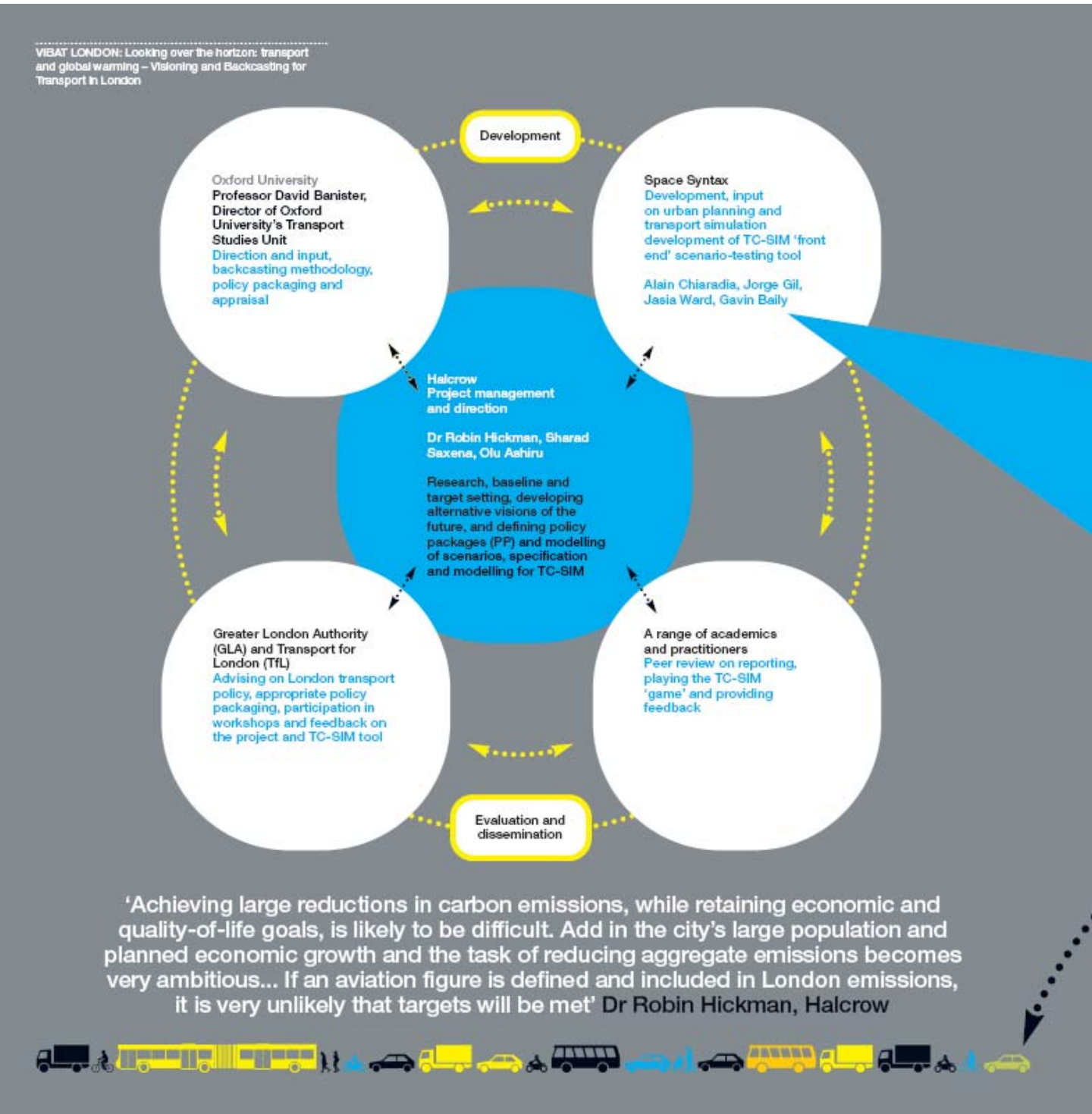

The project response

The scenario building process used in the VIBAT project has progressed through three stages: baseline and target setting, the development of alternative images of the future, and the definition of policy packages (PP) and pathways that can move policy towards the adopted target.

Extensive research outlined the theory behind the backcasting methodology and the framework, determining the baseline for a 'business as usual' (BAU) scenario regarding London's transport emissions and policy development and implementation.

An inventory of potential measures, based on this research, was proposed to tackle CO_2 emissions. The team has used its extensive analysis to develop an interactive computer simulation, TC-SIM (transport and carbon simulator), that can be played as a 'scenario testing game' for quantifying the carbon efficiency of a range of transport strategies. 'Players' explore the policy pathways and the impact of their implementation by selecting policy package options. The pathways include behavioural and technological options such as choosing to walk or cycle, buying low emission vehicles and the introduction of road pricing regimes.

TC-SIM can be played in different user modes: for example as a 'free rider', a 'techno optimist', an 'enviro-optimist' or a 'complacent car addict', and there is also a free role. The idea is that, using the game, scenario testing will highlight the willingness of various sectors of the public, based on their perceived identities, to engage with the policy agenda. The simulation can also highlight the utility of entrenched policy positions – such as relying on technological change.

Users can select each policy package at 'low', 'medium' or 'high' levels of application. The team is assuming that transport emissions grow year on year as an extrapolation of recent trends under a BAU scenario. The current fully-funded investment strategy for TfL is also represented – approximately £2-7 billion per annum to 2025.

The game has been played and evaluated by a range of project partners including TfL and the GLA, with feedback incorporated into the game's policy matrix. Final reports have been published outlining the project methodology, the TC-SIM appraisal framework, an assessment of policy packages and a review of the acceptability and implementability of measures. ›

Zupa software development studio collaboration with Space Syntax and Halcrow to design the TC-SIM simulation model

'Scenario testing and backcasting offer real possibilities as mechanisms to assess and achieve trend breaks and targets over time. TC-SIM has great potential for raising awareness of complex issues and future lifestyle choices' Robin Hickman, project coordinator

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Project impact

The outcomes generated by use of the TC-SIM game, and the policy review on which it is based, will provide evidence for any review of the Mayor's Transport Strategy and Climate Change Action Plan, and build on the strategy of T2025 via project partners TfL and the GLA. The TC-SIM model will be used as a training tool for planners, students, developers and policymakers.

The outcomes from scenario testing so far suggest that a wide range of policy packages all need to be implemented to a 'high intensity' level of application – including new vehicle technologies, alternative fuels, pricing options, public transport, walking and cycling, urban planning, freight planning and ecological driving. If international air emissions are included in the calculations, relative to the current policy approach, then target achievement becomes impossible to achieve.

Knowledge exchange

TC-SIM is web-based and offers an innovative, and potentially very flexible, means of decision-making. It is a non-real-time collaborative experience where several individual users can interact within the same model and establish a dialogue about the decisions being made.

The 'game' draws on attitudinal theory, a field increasingly being applied to transport planning, and has brought experts from a range of disciplines including transport planning, urban design, planning, statistical analysis and behavioural theory together. Attitudinal theory suggests that, as there are variable attitudes among the travelling public, a single policy response is unlikely to encourage all travellers to change their habits.

Communication and participation tools, such as TC-SIM, applied to different contexts, could play an important role in testing different transport futures with a range of different users, including the public. In the end, a consensus will need to be achieved; and it is the public who will make the difference in choosing radically different (carbon efficient) future lifestyles.

The scenario testing and backcasting methodologies offer 'real possibilities as mechanisms to assess and achieve trend-breaks and targets over time,' says project coordinator Robin Hickman. 'TC-SIM has great potential for raising awareness of complex issues and future lifestyle choices. It could be used to raise awareness of the issues involved, or even as an opinion surveying and voting tool,' he says.

The VIBAT team has an active dissemination strategy and has presented at a wide range of conferences/workshops and contributed papers to more than 10 publications to date. A user group and a number of additional TC-SIM enhancements are under development, seeking to refine and transfer further the lessons and skills acquired during the VIBAT London project.

Workshops have been delivered to the GLA and TfL to disseminate the project conclusions, and to showcase the TC-SIM model and the ways in which it can inform learning.

The work from this project, and the previous VIBAT UK project, is already being built on. The methods developed are now being used in projects in India (Delhi) and Canada (Victoria, British Columbia).

Education and training

An ongoing training programme is being taken forward by Halcrow using the VIBAT methodology. This will continue to be promoted internationally. The project and TC-SIM are also being used as an educational tool during lectures to students at University College London and Oxford University.

The future: the use of enabling mechanisms

Even the most positive outcomes from the scenario testing suggest that further incentives or 'enabling mechanisms' may be required to help achieve the ambitious CO_2 reduction target. 'Oil price volatility has already acted as a catalyst in the switch to lower-carbon travel behaviour,' says Hickman. 'Critically, a carbon-rationing scheme may prove to be the only way to a low-carbon future.'

Achieving a low carbon transport system is likely to involve some very difficult political choices. London is providing a lead for other cities. The challenge now is to map out a variety of future pathways and to engage the public in the decision-making process. The years 2025 and 2050 may be a long way ahead, but the transition to a low carbon society needs to start now.

Project resources
www.vibat.org

A wide range of papers, presentations and other information is available on the project website