

DEBATE SUMMARY

Cities of the future – science, innovation and city management

Held at The Royal Society on 19th June, 2013

The Foundation is grateful for the support for this meeting from the Future Cities Catapult, the Technology Strategy Board and Lloyd's Register

Chair: **The Earl of Selborne GBE FRS**
Chairman, The Foundation for Science and Technology

Speakers: **Steve Quartermain**
Chief Planner, Department of Communities and Local Government
Sir David King KB ScD FRS HonFREng
Chair, Future Cities Catapult
Richard Bellingham
Director, Institute for Future Cities, Strathclyde Business School, University of Strathclyde
Sir Mark Walport FRS FMedSci
Government Chief Scientific Adviser, Government Office for Science

MR QUARTERMAIN set out the policies of the Government on planning for both places and people. He emphasised the importance of cities - 74% of the UK population lived in cities, where there were 78% of jobs. Cities were where innovation and economic growth occurred. Their form and function is crucial. The Government wished to develop the ability of cities to grow dynamic leadership which would embody a vision for the locality, responding to its individual needs and circumstances. Cities should develop partnerships with public and private bodies and other authorities to form Local Economic Partnerships (LEPs) which will ensure an effective innovative culture over a wider area (as has already happened in Oxfordshire). The Government will negotiate with cities arrangements which will give them more power and authority. In 2012 eight 'City Deals' were negotiated with Greater Birmingham, the Bristol Region, Greater Manchester, Leeds City Region, Liverpool City Region, Nottingham City Region, Newcastle Region, and Sheffield City Region. Further arrangements with smaller cities will now be negotiated. In all these arrangements science and innovation will be the drivers. The aim is also to make these cities more attractive places in which to live, and to develop connections between them. Local leadership is the key for

success in policies which seek to reduce the over dependence on central government.

SIR DAVID KING outlined the objective of the Future Cities Catapult project, of which the programme was still being developed. Fundamentally it was to understand how to ensure that cities became effective and liveable habitations for future generations. It would develop a laboratory based in London, have an open platform for sharing and acquiring information, and develop new methods of financing research and development.

In 2008 50% of the global population lived in cities; in 2050 it would be 70%. The growth would be in developing countries, and becoming increasingly middle class - leading to GDP increases of three to four times. There were enormous opportunities for UK business in developing, managing and servicing these cities - closing the gap between concept and commercialization. The Catapult centre would seek to understand how these cities grew and functioned, what were the dangers they faced and how these opportunities could be exploited. These dangers were great - 95% of the increase in urban population would be in developing countries; 80% were in water scarcity areas; 95% would be dependent on food production which relied on oil. Cities must not only provide the basis for

a strong economy, but also be liveable, protect the environment and be sustainable. Many of the problems had been considered in past Government Office for Science Foresight programmes, which had looked at infrastructure issues, social and cultural problems such as drug taking, and dangers from floods and drought. The challenges for the 21st century were ensuring sufficient energy, food, water and health for a growing production with a changing demographic, while managing ecosystems and husbanding resources. There must be a systems approach to deal with these issues.

We need to understand urban typology; the impact of new consumer patterns; the increasing scarcity of resources (marked by increasing prices); use waste, through recycling, as a resource; and find out what, in all areas, were the best practices for running cities. Local leadership will always be essential but the UK can be a major player in establishing a global hub for collaboration and expertise.

PROFESSOR BELLINGHAM endorsed Sir David's views. The world was changing rapidly. We needed to look at cities in a global context - taking account of demographic changes (aging populations), technological change and changing consumption patterns. Cities concentrate resources and population, and have developed over millennia. We will now see the growth of mega cities in Asia which will fundamentally change their societies with benefits such as opportunities for economic growth and reduction of poverty. Cities had to be looked at in their cultural and national context - there were disorganized cities (in India), regulated cities (in China), stable cities (in most of Europe) and decaying cities (for example Detroit). But unless they inspired loyalty and provided attractive living, they would not achieve their goals. There was no instant fix, but much could be done with clear planning, a holistic approach, firm leadership and adequate finance, such as could be found in the Glasgow Future Cities demonstrator project. Founded on the sustainable Glasgow report which aimed at a 30% reduction in CO2 emissions in ten years, the project aims were for poverty reduction, transport efficiency, environmental improvements and changing social attitudes. Social, physical and economic problems must be dealt with together. Crucial was the involvement of all public sectors - the NHS, the police, social services, planning - and private

industry. The Future City Demonstrator project has had significant impact, led to major investment, and opened the way to global market opportunities. Lessons learned are that partnership, integrated systems and social participation based on improving quality of life are the keys to success.

SIR MARK WALPORT cited Jane Jacob's prescriptions for a successful city - diversity, mixture of uses, different types of people in close proximity - as important for making cities liveable¹. We must not define cities too narrowly - they have a physical boundary but also "soft" boundaries which cover wider areas within their influence and connections with other cities and, indeed, internationally.

Cities in Europe and globally would grow larger. For them to be attractive "to be liveable", their populations must feel safe, identify with their cities, and feel that their governmental structures observed their wishes. Only then would they adopt new social behaviours which diminished demand on resources. and cooperate on other policies. Future challenges were demographic (such as ageing), how to promote economic growth and how to deal with the effects of climate change. We need to know what are the key factors for successful cities, and what decisions need to be taken to manage a city.

Sir Mark announced the launch of the The Future of Cities Foresight project² which will consider how public policy is delivered in cities; will be cross disciplinary, develop a holistic view of connected problems and focus outputs on the most important questions of city management.

Principal issues raised in the following discussion concerned the problems not only of understanding key issues affecting the future of cities, but also how to deliver policies which were based on evidence, required long time periods before delivering results, and sometimes were opposed by voluble interest groups.

Speakers identified poverty as being the source of many problems in cities. Poverty led to social unrest, severe public health

¹ The Death and Life of Great American Cities by Jane Jacobs

² www.bis.gov.uk/foresight/our-work/projects/current-projects/future-of-cities

problems (such as obesity), more crime, and lack of aspiration. Even in affluent cities it could exist and needed to be understood at the micro level.

But there were many other risks, both physical and economic which could affect large groupings of population. These risks included floods and droughts, shortages of food and energy supplies, and the failure to compete in the global market place. Two things were important - first foresight - being aware of risks and seeking to forestall them, and second, working to develop resilience in physical, social and economic areas. Resilience was a matter both of mind - confidence and trust in the ability and wish of government (local, regional and national) to restore services after a disaster, but also in understanding that it is unwise to put all one's eggs in one basket - to rely only on one source of energy supply, or one type of employment or one system of transport.

Although the Foresight work, the Future Cities project outlined by Sir Mark, and the Catapult project described by Sir David, were valuable initiatives, speakers still raised concerns about the impact of physical and demographic changes for the future health of cities. For example, had the impact of global warming, and water shortage been fully taken into account in the Chinese urban plans? Had the consumption patterns of people as wages rose - particularly in energy use and transport - been fully recognized? Were there effective powers to control immigration, even if we knew what the immigration pattern would be likely to be? How did we deal with the ever-growing problem of waste?

While the Panel assured speakers that many of these problems were part of the remit of their studies, two major problems stood out. First solutions of city management problems depended not only on technical progress (better electrical cars for example) but also changing behaviour (not throwing away waste, but reusing it through recycling)). Changing social behaviour depended on long term persuasion or/and regulation. In democratic countries persuasion was more important requiring sustained political leadership, and some early benefits. In less democratically demanding cultures (China) more could be done through control and regulation. The debate was still open as to which, in the long term, would be more suc-

cessful. But, for democratic societies, which changed political power at frequent intervals through popular elections, there was always the temptation for politicians to want to capture public approval through short term measures, and avoid long term commitments, or promote novel habits and conventions which might benefit their opponents. Unfortunately most large-scale infrastructure problems took many years before benefits appeared. There were examples of long term infrastructure or management successes (the London Thames Barrier, Bogotá traffic management) but there were many failures. But searching for success or failures must take into account the scale of the problem and country - what worked for the Pearl Delta in China, would not be relevant for the Thames river.

Communication with the public about future dangers needed to be authoritative, resting on good scientific evidence, and not be needlessly alarmist; it must expose clearly possible alternatives, taking into account always, in times of economic scarcity, of unwillingness to spend money. Contingent risks and the concept of resilience is not easy for many to grasp, and experts are not often the best people to communicate them to the public. So to be effective politicians and the media are vital sources of informed debate. Communication should not be in terms which would lead one set of politicians automatically to oppose action, and recognize that those affected need to have their interests protected as far as possible. There will always be particular problems where new procedures or techniques have to be grafted onto old established cities with fixed ways of doing things.

Would it be a good idea for cities to have Chief Scientific Advisers, as do government departments? Opinion was divided - people distrust experts. More use should be made of social media networks to enable decision makers to have much greater, more immediate and more accurate information about what people wanted and what they disliked. The education of future generations about how urbanisation was impacting the environment and the economy should start early.

But strong political leadership, with a willingness to pursue long-term goals and win the trust of local populations was crucial to implementing plans for the future. The government's wish to promote local leaderships

and to enable cities to pursue policies more directly concerned with their own needs was welcomed, although it raised difficult questions about the ultimate responsibilities of local, regional and national governments.

Three points stood out from the discussion. First, work such as that being pursued by Strathclyde University at Glasgow, by the Catapult Centre, and by the Foresight project was vital for our understanding about the problems of future cities and for creating a base from which UK businesses could profit.

Secondly, within the UK there was still much work to be done in communicating the need for long-term planning, major infrastructure

works and changes in behaviour to the public.

Thirdly, successful implementation of technological or social changes depended on strong local leadership persuading the public, looking to the long-term and having sufficient resources to implement plans.

The Government's proposals to strengthen local leadership were welcome, but it was doubtful if they went far enough to create centres of locally based power which would enable national government to relax its own control over policies and resources.

Sir Geoffrey Chipperfield KCB

.

The hash tag for this event is #fstcities

Useful web links are:

Atkins Report on Future Proofing Cities with DfID and UCL
www.atkinsglobal.com/sectors-and-services/sectors/urban-development/fpc

The Bartlett Faculty of the Built Environment, UCL
www.bartlett.ucl.ac.uk

Bristol Future City Award
www.bristol.gov.uk/press/business-bristol/bristol-wins-future-city-award

Department of Communities and Local Government
www.communities.gov.uk

Ellen MacArthur Reports – Circular Economy Reports
www.ellenmacarthurfoundation.org/business/reports

The Foundation for Science and Technology
www.foundation.org.uk

Future Cities Catapult Centre
www.innovateuk.org/-/catapult-centres

Glasgow Future Cities Project
www.glasgow.gov.uk

Government Office of Science
www.bis.gov.uk/go-science

No stone unturned: in pursuit of growth – Lord Heseltine review
www.gov.uk/government/publications/no-stone-unturned-in-pursuit-of-growth

Information Economy Strategy
www.gov.uk/government/publications/information-economy-strategy

Lloyd's Register
www.lr.org

Peterborough Future City Award
www.peterboroughfuturecity.co.uk
Research Councils UK
www.rcuk.ac.uk

Royal Academy of Engineering
www.raeng.org.uk

Royal Institute of British Architects
www.architecture.com

Royal Town Planning Institute
www.rtpi.org.uk

The Royal Society
www.royalsociety.org

Technology Strategy Board
www.innovateuk.org

University of Strathclyde
www.strath.ac.uk

office@foundation.org.uk
The Foundation for Science and Technology
A Company Limited by Guarantee
Registered in England No: 1327814
Registered Charity No: 274727