



Future Cities

- **Global City Context**
- **Glasgow Context**
- **Future Cities Demonstrator**
- **Institute for Future Cities**

A Changing World

- **Demographic change**
 - Growing populations
 - Aging populations
- **Desire for improved quality of life**
- **Consumerist lifestyles**
- **Technological change**
- **Pressure on natural resources**
- **Political Movements**
- **Recession**
- **Urbanisation**

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The Role of Cities

- **Cities are major concentrations of people and resources**
 - **Currently over half of the world's population**
 - **75% of the world's energy**
 - **80% of world greenhouse gas emissions**
 - **They will continue to grow**



The Growth of Cities

Developments in technology over thousands of years have allowed cities to become ever larger in population

- food production and preservation
- transportation
- water handling
- waste handling
- communication
- economic systems
- energy production, storage, transmission and use

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The Growth of Cities

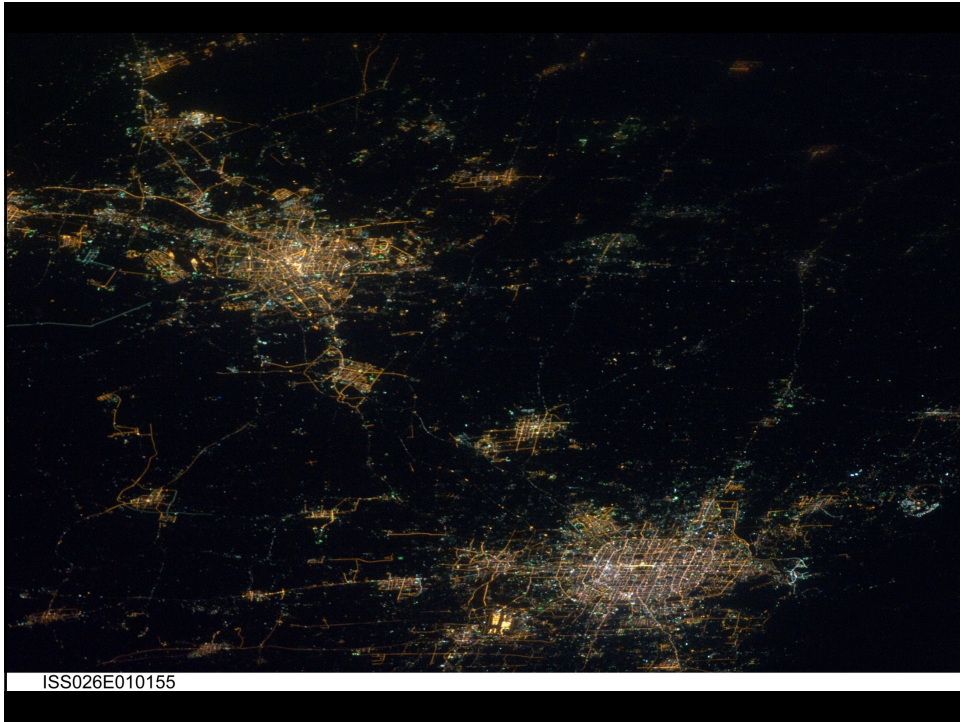
Developments in social systems are also essential

- Social structures
- Codes of behaviour
- Systems of government
- Systems of law

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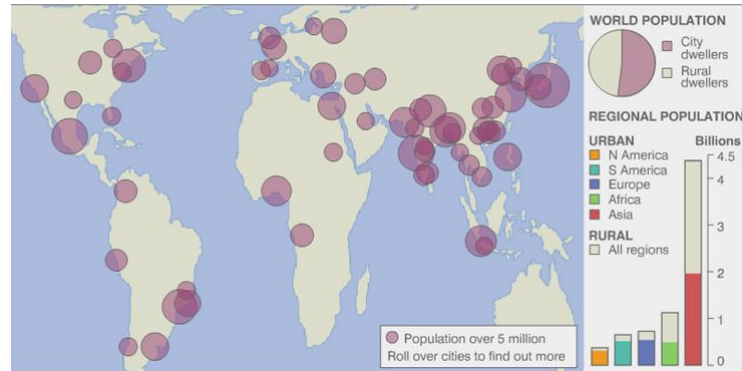
The Growth of Cities







2015



The Role of Cities

Cities are the economic motors of many economies
Cities have clear identities, focus, and legal powers
City governments are accountable
It's greener to live in a city!

Cities offer opportunities to tackle poverty, improve health and education, and delivery economic growth

The Growth of Cities

- Estimated to grow at 60 million people a year
- Doubling urban populations by 2050
- Mainly in the developing world

- Urban areas account for 70% of global GDP
- 600 cities will contribute more than 60% of world GDP growth by 2025



Different Types of City

Growing disorganised cities
Growing regulated cities
Existing stable cities
Existing shrinking cities
New designed cities

Different Types of City

Growing disorganised cities

Growing regulated cities

Existing stable cities

Existing shrinking cities

New designed cities

A huge global opportunity

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Creating change

- **No instant transformation of the economy and society**
- **No single technological “magic bullet”**
- **Need multiple solutions working together**

- **Need a strategic approach**
- **Need to balance economic and social outcomes**
- **A phased long term transformation**
- **Underpinned by sustained behavioural change**
- **Supported by public policy changes**
- **Resilient long term governance and leadership**
- **Multiple stakeholders working in partnership**

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Sustainable Glasgow





sustainable glasgow



OUR CITY
VIBRANT
GROWING
LEADING

www.sustainableglasgow.org.uk

Key Findings

Glasgow can reduce its carbon emissions by over 30% within 10 years

£1.5 billion in investment



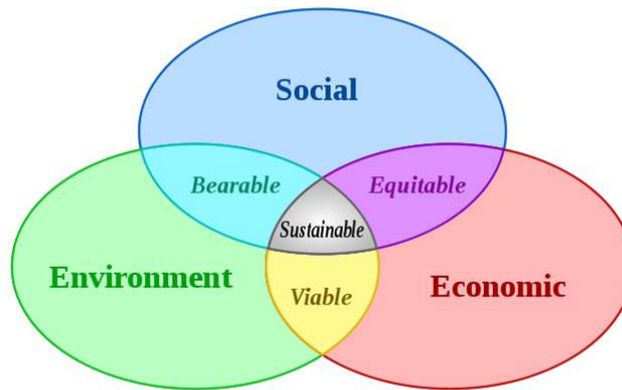




- **A city in transition from heavy industry - with significant growth in commercial and financial sectors**
- **The most deprived areas in Scotland**
- **30% of homes in fuel poverty**
- **In poorer areas lifespans are much shorter**

- **Significant public investment**
- **2014 Commonwealth Games will create investment and high global visibility**

Sustainability must balance different policy objectives



Glasgow's Vision

Working in partnership to:

- **Make Glasgow one of Europe's most sustainable cities within 10 years**
- **Technically and financially deliverable**
- **Improve lifestyles and opportunities for Glasgow's people and businesses**
- **Make Glasgow a leader in sustainable urban living**
- **Delivered in a way that is consistent with development of a vibrant and growing city**



University of Strathclyde Glasgow

A holistic approach

- The whole city
- Evidence based
- Technology neutral
- Long term strategic view
- Creating supportive public policies and business models
- A partnership between the university, local government, and the commercial sector

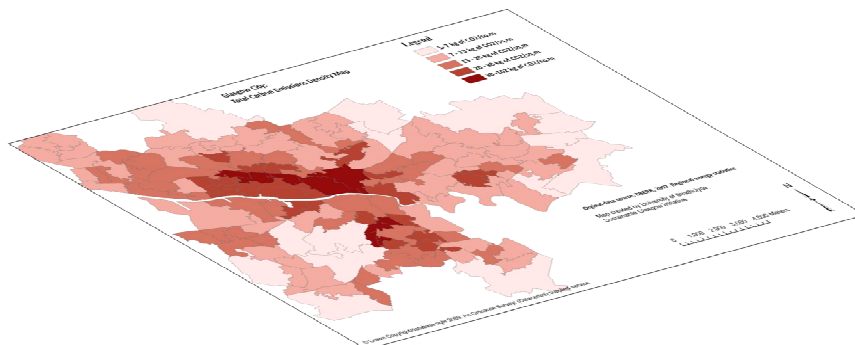
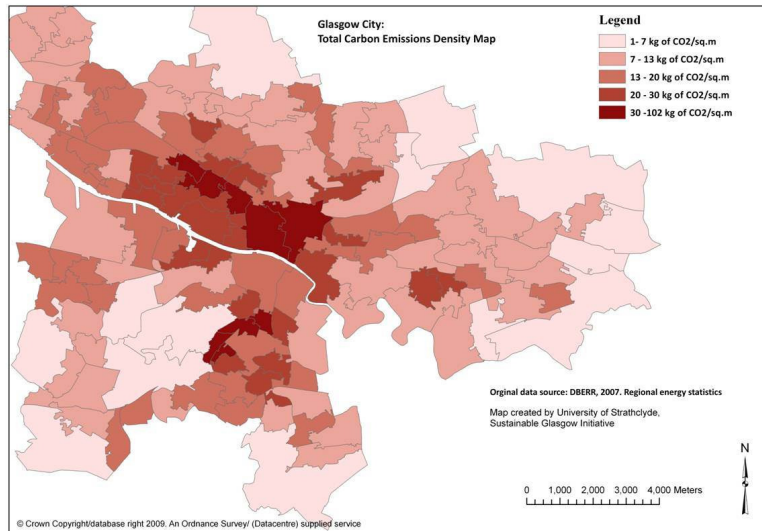
A New Approach

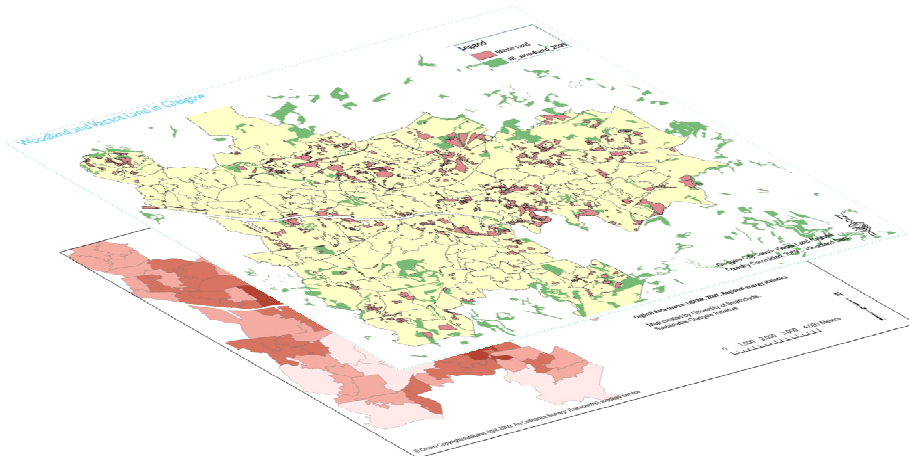


A New Approach

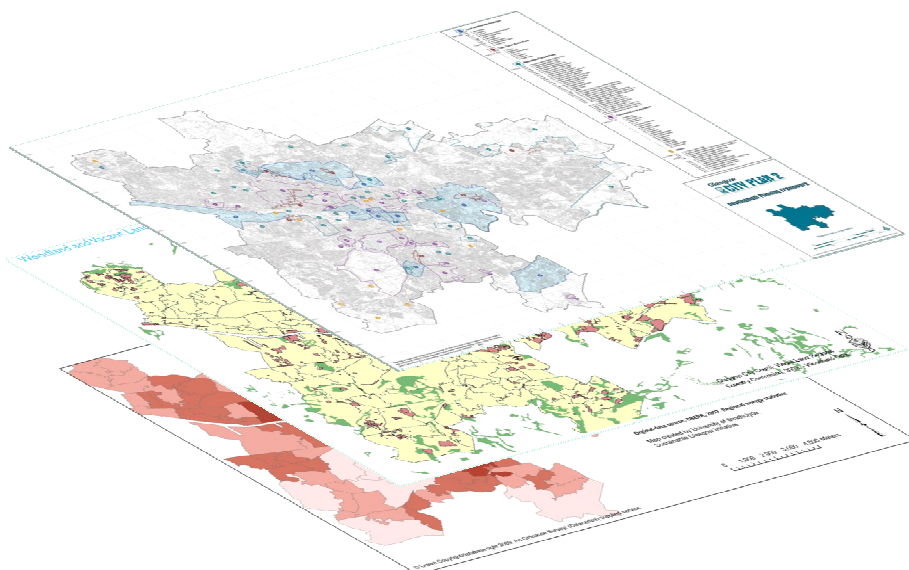


A New Approach





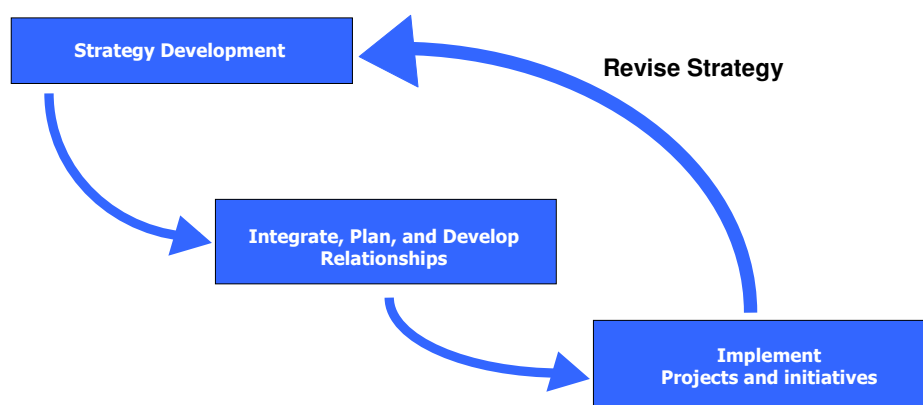
An Integrated Analysis



More than technology

- Engage the enthusiasm and talent of people, communities, and businesses**
- Create a supportive public policy environment**
- Change attitudes and behaviours**
- Create appropriate governance mechanisms**
- Develop business models**
- Draw in investment**

The Sustainable Glasgow Process



Future City Demonstrator

Future City Demonstrator Key factors

- **A significant impact**
- **Relevant to the city's needs and opportunities**
- **Tackle issues relevant to global markets**
- **Grasp the windows of opportunity**
- **Realistically deliverable within timescale**
- **Work in partnership**
- **Create an outward looking approach**
- **Ensure international engagement**

Opportunities and Issues in Glasgow

- 2014 Commonwealth Games
- Bidding to host 2018 Youth Olympics
- £90 million Technology & Innovation Centre
- £800 million Southern General Hospital
- Clyde Gateway Project
- Fastlink bus system and subway modernisation

- Urban regeneration
- Fuel poverty
- Health

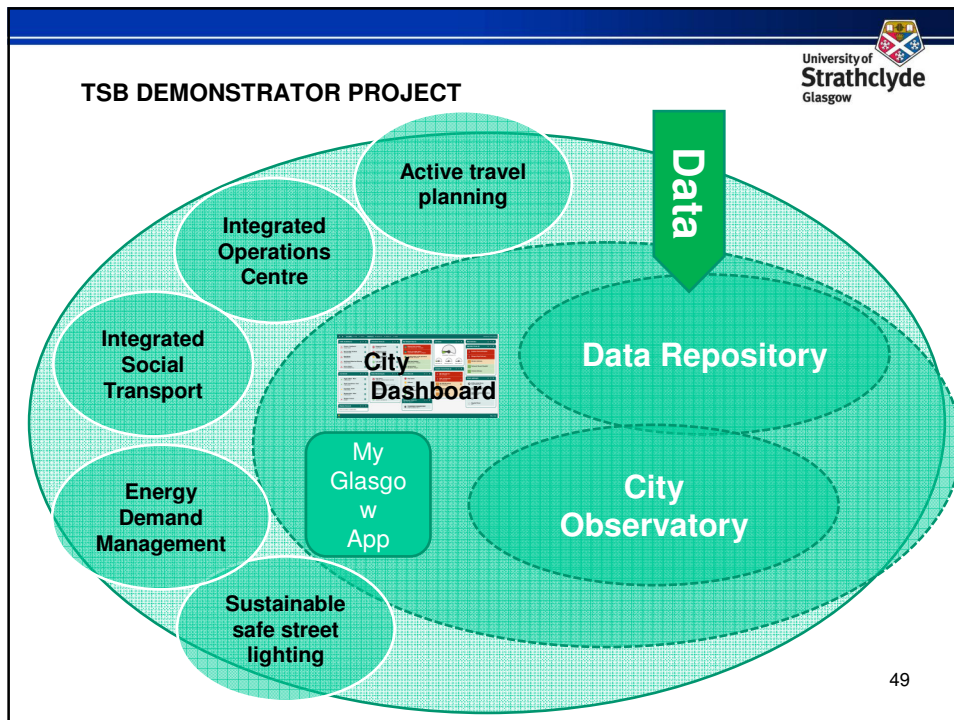
Future City Demonstrator

Demonstrator Objectives

- Grow the profile of integrated urban technologies for a growing world market
- TSB estimates this market is worth £200 billion pa

Tight timescale

- £24 million to be spent (contracts signed) by May 2014




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Future City Demonstrator

Main Demonstrator Activities

- Integrating city systems – transport, security, emergency response
- Creation of city dashboards and an integrated operations centre for city managers
- Creation of a City Observatory
 - Multiple datasets
 - New analytical models and simulations
 - Interfaces for research, business, citizens, and policy makers
 - Multiple cities



Demonstrator Impacts

- **Enhanced City systems**
 - greater efficiency
 - lower cost
 - higher impact
- **Accelerate Innovation**
- **Evidence based policy making**
- **Economic development**
- **Internationalisation**

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Institute for Future Cities

<http://www.strath.ac.uk/business/cities/>

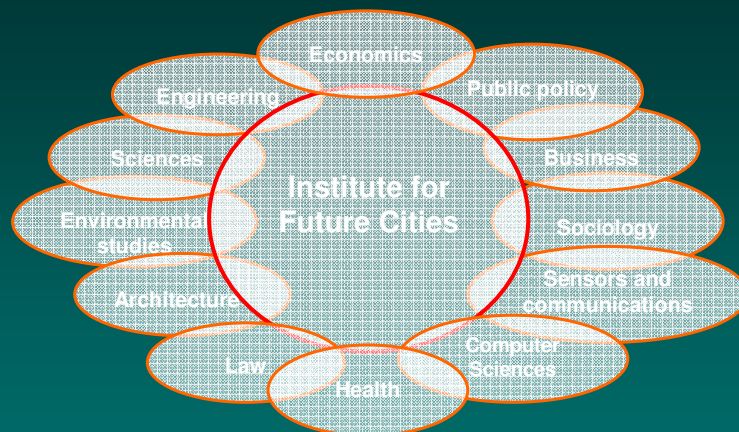
Background

- **Why have an Institute for Future Cities**
 - Major issues and opportunities for cities globally
 - Issues and solutions are complex
 - involving multiple disciplines
 - Increasing funding for cities research
 - Strathclyde has real relevant strengths
 - Strong interest from commercial partners
 - Strengthening international relations
 - Improved response to current and future opportunities
 - Opportunity to build on existing projects
 - Future Cities Demonstrator and City Observatory
 - Technology and Innovation Centre
 - STEP UP

The Context

- Opportunity to build on existing projects
 - Sustainable Glasgow
 - Glasgow Economic Leadership
 - Commonwealth Games
 - TSB £24 million Future Cities Demonstrator and City Observatory
 - £90 million Technology and Innovation Centre
 - £3 million FP7 STEP UP Sustainable Cities
 - ESRC Transformative Research – Predictive Crime Analytics
 - International links

Scope



Scope

- All types and sizes of cities globally

Vision

- We will improve the quality of human life across the world through innovative research that enables cities to be understood in new ways, and innovative approaches to be developed for the way we live, work, learn and invest in cities

Mission

- A world-leading centre for research and teaching on smart sustainable cities that integrates and catalyses expertise and research across sectors and multiple disciplines, to address challenges, seize opportunities, and inform decisions.

Mission

- An integrated, holistic approach – that allows cities to be seen as integrated systems of systems

Mission

- Working in partnership – integrating research. Working with Glasgow and other cities across the world; commercial organisations; local and national government.

Initial focus areas

- The City as a living lab
 - sensors, big data, high power computing
- Smart sustainable city planning and implementation
- Evidence based public policy
- Risk and Resilience
- Business models, Finance, Economic Development

Thank you