Transitioning towards sustainable urban mobility:
A comparative analysis of Oxford

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Sustainable Transport: Drivers for Change
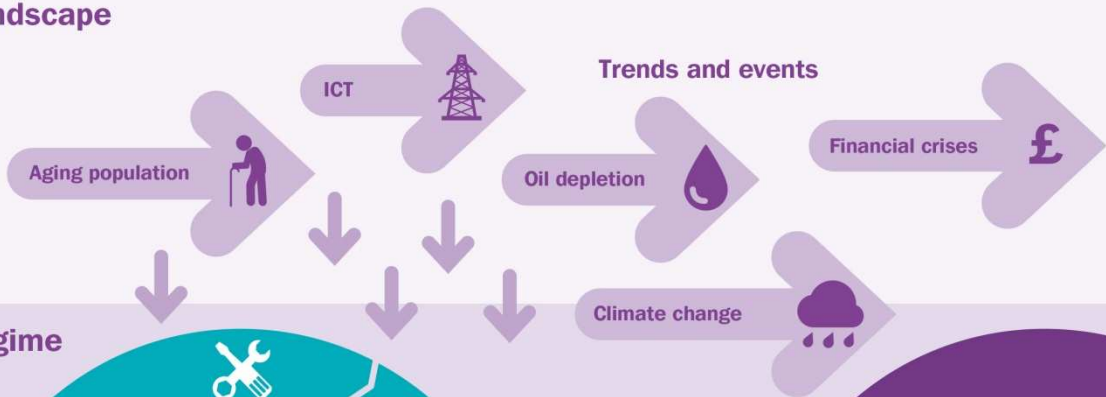Low Carbon Oxford – Unipart House, Oxford
20th May 2015

The need for change
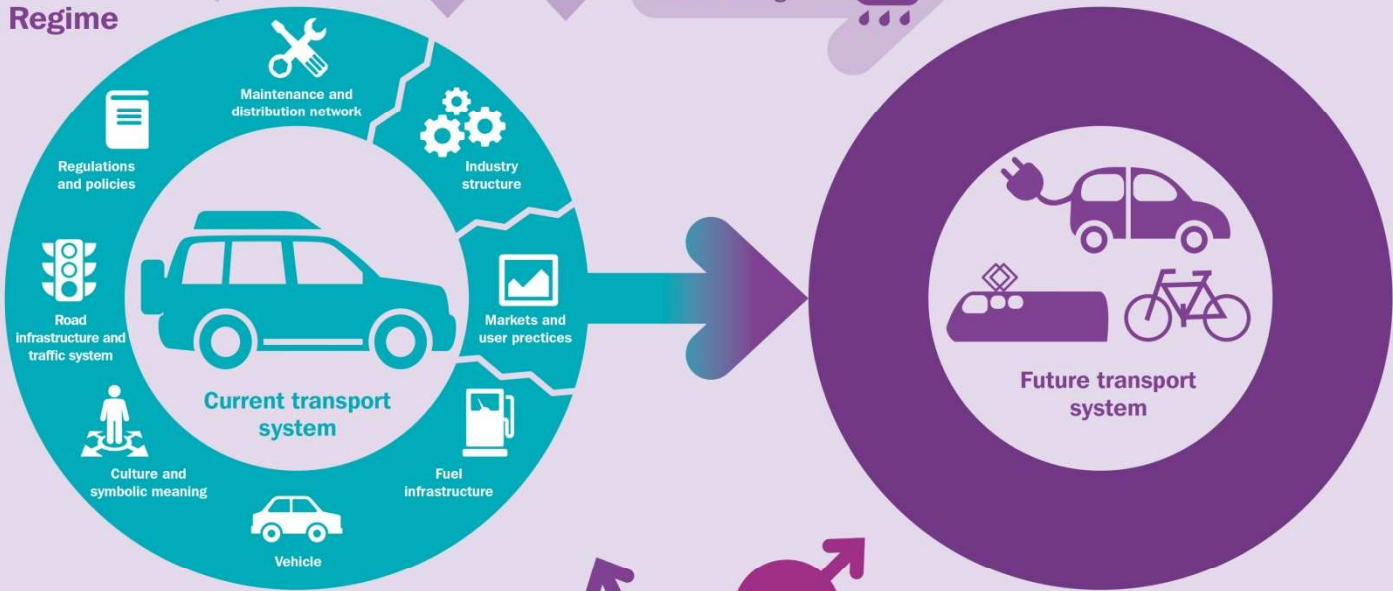
Transport is the **maker** or **breaker** of cities

Current urban transport patterns are environmentally and socially **unsustainable**

Landscape

Aging population · ICT · Trends and events · Oil depletion · Financial crises · Climate change

Regime

Current transport system
- Maintenance and distribution network
- Regulations and policies
- Road infrastructure and traffic system
- Culture and symbolic meaning
- Vehicle
- Fuel infrastructure
- Markets and user prectices
- Industry structure

Future transport system

Niches

- Driverless vehicles
- Battery electric vehicles
- Bike sharing
- Lithium ion batteries
- Smart public transport

Innovations

Radical reductions in energy demand require transitions to new socio-technical systems.

The role of cities

Cities seen as focal points for transition towards more sustainable mobility futures

- Peak car, rail renaissance, cycling boom
- In keeping with wider trends of low carbon experimentation and more proactive growth of cities in climate governance

Within the UK context **Oxford** is a front runner in multiple ways

Oxford in past decade

Lack of space for development – significant volumes of inward travel

Less car travel, more bus use and cycling within the city

Own research:

a) More **electric mobility** – Oxford Bus Company, mini E trial, charging infrastructure, e-car club – and **'smart' transport technologies** than Brighton & Liverpool

b) Less **car club** usage and investment in **cycling infrastructure** & **personalised travel planning** than Brighton, though more than Liverpool

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The role of organisations and businesses

Thornhill Park & Ride

Introducing **city600**

connecting
Pear Tree Park & Ride
Woodstock Rd
South Parade
Oxford University Science Area
St Clements
Oxford Brookes University
John Radcliffe Hospital

Low emission car club at Oxford Brookes University

Reducing fossil fuel use and emissions (i)

a) Fewer trips ⇨ *if infeasible:*

b) Different modes ⇨ *if infeasible:*

c) Shorter distances ⇨ *if infeasible:*

Clearer vehicles:

d) Alternative fuels ⇨ *if infeasible:*

e) Improved fuel economy

Reducing fossil fuel use and emissions (ii)

Types of mobility

a) Commuting (staff)
b) Visitors (customers, service users, etc)
c) Delivery/'inputs' (suppliers, service providers, etc)
d) 'Outputs' (products, services, etc)
e) …

Time of day & week

a) Morning peak
b) Day time
c) Evening peak
d) Night time
e) Saturday
f) Sunday

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Reducing fossil fuel use and emissions (iii)

	Fewer trips	Different modes	Shorter distances	Cleaner vehicles:	
				alternative fuels	Improved fuel economy
Commuting					
Visitors					
Delivery/'inputs'					
'Outputs'					

Reducing fossil fuel use and emissions (iv)

	Fewer trips	Different modes	Shorter distances	Cleaner vehicles:	
				alternative fuels	Improved fuel economy
Commuting	e.g. Tele-commuting	e.g. Mobility management	e.g. Incentives to live closer to work	e.g. Offer EV charging	e.g. Parking & other incentives for small cars
Visitors	--	e.g. Parking restrictions & charging	--	e.g. (fast) EV charging	--
Delivery/'inputs'	--	--	e.g. More local sourcing	e.g. Switch suppliers	e.g. Switch suppliers
'Outputs'	--	--	e.g. More trip chaining	e.g. Fleet of EVs	e.g. Fleet of Smaller and/or more efficient vehicles

Thank you

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