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# The Sustainable Mobility Paradigm + 10

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## Background

Transport central to 21<sup>st</sup> Century society – substantial increases in mobility – increased use of energy and CO<sub>2</sub>

25% Global CO<sub>2</sub> = 8.5 gt 2016

Need to reduce CO<sub>2</sub> by 60% to 2050

Global vehicles = 1 B in 2017

To increase to 2.5 B by 2050



# The Problem

## Trends in Travel

1. Doubling of travel to 2050 – from 6,000 km per person per year to 11,000 km per person per year
2. This means 80% increase in CO<sub>2</sub>
3. Road fatalities: 1.2 M and a further 50 M injured
4. Congestion and quality of life
5. Health impacts and local pollutants

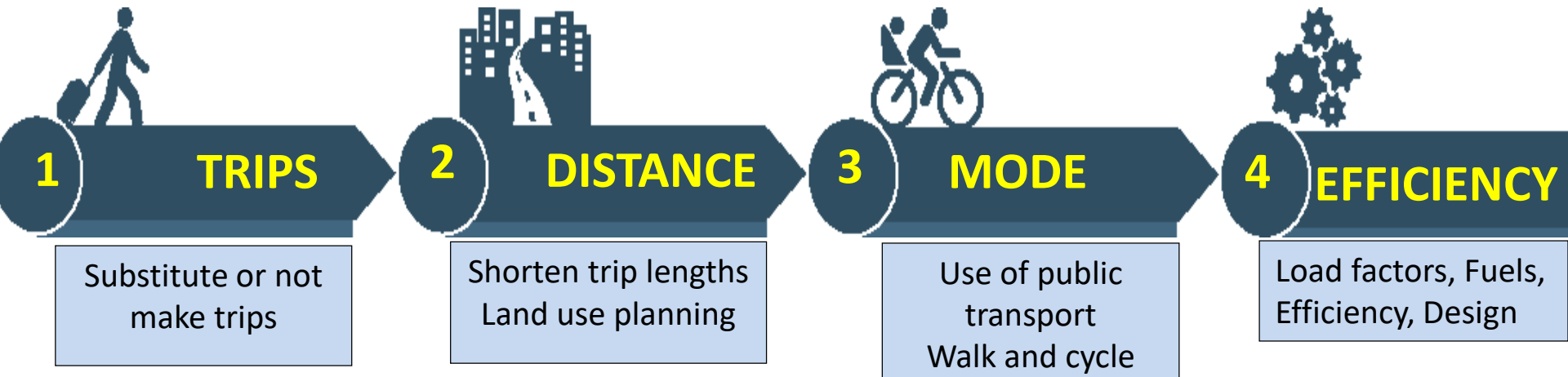
## Trends in Cities

1. Increases in global population
2. Number of megacities (>10 M) – to increase from 29 in 2014 to 37 by 2025
3. 70% population living in cities





# The Sustainable Mobility Paradigm



## SEVEN MAIN COMPONENTS OF THE SUSTAINABLE MOBILITY PARADIGM

1. **Reasonable travel time** – not minimisation of travel time
2. **Seeing travel as a valued activity** – not only a derived demand
3. **Reducing the need to travel** – through distance reduction and working remotely
4. **Achieving significant modal shift** – to walking, cycling and public transport
5. **Lower levels of pollution and noise** from transport, and greater energy efficiency
6. **More efficient management** and use of infrastructure and capacity through higher occupancy and load factors, and through pricing
7. **Increasing the quality** of places and spaces within cities



## 2008: Priorities

Focus in SMP has been on engagement and behavioural change, supported by strong government action:

1. Increased investment in public transport
2. Priority for walking and cycling
3. Pricing for access and parking
4. Higher densities and mixed use developments
5. Transport development areas around highly accessible public transport interchanges
6. Local initiatives in neighbourhoods to maintain quality and encourage ownership
7. Slower speed limits
8. Freight consolidation and distribution
9. Car sharing, leasing – bike sharing



# 2018: New Priorities



Still see good opportunities for SM in Cities – the priorities raised in 2008 still relevant – but additional problems and possibilities

## 1. Environmental and Health

Local pollution: transport key contributor – CO, NO<sub>x</sub>, PM

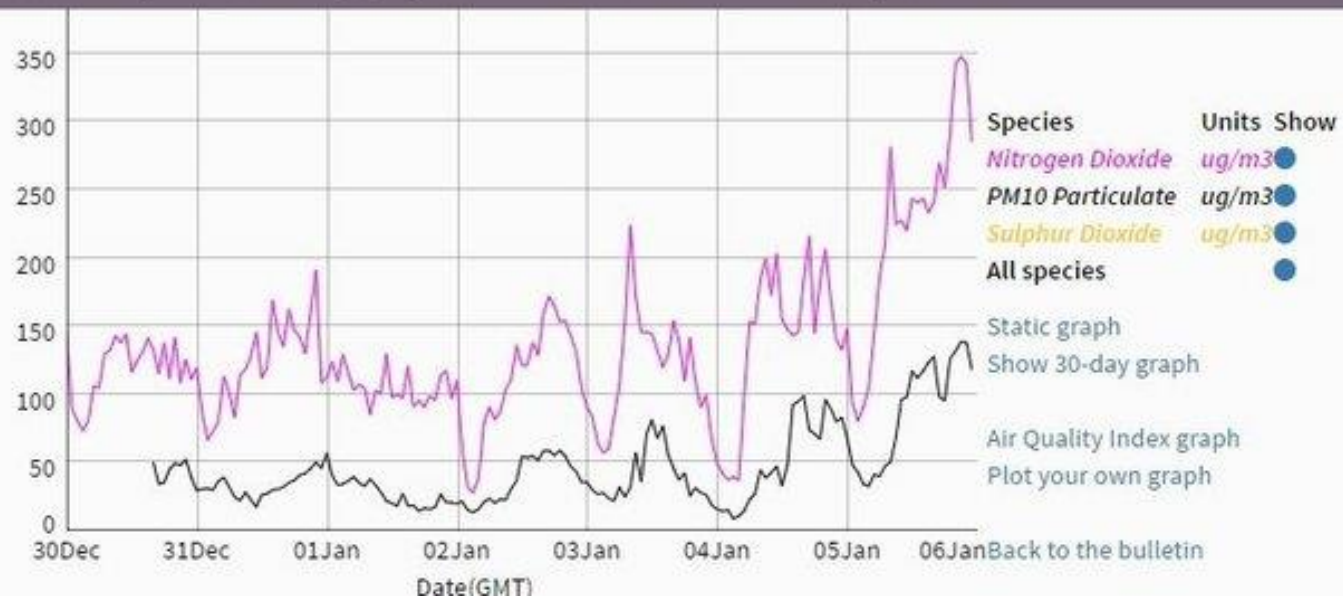
Health: premature deaths (40,000 in UK: 9,000 in London)

### Kings College London: Monitoring

**2017** – Brixton Road exceeded its annual limits of 18 breaches of NO<sub>2</sub> levels in 13 days (January)

**2018** – took 30 days (January)

Pollution Graphs » Seven day graph for Lambeth Brixton Road » All species data





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## 2. Inequality and distributional issues

Large scale investment (HSR and airport capacity) and many forms of subsidy (to air travellers, car drivers, and rail users) benefit the rich more than the poor - both directly and indirectly





# Schizophrenic Futures - Transport



1. **Global Mobility Patterns** – long distance air and long global supply chains
2. **Y Generation and Millennials** – less car ownership and local travel – media and connectivity
3. **Co-Benefits** – point in the same direction – energy and carbon reduction, better health and lower fatalities – clean cities
4. **Political Leadership** – new forms of governance – blurring of public and private - responsibilities and engagement – populism
5. **Disruptive Innovation** – new actors – sharing society – door-door transport – automation – apps
6. **Cities** – good possibilities – walk and cycle – car free – shorter trips – slow travel – ownership of space – accessible and affordable (public) transport





# Schizophrenic Futures - Society



1. **Climate Change** - Sea level rise – intensity and frequency of weather events – storms, flooding, fire, drought etc.
2. **Growth** – Decoupling and Degrowth futures – acceptance of planetary and resource limitations
3. **Inequality** – Concentration of wealth and the gap between the rich and the poor
4. **Instability** – Political change, threats from terrorism, pandemic, cybercrime, and mass migration

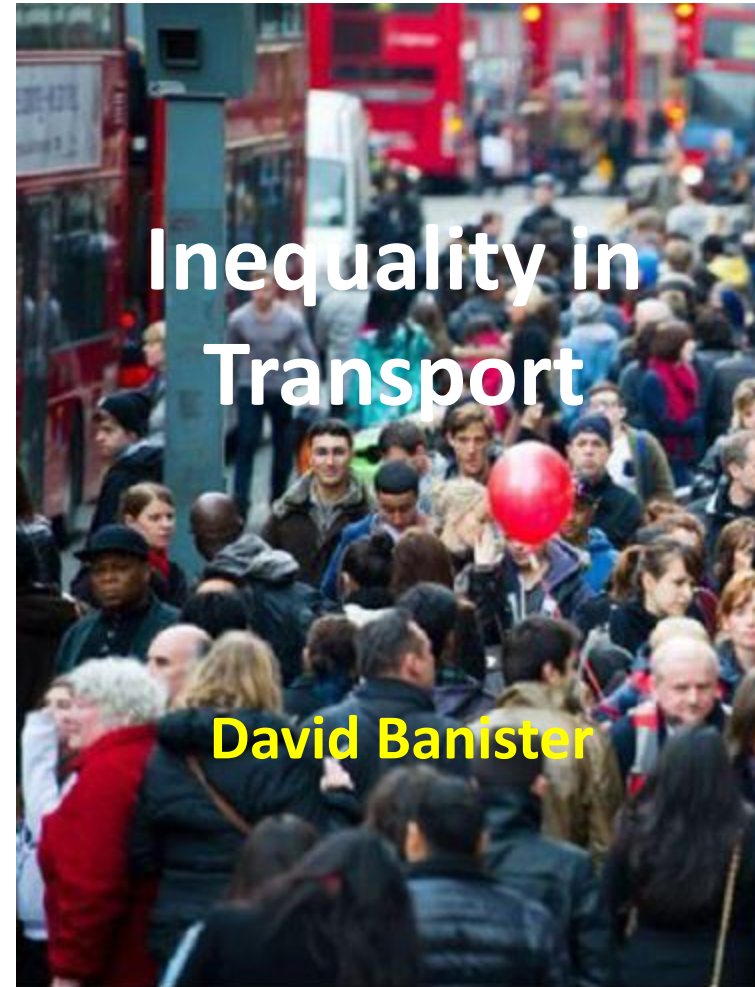
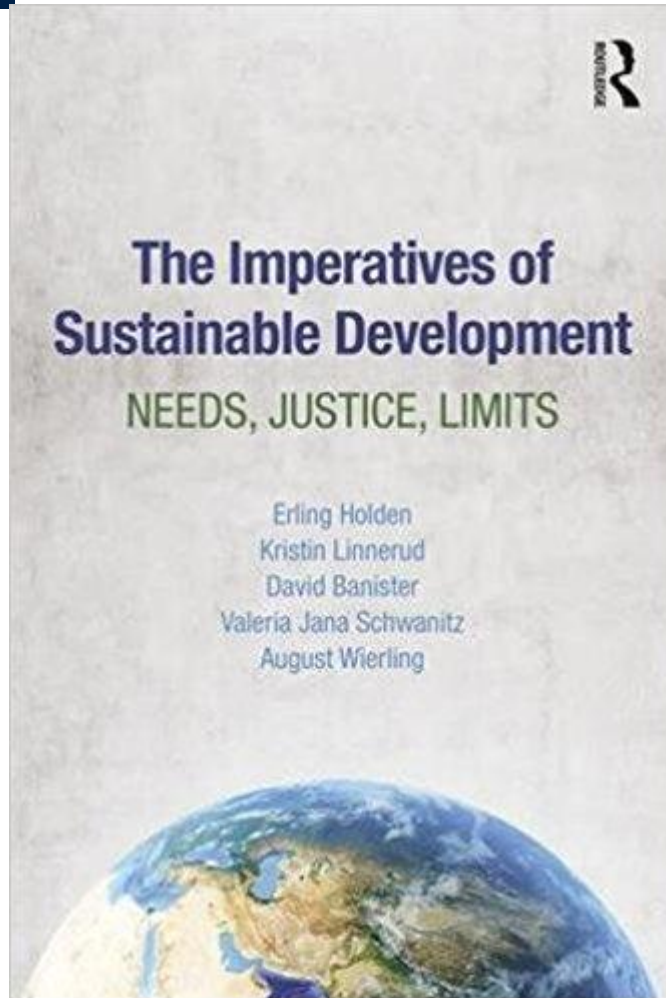


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