



Air pollution, CO₂ emissions and traffic congestion from a policy perspective

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CO2 emissions

- Diesalization
 - Fuel efficiency is on average at least 16% higher
 - CO2 emissions per km are 6% to 20% lower than for petrol
 - Car manufacturers 😊

Problems

- Diesel was declared carcinogenic by the WHO in 2012
- Diesel-gate in 2015
- Countless studies on the costs of air pollution

Air pollution costs per km of a diesel car: 111% higher than for a petrol car (and if computed per litre, 145% higher)

Diesel excise duties in Europe

Switzerland >

UK =

Most of the other countries <

Price per litre: lower
Diesel goes further

CO₂ savings not
enough any longer

Electric Vehicles

PM₁₀ emissions from road transport in the UK

31% tailpipe (EVs = zero)

45% tyre and brake wear

24% road abrasion

CO2 emissions per km

Petrol cars: 100%

Diesel cars: 80%

Hybrids: 76%

Plug-in Hybrids: 39%

Battery EVs: 0%

Total costs of
ownership still high

Minimum subsidy:

£5,500

Congestion: Road pricing

Singapore (1975)

London (2003)

Stockholm (2006)

Milan (2008)

Gothenburg (2013)



Ken Livingstone
2000-2008
Independent
Labour



Boris Johnson
2008-2016
Conservative



Sadiq Khan
2016-
Labour

London

- 90% of commuters used public transport or a non-chargeable mode
- 40% of car trips inside the CZ are business trips
- Speeds in 2002 = 1902
- TfL invested in public transport before the LCCS

Workplace Parking Levies

- Nottingham (2011)
- Employers are charged £387 per year per space (if > 10 spaces) [less than £1.50/day]
- Earmarking of revenues (e.g. tram system, redevelopment of railway station, electric buses)

Mobility as a Service

Some potential

Welcome by PT users

Beware of TNCs!

Cardiff

- Public transport: coverage, frequency, reliability need to be substantially improved
- WPLs?
- Diesel ban?
- Clean air zones?