

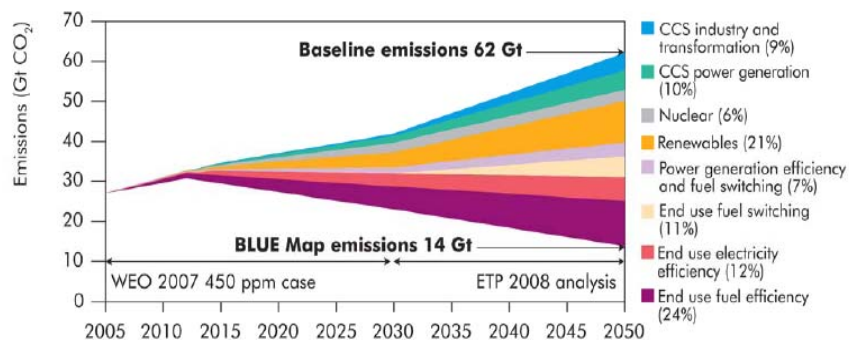
How fast can the rate of change of technology be accelerated to reduce carbon emissions from transport?

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The Global Energy Technology Challenge

Contribution of emission reduction options, 2005-2050



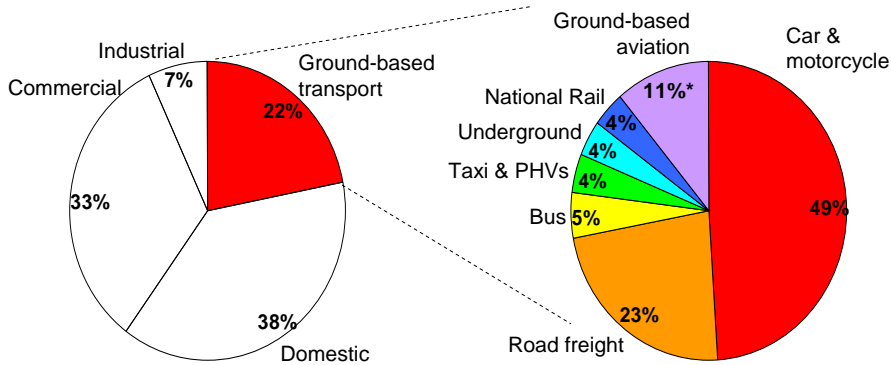
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CO₂ Emissions From UK Transport Sectors

2006 emissions from all sectors, excl. aviation
100% = 44.3 million tonnes CO₂

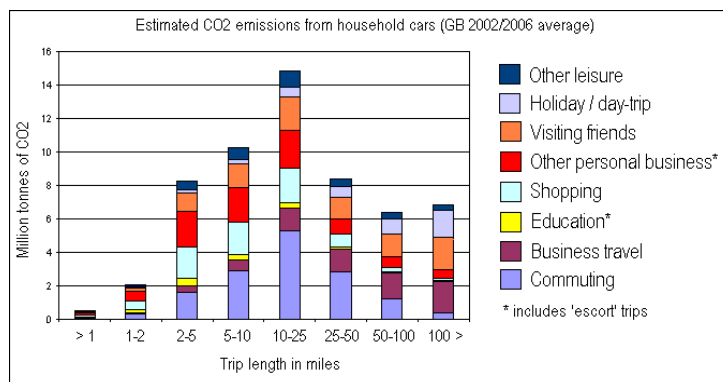
2006 emissions from the ground based transport sector
100% = 9.6 million tonnes CO₂



* Emissions from aircraft whilst taxiing and during the take-off and landing cycle (i.e., below 1,000m in altitude). Source: Mayor's Energy Strategy and TfL analysis. Transport numbers reflect 2004-05 data

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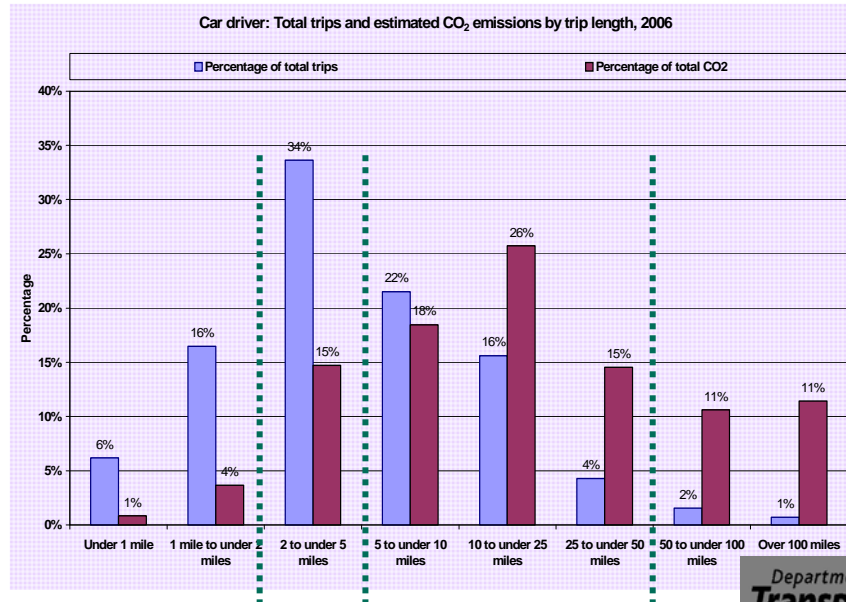
Transport - Carbon reduction pathway work



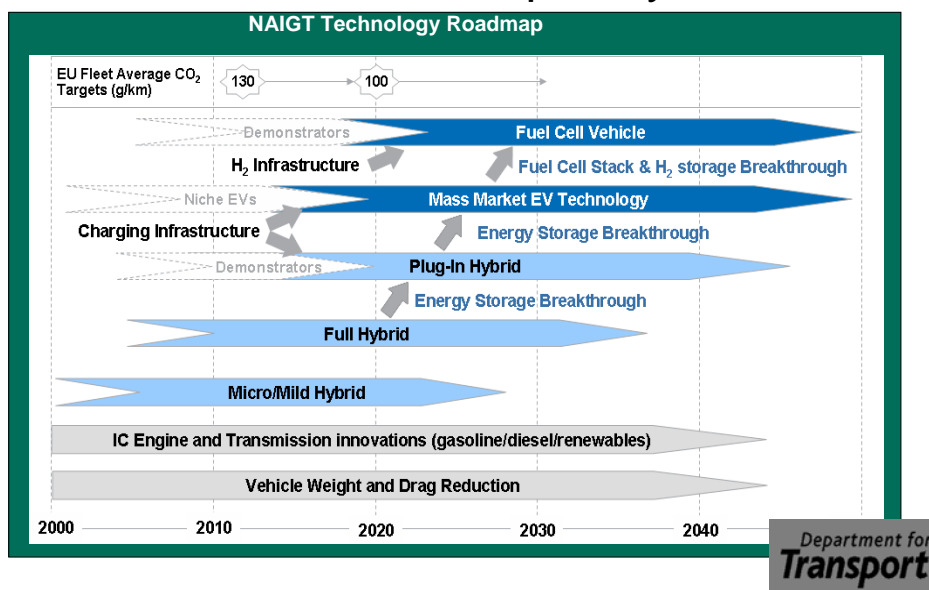
- Which trips generate the CO₂?
- Which policy interventions give us the biggest reduction in CO₂ for the smallest adverse impact on other goals?
- What CO₂ reduction can we achieve
 - from cross-cutting measures?
 - on the city & regional, national and international networks?

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New carbon analysis provides critical insights



Technologies to achieve a sustainable, low carbon road transport system



Behavioural change; the role of social sciences

- Using innovative, deliberative methods (new to Government) to provide rich insights to:
 - The barriers and motivators to behavioural change - and importantly, how they relate to different groups in society and to different journey types
 - Public engagement with climate change
 - The role of information in increasing public awareness of the issues

Provocation

- Renewable energy sources may not be deployed in time to meet EV needs. Even though we have the technology do we have the systems engineering capability or capacity?
- Transport innovation should pursue many routes – better ICE, biofuels, hybrids and EV, but we may not have the money to afford all at once – so which do we choose and when?
- How do we afford industrial scale systems innovation with existing financial models of investment?
- What will incentivise people to travel less and be more energy efficient, and yet maintain the quality of life they expect ?