

It's not just about dirty tailpipes

Why tackling travel demand is as important as tailpipe emissions to improve air quality in cities

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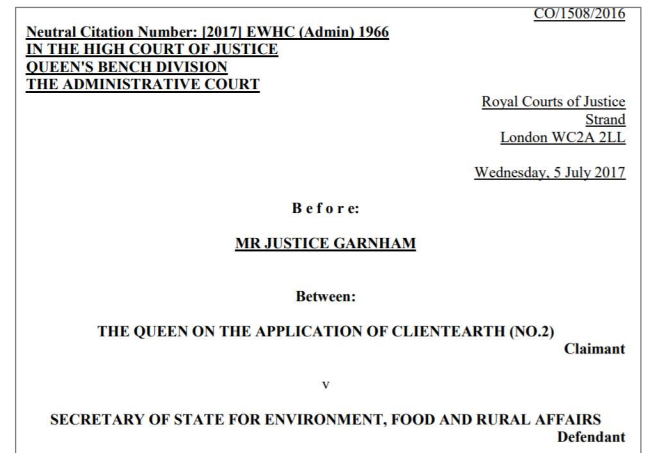


We have a problem...

UK referred to Europe's top court over air pollution

By Roger Harrabin
BBC environment analyst

🕒 17 May 2018



Glasgow plan to curb city car use

🕒 8 November 2018



Paris moves to improve air quality

Cities across Europe are looking at ways to cut pollution and improve air quality - but none has gone further than Paris which has already banned older cars from its streets. Eventually, the plan is to outlaw many petrol vehicles and all diesels. So what do Parisians think?

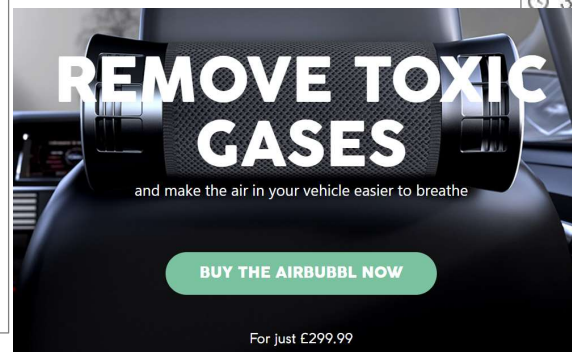
🕒 30 May 2018

'Air quality is worse inside your car'

Sophie Power is worried about her 3-year-old son's lungs and says studies show that lung function, if damaged early in life, cannot be repaired later. Now she's developed a device called Airbubbl that filters polluted air inside vehicles.


Video journalist: Griesham Taan

🕒 15 Nov 2017



And / but...







Office for Low Emission Vehicles
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Go Ultra Low vehicles selector and video


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Latest

Workplace Charging Scheme approved chargepoint list
updated 24 November 2017 [Guidance](#)

Electric Vehicle Homecharge Scheme authorised installers
updated 20 November 2017 [Guidance](#)

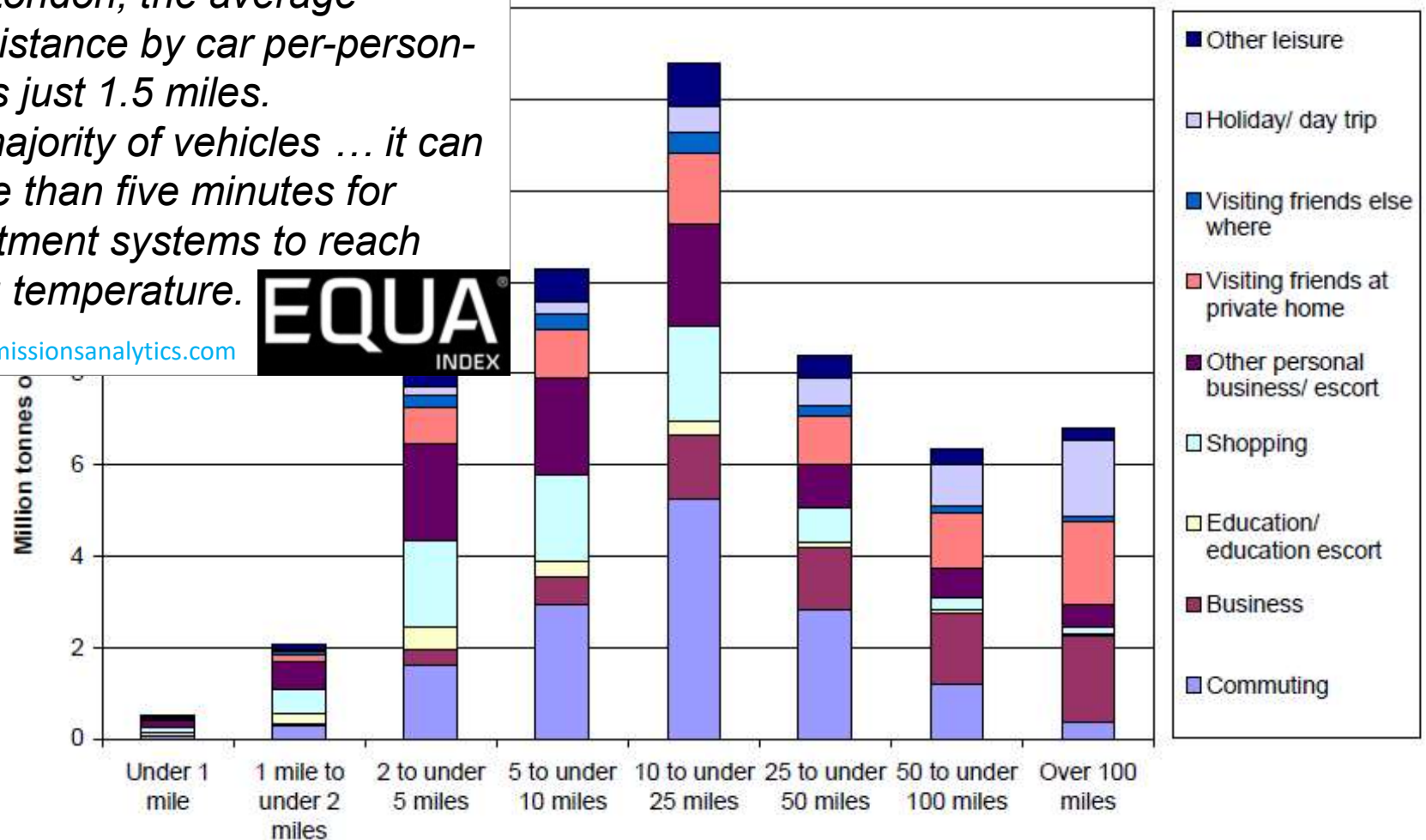
Workplace Charging Scheme authorised installers
updated 20 November 2017 [Guidance](#)

And...

*In Inner London, the average journey distance by car per-person-per-day is just 1.5 miles.
For the majority of vehicles ... it can take more than five minutes for after-treatment systems to reach operating temperature.*

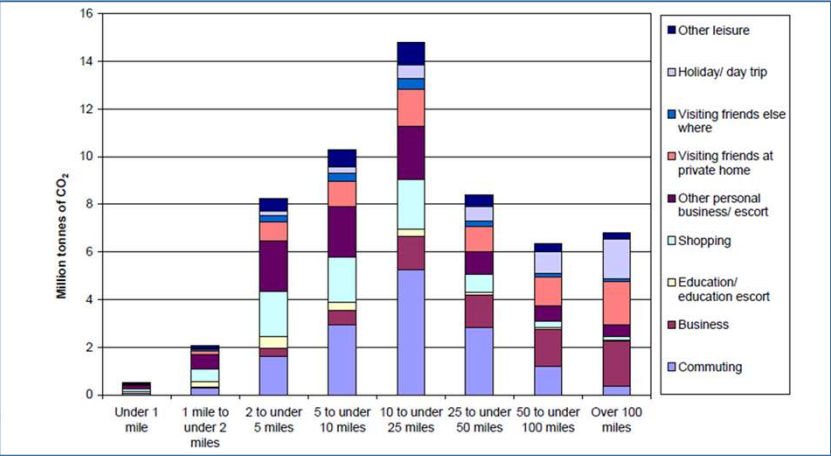
www.emissionsanalytics.com

EQUA
INDEX



2002/2006 average (GB); DfT (2008) Carbon Pathways Analysis

And...



	Absolute NO _x emissions (g/km)Diesel	Ratio to official limit (0.08g/km)	Uplift on warm	Absolute NO _x emissions (g/km)Gasoline	Ratio to official limit (0.06g/km)	Uplift on warm
After 1 minute	0.737	9.2	32%	0.161	2.7	422%
After 5 minutes	0.630	7.9	13%	0.066	1.1	113%
Warm	0.559	7.0	—	0.031	0.5	—

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So...



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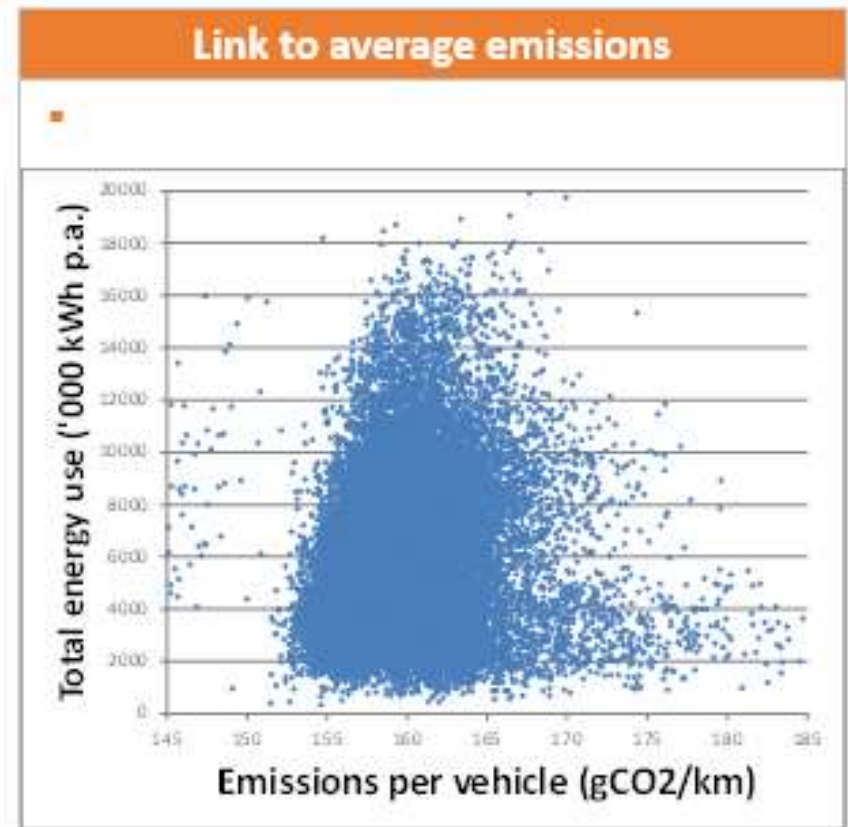
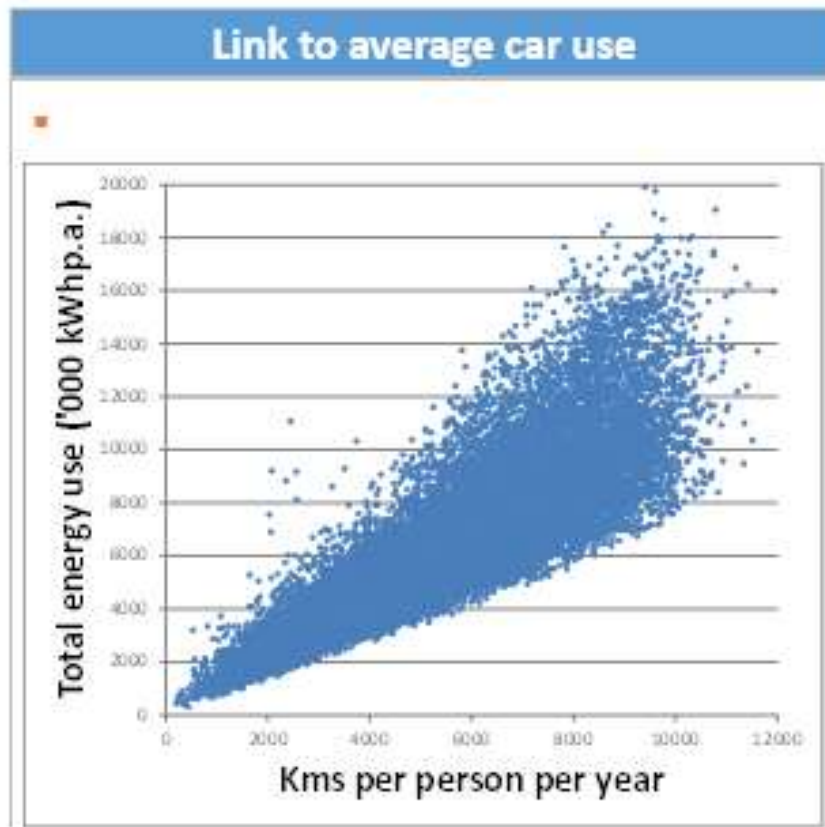
For just £299.99

But...

Chatterton, T., Barnes, J., Wilson, R.E., Anable, J., Cairns, S. (2015) Use of a novel dataset to explore spatial and social variations in car type, size, usage and emissions. *Transportation Research D: Transport and Environment*, 39, pp.151-164

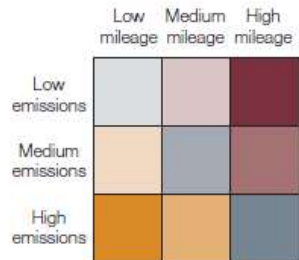


Motoring and Vehicle Ownership Trends in the UK

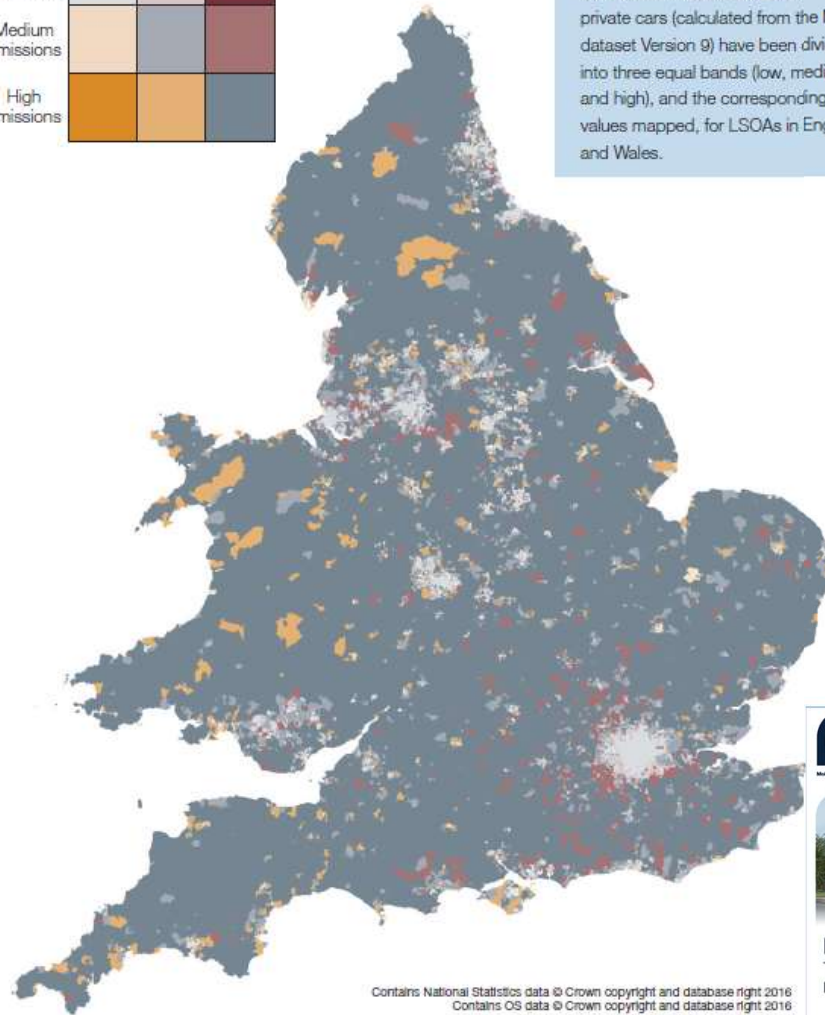


But...

Figure 16: Total emissions of nitrogen oxides by mileage for private cars

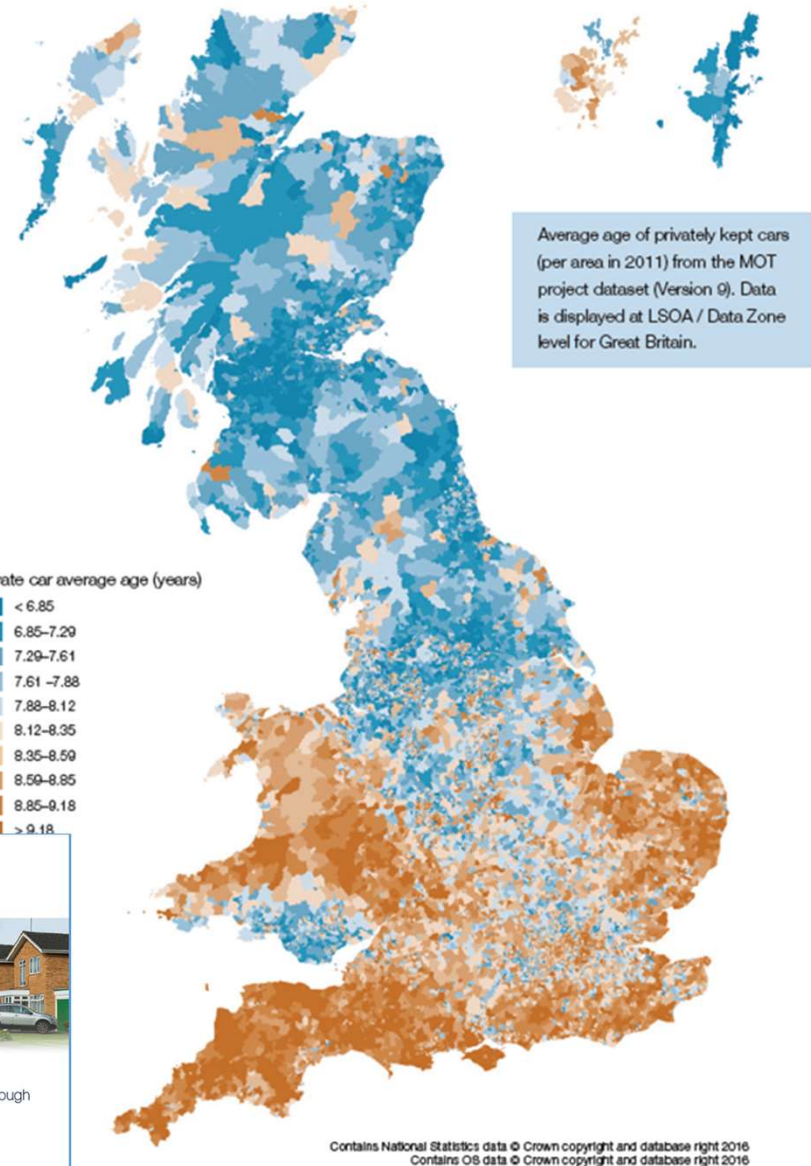


2011 area-average total NO_x emissions from private cars (calculated from the MOT dataset Version 8), and 2011 area-average mileage done by private cars (calculated from the MOT dataset Version 9) have been divided into three equal bands (low, medium and high), and the corresponding values mapped, for LSOAs in England and Wales.

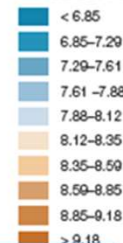


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Figure 7: Average age of private cars



Private car average age (years)



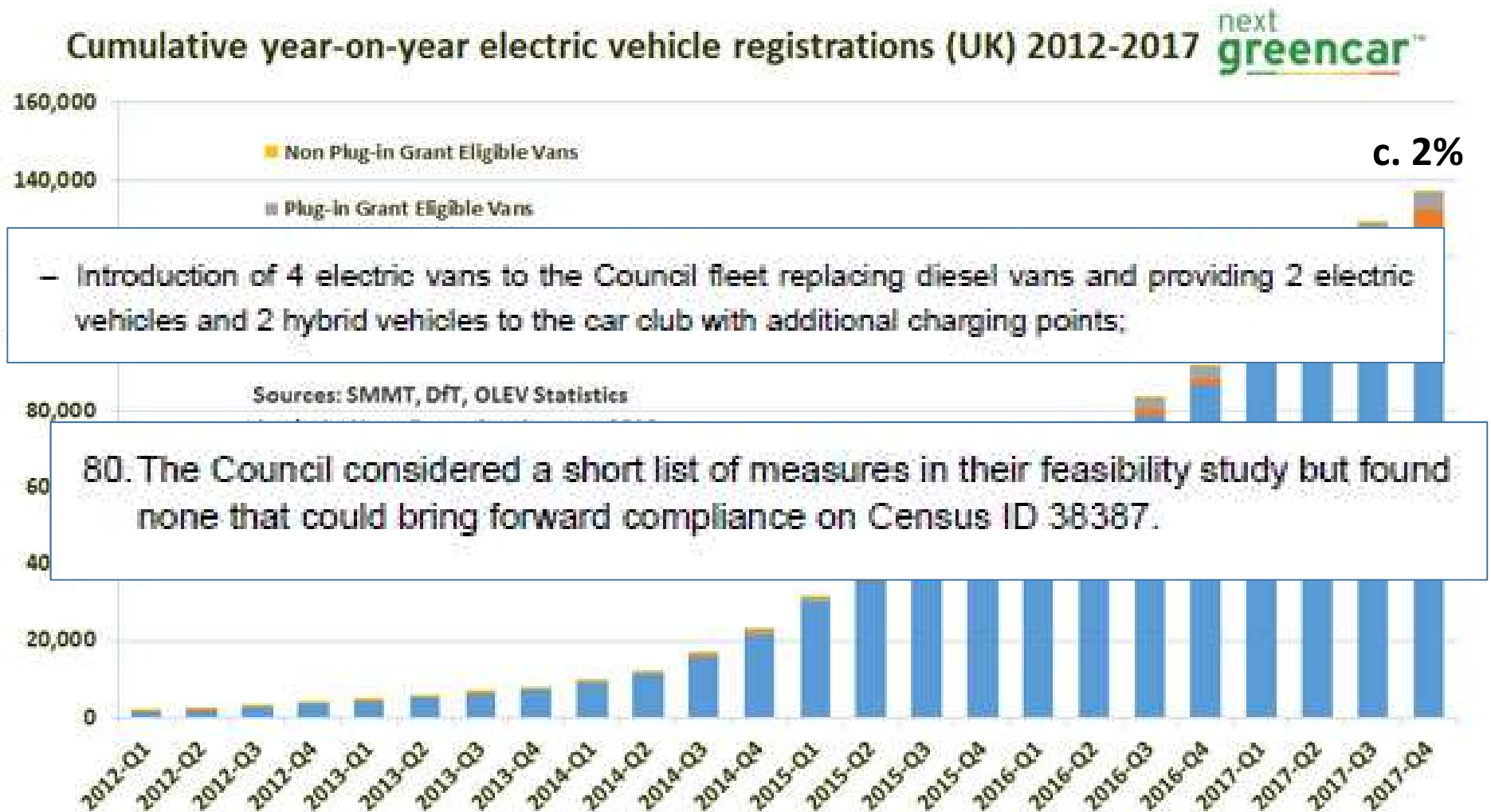
RAC Foundation
Mobility · Safety · Economy · Environment

MOToring Along:
The lives of cars seen through licensing and test data

Dr Bob Carver, Professor of Car Analysis
Dr Tim Chatterton, Professor of Car Design
and Dr Greg Martin
November 2017

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But...

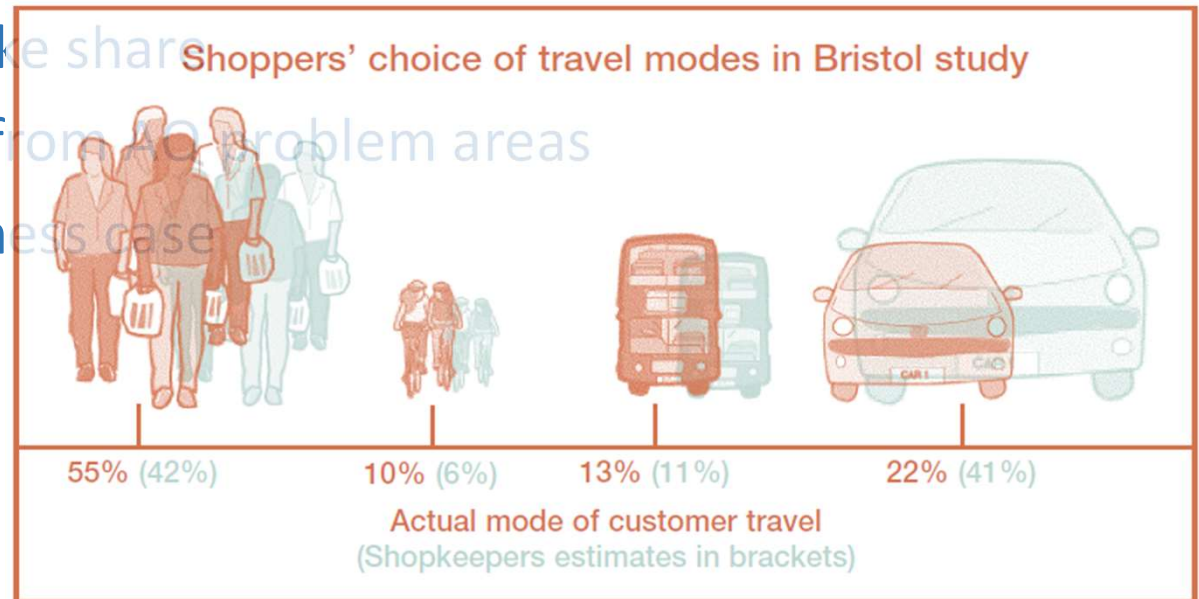


So

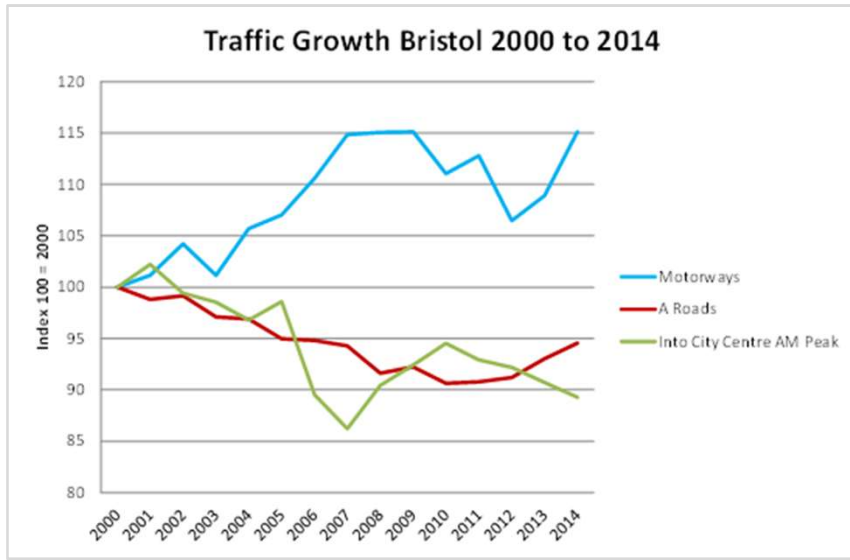
What can we do (i) that works and (ii) is rapid enough to implement?

1. What are the use cases that lead to ICE car and van use in AQ problem areas?
2. Replace with AQ-appropriate modes and behaviours:
 - walking, cycling, (clean) PT & taxi use
 - EV car clubs, bike share
3. Ban polluting cars from AQ problem areas
4. Work out the business case

*= AQ-focussed
mobility
masterplanning*



Reasons to be cheerful...



People are travelling less. How much less?



we make 16% fewer trips than in 1996



we spend 22 hours less travelling than we did a decade ago



we travel 10% fewer miles than in 2002

These changes are not a 'blip' but have been happening since the 1990s

Society is changing. This is having a big impact on who travels, and how much

People under 60 are travelling less than before
This is particularly true for under 30s



Per person the distance travelled by car has **fallen** in all parts of England



Rail has seen a **56%** increase in trips and a **23%** increase in distance per person

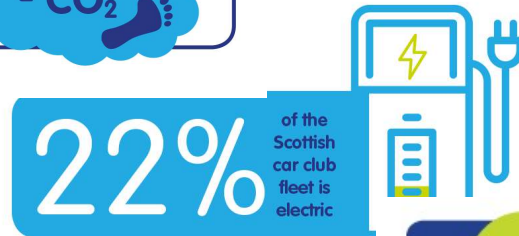
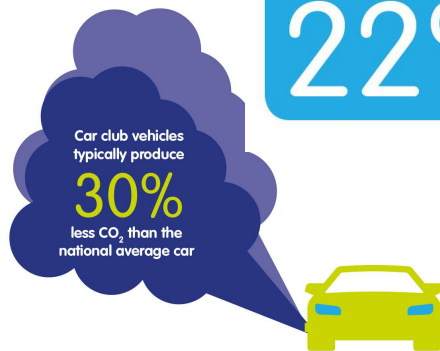
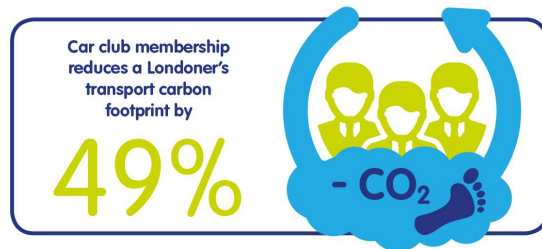


Local bus use has **fallen**, as has walking



37% increase in distance travelled per person by bike

Reasons to be cheerful...



Type	% of London members	% of London population	Description
Metro High-Flyers	26%	10%	Young professionals in their 20 and 30s renting in inner London boroughs.
Uptown Elite	14%	8%	Established home owners living in accessible inner suburbs where they enjoy the attractions of city life.
Crowded Kaleidoscope	10%	9%	Multi-cultural households with children renting social flats in over-crowded conditions.
Penthouse Chic	10%	4%	Singletons living in flats in prestige central locations with high incomes and outgoings.
World-Class Wealth	8%	4%	Global high flyers and privileged families living luxurious lifestyles.

Source: Transport for London, 2015



DATA FROM QUARTER ENDING DECEMBER 2017
COMPARISONS ARE DEC 2016

Carplus car club annual survey 2015-16

Shared Transport 1999-2018 as one big demonstration project?



Expanding existing capacity to ease congestion

3.10 In many cases we need to invest to upgrade and enhance the existing network, making it better able to cope with demand by adding capacity to reduce congestion

RIS 2 research phase

To develop a RIS 2 that meets our aims and ensure our investment decisions are the right ones, a robust research phase will need to be completed. The main sources of information for this research will be the 6 strategic studies and the programme of refreshed route strategies covering the entire network.

The strategic studies address some of the biggest challenges facing the road network, including the:

- Northern Trans-Pennine — the A66 and A69 corridors
- Trans-Pennine tunnel — linking Manchester to Sheffield
- Manchester north-west quadrant — the M60 from junctions 8 to 18
- A1 east of England — from the M25 to Peterborough
- Oxford to Cambridge expressway
- M25 south-west quadrant

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What we need is...

1. Significant, strategic Government policy and funding that *accelerates* demand reduction
2. Policy & funding that this spatially strategic:
 - Car free / low car + LEV vans & PT in town and city centres
 - Demand reduction with locking-out policies elsewhere
3. Build into policy reasons not to travel (as much)



...because

- That's how to reduce emissions
 - Effectively
 - Quickly
 - Cost-effectively
- It is working *with* social trends and what people want
- It localises economic benefits
- It reduces risks of rebound effects
- It locks in behaviour change
- It is fair(er) and leads to better places, opportunities and quality of life for more people



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