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We shape a better world

Transport Planning for the Future

24 November 2020

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Overview

The journeys we make

1. Beware the technical fix
2. Put walking and cycling first
3. Address Transport Gluttony

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The journeys we make

How we travel

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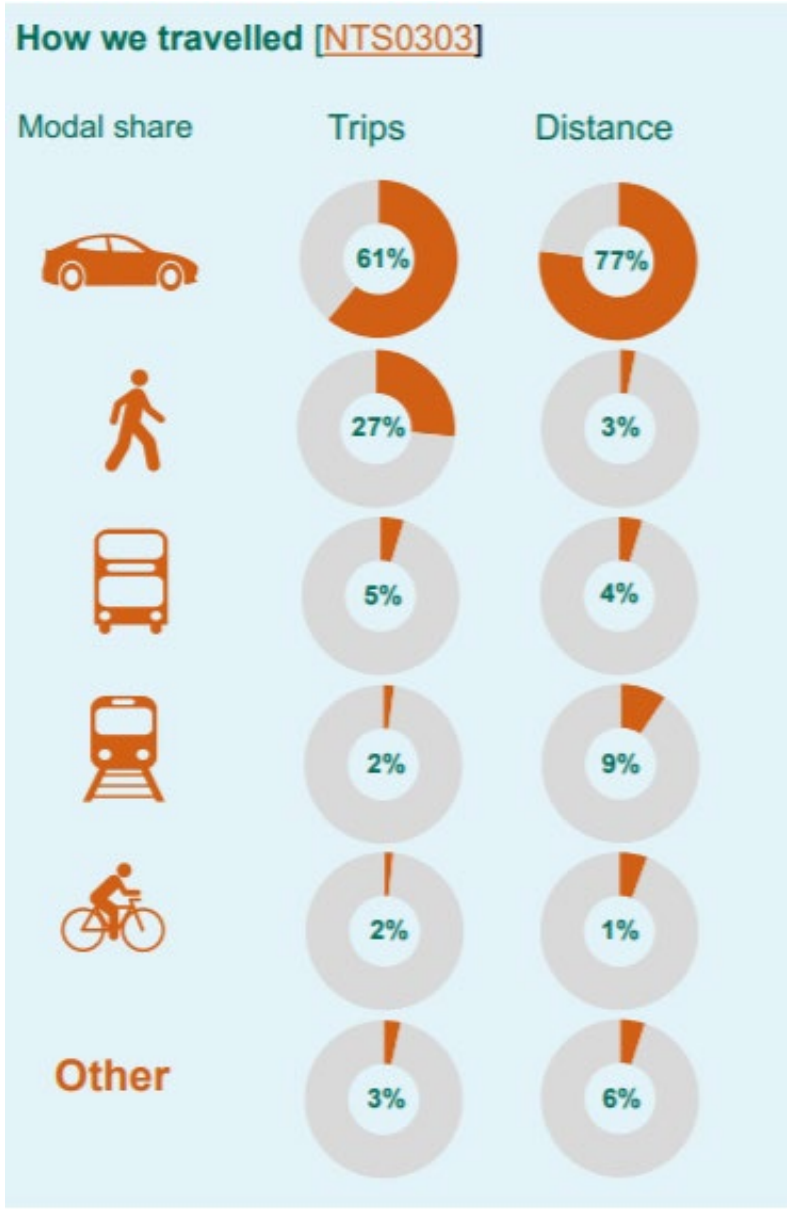

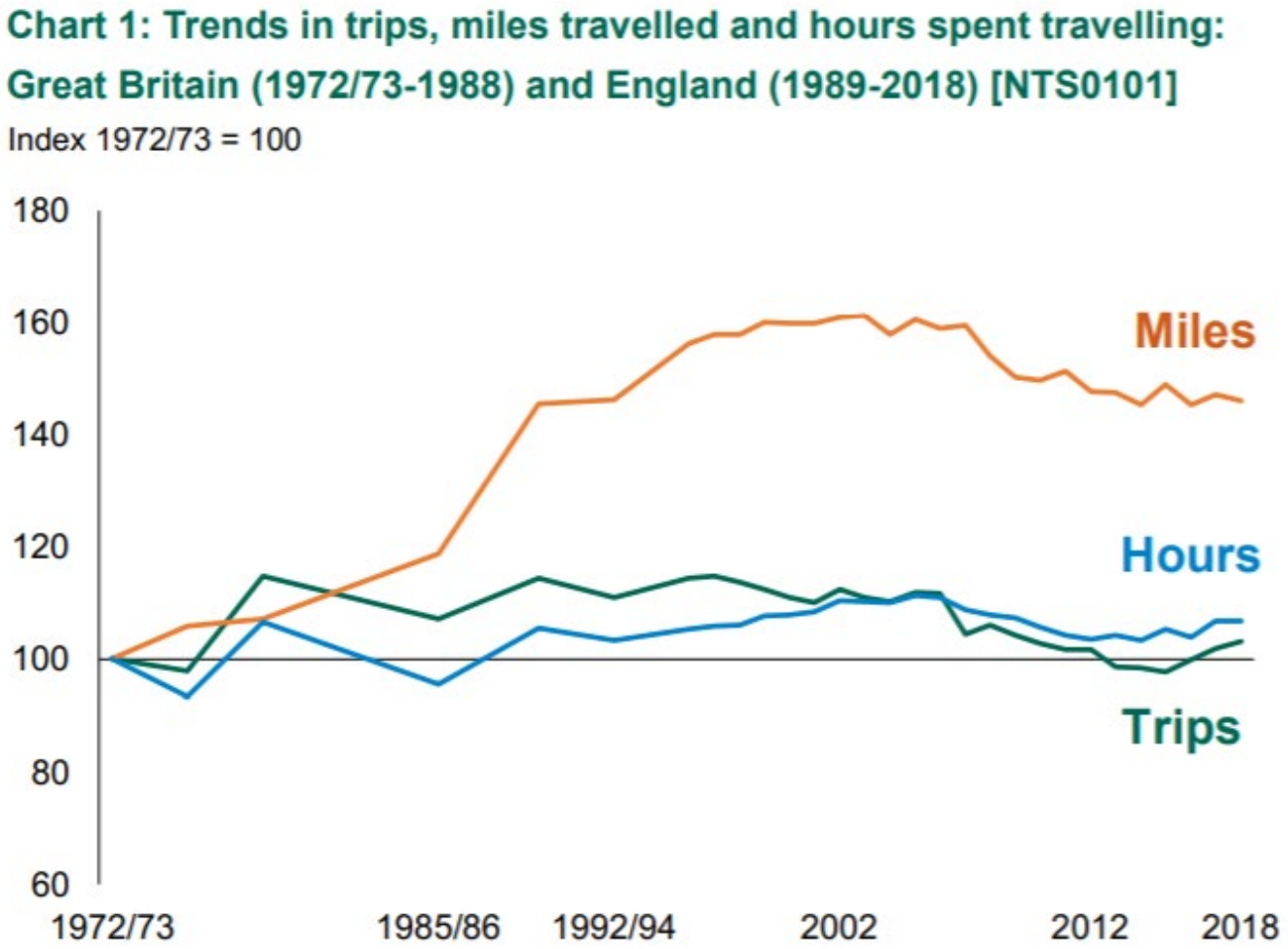

Most journeys are short:

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25% under 1 mile, 68% under 5 miles

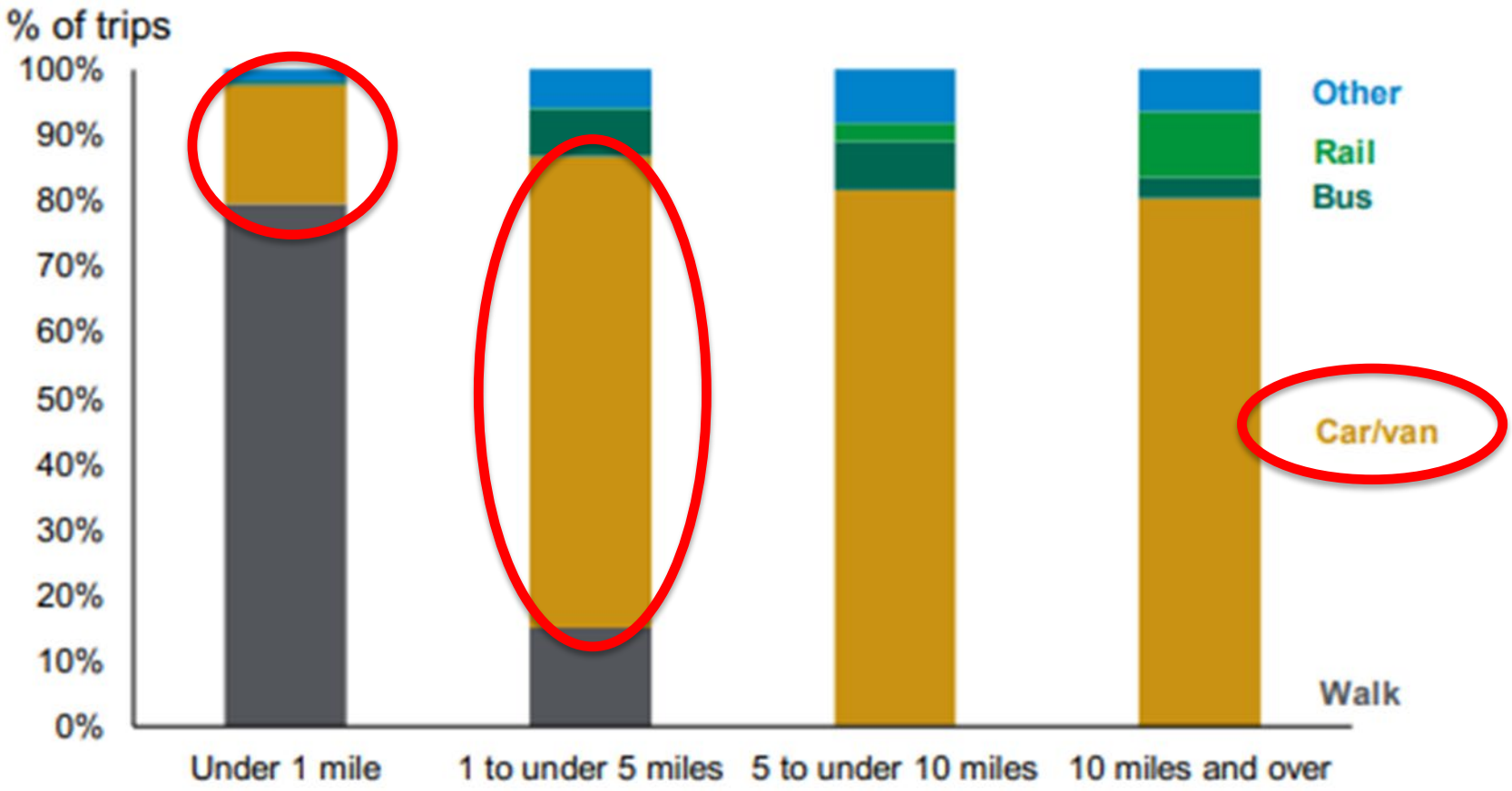

Chart 13: Mode share of trips by main mode for different trip lengths: England, 2018 [NTS0308]

Why we travel:

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most journeys are for leisure or shopping

Cars: buying more, using them less

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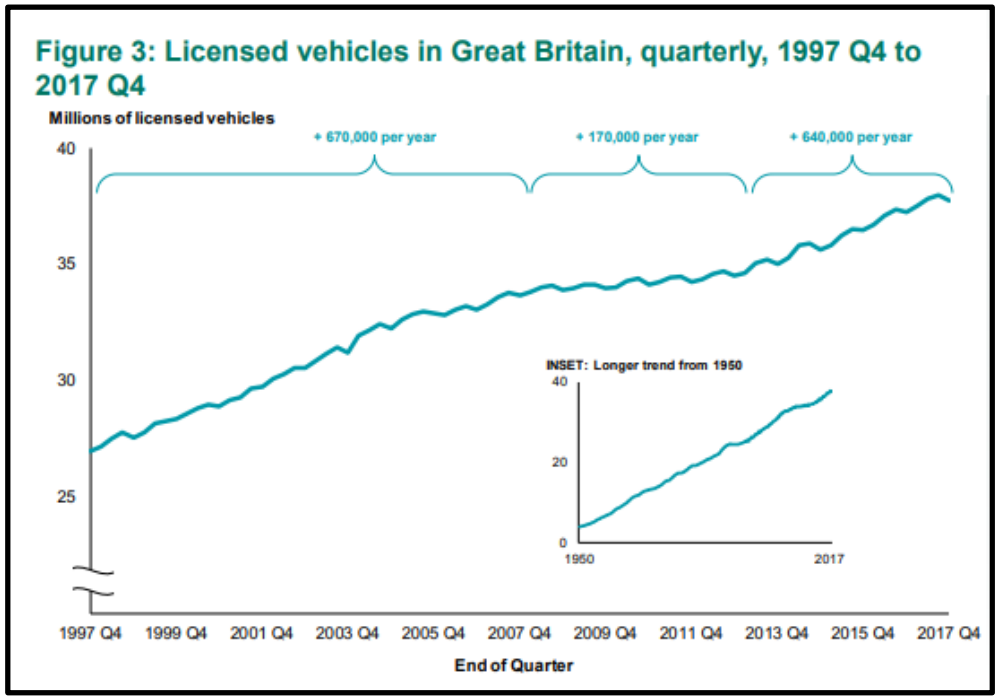

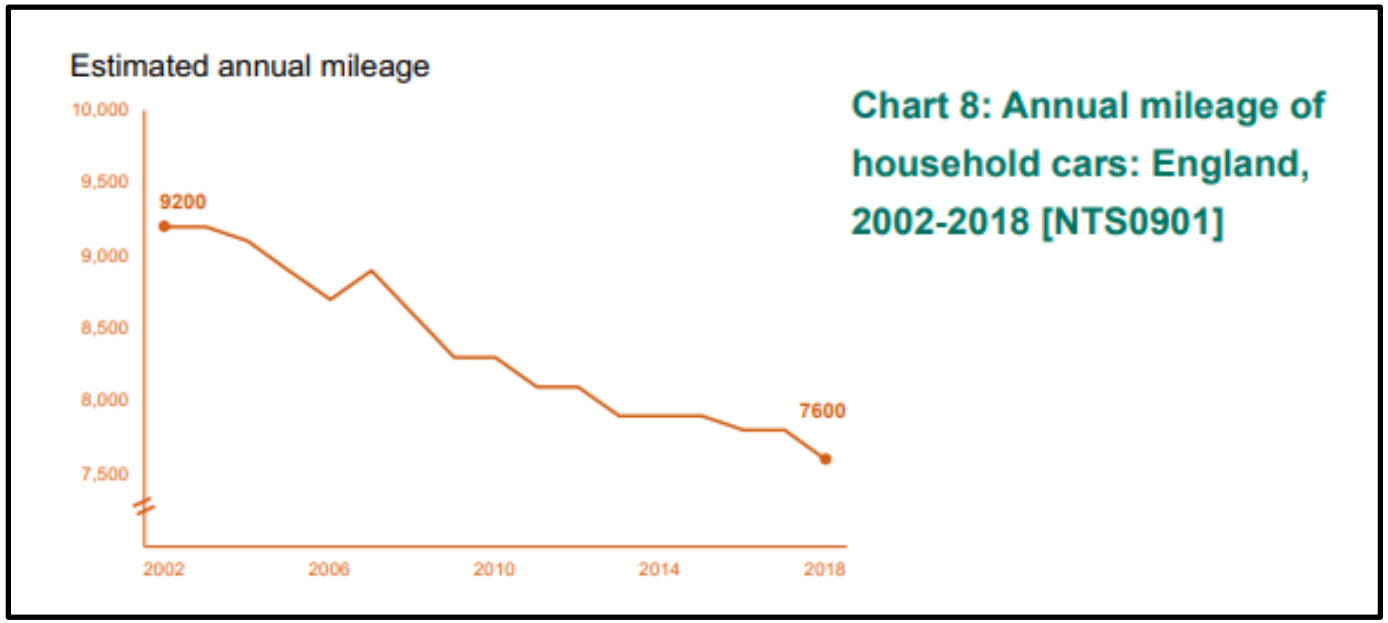

7,600 miles per car per household

an average of just over 20 miles per day

parked for the majority of the time

The rising use of large vehicles in urban areas

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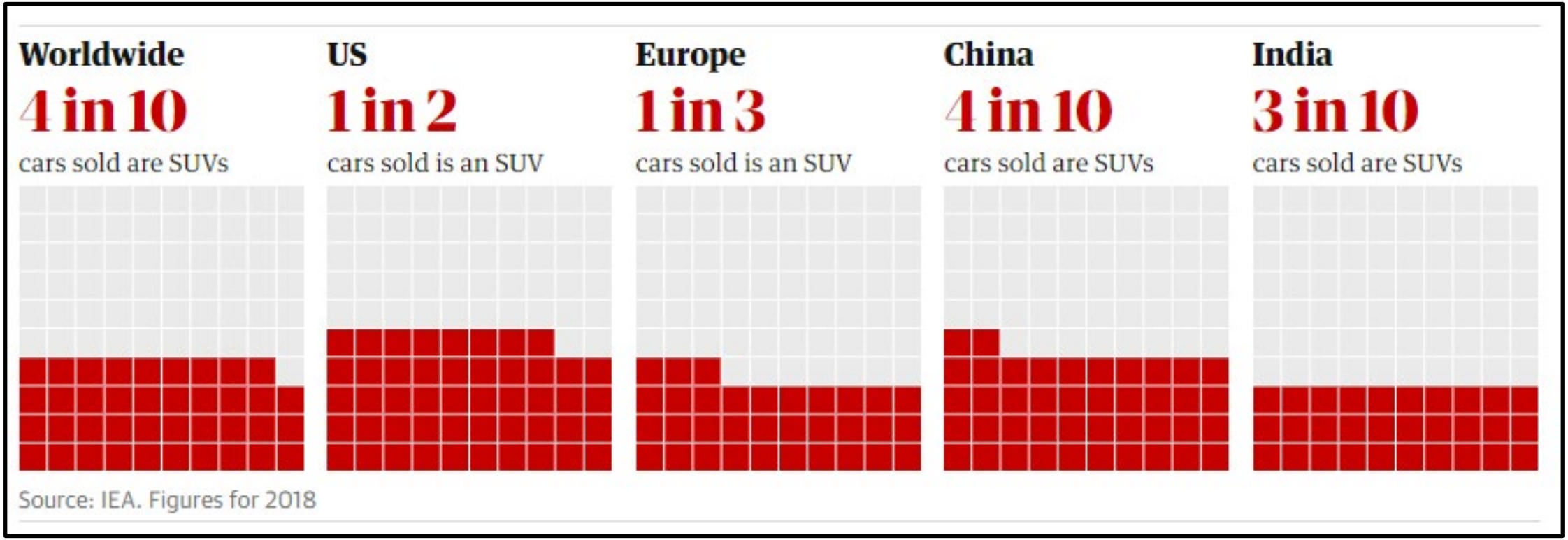

SUVs twice as likely to kill pedestrians, particulates, space taken up, driver behaviour
Link between pedestrian fatalities and engine size

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1. Beware the technical fix

The future of transport?

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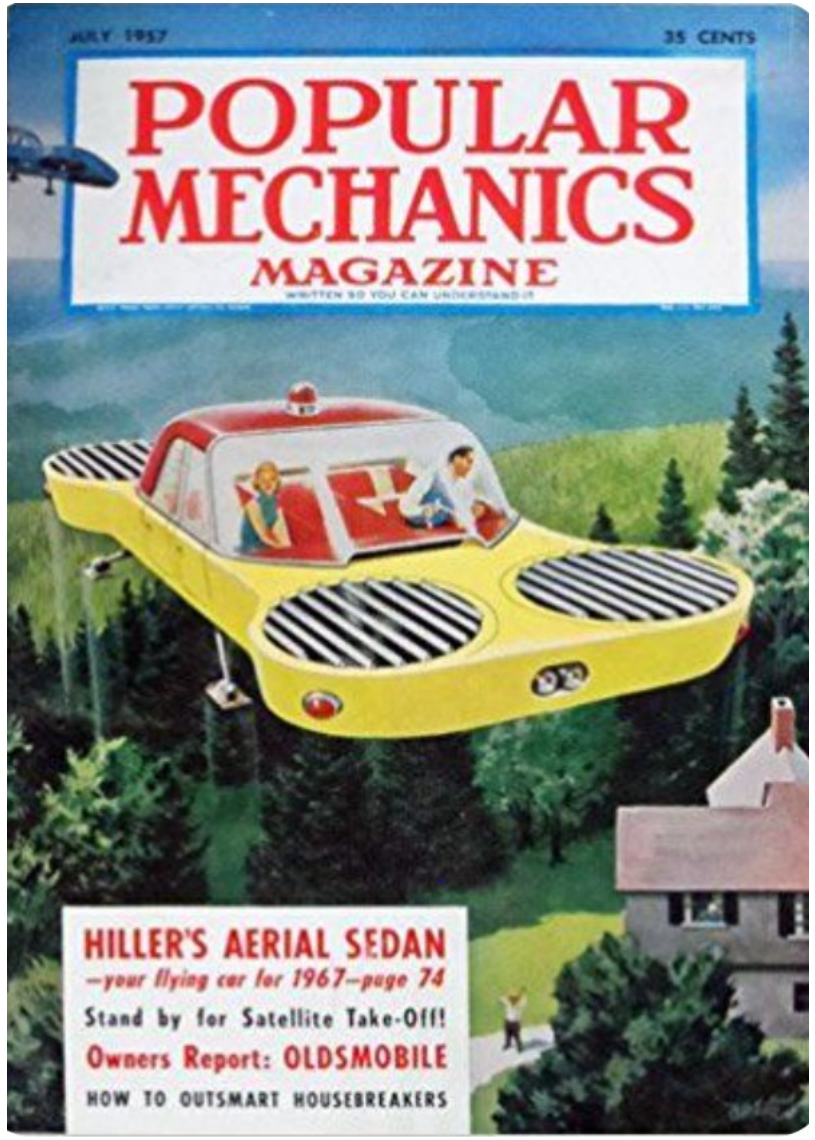

Virgin Hyperloop pod transport tests first passenger journey

By Zoe Kleinman
Technology reporter

9 November

EV take up – slower than forecast

Early estimates (BERR report on scenarios, 2008) were that, **by 2020**, there could be anything from 270,000 to 3.1 million EVs on the road, with the high range figure of around **1.55 million regarded the most probable**

https://trl.co.uk/sites/default/files/INS010_secure.pdf

Table 3.3 Number of electric vehicles in the UK vehicle fleet (Source: BERR and DfT, 2008)

Scenario	*2010*		*2020*		*2030*	
	EV	*PHEV*	*EV*	*PHEV*	*EV*	*PHEV*
Business as usual	3000	1000	70,000	200,000	500,000	2,500.000
Mid range	4000	1000	600,000	200,000	1,600,000	2,500,000
High range	4000	1000	1,200,000	350,000	3,300,000	7,900,000
Extreme range	4000	1000	2,600,000	500,000	5,800,000	14,800,000

Actual UK take up: some 164,100 pure-electric cars on UK roads at the end of September 2020 - and over 373,600 plug-in models including plug-in hybrids (PHEVs).

https://www.nextgreencar.com/electric-cars/statistics/

Electric cars are not the answer to air pollution, says top UK adviser

Prof Frank Kelly says fewer not cleaner vehicles are needed, plus more cycling and walking and better transit systems

▲ Particulate matter from brakes and tyres has strong links to cardiopulmonary toxicity, says Frank Kelly. Photograph: Vickie Flores/Rex/Shutterstock

Cars must be driven out of cities to tackle the UK's air pollution crisis, not just replaced with electric vehicles, according to the UK government's top adviser.

Prof Frank Kelly said that while electric vehicles emit no exhaust fumes, they still produce large amounts of tiny pollution particles from brake and tyre dust, for which the government already accepts there is no safe limit.

Air pollution

PA Media

Mon 13 Jan 2020 00.26 GMT

1,348

Air pollution could kill 160,000 in next decade – report

British Heart Foundation predicts current total of 11,000 particulate-related deaths per year will continue to rise

▲ The BHF wants the UK to abide by the WHO's stricter limits on air pollution. Photograph: Nick Ansell/PA

Connected and Autonomous Vehicles / Driverless Cars

Uncontrolled?

Controlled?

Speed limited, smaller vehicles
Streets closed to traffic
Road pricing
Limit total number of vehicles

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2. Put walking and cycling first - and be inclusive

Put people and active travel first

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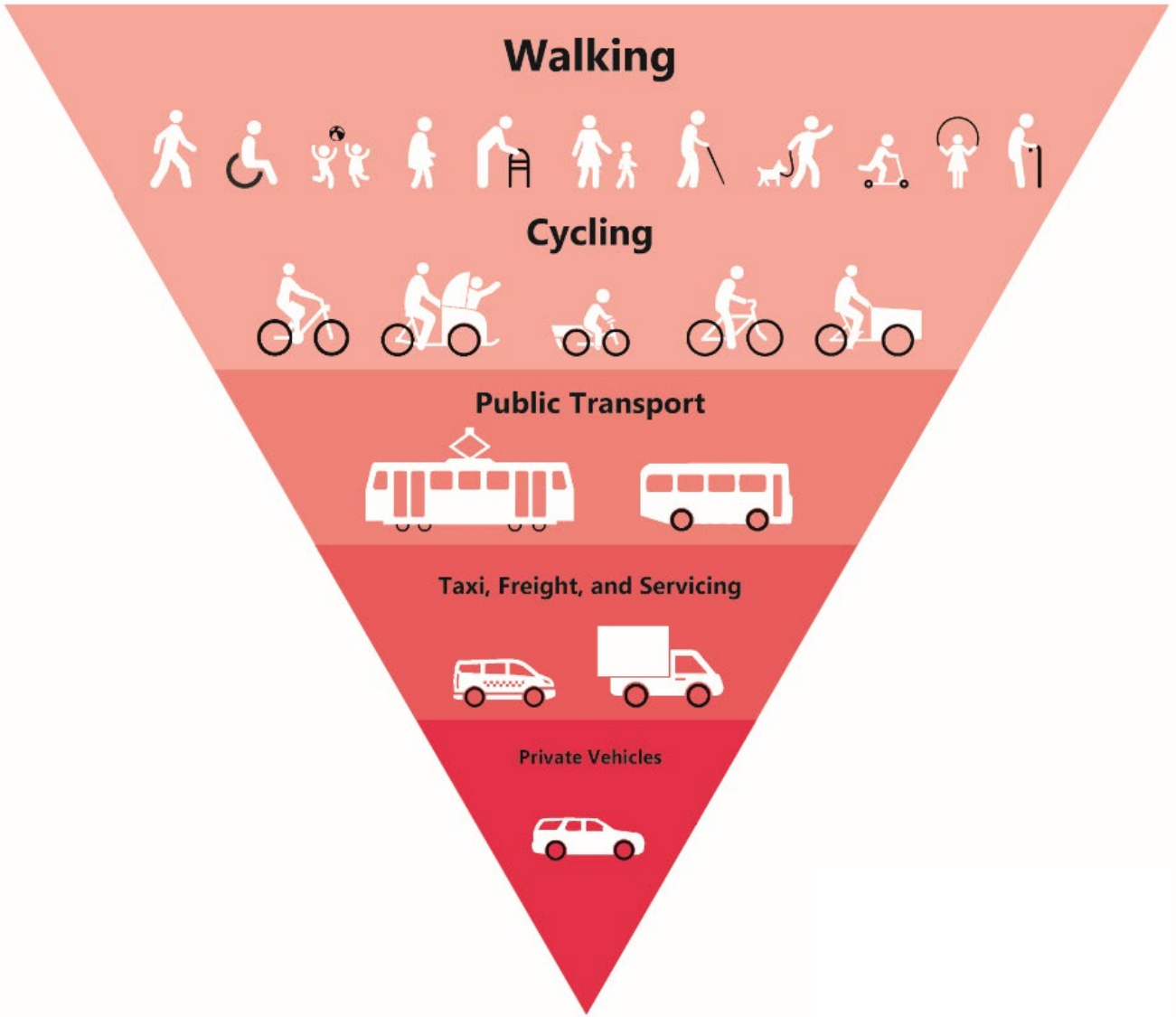
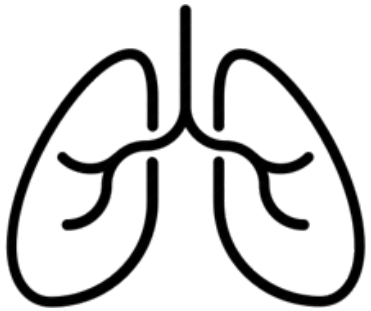


Health benefits for people

By creating safer streets, low traffic active neighbourhoods enable more journeys to be walked and cycled allowing residents to build exercise into their daily routines

Reducing the number of motor vehicles means lower levels of air pollution



Source: Mayor's Transport Strategy

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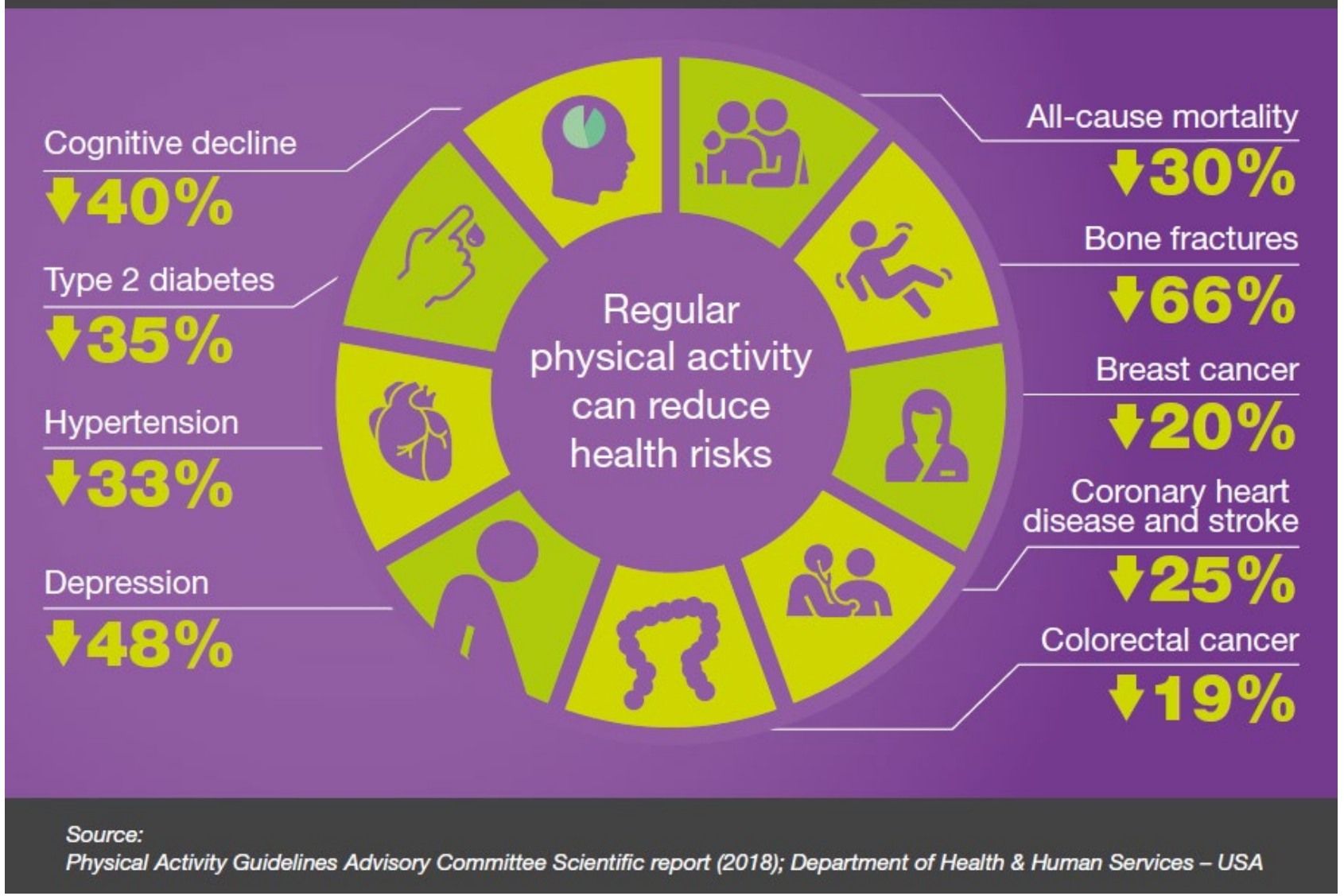
Physically active people have lower health risks



Source:
Physical Activity Guidelines Advisory Committee Scientific report (2018); Department of Health & Human Services – USA

Climate benefits

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Active neighbourhoods enable people to use cars less, reducing carbon emissions

They create space for street trees, rain gardens and pocket parks which contribute to biodiversity, flood mitigation and create shade

Economic benefits for high streets

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Attractive public realm and more walking and cycling is great for the local economy

People who walk to high streets spend 40% more than car drivers

People who walk and cycle make more trips to their local high street per month

High street walking, cycling, and public realm improvements can boost retail sales by up to 30%

Economic benefits for businesses

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People who walk to work report

greater job satisfaction

and wellbeing – which in turn leads to increased employee retention and reduced costs to businesses.

Source: Chatterjee, 2017

REDUCED ABSENTEEISM

Employees who are physically active take **27% fewer sick days** than their colleagues

Source: National Institute for Health and Care Excellence, 2012

Social benefits for people

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Reducing the speed and volume of traffic
on residential streets supports more social interaction between neighbours

Low traffic neighbourhoods enable children to safely play out and walk, scoot or cycle to school

Parklets, seating and street trees provide public realm benefits for the whole community

Low traffic neighbourhoods make local streets safer and healthier places for everyone

Be inclusive

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Under-represented groups in cycling:

I. Women
II. Older people
III. People from ethnic minority groups
IV. Disabled people
V. People at risk of deprivation

Cycling for everyone

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I. Increase representation in **governance**, and embed inclusivity in walking and cycling strategies and plans

II. Create better **places** for everyone to walk and cycle in

III. Welcome and support all **people** to walk and cycle

Source: https://www.arup.com/perspectives/publications/research/section/cycling-for-everyone-a-guide-for-inclusive-cycling-in-cities-and-towns

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3. Address Transport Gluttony

Transport gluttony

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The excessive desire for transport causing negative impacts on people:

- walking and cycling
- living on streets who suffer from noise, air quality and safety

Transport Gluttony

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- Short car trips
- Rising use of large vehicles in urban areas
- Excessive speed
- Driving through red lights
- Stopping across crossings
- Parking on the footway
- Engine idling

Put people and active travel first

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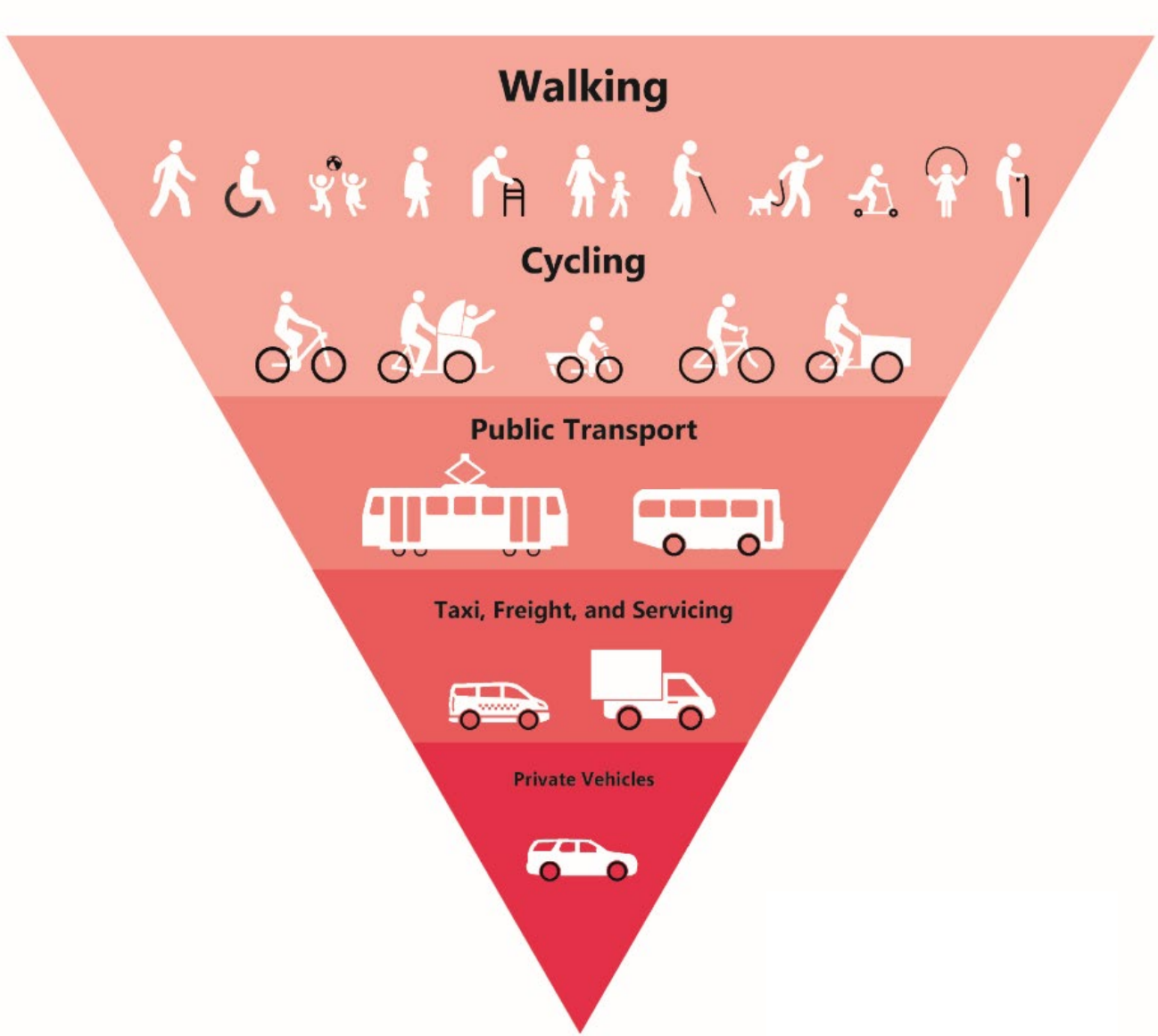

Public support (Nov 2020)

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Figure 1.2: Agreement that government should act in local neighbourhoods in certain ways (%)

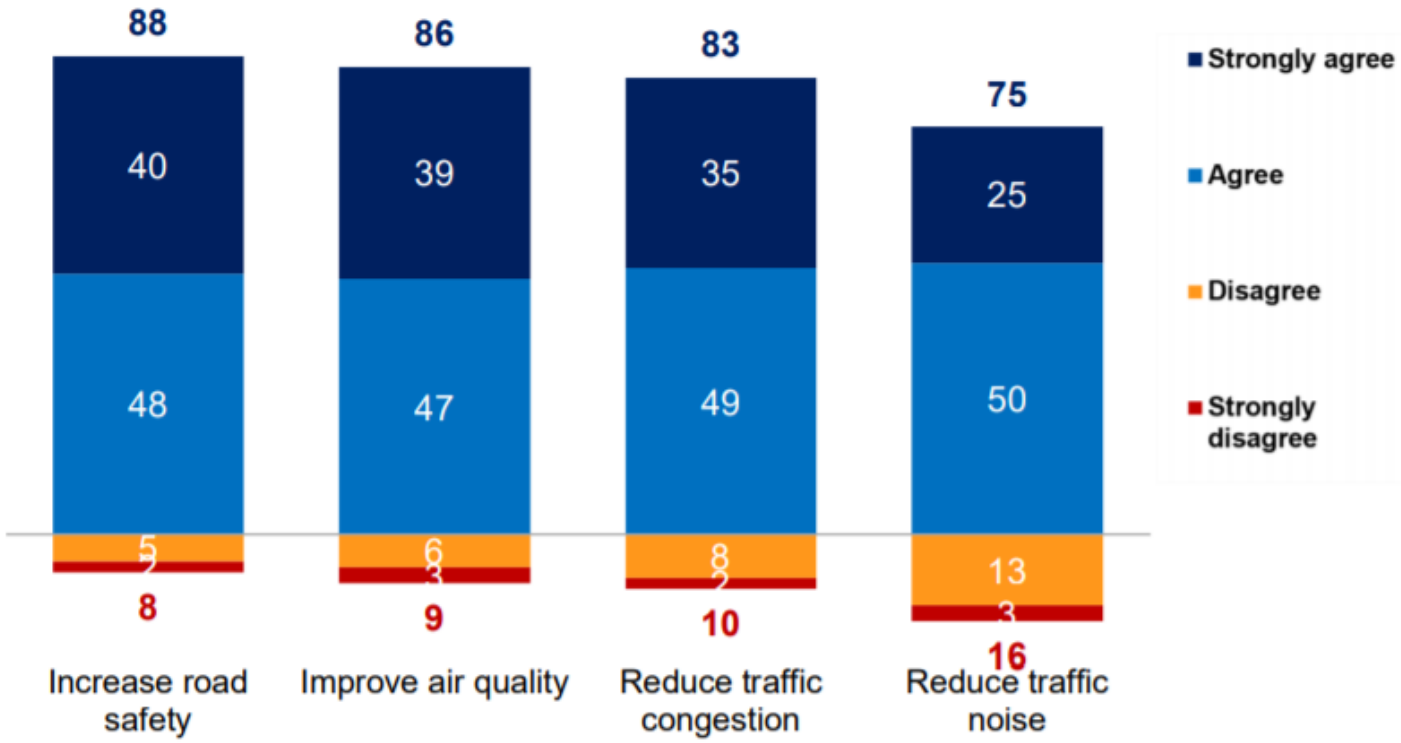
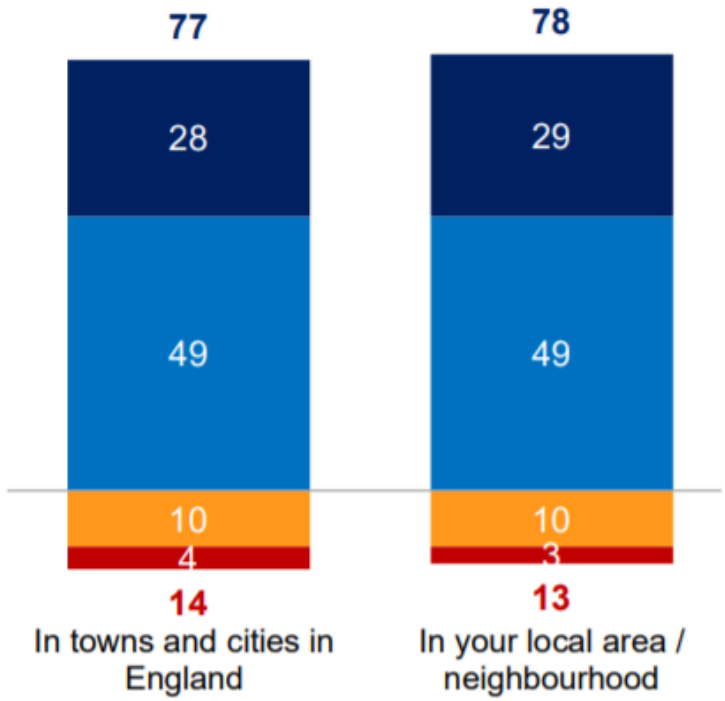


Figure 1.3: Support for the reduction of road traffic (%)



Source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934617/DfT-Public-Opinion-Survey-on-Traffic-and-Road-Use-Phase-1-Report.pdf

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Thank you & questions

https://www.arup.com/expertise/industry/walking-and-cycling

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