Transport, Health, Happiness, and Car-harm

Introduction: Transport as a Public Health Issue

Like housing, employment, and education**, transport is one of the fundamental building blocks of health, happiness and equality.**

The links between transport and health are numerous and well evidenced

Transport as a PH issue: Connections to services

Affordable, reliable, and equitable transport systems give people access to health care services, and other services which are essential for health, happiness, and equality.

Access to health care

- Missed NHS appointments are associated with poor health outcomes, and transportation difficulties are amongst the most common for non-attendance.
- As a significant proportion of people in the UK do not have access to private transport, public transport is their only means of accessing essential health services. Without an equitable transport system, we can't ensure equity of access to the NHS.
- Improving access to public transport has been shown to reduce missed medical appointments and hospital admissions – particularly for older people and disabled people.

Access to health-promoting activities

- Affordable, accessible, and appropriate transport connects people to health-promoting activities and places, from leisure centres to supermarkets stocking cheap, healthy food.
- People who rate their local public transport as 'good' are nearly three times (2.8 times) more likely to be able to access services (such as food shops and learning facilities) than those rating local public transport as 'poor'.

Transport as a PH issue: A bridge to opportunity

High quality transport systems help people access education and employment – which contribute to health, happiness, and equality.

Opportunities for employment

- Employment can increase income, financial stability, security and provide a greater sense of purpose, which in turn can lead to healthier diets and exercise, higher living standards, and better mental health.
- Transport is an important factor affecting access to employment opportunities, and education. For example, in 2018, 19% of unemployed people in England either turned down a job or decided not to apply for a job due to transport-related problems.
- Young people, who are more likely to be reliant on public transport, especially busses), are more likely to have employment opportunities affected by transport.

Transport as a PH issue: Linking people

High quality transport systems enable social connections and thus contribute to mental wellbeing.

Social connections

- There is consistent evidence linking social isolation and loneliness to worse cardiovascular and mental health outcomes.
- Transport can be an important facilitator (or barrier) to community, and there is a strong association between inadequate transport and loneliness.
- At its worst, transport systems can actively generate isolation and break up natural communities. This is especially an issue where large roads create physical barriers between communities (known as community severance).
- People without a car, people on low-incomes, people living on isolated housing estates or in deprived areas, people with physical or sensory impairments, older people, children and young people, and people living in remote areas are most at risk for being socially excluded due to a lack of access to public transport.

Transport as a PH issue: Facilitating physical activity

The relative ease and accessibility of different transport modes facilitates or acts as a barrier to physical activity – with many associated health consequences.

Physical activity

- Increasing physical activity and minimising time spent sitting down helps maintain a healthy weight and reduces the risk of cardiovascular disease, type 2 diabetes, cancer, and depression.
- Walking and cycling as part of routine travel – whether for an entire journey, part of one, or to access public transport – can help meet CMO targets for physical activity.
- Analysis suggests that increasing the amount of walking and cycling in all regions of England to that of regions with the highest distance walked or cycled for different age groups (up to age 74) could prevent 1,189 deaths per year.

Look back on progress

Excellent work is already happening to improve transport systems.

But we need to go further, faster, and at scale.

Look back on progress: The health implications of active travel and transport-related air quality have increasingly been recognized in governmental policies, strategies and legislation.

Families, community groups, public health practitioners, and transport planners have long recognised the relationship between transport and health – largely for reasons related to air quality and physical activity. Over the past 20 years, there has been significant policy and legislative progress in these areas:

- **Active travel:** Between 2016 and 2021, over £2.3 billion was spent on active travel infrastructure in response to a raft of ambitious national plans and strategies. 2,500 miles of cycling and walking routes built through the National Cycle Network, and Local Authorities and Regional Bodies have experimented with schemes to increase the uptake of walking and cycling.
- **Vehicle emissions**: In 1991, legislation was introduced to limit emissions from petrol engine vehicles. The legislation was updated in 1996 to include vehicles with advanced emissions control systems. The Transport Act 2000 gave local authorities the power to charge road users and subsequently low emission zones have been introduced to combat air pollution in some urban areas.

Look back on progress: However, maintaining sufficient and equitable political commitment, funding and policy focus has been a challenge…

- Multiple active travel policies have been developed over the past 10 years – with considerably scaled back ambition since 2020. Spending on active travel plans has faltered since the cost-of-living crisis.

- In the 2016–2021 period, an average of £148 per person per year was spent on roads – more than **10 times the amount spent on active travel across the country**.

- There are **major geographical disparities** in spend per head on Active Travel.

London = £24

Rest of the UK = £10

Active travel spend per head per year between 2016 - 2021

Look back on progress: …And progress has been frustratingly slow. Travel-related health is not improving, and we aren't seeing significant levels of modal shift.

<20% The proportion of people who **walked, wheeled, or cycled every day in the UK**, compared to >25% across Europe

50-60% The proportion of people using private vehicles to commute who believe it would be **either 'quite' or 'very' difficult to switch to an alternative mode of transport**.

1% The proportion of the total distance travelled in the UK in **2022** which was cycled**.** This is comparable with cycling levels in the 1970s.

13% The proportion of people in the North East likely to **suffer from transport poverty**. Compared to just 3.5% in London

30% The percentage **reduction in distance travelled by bus** between 2008 and 2024 in England (outside of London).

Look back on progress: While the policy focus and hard work on active travel and clean air is positive, it is not enough. It fails to effectively counter the seismic change in transport systems seen across the UK over the past 50 years.

Look back on progress: While the policy focus and hard work on active travel and clean air is positive, it is not enough. It fails to effectively counter the seismic change in transport systems seen across the UK over the past 50 years. It fails to account for….

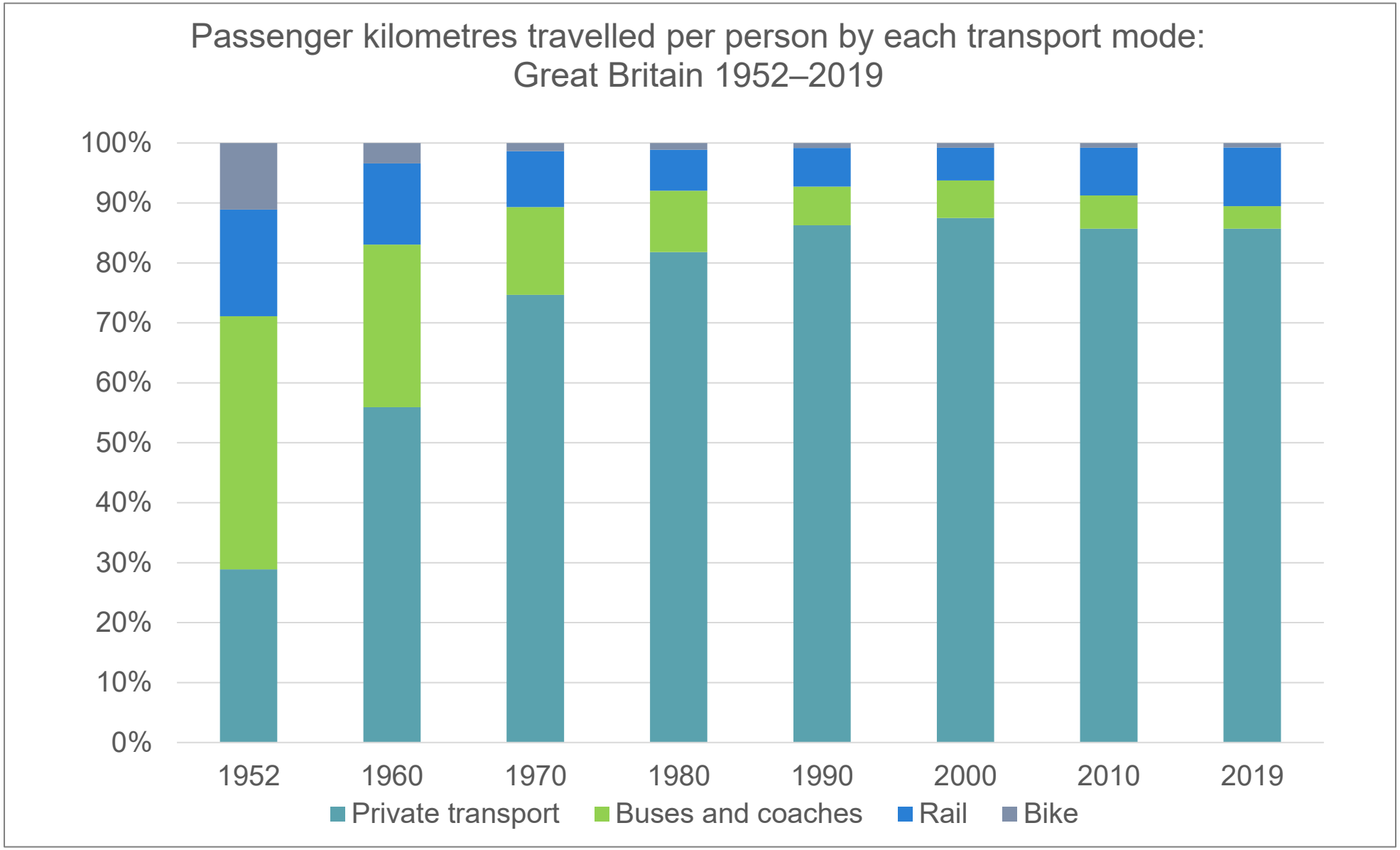
Car-dependency

We need to focus on the underlying cause of travel-related health deficits and inequalities. We need to focus on **car-dependency.**

The UK used to have a **diverse transport system…**

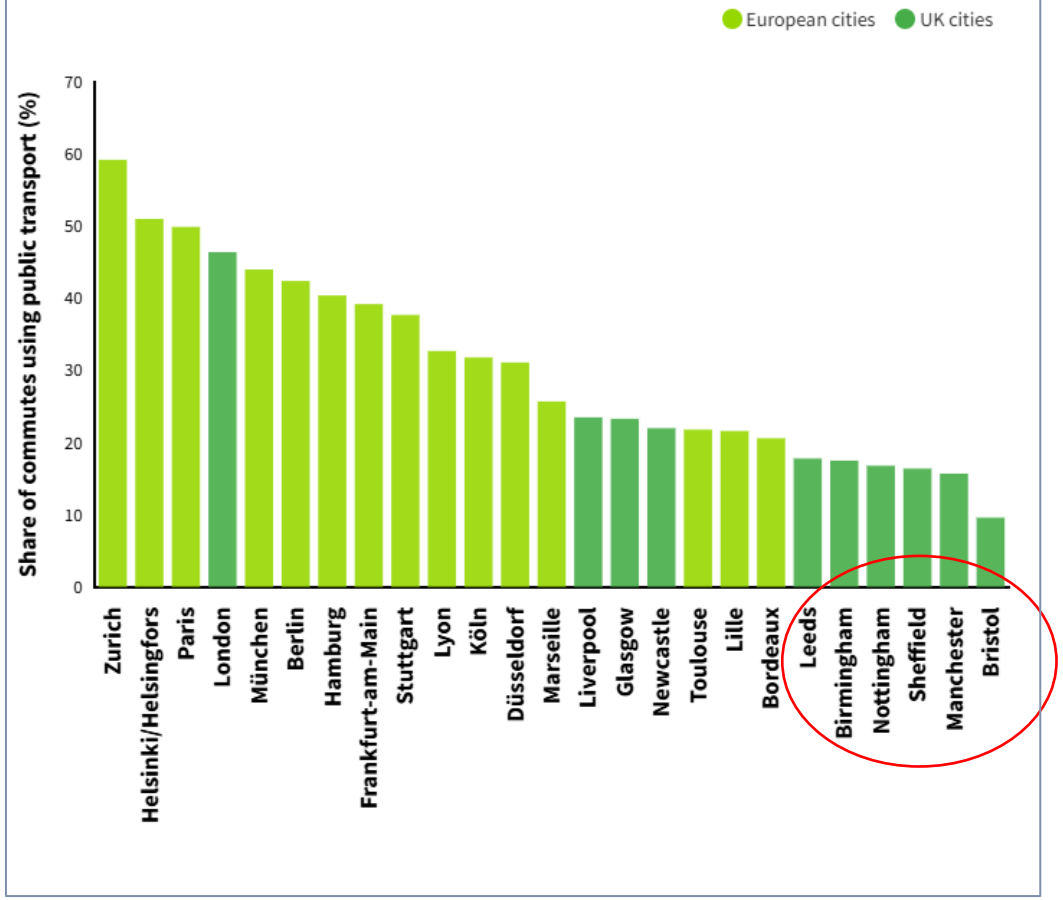
In 1952, nearly three quarters **(71%)** of passenger kms travelled per person in the UK were by **bike, train, bus, or coach**.

But, **in 2019**, this had fallen to just **15%**.

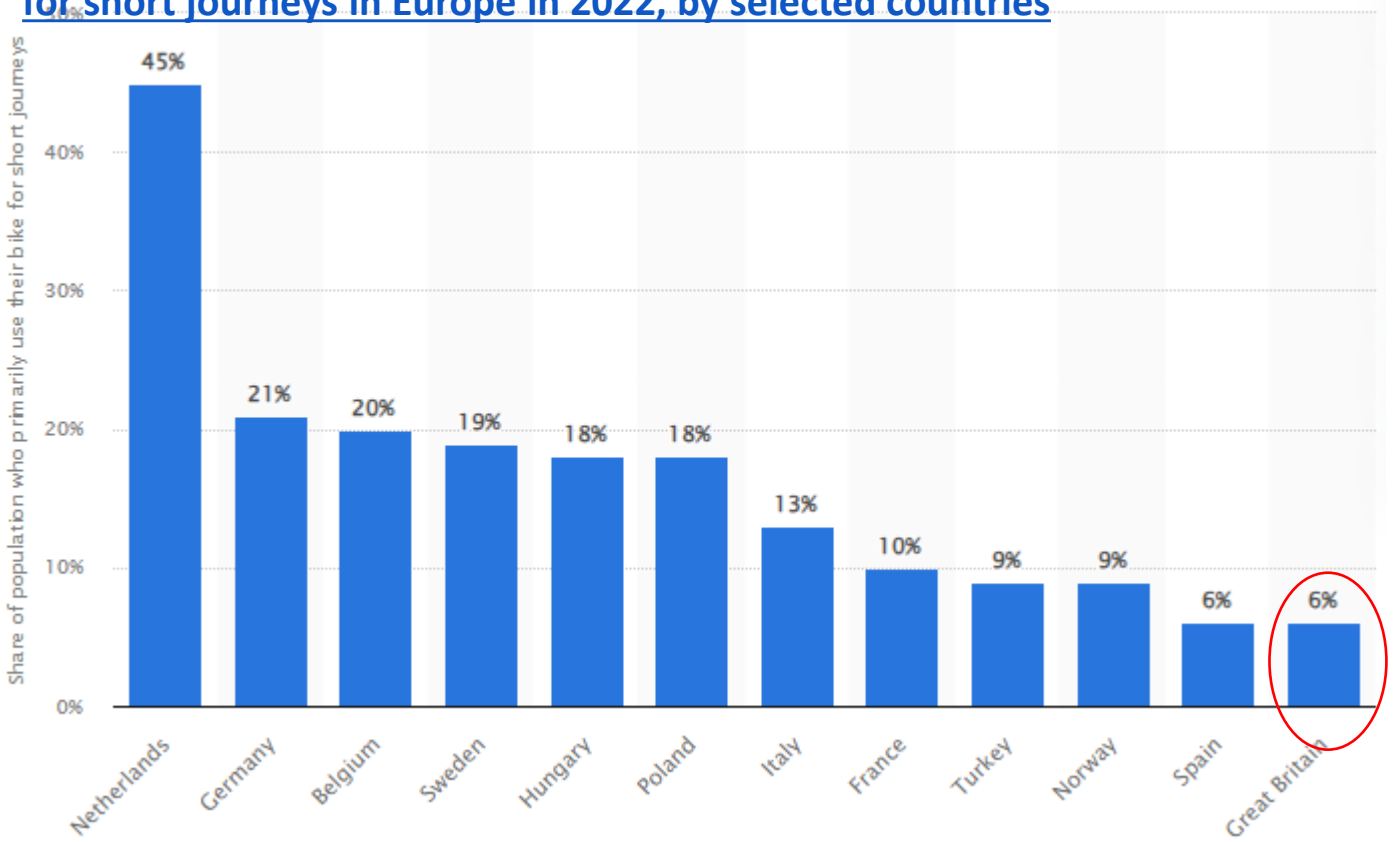


And in many countries that are comparable with the UK, people still have the **freedom to choose** transport modes that make them **happy and healthy.**

Share of commutes using public transport across UK and European cities with a population of over 600,000 (2023)



Share of population who ride a bicycle as their primary mode of transport for short journeys in Europe in 2022, by selected countries



People in the UK still want diverse transport options and ***deeply*** **value public transport.**

A nationally representative survey of >2,000 people from 2023 found that:

- **Many are dependent on their cars, but this doesn't mean they don't want alternatives.** 58% believe cars are currently essential for a full life, rising to 72% of people in rural areas. However, 32% said they would like to use public transport more and 38% would like to use active modes more (with only 6% saying less).
- **Public transport is more highly valued than private cars**. Most people (53%) think public transport to get to work is a necessity. This is higher than those who say the same about owning a car (20%) and well above those who say the same about having more than one car per household (4%). The favoured policies to help reduce transport costs are decreasing public transport fares and making public transport an option for more journeys.

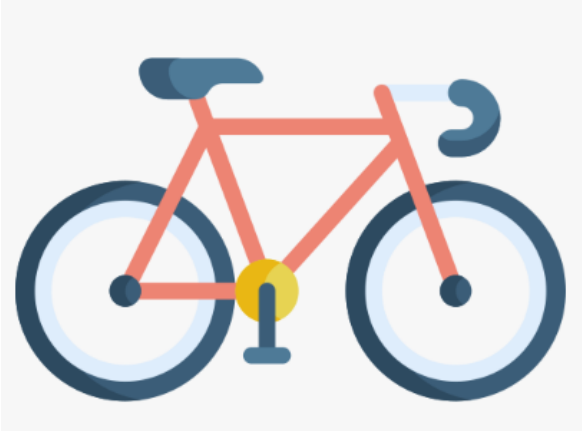
TABLE 2.1: PUBLIC TRANSPORT IS MORE LIKELY TO BE CONSIDERED A NECESSITY THAN A CAR, REGARDLESS OF WHETHER YOU OWN ONE

Percentage of respondents who considered the following item to be a necessity for people living in the UK today, with transport responses highlighted

Item	All respondents	Those own a car	Those who do not own a car
Energy to heat the home	71%	70%	72%
Clothing	59%	58%	60%
Food for three meals a day	58%	59%	58%
Public transport to and from work	53%	49%	61%
A phone	46%	45%	48%
Internet connection at home	43%	43%	45%
Public transport to see family and friends	35%	33%	42%
A car	20%	25%	9%
A bike or adapted cycle	8%	7%	9%
Holidays	6%	6%	6%
More than one car per household	4%	5%	2%
Alcoholic beverages	3%	4%	2%
Eating out at a restaurant once a month	2%	3%	1%
Going to the cinema once a month	2%	2%	2%

Note: Question asked: 'Thinking about life for people living in the UK today, would you consider each of the following a necessity or a luxury?' Respondents were given five response options rated 1 to 5, where 1 is a necessity and 5 a luxury – the above captures those who rated these items the highest level of necessity.

The public consistently tell us they **enjoy walking and cycling** and are supportive of efforts to increase rates of active travel.



When asked if they would like to travel actively for more journeys:

56% say *'Yes'*

29% say *'I want to, but can't'*

15% say *'No'*

65%

of people nationally support the reallocation of road space to walking and cycling across their local area

88%

of people nationally agree that the government should act in local neighbourhoods to reduce traffic congestion

But in the UK, the car now dominates all else.

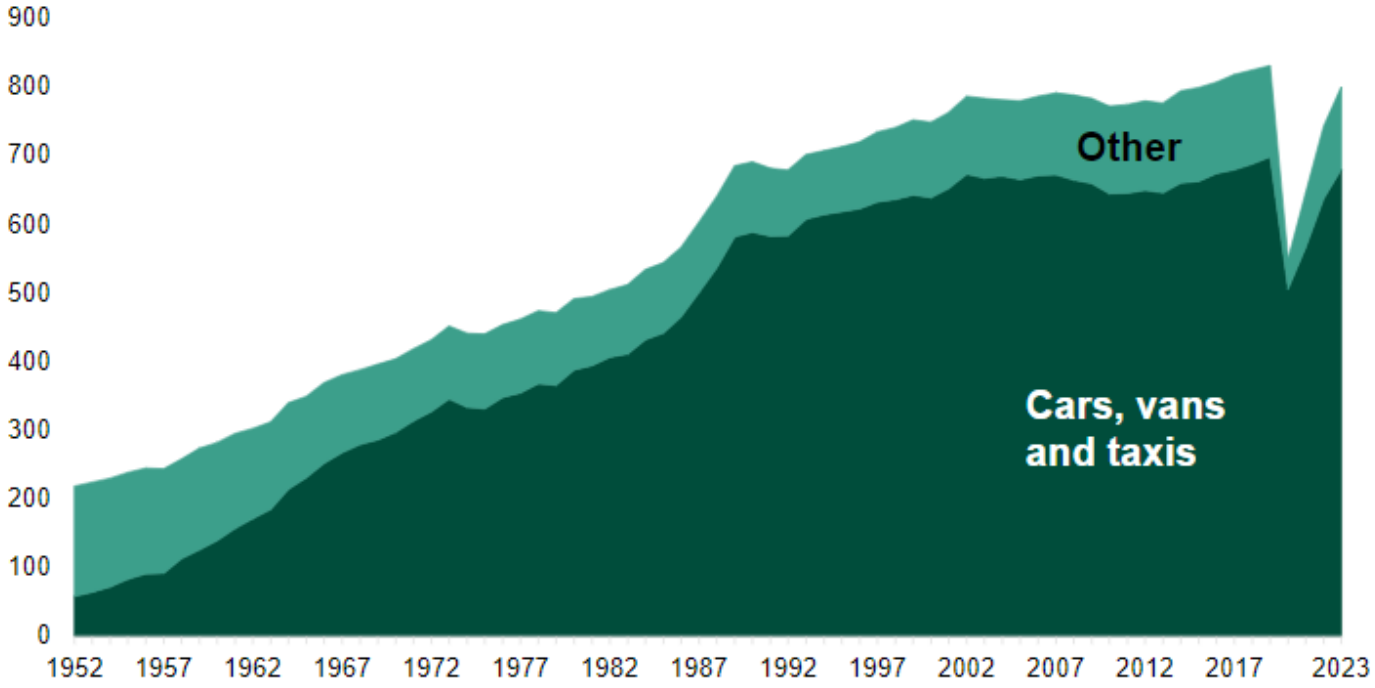
Ownership

- There has been a major growth in multiple car ownership. In 2022, two thirds (67%) of UK households owned at least one car and a third (34%) owned two or more vehicles - up from just 8% in 1971.
- The collapse of viable alternative transport options, means that an increasing proportion of households are 'forced car owners' – i.e. they own a car despite also reporting financial difficulties.

Use

- There has been a growth in car use with 85% of the total distance travelled per year in the UK year travelled in private vehicles, compared to 27% in 1952 and 79% in 1980
- The DfT's national traffic projections say that under all the scenarios tested traffic volume is set to rise with the most modest estimate being an increase of 8 per cent by 2060.

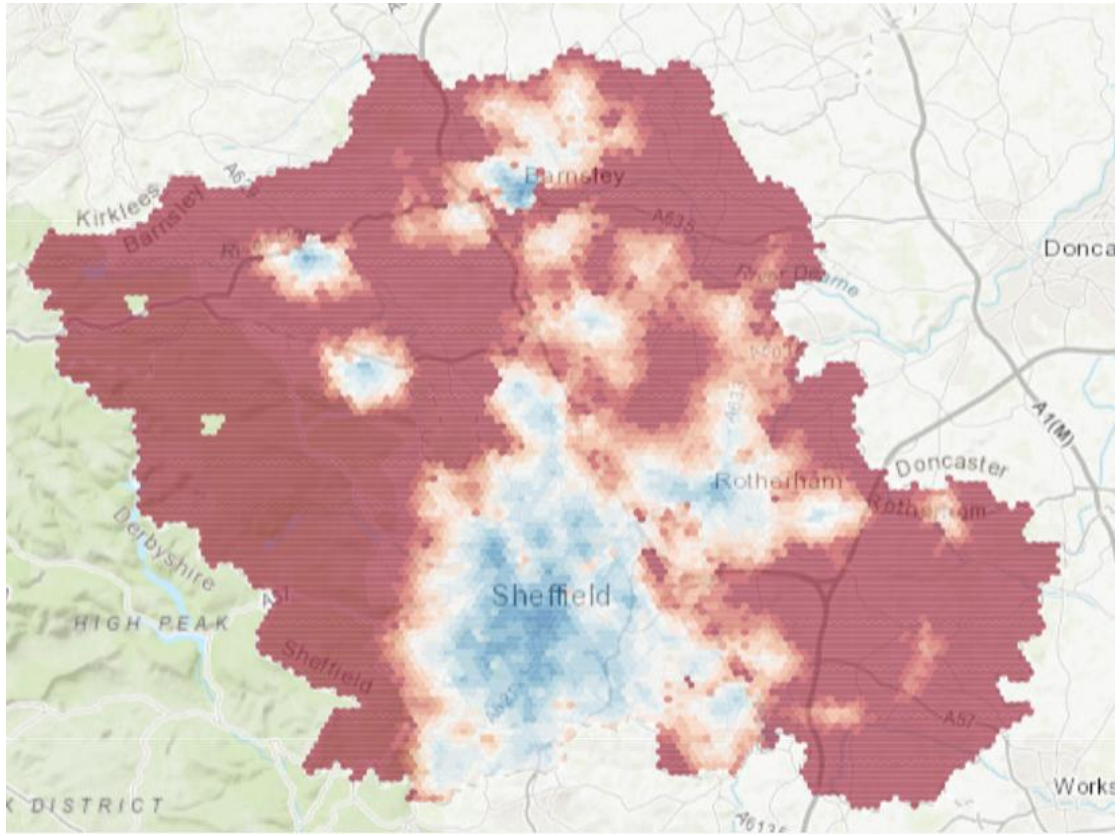
Chart 2: Passenger transport by car, vans and taxis compared to other modes (billion passenger kilometres): Great Britain, 1952 to 2023



But in the UK, the car now dominates all else.

Dependency

- New housing developments have been found to be increasingly 'car dependent' – namely they create a reliance on cars to meet basic needs. All regions outside London have experienced an increase in car dependency since 2009.
- This has occurred due to decisions about:
  - The location of new homes (in greenbelt locations).
  - The poor provision of public transport and active travel for new homes.
  - The design of new places (car-centric estate lay outs with no car-free access to local amenities).



This map shows how close services are if you live in different areas of the city. In red areas the time taken to access the closes services by foot are on average higher than 15 mins, while the blue areas are within 15 mins. In Sheffield and Rotherham (shown here) planning and housing decision over decades means that most people can't easily walk to local amenities and are dependent on cars

Direct car-harms are widespread…

Air pollution

- Road transport accounts for 35% of nitrogen oxide and 12% of particulate matter (also called particle air pollution) emitted into the air in the UK.
- Vehicle emissions have been linked to heart disease, lung cancer, cognitive impairment, and conditions like asthma in children.
- While regulatory improvements have reduced emissions, long-term exposure to air pollution is still attributed to between 28,000 and 36,000 deaths each year in the UK.
- Exposure to air pollution from road traffic is not equally distributed across society. Areas with the highest proportion of vulnerable groups (including under-fives, and poorer households), have the highest concentrations of traffic-related pollution, but lowest rates of nitrogen oxide and particulate matter emission, due to lower rates of car-ownership amongst these groups.

Direct car-harms are widespread…

Road danger

- In Great Britain, 29,643 people were killed or seriously injured because of road collisions in 2023.
- Measures to reduce road danger have had a positive impact, but some road users, such as pedestrians and cyclists, remain at a higher risk than drivers.
- We also know that the greater the greater the average distance travelled by car per capita, the higher the rate of traffic deaths per capita (i.e. it's not just about making roads and car safer, it’s about reducing car use).
- Collisions aren’t equally distributed. Children and young adults in the most deprived areas have a higher risk of injury and death than those in the least deprived areas.
- There would be an estimated 810 fewer serious or fatal injuries to pedestrians annually, and 100 fewer serious or fatal injuries to cyclists, if all children and young people had a risk of injury as low as those in the least deprived areas.

Direct car-harms are widespread…

Noise pollution

- Noise pollution from traffic is linked to increased risk of heart disease, stroke, obesity and diabetes, as well as sleep disturbance and annoyance, with night-time noise a particular risk for cardiovascular disease.
- A meta-analysis estimated that there is an 8% increase in risk of heart disease for every 10 decibels increase in daytime traffic noise.

- The World Health Organisation has identified noise from transport as the second most significant environmental cause of ill-health in Western Europe.

Direct car-harms are widespread…

Inactivity

- Sedentary behaviour, including car travel, increases the risk of all-cause mortality, cardiovascular disease mortality… cancer mortality, and incidence of cardiovascular disease, type 2 diabetes, and cancer. In car-dependent places, many short journeys are made by car when they could be made by physically active modes.
- Over the past few decades, children have become increasingly inactive in their travel. Unsurprisingly, children who are driven to destinations are less likely to meet the 60-min daily physical activity recommendation from the WHO.
- Switching to active travel increases activity levels, but so too can use of public transport, because bus / train / tram journeys are often book-ended by active travel. One study found that switching from car commuting to public transport commuting with no other behaviour changes increased energy expenditure by 124 kcal per day—about equal to the kcal expended by an average adult walking 2 km

Direct car-harms are widespread…

Climate change

- Widely recognised as the biggest global health threat of the 21st century, climate change is expected to cause approximately 250,000 additional deaths per year between 2030 and 2050, from undernutrition, malaria, diarrhoea and heat stress alone.

- In the UK, transport is the largest emitting sector of greenhouse gas (GHG) emissions, producing 26% of the UK's total emissions in 2021.
- Of the 128 million tonnes of Co2 emitted from all modes of transport in the UK 2021, over half (59%) came from cars & taxis (45%), and vans (14%). Just 2% came from buses.

- Emissions from travel are not generated equally. Half of the population in the UK are responsible for a tenth (11%) of transport emissions, and the wealthiest 0.1% emit at least 22 times more from transport than the lowest earners.

- Urban and transport planning decisions impact on GHG emission levels. Dense, highly connected areas, such as Hong Kong, in which car ownership is neither desirable nor necessary, produce one-third of the carbon emissions per capita of European cities, which themselves produce one-fifth of the carbon emissions of poorly connected cities with urban sprawl, such as Houston, USA.

- Transformational change is needed. The West Yorkshire Combined Authority estimates a 30-40% reduction in private car usage is needed to reach their 2038 net zero target. York and North Yorkshire would require a 48% reduction to meet the more ambitious target of net zero by 2030.

And in-direct car-harms are also considerable…

Colonisation of urban spaces

- The dedication of urban spaces to the storage and movement of cars, rather than needs of people, limits opportunities for play, exercise, and socialisation.
- Despite the clear link between access to nature and positive cognitive, emotional, and health outcomes in children, in the UK, one in five people live in areas deprived of green space, while one in nine children have not visited a park, forest, or natural environment in the last year.
- Minority ethnic and low-income families are significantly less likely to have access to green areas.
- This is particularly true in urban settings. A study of land-use in Scottish cities found that between 35-41% of space is dedicated to cars (roads, car parks and on-street parking) – compared to around 10% for green spaces.

And in-direct car-harms are also considerable…

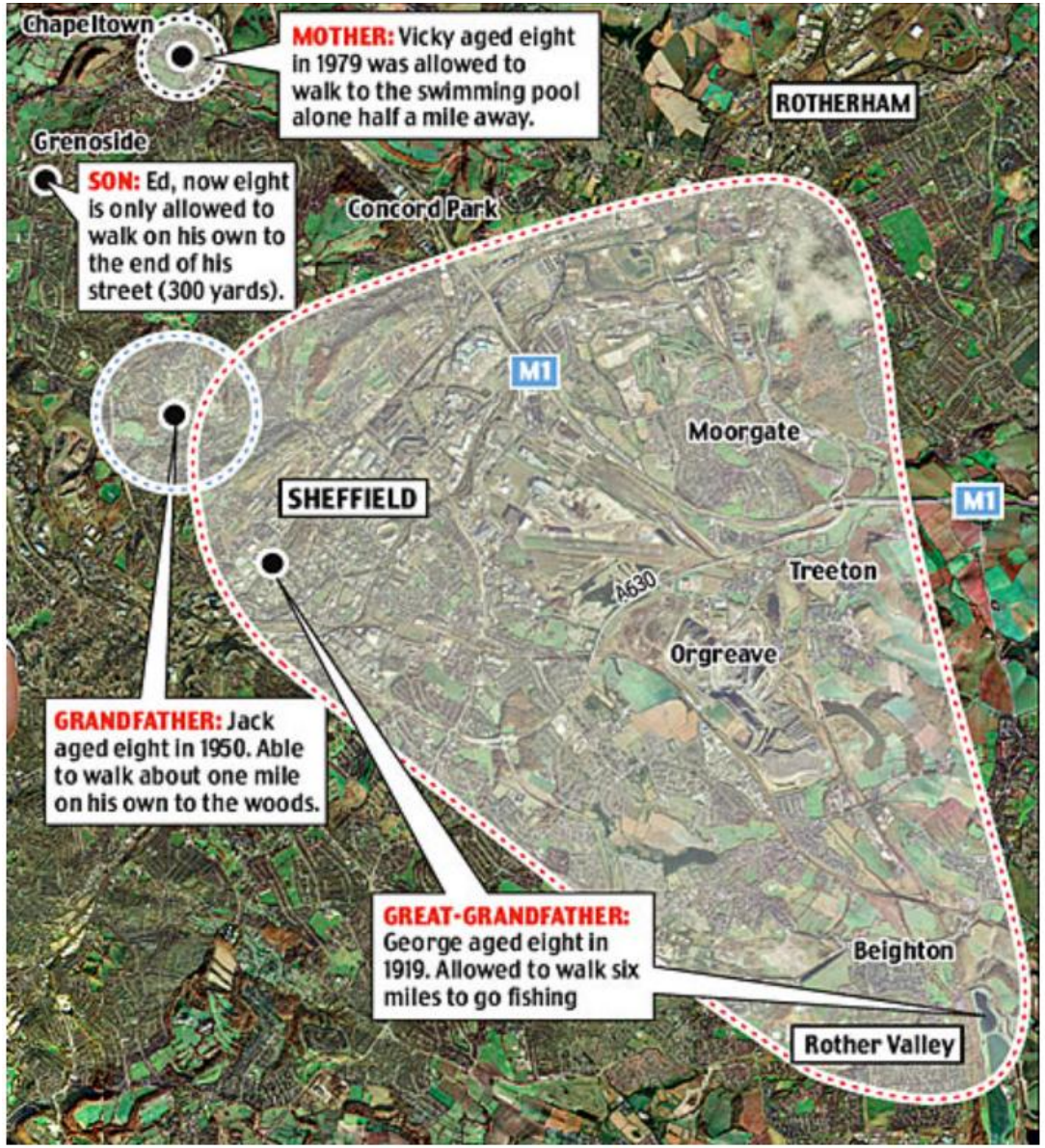
Extreme weather events

- Paving over large sections of our cities to facilitate the driving and storage of cars, contributes to localised flooding and excess heat.
- Urban areas are generally warmer than surrounding rural areas, a phenomenon known as the Urban Heat Island (UHI) effect. While green spaces can have a locally cooling effect, car traffic, and asphalt drive-up urban temperatures and contribute to poor health and excess mortality.
- Most heat-related health issues are due to the exacerbation of pre-existing medical conditions, so rising urban temperatures will disproportionately impact the most vulnerable, including greater numbers of older people due to our ageing population. In the UK, deaths from extreme heat are expected to increase to 10,000 a year by the 2050s.
- An estimated 117 premature deaths a year could be prevented by reduced heat from the UHI effect if there was widespread pedestrianisation of large residential blocks in Barcelona.

And in-direct car-harms are also considerable…

Community severance and freedom of movement

- Community severance refers to the separation of people from goods, services, and each other by busy, or fast roads and other forms of transport infrastructure.
- One large UK study found that people who had the highest levels of perceived community severance had a higher chance of reporting poor health, after controlling for confounding factors.
- Barriers to active living particularly affect children, who are denied freedom to explore, play, and travel without adult supervision and older people, whose slower walking speeds limit their ability to crossroads.



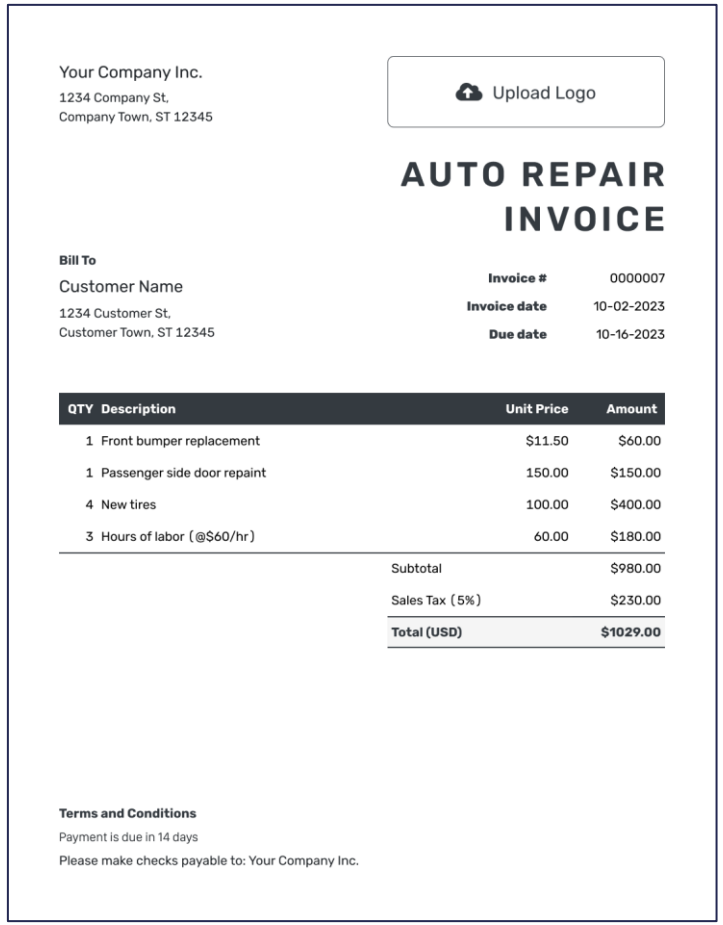
And in-direct car-harms are also considerable…

Poverty

- Owning and operating a car cost an average of £3,834 per year in 2024, an increase of 19% since 2020. This works out at £74 per week, significantly more expensive than the cost of a year's unlimited travel on the public transport networks of major cities or the cost of taking four buses a day under the £2 fare cap elsewhere in England.

- A car-dependent transport system is also relatively exposed to shocks in the global economy, which can feed through to the average household. An estimated 90% of petrol is imported, meaning that the average household's petrol consumption for driving makes up 44% of their energy imports
- One estimate found that the poorest fifth of households spend an average of 25 per cent of their income on their vehicles, if they own one.

- Persistent poverty is a particularly important issue for our health, because the experience of prolonged periods of poverty has cumulative effects, for example the build-up of chronic stress and impact of life events over time.



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1	Passenger side door repaint	150.00	$150.00
4	New tires	100.00	$400.00
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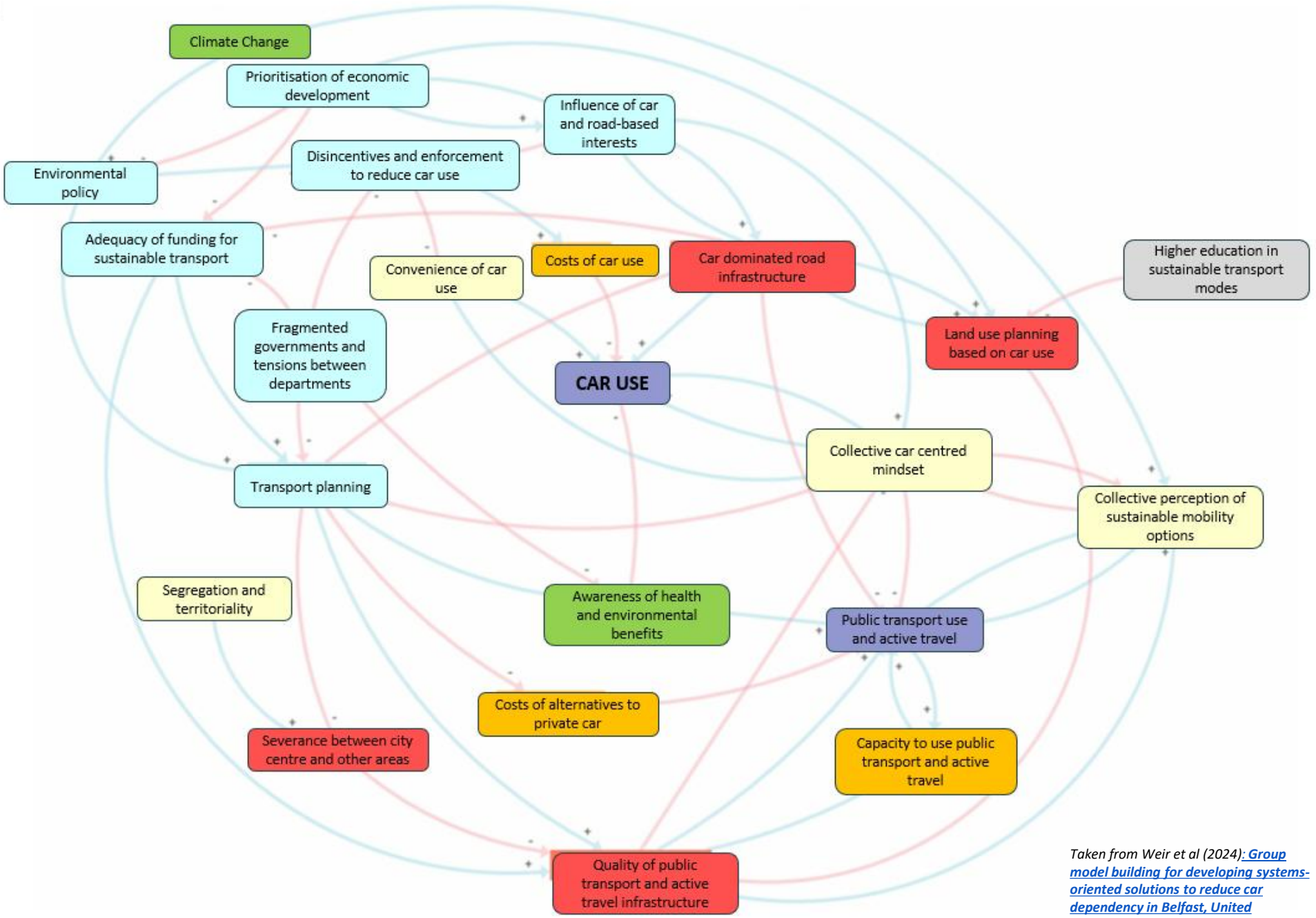
The causes of car-dependency are complex and multifaceted

Car dependency isn't the result of transport policy alone. It is also generated and maintained through **housing** policy**, spatial planning** decisions, **economic** policy, **environmental** policy, and **social norms.**



Taken from Weir et al (2024): *Group model building for developing systems-oriented solutions to reduce car dependency in Belfast, United Kingdom*

Motor-normativity

Improving travel-related health is a challenge because we are not only a car-dependent society **– we are also a highly motor-normative society.**

Motor-normativity: What is it?

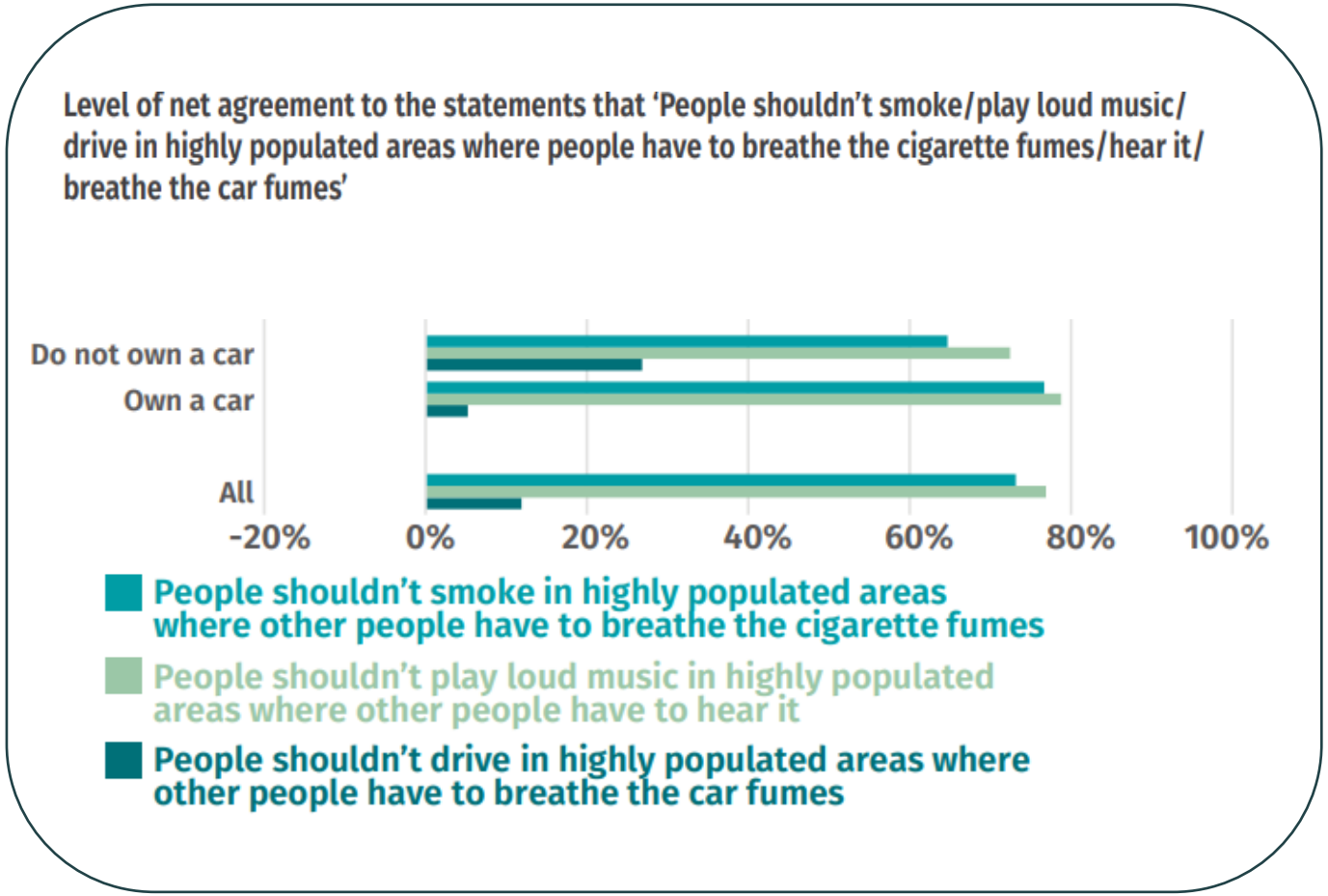
- Despite the numerous health problems caused by car-dependency, policy makers continue either to fail to identify cars as a health threat, and / or feel unable to limit the many harms caused by cars.

- In large part this is because there is a **shared, largely unconscious social assumption that cars are the dominant and best mode of transport.** This is referred to as '[motor-normativity]'

Where is motor-normativity evident? The harms caused by cars are more accepted than other public health / nuisance issues

Permissive attitudes towards cars

- There is widespread acceptance of speeding by the public, the media, and the justice system despite the fact it contributes to 30% of fatal crashes. The treatment of speeding and dangerous driving can be contrasted with other infringements of law that are much more socially disapproved, such as littering, graffiti, or street-noise.
- In one study of over 2,000 adults in the UK, found that people were more likely to agree with statements that were critical of activities such as smoking than driving, though both contribute to air pollution in cities.
- People overlook the fact that considerable public resource is spent subsidising car use through free parking and road maintenance (which is not covered by motoring taxes).



Where is motor-normativity evident? The framing and language we use to talk about transport reflects assumptions about the primacy of the car

Framing and language

'Framing' is the process of choosing how something is conceptualised and presented to an audience, to shape the audience's perception and response to an issue.

Without necessarily noticing, the language we use to talk about transport and the way we frame transport challenges is reflective of our motor-normative thinking. For example:

- 'Traffic accidents' – implies a lack of fault and hides the reality that most crashes are caused by cars, not other forms of traffic.
- We talk about 'closing roads' for sports events or street parties. Closed for whom? Arguably, 'road closures' increase access for a wider range and larger number of people than when they are accessible by cars.

Motor-normativity: Why does it matter?

1. Motor-normativity affects behaviour and has real life consequences in how transport initiatives are received

- The introduction of the London Low Emission Zone (LEZ) and Ultra Low Emission Zone (ULEZ) received damnation in the national press; and had major political and policy consequences**.
- Smaller scale active travel programmes have often been met with hostility, and in some cases have been cancelled entirely in response to organised protest.

*** LEZ and ULEZ are credited with a 4.5% reduction in long-term health problems and an 8% decrease in respiratory issues like asthma and bronchitis.*

Motor-normativity: Why does it matter?

2. Motor-normativity limits the range of policy options available to address transport system challenges

- In many instances transport, housing, and spatial planning policy reinforces car-dependency.
- Policies and approaches to transport reform can be considered along a scale. At one end, policies deepen car-centricity and reduce health, happiness and equity. At the other end, policies are transformative and actively reverse car-centricity and build wellbeing. (See appendix for detailed mapping)

1. Motor-normative	2. Blind	2. Sensitive	4. Responsive	5. Transformative
Measures which actively reinforce car-dominance – e.g. 'Road improvement measures' to reduce congestion (road building, road widening) which are hostile to non-motorists	Measures which ignore car centricity and locate responsibility for car harms with non-motorists e.g. programmes which educate school children on road safety without reducing car harms	Measures which take an adaptive approach to car harms without addressing underlying causes – e.g. shift to electrification of the fleet	Measures which try to mitigate against car harms– e.g. 20 mile per hour zones	Measures which directly reduce car centricity – e.g. the use of a road review processes to evaluate the likely impact of new proposed roads on Net Zero commitments, and car-use targets.

Adapted from *World Health Organisation's 5-Level Gender Responsive Assessment Scale*

Motor-normativity: How did we get here?

Multiple, mutually reinforcing influences shape an individual's views on driving and thereby create a motor-normative environment. These include:

- Micro system – children observe that cars are used even for short journeys and are toys / playthings.
- Meso system – the influence of other drivers through descriptive norm processes.
- Exo system – transport systems that make care-use easy even for short journeys, by absorbing externalities, subsidising parking, providing priority over other modes etc.
- Macro system – discourses and narratives about driving which under-report traffic crashes and present them as inevitable; advertising which promotes an idealised image of driving free of congestion.

(Taken from ***Motonormativity: How social norms hide a major public health hazard***)

Motor-normativity: How did we get here? The automotive industry has invested heavily in shaping cultural attitudes towards the car.

- In the same way that the tobacco industry established narrative frames about smoking and health to serve commercial ambitions, the strong and powerful automotive industry has played a major role shaping individual' norms and attitudes towards car.
- This is achieved courtesy of the automobile sector's political and economic clout. In 2022, car manufacturing, sales, and repairs accounted for 2% of the U.K.'s gross domestic product – more than double the economic output of the country's agriculture industry.
- The car industry's cultural influence is also achieved through an annual estimated global advertising spend of $42.4 billion in 2022, (plus free-advertising by motor-normative cultural content).

Motor-normativity: 'Devious frames' deployed by industry

Devious frame	Narrative	Example
Denialism	*There is no problem. Cars and car-dependency doesn't kill.*	In 1995, The New York Times ran a piece entitled 'Speed doesn't kill: bad driving does' in which a minority of 'bad apples' and uncommon driving conditions were blamed for car crashes.
Post-denialism	*Roads and cars are safe, it's the rest of the world that's the problem.*	Car manufacturers routinely depict cars as a source of safety in a dangerous, hostile often 'urban' world. As "urban" carries racialised connotations, such imagery and language may reinforce racism.
Normalisation	*There's not a problem, in fact, cars and car-dependency are normal.*	Ubiquitous car advertising helps to normalise car use. Driving has become such a normal part of everyday life that many car owners no longer question using cars for short journeys. Conversely, walking ceases to be a normal activity and becomes a type of "exercise" that health agencies struggle to promote.
Silver boomerangs and Magic	*Don't worry – new technological developments produced by the automobile industry will save us all.*	- Electronic cars manufacturers focus on the environmental and health gains from reduced emission, without reference to the wider transport-related health deficits and inequalities caused by car-dependency. - The website roadsafetyfacts.eu (established by the European Automobile Manufacturers' Association) outlines the potential for a range of technological solutions including automated and connected vehicles, to reduce road danger
Victim blaming	*As long as people learn to cross-roads / play away from traffic, there's no problem.*	Multiple car-manufacturers invest in or providing corporate support for school's-based traffic safety education programmes – which subtly shift responsibility for road safety away from adult drivers or even transport and urban planners, to the most vulnerable road users – children walking to school.

Taken from ***Dark PR: How corporate disinformation undermines our health and the environment***

Improving health, happiness and equity by addressing car-dependency

It is possible to reduce car-dependency, and in so doing, improve health, happiness and equity.

This will require visionary leadership, and bold action across a range of policy areas including transport, health, planning, and housing.

All is not lost! Many places have been effective in improving health, happiness and equality by reversing car-dependency

Mexico City

In 2017, Mexico City changed the construction code to **abolish minimum parking requirements and establish maximum limits**. For residential buildings, the limit is 3 parking spaces per unit regardless of the size of the unit, and for commercial buildings larger than 100 square metres, the limit is 1 parking space for every 30 square metres. The reform also mandates the **inclusion of space for bicycle parking**. Developers are also required to pay parking fees for every space provided above half the allowed maximum in the city centre. These **revenues are directed to a Fund to Improve Mass Transit**. This fund is used both to improve transit and subsidise affordable housing in central areas

As a result of the reform, **new living space increased by 15% while space allocated to parking decreased by 21% in only two years**. It is estimated that by 2030 the change in the parking rule will have **avoided 2.645 million tonnes of CO2e**.

(Taken from Reversing Car Dependency: Summary and Conclusions)

All is not lost! Many places have been effective in improving health, happiness and equality by reversing car-dependency

Munich, Germany - The Munich public transport system functions as a holistic, integrated system: buses, trams and underground and suburban trains are planned together to provide 'one network, one timetable, one ticket'.

The Netherlands made trains free on National Book Day for people who could show a book instead of a ticket.

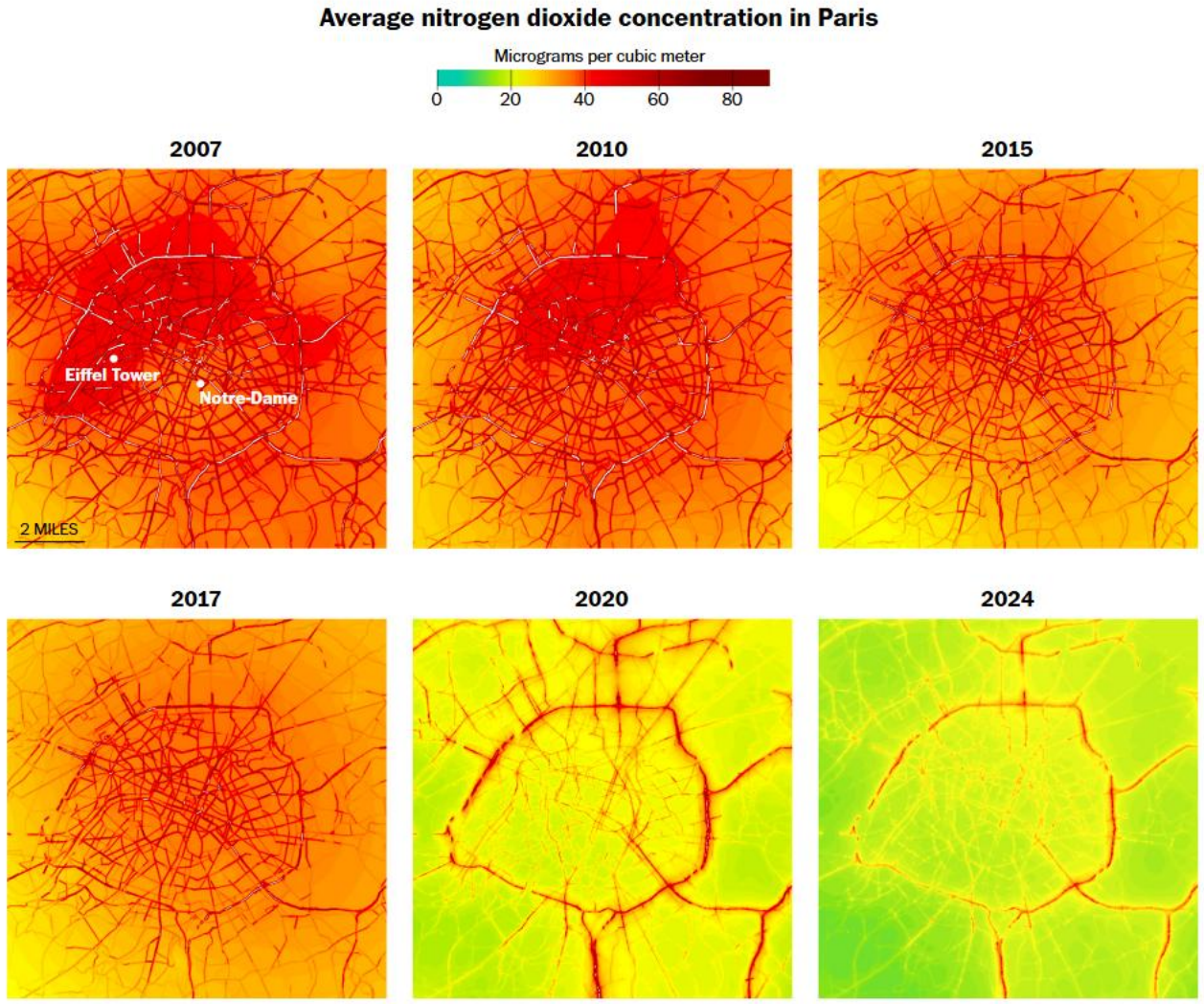
Miami, USA launched a new app that rewards residents for using green transport. By cycling, car-sharing or taking public transport, users can collect points to pay for future trips.

Ten years ago, Nottingham City Council introduced Europe's first Workplace Parking Levy (WPL). Since its introduction in 2012, the WPL has directly raised over £90m for sustainable transport in Nottingham by placing a levy on workplace parking spaces at employers with eleven or more spaces. The scheme was introduced to tackle congestion growth by offering high quality, affordable and reliable alternatives to driving into the city and acting as an incentive for employers to manage their workplace parking. Money raised by the scheme, which has enjoyed 100% compliance from day one, is ring-fenced for public transport or active travel improvements.

Talinn, Estonia was the first city in the world to offer free public transport to its residents in 2013, which has subsequently been introduced in 11 out of Estonia's 15 counties in 2018.

(*The Future Generations Report: Wales*)

Coordination across multiple policy areas is needed to deliver change.



Over the past 20 years, **Paris** has undergone a major physical transformation involving coordination between multiple areas of government. Changes have included trading automotive arteries for **bike lanes**, adding **green spaces**, **eliminating 50,000 parking spaces**, and banning the most **polluting vehicles**.

A 2024 study found that **Parisians use bicycles for 11.2% of trips inside the city centre** (vs 4.3% for cars) – this is a dramatic **increase from 2010, when cycling accounted for just 3% of trips.**

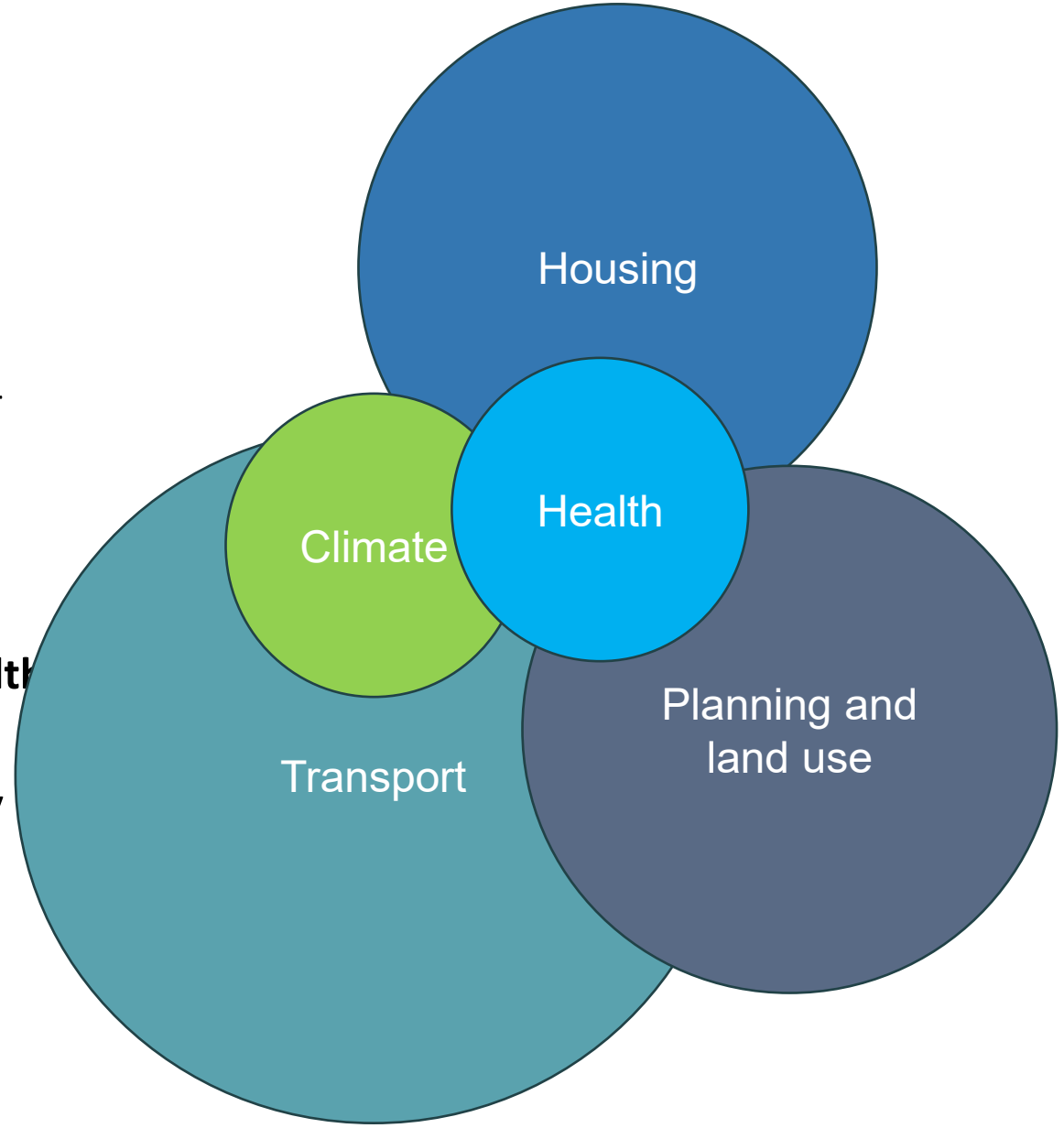
Part of the payoff has been invisible — in the air itself. **Fine Particulate Matter (PM 2.5) levels have decreased 55% since 2005**, while nitrogen dioxide levels have fallen 50 percent.

Measures are widely supported, and Parisians just voted in a referendum to turn an additional **500 streets over to pedestrians.** A year earlier, Paris had moved to **sharply increase parking fees for SUVs**, forcing drivers to pay three times more than they would for smaller cars.

Call to action: Whole systems approach

1. Take a whole systems approach – engaging decision-makers and leaders across all high impact policy areas

- The poor health, unhappiness and inequality caused by car-dependency can't be resolved by active travel or transport teams alone.
- **Reducing car dependency requires integrated planning across multiple high impact policy areas – including transport, planning, housing, environment and public health**
- High level buy-in and leadership is required. Consider conducting a local systems mapping to identify which policy areas and factors contribute to car-dependency locally.



Select Resources

Whole systems approach to obesity - A guide to addressing other complex health issues (obesity) through a whole systems approach.

Call to action: Goals, targets and indicators

2. Set a bold, cross-governmental vision; ambitious targets; and quantifiable indicators to monitor progress.

- Local and regional bodies should consider setting a bold vision / goal of what can be achieved through reduced car dependency, in alignment with local priorities.
- In addition to a bold vision, authorities should set explicit targets around reduced car-use (as per York, Scotland etc). Meeting car-use targets will require action from multiple policy teams, so targets should ideally sit at institutional rather than departmental level (as per net zero targets).
- Indicators of intermediary outcome measures can be used to measure progress towards a headline goal and will focus attention (see box for examples).
- A simple example theory of change is provided as an appendix.

Examples goals / visions

- All children and young people in Yorkshire grow up to live happy healthy lives, free of disease and premature death.
- Everybody living in Yorkshire can access to all the things they need for a happy, healthy life.

Examples outcome indicators

- Car use (Km per person per year)
- Modal share: (35% walking to work, 15% cycling, 20% public transport, 30% private vehicle)
- Miles of bike network
- Square miles of city covered in parking
- Average price of parking
- Deaths per 100,000 people from cars (crashes, air pollution, etc - see car harm study for how to do this).
- % of city dedicated to parking
- % of city 15-minute city (AKA High Access Neighbourhood) https://www.cityaccessmap.com/ or https://whatif.sonycsl.it/15mincity/
- % of city pedestrianized
- % of schools with pedestrianised roads in front of the entrance
- % of people who report “I have no choice but to use my car every day” in local survey

Call to action: Policy

3. Close the gap between targets and action by pursuing transformative, evidence-based policies across

- It isn't enough just to set targets. Meeting targets requires bold action across multiple high impact policy areas.
- There is a growing body of evidence about the effectiveness of different policy interventions on rates of car use, including from Wales and Scotland, where there is high level commitment to reducing car-dependency.

Select Resources

Mapping of policies to address car dependency on the motor-normativity scale (see Appendix).

Strategies for local traffic demand management (Local Government Association. Overview of traffic demand management approaches used by LAs, including reflections from LA experience. Includes mapping on public acceptance of different approaches

Local Transport Plans guide (Low Traffic Future) – guide to addressing car dependency through LTPs

Clean Mobility (Transport for the North) – guide to demand management and mode shift policies which are evidenced for different settings (major urban conurbations, rural villages, etc).

Reversing Car Dependency (International Transport Forum). Overview of evidence on different approaches.

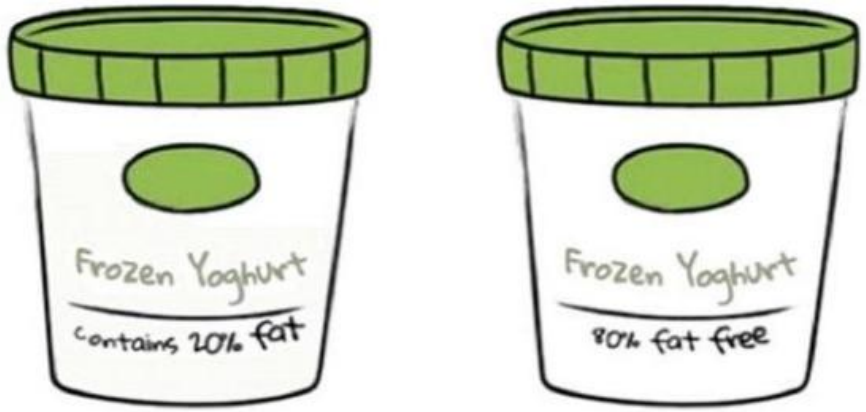
Reducing car use through parking policies: an evidence review (Evidence review by Scottish Government on parking).

Trapped behind the wheel – (New Economics Forum) – recommended approaches to addressing car dependency through housing.

Call to action: Communications

4. Communicate clearly about the potential of change to improve health, happiness and equity.

- Framing matters! *(And whether we like it or not, there's no such thing as 'no frame').*
- Government at all levels has a responsibility to communicate in a way that **builds on existing public support** for diverse, sustainable transport systems, and which puts **people** at the centre of community plans.
- Changing motor-normativity requires us to tell a different, positive story, with **people, community, happiness, health and equity** at the centre.
- Using evidence about effective framing techniques can improve the acceptability of bold policies, and will helps overcome short term spikes in opposition from the small (vocal) minority when changes are made.



Select Resources

Framing walking and bike riding Message guide - A guide effective, values based framing on Active Travel

Active Travel England's framing and communications' guide – *coming soon*

Call to action: Industry regulation

5. Take action to limit the influence of the automotive industry, as part of a wider commercial determinants of health approach.

- The car-industry is heavily invested in a car-dependent future, and in protecting motor-normativity.
- The car-industry, like the tobacco industry, or the alcohol industry, is a powerful corporate actor, with major influence on the policy process and on social norms.
- Government at all levels, including LAs and CAs have a key role in protecting residents from corporate over-reach. Many LAs have already taken steps to limit the influence of the tobacco industry, and food industry. The same can be achieved with the car industry.

Select Resources

Good governance toolkit (Association of Directors of Public Health) A guide to improving governance of commercial actors in UK local authorities, to maximise benefits and minimise risk for population health.

Appendices

Mapping of policy interventions along the motor-normativity spectrum

Sample theory of change

Level 1: Motor normative policy

Criteria for assessing programmes and policies	Conceptualisation of the central challenge	Policy examples
• **Actively increases car-dependency by reinforcing unbalanced transport norms, roles and relations between motorists and other road users.** • Privileges cars and other private motor-vehicles over walkers, cyclers, and other road users. • Fails to consider the impact of transport on health or health inequalities. • Deepens transport related health deficits and inequalities (TRHDIs).	*The problem is:* …**Congestion**, slow-moving traffic, and dangerous cyclists / pedestrians who take up space on our roads.	**Transport:** - Free parking. - 'Road improvements' which are speed inducing and hostile for pedestrians (e.g. wider roads / carriageways, smoother surfaces, longer crossing gaps). - 'Predict and Provide' approach to road building **Housing and spatial planning:** - Low-density housing (aka 'sprawl') where cars are the only practical means of transport. - 'Cow-pat' developments – i.e new housing in greenbelt land where residential centres are divorced from amenities and inaccessible without unrealistically high levels of investment in public transport. - High minimum parking space requirements for new homes (many LPAs require two or more free parking spaces per new home).

Level 2. Blind policy

Criteria for assessing programmes and policies	Conceptualisation of the central challenge	Policy examples
• **Ignores car-centric transport norms, roles and the balance of power between road users.** • Perpetuates the balance of resources, and power to car users. • Takes a narrow approach to TRHDIs. • Locates responsibility for TRHDIs with non-motorists and thus requires people on bikes or walking to adapt to the needs of motorists.	*The problem is:* Dirty vehicles and unsafe behaviours**.**	- Use of AI to improve traffic flow during busy periods to reduce congestion and redistribute emissions. - Educate children how to cross-roads safely. - Technological solutions to pollution – e.g. new fuels or cars.

Level 3: Sensitive policy

Criteria for assessing programmes and policies	Conceptualisation of the central challenge	Policy examples
• **Acknowledges TRHDs, but takes an adaptive approach and doesn't try to address car-dependency or motor-normativity as a route cause of TRHDs.** • Often locates responsibility for TRHDIs with individuals, and thus requires individual behaviour change / demand-side interventions).	*The problem is:* …**Polluting vehicles, dangerous roads, and slow-moving traffic** make it hard for people to travel about safely.	- Focus on transition to electric vehicles without efforts to address car-dependency. - Park and ride schemes. - Behaviour change programmes exclusively targeting individual choice around car use, without reference to supply-side or structural challenges. - High / no maximum parking restrictions.

Level 4: Responsive policy

Criteria for assessing programmes and policies	Conceptualisation of the central challenge	Policy examples
• **Acknowledges and seeks to address car dependency and car-centricity. as a root-cause of THDIs.** • **Seeks to mitigate against and limiting the impact of car-centric policies.** • **Acknowledges and seeks to address systems barriers as well as individual behaviours.** • **Considers transport norms and how they affect allocation of resources.**	*The problem is:* **Excessive and unsafe car use.** There's a lack of balance between transport modes. Measures are needed to reduce the negative impact of cars on health.	**Transport**: - **Traffic calming measures** including 20mph speed limits; narrower lanes, more round-abouts, 'Self-explaining' roads; Raised crossings; Speed humps - Traffic displacement measures including School Streets; - Implementation of evidence based active travel initiatives - Investment in e-bikes / e-scooters - Car sharing initiatives **Housing:** - National and local maximum parking standards (the government abolished national maximum parking standards in 2011 and removed much of the power of councils to limit car parking in new builds through changes to the NPPF in 2019). - Pursue of 'gentle density' housing plans (i.e. building more homes in existing neighbourhoods) where existing public transport links reduce the need for cars. **Spatial Planning:** - Review requirements for car parking space to protect against over-supply. - Reallocation of road space for non-motorists (as per Paris, Copenhagen and a range of other European Cities).

Level 5: Transformative policy

Criteria for assessing programmes and policies	The problem is…	Policy examples
• **Designed around a fundamental aim of preventing THDIs by addressing car-centricity and motor-normativity as root causes.** • Takes a wholistic approach to THDIs by addressing systems-level barriers to support individual behavioural change. • Includes strategies to change the balance of resource allocation between car, and people who are walking, wheeling or cycling.	…**Cars.** Our streets are for everyone. We want the freedom, health, and equality that comes from a balanced, sustainable, accessible, multi-modal transport system.	**Transport**: - The development of explicit targets to reduce car dependency - The use of a road review processes to explicitly evaluate the likely impact of new proposed roads on Net Zero commitments, and car-use targets. - Release of capital funding for city-regions to invest in new public transport capacity - Use fiscal instruments to address the under-pricing of the use of urban space and the external costs of the car: Low emission zones; congestion charging zones / congestion tax; vehicle emission taxes - Vision-led planning and planning that models which incorporate traffic demand management measures - Review public transport prices – with a focus on maximising uptake, and ensuring equality. **Housing** - Low car and car-free housing - Conditioning any release of green belt or grey belt land for housing development on achieving a good minimum standard of sustainable transport in the resulting developments. **Spatial / Urban planning** - Pursue a planning approach built around densification, transit-oriented and transit-integrated development - Ensure that planning requirement encourage mixed-use development and higher land use density - Regional strategic spatial planning of new homes based on incorporating a review of data on car-dependency and transport provision. - Parking reform: Remove off-street parking requirements; End free parking; Remove income tax exemption for employer-paid parking, Work place levies

Appendix 2: Sample theory of change

All children and young people in Yorkshire and the Humber grow up to live happy healthy lives, free of disease and premature death.

Local transport systems contribute positively to health, happiness, and equity by creating social and economic opportunities, facilitating physical activity, minimizing air pollution, and eliminating road casualties.

Car-dependency and car-use is reduced.

Local infrastructure (including housing, transport infrastructure, neighbourhood and urban design) supports access to a range of transport options across all communities.

Social norms are less biased towards cars

Local policy addresses transport inequities – by limiting and more fairly distributing negative effects of excess car use.