



# GREEN PUBLIC INTEGRATED TRANSPORT

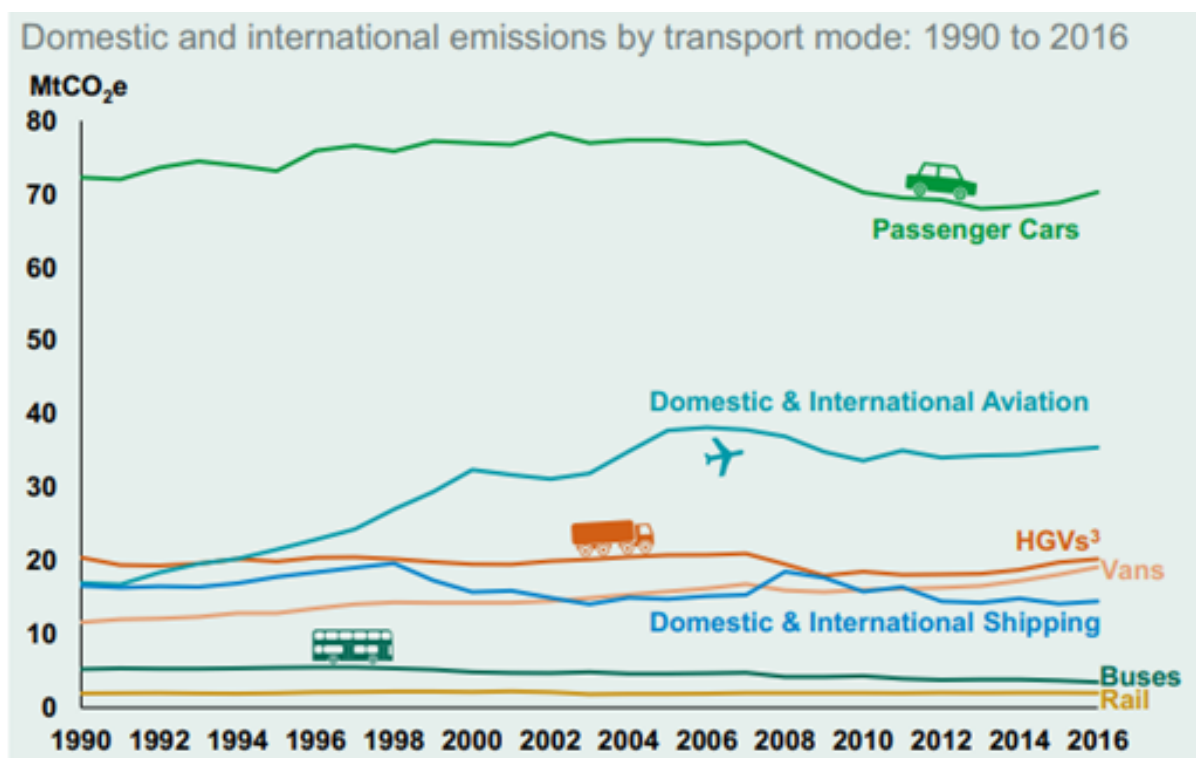


# TRANSPORT AND GREENHOUSE GASES

Emissions from transport in the UK totalled were [169 million tonnes in 2018](#), representing 33% of the UK's total domestic production of emissions, or 23% of the UK's total consumption emissions – **more than any other sector** (for more information, see our Fossil Fuels justification). A full picture of the emissions from transport must extend beyond these direct 169 millions tonnes, taking into account emissions from the manufacture – both domestic and international – and transport of transportation equipment, particularly cars.

Domestic transport emissions [have in fact grown since 1990](#), in particular those from **international aviation** which have **more than doubled** in that time. **Passenger cars make up the majority** of these emissions, followed by aviation. Although there have been improvements in fuel efficiency for new cars, this has been offset by an increase in the [total miles](#) travelled by car, likely a reflection of decreased efficacy and accessibility in public transportation services.

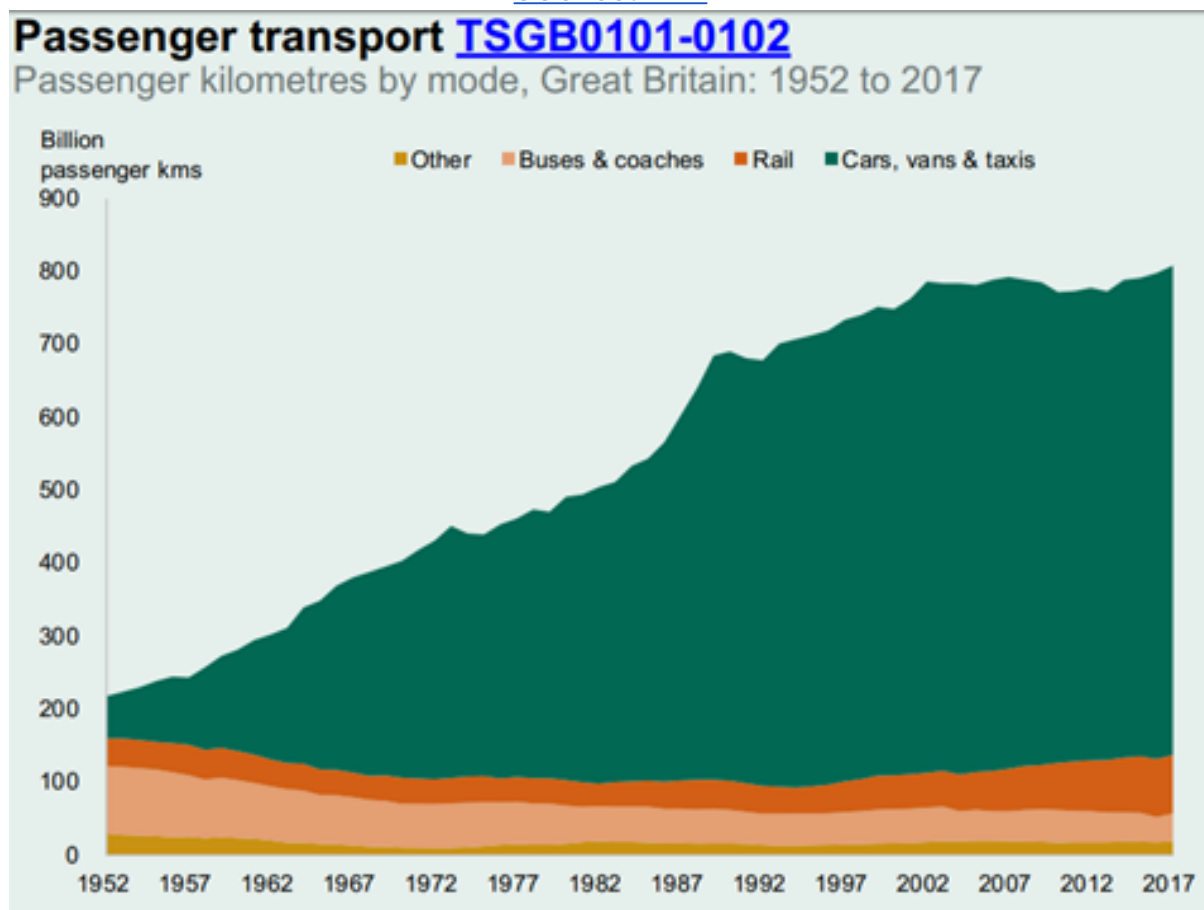
Figure – Emissions from different forms of transport ([DfT Statistics](#))



# A TRANSPORT SYSTEM DOMINATED BY CARS AND PLANES

Transport in the UK remains dominated by the passenger car. The **vast majority of trips (62%) and overall kilometres travelled (78%) are made by car**. Only a small fraction of trips are made by rail (3%), although rail travel constitutes closer to 11% of total kilometers travelled. The vast majority of people travel to work by car or van (68%), and a **staggering 78% of goods are moved by road**, with only 9% by rail and 13% by water. These figures demonstrate our excessive reliance on costly and emissions-intensive private modes of transport.

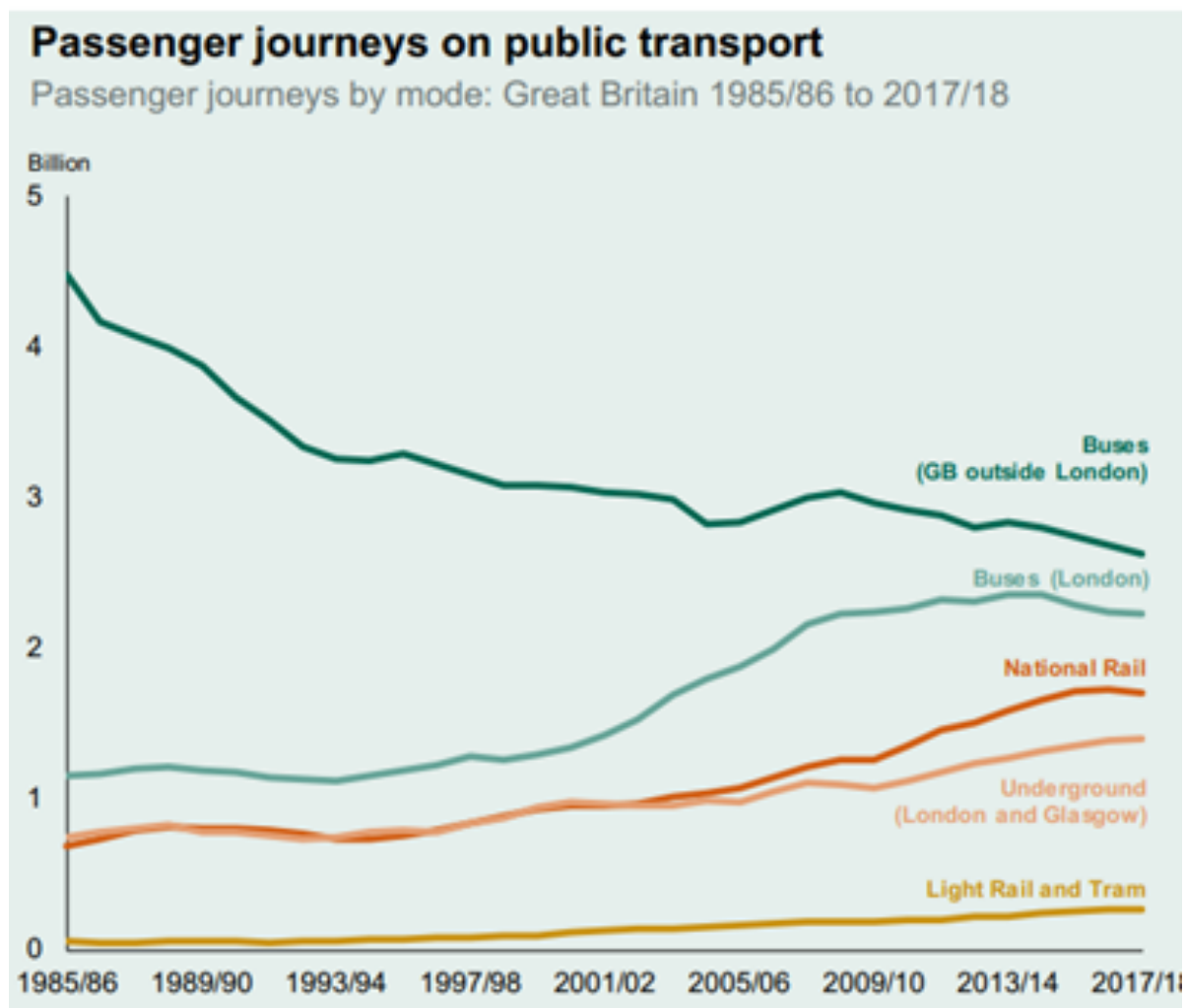
Figure - Passenger transport by mode (excluding active transport) -  
[Source: DfT](#)



In recent years, overall use of public transport by National Rail and by underground or light rail/trams has increased. However, this **increase in use has not been reflected in improved services or investment** in rail

networks; rather, [payouts to shareholders and executives of private rail companies](#) have continued to surge as investment falls and service quality declines – and [fares for users spike](#). Moreover, **public travel by bus has decreased by more than a third outside of London** since the mid-1980s (see graph below), likely as a result of reduced or poorer services. Funding for public transport (both buses and National Rail) has moved from a fairly even split between passenger fares and government subsidies, to a majority from passenger fares, disadvantaging those on lower incomes.

Figure – Passenger journeys on public transport ([source](#))



We set out below how this current system entrenches inequality, damages the environment and puts at risk our just transition to a zero carbon future. A Green New Deal will put an end to these damaging trends by offering a sustainable and fair alternative that facilitates rapid decarbonisation of the transport sector while combating inequality. Concretely, this should entail radical innovations such as the [provision of free, luxurious zero carbon public transport](#). Although the level of investment in transport infrastructure required to do so

represents a massive undertaking involving significant labour and financial resources, this major initiative would [provide a jump start](#) to the Green New Deal's programme of [well-paid, unionised, green jobs](#), while accelerating investment in the green technologies needed to transform the entire economy.

All figures cited above have been sourced from [DfT Transport Statistics 2018](#).

## THE CURRENT TRANSPORT SYSTEM AND INEQUALITY

Our public transport driven system, with wildly disparate levels of investment across the country, currently serves to entrench inequality. The Green New Deal must address and rectify the disparity in transport funding between the rich and poor, shifting from a system of private vehicle ownership use to one of green, democratically owned, public luxury.

### Exclusive private transport

Private car use dominates transport. However, private vehicle use involves significant economic disparities: the 2015 National Travel Survey found that in the richest fifth of households, [only 14%](#) did not have access to a car, compared to almost half of those in the poorest fifth (48%).

### Regional investment

Nearly [3 times more transport investment](#) per capita is planned for London compared to the North of England. This disparity swells to five times more [when investment in London is compared](#) with the regions of Yorkshire and the Humber, or the Northeast. More journeys are made by public transport in London than elsewhere; however, linking funding to the number of journeys made leads to a self-perpetuating cycle that systematically disadvantages regions outside of London.

Certain regions, such as Wales and the North East, receive far [lower rates](#) of rail subsidy than regions like London and the South East. A household in London benefits almost four times as much from rail subsidy as a household in Wales. Per journey, rail travel in Wales is approximately twice as subsidised as rail travel in London; however, this is largely the result of low rates of rail network use in Wales due to poor and inadequate services, and does not negate the gross disparity

in overall subsidy between London and Wales and its compounding effect on rural inequality.

### Vital bus services

England's lowest income groups make [75% of their public transport trips by bus](#). Buses are particularly important to those without access to a car, including the young and elderly who collectively make up nearly half of bus passengers.

Since 2010, Local Authority funding for buses [has halved](#), causing many services to be cut and leaving many parts of England and Wales without public transport altogether. Reductions in bus services cut people off from jobs and education; damage local shops and businesses; affect physical health and mental wellbeing; and increase congestion, air pollution and climate change as more cars clog up our roads.

Outside London, [bus provision](#) has been privatised, enabling private operators to **cut off less profitable but essential bus routes** leading to social exclusion and deepening inequality. Local Authorities' ability to supplement these services with more inclusive routes have been hit hard by cuts to Local Authority budgets under austerity. Rises in local bus fares between 2011 and 2016 were [consistently above](#) inflation, further excluding those on low incomes from vital access to transport.

### Subsidies that entrench inequality

In 2015, the richest 10% of the country received £974m in [transport subsidies](#), while the poorest 10% received just £297m. Per household, the **richest 10% receives nearly double the subsidy of the poorest 10%**. Bus subsidies are relatively evenly distributed amongst income brackets, whilst train subsidy is much higher for those on higher income. It is often countered that the higher gross subsidy for rich households is the result of these individuals travelling more by train (and receiving subsidy on each journey); however, as noted above, this is an inherently circular issue, with wealthier households travelling more by rail as a result of greater access to significantly better services. This inequality will be rectified by a Green New Deal which provides integrated green transport that prioritises connecting all of Britain, rather than concentrating access in the Southeast.

### Flights for the few

International flights by UK residents are disproportionately made by those from higher income brackets, with [70% of these flights taken by just 15%](#) of the population. **Most people among the lower income brackets take no flights abroad in an average year**, while many of those in the highest real income level [take more than 4](#). Overall growth

in air travel is similarly stratified, with growth being [driven disproportionately by those who travel frequently](#) and fall within higher income brackets, rather than an equal distribution of increased air travel across income levels. Carbon offsetting schemes intended to offset the emissions from air travel only serve to deepen these inequalities, giving the wealthy a '[get out of jail free card](#)' that will have minimal impact on overall emissions.

## MOVING FROM PRIVATE TO INTEGRATED TRANSPORT

Many strategies for a decarbonised transport system envisage a virtually one-for-one swap from petrol and diesel cars to electric vehicles (EVs). Aside from the role of continued personal vehicle use in driving inequality, discussed above, a private-car dominated transport system will have other serious negative impacts, outlined below. The Green New Deal will therefore **prioritise green, low-cost or free public transport** that avoids these damaging impacts.

Premising the decarbonisation of transport on supply of EVs by major automotive companies looking to maximize the remaining revenue they can extract from fossil fueled powered vehicles could become a serious **bottleneck to rapid decarbonisation**, particularly as the automotive industry continues to [dismantle climate legislation](#) despite claiming to support an EV-based future.

### Material and energy demands

Moving to an EV-only system by 2030 would require a huge quantity of vehicle manufacturing as well as the scrapping of [millions of petrol vehicles](#) before their end of life. This would significantly increase both domestic emissions and consumption emissions from imports. Further, to meet existing UK targets for EVs, we would need to consume [just under two times](#) the current **annual global cobalt production**, nearly the entire annual global production of neodymium, three quarters of global lithium production and at least half of the world's copper production.

The increase in overall electrical generation that forms part of the renewable energy capacity target is partially driven by the assumed need to charge EVs (see Large-Scale Investment in Renewables). A reduction in the use of EVs would thus significantly **increase the likelihood of decarbonising the power system by 2030**.

### Pollution, public space and health

The government's Air Quality Expert Group have said particles from brake, tyre and road surface wear [directly contribute](#) to **well over half of particulate matter (PM) air pollution** from road transport.

Fragments of microplastics from tyres, road surfaces and brakes also flow into rivers, and ultimately oceans. Further, although pollution emissions from transport have decreased since 1990, particulate matter (PM) and Nitrogen Oxides in particular, which have significant negative health impacts, have shown more limited progress.

Cars and vans, whether based on fossil fuels or low carbon electricity, **require much more space than active or public transport**, while affecting the safety and experience of those using active transport. Furthermore, consumption of land for parking is an immense waste of space in land sparse cities. Private car travel [can also encourage urban sprawl](#), with a range of social and environmental impacts. The Green New Deal must therefore facilitate a transformative step change in modes of transport from private car ownership to a green public transport system that connects Britain.

Why is an [integrated transport system](#) essential to remedying these issues?

1. Planning, operation and investment in individual transport modes has hitherto been undertaken in isolation.
2. This has resulted in a transport network that fails to deliver on affordability, efficiency and accessibility.
3. Better interchanges can improve accessibility and reduce reliance on the private car by making alternatives quicker and easier for all or part of a journey

## DEEP DECARBONISATION WHILE REDUCING INEQUALITY

### Surface transport

A Green New Deal would ensure equitable, deep decarbonisation of the surface transport system. Key to this will be **demand reduction** via the promotion and integration of walking and cycling with an investment in free, accessible and luxurious public transport. This would include continued **decarbonisation of the rail network** via electrification, enabling rail to play a similarly important role in decarbonising freight transport.



Buses and vans can be decarbonised using electricity or hydrogen, although doing so will necessitate the decarbonisation of electricity through large-scale investment in renewables. The Green New Deal will fully phase out the use of biofuels, particularly in light of their [impact on food and water security](#). A Green New Deal would **recognise the strategic role green buses could play in reducing inequality** and expanding opportunities for travel amongst those on lower incomes and in rural locations. Bus systems can be complemented by the use of electric light rail and trams.

Heavy goods vehicles (HGVs) can similarly be decarbonised using hydrogen as a fuel or by using electric pantographs (overhead lines) alongside rail freight and demand reduction through localised supply chains and structural changes to how we produce and consume. **A highly limited use of light duty passenger electric vehicles**, in particular to ensure accessible transport options for all, can be managed via car share schemes and a green taxi system. Alongside decarbonisation and reduced inequality, these changes would improve air quality, health and economic opportunities as well as reducing congestion and noise.

Think tank [Common Wealth](#) have recently set out a **vision for a private car free**, decarbonised London transport system that includes: a strategic, integrated walking network; electric buses with drastically reduced journey times; tram lanes taking over realigned roads and sharing electrical networks with electrified HGVs; ubiquitous bike hire and more.

The most appropriate form of integrated transport system can be **determined locally** by regions, cities and communities, using the Green New Deal framework for a zero carbon, more equal future.

## Shipping

The [CCC](#) set out a vision for decarbonising shipping via improvement to fuel efficiency and ship operations as well as **alternative fuels** such as hydrogen or ammonia, which allows retrofitting of existing ships. A Green New Deal would consider how alternative fuels can be produced in a way that doesn't rely on, as yet unproven, carbon capture and storage technology with fossil fuels. A Green New Deal would also ensure that non-CO2 climate impacting emissions are eliminated.

A Green New Deal would consider the potential for **low carbon passenger ships** to offset the need for international aviation, in particular to journeys from the UK to Western Europe.

## Aviation

The [CCC](#) note that there are currently **no commercially available zero-carbon planes**, and that this is likely to remain the case in particular for long-haul flights. Nonetheless, the CCC identify opportunities to reduce emissions by around 40% using revised aircraft design, airline operations and air traffic management. If current aviation emissions were cut by 40% they would still be over 22 million tonnes of GHG per year, around 3% of our current consumption emissions.

The CCC consider a modal shift to high-speed rail as a limited option, as it is only likely applicable to journeys under 800 km, which would only reduce emissions from domestic and EU demand by 5%. The CCC note opportunities for the use of synthetic fuels, but note that this would likely be more expensive than sequestering emissions.

A Green New Deal would, until other technology is available, **constrain increased demand for aviation**. This must be done justly and equitably, for instance through a levy on frequent flyers. The Green New Deal will also **implement strong restrictions on domestic flights while investing in low-cost, zero carbon and luxurious public transport for the many**.