Transport: UK Transport Demand

This lever controls the sub-levers listed in the table, and ambition levels are for the end year shown on the right-hand side.

On average, each of us currently travels about 10,900 km per year (excluding trips abroad) by various modes of transport. These different modes all have different emissions associated with them. This lever therefore changes both the total demand for travel in km per person and the proportion of this distance travelled by each mode to explore how such 'modal shifts' can contribute to the UK's overall emissions.

Other factors affecting emissions from this sector are the occupancy (number of people sharing the same vehicle on a journey) and range (how much distance can be covered by one vehicle) of each mode.

Key Interaction

Transport emissions depend not only on demand but also on the carbon intensity of the technology used to drive them. Today we have the technology to power vehicles using fossil fuels, biofuels, electricity and hydrogen and various combinations of these. The remaining non-aviation levers allow us to see the potential impact of adopting different shares of these technologies.

Level 1

People increase the total distance they travel each year but have no ambition to change the way in which they move around the country. Sharing of car journeys decreases, based on Department for Transport forecasts.

Level 2

Travel demand remains the same as the base year. Incentives such as the Cycle to Work Scheme encourage people to shift from car travel to cycling and rail.

Level 3

People are more willing and able to work from home and use delivery services, and so reduce the amount they travel. There is a substantial shift to public transport, and rates of cycling becomes comparable with The Netherlands. There is a small increase in sharing of car journeys.

Level 4

A greater shift to cycling is made possible by e-cycles (push bikes fitted with electric motors) increasing trip distance, and incentives for cycling. Rail travel exceeds levels seen in rail-focused countries such as Switzerland and extensive use of public transport reduces the reliance on car travel. For the remaining car travel, there is a higher degree of car sharing.

Default Timing

Start year: 2020, End year: 2050

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Domestic passenger travel	Psg km. / person	10,900	12,000	10,700	10,000	8,300
Share of passenger travel						
Walking	share	3%	3%	3%	4%	6%
Cycling	share	1%	1%	4%	9%	15%
Car	share	78%	79%	72%	62%	47%
Bus	share	6%	5%	5%	8%	12%
Rail	share	10%	10%	14%	15%	18%
Aviation	share	2%	2%	2%	2%	2%
Car Occupancy/ sharing	Psg / Vehicle	1.53	1.45	1.55	1.60	1.80
Car average annual mileage	km. / Vehicle	11,066	13,700	18,200	22,800	27,300