Domestic transport behaviour

In 2013 each of us travelled an estimated 13,000 km per year, excluding trips abroad. About 84% of this distance was by car or motorcycle, 3% was by rail, 10% by bus, 2.5% on foot, and 0.5% by bike.

Trajectory 1

Trajectory 1 assumes that by 2050 each of us travels 800 km or 6% more than in 2013. The share by mode of transport stays the same. Occupancy rates in cars fall as single person driving becomes more prevalent.

Trajectory 2

Trajectory 2 assumes that by 2050, each of us travels the same distance as we do today. Greater flexibility in working hours and increased use of teleconferencing are offset by rebound effects in non-commuter travel. Slightly less travel is by road and slightly more is by foot, bicycle and bus. The share of distance travelled is 80% by road, 3% rail, 13% bus, 3% foot and 1% by bike. Occupancy rates in cars and other vehicles stay the same.

Trajectory 3

Trajectory 3 assumes that by 2050, each of us travels the same distance as we do today and that there is a shift away from cars towards public transport and bicycles: 75% road, 4% rail, 16% bus, 3% foot, and 2% bike. One in 20 car trips are shared with one extra person.

Trajectory 4

Trajectory 4 assumes that in 2050 each of us travels 6% less than we do today. Urban planning facilitates access to local services and alternatives to commuting such as teleconferencing; flexible working arrangements are encouraged. There is a big shift away from the car: 70% road, 5% rail, 17% bus, 3% foot, and 5% bike. One in 10 car trips are shared with one extra person, cycle use increases to rates observed in the Netherlands, and rail passenger travel distance is 130% higher (including impact of population growth).

Interaction with other choices

We can power Ireland's cars, buses and trains by biofuel rather than diesel or petrol, or rely on electricity or hydrogen fuel cells. In the 2050 Calculator, the technology used and hence the emissions created is influenced by how much transport is electrified, how much electricity is decarbonised, and how much bioenergy is available for transport.

Table 1. Assumptions on distance travelled and the split of how that distance is travelled.

	2013	2050	2050	2050	2050
Km travelled/ person/ yr	12,872	T.1 13,664	T.2 12,872	T.3 12,872	T.4 12,100
% of km by:					
Walking	2.5%	2.5%	3.0%	3.0%	3.0%
Pedal cycles	0.5%	0.5%	1.0%	2.0%	5.0%
Cars, Vans, and Motorcycles	84.0%	84.0%	80.0%	75.0%	70.0%
Buses	9.9%	9.9%	12.9%	15.9%	16.9%
Railways	3.0%	3.0%	3.0%	4.0%	5.0%
Domestic air travel	0.05%	0.05%	0.05%	0.05%	0.05%

Figure 1. TWh/y assuming Trajectory 1 on 'Shift to zero emission vehicles' (20% hybrid vehicles, 2.5% zero emission cars) and assumes Trajectory B on 'Choice of electric or hydrogen car technology'