

The social benefits of climate action

5. Public Transport



Reducing carbon is only one part of the climate action story: **low-carbon shifts can bring multiple social and economic benefits**. These benefits come in the form of improvements to the environment, health and wellbeing, as well as increased economic productivity.

This guide provides monetary estimates for a selection of social and economic co-benefits of climate action. Looking beyond carbon emissions reductions and evidencing the delivery of multiple priorities, we can build broader support for plans and increase effective decision-making.



How do we value the social benefits of shifting journeys by car to public transport?

Taking public transport instead of the car reduces the number of vehicles on the road, and the more of us that do this, the bigger the impact. Buses, trams and trains can all have capacity for many more passengers than the average family car. As a result of this shift in behaviour, fewer tailpipe emissions pollute our air, and these can even be eliminated if the vehicle is powered by electricity.

Lower levels of air pollution mean fewer respiratory and cardiovascular issues associated with inhaling particulate matter. Minimising car use also reduces the risk of road traffic accidents and can reduce congestion. Infrastructure wear-and-tear and maintenance costs are minimised as mobility methods are distributed more evenly e.g. onto tram and rail tracks, or through [people walking or wheeling](#) to public transport.

These benefits described are calculated and expressed as monetary values following government guidance, but they do not represent direct financial gains. Instead, the figures are **avoided costs** as future spending on areas such as health and social care is reduced. The overall result: healthier, happier and more resilient communities.

How large are these benefits?

The following table indicates the estimated total co-benefits when shifting from cars to buses across the **time period 2026 - 2050** for the **City of Edinburgh Council, Stirling Council** and **Scottish Borders Council** to demonstrate impacts in different local authority contexts. The values are based on shifts to public transport and associated active travel as recommended by the Climate Change Committee (CCC)'s [Seventh Carbon Budget](#) to reach net zero.

ECCI analysis then estimates the likely distribution of shifts – assumed to be from private cars to public transport - based on local contexts, with greater deployment in urbanised areas.

In the table below, estimates were made using the following modelled assumptions of shifts in distance travelled by public transport instead of cars per person, per week:

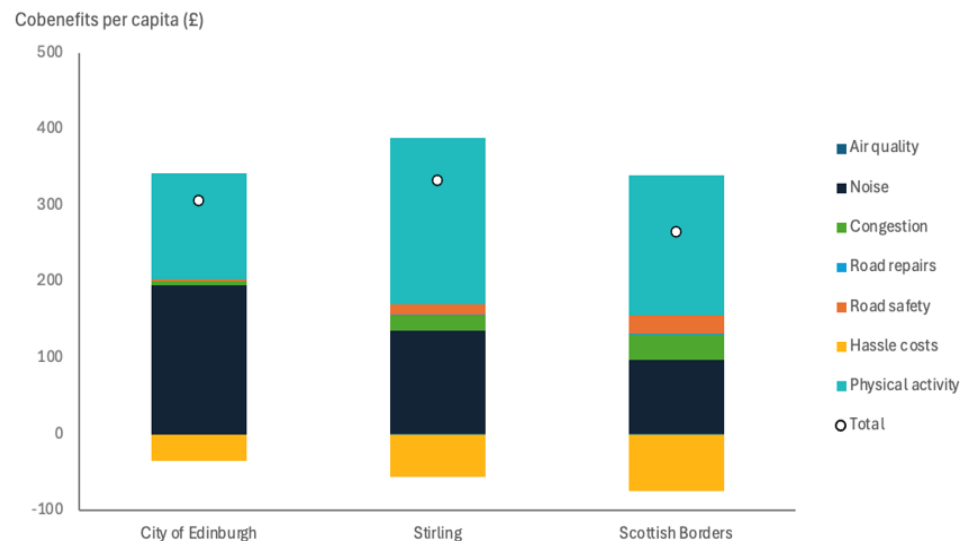
- **City of Edinburgh: 9.0 km**
- **Stirling: 6.01 km**
- **Scottish Borders: 5.53 km**

Shifts that materialise may be more varied than simply from 'car journeys' and can depend on the policies and delivery mechanisms applied to increase public transportation use.

**Note the negative values in the table below represent indirect costs incurred.*

Co-Benefit Type	City of Edinburgh (£m)	Stirling (£m)	Scottish Borders (£m)	City of Edinburgh (£/person)	Stirling (£/person)	Scottish Borders (£/person)
Avoided air pollution	0.1	0.1	0.1	0.2	0.5	0.9
Reduced noise pollution	102.9	12.6	11.2	195.4	135.1	96.8
Reduced congestion	2.4	1.9	3.8	4.6	19.9	32.7
Reduced road repairs	0.2	0.1	0.3	0.3	1.3	2.2
Increased road safety	1.7	1.3	2.7	3.3	14.1	23.2
Longer travel times	-18.4	-5.2	-8.6	-34.9	-55.7	-74.4
Increased physical activity	72.8	20.4	21.3	138.2	218.3	183.9
Total	161.7	31.2	30.8	307.1	333.5	265.3

The following graph displays total benefits from 2026 to 2050 across the three local authority contexts for comparison. Please note that the scaling-up of deployment is not reflected within this analysis¹ and future values are reduced to account for spending now instead of later.



These findings show how incentivising public transport such as buses can assist with delivering **key service outcomes**, whilst reducing demand on wider public budgets.

It's also important to note that the methodology is Green Book compliant. Estimates are therefore conservative given many wider benefits without UK Government-backed methodologies are excluded. Examples include **mental health benefits** from lower noise pollution and the opportunity for **greater social connection**.

¹ While the CCC's recommendation is for half of the UK's households to be fitted with a heat pump by 2040, for the purposes of this analysis, the table and graph show the benefits were this to be effective from the present day.

How do we encourage the shift of journeys from cars to public transport?

For local authorities, the first step in the SCIS journey is to populate the [ClimateView](#) platform with interventions from current plans and identify additional actions to accelerate climate transitions.

Interventions are the **actions** your council commits to **delivering** to reach your net zero targets. In this instance, these could include:

- **Introducing lanes exclusive for bus use within certain hours enabling commuters to beat the rush hour traffic**
- **Improving the quality of services through Bus Service Improvement Partnerships, franchising, or council-run bus services**
- **Incentivising public transport use by lowering costs and disincentivising car use through increased parking charges**

Further information

- Visit the [SCIS website](#)
- [Sign up for our latest news and resources](#)
- Explore the social benefits of climate action for your area based on the [UK Co-Benefits Atlas](#)