



## Choose bus for planet

**Choosing bus can significantly reduce climate emissions.**

**Climate change is one of the biggest threats to global human health.**

The direct health effects of climate change — such as those due to more frequent and severe heatwaves — are likely to be minor compared with the indirect health consequences. Indirect health effects arise from changes in food production and availability, water shortages and associated conflict and migration.

**Reducing emissions from transport is essential to tackle climate change**

The transport sector produces 22% of world energy-related carbon dioxide (CO<sub>2</sub>) emissions and is one of the fastest growing sources of emissions.

Transport emissions in Scotland increased by 2% in 2016 and accounted for 37% of all Scottish greenhouse gas emissions.<sup>1</sup>

**Schemes giving buses priority are important for switch from car to bus use.**

Research has found that people with higher environmental concern are more motivated to use public transport and thus derive more benefits from using it.<sup>2</sup>

Publicising the environmental impact of the car or by promoting the image of public transport may help attract more people who are environmentally concerned.

Designing infrastructure that make time spent on public transport as pleasant and as efficient as possible will also be important.

**Low carbon transport policies at city level can deliver sizeable co-benefits.**

For example, interventions to reduce car use and increase the use of public transport (and cycling) in metropolitan areas, like Barcelona, have produced health benefits for travellers and to the general city population as well as reducing CO<sub>2</sub> emissions.

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## **A large variety of interventions can reduce emissions from transport.**

These can be grouped into four broad categories which include physical policies, such as physical infrastructure elements (e.g. bus/rail infrastructure), land-use policies, public transport and infrastructure for walking and cycling; and separately 'soft policies', which are aimed at informing and bringing about behavioural change, including information and advertising campaigns, personalised travel planning, car clubs and 'teleworking'.

### **Case Study:**

A study of Bus Rapid Transit as a tool for mitigating transport-related CO<sub>2</sub> emissions along the arterial route in Dublin, Ireland, resulted in positive outcomes.<sup>3</sup> These results indicate that, while CO<sub>2</sub> abatement was not a part of the policy rationale for implementing Quality Bus Corridors (QBC), the resulting modal shift on this corridor impacted significantly on emissions of CO<sub>2</sub>.

In the absence of a QBC, CO<sub>2</sub> emissions would have been approximately 50% higher. Furthermore, if assumed that modal shifts in the region of approximately 15% and 29% can be achieved through increased service levels of the bus, further significant reductions can be made. Emissions reduction from the QBC introduction were calculated to average about 7400 tonnes per annum for the implementation period 2003-2012.

### References:

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3. Shaw, C. et al, 2014. Health co-benefits of climate change mitigation policies in the transport sector, *Nature Climate Change*, 4(6): pp. 427-433.
4. Rojas-Rueda, D. et al, 2012. Replacing car trips by increasing bike and public transport in the greater Barcelona metropolitan area: A health impact assessment study, *Environment International*, 49: pp. 100-109.
5. McDonnell, S, Ferreiri, S. Convery, F. 2008. Using Bus Rapid Transit to Mitigate Emissions of CO<sub>2</sub> from Transport, *Transport Reviews*, 28(6): 735-756.

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