

# Travel Choices Research: Key Findings

**Roundtable 1: Just Transition –  
17<sup>th</sup> September 2024**



# Introduction

We examined the following:

- What does travel by car, public transport, or active travel cost to users?
- How does that match up to the cost for society? *i.e. excess air and noise pollution, traffic congestion and public health impacts.*

The outputs of this work will provide:

- A framework for justifying transport policy and planning decisions for our partners, also inform future pricing mechanisms for various travel modes.
- Evidence to inform future TfN workstreams and advocate change to Government *i.e. fares reform, travel pricing and public transport affordability.*



# Methodology

- The study examined costs and benefits in relation to cars (ICE, EV), buses, rail, walking and cycling, across cities, rural areas and other urban areas, in the North.
- Provided us with valuations in pounds per person, per kilometre (£ pp/km) for each.
- Literature review (+100 sources) to identify evidence on the quantified costs and benefits associated with different modes of travel.
- A quality scoring of all sources undertaken to determine a final list of costs and benefits (direct and indirect) to be included within the study.
- Typically, these were costs or benefits that were significant in scale and where there was sufficient availability and quality of data.

Direct Cost	Recipients	Importance for Mode-Choice Modelling	Importance for Appraisal	Likely availability of existing data	Ease of collecting additional data	Geographic Variation in Benefit Calculation	Total	Research Priority (based on score)	Agreed Research Priority
Journey Time <sup>1</sup>	Car / PT User / Cyclists / Pedestrians	3	2	2	1	2	10	High	High
Cost of Vehicle Ownership	ICE Car / EV Car	2	2	1	1	0	6	Medium	Medium
Cost of fuel	ICE Car / EV Car	2	2	3	3	1	11	High	High
Inconvenience of Refuelling	EV Car	1	1	1	1	0	4	Low	Low
Road Tolls	ICE Car / EV Car	3	3	3	3	1	13	High	High
Parking Charges	Car / Local Residents	3	3	2	2	1	11	High	High
PT Fares	PT User	2	2	1	1	1	7	Medium	Medium
Health Cost of Inactivity	Car	0	1	1	1	2	5	Medium	Medium
Stress of driving	Car	1	1	1	1	0	4	Low	Low
PT Journey quality	PT User	2	2	0	1	0	5	Medium	Medium
JT Reliability	Car / PT User	1	1	1	1	1	5	Medium	Medium

Indirect Cost	Recipients	Importance for Mode-Choice Modelling	Importance for Appraisal	Likely availability of existing data	Ease of collecting additional data	Geographic Variation in Benefit Calculation	Total	Research Priority (based on score)	Agreed Research Priority
Time lost due to congestion	Car / Commercial Drivers	0	3	3	2	2	10	High	High
Severance - traffic	Cyclists / Pedestrians / Local Residents	0	1	1	1	0	3	Low	Medium
Severance - physical barriers	Cyclists / Pedestrians / Local Residents	0	1	1	1	0	3	Low	Medium
Air Pollution	Car / PT User / Cyclists / Pedestrians / Local Residents	0	2	1	1	2	6	Medium	Medium
Noise Pollution	Pedestrians / Local Residents	0	1	1	1	1	4	Low	Medium
Urban Heat	Cyclists / Pedestrians / Everyone	0	1	0	1	2	4	Low	Low
Local road safety	Cyclists / Pedestrians / Local Residents	0	1	0	1	0	2	Low	Low
Carbon emissions	Everyone	1	3	2	3	0	9	High	High
Negative Impacts on Place	Cyclists / Pedestrians / Local Residents	0	1	0	1	0	2	Low	Low
Reduced Property Values	Local Residents	0	1	0	1	2	4	Low	Low
Loss of Fuel Duty	Government / Society	0	2	2	2	0	6	Medium	Medium

# Costs and Benefits by Mode

	Car ICE	Electric Car	Bus	Rail	Walk	Cycle
<b>Direct Costs</b>	Cost of fuel	Cost of fuel	PT Fares	PT Fares		
	Parking charges	Parking charges				
	Road Tolls	Road Tolls				
<b>Indirect Costs</b>	CO2 emissions	CO2 emissions	CO2 emissions	CO2 emissions	Road Accidents	Road Accidents
	Well to Tank (Carbon)	Air Pollution (PM)	Air Pollution (NOX)	Well to Tank (Carbon)	Time lost due to congestion	Time lost due to congestion
	Air Pollution (NOX)	Noise Pollution	Air Pollution (PM)	Noise Pollution	Land Value Repression	Land Value Repression
	Air Pollution (PM)	Road Accidents	Noise Pollution	Road Accidents	Transport infrastructure maintenance	Transport infrastructure maintenance
	Noise Pollution	Health cost of inactivity	Road Accidents	JT Reliability		
	Road Accidents	Parking search time	Time lost due to congestion	Land Value Repression		
	Health cost of inactivity	Parking land provision	JT Reliability	Subsidy		
	Parking search time	Time lost due to congestion	Severance - traffic	Air pollution		
	Parking land provision	Accessibility	Land Value Repression			
	Time lost due to congestion	Severance - traffic	Subsidy			
	Accessibility	Land Value Repression	Well to Tank (Carbon)			
	Severance - traffic	Transport infrastructure maintenance	Transport Infrastructure Maintenance			
	Land Value Repression					
	Transport infrastructure maintenance					
<b>Direct benefits</b>			Health benefits of additional physical activity	Health benefits of additional physical activity	Absenteeism	Absenteeism
					Health benefits of additional physical activity	Health benefits of additional physical activity
<b>Indirect benefits</b>	Fuel duty					

# Summary of results

**For the same distance travelled, those travelling by car face significantly lower costs than those travelling by public transport.**

- Car use to the user is 7p – 18p per KM vs 30p – 40p per KM for a bus passenger.

**The cost that car travel has on society is much higher compared to public transport.**

- Cost to society of car travel is 26p – 56p per KM vs 7p – 19p per KM for a bus passenger.
- Cost to society of a KM of rail use is 12p, much lower than the equivalent for car use.

**Compared to their impact on society, car use is significantly under-priced and bus use is significantly overpriced.**

- Costs to society for ICE car are 35p per KM higher than costs to users.
- Costs to users for bus passenger are 23p per KM higher than costs to society.

**Walking and Cycling result in large net benefits to society.**

- Cycling net benefit of 59p per KM, walking net benefit of £1.21 per KM.

**The social impacts of car use in the North is likely to increase between now and 2050, despite an increasing share of EVs in the fleet.**

- £48m in 2023, £50m in 2030, £57m in 2050.

# Thank You

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