

# Just Transition

Transport



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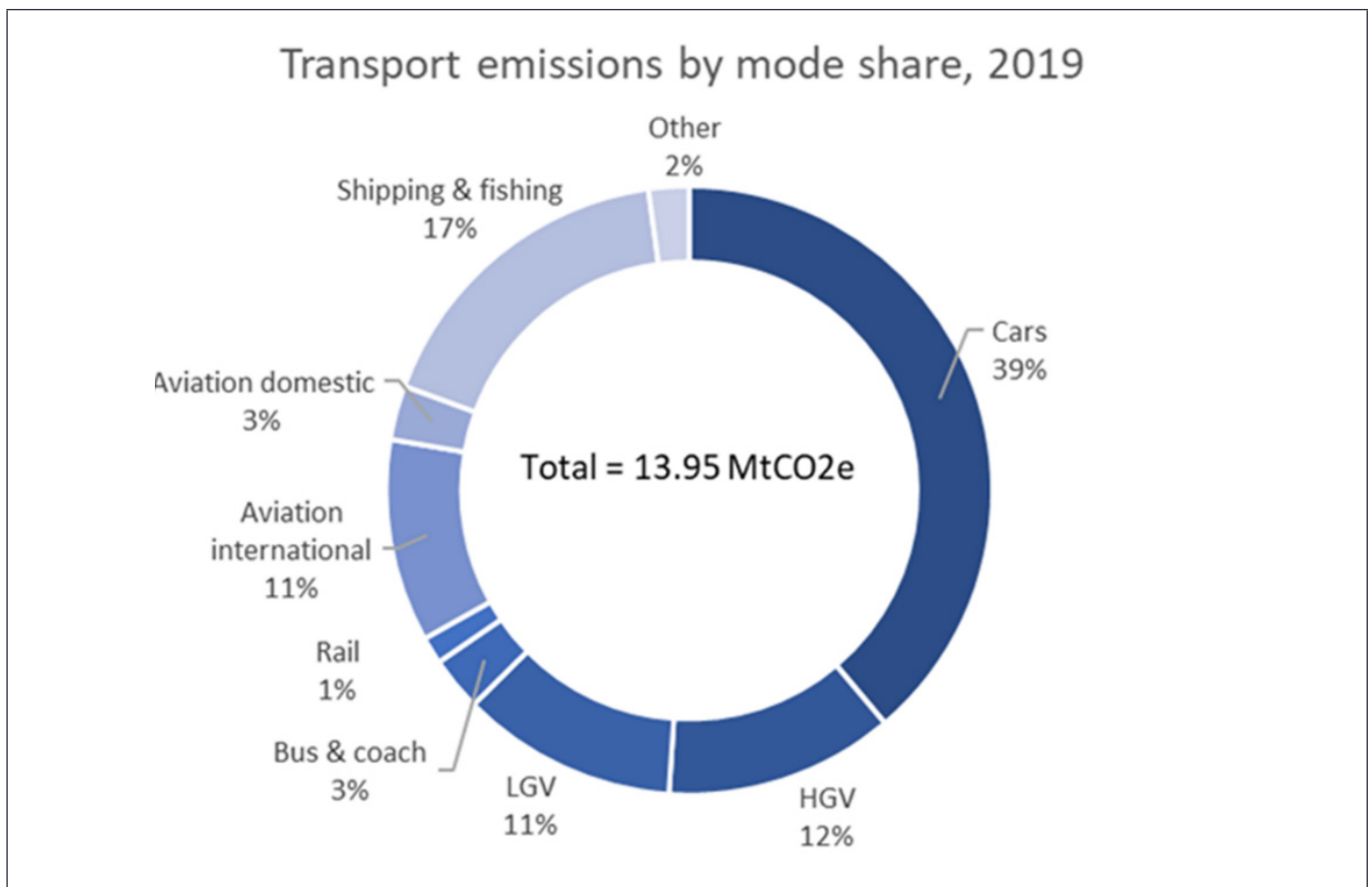
## Introduction

This discussion paper is designed to support engagement on a Just Transition Plan for the transport sector. A draft will be published in late 2023/early 2024, providing a targeted action plan and route map outlining the key steps needed to deliver a fair transition in this sector.

As a sector, transport has far-reaching implications for the lives and livelihoods of people in Scotland. It impacts how we access work, education, healthcare and other services, and how both businesses

and households access materials and finished goods. The transition to net zero will fundamentally change how we get around in our day-to-day lives. Our future transport system can be more equitable, making sure everyone's needs are met and helping to reduce existing inequalities.

Transport alone makes up the largest source of emissions in Scotland (31% in 2019), with cars producing most of the transport emissions (39% in 2019).<sup>1</sup>



**Figure 1** This graph shows the breakdown of transport emissions by mode, drawing attention to the highest proportion of emissions, resulting from cars.

<sup>1</sup> [Section B. Results – Net Sources of Scottish Greenhouse Gas Emissions – Scottish Greenhouse Gas Statistics 2020 – gov.scot \(www.gov.scot\)](https://www.gov.scot/Information/00000102/section_b_results_net_sources_of_scottish_greenhouse_gas_emissions_scottish_greenhouse_gas_statistics_2020)

A Transport Just Transition Plan (TJTP) will complement our existing commitments and the vision defined in the National Transport Strategy 2 (NTS2). The NTS2 sets out a vision of a “sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.” This vision is underpinned by four priorities: reducing inequalities, taking climate action, helping to deliver inclusive economic growth, and improving our health and wellbeing.

A TJTP will need to refer to four “key sustainable travel behaviours” (identified in the Scottish Government’s 20% reduction in car kilometres route map), aimed at reducing car use:

1. Reducing the need to travel, by making use of sustainable online options;
2. Living well locally, by choosing local destinations or reducing the distances driven;
3. Switching modes to walk, wheel, cycle or public transport where feasible; and
4. Combining trips or sharing journeys with another person if car use remains the only feasible option.<sup>2</sup>

The Climate Change Committee (CCC) estimates that more than 60% of the changes needed to achieve Scotland’s net zero target will require at least some element of individual or societal behaviour change. The TJTP will identify actions needed to make these sustainable travel behaviours accessible to people in all parts of society.

## State of the sector

The decisions we make about how to tackle climate and nature emergencies need to be fair. Climate action also offers an opportunity to reduce inequalities in our society. As the Just Transition Commission – our expert advisers on just transition – has recommended, we must identify existing sector inequalities and seek to redress these. This should be considered throughout this discussion paper.

Rural, remote and island communities have fewer public transport options and are particularly vulnerable to climate-related disruptions to networks. The cost of transport on the islands and in remote rural areas is much higher, relative to income, than in the rest of Scotland. Journey times are often long and can require multiple interchanges, including an overnight stay, adding further cost. Longer commutes to work combined with more expensive fuel typically adds £30 to £40 per week to costs when compared to rural England.<sup>3</sup> Evidence shows that a greater proportion of people in remote rural and accessible rural areas find accessing services less convenient.<sup>4</sup> We must also bear in mind rural poverty and fuel poverty. We recognise that private car travel (albeit decarbonised) will continue to be a necessary aspect of life in rural and island Scotland to ensure people are able to access the services they need.

At the same time, many of Scotland’s most disadvantaged communities are in cities, particularly in suburban areas, and often have long journeys either in length or in time to access employment opportunities. Additionally, car ownership and use reveals an income divide: The Scottish Housing Survey 2019 indicated that nearly 30% of households do not

2 Transport Scotland, Reducing car use for a healthier, fairer and greener Scotland, [A route map to achieve a 20 per cent reduction in car kilometres by 2030 \(transport.gov.scot\)](https://www.transport.gov.scot/media/47052/national-transport-strategy.pdf)

3 Transport Scotland, National Transport Strategy, <https://www.transport.gov.scot/media/47052/national-transport-strategy.pdf> national-transport-strategy.pdf p.17

4 Ibid, p.18

have access to a car or van for private use. This rises to 60% for households on the lowest income. Car access/usage is also lower among women, young and older people, disabled people and those from non-white Scottish/British ethnic groups. Many on lower incomes who own their car may also be forced into “car dependency”, because of a lack of transport alternatives.

Affordability of transport is clearly an important issue. However, it is difficult to measure its effects, as individual spending on transport (unlike spending on fuel or food) goes up as incomes rise. The Poverty and Inequality Commission noted that people on low incomes may have to restrict activities, limiting opportunities for work, education, or leisure, due to affordability challenges.<sup>5</sup> Those who feel forced into car ownership still face the fact that Fuel Duty is at present a regressive tax<sup>6</sup> relative to household income.<sup>7</sup> The most direct levers on the cost of buying or running a petrol or diesel car – fuel duty and vehicle excise duty – are reserved to the UK Government, who acknowledged in their Net Zero Review that revenues from existing motoring taxes will decline sharply this decade as we transition away from fossil fuels and the taxes based on them.

Existing impact assessments and monitoring reports, such as [the SEQIA for the NTS2 Delivery Plan](#), [Health Inequalities Impact Assessment for the NTS2 Delivery Plan](#) and the [2019 baseline report for the NTS2](#), give an assessment of existing inequalities within the use of the transport system. The above draws on these documents, but only provides a brief overview of some of the issues affecting transport users.

## A fair distribution of the costs and benefits

Distributing the costs and benefits of the transition fairly is a key aspect of a just transition from an individual and business perspective. The individual costs of using transport are not shared evenly throughout society. Lack of access to transport can restrict activities, contributing towards deepening inequalities. A just transition offers the opportunity to lessen these inequalities, in turn ensuring the costs of the transport transition are distributed fairly. This will be considered in fuller detail in the draft Just Transition Plan to understand how this applies to the transport sector and builds on existing policy work.

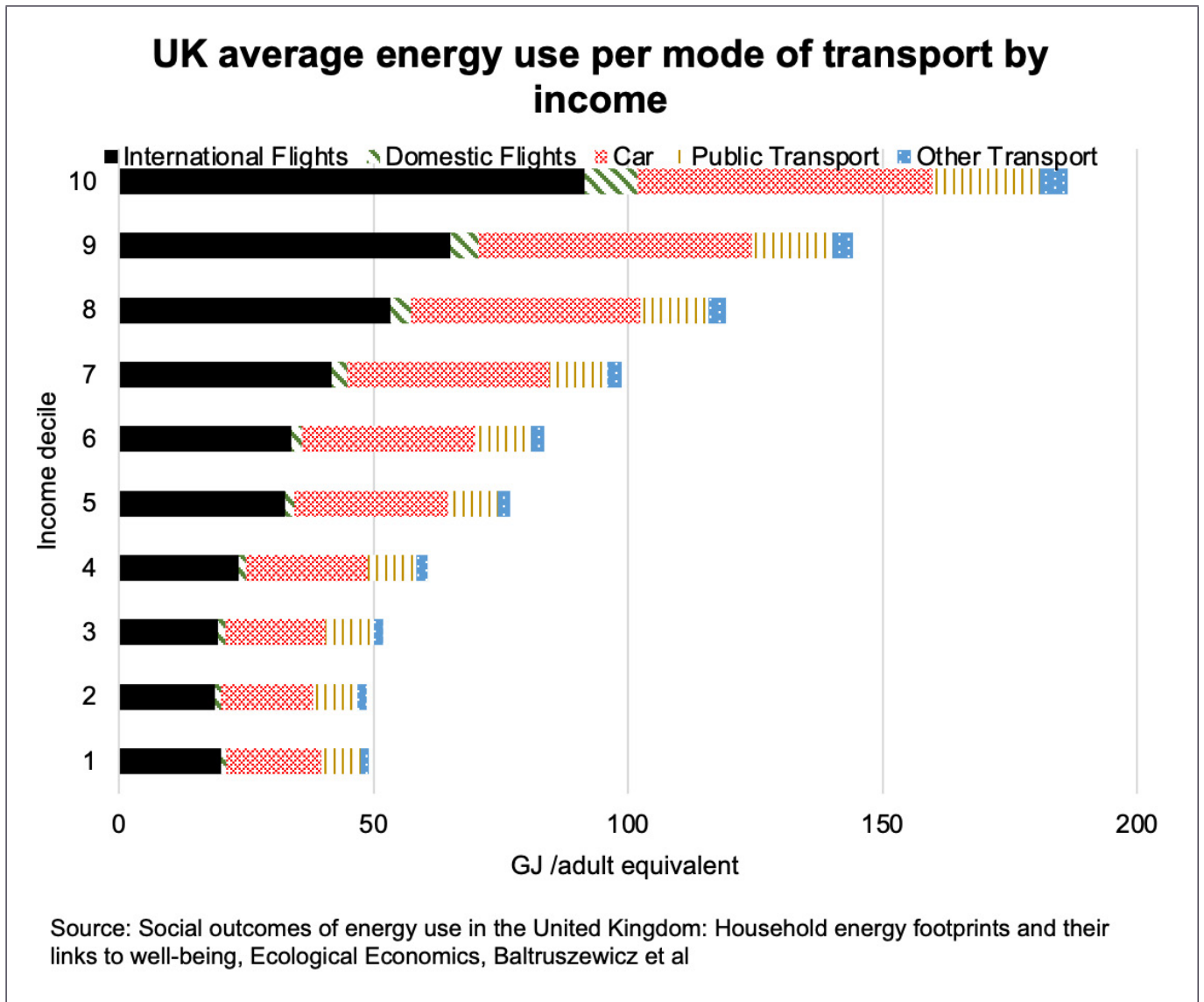
Recent research in Ecological Economics into household energy footprints and their links to wellbeing has found significant inequalities in the distribution of energy use, with top energy users with high wellbeing driving excess energy use.<sup>8</sup> Using UK-wide data from 2019, the research highlights the unequal distribution of transport energy footprints. The energy used for international flights by the average adult in the top 10% of earners was more than that used across all transport modes by those in the lowest 10% of earners. Whilst this data may be impacted by Heathrow’s status as an international transport hub, it still tells us that the more income individuals have, the more energy they use on transport.

5 [Transport and Poverty in Scotland - Report of the Poverty and Inequality Commission - Poverty & Inequality Commission \(povertyinequality.scot\)](#)

6 A regressive tax is a tax that is applied uniformly regardless of income

7 Resolution Foundation, Where the Rubber Hits the Road, [Where the rubber hits the road - The Inquiry \(resolutionfoundation.org\)](#)

8 [Social outcomes of energy use in the United Kingdom: Household energy footprints and their links to well-being - ScienceDirect](#)



**Figure 2** This chart shows energy use for transport by income decile, highlighting that the energy use on international flights alone for the highest earners exceeds energy use across transport for lowest earners.

The Just Transition Commission suggested that the Scottish Government develop a set of principles that recognise that segments of the population with high transport carbon footprints would be expected to contribute a greater reduction in transport emissions as part of the transition to net zero. This would be subject to the ability to do so based on just transition considerations, i.e. delivering greater fairness and tackling inequality.

**Discussion points**

- What kind of behaviour change principles can Scottish Government develop to encourage a reduction in demand for transport with high carbon footprints, such as frequent flying or regularly driving long distances in petrol or diesel vehicles?
- What types of material can support such principles, e.g. better information about the impact of car use and flights, and about alternatives available?

## Just Transition Plan Process – What are we doing and why?

Co-design is at the heart of just transition policy making.<sup>9</sup> Throughout the summer of 2023, we want to hear from particular groups who are most likely to be affected by changes to our transport system, including those who work in the transport industry. By seeking these lived experiences, we can begin to build a picture of what a just transition for transport looks like and what actions will be required to make this happen.

This paper is intended to be a springboard for such conversations. We want to encourage discussion, challenge and the development of effective solutions. We know that there are still gaps in our evidence, our approach and priorities. Our hope is that our engagement will reveal or confirm these, so that they can be built upon.

As part of the engagement process, we will also regularly take stock of those we have not yet heard from, and shape our engagement accordingly to explore what the transition means for as many different groups from as many different areas as possible.

As we develop a draft plan for public consultation in late 2023/early 2024, we will use our engagement to test approaches, develop and refine content, develop actions and more fully understand potential effects. The draft plan will aim to sequence actions, and identify who is responsible for them (for example, national and local governments, businesses, workers, communities and individuals).

This discussion paper is not only intended for use by the Scottish Government – we ask that interested partners use it to facilitate their own conversations, and input to the Just Transition team via the following mailbox: [TJTP@gov.scot](mailto:TJTP@gov.scot)

<sup>9</sup> The Climate Change Act (Scotland) 2009 sets out Just Transition Principles. These principles recognise the importance of taking action to reduce net Scottish emissions of greenhouse gases - in a way which “develops and maintains social consensus through engagement with workers, trade unions, communities, non-governmental organisations, representatives of the interests of business and industry and such other persons as Scottish Ministers consider appropriate.”

## Summary of existing commitments and scope

This paper builds on existing commitments, particularly:

- [National Transport Strategy 2 | Transport Scotland](#) and [National Transport Strategy \(NTS2\) - Second Delivery Plan - 2022-2023 | Transport Scotland](#)
- [Climate Change Plan update \(2020\)](#)
- [A route map to achieve a 20 per cent reduction in car kilometres by 2030 \(transport.gov.scot\)](#)

- [Strategic Transport Projects Review 2 | Transport Scotland](#)

A briefing document summarising existing commitments and providing further context can be found in the policy context document in [Annex A](#). The additional value of the Transport Just Transition Plan will be to identify the interventions necessary to empower all parts of society to play their part in the net zero transition.

### Textbox 1 - Summary of existing transport commitments

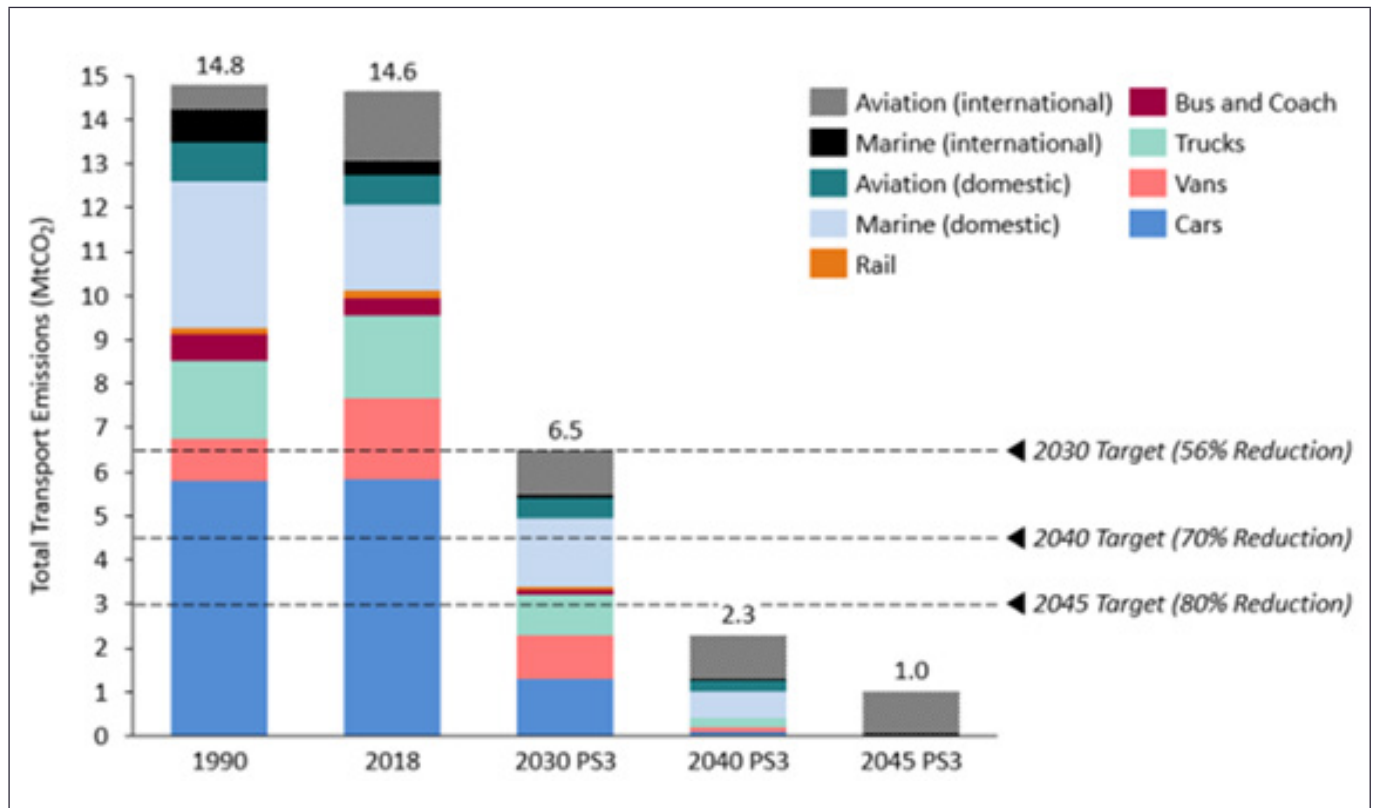
- We have committed to reduce car kilometres by 20% by 2030, and have published a draft route map to set out how we will meet that commitment.
- Scotland already has the most generous concessionary scheme in the UK, investing £300 million annually to provide free bus travel for over 2.6 million people, including everyone under 22 and over 60.
- As at June 2023 up to £26.47 million of bus priority funding has been awarded to 11 Partnerships covering 28 local authorities across Scotland through the Bus Partnership Fund. Investing in bus priority is key to tackling the impacts of congestion, making journey times shorter and services more reliable for passengers, encouraging people to leave their cars at home.
- Scotland has the most comprehensive Electric Vehicles public charging network in the UK outside of London, with over 3,850 public charge points. Over 2,400 of these were funded through a £65 million investment in Charge Place Scotland.
- We have pledged at least £320 million a year or 10% of the total transport budget by 2024 to 2025 towards active travel infrastructure, access to bicycles and to support behaviour change for active travel.
- We have committed to publishing Transport Scotland's Approach to Climate Change Adaptation and Resilience, seeking to address the current and future climate risks affecting Scotland's transport system.



The Just Transition Commission recommended that the Just Transition Plans should focus on actions that are likely to have the biggest, transformational impacts.

The Scottish Government commissioned the Decarbonising the Transport Sector<sup>10</sup> report which showed that achieving the

required emissions reductions is possible, but challenging. It set out the emissions reduction pathway for each mode, and found only one modelled scenario, referred to as scenario “PS3” in the report (Figure 3), provides a pathway for reaching the transport envelope.



**Figure 3** This graph from Element Energy’s modelling demonstrates the need for emissions from car use to reduce substantially

Given the above, this paper focuses on the mode of transport with the largest share of carbon emissions, cars. Transitioning to lower or zero emission vehicles (ZEVs) is not likely to be sufficient on its own to reach the scale of emissions reduction required. Therefore, this paper gives particular attention to creating an enabling environment for individuals, communities and the private, public and third sectors to reduce car use and increase use of public transport and active travel.

10 [Decarbonising the Scottish transport sector | Transport Scotland](#)

Car use itself is also representative of existing inequalities in society: people in higher socio-economic groups tend to drive cars the most, whereas those in the lowest socio-economic groups drive the least or do not own cars. At the same time, people in the lowest socio-economic groups are most likely to be affected by the negative environmental, social and health impacts of driving. Rural Scotland and island communities are also particularly reliant on using cars owing to the remoteness of certain areas and the distances they need to travel to access amenities as a result.

We are looking at transport across the country, recognising the need for different approaches in different areas. It is clear that not all travel needs and opportunities are the same. Those who live in urban environments will generally have more alternatives to car travel than those living in rural or island areas who will have to travel further to reach services and will have fewer public transport options. This can make private vehicle ownership, or undertaking journeys as a passenger in a vehicle, a necessity in many cases. Whilst people in all parts of Scotland may need to consider a degree of change in their travel patterns, the TJTP will identify which areas can go further, sooner, and where additional support or alternative approaches will be needed.

The travel behaviour aspect is also important in relation to the weather-related impacts of climate change. These already affect Scotland's transport system and the action we are taking to make our system more resilient. For example, during adverse weather it may prove easier for those in urban or semi-urban areas to switch between sustainable transport modes, whereas in rural or island areas private car use may be the only option.

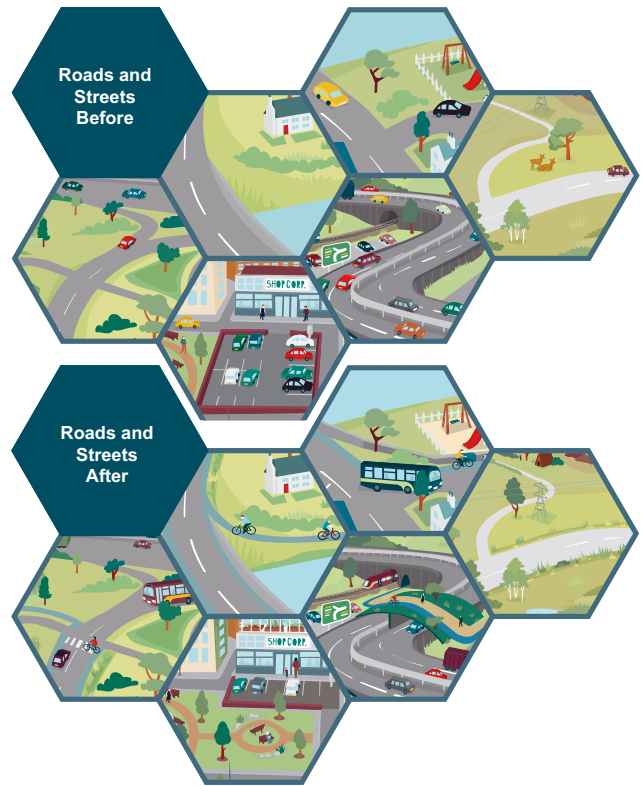
# Where we are now and where we need to get to

## Vision

Some key features of the transport system **today**:

- The majority of cars sold and driven are petrol and diesel vehicles, with hybrid and electric vehicles representing a smaller, but growing, portion of the market. Most journeys are made in cars or vans.
- Public transport receives over £2 billion of Scottish Government funding and is slowly recovering from the pandemic. This includes over £800 million this year to support ScotRail and Sleeper services which carry 63.7 million passenger journeys last year and 98.8 pre-pandemic, and over £300 million spent each year to provide free nationwide bus travel for up to 2.6 million eligible people in Scotland. To date the Scottish Government has awarded almost £113 million to support operators to acquire 548 new zero emission buses and supporting infrastructure. Almost £190 million has been allocated to active travel.
- Enforcement of Low Emission Zones began on 1 June 2023 in Glasgow and will commence on 30 May 2024 in Dundee, and 1 June 2024 in Aberdeen and Edinburgh. Scotland has over 3,850 public charge points in addition to the 20,000 domestic and business charge points already funded by the Scottish Government.
- There are at least 145,000 people across the transport supply chain that potentially require new skills in order for Scotland to meet its decarbonisation targets.

Some of the key features of the transport system we might expect to see in **2040**:

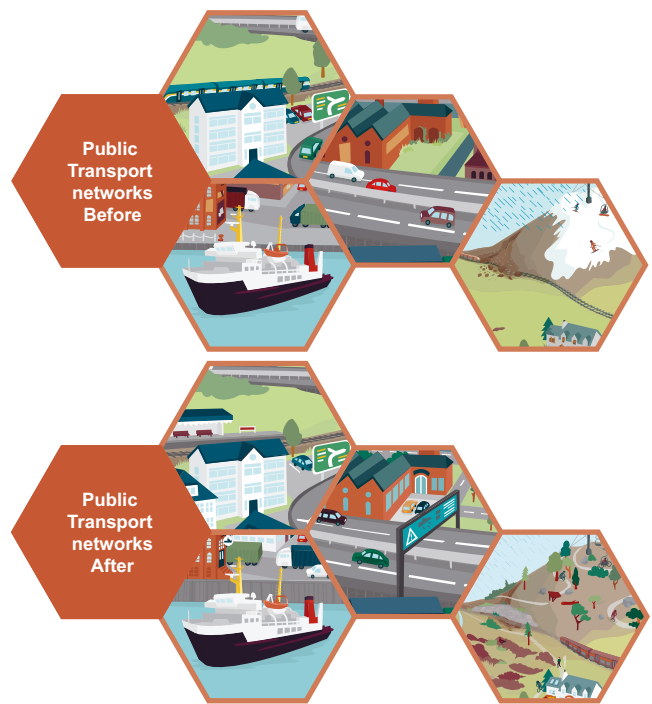


- **Roads, Streets and Pavement:** We have reduced car kilometres by 20% by 2030, ensuring the appropriate digital tools and access to local businesses support local living. We have built a transport system in which alternatives to private cars are readily available. No new petrol or diesel cars or vans will have been sold since 2030. The freight industry will have removed the need for new petrol and diesel heavy vehicles by 2035. Scheduled flights within Scotland will have been decarbonised this year, with rail services decarbonised five years earlier. New safe cycle/active travel routes have also been provided into and through the countryside. New active travel infrastructure also reconnects previously cut-off urban and greenspace spaces, addressing community severance, increasing nature networks and improving

biodiversity. Most roads, streets and pavements are also now resilient to the impacts of climate change such as storm surges and heavy rainfall, with nature-based solutions such as swales implemented roadside<sup>11</sup>.



- **Local Spaces:** People will be able to use buses, trains and car shares, and walk, wheel and cycle to meet their everyday travel needs. Due to reduced demand, spaces that cars used to dominate have been repurposed and redesigned to create more access to green spaces for the public. There are now increased nature-based solutions such as trees lining our streets and new urban greenspaces replacing pavements and car parks.



- **Public Transport Networks:** Our transport system is now increasingly inter-connected. Different modes of public transport such as bus and rail are linked with well-maintained walking, wheeling and cycling routes, providing increased travel options, making us less reliant on a single form of transport and reducing need to use the car to get to a mobility hub or train station. Considerable progress has been made in ensuring all public transport is safer, accessible, climate resilient and works for all types of journeys. Increased resilience in our harbours/ports ensures that our critical ferry infrastructure continues to connect island communities to each other and the mainland.

### Illustrative journeys - what does this mean for different people in Scotland?

Our draft Plan needs to reflect what a just transition means for people in different circumstances and from different perspectives. For example,

<sup>11</sup> Swales are linear grass covered depressions which lead surface water overland from the drained surface to a storage or discharge system, typically using road verges.

what does it mean for people living and travelling through city centres and from suburban areas to places of work? What does it mean in remote/rural parts of Scotland and our island communities? How does public transport and active travel availability affect different groups of people?

During the engagement period we would like to hear from transport users, businesses and transport professionals, to develop more detailed /specific case studies showing what a just transition will mean in practice from many different perspectives.

### Discussion points

- What are the key things you need to see from the transition?
- What key parts of your experience in urban/rural/island Scotland should we bear in mind as decisions are taken about the direction and pace of the transition?
- What are the particular issues faced by those living with a disability that need to be addressed as part of the transition?
- What are the key issues faced by other groups (outlined in [Annex B](#)) that need to be addressed as part of the transition?

### Early engagement to inform this paper

A number of workshops were held in March 2023, involving representatives from a range of stakeholder organisations. These sought to help shape the vision and aims for our Just Transition Plans.

These workshops identified a number of cross-cutting themes relevant to all sectors, including:

- identifying the job opportunities and community benefits that can arise from the transition
- ensuring plans are rooted in quality data to enable a holistic approach
- embedding evidence of protected groups in order to tackle existing inequalities

Other key transport-specific issues included the need for safer and more accessible public transport, better integration of public transport modes, cheaper public transport, and improved reliability of public transport and provision of routes to rural areas.

With reference to the [National Just Transition Outcomes](#), participants' suggestions included envisioning a country where:

- all people can access an affordable and integrated public transport system to connect different communities and remove barriers to education, training, work and leisure opportunities
- people can access key services and amenities through active travel, and walking and cycling are supported by business and local government
- every mode of transport has level accessibility
- the design of streets and cities considers the experiences of women who are more likely than men to have low incomes, be in insecure work and live in poverty, as well as being more likely than men to walk, be a passenger in a car or take a bus, and make multi-stop and multi-purpose trips<sup>12</sup>
- the transport sector is resilient and adaptable, considering rising sea levels, land-slides and flooding

12 [Laura Walker Report NTS2 Delivery Plan – Social and Equality Impact Assessment \(SEQIA\) 2022-04-08 \(transport.gov.scot\)](#)

## Draft Just Transition Outcomes for the transport sector

The [National Just Transition Planning Framework](#) sets out eight National Just Transition Outcomes. These have been distilled into the following four areas reflecting the main goals for just transition across all sectors.

**Jobs, Skills and Economic Opportunities –** Scotland has a thriving net zero economy, enabling businesses to set up and grow sustainably. People are equipped with the skills and opportunities to access good, green jobs in a net zero economy. This economy delivers a liveable world for people and planet, ensuring a thriving, biodiverse environment and fair work and full lives for people. (National Just Transition Outcomes 2 & 4)

**Communities and Places** should be accessible for people to grow, investing in their environment and economy. Communities should be empowered to reach net zero in a way that meets their needs, and builds on their unique local strengths, in an equitable fashion as part of a just transition. (National Just Transition Outcomes 1 & 7)

**People and Equity** – People are able to enjoy basic rights, freedoms and quality of life, and have access to necessities such as heat, food, housing, employment, childcare and wider wellbeing. They are healthier, happier and treated with respect and have access to full, varied opportunities that add value to their lives. Opportunities, wealth and power are spread more equally. Costs primarily fall to those who can bear them. (National Just Transition Outcomes 3 & 8)

**Environment, Biodiversity and Adaptation** – Our environment must meet the needs of those living in and depending on it – this includes both our natural and built environments. Our spaces must be resilient to the impacts of climate change and restore

our biodiversity. Spaces must provide those living in or dependent on them with everything they need to live full and healthy lives as they support the transition. (National Just Transition Outcomes 5 & 6)

The People and Equity theme reflects the Scottish Government's climate justice focus. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 defines climate justice as “the importance of taking action to reduce global emissions of greenhouse gases and to adapt to the effects of climate change in ways which –

- a) support the people who are most affected by climate change but who have done the least to cause it and are the least equipped to adapt to its effects, and
- b) help to address inequality.”

A proposed set of **draft** outcomes that articulate the National Just Transition Planning Framework specifically for transport are outlined below. These draft outcomes were subject to discussion with stakeholders throughout the first phase of the engagement process.

### Discussion points

- Do these specific outcomes look proportionate and relevant for the change required?
- Do additional factors need to be included?
- Where can we draw more explicit links between related work and ambitions, such as on biodiversity, climate justice or adaptation?
- What opportunities and/or barriers exist within the sector to support or prevent delivery against these outcomes?

## Draft Outcomes for the transport sector

### Jobs, Skills and Economic Opportunities

**1:** The net zero transition supports new and existing fair and well-paid jobs across Scotland, within transport services, supply chains and in the wider economy, enabled through decarbonised and better transport provision

**2:** The transport sector supports a diverse workforce and advances equality of opportunities for all, regardless of protected characteristics, and delivers on the five dimensions of fair work

**3:** Transport (and digital) connectivity underpins a strong, dynamic, resilient and productive economy which creates wealth and high-quality employment across Scotland and has reduced regional inequalities

**4:** Scotland is at the forefront of markets for zero emission mobility and becomes a global destination for innovation and investment in sustainable, zero emission mobility

### Communities and Places

**1:** Communities (particularly in rural and remote and suburban areas) are well connected with each other, having better digital connectivity and shared transport that meets their local needs

**2:** The transport system supports changes to the planning system in opening up public and private spaces, providing increased access to safe, green spaces – in line with the principles of 20 Minute Neighbourhoods, communities live within

close proximity to the local services and amenities they need, thus reducing demand for transport.

**3:** Island communities are well connected to the mainland, with affordable and low-carbon transport options

**4:** Communities are meaningfully engaged with and their views have been considered at every stage of the decision-making process regarding transport (connectivity) needs

### People and Equity

**1:** Better and safer transport options (with reliable infrastructure) are accessible and affordable to all, especially those with additional accessibility needs and vulnerable or isolated people

**2:** Transport poverty, where individuals cannot satisfy their daily basic activity needs because of transport affordability, mobility poverty or accessibility poverty, or exposure to externalities/health harms, is eliminated in Scotland

**3:** The transition to decarbonised transport, including the transition away from fossil-fuelled vehicles, does not disproportionately burden those less able to pay

**4:** Access and support for active travel options leads to healthier outcomes and reduces inequality

## Environment, Biodiversity and Adaptation

**1:** Future and pre-existing transport infrastructure has been remediated where applicable to maintain and increase biodiversity levels and improve habitats

**2:** All of us, but particularly the oldest, youngest and those with pre-existing medical conditions are protected from the harmful impacts of poor air quality because of transport

**3:** Scotland's transport system is well-adapted and prepared for the current and future impacts of climate change. It is safe for all users, reliable for everyday journeys and resilient to all but the most extreme weather-related disruption

**4:** Scotland's supply chain has minimised and mitigated embedded carbon and the wider environmental impacts associated with vehicle production and use. Circular economy principles underpin the manufacture, use, re-use and disposal of decarbonised transport and associated infrastructure





## THEMES FOR DISCUSSION

This section outlines a number of priority areas for transformational progress: themes 1 and 2 focus on **demand management**, whilst themes 3 and 4 cover **maximising economic opportunities**.

1. Reducing inequalities through reducing car use
2. Facilitating viable alternatives to car use
3. Capturing the opportunities from investment, trade and innovation in the transport transition
4. The skills and jobs in the transport transition

## Demand management

Demand management<sup>13</sup> covers disincentives and incentives (“sticks” and “carrots”) that can result in reduced car use.

We have committed to reducing car kilometres by 20% by 2030, in line with the Climate Change Committee’s advice.<sup>14</sup> Scottish Government recognises the inequity of a status quo that prioritises car use at the expense of other modes. It also recognises that widening access to private motor vehicles will only increase the negative impacts associated with cars, many of which also apply to electric vehicles, and which fall disproportionately on the most vulnerable in society.<sup>15</sup> The 20% reduction in car kilometres route map makes it clear that we must instead focus on enabling sustainable travel behaviours and on widening access to alternatives, including for those who feel forced into car ownership due to the lack of alternative travel options.

The route map commits to exploring demand management options to discourage unnecessary car use, and the Scottish Government commissioned research in 2022 to provide options that meet our objectives in a fair and equitable way. Using the research findings, we will work with local and regional partners to develop a Demand Management Framework by 2025.

### Theme 1: Reducing inequalities through reducing car use

#### Car use reduction and disincentives

There are many challenges associated with reducing car use. How can we discourage car use whilst not unduly penalising those least able to pay or who have no realistic alternative to car use and ownership? What considerations are needed for larger, more polluting road vehicles?

Car use reduction is necessary to meet our statutory emissions targets. It can also bring wider benefits such as contributing to reductions in:

- the negative impacts on health and wellbeing through poor air quality (1,700 premature deaths in Scotland each year)
- road danger (140 were killed and 1,615 seriously injured in road collisions in Scotland in 2021)
- physical inactivity (contributes to 2,500 deaths in Scotland each year)
- noise pollution and community severance

Importantly, negative aspects of car use fall disproportionately on those who are already more vulnerable and disadvantaged. Reducing the volume of private vehicles on the road can also help create capacity and improve journey times for those where travel is more car-dependent, such as blue badge holders and certain tradespeople, as well as for other vehicles such as buses, the emergency services and freight.

<sup>13</sup> Demand management refers to strategies to reduce demand for a certain mode of transport, or redistribute this demand towards other modes.

<sup>14</sup> [Sixth Carbon Budget – Climate Change Committee \(theccc.org.uk\)](#) Surface Transport sector summary.

<sup>15</sup> Scottish Household Survey, 2019, reported in Scottish Transport Statistics no.39, 2020. [Scottish Transport Statistics No. 39, 2020 Edition | Transport Scotland](#)<sup>18</sup> Transport Scotland. [Disability and Transport, findings from the SHS, 2021](#). <sup>19</sup> Douglas et al. Health and Transport: [A Guide, Scottish Health and Inequality Impact Assessment Network, 2018](#)

Scottish transport legislation contains a suite of options for local authorities, including road user charging, workplace parking licensing, and pavement parking prohibitions. The Scottish Government will work with all local authorities to support equitable measures which discourage car use, while raising revenue for greater investment in public transport and active travel for a fairer and greener transport system. At a national level we are taking an evidence-based approach to what might work to achieve change, including learning from what others are doing in the UK and internationally. This is why we commissioned AECOM to undertake an analysis of demand management options to achieve a 20% reduction in car kilometres in Scotland. The research is now complete and will be published in addition to the the updated route map in the coming months. It will help inform the development of our own policy measures, and also possible reforms of reserved motoring taxes – including the case for devolution of powers over these taxes and duties.

The Scottish Government will continue to press the UK Government on the need for reform of existing taxes related to motoring. This is essential in order to create a tax system that better incentivises the transition to ZEVs, and protects future revenues to fund interventions that support a shift to healthier, fairer and more sustainable travel.

Any approach must consider situations where people have no alternative but to use cars. For example, appropriate public transport options may simply not exist, or they might be prohibitively expensive. The commute time between an

individual's home and their place of work may be significantly longer than driving due to poor public transport connectivity, or they may not have the opportunity within their sector to work from home. Poor availability, reliability, accessibility or speed of public transport, or lack of digital alternatives can lock people into car dependency. Walking, cycling or wheeling may not be viable options, either due to personal circumstances or an absence of suitable infrastructure.

In 2021, the UK's National Audit Office reported that rising sales of SUVs and an increase in road traffic had cancelled out reductions in CO2 emissions from electric car sales. Evidence suggests that action is required now in order to address personal vehicles with high emissions, as given the average lifespan of 15 years, these emissions may be "locked in" until the 2030s. There is also evidence that heavier electric vehicle models could be producing more particle pollution from tyre wear.

### Discussion points

- What are the different considerations we need to explore to ensure that reducing car use also reduces inequalities?
- With people on lower incomes less likely to own cars, we need to carefully examine the circumstances in which households own multiple cars. How can we make an approach to reducing car use for multi-car households fair? What type of evidence is needed to support this approach?<sup>1</sup>
- What further considerations around the weight of vehicles needs to be undertaken in reducing car use?

## Vans and freight

Distribution networks, freight and last mile delivery are all vital for business. Existing commitments in the Climate Change Plan update identify the need to work with the industry to understand the most efficient methods to decarbonise and remove the need for new petrol and diesel heavy vehicles by 2035. Whilst work to support this is underway, any approach to freight decarbonisation needs to fully consider where the costs will fall, and in particular, the impact on small businesses including the around 5,000 Small to Medium Enterprises (SME) road haulage operators.

Recent research for Transport Scotland on measures targeting last mile delivery found that it will be difficult to implement any new policies that specifically focus on last mile delivery. This is due to a lack of visibility of the organisations involved and data on the goods being moved.<sup>16</sup> Any consideration of distribution raises important broader questions associated with consumer consumption patterns, in particular in relation to last mile delivery and e-commerce. Based on ClimatexChange's analysis, Royal Mail represents the largest last mile fleet in Scotland, with the rest of the top 10 comprised of last mile couriers, supermarkets and one pharmaceutical company.<sup>17</sup>

E-commerce brings many benefits (particularly for those unable to travel to shops). Whilst this does help to reduce the need to travel, there is a need to explore what sustainable online options entail. There is an evidence gap that needs to be explored, particularly in striking a balance between using fewer resources and using online options to reduce the need to travel.

### Discussion points

- How should the costs of freight decarbonisation be share:, e.g. split between the haulage operator, the business needing the goods to be moved, or the consumer buying the goods?
- What types of online delivery options can be considered sustainable, for example, accepting longer and slower forms of delivery?
- What impact would road pricing have on consumers? How could this be made equitable?
- Are there specific types of e-commerce that could be subject to road pricing? What type of data would be required to make this possible?
- What type of approaches could apply to freight?

### Relevant Just Transition Outcomes:

- People and Equity
- Jobs, Skills and Economic Opportunities

<sup>16</sup> [Last mile delivery in Scotland \(climatexchange.org.uk\)](https://climatexchange.org.uk)

<sup>17</sup> [Last mile delivery in Scotland \(climatexchange.org.uk\)](https://climatexchange.org.uk)

## Theme 2: Facilitating viable alternatives to car use (including public transport, place-based and digital solutions)

Discouraging car use cannot be taken forward in isolation: sufficient alternatives must be in place for people and businesses. Ensuring these alternatives are accessible is a key just transition issue.

A fundamental barrier to the uptake in public transport is availability. A number of bus routes are facing cuts, consequently impacting the ability to use public transport instead of private cars. A range of factors have impacted service levels since the pandemic in 2019 – including a shortage of bus drivers, rising operational costs and changing travel patterns with more people working from home and shopping online. This has impacted the reliability and commercial viability of bus services.

The majority of services in Scotland operate in an open, deregulated market. The provision of local bus services is a matter for individual bus operators who use their own commercial judgement on service routes, frequencies and vehicle types. Under the Transport Act 1985, local authorities have a duty to identify where there is a social need for particular bus services and can subsidise these at their discretion. This allows local transport authorities to influence the frequency and routing of services, however this is entirely a matter for local authorities to consider and action.

The Scottish Government is bringing forward a range of options for local authorities to consider in the Transport (Scotland) Act 2019, including running their own bus services, formal partnerships, and franchising. These provisions will empower local authorities with the flexible tools they need to respond to their own transport challenges.

In addition, authorities are also able to request more information from bus operators via a new information-sharing process for services, where the operator intends to vary or cancel existing service registrations. The information gathered from operators enables authorities to determine what additional services they wish to subsidise.

Public transport availability also means considering the suitability of public transport for journeys that involve a number of stages. As the NTS2 identifies, women tend to “trip-chain” more often, making multi-purpose trips and combining travel to work with trips for other purposes, such as taking children to school, looking after family or carrying out shopping.

Improving the availability of public transport may not guarantee sufficient changes in behaviour. There are other barriers that can discourage or prevent use of public transport, such as cost, accessibility and convenience.

Generally, people in more densely populated areas will have a better range of alternatives to car-based transport. For example, the Glasgow rail network is one of the best urban rail network outside London with reasonable fares, while the Glasgow Subway serves lower income communities. In rural and remote areas there are fewer alternatives and communities face greater challenges around reliability of options, in particular in the event of extreme weather events and climate change impacts.

A frequent, reliable, affordable and convenient public transport system with comprehensive coverage has the potential to alleviate transport poverty by improving the viability of non-car transport options. This would in turn improve accessibility to employment, services and activities for lower-income households.

This section considers the measures that could persuade more individuals to change the way they travel (or reduce travel) and increase their uptake of public transport (with separate consideration of some of the different requirements for rural environments). People on lower incomes in Scotland are much more likely to use buses than trains, compared to those on higher incomes, and consequently this section primarily explores public transport in terms of bus transport. Bus remained by far the most commonly used form of public transport in 2021-2022, representing 79% of public transport journeys.<sup>18</sup> It also considers safety on public transport primarily from the perspective of women and girls (for reasons detailed in the following section), although notes the principle of intersectionality in which interventions addressing inclusion for one group often benefit people with other protected characteristics.<sup>19</sup>

This section will also explore other alternatives to private car ownership, notably in the form of car sharing models that can supplement public transport availability and support a reduction in the number of single-occupancy vehicles. Whilst mode shift represents a key opportunity to reduce car use, reducing trips and combining journeys within vehicles is one of the sustainable travel behaviours.

### **Barriers to urban public transport uptake**

The 20% reduction in car kilometres route map identifies a number of interventions to support switching modes, in particular through the findings of the ongoing Fair

Fares Review in light of the imbalance of public transport costs compared to car use. One specific area that constitutes a barrier to public transport is safety, as the recent report on *Women's and girls' views and experiences of personal safety when using public transport* demonstrates.<sup>20</sup> Whilst this section predominantly focuses on public transport, some of the principles around safety equally apply to active travel infrastructure, for instance, the need to ensure active travel routes are safe and well lit.

The report on women's and girls' personal safety on public transport notably identifies concerns around travelling at night and the reliability of services, underpinned by generalised anticipatory anxiety about potential harassment, assault or anti-social behaviour. This section builds on the recommendations within the report, particularly around developing credible and accessible information and guidance on what to do when feeling threatened and better access to the technology on services.

The public agency responsible for Toronto, Canada's transport system, the Toronto Transit Commission, has introduced a number of measures to increase safety on its bus routes. This includes a Request Stop programme which allows all passengers travelling alone between 9pm and 5am to ask the bus driver to stop at points between bus stops.<sup>21</sup> The programme was initially only targeted at women, but has since been extended to any passengers following requests from LGBTQ+ rights groups.

18 [Scottish Transport Statistics 2022](#)

19 Scottish Government's evidence synthesis of intersectionality defines it as including 'a recognition that people are shaped by simultaneous membership of multiple interconnected social categories, the interaction between multiple social categories occurs within a context of connected systems and structures of power, with a recognition of inequality of power being key to intersectionality, and structural inequalities, reflected as relative disadvantage and privilege, are the outcome of interconnected social categories, power relations and contexts'. [Using intersectionality to understand structural inequality in Scotland: evidence synthesis - gov.scot \(www.gov.scot\)](#)

20 [Women's and girls' views and experiences of personal safety when using public transport | Transport Scotland](#)

21 [TTC Safety Guide](#)

Ensuring information on public transport options is readily available is another key pillar to support enhanced accessibility of public transport, particularly alongside integrated ticketing systems. Transport Scotland's recent survey on smart and integrated ticketing sought views on the future of smart and integrated ticketing.<sup>22</sup> However, a reliance on personal technology would also risk excluding some older transport users, as well as those without smartphone access.

Concerns have been raised, including in our phase 1 engagement, around the inconvenience and expense incurred by a non-integrated transport system, with inconvenience constituting a major barrier to modal shift towards public transport. However, it is worth noting that buses in Scotland operate in a deregulated market, meaning it is subject to competition law and at the discretion of service providers. The [2018 Smart Delivery Strategy](#) is being refreshed and will shape its focus based on the outputs of the survey.

### Discussion points

- How could any potential revenues raised from road pricing explicitly support the provision of public transport services?
- Is there a need to redesign public transport routes to better suit people's travel patterns?
- What are the factors that discourage people from using public transport more frequently?
- What are other barriers to public transport use, particularly for workers in the night-time economy?
- Using Toronto's Request Stop programme as an example, what measures could help to make people feel safer when travelling by bus?
- How can public transport become a more attractive option for those living on the outskirts of urban areas?
- For inclusivity purposes, how can the benefits of smart and integrated ticketing be shared among those who are less reliant on smartphones?

22 [About smart | Smart and integrated ticketing survey 2023 | Transport Scotland](#) This survey ran until 14 May 2023



## Role of car sharing and active travel

A shift towards shared cars in urban areas could support lower car ownership, more road space for public and active travel modes, better utilisation of zero emission cars and higher occupancy rates.<sup>23</sup> The proportion of single occupancy car trips in Scotland has increased over time from 62% in 2007, to 64% in 2012, and up to 66% in 2018. In particular, where public transport services are infrequent or unsuitable for journeys – for instance those requiring multiple connections – it may be that shared transport or active travel provide more suitable travel opportunities.

Reversing the trend of single occupancy car trips through ride sharing, either formally through apps or workplace schemes, or informally between neighbours, could have a significant impact, with minimal additional infrastructure/cost requirements (these changes are assumed to increase car occupancy rate by 10% by 2030 in Scotland).

Increased active travel, including cycling, walking and wheeling, can play a role in achieving positive health outcomes, and can address pollution issues arising from existing transport patterns. The WHO European Centre for Environment and Health's 2022 report in particular highlighted specific effects of active travel modes, including reducing mortality risk by at least 10%, cardiovascular disease risk by 10%, and type 2 diabetes risk by 30%.<sup>24</sup> The recently published Cycling Framework for Active Travel provides a delivery plan for cycling, including delivering safe cycling infrastructure, ensuring fair access, and training and education.<sup>25</sup>

However, active travel will be constrained by many of the same challenges facing public transport uptake from a safety point of view, including well-lit paths and dedicated space for pedestrians, wheelchair users and cyclists.

### Discussion points

- What are the main barriers preventing further uptake of car sharing?
- What are the barriers preventing further active travel uptake?
- Where can government most effectively play a role in supporting car sharing, particularly in areas where better public transport connectivity is challenging?
- Thinking beyond transport, can new platforms based around car sharing, including peer-to-peer car sharing, meet social outcomes in supporting provision to essential services?

<sup>23</sup> Smart Transport insights, "[Is sharing the answer to pollution prayers?](#)"

<sup>24</sup> [HPS Website – WHO publishes report on health and environmental benefits of active travel \(scot.nhs.uk\)](#)

<sup>25</sup> [Cycling Framework for Active Travel – A Plan for Everyday Cycling \(transport.gov.scot\)](#)

## Barriers in rural areas

The above has focused on public transport barriers in urban environments, given that public transport often represents more of a feasible alternative to car journeys in large urban areas. More than half of all journeys under five miles are made using unsustainable modes.<sup>26</sup>

Alongside providing additional services that are needed in rural areas, a network of good quality, inter-connected local places in rural areas should be created. Applying the 20 minute neighbourhood concept will help to provide access to the wide range of facilities, services, and opportunities that communities require to flourish.

In line with the 20% reduction in car kilometres route map, the Scottish Government recognises that people in rural areas will not be expected to reduce the distance they travel by car at the same pace as urban areas. Scottish Household Survey participants in rural areas identified 'lack of service' and 'too infrequent services' as barriers to public transport use.<sup>27</sup> Amid a cost-of-living crisis, the affordability of bus travel in rural communities remains a concern.<sup>28</sup> Demand responsive transport, that is to say smaller vehicles that provide shared transport to users and are not bound by fixed routes, are already operational in parts of Scotland, and require advance booking. Some services are designed for specific groups of people in the community who are likely to have more issues with mobility, such as elderly or disabled people.

The transport system and its networks regularly face challenges from weather-related events (such as flooding, landslides and high winds), which, as a result of climate change, are projected to increase. These can affect the most vulnerable people and communities disproportionately. There is a need for additional adaptation and resilience measures, including improved connectivity, to avoid an increase in costly disruption and loss of service on transport networks.

Ensuring that enough services can be carried out digitally will also play a role in reducing reliance on unsustainable travel. The Updated Digital Strategy<sup>29</sup> sets out a vision to allow Scotland to fulfil its potential in the digital world by embracing the potential of data and digital technology.

Through the Strategy, we are committed to measures such as delivering broadband coverage for all, improving rural 4G mobile coverage, and providing support and training for those in need. Already, the £463 million invested in the Digital Scotland Superfast Broadband programme has transformed access to broadband in rural areas – 65% of premises in Orkney, 75% in Shetland, and 79% in the Western Isles now able to access superfast broadband.

Public services relating to local government and healthcare are already increasingly moving online. The Strategy sets out our commitment to new and ambitious digital reform programmes for key areas of government, including health and social care, learning, justice, planning, schools, and agriculture and the rural economy.

26 [National Transport Strategy \(NTS2\)](#) Monitoring and Evaluation Baseline Report, p.23

27 [National Transport Strategy \(NTS2\)](#) Monitoring and Evaluation Baseline Report, p.20

28 [Soaring bus fares 'devastating' for passengers - BBC News](#)

29 [Summary - A changing nation: how Scotland will thrive in a digital world - gov.scot \(www.gov.scot\)](#)

**Discussion points**

- What more digital provision should be explored to reduce reliance on travel?
- What role could a wider rollout of demand responsive transport play in a sustainable public transport system in rural areas? What kind of journeys could they most usefully undertake? Are there limitations to existing demand responsive transport that will need to be tackled to ensure adequate options for rural users?
- What other measures could help to reduce the need for people in rural areas to travel by car?

**Relevant Just Transition Outcomes:**

- People and Equity
- Communities and Places
- Environment, Biodiversity and Adaptation

## Maximising economic opportunities in transport

Transport is a key part of the Scottish economy. Transport goods and services contributed £5.23 billion in gross value added (GVA) in 2021.<sup>30</sup> The sector sustained 20,365 businesses, with a turnover of £10.91 billion and employing 104,650 people in 2022. It produced £3.75 billion in exports to the UK and overseas in 2019, £1.3 billion of which were international exports.<sup>31</sup> As transport in Scotland and around the world decarbonises, there is potential for our zero emissions mobility sectors to grow, presenting opportunities for jobs, business growth, trade and investment.

'Mission Zero', Transport Scotland's plan for decarbonising transport, aims for Scotland to be at the forefront of markets for zero emissions mobility, to be a global destination for innovation and investment, and ensure people and places are benefiting fairly from the transition.<sup>32</sup>

As well as being an economic sector in its own right, transport activity supports economic activity across the rest of Scotland's economy. It is how people access work or school, and how goods that are created or used in Scotland are moved. This makes transport a key enabler of productivity and the wellbeing economy. There are therefore wider issues around wellbeing, regional economic prosperity, and labour market equity associated with transport. These will need to be addressed through the Transport Just Transition Plan if we are to maximise the opportunities of the net zero transition.

### Theme 3: Capturing opportunities from investment, trade and innovation

Our aim is for Scotland to create a sustainable decarbonised transport system (that is, transport infrastructure and the vehicles that use it) and supply chain that is on track to meet its net zero emissions target by 2045. The following section sets out the areas of the transport vehicle supply chain where Scotland may be well placed to grasp opportunities. We want to ensure Scotland is positioned to capture the economic benefit from these opportunities.

#### Coordinating innovation, support, trade, procurement and skills

We need to join up our support for innovation, business development, trade, procurement and skills to capture the opportunities presented by the shift to a more sustainable future transport system. The Zero Emission Mobility Industry Advisory group identified eight [policy levers](#) which need to be addressed through a collaborative approach by key stakeholders if we are to secure significant economic benefits from the transition to zero emission mobility, including:<sup>33</sup>

- strengthening the innovation ecosystem
- addressing skills gaps
- attracting investment
- developing global market exports
- public procurement for innovation
- domestic supply chain opportunities
- fostering collaboration and installing infrastructure

30 [GDP Quarterly National Accounts: 2022 Quarter 3 \(July to September\) - gov.scot \(www.gov.scot\)](#)

31 [Export statistics Scotland: 2019 - gov.scot \(www.gov.scot\)](#)

32 [Mission Zero for transport | Transport Scotland](#)

33 [Final report on the work of the Zero Emission Mobility Industry Advisory Group | Transport Scotland](#)

The Transport Just Transition Plan will aim to develop a co-ordinated plan across these levers to ensure we are positioning Scotland to get the benefits of the transition.

### **New technologies and Scotland's strengths**

The just transition in the transport sector will require a range of new, net zero technologies to move people and goods. These will include:

- innovative approaches to niche and heavy-duty vehicles
- hydrogen and fuel cells
- hydrogen combustion
- off road, maritime, aviation hydrogen
- sustainable aviation fuel
- batteries
- electric pedal assist vehicles (e-bikes and e-cargo bikes)
- road transportation

Scotland has a highly skilled workforce with a strong tradition of high-value manufacturing in the marine, energy, aerospace and transport sectors, with particular expertise in niche and heavy-duty vehicles. Scottish companies make buses, refuse collection vehicles, earth moving vehicles, emergency vehicles and marine vessels. We are also at the forefront of the demonstration and deployment of electric and hydrogen technologies and infrastructure. We are working to build capability in these areas to support Mission Zero, and maximise economic and societal benefits.

Across these sub-sectors, technology is at different stages of development and commercialisation. As a first step, Scottish Government is working in partnership with our enterprise agencies, research institutions and the transport sector to understand where Scotland has

strengths and potential to grow across these sectors. We are also working with these sectors to understand how they map across to the demand for these innovative goods and services in Scotland and around the world.

We have already identified particular sector strengths in battery and energy storage, on-road heavy duty vehicles, greener railways and hydrogen-powered vehicles. These are areas where Scotland has strengths at international level and where Scottish businesses and research institutions are already driving forward change. Given our existing highly skilled workforce and research institution strengths, Scotland is also well placed to attract inward investment from companies seeking to grow in these sectors.

There are opportunities to build on the current supply chain capabilities around power systems, controls, sensors and batteries to further feed into the zero emissions niche and heavy duty vehicles market, with potential for companies from historical energy sectors to bring relevant expertise. This builds on our academic excellence and opportunities for regional clustering in a number of relevant areas. In particular, these include energy systems, power electronic and electric machines with centres at the University of Strathclyde (Driving the Electric Revolution and the Power Networks Demonstration Centre) and the University of St Andrews (Hydrogen Accelerator). Additionally we have opportunities to support the development of zero emission drivetrains by developing facilities at the Michelin Scotland Innovation Parc (MSIP) in Dundee, and within the Falkirk Investment Zone.

The public sector in Scotland has a key role to play in signalling future demand to the transport sector. This will give businesses the confidence and clarity they need to invest and grow.

For example, our focus on public sector fleet decarbonisation has the potential to encourage private investment in refuelling/recharging infrastructure, while giving companies the confidence to invest in zero emission technologies.

It will also be vital that the infrastructure to support a new, low emission transport sector is in place. Scotland is seeking capital investment to support this transition, particularly in electric vehicle charging technology and infrastructure. Any further options explored such as shared car use or road pricing will also require the appropriate physical and digital infrastructure to support a cohesive rollout. In short, there needs to be a rapid coming together of the energy, transport and digital sectors, including new technologies. We must also consider how those technologies interact and the software that sits behind them. Given these interdependencies, the Transport Just Transition Plan will need to map across to the Energy Strategy and Just Transition Plan.

Throughout this consideration of physical infrastructure, and in light of the current and future impacts of climate change, the resilience of Scotland's roads, railways, aviation and ferry routes must be maintained and enhanced. Embedding adaptation and creating well-adapted and resilient transport infrastructure, including net zero infrastructure, is also a potential growth area for Scotland. Doing so could create jobs, building on innovations and business products and services, and supporting regional economies. The forthcoming Transport Scotland Approach to Climate Adaptation and Resilience (ACCAR), a commitment under the NTS2, will (based on our level of influence) set the strategic direction for Scotland's transport system in relation to climate change risks and the associated consequences.

### Discussion points

- In what areas of our transport sector does Scotland have truly internationally significant clusters, innovation assets or businesses?
- Do other sectors of the economy not yet involved in transport have expertise that could contribute to the transition to a net zero transport system? Could these benefit from the opportunities that the transition presents?
- What more could the public sector do to drive growth in this sector?
- How could transport policy in Scotland best meet the changing needs of our economy?

### Relevant Just Transition Outcomes:

- Jobs, Skills and Economic Opportunities
- Environment, Biodiversity and Adaptation

## Theme 4: The skills and jobs needed for the transport transition

Reducing emissions from vehicles relies on the introduction and widespread use of new technologies, particularly zero emission vehicles (ZEVs). It is vital that workers have the skills required to produce and maintain these vehicles, and that Scotland's infrastructure is developed in a way that will enable the upkeep and smooth operation of a decarbonised transport network.

It is estimated that over 65,000 people may need to undertake training at various levels to provide full coverage of skills to support the uptake of ZEVs in Scotland. This includes 15,000 repair and maintenance staff, 20,500 vehicle sales staff, 22,000 emergency services personnel and 7,800 other staff in the automotive retail sector (e.g. roadside assistance and recovery personnel).<sup>34</sup>

The decarbonisation of niche and heavy duty vehicles also presents significant opportunities. There are over 87,000 employees across the HDV landscape that are likely to require some level of skills development as low carbon HDVs are adopted into the fleet. Of this total, between 34,400 and 38,200 people are likely to require some level of skills development relating to low carbon HDVs by 2026 and between 41,000 and 53,200 by 2032.<sup>35</sup>

Meeting these requirements will involve a variety of changes to the transport workforce. In some instances, jobs may no longer exist, or may change beyond recognition. In others, an entirely new skillset will need to be mastered in order to deliver the sector's requirements in a competent and safe manner. The purpose of a managed transition is to ensure that there are enough new opportunities to replace jobs that may not have a place in the future transport system. It is also clear that a new generation of entrants into the sector will be required in order to ensure that Scotland has an adequate future pipeline of skilled workers coming through the education and apprenticeship system.

### **Attracting and retaining a diverse workforce**

In such a skills transition, it will be important to ensure equality of opportunity that recognises the strengths of the existing workforce and attracts new workers into the sector. We will need to work with employers, skills agencies, colleges and universities to ensure that they are providing the right resources at the right times for an adequate supply of skilled labour to support Scotland's transport decarbonisation.

In doing so, we must also look to improve diversification and inclusion across the transport sector workforce. We know, for example, that only 23% of the people working within the transport and storage sector in the UK are women.<sup>36</sup> We also want to better understand any perceived and existing barriers to attracting those from protected groups into the sector, and ensure that fair work practices are available to all. To support this work, we have commissioned specific research into equalities considerations across the transport sector as our draft Just Transition Plan develops.

We know that we have to undertake much work on skills for the transition: there is an opportunity to reset how we shape the jobs of the future to ensure that they are more widely accessible, and to redress existing inequalities.

### **Transport and the labour market**

Both the cost and availability of transport can be a significant barrier to accessing education and employment for residents in low-income neighbourhoods, making social and economic inequities worse. A report commissioned by the Joseph Rowntree Foundation found that unaffordable and unreliable public transport constrains a return to work, particularly in terms of providing commuting options for shift work: poor reliability of bus interchanges in particular acts as a deterrent to applying for jobs.<sup>37</sup> The Poverty and Inequality Commission found that access to transport can reinforce or lessen the impact of poverty.<sup>38</sup> The Just Transition Commission's recent advice states that Just Transition Plans should redress existing inequalities in the relevant sector. This reinforces that the TJTP should create opportunities to improve commuting connectivity for low-

<sup>35</sup> [Skills for low carbon Heavy Duty Vehicles \(HDVs\) | Transport Scotland](#)

<sup>36</sup> [EMP13: Employment by industry - Office for National Statistics \(ons.gov.uk\)](#)

<sup>37</sup> [Tackling transport-related barriers to employment in low-income neighbourhoods | Sheffield Hallam University \(shu.ac.uk\)](#)

<sup>38</sup> [Transport and Poverty in Scotland - Report of the Poverty and Inequality Commission - Poverty & Inequality Commission \(povertyinequality.scot\)](#)

income neighbourhoods.

### **Discussion points**

- What are the existing barriers in recruiting and retaining staff?
  - Are there particular barriers for women? For other currently under-represented groups?
  - Are there specific measures for the sector in terms of supporting Fair Work?
- What action can Scottish Government (through policy development, regulation or influence) take to ensure sufficient training opportunities are available across the workforce to support upskilling and reskilling? What action can employers take to incorporate Scottish Government directions in upskilling and reskilling?
- What kind of support do education and skills institutions require to make sure they can provide the required courses/qualifications?
- What kind of interventions can ensure new skills and jobs opportunities are accessible where transport represents a barrier to employment?

### **Relevant Just Transition Outcomes:**

- Jobs, Skills and Economic Opportunities
- Communities and Places
- People and Equity



## Monitoring and Evaluation

Delivering a just transition for the transport sector demands that we are ambitious in our aims and actions. Being clear about what we want to achieve and holding ourselves accountable is essential if we are to stay on track. It is therefore important that we establish a framework to monitor and evaluate our progress in a way that is proportionate, feasible and effective.

Central to our monitoring and evaluation approach is identifying and developing appropriate quantitative indicators that we can use to track our progress towards our sectoral and national outcomes. These indicators will be tracked alongside tailored evaluations of flagship policies and continuous monitoring of key delivery metrics. Measuring the fairness of the transition to a net zero society needs to capture a wide range of dimensions.

We are currently commissioning research to provide further evidence to establish a robust baseline assessment of the current 'state of the sector', which will build on existing efforts to identify inequalities. The project will document existing inequalities within each of the sectors based on the available evidence, and identify key cross-cutting, systemic factors contributing to these. It will also provide an assessment of the reliability, robustness and completeness of the data available in the sector and highlight any key gaps in our knowledge. The outputs from this research will provide an important baseline against which to track progress in addressing inequalities.

### Discussion points

- Are there existing data sources that can help us track delivery of our just transition outcomes?
- How can we make sure that our approach to monitoring and evaluation is inclusive and participatory?
- What is the right balance between comprehensiveness and usefulness?

## ANNEX A – Policy context

A range of policy interventions are already being implemented across the transport sector to reduce emissions and support a just transition. This document is ordered by travel mode to provide a sense of the different commitments underway in each area. These interventions are drawn from the following policy and strategy documents:

- [National Transport Strategy 2 | Transport Scotland](#) and [National Transport Strategy \(NTS2\) - Second Delivery Plan - 2022-2023 | Transport Scotland](#)
- [Climate Change Plan update \(2020\)](#)
- [A route map to achieve a 20 per cent reduction in car kilometres by 2030 \(transport.gov.scot\)](#)
- [Strategic Transport Projects Review 2 | Transport Scotland](#)

### Active Travel – walking, wheeling and cycling

We are committed to promoting active travel to reduce reliance on higher carbon modes of transport and improve health outcomes. This approach includes a focus on promotion and improved co-ordination across transport modes to achieve behaviour and attitude change.

- We have pledged at least £320 million a year or 10% of the total transport budget by 2024-2025 towards active travel infrastructure, access to bicycles, and to support behaviour change towards active travel.
- Within the 2023-2024 budget, almost £190 million has been allocated to active travel.
- We published a [Cycling Framework for Active Travel in](#) April 2023.

### Car Usage and Electric Vehicles

In January 2022, we published a draft route map setting out how we will reduce car kilometres by 20% by 2030.

- This includes a range of non-transport policy interventions, including:
  - the provision of good connectivity and digital access to services
  - the way we plan and invest in our public places
  - where we locate key services such as healthcare
  - how we support our children and young people to make healthy and sustainable travel choices from an early age
- The route map is not a one-size-fits-all approach to reducing car kilometres. The percentage reduction target is for an overall national reduction and will not expect car use in rural and island community areas to reduce at the same rate as in towns and cities.
- Additionally, as outlined in the Programme for Government, we are committed to phasing out the need for new petrol and diesel cars and vans by 2030.

Progress is already being made on increasing the uptake of electric vehicles (EVs), through investment on EV infrastructure and provision.

- The [Draft Vision for Scotland's Public Electric Vehicle Charging Network](#) published last year is clear that significant private investment will be needed to grow the network at the scale and pace required across Scotland.
- Scotland has the most comprehensive public charging network in the UK outside of London, with over 3,850 public charge points. Over 2,400 of

these were funded through a £65 million investment in Charge Place Scotland.

- Through our EV Infrastructure Fund, we will continue to work with local authorities and the private sector to invest a further £60 million in public charging across all of Scotland's communities over the next few years.
- Our investment in public EV charging is in addition to the 20,000 domestic and business charge points already funded by the Scottish Government as part of the wider charging mix.
- We continue to support low-income communities who are more likely to be experiencing transport poverty through funding to develop EV car clubs. To do so, this year we will begin distributing £1.75 million in grant funding via Energy Saving Trust. Car clubs have been shown to reduce emissions, both by the fuel efficiency of the vehicles and by individuals reducing the mileage that they drive.

## Public Transport

We are working towards the decarbonisation of public transport to help reach our net zero targets, particularly in light of the role public transport will play in the future transport system. An accessible, affordable and effective public transport system is key to a just transition in the sector.

- The Zero Emission Bus Market Transition Scheme, worth £500,000, supported organisations to understand the steps required to replace their bus fleet with zero emission alternatives. So far, the Scottish Government has awarded almost £113 million to support operators to acquire 548 new zero emission buses and supporting infrastructure, through the Scottish Zero Emission Bus Challenge Fund and the Scottish Ultra Low Emission Bus Scheme.
- 76% of Scotland's passenger rail services are already zero emission electric trains and the rest will be decarbonised by 2035.
- Work continues to progress well by Transport Scotland, Network Rail and industry partners to deliver the key outcomes of the plan to make the traction elements of Scotland's railway carbon free by 2035. This will support faster journey times and better use of track capacity, and bring significant benefits for rail freight.
- Scotland already has the most generous concessionary scheme in the UK, investing £300 million annually to provide free bus travel for over 2.6 million people, including everyone under 22 and over 60.
- To date (June 2023) up to £26.47 million of bus priority funding has been awarded to 11 Partnerships covering 28 local authorities across Scotland through the Bus Partnership Fund. Investing in bus priority is key to tackling the impacts of congestion, making journey times shorter and services more reliable for passengers, encouraging people to leave their cars at home.
- As part of the Fair Fares Review, a pilot for the removal of ScotRail peak-time rail fares will run for six months starting October 2023 which will benefit communities across Scotland. We are progressing the Fair Fares Review to ensure a sustainable and integrated approach to public transport fares that supports the future long term viability of a public transport system that is accessible, available and affordable for people throughout Scotland. The review is considering both the cost and availability of services and the range of discounts and concessionary schemes which are available on all modes including bus, rail and ferry to ensure our public transport system is more accessible,

available, and affordable, with the costs of transport more fairly shared across government, business, and society.

- Caledonian Maritime Assets (CMAL), in partnership with Transport Scotland and CalMac, is commencing a major programme to replace up to 10 small vessels serving the Clyde and Hebrides Ferry Services network, due to operational life expiry. Over the next 10 years, the programme aims to provide standardised, modern, state-of-the-art ferries with all-electric, emission-free operation on various routes along the West Coast of Scotland

### **Decarbonisation of heavy vehicles**

- Transport Scotland has brought together a [Zero Emission Truck Taskforce](#) (ZETT) comprising leaders across road haulage and logistics operators, manufacturing, energy, and finance sectors to identify the hurdles and opportunities offered by the transition to zero emission trucks. Using a Team Scotland approach, we are supporting innovation in the heavy duty supply chain by supporting projects with academia, R&D and investments for testing battery and hydrogen technologies. The public sector must continue to lead from the front: the number of ZEVs in local authority fleets has more than doubled over the last two years.
- The Scottish Government's leadership in support for rail freight is outlined in our rail freight strategy and put into practice with significant investment and a first of a kind regulatory growth targets. Since 2019, freight capacity has been improved through electrification to the Grangemouth terminal, gauge clearance on the Shotts line, two new freight connections, a crossover at Aberdeen Craiginches and improvements to Inverness Needlefield yard. In addition, the £25 million Scottish Strategic Freight Fund has allowed us to test the infrastructure on

the Highland Mainline for longer trains and to target key markets capable of modal shift.

- In 2022/23 around 13 thousand trains moved over 4 million tonnes of goods, saving millions of lorry miles in Scotland, with 50% of these trains being electrically hauled.
- Rail is already a sustainable mode of transport. One freight train can remove up to 129 lorries from our roads and an average diesel-hauled freight service produces 76% less CO2 per tonne than road transport and it emits less than one tenth of the nitrogen oxide and fine particulates of road haulage. Electric traction can reduce greenhouse gas emissions further and deliver even greater air quality improvements. It also increases the capacity and capability of the railway.
- Our rail decarbonisation projects can create more skilled, sustainable jobs in Scotland. These jobs will be in the direct provision of electrification as well as in the supply of rolling stock and advanced technologies in the design of alternative traction methods to complement our electrification of the network.
- There could also be opportunities through the Rail Cluster Builder project. This project links Scottish SMEs with rail manufacturers, contractors, academics, and research centres across the country to identify more environmentally friendly track and train solutions while raising awareness of the opportunities in the rail sector in Scotland.
- The project, which is led by Scottish Engineering in partnership with Transport Scotland and Scottish Enterprise, is in its second phase and will run until 2025. The focus remains on connecting more Scottish businesses with rail sector organisations, strengthening and deepening

relationships with key stakeholders across the sector and helping to create innovative, green solutions that will support the net zero targets set out in the Rail Services Decarbonisation Action Plan.

### **Low Emission Zones**

Low Emission Zones (LEZs) will be introduced in Aberdeen, Dundee, Edinburgh and Glasgow, with local grace periods in effect until June 2024 at the latest.

- LEZs are key to improving air quality and supporting Scotland's wider emission-reduction ambitions by encouraging more sustainable transport options.
- The introduction of LEZs will ensure that all of us, but particularly the oldest, youngest and those with pre-existing medical conditions, are protected from the harmful impacts of poor air quality in our city centres.
- To help prepare lower-income households and small businesses, the LEZ Support Fund offers financial support towards the disposal of non-LEZ compliant vehicles. It also offers 'Travel Better' grants to help households to switch to more sustainable modes of transport.
- In 2020/2021 the LEZ Support Fund awarded £1.7 million in grants, with £3.85 million awarded in 2021/2022. £5 million was awarded through the LEZ Support Fund in 2022/2023. To date, the LEZ Support Fund has resulted in over 2,000 non-LEZ compliant vehicles being disposed of or retrofitted with cleaner technology.
- The Bus Emission Abatement Retrofit fund (BEAR) has provided £21 million in grants for over 1,200 buses and coaches to reduce NOx and particulates, by retrofitting Euro 6 exhaust systems.

## ANNEX B – State of the sector – transport

This is drawn from the [Social and Equality Impact Assessment \(SEQIA\) – NTS Delivery Plan | Transport Scotland](#), as identified in Section 1.1 of this discussion paper. A variety of factors influence the accessibility of the transport system and the choices people make about how they travel. Presented below are the key issues faced by groups disproportionately facing barriers relating to transport, to give an overview of some of the challenges a just transition will aim to address.

### **Key issues for children and young people:**

- Young people are more dependent on public transport, particularly for accessing education and training.
- Availability of public transport in rural areas and island communities is a significant challenge for young people.
- Children are more vulnerable to the impact of traffic-related noise and air pollution.

### **Key issues for older people:**

- For older people, the lack of access to public transport services can act as a barrier to accessing key services, including healthcare.
- Accessibility issues relating to the loss of mobility can have both physical and psychological impacts.
- Older people are more vulnerable to the impact of traffic-related noise and air pollution.
- Accessibility issues are likely to affect older people more than other groups.

### **Key issues for disabled people:**

- Issues facing disabled people or those with long-term limiting illness are often exacerbated by low levels of employment, low income and living in areas of relative deprivation.
- Affordability and accessibility barriers to public facilities, including lack of suitable transport in the care pathway, hostile pedestrian environments, inaccessible infrastructure and online information, and personal aspirations to reduce private car use.
- Lack of cycle infrastructure for adapted bicycles, and costs associated with non-standard cycles.
- Safety and security concerns when using public transport, especially at night.

### **Key issues for pregnant women:**

- Pregnant women are more vulnerable to the harmful effects of air pollution than others.
- Pregnant women or parents travelling with pushchairs and young children may find journeys are uncomfortable or difficult, especially without rest stops. People with pushchairs may find certain public transport options inaccessible.
- Pregnant women may have safety concerns about travelling at night or during quieter times of day. They may also find it difficult to travel safely during peak hours.

**Key issues for ethnic minority groups:**

- Since ethnic minority groups are less likely to have access to a car, and more likely to rely on public transport than other groups, issues of cost and safety may disproportionately impact them and affect outcomes and opportunities available.
- Ethnic minority groups, particularly those from black backgrounds, were over-represented among key workers and those who were made unemployed during the pandemic. Therefore, this group may be more dependent on actions to support COVID-19 recovery.
- Some ethnic minority groups are more likely to be subject to hate crimes and discrimination. This could create barriers to using public transport services and facilities for these groups.

**Key issues for religious groups:**

- There is a clear link between religion and economic inequality. Muslims are more likely to experience socio-economic disadvantages than other groups.
- Discrimination, assault or harassment on the basis of religious identity may affect people of some religious groups more than others, with potential consequences on their choice to use public transport and public transport facilities

**Key issues for women:**

- Women are more likely than men to have low incomes, be in part-time and/or insecure work and live in poverty than men. This is especially the case among ethnic minority women.
- Women are more likely to walk, be a passenger in a car, or take the bus than men. They are more likely than men to make multi-stop and multi-purpose trips, combining travel to work with trips for other purposes such as taking children to school, looking after family members or shopping.
- Women are more likely to be victims of sexual assault. They are more likely to have concerns about safety and security issues with regards to the use of public transport at night out of fear of being harassed or sexually assault.

**Key issues for LGBTQ people:**

- People in this group may be concerned about being able to access public transport and public transport facilities, especially at night when these may be poorly lit, for fear of harassment or discrimination.
- Limited information and data is available on the LGBTQ population, including the lived experiences of this group with regards to transport.
- Transgender people are likely to have lower incomes and therefore are at a higher risk of transport poverty.
- Transgender or gender non-conforming people may have concerns about using public transport or public transport facilities such as toilets, for fear of being harassed or discriminated against.
- Limited information and data are available on the transgender population, including the lived experiences of this group with regards to transport.

## Socio-economic inequality

Transport costs can influence the extent to which various communities use the transport system. For low-income individuals specifically, cost is the most significant transport-related obstacle. Evidence shows that access to bikes also increases with household income and household size, with bicycle access being higher in rural areas than urban areas.

Transport can act as a key barrier to employment, and most importantly, to better employment.<sup>39</sup> It represents a significant cost particularly to those that carry out low-paid, low-skilled or 'atypical' work that involves irregular shifts or hours, as standard public transport services are not usually provided during anti-social hours and walking/cycling may be unsafe.

According to the SIMD, in 2020, the most deprived data zones tended to be in urban areas and their suburbs. National trends also indicate that income and transport poverty disproportionately affect groups who face existing structural disadvantages, including disabled people, women and specific ethnic groups.

<sup>39</sup> [Tackling transport-related barriers to employment in low-income neighbourhoods | Sheffield Hallam University \(shu.ac.uk\)](https://www.sheffield.ac.uk/research/transport-research/tackling-transport-related-barriers-to-employment-in-low-income-neighbourhoods)





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Any enquiries regarding this publication should be sent to us at  
The Scottish Government  
St Andrew's House  
Edinburgh  
EH1 3DG

ISBN: 978-1-80525-943-5 (web only)

Published by The Scottish Government, June 2023

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA  
PPDAS1238642 (06/23)

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