tactran

Tayside and Central Scotland Regional Transport Strategy

2024 - 2034

June 2024

Angus Council

Dundee City Council
www.dundeecity.gov.uk
CHANGING FOR THE FUTURE

PERTH & KINROSS COUNCIL

Stirling Council

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Foreword

I know that we all care passionately about the climate emergency that faces us; the health problems that poor air quality causes; the inequalities that prevent people having equal opportunities and living comfortable, healthy and happy lives; poor health in our population and the consequences of this not only on individuals now but also public services in the long term; and the impact that travel constraints place on our economy.

The role of the Tayside and Central Scotland Regional Transport Strategy is to provide a framework for all public sector agencies in the region to perform their functions as they relate to transport and travel in order to address these issues.

The scale of the challenge is significant, and we recognise that for meaningful progress to be made, step changes are required by the public sector, organisations, businesses and individuals.

We do not underestimate the scale of this challenge. You have told us about your travel needs and the potential implications of change. We have listened. We know the changes will be difficult for all of us.

But we also know that the majority of you do care about addressing the issues identified above, and are prepared to make changes provided opportunities exist and the ask of yourselves is fair and equitable.

To help address the priorities identified, this Regional Transport Strategy seeks to:

- Focus activity on where it will have the greatest impact on reducing carbon emissions; improving air quality; improving health outcomes; enabling the most vulnerable in society to access services and opportunities; and enabling inclusive and sustainable economic growth
- Co-ordinate partner resources and programmes to ensure that we provide integrated solutions that present realistic options for yourselves

The changes for all are significant. We know we need to keep this conversation open to help us all understand, plan for, and navigate the changes required in a fair and equitable manner. We cannot do this alone, we need everyone to do what they can. Please continue to play your role in this transformation, and tell us when we're getting it right, and especially, when you think we're getting it wrong.

Depute Provost Andrew Parrott,
Chair Tactran

Executive Summary

The Tayside and Central Scotland Regional Transport Strategy (RTS) is a partnership plan identifying the strategic transport priorities for the Angus, Dundee City, Perth & Kinross and Stirling Council areas.

Through stakeholder engagement we have:

- Identified the key social, environmental and economic priorities that the region's transport networks need to support
- Developed strategic objectives and outcomes to help focus activity on where it is most required
- Identified actions that can help deliver these outcomes

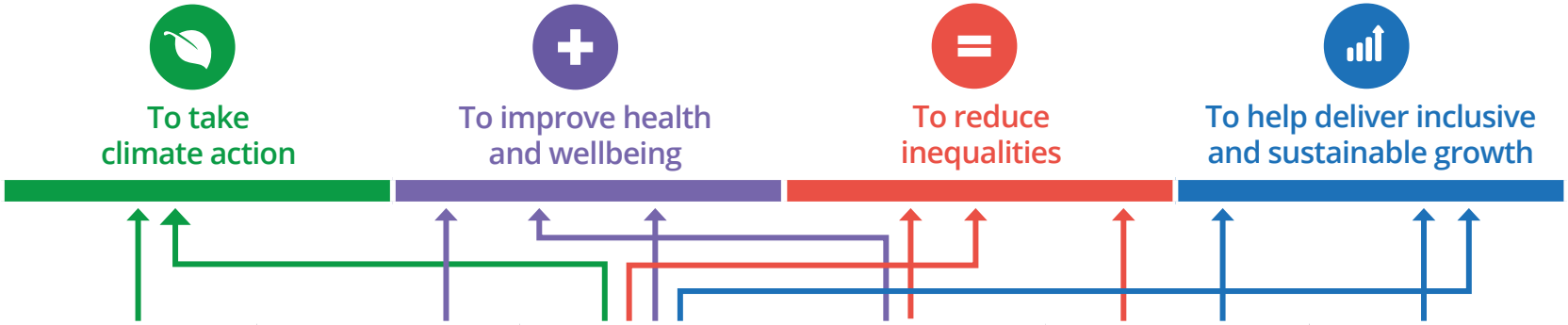
Figure 1 summarises the main issues and how they inform the strategic objectives.

The Strategy recognises:

- **The scale of the challenge** required to meet local and national aspirations, especially those in relation to climate change
- That **meeting these aspirations means a step change in behaviour** both for individuals and businesses, and also for the delivery agencies, including the Councils and other Regional Partners. Maintaining the status quo in what and how we deliver improvements to our transport networks are unlikely to enable these targets to be met
- When asking individuals and business to change their behaviour, **the ask must be fair, timely and proportionate**

At the heart of the Strategy is a proposed approach which:

- Seeks to **focus activity on the locations and groups in society where support to access facilities or encourage behaviour change is most required**
- Encourages **co-ordination of activity across partners,** to ensure that improvement programmes provide a genuine alternative to car use through **integrated solutions**
- Recognises that **alternative models for bus provision need to be investigated**
- In discouraging car use to support climate change targets, aims to ensure activity is co-ordinated across the respective travel to work areas in the region:
  - **Improving alternatives to the car** in those corridors/locations, and for those trips, which generate the most kilometres driven by car
  - **Promoting national fiscal measures** as the most effective approach to reducing car kilometres (car km) driven
  - Subject to the effectiveness of the national fiscal measures, **consider local charging mechanisms**
- Enables a **step change in electric and low emission vehicle use**



	Climate Change Plan[1]	Clean Air for Scotland[2]	National Planning Framework[3]	Public Health Priorities[4]	Fairer Scotland Action Plan[5]	Scotland's Economic Strategy[6]
Social, economic and environmental priorities	• Reduce estimated CO_2 emissions from Climate Change plan • To phase out the need for petrol and diesel cars and vans in Scotland by 2030 • To reduce car kilometres (km) by 20% by 2030	• To meet national air quality directives	• Net zero emissions • Resilient communities • Wellbeing economy • Better, greener places	• To live in vibrant healthy and safe places and communities • To have a sustainable, inclusive economy with equality of outcomes for all • To have a healthy weight and be physically active	• A fairer Scotland for all • To end child poverty • Fairer working lives • A thriving third age	• To stimulate inclusive economic growth • To create economic opportunity
Problems, issues and constraints in the region	• Most trips made by car, not least due to: - Rural nature of much of the area - Few alternatives • Low % of trips made by low emission vehicles	• Declared AQMA and LEZ areas	• Much of the region has higher CO_2 emissions per head of population than the Scottish average • Impact of traffic (severance/noise/ air quality/safety) on commutes • The resilience of strategic and lifeline routes/services	• Communities with poor health • Road safety (actual and perception) • Access to health services • Levels of active travel	• Availability and cost of transport to access jobs, education and services • The ability of people with disabilities to use our transport networks	• Journey time reliability for business • Supporting growth locations and sectors • Availability and cost of travel

Figure 1: Relationship between strategic objectives and key issues

Where we need to get to

Here are the key RTS outcomes, and the actions we need to take.

To take climate action

We need to reduce estimated CO_2 emissions from transport in the region by 100% by 2045[A] by:

- Increasing the share of EV and low emission vehicle use: Phasing out the need for new petrol or diesel cars or vans by 2030, including light commercial vehicles in public bodies (by 2025) and public sector fleets (by 2030) by:
  - Adopting low and zero emission technologies, and increasing electric and low emission vehicle (LEV) use
- Reducing the volume of car kilometres (car km) driven by 20% by 2030[B] by:
  - Improving alternatives for longer trips
  - Facilitating local services for shorter trips
  - Improving access to public transport

To improve health and wellbeing

- We need to reduce fatalities and injuries, meeting 2030 targets set in Scotland's Road Safety Framework by:
  - Reducing traffic speeds
  - Providing road safety education
  - Considering new engineering solutions
- We need to increase the levels of walking and cycling in the least affluent SIMD data zones achieving Transport Scotland's forecasts for average proportion of journeys walked and cycled by 2030, by:
  - Improving walking, wheeling and cycling opportunities to local facilities
- We need to reduce transport emissions in declared air quality management zones (AQMAs) in line with National Emission thresholds by:
  - Encouraging low and zero-emission technologies
  - Reducing the number of car journeys in towns by promoting walking, wheeling, cycling and public transport

To reduce inequalities

- We need to improve the ability of all in the least affluent SIMD data zones to access jobs, education and services by:
  - Improving provision, awareness and affordability of public and shared transport opportunities

To help deliver inclusive and sustainable growth

- We need to improve journey times and journey time reliability on strategic road and rail routes to key destinations for public transport and freight by:
  - Lobbying for improved rail journey times and capacity
  - Reducing vehicular traffic passing through pinch points
  - Making improvements in how the consequences of residual traffic at pinch points are addressed

[A] Compared to 1990
[B] Compared to 2019

Achieving these aspirations, especially those that support the targets included in the Climate Change Act which all four Councils have committed to, is a significant challenge, and one that will not be easy for any of us.

Whilst this strategy sets out where we need to focus activity to support the national targets and aspirations, we need to:

- Continue to understand the implications of the scale of change for our communities, our businesses, our visitors and those that travel through the region, to help design and bring forward solutions which are fair and equitable
- Identify what Tactran and its constituent Councils can do, but also where further support and joint work with the Scottish Government is required to meet the national climate change and social inclusion targets

Please note: a more detailed examination of these outcomes and actions, and the scale of the challenges faced, can be seen in Table 2.2 on page 34.

Key statistics

4.5% of vehicles registered in the region in 2023 were hybrid, electric or ULEVs[7]

82% of car km are driven to, from or between our rural areas and towns[8]

76% of personal km travelled is generated by trips over 10km[9]

60% of trips made by residents of the region in 2019 were by car[10]

Contents

1 Context

1.1 What is the Tayside and Central Scotland Regional Transport Strategy?

The Regional Transport Strategy (RTS) is a partnership plan identifying the strategic transport priorities for the Angus, Dundee City, Perth & Kinross and Stirling Council areas.

It provides a unique and complementary role to support local and national strategies, focusing on regionally significant issues. Figure 1 highlights the strategies it seeks to support, and the plans and programmes which are vital to delivering the RTS.

The Transport (Scotland) Act 2005 places a duty on Councils, Health Boards and other public bodies to perform their functions consistent with their respective Regional Transport Strategy.

The Strategy seeks to:

- Identify the key issues our transport systems need to support
- Provide the strategic policy framework for Tactran and our partners' plans and programmes – the strategic objectives, outcomes and actions to focus activity on where it is most required – and a monitoring and review framework to enable progress to be measured

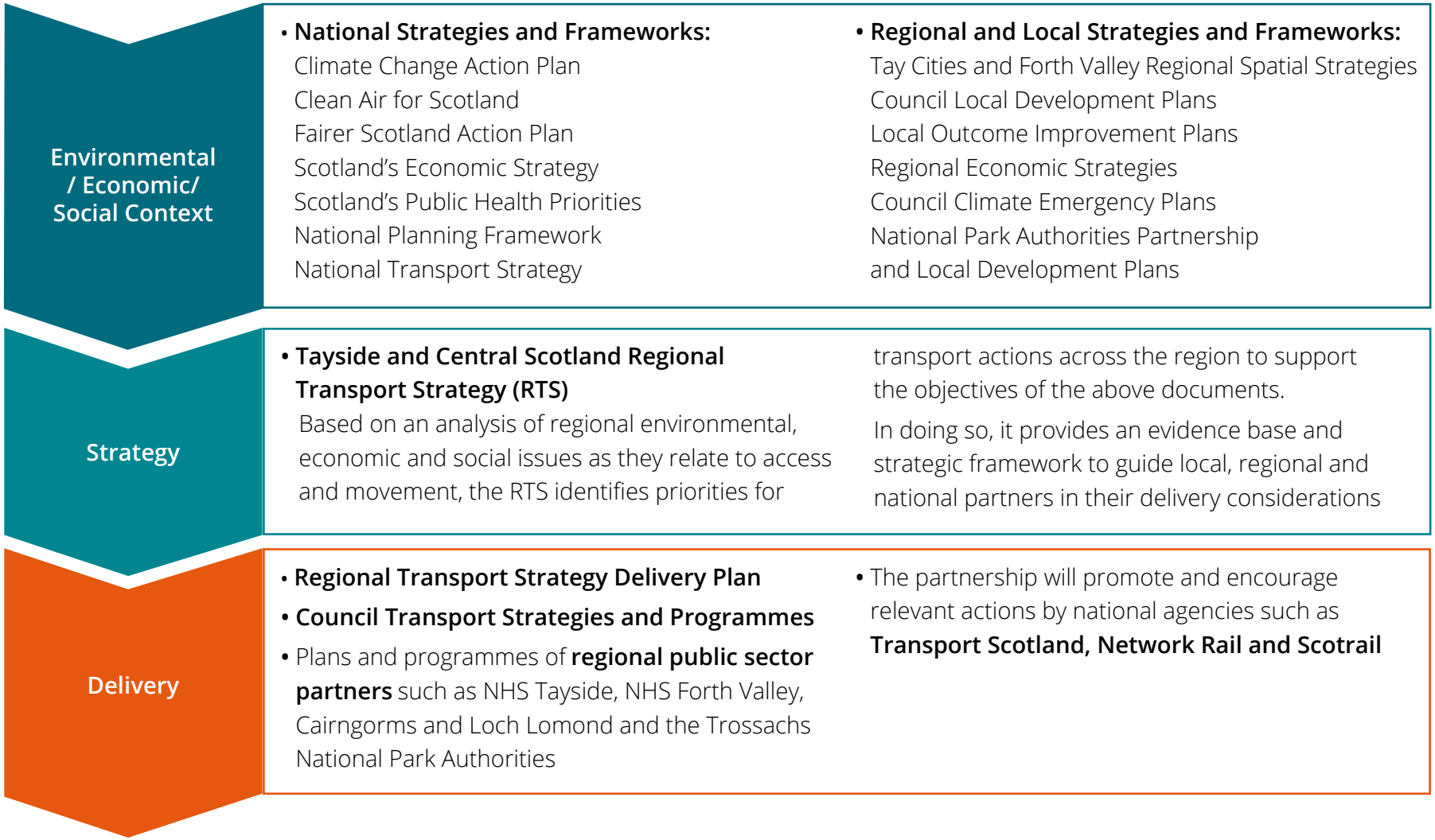


Figure 1.1: The strategies which the RTS seeks to support, and the plans and programmes which are vital to delivering the RTS

1.2 Key issues: Nature of the region

Relationship to the rest of Scotland

The region is both peripheral to the Central Belt, as well as accommodating almost all surface trips to North-East Scotland and the Highlands and Islands.

Population size and age

By 2035, the populations of Angus and Dundee are expected to decline, whilst the populations of Perth & Kinross and Stirling are expected to increase. Across Scotland, by 2035 the population of pensionable age will have risen from 18.3% (2020) to 22%, placing greater pressure on public resources.[12] These figures are likely to be higher across the Tactran region where, in 2022, the over-65s already make up 25.1% of the population in Angus; 24.7% in Perth & Kinross; 20.5% in Stirling; and 18.1% in Dundee.[13]

The urban/rural split

Whilst 63% of the population live in the urban areas of Arbroath, Dundee, Forfar, Montrose, Perth and Stirling, 37% live in rural areas. 67.3% of people in Perth & Kinross, 46.9% in Stirling and 38.4% in Angus live in rural areas,[14] many of whom are dependent on strategic routes to access jobs, services and healthcare. Approximately 29%-36% of the populations of Angus, Stirling and Perth & Kinross are in the lowest 20% Scottish Indices of Multiple Deprivation (SIMD) data zones for access.[15]

Where people live and work

Most people who live in the region, work in the region[16]

- 79.8% of Tay Cities residents work in the Tay Cities area
- 65.1% of Forth Valley residents work in the Forth Valley area

There are also strong links between the region and North East Angus/ Aberdeenshire;
SW Stirling/Glasgow; NW Stirling/Oban

Less than a fifth of trips made by residents are commuting trips.[17]

Wealth

36% in Dundee, 7% in Angus, 6% in Perth & Kinross and 12% in Stirling residents respectively live in the least affluent 20% of SIMD data zones.[18] 20.6% of children in Angus, 24.5% in Dundee, 17.9% in Perth & Kinross and 16.6% in Stirling are living in relative poverty.[19] 6.2% of 16-19 year olds in Dundee, 4.8% in Angus, 3.5% in Perth & Kinross and 2.9% in Stirling are not participating in education, training or employment.[20]

Health

37% of Dundee is in the lowest 20% SIMD data zones for health; 10.7% for Stirling, 3.2% for Perth & Kinross, 1.9% for Angus.[18]

Tourism

Tourism is a key element of our economy. The region features many of Scotland's top tourist destinations, attracting millions of visitors every year from our coast to our mountains (e.g. approx. 17 million domestic day visits per year[21]).

What you told us

You told us the main transport issues in the region were:

- Addressing the impacts and causes of climate change
- Availability and cost of transport to access jobs, education and services
- Impact of traffic: many communities are located on trunk roads and regionally significant routes and are subject to the traffic volumes these routes bring
- The ability of people with disabilities to use our transport networks. Nearly 9% of people in the region are limited a lot by a long-term health problem or disability[22]

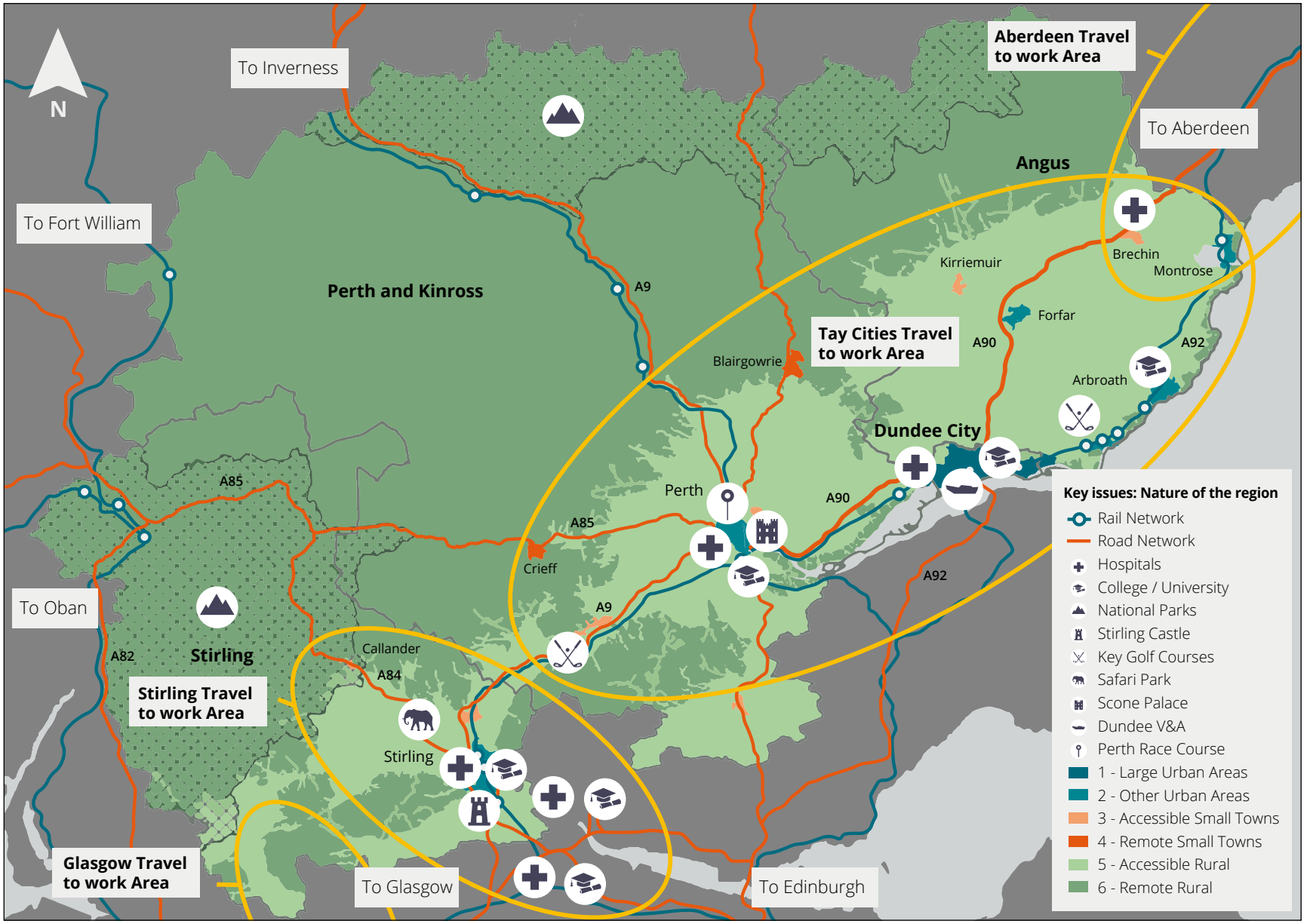


Figure 1.2: Key issues: Nature of the region

1.3 Key issues: Transport

Consequences of rural hinterlands

- Average car km driven, per person, per year is 12,547km in Perth & Kinross, 11,054km in Stirling, 7,512km in Angus, and 4,471km in Dundee (the Scottish average is 6,723km)[23]
- Our towns and cities serve large rural hinterlands. Whilst 62% of trips to work in Dundee are made by car, as the population becomes more rural, this % increases: 69% in Stirling; 77% Angus; and 79% in Perth & Kinross[24]
- Angus, Perth & Kinross and Stirling all have higher per capita transport CO_2 emissions, compared to the Scottish average[25]

Addressing climate change

- For residents of Angus, Perth & Kinross and Stirling, whilst only 26%-29% of personal trips are over 10km, these trips account for 81%-84% of total km driven. In Dundee, 93% of the trips are under 10km, where this accounts for 60% of km driven[24]
- Approximately 4.5% of vehicles registered in the region were hybrid, electric or ULEV in 2023[26]

Availability and cost of transport to access jobs, education and services

- Limited public transport services in many localities, and limited ability to influence commercial fares
- Approximately one-fifth of the jobs in the region cannot be accessed within 60 minutes by public transport by the working age population.[27] However, by contrast, 68% of residents do not believe that the trip they make to work or education can be carried out using public transport[28]
- 12% of 16-24 year olds cannot access further education within 60 minutes by public transport[27]
- 14% of the population cannot access a hospital within 60 minutes by public transport; and approximately 8% cannot access a GP within 30 minutes by public transport[27]

Strategic connectivity

Many (but not all) of our larger settlements are well located on the strategic road and/or rail network. But at each of our cities, there are pinch points on the strategic road network; and the rail journey from Perth to Edinburgh is not competitive with the car in terms of time or cost.

Freight

- Freight traffic accounts for 26% of the vehicle mileage in the region[29]
- 24% of UK freight with an origin or destination in Scotland starts, ends or passes through the region[30]

Congestion and journey times

- 11% of drivers experience congestion on their journeys[31]
- Vehicle miles could increase by up to 28% by 2037 compared to 2017, with a corresponding 51% increase in pm peak delays (secs per mile) in the Tayside area and 9% in the Forth Valley area[32]

Impact on communities

- Air quality has exceeded national air quality thresholds in Dundee and Perth cities, as well as in Crieff
- The number of transport services serving a community, and the resilience of these in the face of adverse weather events, will have an impact on the resilience of the community itself

Health

37% never walk as a means of transport and 26% never walk for pleasure[31]. 57% of people in the 20% most deprived areas regularly walk for recreation, compared to 78% of people in the 20% least deprived areas.[33]

Road safety

Any number of fatalities or casualties are too many. While good progress has been, and continues to be, made across most of the region in the last 10 years, close attention must continue to be paid to longer term trends.

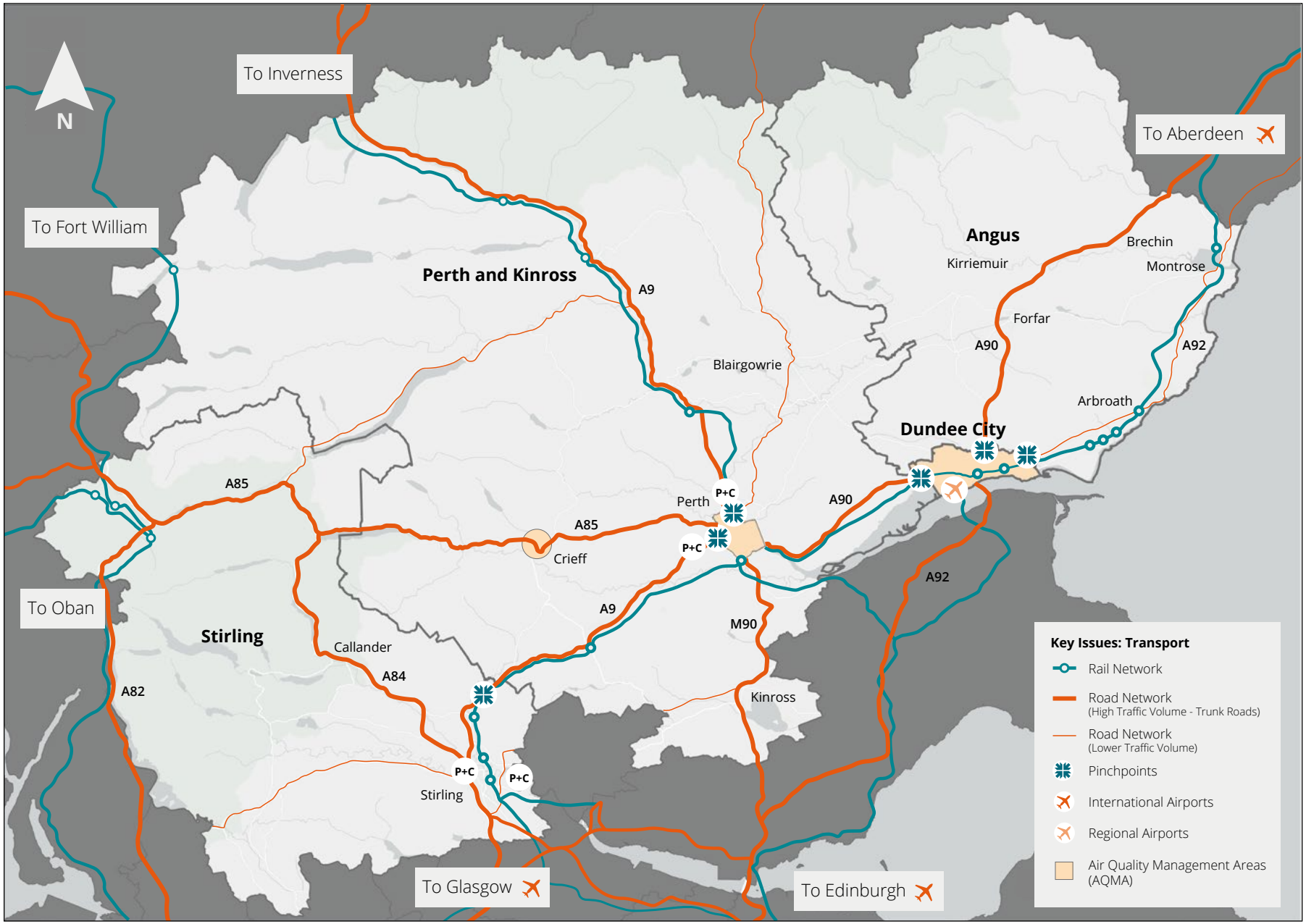


Figure 1.3: Key issues: Transport

1.4 Key issues: Climate emergency

The Scottish Government and all four Councils in the region have declared a Climate Emergency.[34] This has resulted in targets in the Government's Climate Change Action Plan[35] to reduce transport carbon emissions to net zero by 2045 by decarbonising transport and reducing car kilometres driven.

Work undertaken for Transport Scotland[36] suggests that the climate change targets will only be met by:

- Rapid introduction of low and zero-emission technologies
- Reducing passenger and freight vehicle kilometres travelled in the region through:
  - modal shift
  - reduced travel through shorter trips and trip avoidance

Across the region, there is strong public support for combating climate change:[37,C]

- 80% see climate change as an immediate and urgent problem
- 85% believe they have a personal duty to combat climate change, but also 74% believe it is primarily the Government's responsibility
- 53% would be willing to change how they travel to help address climate change

[C] See also Scottish Government Scottish Household Survey Data Explore[38] 2021, where 83% believe climate change is an immediate and urgent problem

Table 1.1: **Climate action targets**	
Targets	**The scale of the challenge**
Decarbonisation of transport, interim targets includes: • **phasing out need for new petrol or diesel light commercial vehicles in public bodies by 2025** • **phasing out need for any new petrol or diesel vehicles in public sector fleets by 2030** • **phasing out need for any new petrol or diesel cars or vans by 2030** • **removal of diesel passenger trains from the Scottish network by 2035** • **beginning work to decarbonise HGVs, ferries and aviation**	Approximately 4.5% of vehicles registered in the region were hybrid, electric or ULEV in 2023[26] If sales rates are maintained, ULEVs are expected to be only approximately 13% of the car fleet by 2030[39] Electrification between Edinburgh/Dunblane and Aberdeen/ Inverness required. Alternative fuels required on West Highland Line
Reducing car km by 20% by 2030 compared to a 2019 base	This means reversing 29+ years of growth in car km in 6 years 82% of car km driven is generated to, from or between our rural areas and towns. 76% of personal km travelled is generated by trips over 10km

1.5 Key issues: Social inclusion

Many in the region suffer some form of disadvantage which makes it harder to participate in society and achieve a decent quality of life:

- **Least affluent areas:** Table 1.2 highlights the % of population living within the 20% least affluent Scottish Indices of Multiple Deprivation (SIMD) data zones
- **Rural isolation:** 20.7% of Angus, 20.4% of Perth & Kinross and 18.2% of Stirling data zones are in the 10% most access deprived geographies, as defined by the SIMD[40]
- **Disability:**[D] Approximately 9% of the region's population are limited by a long-term health problem or disability[42]
- **Discrimination** as a result of gender; pregnancy/maternity; sexual orientation; ethnicity; religious belief, disability or age
- **Discrimination** as a result of low income, low wealth, material deprivation or socio-economic background[E]

For many, more than one of the above characteristics apply, compounding problems[F]. Many of the more vulnerable groups in society have safety concerns when it comes to using public transport. This includes the young[44], females[45], disabled, members of the LGBTQ+ community, religious belief, and ethnicity.

[D] See also Transport Scotland Disability and Transport 2021[41]

[E] **Low income**: cannot afford to maintain regular payments such as bills, food, clothing; **Low wealth**: enough money to meet basic living costs and pay bills but have no savings to deal with any unexpected spends and no provision for the future; **Material deprivation**: being unable to access basic goods and services i.e. financial products like life insurance, repair/replace broken electrical goods, warm home, leisure and hobbies; **Socio-economic background**: disadvantage that can arise from parents' education, employment and income – in other words, social class

[F] See also Public Health Scotland Transport Poverty: a public health issue Jan 2024 and Joseph Rowntree Foundation 'Poverty in Scotland 2023'[43]

Table 1.2: **Population living within the 20% least affluent SIMD data zones in Scotland**[46]

	Population in 20% least affluent areas	% of population in 20% least affluent areas
Angus	9,291	8%
Dundee	55,840	38%
Perth & Kinross	8,508	6%
Stirling	11,110	12%

Table 1.3: **Child poverty targets**

	Child poverty rates in 2022[47]			
Child poverty targets include:	**Angus**	**Dundee**	**Perth & Kinross**	**Stirling**
By 2030, less than 10% of children should be living in relative poverty	20.6%	24.5%	17.9%	16.6%
By 2030, less than 5% of children should be living in absolute poverty	16.4%	19.0%	14.2%	13.4%

Child poverty

To help address inequalities, the Government has also set ambitious targets for child poverty.[48] The lack of affordable and accessible transport has been identified as one of the drivers of child poverty.[49]

1.6 What you told us

This strategy is asking big changes of all of us. To help get it right, it is critical that we have listened to what you told us. In addition to receiving responses from individuals and organisations we undertook two representative public opinion surveys.[50] Key messages from these surveys were:

Problems and priorities

- 80% believe that climate change is an immediate and urgent problem
- Approximately 80% support the principles of taking climate action, reducing inequalities, improving health and wellbeing and supporting inclusive economic growth. But improving health and wellbeing receives a little more support than the other three priorities

Constraints and opportunities

- 68% do not believe their trip to work or education can be undertaken by public transport
- The main reason people travel by the mode they are most reliant on is convenience. The least important reason is environmental benefit

Solutions

- 53% would be willing to change how they travel to help achieve climate change targets
- If there were safe, affordable and convenient transport alternatives provided:
  - 29% were more likely to travel to facilities closer to home (71% if those who are a little more likely are included)
  - 18% were more likely to walk more instead of drive (62% if those who are a little more likely are included)
  - 20% were more likely to get the bus instead of drive (59% if those who are a little more likely are included)
  - 20% were more likely to get the train instead of drive (53% if those who are a little more likely are included)
  - 10% were more likely to cycle more than drive (26% if those who are a little more likely are included)
  - There is net positive support for all measures, with the exception of new charges for motorists

Among the submitted responses, the concern that the Regional Partners would be unable to deliver the strategy is perhaps the most significant response. A summary of the headlines from the three stages of engagement and the full consultation results are available on the Tactra website.

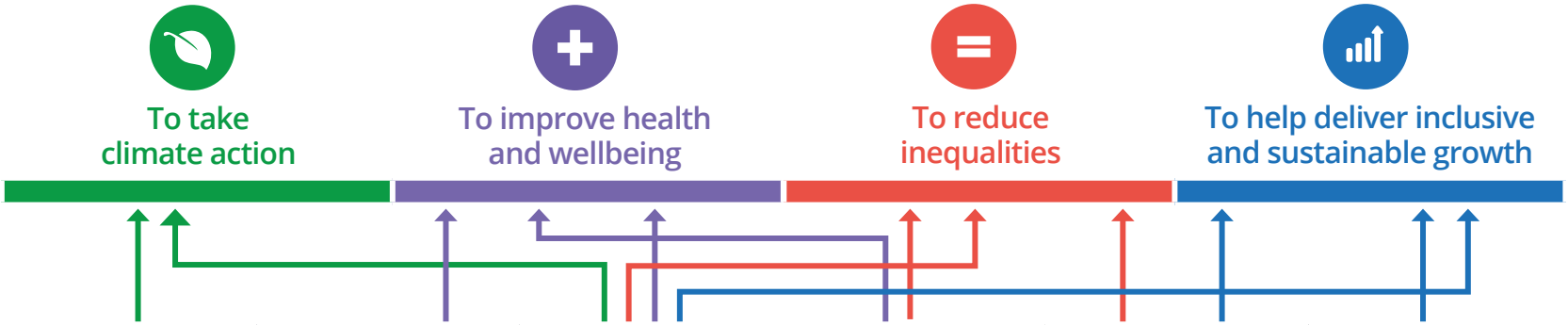
Further information

A fuller description of the issues can be found in the Main Issues documents on the Tactran RTS website. A summary of what you told us about the issues can be found in A New RTS January 2022 Update. A full report of the responses received is available on the Tactran website.

2 What we want to achieve

2.1 Strategic objectives

It is important the Strategy is an objective-led process to ensure we identify and focus on priorities for action. Figure 2.1 summarises the main issues and relates these to strategic objectives, which mirror Scotland's National Transport Strategy (NTS2).



	Climate Change Plan[51]	Clean Air for Scotland[52]	National Planning Framework[53]	Public Health Priorities[54]	Fairer Scotland Action Plan[55]	Scotland's Economic Strategy[56]
Social, economic and environmental priorities	• Reduce estimated CO_2 emissions from Climate Change plan • To phase out the need for petrol and diesel cars and vans in Scotland by 2030 • To reduce car kilometres (km) by 20% by 2030	• To meet national air quality directives	• Net zero emissions • Resilient communities • Wellbeing economy • Better, greener places	• To live in vibrant healthy and safe places and communities • To have a sustainable, inclusive economy with equality of outcomes for all • To have a healthy weight and be physically active	• A fairer Scotland for all • To end child poverty • Fairer working lives • A thriving third age	• To stimulate inclusive economic growth • To create economic opportunity
Problems, issues and constraints in the region	• Most trips made by car, not least due to: - Rural nature of much of the area - Few alternatives • Low % of trips made by low emission vehicles	• Declared AQMA and LEZ areas	• Much of the region has higher CO_2 emissions per head of population than the Scottish average • Impact of traffic (severance/noise/ air quality/safety) on commutes • The resilience of strategic and lifeline routes/services	• Communities with poor health • Road safety (actual and perception) • Access to health services • Levels of active travel	• Availability and cost of transport to access jobs, education and services • The ability of people with disabilities to use our transport networks	• Journey time reliability for business • Supporting growth locations and sectors • Availability and cost of travel

Figure 2.1: Relationship between strategic objectives and key issues

2.2 Outcomes

Taking account of national and regional issues, we have identified outcomes that detail how we want to achieve these strategic objectives. These outcomes help identify and focus activity where it is most needed, both in terms of locations and for which population groups.

Table 2.1: **Outcomes**

To take climate action
Reduce estimated CO_2 emissions from transport in the region • Increase the share of EV and low emission vehicle use • Reduce freight mileage by road • Reduce car kilometres (car km) driven
Ensure strategic and lifeline routes (and services) are resilient to climate change, extreme weather and emergencies
To reduce inequalities
Improve ability for young people, and disadvantaged and rural communities to access jobs, education and services • Improve ability of 16-24 year olds to access jobs and further education • Improve ability of all in the lowest SIMD data zones (all domains), targeted by the respective Councils, to access jobs, education and services • Improve ability of families, targeted in local child poverty action plans, to access jobs, education and services • Improve ability of rural communities to access jobs, education and services • Improve the ability of over-65s, and those in lowest SIMD data zones targeted by the respective Councils, to access social activities
Improve the ability of people with disabilities to access jobs, education and services
Improve the safety and security of vulnerable and protected characteristic groups in the street environment and on public transport

Table 2.1: **Outcomes**
To improve health and wellbeing
Improve road safety for vulnerable users (pedestrians, cyclists, children and older people, lower SIMD quintile)
Reduce transport emissions in declared air quality management areas
Improve access to healthcare
• Improve the ability of all in the lowest SIMD data zones (health domain), targeted by the respective Councils, to access healthcare
• Improve the ability of rural communities to access healthcare
• Improve the ability of over-65s to access healthcare (primary healthcare/hospitals)
Increase the share of personal trips made by sustainable modes such as walking, wheeling, cycling and public transport
Increase levels of physical activity
• Increase the levels of walking, wheeling and cycling in the lowest SIMD data zones (health domain), targeted by the respective Councils
• Improve the ability to access active leisure facilities and green space for lowest SIMD data zones
Reduce the impact of traffic on communities on strategic routes
To help deliver sustainable, inclusive economic growth
Reliable inter-regional and intra-regional journey times
• Improve public transport journey times, and journey time reliability on strategic road and rail routes
• Improve journey time reliability for freight through the region, and to key destinations in the region
Improved ability for young people, and disadvantaged and rural communities to access jobs and education
• See outcomes to reduce inequalities above

2.3 Where does attention need to be focused?

Given the number of trips made each day in each Council area, any real progress against the strategic objectives is unlikely unless **measures are directed at those populations and locations where they are most likely to have the greatest impact**. For example:

- **To reduce inequalities**
  Target access improvements at the least affluent communities and vulnerable groups (e.g. disabled; young; over-65s; groups identified in the child poverty action plans and the Integrated Impact Assessment), especially where these groups are located in areas where there is poor access (as indicated by SIMD access domain[57]) and/or at risk of transport poverty (see Transport Scotland STPR2 transport poverty mapping[58])

- **To address climate change**
  Target measures at those trips and locations that generate the most car km driven (i.e. 76% of km driven by those who live in the region is generated by trips over 10 km[59], and 82% of car km driven is generated to/from/between our rural areas[60])

- **To improve health and wellbeing**
  - Promote active travel in the communities with the poorest health (as defined by the SIMD health domain[61])
  - Promote modal shift to reduce the number of car trips in those locations where there are air quality issues
  - Target road safety interventions at pedestrians, cyclists, children and older people, locations in the lower SIMD quintile

- **To assist the delivery of sustainable inclusive economic growth**
  - Target access improvements to education, training and employment for 16-24 year olds; the least affluent SIMD data zones as targeted by each Council[G]; and those identified in child poverty action plans (lone parent families, the large majority of which are headed by women; families which include a disabled adult or child; larger families; minority ethnic families; families with a child under one year old; families where the mother is under 25 years of age.[66])
  - Promote modal shift in and around major traffic corridors and pinch points in our urban areas
  - Improve connectivity to/from the region where there are disparities in travel times between car and public transport on the strategic transport network

[G] See respective local outcome improvement plans: Angus Council, Angus Local Outcomes Improvement Plan 2022-2030[62]
Dundee City Council, City Plan for Dundee 2022-2032[63]
Perth & Kinross Council, Perth & Kinross Community Plan 2022-2032[64]
Stirling Council, The Stirling Plan 2017-2027[65]

2.4 The scale of the challenge: Targets

Whilst the partnership will strive to work towards all outcomes, it is suggested that a number of key outcomes will drive the strategy. These are highlighted in Table 2.2 below. Given the importance of these outcomes, targets have been set to help partners measure progress towards the required goal.

Table 2.2: **Where we need to get to and the scale of the challenge**

Key RTS Outcomes	Regional Target	Scale of the challenge	What needs to be done
Reduce estimated CO_2 emissions from transport in the region	Reduce emissions from transport in line with the national target of a reduction of 100% by 2045 (compared to 1990)	Angus, Perth & Kinross and Stirling all have higher transport CO_2 emissions per head than the Scottish average If current trends are maintained, it is likely that a reduction of only 11% may be likely	Decarbonisation of vehicle transmissions Reduce mileage driven
Increase the share of EV and low emission vehicle use	Phase out need for new petrol or diesel light commercial vehicles in public bodies by 2025 Phase out need for any new petrol or diesel vehicles in public sector fleets by 2030 Phase out need for new petrol or diesel cars or vans by 2030 Removal of diesel passenger trains from the Scottish network by 2035	Approximately 4.5% of vehicles registered in the region were hybrid, electric or ULEV in 2023[67]	Rapid introduction and adoption of low and zero-emission technologies

Table 2.2: **Where we need to get to and the scale of the challenge**			
Key RTS Outcomes	**Regional Target**	**Scale of the challenge**	**What needs to be done**
Reduce car kilometres (car km)driven	Reduce car km driven in line with the national target of reducing car km driven by 20% by 2030 (compared to 2019 levels)	National target means reversing 29+ years of growth in car km in a period of 6 years 82% of car km is generated to, from or between our rural areas and towns[68] Over three quarters of personal car km is generated by trips over 10km	Improve alternatives for longer trips Improve access to public transport interchange Facilitate shorter trips through more services being delivered locally Discourage car trips where there are reasonable alternatives and facilitate shorter trips Improve access to public transport
Reduce fatalities and injuries	Meet the targets set out in Scotland's Road Safety Framework to 2030[69]	Any number of fatalities or casualties are too many. Whilst good progress has been, and continues to be, made across most of the region in the last 10 years, close attention needs to continue to be paid to longer term trends	Reduce traffic speeds and consider engineering solutions to address identified safety concerns Provide road safety education and campaigns

Table 2.2: **Where we need to get to and the scale of the challenge**			
Key RTS Outcomes	**Regional Target**	**Scale of the challenge**	**What needs to be done**
Increase the levels of walking and cycling in the least affluent SIMD data zones	For the least affluent SIMD data zones achieve Transport Scotland's[70] forecasts for average proportion of journeys walked and cycled by 2030[H] • Large urban areas: 30% walk/24% cycle • Other urban areas: 24% walk/19% cycle • Accessible small towns: 26% walk/13% cycle	The current average proportion of journeys walked/cycled are: • Large urban areas: 24% walk/1.5% cycle • Other urban areas: 19% walk/0.4% cycle • Accessible small towns: 20% walk/0.5% cycle Within existing parameters, walking can be expected to increase in the least affluent communities by an additional 1% point, and cycling by 2-4% points	Improve walking, wheeling and cycling opportunities to local facilities
Reduce transport emissions in declared air quality management areas	National Emission Ceiling Directive[71] thresholds are reflected in the Crieff, Dundee City and Perth City Air Quality Management Plans and Dundee Low Emission Zone, including: • NO_2 annual mean (not to exceed 40µg m-3) • number of NO_2 exceedances (200µg m-3 not to be exceeded more than 18 times a year)	Our towns and cities serve large rural hinterlands. 60% of trips made by those living in the region are by car (2019)	Support the introduction and adoption of low and zero-emission technologies Reduce the number of car journeys in our towns through promoting walking, wheeling, cycling and public transport

Table 2.2: **Where we need to get to and the scale of the challenge**			
Key RTS Outcomes	**Regional Target**	**Scale of the challenge**	**What needs to be done**
Improve ability of all in the least affluent SIMD data zones targeted by the respective Council to access jobs, education and services	The ability to access services is influenced by a number of factors including availability and awareness of services; cost; difficulties in planning and undertaking multi-stage/ multi-modal journeys etc. There are limited data sources to track ability of the target groups to access jobs, education and services. Whilst the following target is used to support this subject, it is acknowledged that a wider set of indicators that drive progress are required (see Section 4 for a fuller range of indicators) % of employed adults who could use public transport for work in least affluent areas to be equal to or better than the average for the Council area	Lack of access to affordable transport is identified as a key driver of child poverty[72]. Limited public transport services in many localities and limited ability to influence commercial fares Centralisation of public services. Location of services in 'out-of-centre' locations.	Improve public and shared transport opportunities Improve ability to access and use public and shared transport opportunities

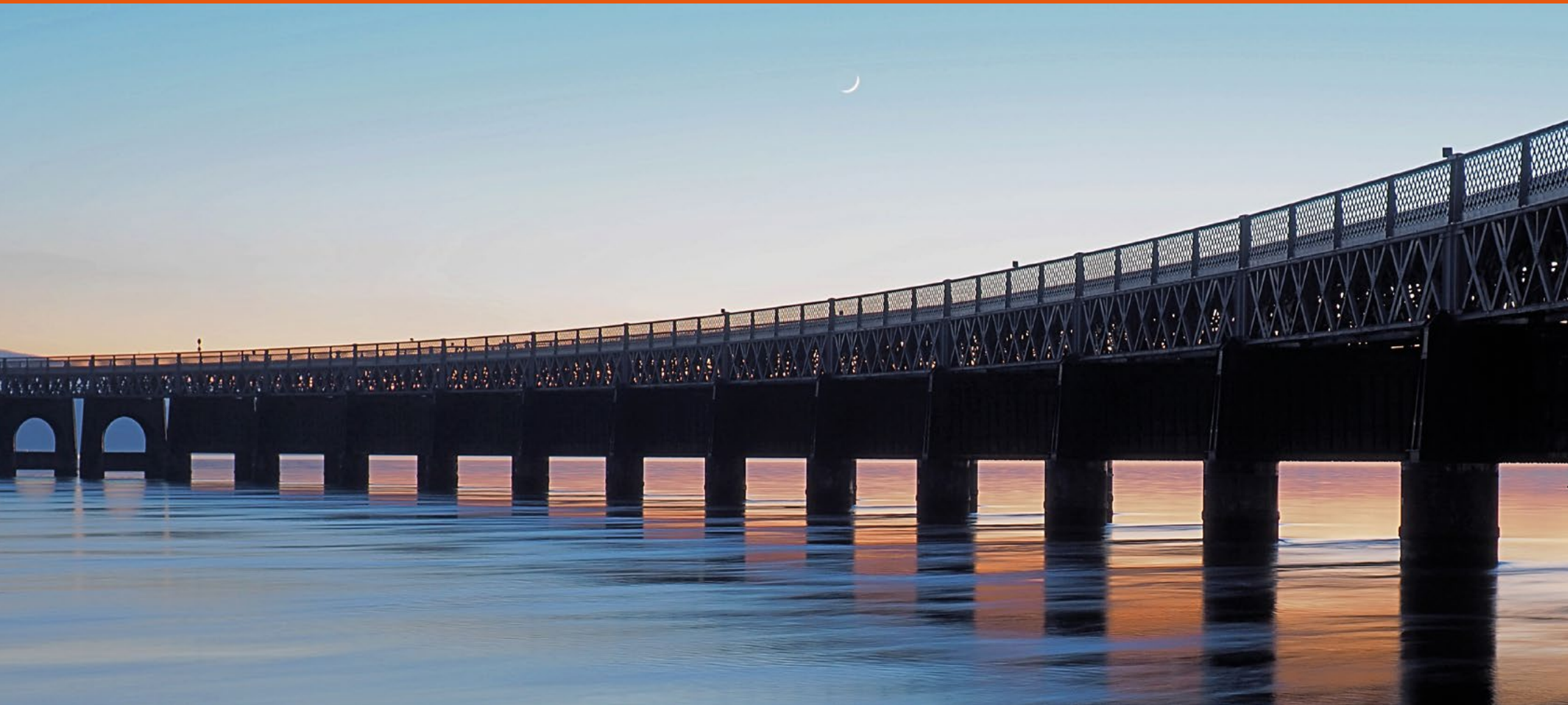
[H] To reduce inequalities, the goal would be to increase the levels of walking and cycling in the least affluent SIMD data zones to the same level as that in the most affluent areas. However, it is difficult to pick out differences at a local level, not least as most of the less affluent communities are in urban areas where active travel is higher than the average. It is possible however to seek to achieve the target levels of walking and cycling in the least affluent areas first (i.e. by 2030), the STPR2 forecasts are to 2033

Table 2.2: **Where we need to get to and the scale of the challenge**			
Key RTS Outcomes	**Regional Target**	**Scale of the challenge**	**What needs to be done**
Improve journey times, and journey time reliability, on strategic road and rail routes to key destinations for: (a) public transport (b) freight	Improve public transport journey time and journey time reliability on key bus corridors in accord with any Tayside and Forth Valley Bus Alliance Strategic Business Case Ensure journey time reliability to key freight origins/destinations remains within 95% of average journey time	The region is both peripheral to the Central Belt, as well as accommodating almost all surface trips to North-East Scotland and the Highlands and Islands	Reduce the number of trips passing through the pinch points on our strategic routes

Further information

A fuller description of the outcomes and targets can be found in RTS Monitoring Framework.
This includes identifying those locations and population groups where action is most required.
See appendix 1 for further information.

3 How we will deliver the Strategy



3.1 Step changes in approach required

Table 2.2 highlighted the scale of change required to achieve our local, regional and national aspirations, particularly in relation to climate change and reducing social inclusion. This scale of change requires significant changes in how we travel and service provision for individuals, businesses, the Councils and other delivery agencies.

This scale of change requires:

- **Significant change in travel habits** for individuals and businesses
- **Greater provision of public and shared transport**: Improvements to public transport services are required to support modal shift and social inclusion. Powers available in the Transport (Scotland) Act 2019 and alternatives to providing subsidised public transport need to be considered
- **Demand management measures**: Improvements to active, public and shared transport alone will not encourage a sufficient modal shift, and demand management measures that reflect people's realistic choices, will be required. This is likely to require discouraging car use by those who have alternative travel options
- **Additional finances** (public and private) must be found to improve alternatives to the car
- **The location of services and new development** must not be car-dependent
- **Greater collaboration and co-ordination** of partner activities is required to maximise available resources

This is a step change in activity for partners, and there is an **urgency** if the 2045 net zero targets are to be met or bettered. This level of change requires **strong and declared political support.**

3.1.1 How will this affect individuals and busineses?

It is important that there is a Just Transition[79] to a net zero carbon emissions society. This includes ensuring that the move towards net zero reduces social inequalities and does not exacerbate them. In addition, people will expect fairness. They will expect everyone to play their part, and they will expect the circumstances of the more vulnerable in society to be taken into account.

It is those that drive the most (individuals and businesses) that will be asked to change their habits the most. This will mean considering which mechanisms can discourage car use, but this can only be done where there are reasonable alternatives to the car. There is a need to ensure such mechanisms are fair and equitable, reflecting the different circumstances across the region. Any introduction must also be carefully timed, taking account not just of reasonable alternatives but wider events in society, such as the current cost of living crisis.

Changing behaviour can be difficult, and providing transport solutions alone may not in themselves enable change. People may not have a choice about where and when they travel. This will inevitably restrict their travel options. People will also have to weigh up the costs of different options. These complexities are recognised, and underline the need to view the problems and solutions within a wider societal context.

This will not be an easy process for anyone, so it is important to explain why actions to address climate change are necessary, and understand the potential implications from the people who will be affected to inform the location, scale and nature of measures. An informed conversation on this difficult matter needs to be promoted and maintained.

Any restraint measures will also be associated with improvements to our transport networks and choices. This will improve the situation for those without access to a car (28.3% of households[80]) and also those that want to walk, wheel, cycle and use public transport.
In particular, people will expect to see a direct link between any charges made and improvements to alternatives.

We hope this will mean:

- People will have the choice to make fewer trips by using technology to reduce the need to travel
- People have confidence that they can make car-based trips by low emission vehicles and reduce car mileage by making most trips by sustainable modes
- Our settlements will be healthier places to live, where people are able to access more services locally by walking, wheeling and cycling
- That reliable and affordable public transport and shared transport[l] networks enable everyone to access jobs, education and services
- Journey times to and between centres will be reliable due to less congestion and more resilient network

[l] Shared transport, such as car clubs, car hire, bike hire and community transport, can complement demand responsive public transport to access either the destination or the closest fixed route public transport service

3.1.2 How will this affect the Regional Partners?

Implementing the scale of alternatives to the car, and demand management measures that discourage car use, to hit the 2045 net zero climate change targets will be challenging and require a step change in delivery:

- The scale of behaviour change for individuals and businesses will be challenging. We will need to take everyone with us, carefully explaining the changes required, why they are required, listening and understanding the consequences, and shaping proposals accordingly. This is likely to require widespread 'hearts and minds' campaigns with clear and co-ordinated messaging across partners. This RTS seeks to support this process, and partners may wish to consider how further regional messaging could assist
- It is assumed that the ability to improve alternatives everywhere (not least due to resources) – at least in the short term – will remain challenging. With scarce resources, there is a need to:
  - Prioritise where action is most required and will have the greatest impact on targets
  - Improve co-ordination of delivery programmes between partners to deliver realistic alternative to car travel. Co-ordinating programmes are required to deliver integrated solutions
  - Make the case for more investment and explore other funding models
- As well as the co-ordination (aligning priorities and programmes) required to provide integrated solutions, finding solutions to the big issues (i.e. improving public transport; decarbonisation of transport; demand management required to support 20% car km reduction target) requires effective collaborative working across the respective transport agencies (including the third and private sectors). The Regional Partners will accordingly identify partnership arrangements that ensure programmes are prioritised and co-ordinated to deliver integrated solutions
- When considering the appropriate solution to any problem, the principles of both the sustainable investment and mode hierarchies[81] will be applied. This means always considering whether actions higher up the hierarchy can provide a solution to the problem, before considering an action lower down the hierarchy

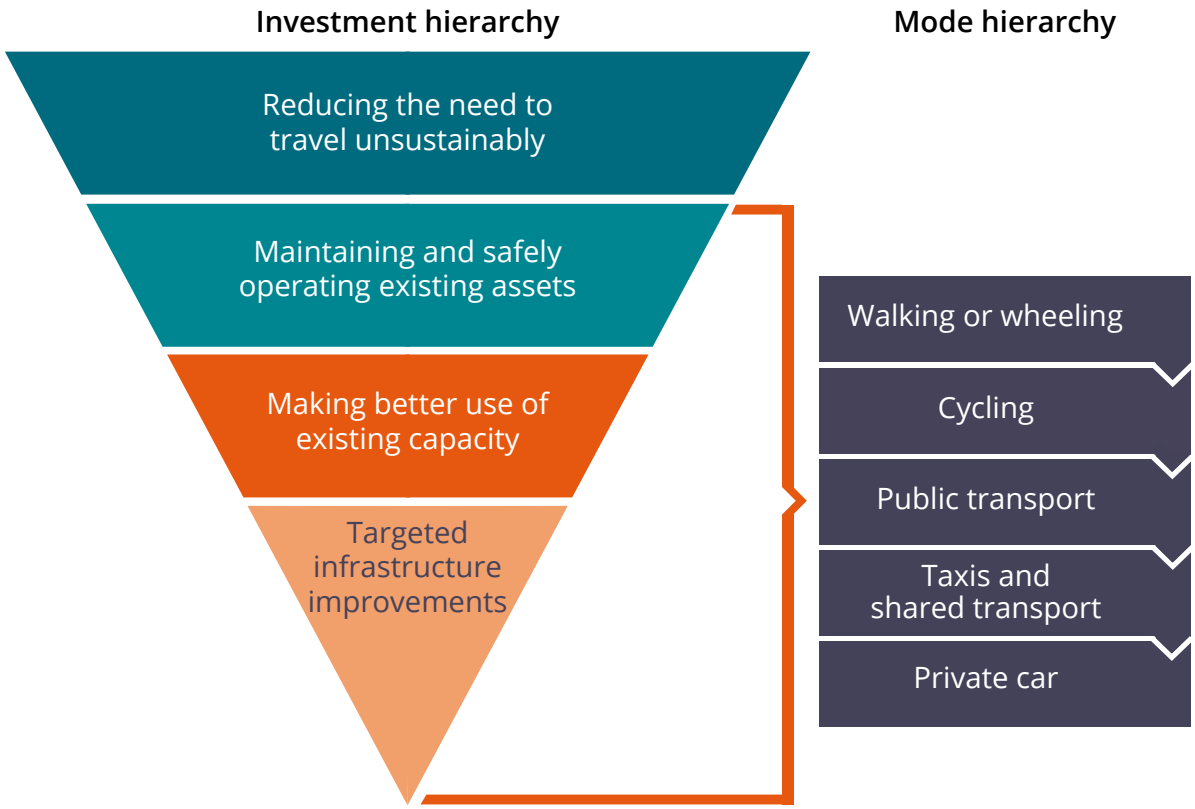


Figure. 3.1: Investment and mode hierarchies

- The identification of solutions and co-ordination of delivery must look beyond local authority boundaries. People live their lives across local authority boundaries, and the integrated solutions provided must work across the individual's journey, which is often across a local authority boundary, and sometimes across regional boundaries. The areas to work across include:
  - Tay Cities area (Angus, Dundee, Perth & Kinross and North East Fife)
  - Forth Valley area (Stirling, Clackmannanshire and Falkirk)
  - North Angus and South Aberdeenshire
  - South-west Stirling and North East Glasgow
  - Cairngorms and the Loch Lomond and the Trossachs National Parks

- Addressing the issues cannot be resolved by the transport agencies alone.
  - People need to get to healthcare, to education, to employment. Only by working together can relevant agencies identify the co-ordinated activity required to support the user across all of their journey. The users' journey does not start with "where do I catch the bus" ...it starts with "I want to go to college". The first step in this process – and one which is essential to deliver the 20 minute/liveable neighbourhoods principle[82] – is that all public sector partners need to consider how services are to be provided locally
  - The digital and electricity networks are critical to how we access services and how our transport networks work. Transport agencies must ensure that our transport aspirations align with the capacity of both digital and electricity network providers

The RTS encourages Regional Partners to continue to investigate ways of working together to improve the ability of all to meet the challenging aspirations that everyone shares. It may be worthwhile noting the Scottish Government's Net Zero, Energy and Transport Committee recommendations in its consideration of 'The role of local government and its cross-sectoral partners in financing and delivering a net zero Scotland'[83]

"The committe supports a stronger Regional Transport Partnership model to help enable positive behavioural change. RTPs should be empowered and resourced to be lead decision-takers on acheiving a more joined up and strategic approach to public transport and active travel at regional level: one reflective of actual travel or commuting patterns, which do not stop at Council boundaries, and to achieve better integration on transport policy between member Local Authorities. This in return requires RTPs to be higher profile, more transparent and more responsive organisations, with clearer processes for public engagement."

Scottish Government's Net Zero, Energy and Transport Committee

3.2 The role of the Scottish Government

The partners are committed to achieving the targets set by the Scottish Government in relation to climate change; reducing inequalities; improving road safety; active lifestyles and air quality among others. In striving towards these targets, the partners will:

- Prioritise and co-ordinate activity to target those locations/populations where the most progress is required to make a difference against national targets
- Investigate with operators new models of public transport provision
- Investigate charging mechanisms to encourage a modal shift

However, the work undertaken to develop this strategy suggests that it is unlikely that a number of national targets will be achieved in the region within the existing resources and powers available to the partners.

Where gaps are identified between the 'best that the Tactran partners can do' and the aspiration of a national target, we ask that ongoing engagement with the Scottish Government and its officials be established to work together to help each other achieve these critical national aspirations.

Table 3.1: **Risks to achieving national aspirations**	
Target	**Risks**
Phase out need for new petrol or diesel light commercial vehicles in public bodies by 2025; new petrol or diesel vehicles in public sector fleets by 2030; new petrol or diesel cars or vans by 2030	Attractiveness of ULEV to purchasers (public and fleet) due to: • Cost • Confidence and ease of charging EVs
Reduce car kilometres driven in line with the national target of 20% by 2030 (compared to 2019 levels)	Ability to provide alternatives for those trips that generate most mileage by 2030 Restraint measures likely to be required. Ability to implement appropriate measures in timescales
Meet the targets set out in Scotland's Road Safety Framework to 2030	Impact of other programmes, e.g. • Reduced road maintenance Resources, particularly in terms of: • Enforcement • Ability to make sufficient infrastructure improvements
Emissions are reduced to below National Emission Ceiling Directive thresholds in Crieff, Dundee City and Perth City	Speed of adoption of ULEV Ability to provide sustainable alternatives to the car Ability to introduce restraint measures within timescales
For the least affluent SIMD data zones achieve Transport Scotland's forecasts for journeys walked and cycled by 2030	Ability to ensure that sufficient destinations are within walking or cycling distance Ability to make sufficient improvements to the walking, wheeling and cycling environment Ability to encourage behaviour change
Support child poverty targets by addressing the lack of access to affordable transport	Ability to provide transport services outside core public transport hours Ability to improve affordability for the target groups

3.3 The need for a strong and reliable public transport network

A reasonable public transport network may exist between towns and within the cities, but:

- There are gaps in people's ability to connect to this network, and
- Improvements to this network (including reliability and frequency) are required

Consultation responses suggest that the public has lost confidence in bus travel in the region. The impact can be greater in rural areas e.g. when there is a cancelled bus and the next one may be a couple of hours later (or not at all). A loss in confidence could drive car use up further, and may affect the attractiveness of rural destinations. The networks need to be more reliable.

Integration, in terms of modes, facilities and timetables is essential to provide an attractive alternative to the car.

Affordability remains a problem, especially for those having to travel the furthest (e.g. those in rural areas).

New models need to be explored to address user confidence, integration and affordability. These may be:

- regional models, or
- local models

Operators (including community transport operators) have agreed to work in partnership with Tactran and the Councils to explore future models of provision through the bus alliances.

The solutions must reflect the travel demands of an area. The travel demands include not just the daily demands of residents but also the demands of visitors.

Where fixed route services are not viable, or best value for money due to the low density of population, then Tactran and the Councils want to explore ways to work with and support communities to identify and provide the solutions that best work for them.

New models need to consider how best use of public sector fleet can be made.

A new funding model will be required for any service/affordability improvement. Within an integrated transport network, charging mechanisms to discourage car use can help provide funding to continue to improve the alternatives to the car.

3.4 Reducing car kilometres driven

The Scottish Government has set a target to reduce car km driven by 20% by 2030 compared to 2019 levels. Research commissioned by the Scottish Government suggest that this will deliver approximately 27% of the transport carbon emission reductions required by 2030[84, J].

Tactran and the Councils are supportive of this target, but are also conscious of the implications of delivering this target. Most of the car km driven is to, from and between our rural areas. It would be wrong to add to the costs of living by charging car use where there currently is not a reasonable alternative to the car.

Consequently, Tactran and the Councils will investigate and support an approach to reducing car km driven where:

- Alternatives will be provided and improved in those corridors which generate the most km

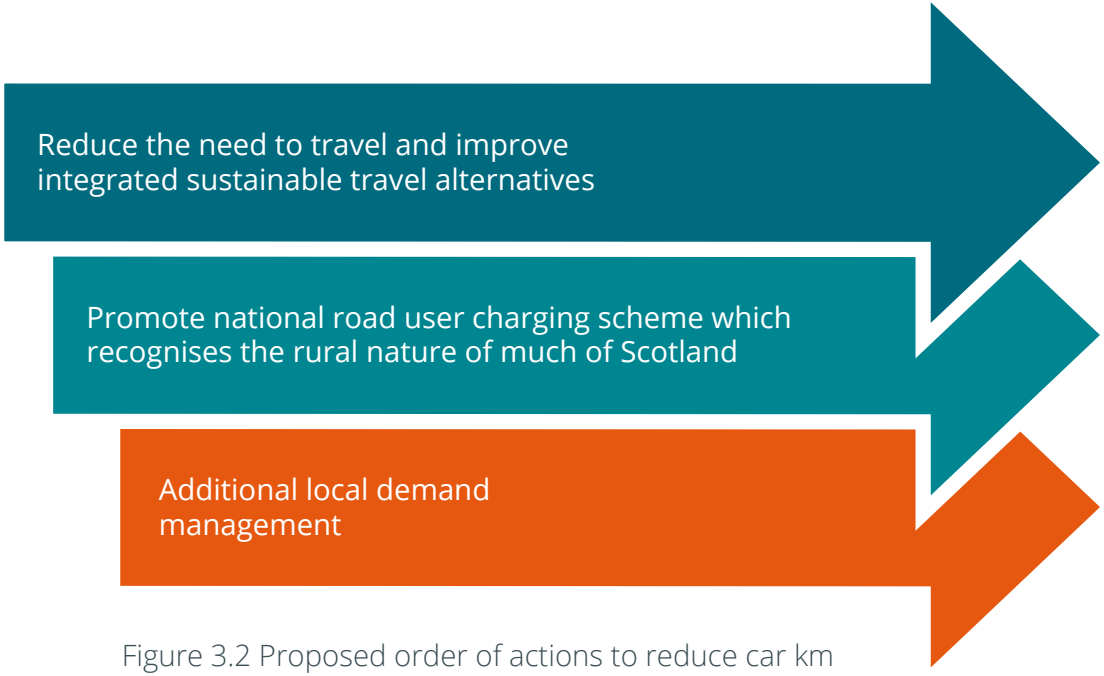


Figure 3.2 Proposed order of actions to reduce car km

[J] Further reading: Transport Scotland, Route map to achieve 20% reduction in car km by 2030[85];
RAC, A Fairer way of paying to drive[86];
Centre for Policy Studies, The future of driving[87];
Climate Emergency Response Group, Committing to delivery.[88]
Transport Scotland are expected to issue a second report on achieving the 20% car km reduction.
Regarding a charging/payment regime alternative to the existing fuel and road taxation based structure see Scottish Government, Update to the Climate Change Plan 2018 – 2032[89] para 3.3.36

- Any changes to charging car use must:
  - Follow sufficient improvement in alternatives to the car
  - Have an impact on kilometres driven. Congestion charge, workplace parking levy, increased parking charges will have a greater impact on the number of trips within a centre (helping address air quality and congestion problems), than the distance people travel
  - Not undermine the viability of a location (whether that be a local centre if it becomes cheaper to travel to a centre further away; or the viability of living in a rural area by significantly adding to the relative costs of living in a rural area). Co-ordination of measures across local authority boundaries will be required
  - Not increase transport poverty
  - Be able to be responsive to changes in fuel duty or its successor
  - Recognise that people need to travel, and in rural areas the only way for many people to access their closest facilities (including public transport interchanges) is currently by car

Our representative public opinion survey suggests that there is strong public support for following these principles when investigating how to reduce car km[90].

It is also recommended that a national conversation be initiated to ensure public, businesses and all stakeholders are aware of and can participate in this critical issue which will affect, one way or another, everyone.

Recent consultation on Scotland's Guiding principles on the Environment[91] has confirmed the appropriateness of:

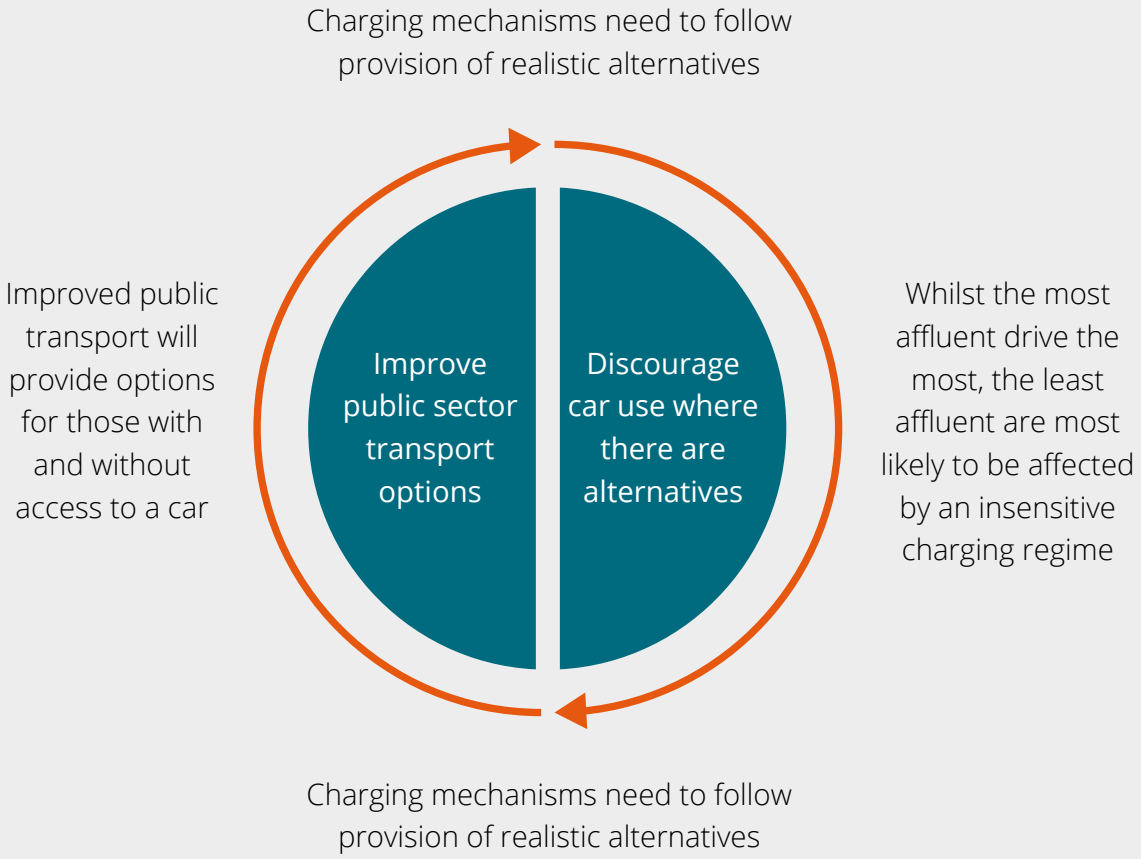
- The precautionary principle as it relates to the environment
- The principle that the polluter should pay

Both these principles are useful to be conscious of when considering options to help reduce car mileage.

New models of bus provision need to be explored to address user confidence, integration and affordability.

- Tactran and the Councils will work with the public transport operators to understand which future models can deliver what the people of the region need
- The solutions must reflect the travel demands of an area. The travel demands include not just the daily demands of residents but also the demands of visitors
- Where fixed route services are not viable or best value for money, we want to explore ways to work with and support communities to identify and provide the solutions that best work for them
- New models need to consider how best use of public sector fleet can be made
- A new funding model will be required for any service/affordability improvement

Figure 3.3: Our transport networks cannot work without a strong and reliable public transport network, however improving alternatives alone will not meet climate change targets



Any changes to charging car use must:

- Follow sufficient improvement in alternatives to the car
- Have an impact on kilometres driven
- Not undermine the viability of a location (whether that be a local centre if it becomes cheaper to travel to a centre further away; or the viability of living in a rural area by significantly adding to the relative costs of living in a rural area). Co-ordination of measures across local authority boundaries will be required
- Not increase transport poverty
- Be able to be responsive to changes in fuel duty or its successor
- Recognise that people need to travel, and in rural areas the only way for many people to access their closet facilities (including public transport interchanges) is currently by car

3.5 Decarbonising transport

Supporting the uptake of electric vehicles is key to the Scottish Government's Climate Change Plan and is aligned with the outcome of phasing out the need for new petrol and diesel cars and vans by 2030. Research commissioned by the Scottish Government suggests much of the transport CO_2 emissions reduction will be as a result of changing technologies which help decarbonise transport.[92]

Both the scale and pace of investment in Ultra-Low Emission Vehicles (ULEV) charging infrastructure will need to be accelerated to meet the anticipated demand over the coming years.

In June 2023, Transport Scotland published its public charging Vision.[93] The Partners are committed to delivering the principles contained within the vision to make public ULEV charging more convenient, accessible and ensure private sector funding helps to maintain a comprehensive network that supports our decarbonised transport ambitions. The Scottish Government aims to grow the public electric vehicle charging network to at least 6,000 public charge points by 2026,[K] with the expectation of leveraging private investment to complement and improve the current charging network.

Angus, Dundee City, Perth & Kinross and Stirling Councils are each developing their public electric vehicle (EV) charging strategy and expansion plans, to identify and take forward the opportunities to work with the private sector to grow the public EV charging network within the region. These plans are identifying local and regional charge point needs, the investment requirements, as well as the best approaches to delivering collaborative investments with commercial charge point operators.

Tactran and its constituent local authorities are open to operating different types of zero-emission technology in public sector, business and bus fleets which includes hydrogen fuel cell vehicles (FCEVs). FCEVs are less common at present, and the scale of their role in the future zero-carbon transport system is currently uncertain. However, infrastructure for fuelling FCEVs must also be considered to support their deployment as the technology becomes more readily available.

Tactran and its constituent local authorities are currently engaged in a regional hydrogen project which will provide further insights into the requirements for integrating FCEVs to support the decarbonisation of transport.

[K] There are currently 4,591 publicly available charge points across Scotland (Cp. ZapMap – EV Charging Statistics 2023)[94]

3.6 Integrated solutions

To provide an alternative to the car, there is a need to work together to provide integrated solutions across all stages of the non-car journey. This work needs to reflect the user journey (vertical columns in Fig 3.4), rather than our organisational silos (horizontal rows in Fig 3.4).

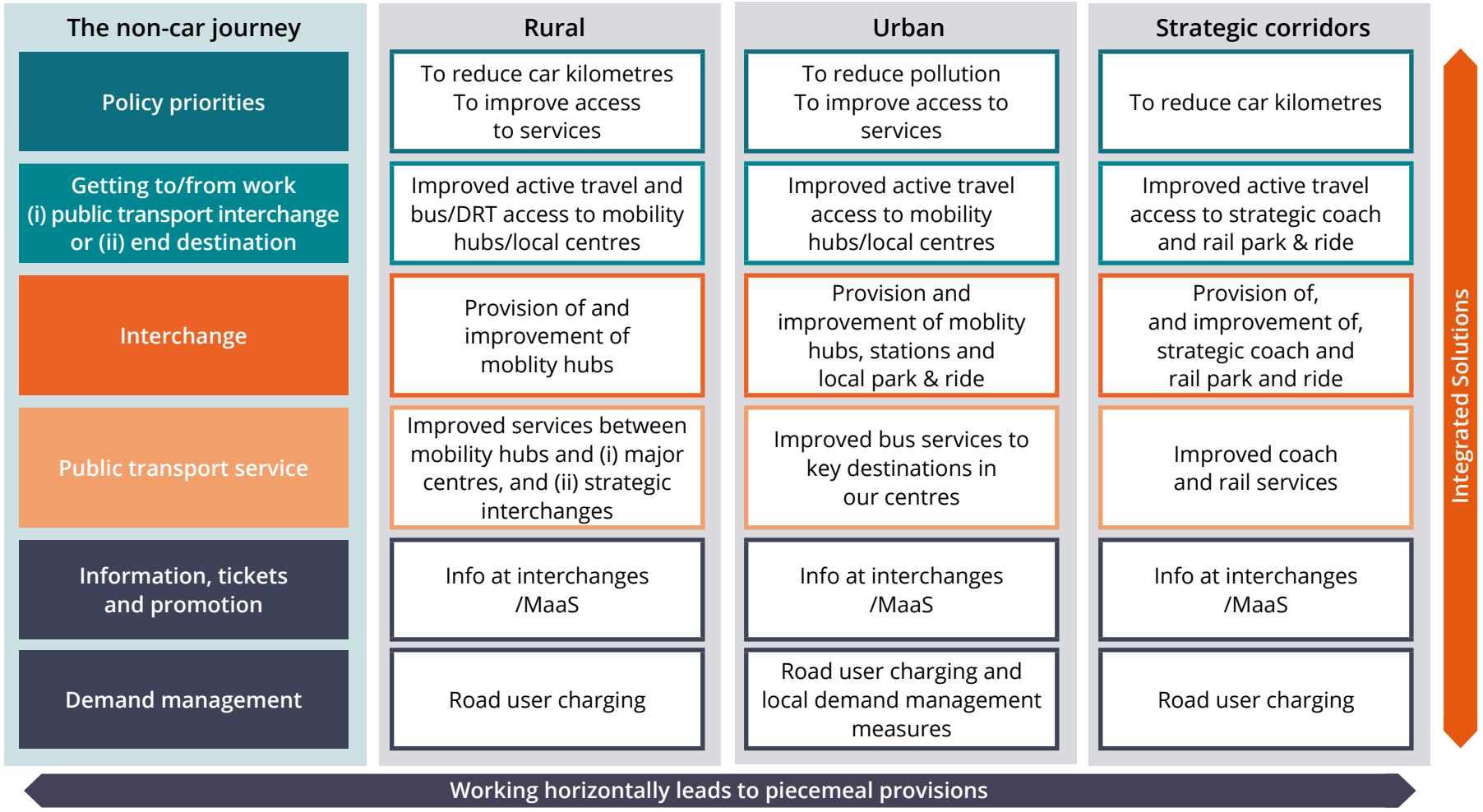


Figure 3.4 Integrated solutions concept

3.6.1 Integrated solutions: Rural areas

West and North Stirling; West and North Perthshire; Kinross-shire; Angus Glens; Angus Mearns; Stirling Eastern Villages; Carse of Gowrie

37% of the population in the region live in rural areas[95].

Residents often have to travel further for services

- **Increasing costs**: increasing the risk of transport poverty
- **Limiting opportunities**: for example, being restricted to arriving later and leaving earlier will reduce the courses you can attend at college

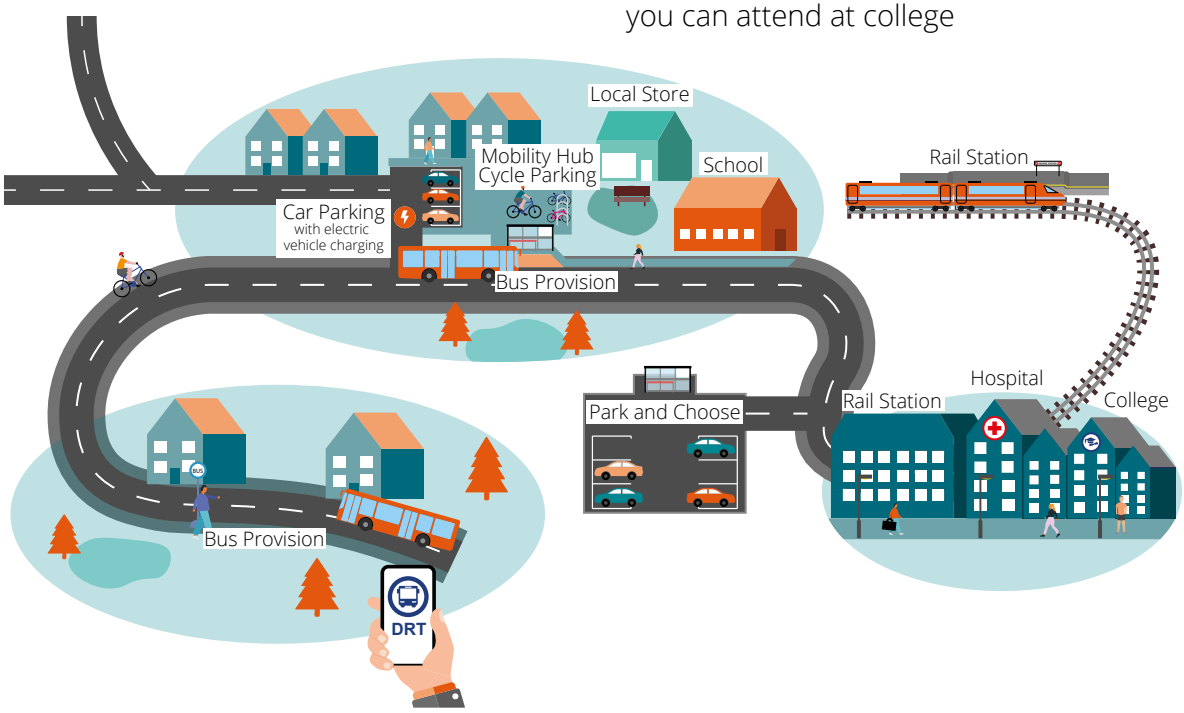


Fig 3.5 Integrated solutions: Rural areas

Most of our rural areas, be it coast or mountains, are also **popular tourist destinations** attracting significant numbers of visitors (this includes areas within two national parks).

82% of car km driven in the region is to, from or between our rural areas, helping to contribute to the higher transport CO_2 emissions per capita in Angus, Perth & Kinross and Stirling compared to the national average.

Low population densities mean it is **difficult to provide extensive and regular public transport. Consequently many residents and visitors rely on the car** to travel to, from and between our rural areas. However, it would be wrong to assume all households have access to a car.

To help people access services in their local centres and nearby towns and cities (and conversely help visitors and workers access our rural areas), and to reduce car km, there is a need to:

- **Enable people to access interchange points** by walking, wheeling, cycling and public and shared transport, but also by car (as sufficient public or shared transport options are never going to be able to be provided to meet all travel demands in rural areas) in their local centre and in (or near) nearby towns and cities
- **Improve bus, coach and train services** between our centres

More services also need to be provided locally

3.6.2 Integrated solutions: Urban areas

Arbroath, Dundee, Forfar, Montrose, Perth, Stirling (including Bridge of Allan)

63% of the population in the region live in urban areas.[96]

Most (but not all) of **our least affluent areas, and most of our concentrations of poor health are within our urban areas.**[97]

These centres are the focus of many of the trips from around the region, concentrating traffic and **creating problems of air quality and journey time reliability**, including on those strategic routes which pass through, or by, our urban areas.

While many trips within our urban areas may be short; cost, convenience, time constraints and physical abilities mean that many travel by car rather than walk, wheel, cycle or use public transport.

There is a need to:

- **Promote and improve active and sustainable travel opportunities, especially for our least affluent communities**, to connect everyone to jobs; education and training; local services (such as shops and open space); and health facilities
- **Reduce the traffic entering and leaving our towns** by enabling people to transfer to public transport

In doing so, we will help reduce the adverse impacts of traffic on our communities and on local and national economies.

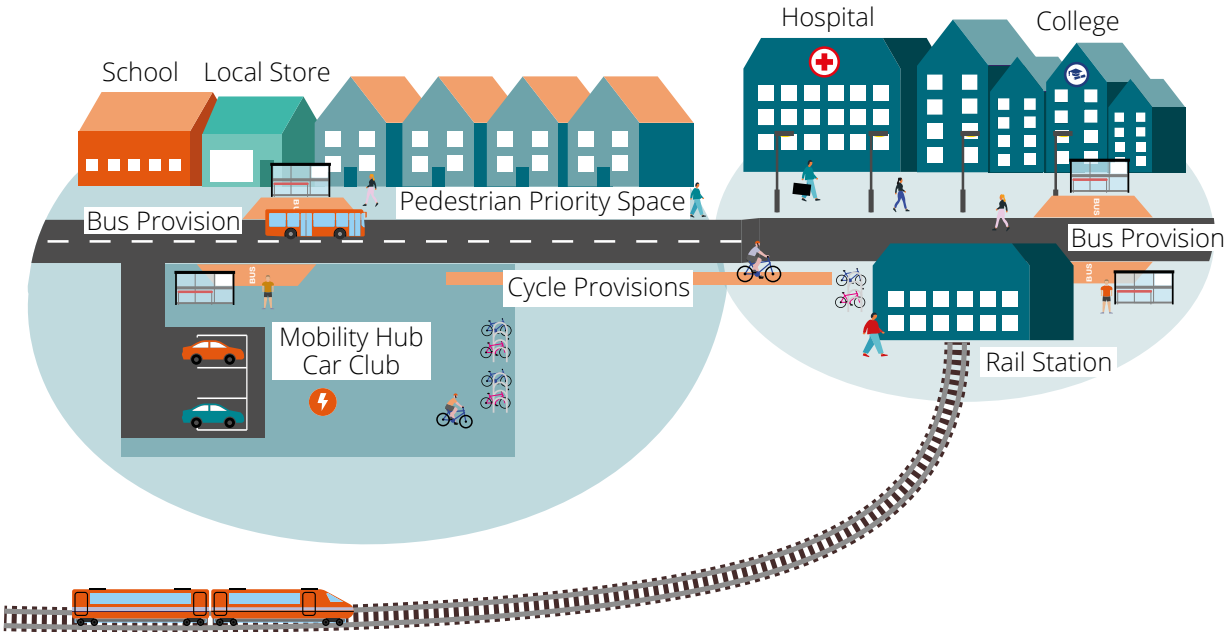


Fig 3.6 Integrated solutions: Urban areas

3.6.3 Integrated solutions: Strategic corridors

Rail: Aberdeen/Inverness to Edinburgh/Glasgow; West Highland Line; Alloa/Dunblane to Edinburgh/ Glasgow

Road: M9/M80/M90/A9/A90/A82/A84/ A85

The region lies at the heart of Scotland.

Residents and visitors travel to and from the region from elsewhere in Scotland, and in particular to and from the neighbouring cities of Aberdeen, Dunfermline, Edinburgh, Glasgow and Inverness.

In addition, most vehicular and rail trips to or from Northeast Scotland and the Highlands and Islands will pass through the region. Ensuring that many centres in the region are well served by strategic road and rail (a notable exception being rail between Perth and Edinburgh), has conversely led to through traffic contributing to air quality, noise, and journey time reliability issues at, and around, Dundee, Perth and Stirling, affecting local and national economies and local communities.

There is a need to:

- **Reduce the impact of pinch points on these strategic networks** for local and national freight, bus and coach services
- **Improve public transport along these strategic corridors** within and through the region
- **Provide opportunities for people to access these strategic coach and rail services** at the earliest opportunity to reduce car km both across Scotland and in neighbouring areas

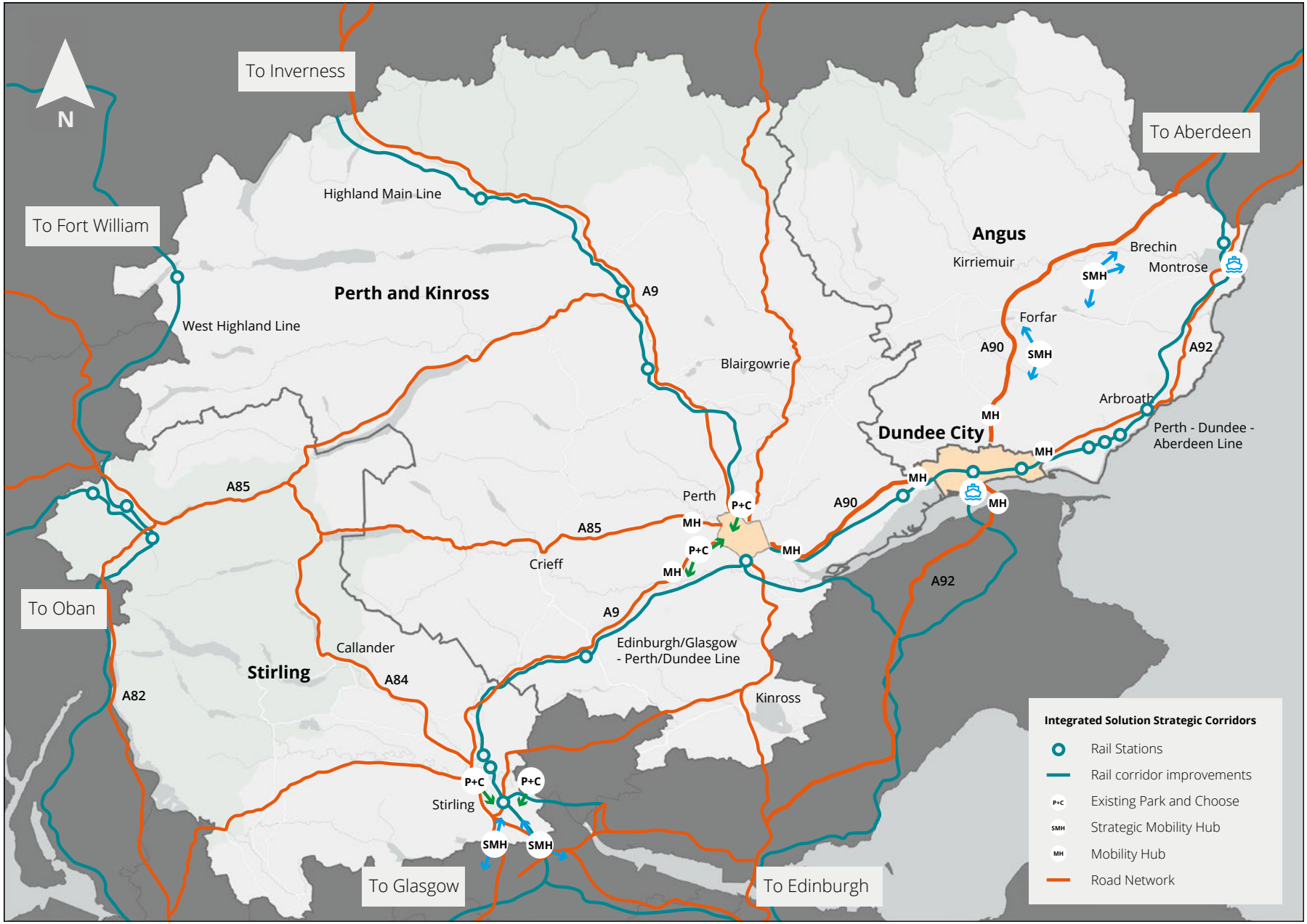


Figure 3.7: Integrated solutions: Strategic corridors

3.7 Actions

Actions have been identified that help deliver each outcome identified in Table 2.1. These actions have been grouped into nine delivery themes.

Fig 3.8 highlights the delivery themes and how they relate to the outcomes and the strategic objectives (the diagram also highlights how many delivery themes will help address more than one outcome).

Each of the tables 3.2-3.10 reflect the nine delivery themes and their respective actions.

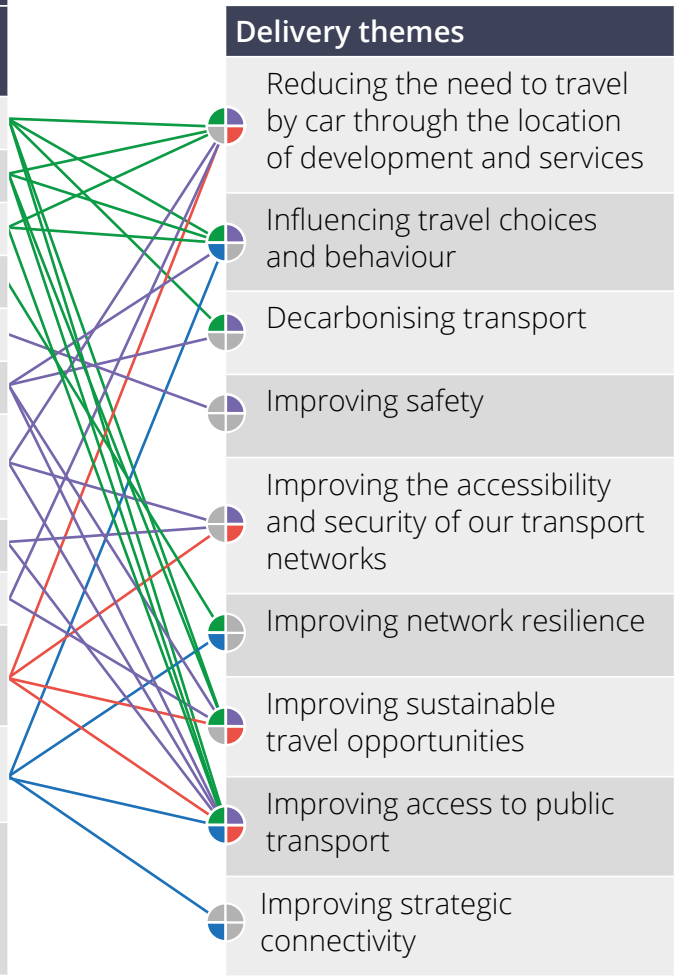
For each action, the tables also suggest how and where the respective agencies could deliver the action in respect to the different geographies of rural areas, urban areas and strategic corridors.

Further detail on how the actions are to be taken forward will be included in the RTS Delivery Plan which will be developed to accompany the RTS. This includes identifying:

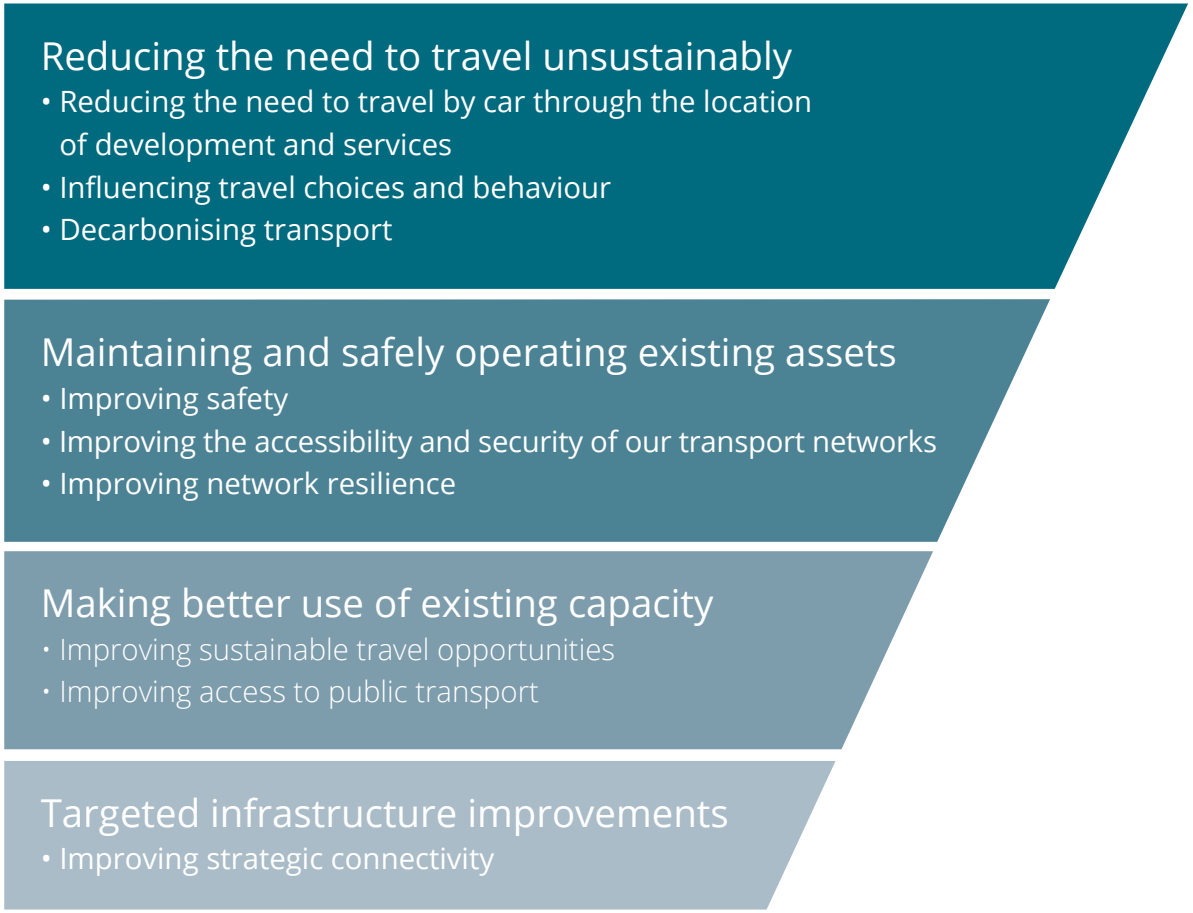
- Responsible partner(s)
- Target locations and populations
- Any appropriate metrics
- Potential risks and mitigation (including opportunities for bio-diversity enhancement)
- Relevant guidance and best practice
- Where actions are likely to be included in specific theme or locality action programmes (e.g. Bus Service Improvement Partnerships; Low Emissions Zones and Air Quality Management Plans; Local Transport Strategies or plans; NHS and National Park Authority programmes etc.)

Figure 3.8: **Delivery themes to address the strategic objectives and outcomes**

Strategic objectives	Outcomes (summarised)
To take climate action	Reduce greenhouse gas emissions
	Modal shift to more sustainable modes of travel
	Reduce car kilometres driven
	Ensure our transport networks are resilient
To improve health and wellbeing	Reduce fatalities and injuries
	Improve air quality
	Improve ability for older people, rural and disadvantaged communities to access healthcare
	Improve ability for the most vulnerable to access social activities
	Increase levels of physical activity
To reduce inequalites	Improve ability for young people, and disadvantaged and rural communities to access jobs, education and services
To help deliver inclusive and sustainable growth	Reliable inter-regional and intra-regional journey times for public transport and freight
	Improve ability for young and disadvantaged communities to access jobs, education and training (as reducing inequalities objectives above)



The delivery themes have been ordered to reflect the principles of the sustainable investment hierarchy contained in Scotland's Second National Transport Strategy.[98] This approach recognises the need to make as much progress in the first instance with the resources we have.



Reducing the need to travel unsustainably

Table 3.2: **Reducing the need to travel by car through the location of development and services**

Action	Where and how agencies may apply the action		
	Rural (Small towns, villages, countryside)	Urban (Larger towns and cities)	Strategic corridors
Action 1 **Planning authorities will reduce the car dependency of new developments**	Development plans promoting **land use patterns that reduce the need to travel**, and enable travel by sustainable modes		
	The development management process ensuring **new development is realistically accessible by a range of modes**		
Action 2 **Public sector agencies will be encouraged to make available, and locate new, services within communities**	Public services will be encouraged to work together to **improve the range of local services** that can be available at a neighbourhood level to support the 20 minute/liveable neighbourhood principle		
Action 3 **Councils will work with Scottish Government and suppliers to promote digital inclusivity across their areas**	**Full fibre and mobile coverage** are essential to: • Enable remote access to services and reduce the need to travel • Enable access to MaaS (Mobility as a Service) journey planning tools which enable the planning, booking and paying of transport service To ensure digital access for all, councils will be encouraged to ensure there is public access to the internet in settlements (e.g. libraries and community hubs)		

Table 3.3: **Influencing travel choices and behaviour**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 4 **All agencies will promote awareness and advantages of sustainable travel**	Behavioural change campaigns to **promote active and sustainable travel across** Travel to Work Areas and/or nationally Develop, deliver and maintain **Travel Plans and School Travel Plans** Promoting schemes for **car-sharing/bike hire** etc		

Notes:

Action 1: Tactran will support the planning authorities to prepare:

- "an appropriate and effective transport appraisal undertaken in line with relevant transport appraisal guidance" (NPF4 p57) and/or
- LDP evidence report which includes "assessment of existing and planned travel and transport infrastructure and services available in the plan area for movement of people and freight across all modes of transport, including previous transport appraisal/assessment work that has been undertaken; consideration of local, regional and national transport strategies and plans" Local development planning guidance[99]
- Council Local Development Plans and Supplementary Guidance can be found at Angus Council,[100] Dundee City Council,[101] Perth & Kinross Council[102] and Stirling Council.[103]
- Scottish Government, National Planning Framework 4[104]
- Scottish Government, Local living and 20 minute neighborhoods: planning guidance[105]

Action 2: Public sector agencies such as council one-stop shops, health boards, Department of Work and Pensions, Police Scotland etc.

- NHS Scotland climate emergency and sustainability strategy: 2022-2026[106]
- West Stirlingshire, Dumbarton and Helensburgh Market[107]

Action 4:

- Agencies include: Local, regional and national agencies; local, regional and national public sector agencies; third sector agencies
- MaaS tools offer the opportunity to not only promote sustainable travel, they can also help improve the viability of interventions (particularly shared transport measures)

<table>
<tr><th colspan="4">Table 3.3: Influencing travel choices and behaviour</th></tr>
<tr><th rowspan="2">Action</th><th colspan="3">Where and how agencies may apply the action</th></tr>
<tr><th>Rural (Small towns, villages, countryside)</th><th>Urban (Larger towns and cities)</th><th>Strategic corridors</th></tr>
<tr><td rowspan="4">Action 5
Roads authorities will reduce the impact of traffic on communities and promote sustainable travel through demand management measures</td><td></td><td>Workplace Parking Levy/ Congestion Zone Charging
Public parking charges
Re-allocation/Reduction of the numbers of both on-street and off-street parking spaces within town and city centres
Re-allocation of carriageway, giving more space to active and sustainable modes</td><td rowspan="3"></td></tr>
<tr><td colspan="2">Expansion of 20mph limits and zones</td></tr>
<tr><td colspan="2">Re-routing motorised traffic on longer and/or less direct routes for the benefit of the wider network</td></tr>
<tr><td colspan="3">Speed limits to reduce carbon and particulate emissions</td></tr>
</table>

Table 3.3: **Influencing travel choices and behaviour**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 6 **Tactran and the Councils will work with Transport Scotland to consider a national demand management mechanism (such as road user charging) to reduce car km driven**	Demand management measures include **road user charging** where road users are charged for the length of trip made. If such an approach was pursued by the Scottish Government, Partners will encourage a just mechanism which takes account of geographic and social circumstances		

Notes

Action 5/Action 6:

- It is likely that some form of charging mechanism will be required to encourage a sufficient reduction in car km driven to support the national target of a 20% reduction as included in the Climate Change Action Plan. The public discussion regarding which type(s) of charging mechanism, and the appropriate package of improvements to alternative modes, will need to be informed by appropriate economic and equality impact appraisals
- The ease and ability to make many trips will be influenced by the sticks and carrots being applied in neighbouring areas. Where applicable, it will be beneficial to work with neighbouring authorities on measures that can reduce the number of vehicular trips
- Public charging policies may also take account of promoting electric and low emission vehicles
- Transport Scotland, A route map to achieve a 20 per cent reduction in car kilometres by 2030, January 2022[108]
- Climate Xchange, Reducing car use through parking policies: an evidence review 2023[109]
- Reducing speed limits can help reduce carbon and particulate emissions CE Delft[110] Transport for London[111]
- Transport Scotland, Developing an Active Nation[112]

Table 3.4: **Decarbonising transport**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 7 **All public sector agencies will promote and enable electric and low emission vehicles for individuals, public sector, business and bus fleets**	(i) Supporting electric vehicle uptake through adoption of **Ultra Low Emission Vehicles** (ULEV) in public sector, business and bus fleets; and supporting a just transition through the availability of electric vehicles through car clubs and parking and charging tariffs (ii) Developing **charging infrastructure** through deployment and maintenance of public infrastructure; home charging and fleet charging (iii) **Promoting electric mobility**, communicating the benefits of low emission vehicles (iv) Partners will continue to review hydrogen studies and how they might support the integration of **Hydrogen Fuel-Cell Vehicles** (FCEV) in the future		Promote ULEV coaches

Table 3.4: **Decarbonising transport**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 8 **Tactran and the Councils will work with the rail industry to support Rail Decarbonisation**			Support the **decarbonisation of the rail network** by 2035 through: (i) Electrification of Dunblane to Perth/Dundee/Aberdeen (ii) Battery Electric Trains from Edinburgh to Perth/Dundee (short term) (iii) Electrification from Edinburgh to Perth/Dundee (long term) (iv) Electrification from Perth to Inverness (v) Battery Electric Trains on the West Highland Line

Notes:

Action 7:

- A Regional EV Strategy[113] was produced in 2019. The Councils are preparing Electric Vehicle Infrastructre Fund (EVIF) Expansion Plans which will set out the requirements to meet the EV adoption targets.
- Zero Emission Truck Taskforce[114] Road Haulage Decarbonisation Overview Report[115]

Action 8:

- See Transport Scotland's Rail Services Decarbonisation Action Plan[116]
- Scotland's Railway, Climate Action Plan 2024-2029[117]
- Rail industry includes: Transport Scotland, Network Rail and Train Operating Companies

Maintaining and safely operating existing capacity

Table 3.5: **Improving safety**

Action	Where and how agencies may apply the action		
	Rural (Small towns, villages, countryside)	Urban (Larger towns and cities)	Strategic corridors
Action 9 **The roads authorities will reduce traffic speeds and consider engineering solutions to address identified safety concerns**	Reducing speeds in settlements · **Review speed limits** in residential and neighbourhood environments focusing on areas with road safety concerns · **Localised safety schemes** such as traffic calming measures, crossing facilities and road/junction realignments and redesigns		
	Addressing network blackspots · **Review speed limits** · **Road/junction realignments and redesigns** · **Road safety enforcement**, including enforcement of speed restrictions via camera technology		
Action 10 **Partners and public sector agencies will support the provision of road safety education**	Education measures, which include training and publicity, aiming to provide road users with the knowledge and skills needed to use the roads safely. Focused on: · **Road safety education for pre-school, primary and secondary schools** · **Road safety education for adults, such as drivers** · **Road safety education for 17-25 year olds**		

Table 3.5: **Improving safety**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 11 **Tactran and the Councils will work with Transport Scotland and industry to identify opportunities to improve rest and welfare facilities for hauliers**			Freight is still predominantly road-based with most drivers regularly travelling long distances. Without sufficient rest, drivers can experience fatigue which can be dangerous for themselves and other road users. Opportunities to **increase the range of rest facilities** available to drivers should be investigated.

Notes:
Action 9: Speed controls can also help make the street environments feel safer for walking and cycling, and reduce carbon emissions. **See Action 4**
Action 10: Public sector agencies: Police, Fire Services
Scotland's Road Safety Framework to 2030[118]

Table 3.6: **Improving the accessibility and security of our transport networks**

Action	Where and how agencies may apply the action		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 12 **Roads and planning authorities will improve the accessibility and security of the street environment**	**Step-free routes** and appropriate crossing facilities to public transport interchange points; local centres (i.e. within 20 minute neighbourhoods); and key local services **Seating** **Lighting and reviewing the design of the public realm** to improve security **Signage and wayfinding** Number and location of **disabled car parking spaces**		Reducing severance and improving active travel on trunk roads through communities
	Promoting changes to our transport networks to people with learning difficulties		

Notes
Action 12: This option seeks to make our settlements places where everyone can confidently and easily move around – this includes people with mobility difficulties, as well as those with hidden disabilities (such as learning difficulties). A programme of accessibility audits will assist in identifying and prioritising improvements whilst also contributing to the requirement of the Equalities Act (2010) to consider reasonable alterations.
See Transport Scotland Inclusive Design in Town Centres and Busy Street Areas;[119] Department for Transport Inclusive Mobility[120]

Table 3.7: **Improving Network Resilience**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 13 **Tactran and Councils will work with transport operators to promote improved accessibility and security for all across public transport**	**Improvements at interchanges**, step-free access, improved seating, improved lighting, security improvements **Improved accessibility of buses and trains** for all, including for people with mobility issues **Improved information provision** for all, including for people with mobility issues **Assistance to public transport users**		
Action 14 **Transport authorities will improve network resilience to maintain a transport network within the region which is resilient to disruptive events resulting from increased risk of extreme weather and flooding**	**Winter maintenance** **Diversion routes** **Protection of road and rail networks from flooding/landslips** **Meet environmental standards in construction and maintenance** **Blue-Green Infrastructure** **Strategic road renewal for reliability, resilience and safety**		
Notes **Action 13**: Improving access for all public transport users and particularly for those who are mobility-impaired			

Making better use of existing capacity

Table 3.8: **Improving sustainable travel opportunities**

Action	Where and how agencies may apply the action		
	Rural (Small towns, villages, countryside)	Urban (Larger towns and cities)	Strategic corridors
Action 15 **Tactran, the Councils and the National Park Authorities will improve walking, wheeling and cycling opportunities**	**Connected neighbourhoods**, enabling people to access local facilities, including mobility and public transport hubs, by walking, wheeling and cycling **Cycle hire schemes**, increasing access to cycles through cycle hire schemes (whether that be conventional or electric cycles)		
		Active freeways, cycle priority routes into our town and city centres	
	Strategic, high quality walking, wheeling and cycling networks: providing walking, wheeling and cycling links between villages, towns and cities, connecting settlements, public transport interchanges; and supporting the National Cycle Network **Ensuring secure cycle parking** at homes, workplaces, schools, interchanges and other destinations		
Action 16 **Tactran and the Councils will promote active and sustainable access to schools**	**(i) safer routes to schools** - improving walking, wheeling and cycling routes to schools, including reducing traffic speeds around schools **(ii) school exclusion zones** - limiting traffic around schools at peak times to improve safety and air quality for children **(iii) cycle parking; cycle training and improving access to bikes**		

Table 3.8: **Improving sustainable travel opportunities**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 17 **Tactran and the Councils will work with operators to improve the frequency, comfort, cost and integration of public transport services**		**Strategic Bus Priority Corridors**, improving journey time and reliability through bus priority measures, traffic management etc	
	Increasing bus services, improving the frequency, quality and coverage of public transport through fixed routes and feeder services, including demand responsive transport		
	Demand responsive transport (DRT): on demand (rather than timetabled services) to link to existing traditional fixed route bus services, and to cover areas where fixed route services are not viable		
	Improved rail services: making the most of the rail network to provide sustainable transport links between settlements within and outwith the region		

Notes

Action 15:

- See Scottish Government, Let's Get Scotland Walking The National Walking Strategy[121] and Transport Scotland, Cycling Framework for Active Travel - A plan for everyday cycling[122] ("local authorities to prioritise investment in the creation of connected cycling infrastructure, protected from traffic and integrated with public transport")
- Tactran, Regional Active Travel Network (arcgis.com)[123]

Action 16: Physical improvements should be linked to the school travel planning process (see Action 4)

Action 17: The Forth Valley and Tayside Bus Alliance will both lead on this action

Table 3.8: **Improving sustainable travel opportunities**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 18 **Tactran and the Councils will investigate and support community and shared transport services where commercial fixed route services are not financially sustainable**	Support for **community and volunteer transport** services **Car clubs**: to provide access to a car without the need to own one		
Action 19 **Tactran and the Councils will work with Transport Scotland and operators to promote Fair Fares**	**Encourage and support public transport providers to review fares** to: (i) enhance social inclusion by providing a realistic alternative to a wider range of people, including disadvantaged communities (ii) help balance demand for public transport throughout the day and reduce pressure on services at peak times		

Table 3.8: **Improving sustainable travel opportunities**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 20 **Tactran and the Councils will work with industry, the port authorities and the rail industry to identify and promote opportunities to reduce road freight**	**First and last mile distribution services**, such as vans, drones, cargo bikes etc.		(i) Road and rail **freight hubs** (ii) **Consolidation centres** (iii) Improving opportunities for freight modal transfer onto the rail network
	Work with Stirling and Tayside Timber Transfer Group to identify and support timber transfer facilities		

Notes

Action 19: Fair Fares will not only serve the objective of making public transport more affordable and inclusive, they would also assist working towards public transport being competitively priced compared to car travel. See Transport Scotland 'Fair Fares Review'

Action 20: Freight transfer and consolidation hubs within the region to reduce road freight and also allow freight to be moved by rail and water. LaMilo[124] SURFLOGH[125]

Table 3.9: **Improving access to public transport**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 21 **Tactran and the Councils will work with respective partners to provide and improve public transport interchanges**	Mobility Hubs link a number of transport services within a community to improve access via different modes to enable your onward journey. This usually means improving the ability to access bus services by, e.g. car and bicycle parking; bike hire; walking and cycling links; demand responsive bus services. They could also help with accessing car club and car-sharing facilities		
		Strategic multi-modal interchange sites to transfer from bus or car to coach or rail for those long-distance trips heading to Scotland's cities **Passenger facilities along strategic bus corridors**: improve access to and ensure accessible waiting facilities with information along strategic bus corridors	

Table 3.9: **Improving access to public transport**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 21 (continued) **Tactran and the Councils will work with respective partners to provide and improve public transport interchanges**		**Local 'park and choose'** sites to provide interchange facilities at railway stations, bus stations and on public transport corridors serving towns to enable transfer to train, bus or bike into our larger towns and cities	
		New and improved bus stations	
		New and improved rail stations on existing lines to improve access to the rail network and reduce car trips on strategic routes	
Notes **Action 21**: Scotland's Railway, Sustainable Travel to Stations June 2023[126]			

Table 3.9: **Improving access to public transport**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 22 **Tactran, Councils and public sector agencies will investigate and promote initiatives that allow easier planning and booking of journeys**	**Journey planning tools** to help people be aware of all the choices they have, in order to make a journey **Smart and integrated ticketing** whereby tickets are stored electronically, usually on a smart card or other forms of smart media, enabling a person to use a single 'ticket' on different modes of transportation, such as bus and rail, or across different operators MaaS products can provide both improved journey planning and provide smart, integrated ticketing. They can also help promote, and potentially improve the viability of, new transport services		
Notes **Action 22**: • Mobility as a Service (MaaS)[127] • Integrated Mobility Partnership[128]			

Targeted infrastructure improvements

Table 3.10: **Improving strategic connectivity**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 23 **Tactran and the Councils will work with Transport Scotland to address pinch points on strategic roads to address issues of road safety, freight and bus/ coach journey times/ journey time reliability**	**Improvements to address key pinch points**, focused on improving public transport and freight journey time reliability, and road safety: **(i) A90/A972 – Kingsway, Dundee** **(ii) A9 – Broxden and Inveralmond, Perth** **(iii) M9 – Craigforth, Stirling** **(iv) A9 – Grade separation between Kier and Inverness (Kier, Auchterarder)** **(v) A9 – Dualling north of Perth** **(vi) A82 – Inverarnan – Tarbet**		
Action 24 **Tactran and the Councils will work with Transport Scotland and the rail industry to promote improved rail connectivity**	**(i) Physical and operational improvements to reduce journey times and improve resilience of routes from, and through, the region to/from Edinburgh, Glasgow, Aberdeen, and Inverness, including:** • Highland Mainline (i.e. Inverness to Perth) rail corridor enhancements • Aberdeen to Central Belt (i.e Dundee/Perth/Stirling to Aberdeen/Edinburgh/Glasgow) rail corridor enhancements **(ii) Improved frequency and capacity of services to Edinburgh and Glasgow**, including consideration of intermediate stations **(iii) Improve resilience of West Highland line**		

Table 3.10: **Improving strategic connectivity**			
Action	**Where and how agencies may apply the action**		
	Rural (Small towns, villages, countryside)	**Urban (Larger towns and cities)**	**Strategic corridors**
Action 25 **Tactran and the Councils will work with Transport Scotland and the rail and freight industries to improve connectivity to freight destinations**	**Improving journey time reliability** through the region, and to major freight destinations in the region		
Action 26 **Tactran and the Councils will promote direct rail and air links to and from the Region**	Work with transport operators and the airport authorities to: **(i) Promote sustainable access to Scotland's airports by public transport** **(ii) Promote flight connections to and from Dundee Airport** Work with train operating companies and other Regional Transport Partnerships to: **(iii) Promote direct long distance rail connections into the region and onwards to Aberdeen and Inverness**		
Notes **Action 25**: See also **Action 20** for improving opportunities for freight modal transfer onto the rail network			

Impact assessments

It is both a duty and best practice for impact assessments to be undertaken to inform the Strategy. These have included:

- Integrated Impact Assessment Report:[129] incorporating the suggested content of the Human Rights and Equality; Fairer Scotland Duty; Children's Rights and Wellbeing; Health Inequalities impact assessments
- Strategic Environmental Appraisal (SEA) Environmental Report:[129] including Cumulative and Comparative Impact Assessments.

We also undertook a qualitative impact assessment of the delivery themes above:

- Appraisal Summary Tables:[129] Qualitative assessment against RTS objectives and STAG criteria

The conclusions of the impact assessments have been broadly supportive of the RTS. However, the principal issues raised by the draft impact assessments have been:

- Many of the possible benefits of the Strategy, in terms of it mitigating against social or environmental issues, will only be realised if the Strategy is delivered
- Restrictive measures to help reduce car use will potentially have a greater impact on the least affluent and more vulnerable groups in society

4 How we will measure success

4.1 How we will measure success

To understand if the strategic objectives of the strategy are being achieved within the desired timescales, it is vital that the strategy includes a robust monitoring framework. Table 4.1 identifies indicators which can help track progress through available information sources.

We will continue to improve the Monitoring Framework and prepare a monitoring report every other year during the lifetime of this strategy.

Please note, not all the indicators have highlighted the latest set of data in early 2024 as the baseline as some data representing issues during the Covid-19 pandemic may not have been representative of 'normal' conditions. Further information is available in the RTS Monitoring Framework.

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Reduce greenhouse gas emissions	Increase the share of EV and low emission vehicle use	% of vehicles which are EV and low emission vehicles[130]	**2023**	**% of cars**	**% of all vehicles**
			Angus	5.5%	1.7%
			Dundee	5.3%	2.3%
			Perth & Kinross	6.0%	2.2%
			Stirling	18.0%[L]	12.5%
	Reduce estimated CO_2 emissions from transport in the region	Estimated transport kiloton (kt) CO_2 emissions per capita[131]	**2021**	**kt CO_2 per capita**	
			Angus	1.99	
			Dundee	1.23	
			Perth & Kinross	3.31	
			Stirling	2.64	

[L] It is likely that the higher % of registered vehicles in Stirling are not a consequence of private registrations

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**			
Modal shift to more sustainable modes of travel	Personal travel: increase the share of trips made by sustainable modes such as walking, wheeling, cycling and public transport	Mode share: main mode of travel[132]	**Main mode 2019**	**% car**	**% other**
			Angus	58%	42%
			Dundee	49%	51%
			Perth & Kinross	66%	34%
			Stirling	69%	31%
	Reducing freight km by road	% road km that are freight[133]	**2022**		
			Angus	27.8%	
			Dundee	18.9%	
			Perth & Kinross	28.9%	
			Stirling	25.0%	
Reduce car kilometres driven	Reduce car km driven	Car km travelled on roads[134]	**Cars and taxis**	**Million vehicle km 2019**	
			Angus	837.6	
			Dundee	680.64	
			Perth & Kinross	1870.24	
			Stirling	1025.76	

Table 4.1: **The indicators which will be used to measure progress against the outcomes**			
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	
Ensure our transport networks are resilient	Ensure strategic and lifeline routes (and services) are resilient to climate change, extreme weather and emergencies	Number of road/bridge closures per year on strategic road network	Monitoring framework required
		Rail services cancelled/delayed as a consequence of weather	In 2023, 160 services serving the Tactran region were partly cancelled, and 251 were fully cancelled due to adverse weather. 1,736 services were delayed due to adverse weather[M]
Reduce the impact of traffic on communities	Reduce transport emissions in declared air quality management areas	NO_2 annual mean (not to exceed 40µg m^{-3}) and number of NO_2 exceedances (200µg m^{-3} not to be exceeded more than 18 times a year)	Air Quality in Scotland: Annual Statistic Reports[135]

[M] Network Rail

Table 4.1: **The indicators which will be used to measure progress against the outcomes**

Outcomes (Summary)	Outcomes (detailed)	Indicator			
Reduce fatalities and injuries	Improve road safety for vulnerable users (pedestrians, cyclists, children and older people)	• People killed or seriously injured • Children (aged 16 and under) killed or seriously injured • Pedestrians killed or seriously injured • Cyclists killed or seriously injured • Motorcyclists killed or seriously injured • Road users aged 70 and over killed or seriously injured • Road users aged 17-25 killed or seriously injured • Percentage of motorists driving/riding within the posted speed limit • Casualty rate for the most deprived 10% SIMD areas compared to the least deprived 10% SIMD areas	**2018-22 Average[N]**	**Killed**	**All severities**
			Angus	2	154
			Dundee	1	156
			Perth & Kinross	7	212
			Stirling	5	139

[N] Reported Road Casualties 2022[136]
NB No local datasets other than KSIs

Table 4.1: **The indicators which will be used to measure progress against the outcomes**			
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	
Reduce the impact of traffic on communities	Reduce transport emissions in declared air quality management areas	NO_2 annual mean (not to exceed 40µg m^{-3}) and number of NO_2 exceedances (200µg m^{-3} not to be exceeded more than 18 times a year)	Air Quality in Scotland: Annual Statistic Reports[137]
	Reduce the impact of traffic on communities on strategic routes	(i) Traffic volumes/type for identified communities (ii) Noise monitoring for candidate noise management areas (iii) Accident data for identified communities (iv) Air quality monitoring for identified communities	Some, but not all, the data sets are available for identified settlements on the strategic network.[138] See RTS Monitoring Framework

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Improve the ability for older people and rural and disadvantaged communities to access healthcare	Improve the ability of over-65s to access primary healthcare (GPs) and secondary healthcare (hospitals, including A&E departments and Minor Injury Units)	% of over-65s able to access: (i) primary healthcare (GPs) within 30mins/60mins by public transport (ii) secondary healthcare (hospitals) within 30mins/60mins by public transport	**2023**[139]	**30 mins of a GP**	**30 mins of a hospital**
			Angus	89%	41.5%
			Dundee	99.8%	33.2%
			Perth & Kinross	87.7%	60.3%
			Stirling	92.7%	43.3%
	Ability of all in the least affluent SIMD data zones (health domain) targeted by the respective Council to access healthcare	% of population within least affluent SIMD data zones able to access: (i) primary healthcare (GPs) within 30mins/60mins by public transport (ii) secondary healthcare (hospitals) within 30mins/60mins by public transport	**2023: % of 20% SIMD within**[139]	**30 mins of a GP**	**30 mins of a hospital**
			Angus	100%	41.7%
			Dundee	100%	38.6%
			Perth & Kinross	100%	100%
			Stirling	100%	73.3%

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Improve the ability for older people and rural and disadvantaged communities to access healthcare	Ability of rural communities to access healthcare	% of population within rural areas able to access: (i) primary healthcare (GPs) within 30mins/60mins by public transport (ii) secondary healthcare (hospitals) within 30mins/60mins by public transport	**2023**[139]	**30 mins of a GP**	**30 mins of a hospital**
			Angus	60.5%	58.1%
			Perth & Kinross	72.3%	73.5%
			Stirling	76.7%	46.5%

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Improve ability for the most vulnerable to access social activities	Ability of older people and those in least affluent SIMD data zones (health domain) targeted by the respective Council to access social activities	% population unable to access community facilities within 30mins/60mins by public transport	Whilst likely that there are more community facilities than local shops, access to local centres will be used as a reasonable proxy		
	Levels of walking and cycling in the least affluent SIMD data zones (health domain) targeted by the respective Council	Pedestrian and cycle data in least affluent SIMD data zones (20% SIMD)	**Normal method of travel to work/ education 2023[140] in 20% least affluent SIMD data zones**	**Walk**	**Cycle**
			Angus	23%	5%
			Dundee	8%	3%
			Perth & Kinross	21%	5%
			Stirling	21%	3%

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**			
Increase levels of physical activity		Mode share travel to school in least affluent SIMD data zones[141]	Data to be included in Monitoring Framework		
	Improved ability to access active leisure facilities and green space in least affluent SIMD data zones	% of population within the least affluent SIMD data zones within 5 min walk of their local green or blue space[142]	**2019**	**20% least affluent SIMD data zones**	**Whole council area**
			Angus	0%	65%
			Dundee	46%	48%
			Perth & Kinross	0%	66%
			Stirling	0%	84%
		% population within the least affluent SIMD data zones able to access a public leisure centre within 30 mins/60 mins by public transport[143]	**2023**	**30 mins**	**60 mins**
			Angus	100%	100%
			Dundee	100%	100%
			Perth & Kinross	100%	100%
			Stirling	80%	100%

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**			
Improve ability for young people, disadvantaged and rural communities to access jobs, education and services	Improve ability of 16-24 year olds to access jobs and further education	% of 16-24 year olds able to access a range of employment opportunities within 40 mins/60 mins by public transport[144]	**2023**	**40 mins**	**60 mins**
			Angus	92%	76.9%
			Dundee	99.7%	99.7%
			Perth & Kinross	80.5%	63.8%
			Stirling	83%	88.7%
		% of 16-24 year olds able to access further education facilities within 30 mins/60 mins by public transport[144]	**2023**	**30 mins**	**60 mins**
			Angus	37.4%	87.6%
			Dundee	97.7%	99.7%
			Perth & Kinross	38%	74.3%
			Stirling	55.1%	88.8%

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Improve ability for young people, disadvantaged and rural communities to access jobs, education and services	Improve ability of all in the least affluent SIMD data zones (all domains) targeted by the respective Council to access jobs, education and services	% of population in least affluent SIMD data zones able to access a range of employment opportunities within 40 mins/60 mins by public transport[144, o]	**2023**	**40 mins**	**60 mins**
			Angus	100%	83.3%
			Dundee	100%	100%
			Perth & Kinross	100%	81.8%
			Stirling	100%	100%
		% who feel the journey to or from work/college/university could be carried out using public transport[145] Further indicators to be developed, including: • Frequency of services outside peak hours between least affluent areas and jobs, education and services • Cost of travel	**2023**	**Least affluent SIMD quintile**	**Average (mode)**
			Angus	27%	76%
			Dundee	23%	29%
			Perth & Kinross	31%	41%
			Stirling	28%	55%

[o] Data displayed refers to 20% least affluent data zones

Table 4.1: **The indicators which will be used to measure progress against the outcomes**

Outcomes (Summary)	Outcomes (detailed)	Indicator	Baseline			
Improve ability for young people, disadvantaged and rural communities to access jobs, education and services	Improve ability of families targeted in local child poverty action plans to access jobs, education and services	Indicators of child poverty exist at Council level. Whilst concentrations of child poverty are most likely in the least affluent SIMD data zones, the problem reaches deeper into society than these geographic areas. Target groups have been identified in the Child Poverty Action Plan[146] which along with SIMD geographical data allows targeting of interventions. An accurate indicator of the ability of the target groups to access jobs, education and services is however difficult to identify				
	Improve ability of rural communities to access jobs, education and services	% of population within rural areas able to access by public transport within 30mins/60mins: (a) range of employment opportunities, (b) further education and (c) centres with a large food store and (d) Post Office[147]	**2023: 30 mins**	**Emp[P]**	**FE**	**SMrkt**
			Angus	69.8%	25.6%	55.8%
			Perth & Kinross	63.9%	15.7%	41%
			Stirling	39.5%	9.3%	30.2%
	Ability of people with disabilities to access jobs, education and services	Whilst the issues that people with disabilities have using our transport services are acknowledged as a problem requiring to be addressed, there are limited data sets to understand whether the 'whole journey' is accessible. Data exists for the accessibility of our stations, the % of the public transport fleet which is deemed accessible, and the number of publicly available disabled parking spaces				

[P] Accessibility by public transport within 40 mins

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Improve ability for young people, disadvantaged and rural communities to access jobs, education and services	The safety and security of vulnerable and protected characteristic groups in the street environment and on public transport	% felt safe and secure on bus/ train in last month[148]		**Bus 2021**	**Train 2021**
			Angus	98%	n/a
			Dundee	99%	n/a
			Perth & Kinross	100%	n/a
			Stirling	97%	100%
	The safety and security of vulnerable and protected characteristic groups in the street environment and on public transport	% perception of people feeling very/fairly safe when walking alone in their neighbourhood after dark[149]	**2019**		
			Angus	87%	
			Dundee	81%	
			Perth & Kinross	86%	

Table 4.1: **The indicators which will be used to measure progress against the outcomes**					
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**		
Reliable inter-regional and intra-regional journey times	Improve journey times and journey time reliability on strategic road and rail routes for public transport to key destinations (e.g. major centres and economic locations)	Congestion delays experienced by drivers[Q]	**% delayed**	**2017 - 2019**	
			Angus	87%	
			Dundee	81%	
			Perth & Kinross	86%	
			Stirling	89%	
		Journey times to key destinations[151]	**Road/rail (mins) 2021**	**Edinburgh**	**Glasgow**
			Forfar	107 (road)	125 (road)
			Montrose	120/102	130/114
			Dundee	87/65	103/96
			Perth	64/75	74/73
			Stirling	62/40	39/40

[Q] SHS Transport % Travel in Scotland: Congestion delays experienced by drivers 2017-2019 likely to be a better base due to traffic levels during pandemic[150]

Table 4.1: **The indicators which will be used to measure progress against the outcomes**			
Outcomes (Summary)	**Outcomes (detailed)**	**Indicator**	**Baseline**
Reliable inter-regional and intra-regional journey times	Improve journey time reliability for freight to key destinations (e.g. major centres and economic locations/air and sea ports)	Journey times to key destinations/reliability	Data to be identified and included in Monitoring Framework
Improved ability for young people, and disadvantaged and rural communities to access jobs, education and training	Improve ability of 16-24 year olds to access jobs and further education	See 'Improve ability for young people, and disadvantaged and rural communities to access jobs, education and services' indicators on pages 94-97.	
	Improve ability of all in the lowest SIMD data zones (all domains) targeted by the respective Council to access jobs and further education		
	Improve ability of families targeted in local child poverty action plans to access jobs and further education		
	Improve ability of working age population in rural communities to access jobs and further education		

Appendix 1 - References

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1. Scottish Government Climate Change Plan
2. Scottish Government Cleaner Air for Scotland 2
3. Scottish Government National Planning Framework 4
4. Scottish Government Public Health Priorities for Scotland
5. Scottish Government Fairer Scotland Action Plan
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Strategic Environmental Appraisal (SEA) Environmental Report
Appraisal Summary Tables

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Further information

For further information, please visit
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