



STPR2 Final Summary Report

Large Print Version

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For:



Cover design inspired by the STPR2 design competition entry from Stoneyhill Primary School

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1 Introduction



We all know the vital role that transport plays in our daily lives. Our transport networks help us to access education, jobs, and healthcare and are a vital link in the chain that supplies our goods and services.

Transport is in a period of change. Through the pandemic we have all thought more about how we move around, and in many cases, we have made changes. That has meant more working from home, an emphasis on local walking and cycling trips, and significant changes for our public transport networks. We are also in a period of longer term change as technology in particular revolutionises how we live, work and play, and is helping transform our cars, buses and trains to a decarbonised fleet.

The second National Transport Strategy (NTS2) is a strategy for change. It recognises the key role that transport has in reducing inequalities, delivering inclusive economic growth, improving our health and wellbeing, and tackling the climate emergency. At the heart of the Strategy is the recognition that we need to deliver a step-change in behaviour and provide attractive, affordable, accessible and sustainable travel options. The actions to take forward the NTS2 are outlined in the annual delivery plan.

Reducing our carbon emissions to net zero by 2045, a key part of the Scottish Government's policy to address the global climate emergency, will require significant changes to the transport choices we all make as well as the transport network



and options that influence our decision making. Recognising this, the Scottish Government has committed to reducing car kilometres by 20 per cent by 2030, and has recently published a Route Map outlining the actions that will be taken to achieve this acknowledging that technological advances will not be enough to achieve this on their own.

A core part of the NTS2 delivery plan is the second Strategic Transport Projects Review (STPR2). The outcomes from this three year review address the challenges outlined above by identifying how and where we should make changes to our transport networks that will encourage more of our:

- shorter everyday trips to be made by walking, wheeling and cycling;
- short to medium-length trips to be made by public transport;
- longer trips to be made by public transport and low emission vehicles.

These choices are built on the foundation of the sustainable investment hierarchy from NTS2 that focuses us firstly on:

- reducing the need to travel unsustainably, then
- maintaining and safely operating existing assets, then
- making better use of existing capacity, and finally
- targeted infrastructure improvements.

By focusing investment on sustainable transport options for individuals, families, communities and businesses, the STPR2 recommendations will make it easier to access the transport networks and systems that Scotland will need to meet the challenges and changes over the next 20 years.

STPR2 is an ambitious plan for investment for the next 20 years (2022-2042) however, it is not a funded plan and is subject to the funding allocations agreed by Parliament each year through the annual budget process.

2 What is STPR2?



In 2019, Transport Scotland, the national transport agency of the Scottish Government, commenced the second Strategic Transport Projects Review, the first review having been published in 2008. It will help deliver the vision, priorities and outcomes that are set out in the second National Transport Strategy.

This review of the strategic transport network's performance will inform transport investment in Scotland for the next 20 years (2022-2042) by providing evidence-based recommendations on which Scottish Ministers can base future transport investment decisions.

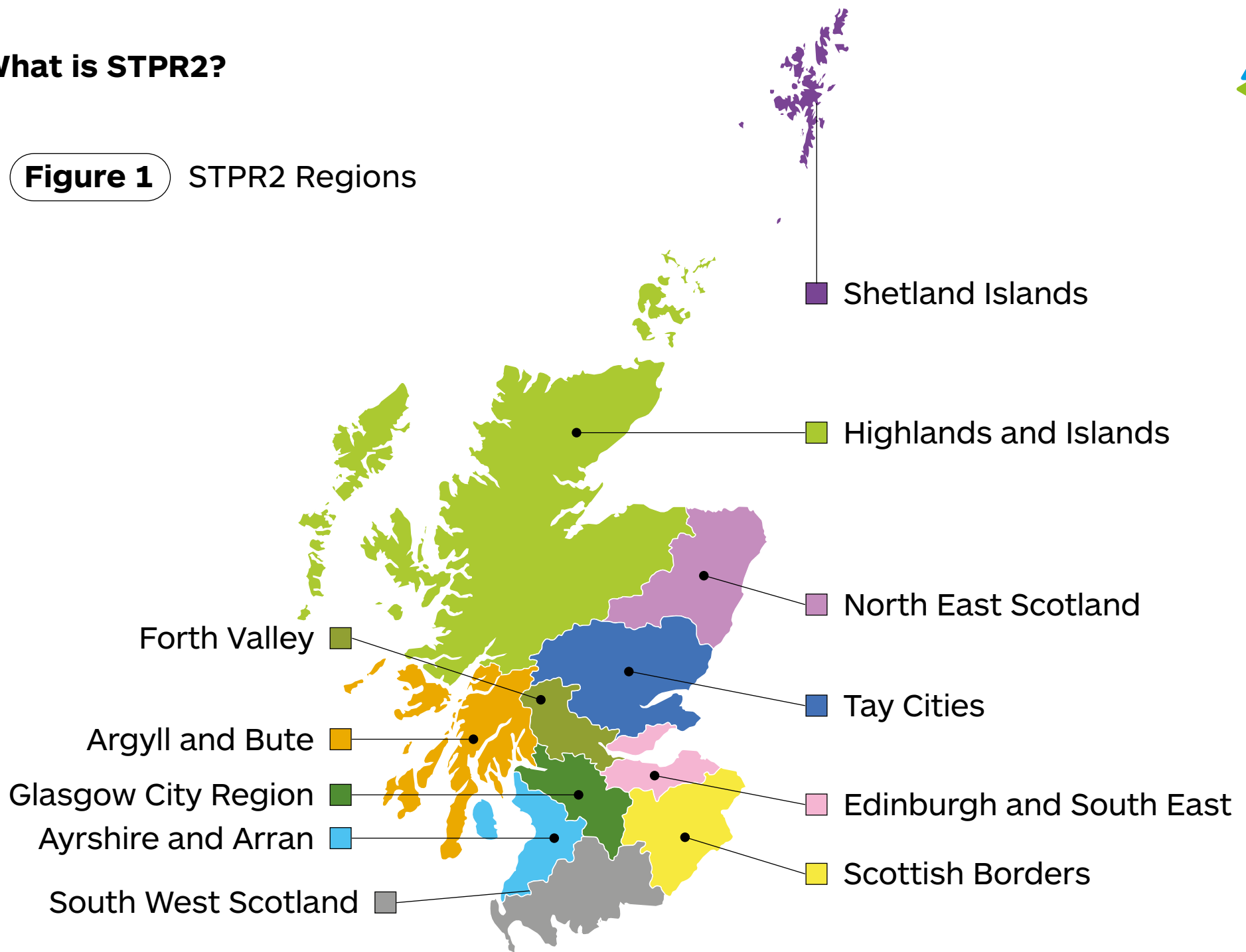
STPR2 considers the transport needs of Scotland's people and communities, and examines active travel (walking, wheeling, cycling), bus, ferry, rail and motorways and trunk roads as well as passenger and freight access to major ports and airports. These needs are reviewed from national and regional perspectives to reflect their different geographies, travel patterns and demands.



What is STPR2?



Figure 1 STPR2 Regions



What is STPR2?



The objectives of STPR2 are consistent across Scottish Government policy. They cover these topics:

- takes climate action
- addressing inequalities & accessibility
- improving health & wellbeing
- supporting sustainable and inclusive economic growth and
- improving safety & resilience.

By addressing these topics, this ensures that STPR2 recommendations:

- align with relevant Scottish Government policy, delivery and investment plans in order to help achieve their priorities
- help achieve the priorities set out in the National Transport Strategy and its Delivery Plan

- meet the objectives and stated purpose of STPR2.

STPR2 provides an overview of transport investment, mainly infrastructure and other behaviour change recommendations, that are required to deliver the National Transport Strategy priorities and objectives of the Review. In many cases the recommendations build on the individual investment and policy decisions taken in recent years, but the overall balance of the recommendations reflects the vision, priorities and outcomes of the National Transport Strategy and commitments in its Delivery Plan. Some of the additional transport investments not covered by STPR2 include routine day-to-day motorway and trunk road maintenance and committed

What is STPR2?



improvements; rail network operations, maintenance and renewal; and revenue funding for public transport services.

Within the list of recommendations there are no specific priorities, as each component is vital in addressing the complex needs of our nation. Neither are these recommendations the sole responsibility of Transport Scotland to deliver and, indeed, many will rely on working with partners to take forward. However, by including these within STPR2, Transport Scotland has confirmed its commitment to supporting and working in partnership with others to develop and deliver.

STPR2 presents the Strategic Business Case for the recommendations. After this stage, the next stage will be further development of the recommendations, providing more detailed business cases to inform the investment decision making process. These will inform the Scottish Government's future spending as part of the overall investment programme in transport. Therefore, as development and business case work progresses, projects may become commitments with funding and a delivery programme.

The STPR2 Objectives:



Takes climate action



Addresses inequalities & accessibility



Improves health & wellbeing





Supports sustainable economic growth





Increases safety & resilience


Figure 2 STPR2 Has Five Key Objectives


<p>Key objectives ▼</p>	<p>STPR2 aligns with and supports Scottish Government policies</p>	<p>STPR2 meets the second National Transport Strategy (NTS2) priorities</p>	<p>STPR2 reflects NTS2's Sustainable Investment and Travel Hierarchies</p>	<p>STPR2 meets Transport Planning Objectives to deliver:</p>	<p>STPR2 recommendations meet its stated purpose to:</p>
<p>Takes climate action</p> 	<p>Climate Change Plan Update (2020) & Route Map target net zero Carbon by 2045 and a world leading 20% reduction in car km by 2030</p>	<p>Takes climate action</p>	<p>Reducing the need to travel unsustainably</p>	<p>A sustainable transport system that contributes to net zero emissions target</p>	<p>Create better connectivity with sustainable, smart, cleaner transport options</p>

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<p>Addresses inequalities & accessibility</p> 	<p>Delivering a Just Transition to net zero in a way that delivers fairness and tackles inequality Addressing Child Poverty</p>	<p>Reduces inequalities</p>	<p>Enhances choice and access to active travel and public transport</p>	<p>An inclusive transport system that improves affordability/ accessibility of public transport</p>	<p>Improve accessibility for residents, visitors and business</p>

<p>Key objectives ▼</p>	<p>STPR2 aligns with and supports Scottish Government policies</p>	<p>STPR2 meets the second National Transport Strategy (NTS2) priorities</p>	<p>STPR2 reflects NTS2's Sustainable Investment and Travel Hierarchies</p>	<p>STPR2 meets Transport Planning Objectives to deliver:</p>	<p>STPR2 recommendations meet its stated purpose to:</p>
<p>Improves health & wellbeing</p> 	<p>Cleaner Air For Scotland 2 (2021) & Delivery Plan – STPR2 recommendations will deliver further air quality improvements</p>	<p>Improves our health & wellbeing</p>	<p>Priority given to walking and wheeling, then cycling</p>	<p>A cohesive transport system that enhances communities as places – supporting health/wellbeing</p>	<p>Create better connectivity with sustainable, smart, cleaner transport options</p>

Key objectives ▼	STPR2 aligns with and supports Scottish Government policies
Supports sustainable economic growth 	The revised draft Fourth National Planning Framework (NPF4) – presents the opportunity to embed the importance of “place” across land-use planning and transport. Scotland’s National Strategy for Economic Transformation sets out the priorities for Scotland’s economy and recognises the role of transport investment in enabling and sustaining Scotland’s economic growth.

<p>Key objectives</p> <p>▼</p>	<p>STPR2 meets the second National Transport Strategy (NTS2) priorities</p>	<p>STPR2 reflects NTS2's Sustainable Investment and Travel Hierarchies</p>	<p>STPR2 meets Transport Planning Objectives to deliver:</p>	<p>STPR2 recommendations meet its stated purpose to:</p>
<p>Supports sustainable economic growth</p> 	<p>Helps deliver inclusive economic growth</p>	<p>Making better use of existing capacity</p>	<p>An integrated transport system that contributes to sustainable inclusive growth</p>	<p>Enable and sustain economic growth</p> <p>Improve accessibility for residents, visitors and business</p>

<p>Key objectives</p> <p>▼</p>	<p>STPR2 aligns with and supports Scottish Government policies</p>	<p>STPR2 meets the second National Transport Strategy (NTS2) priorities</p>	<p>STPR2 reflects NTS2's Sustainable Investment and Travel Hierarchies</p>	<p>STPR2 meets Transport Planning Objectives to deliver:</p>	<p>STPR2 recommendations meet its stated purpose to:</p>
<p>Increases safety & resilience</p> 	<p>National Transport Strategy 2 and Scotland's Road Safety Framework to 2030</p>	<p>Increases the safety of the transport system and meets casualty reduction targets</p>	<p>Maintain and safely operate existing assets</p>	<p>A reliable and resilient transport system – safe and secure for users</p>	<p>Improve accessibility for residents, visitors and business</p>

3 How have the STPR2 recommendations been developed?



The STPR2 process follows Scottish Transport Appraisal Guidance (STAG), an established evidence-based approach to identify problems and opportunities, set transport objectives to address these and generate, sift and appraise options for changes to the transport system.

Participation and engagement with stakeholder groups across the country has been key to informing STPR2 with events and surveys open to the general public at key stages throughout the review. To guide the review in STPR2 regions and support collaborative working, Regional Transport Working Groups have been formed involving local authorities, national park authorities and regional transport partnerships.

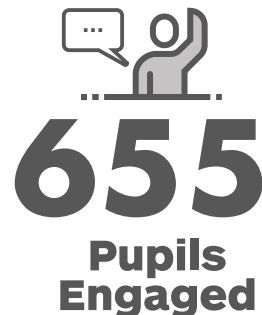
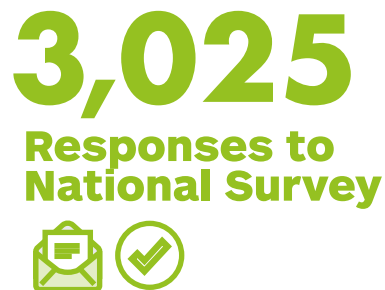
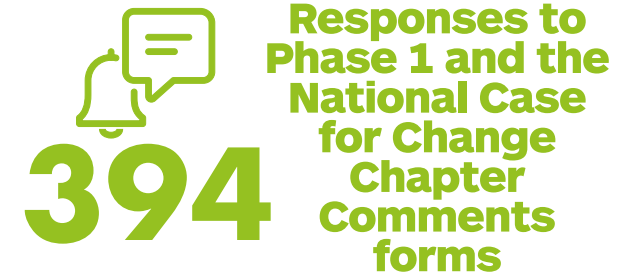
Initially, approximately 14,000 collated ideas were reviewed, creating a long-list of 2,800 options. Further collaboration, sifting, consolidation and review led to 1,400 standalone options being grouped into 80 similar types of options for appraisal.

The appraisal criteria considered the objectives and the five STAG criteria to establish the best performing projects. The criteria also take into account risks, uncertainties and other factors such as affordability, deliverability and the wider acceptability of options. These will be important considerations given pressures on public finances.

Figure 3 STPR2 Engagement



STPR2 Engagement and Consultation in Numbers



How have the STPR2 recommendations been developed?



The appraisal process for STPR2 also takes account of government policy priorities. For example:

- a check has been implemented to ensure that STPR2 recommendations contribute to delivering the National Transport Strategy 2 (NTS2) priority “Takes Climate Action” and wider net zero carbon emission commitments
- each option considered within STPR2 has been assessed in terms of its position within the NTS2’s Sustainable Travel and Investment Hierarchies. These prioritise:
 - walking, wheeling, cycling and public transport ahead of private car trips
 - reducing the need to travel unsustainably before targeted infrastructure measures.

The original scope of STPR2 has also been adapted to consider the COVID-19 pandemic. A Phase 1 report was published in February 2021 focusing on actions that can be taken in the next five years that could help increase sustainable travel and be brought forward to support economic recovery. This final report incorporates and therefore supersedes the Phase 1 recommendations and covers the period from 2022 to 2042. Lasting responses to the COVID-19 pandemic such as increased working from home do, however, create an element of uncertainty with regards to future travel patterns, but also opportunities for increased use of sustainable travel. The review has recognised this uncertainty and has ensured that there is an element of flexibility and agility to allow specific recommendations to be reviewed or amended as travel patterns become clearer.

How have the STPR2 recommendations been developed?



A statutory Strategic Environmental Assessment (SEA) ensures the potential impact of transport projects on the environment are considered by STPR2. Impact assessments covering aspects such

as equalities, children’s wellbeing and island communities have also been undertaken to determine how STPR2 can have a positive impact on groups in society.

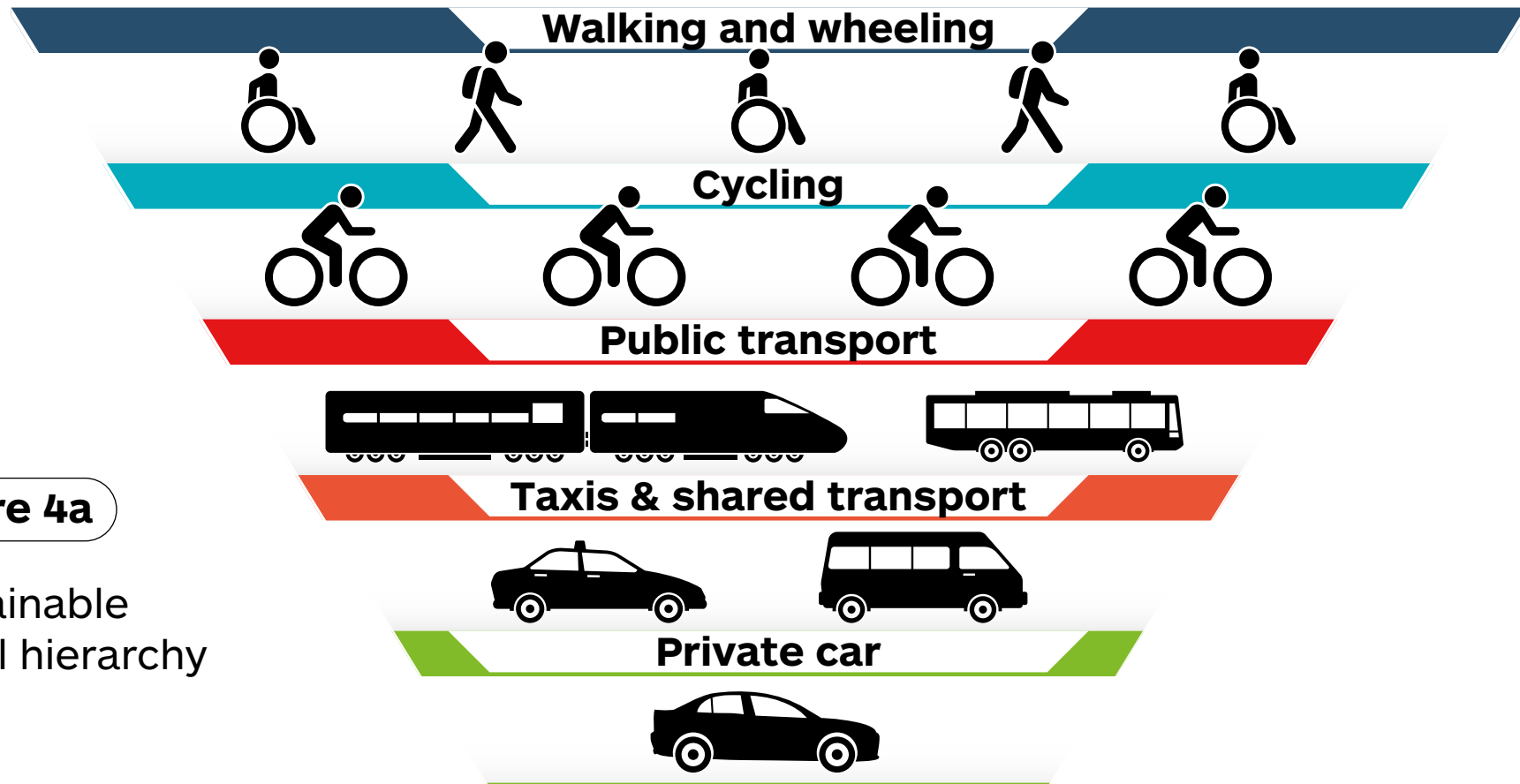


Figure 4a

Sustainable travel hierarchy

Figure 4b

Sustainable investment hierarchy

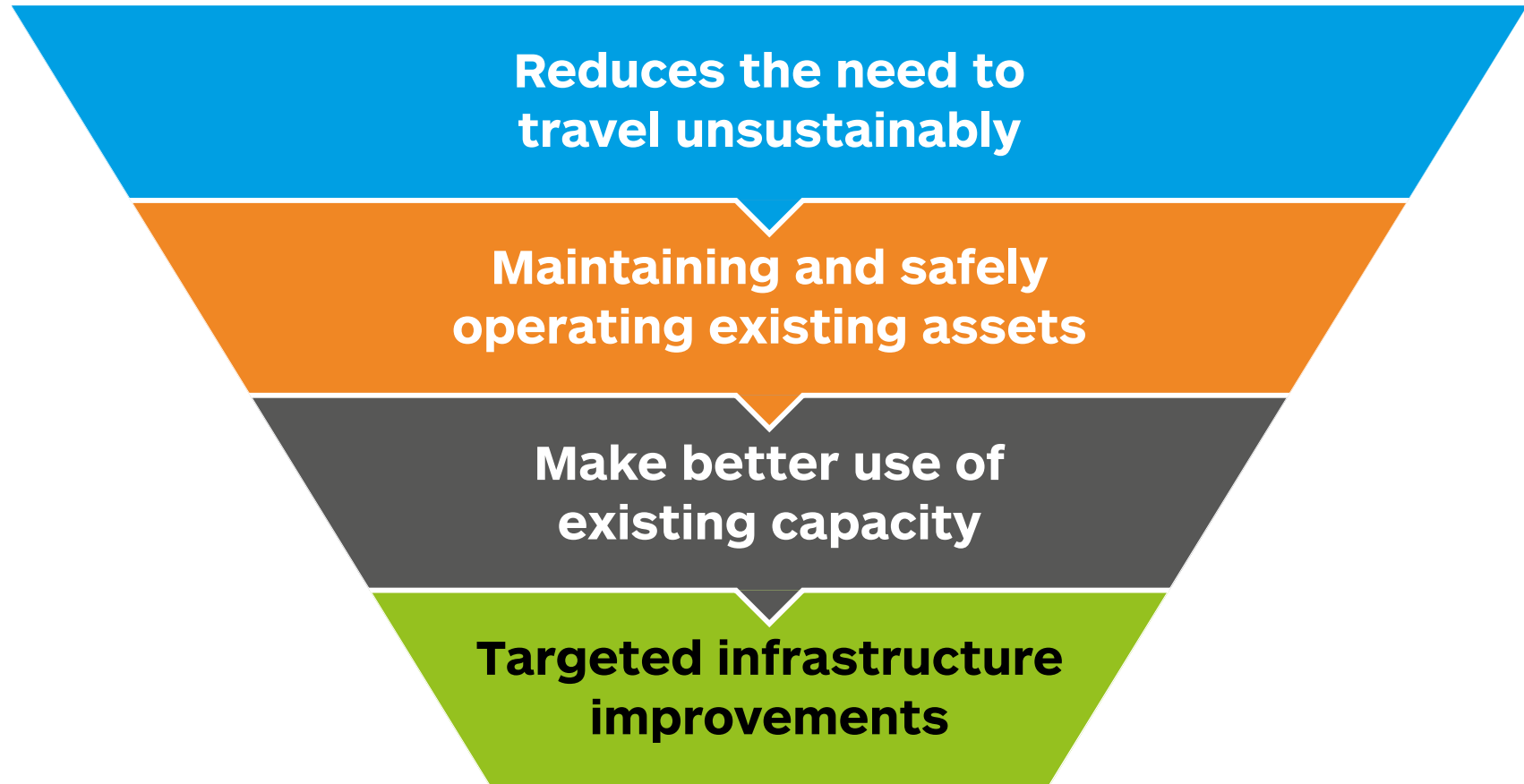
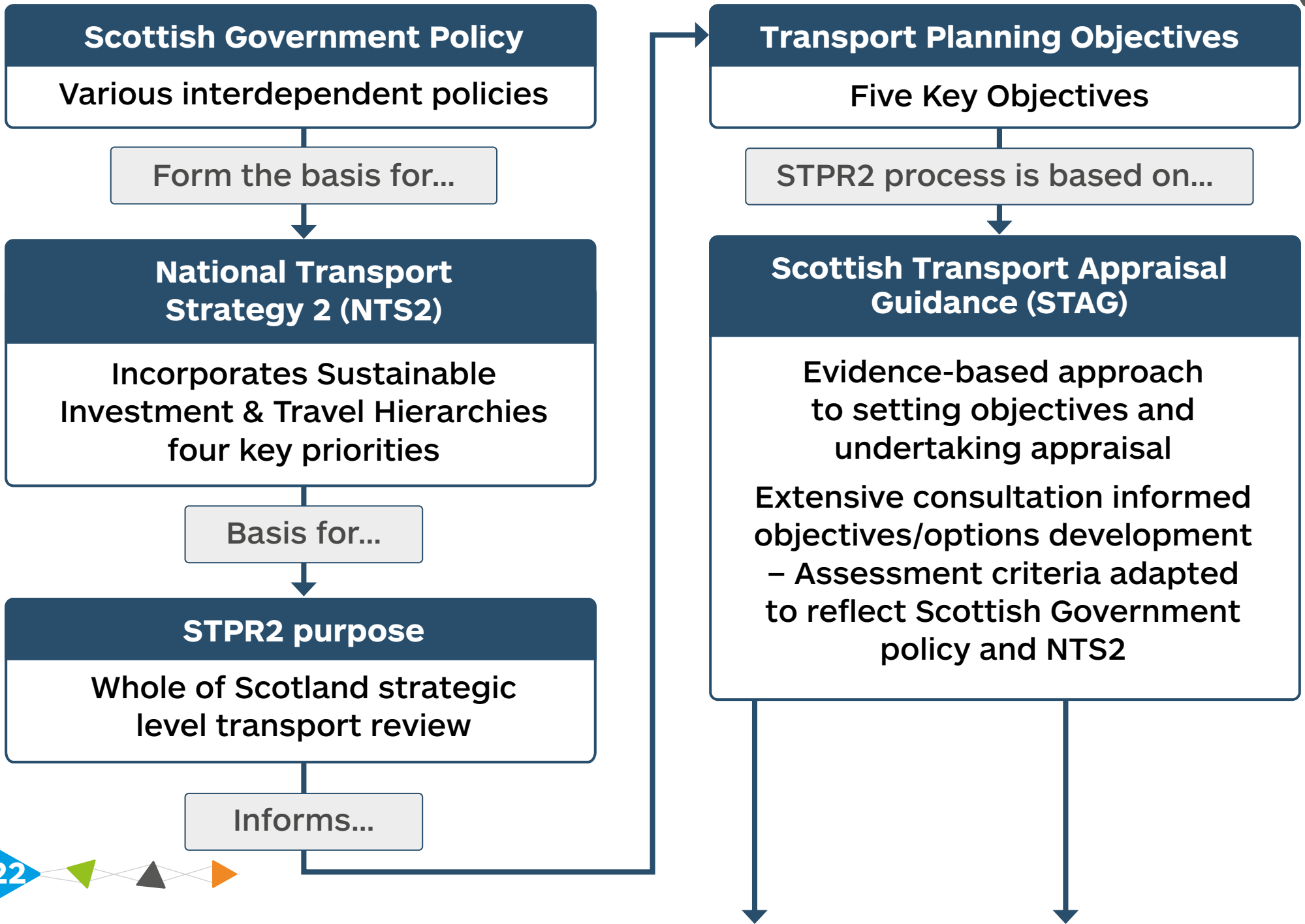
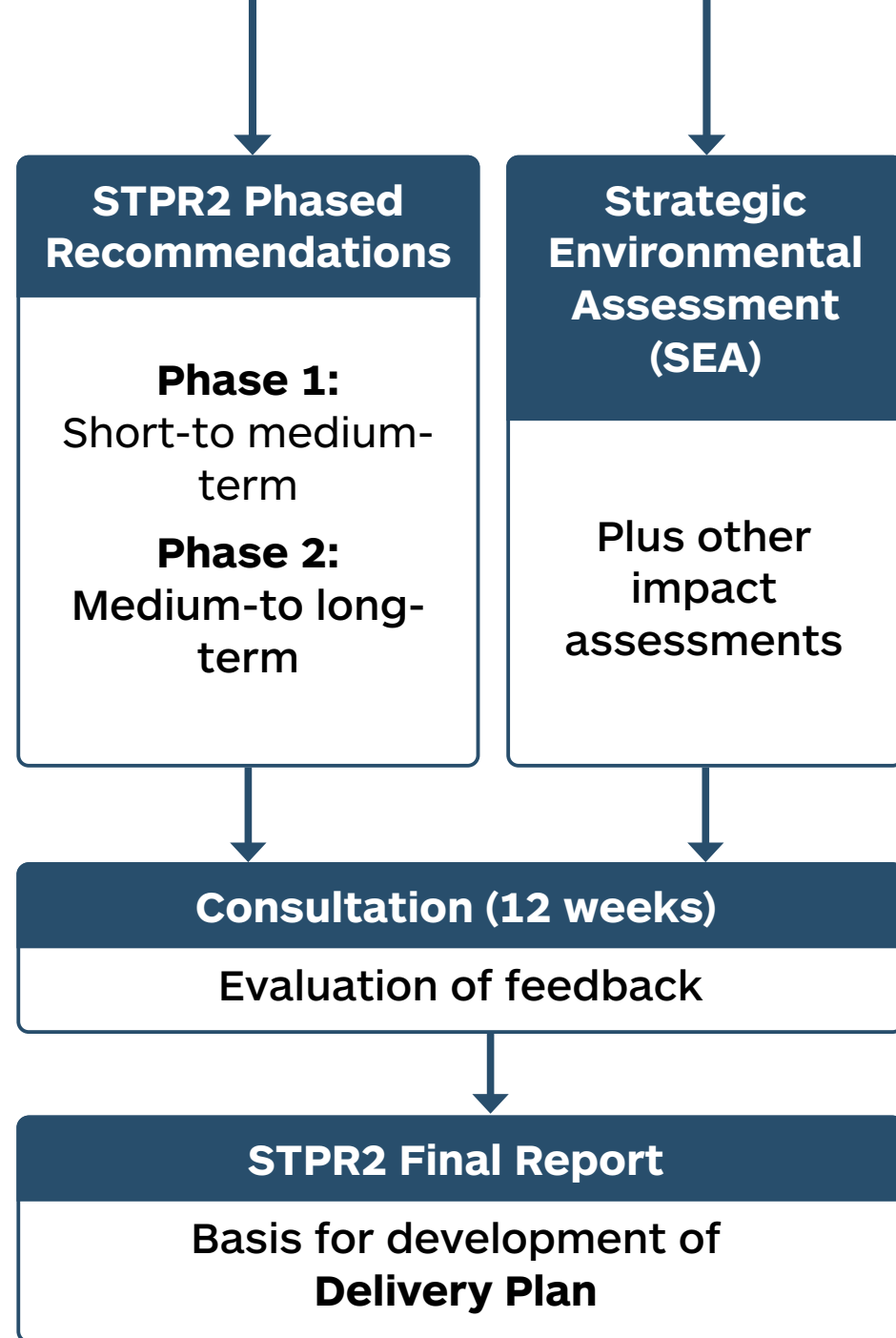


Figure 5 STPR2 Development Process Summary





4 Recommendations



STPR2 recommendations are grouped under six themes:

- improving active travel infrastructure
- influencing travel choices and behaviour
- enhancing access to affordable public transport
- decarbonising transport
- increasing safety and resilience on the strategic transport network
- strengthening strategic connections.

Summaries of each theme and related recommendations are provided in the remainder of this report. Figure 6 gives a snapshot of the performance related to the STPR2 objectives. Further details are available on:

transport.gov.scot/stpr2/






The principal benefit of developing a series of recommendations across the whole country is that it maintains an element of consistency (i.e. the same general recommendation is developed for the same problem/opportunity in multiple locations).







However, these overall recommendations then need to be tailored to respond to the regional problems and opportunities identified in particular parts of the country.

This has been achieved by developing a series of regional packages that incorporate the 45 recommendations.







Figure 7 (Page 37) shows recommendations by each STPR2 region.






Figure 6 Recommendations and Key Benefits






Recommendation ▼	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
Improving active travel infrastructure					
(1) Connected neighbourhoods	✓	✓	✓	✓	✓
(2) Active freeways and cycle parking hubs	✓	✓	✓	✓	✓
(3) Village-town active travel connections	✓	✓	✓	✓	✓
(4) Connecting towns by active travel	✓	✓	✓	✓	✓
(5) Long-distance active travel network	✓	✓	✓	✓	✓






Recommendation 	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
Influencing travel choices and behaviour					
(6) Behavioural change initiatives	✓	✓	✓	✓	✓
(7) Changing road user behaviour	✓	✓	✓	✓	✓
(8) Increasing active travel to school	✓	✓	✓	✓	✓
(9) Improving access to bikes	✓	✓	✓	✓	✓
(10) Expansion of 20mph limits and zones	✓	✓	✓	✓	✓







Recommendation 	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
Enhancing access to affordable public transport					
(11) Clyde Metro	✓	✓	✓	✓	✓
(12) Edinburgh and South East Scotland Mass Transit	✓	✓	✓	✓	✓
(13) Aberdeen Rapid Transit	✓	✓	✓	✓	✓
(14) Provision of strategic bus priority measures	✓	✓	✓	✓	✓
(15) Highland Main Line rail corridor enhancements	✓	✓	✓	✓	✓







Recommendation 	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(16) Perth-Dundee-Aberdeen rail corridor enhancements	✓	✓	✓	✓	✓
(17) Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements	✓	✓	✓	✓	✓
(18) Supporting integrated journeys at ferry terminals	✓	✓	✓	✓	✓
(19) Infrastructure to provide access for all at railway stations	✓	✓	✓	✓	✓






Recommendation	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(20) Investment in Demand Responsive Transport and Mobility as a Service	✓	✓	✓	✓	
(21) Improved public transport passenger interchange facilities	✓	✓	✓	✓	✓
(22) Framework for the delivery of mobility hubs	✓	✓	✓	✓	✓
(23) Smart, integrated public transport ticketing	✓	✓	✓	✓	✓






Recommendation ▼	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
Decarbonising transport					
(24) Ferry vessel renewal and replacement, and progressive decarbonisation	✓	✓	✓	✓	✓
(25) Decarbonisation of the rail network	✓	✓	✓	✓	✓
(26) Decarbonisation of the bus network	✓		✓		
(27) Behavioural change and modal shift for freight	✓		✓	✓	✓

Recommendation ▼	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(28) Zero emission vehicles and infrastructure transition	✓				
Increasing safety and resilience on the strategic transport network					
(29) Access to Argyll (A83)		✓	✓	✓	✓
(30) Trunk road and motorway safety improvements to progress towards 'Vision Zero'		✓		✓	✓

Recommendation 	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(31) Trunk road and motorway climate change adaptation and resilience	✓	✓	✓	✓	✓
(32) Trunk road and motorway renewal for reliability, resilience and safety		✓	✓	✓	✓
(33) Future Intelligent Transport Systems	✓	✓	✓	✓	✓
(34) Traffic Scotland System renewal	✓			✓	✓

Recommendation 	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(35) Intelligent Transport System renewal and replacement	✓			✓	✓
(36) Strategy for improving rest and welfare facilities for hauliers			✓	✓	✓
(37) Improving active travel on trunk roads through communities	✓	✓	✓	✓	✓
(38) Speed Management Plan	✓		✓	✓	✓

Recommendation ▼	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
Strengthening strategic connections					
(39) Sustainable access to Grangemouth Investment Zone	✓	✓	✓	✓	✓
(40) Access to Stranraer and the ports at Cairnryan			✓	✓	✓
(41) Potential Sound of Harris, Sound of Barra fixed link and fixed link between Mull and Scottish mainland		✓	✓	✓	✓

Recommendation ▼	STPR2 objectives				
	 Takes Climate Action	 Addresses Inequalities & Accessibility	 Improves Health & Wellbeing	 Supports Sustainable Economic Growth	 Increases Safety & Resilience
(42) Investment in port infrastructure to support vessel renewal and replacement, and progressive decarbonisation	✓	✓	✓	✓	✓
(43) Major station masterplans	✓	✓	✓	✓	✓
(44) Rail freight terminals and facilities	✓		✓	✓	✓
(45) High speed and cross-border rail enhancements	✓	✓	✓	✓	✓

This report makes 45 recommendations that focus investment on sustainable transport options. Of those recommendations, the following 28 provide benefits for individuals, families, communities and businesses across most parts of Scotland:

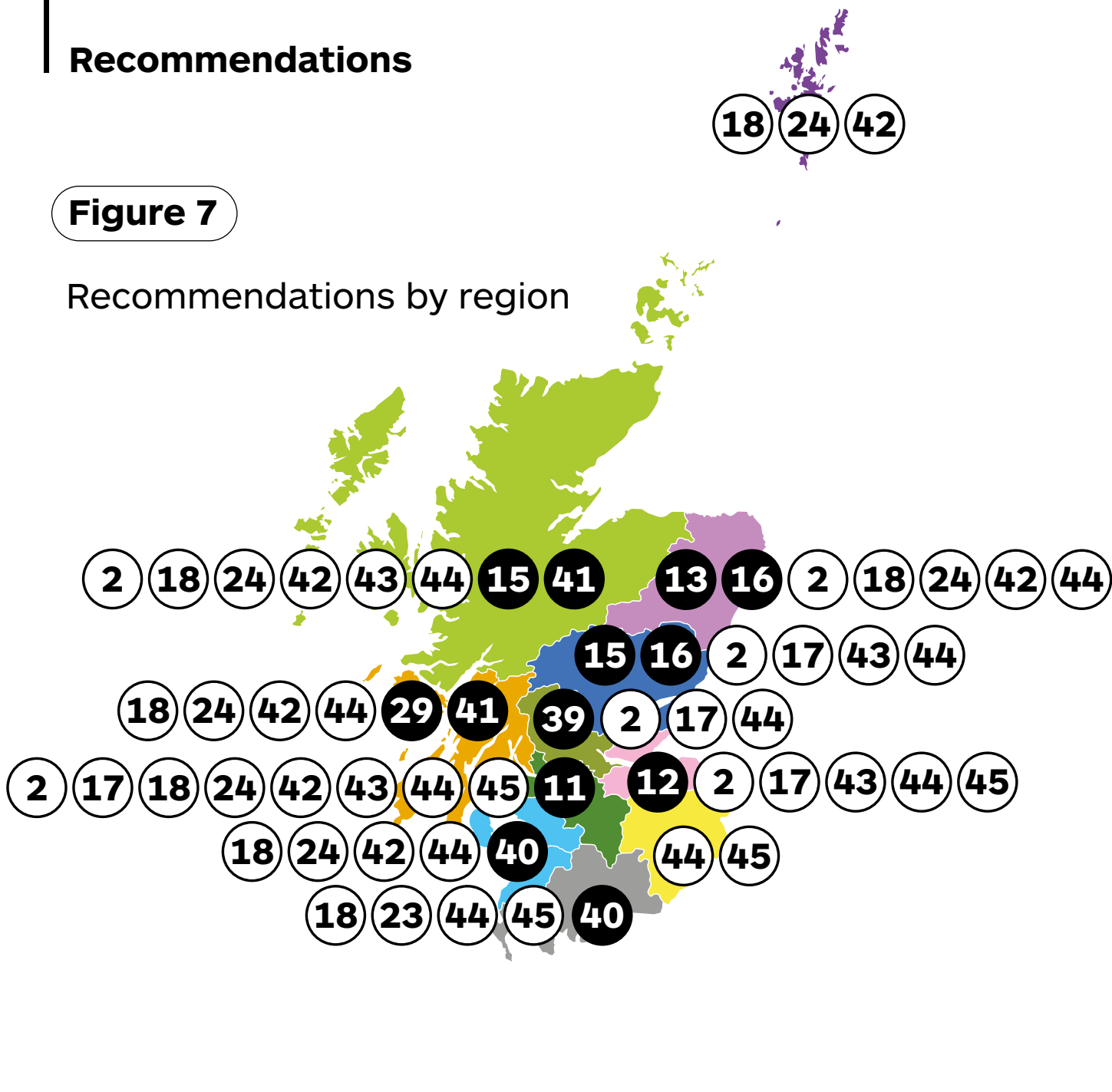
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A further 17 recommendations provide benefits in a number of regions. The regional map in Figure 7 highlights recommendations that:

- are specific to one or two regions
- are general but will have particular benefit for certain regions.

Figure 7

Recommendations by region



- Argyll and Bute Region
- Ayrshire and Arran Region
- Edinburgh and South East Region
- Forth Valley Region
- Glasgow City Region
- Highlands and Islands Region
- North East Scotland Region
- Scottish Borders Region
- Shetland Islands Region
- South West Scotland Region
- Tay Cities Region

Improving active travel infrastructure

Encouraging more people to walk, wheel and cycle more often:

- cuts carbon emissions
- reduces inequalities by improving access to jobs, services and leisure
- creates more pleasant communities
- improves health
- supports sustainable economic growth.

Better active travel routes create particular opportunities for people vulnerable to social exclusion such as disabled, young and older people, and those without access to a car.

The three STPR2 active travel infrastructure recommendations – Village-town active travel connections **(3)**, Connecting towns by

active travel **(4)** and Long-distance active travel network **(5)** – would work together, and with existing networks and links, to provide high quality connections for people walking, wheeling and cycling within and between Scotland's communities.

These would integrate with existing networks including the National Cycle Network and provide links into and within urban areas via the STPR2 recommendations of Connected neighbourhoods **(1)** and Active freeways **(2)**.

To be effective, implementation of STPR2 active travel infrastructure recommendations would require a partnership approach, principally with the local authorities and Regional Transport Partnerships.

1 Connected neighbourhoods

Connected neighbourhoods are the transport components of 20-minute neighbourhoods, a way of achieving better connected and more accessible communities. These are designed in such a way that as many people as possible can meet the majority of their daily needs within a reasonable walk, wheel or cycle of their home. Connected neighbourhoods would encourage walking, wheeling and cycling for short everyday journeys by delivering comprehensive networks of high-quality active travel routes radiating (for approximately 800m) from key locations

in town or neighbourhood centres. These would better connect with nearby residential areas and public transport.

STPR2 recommends delivering connected neighbourhoods within towns and cities. They would consist of packages of improvements to active travel infrastructure in and around town and neighbourhood centres – for example, to footways, road crossings, route surfacing, lighting and street furniture. In large urban areas, different connected neighbourhoods could be linked by Active freeways **(2)**.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

2 Active freeways and cycle parking hubs

Active freeways would encourage more people to walk, wheel and cycle more often by providing high-quality direct active travel routes, segregated from traffic, on busy corridors in large urban areas. By improving safety, active freeways would help to address fear of road danger, the biggest single barrier to increasing active travel.

STPR2 recommends development of active freeways on high-demand corridors in Scotland's large urban areas, with priority given initially to the larger cities. Comprehensive networks of active freeways would connect outlying neighbourhoods, including those

with poor existing links, to city/town centres and other important destinations.

Supporting connections – including those delivered by Connected neighbourhoods **(1)** – would allow people ready access to active freeways from their homes, schools and workplaces, and other busy locations. Active freeways would also connect to other routes to provide links to neighbouring settlements.

To cater for the increased cycle usage from active freeway networks, high-quality, secure cycle parking hubs could be developed in busy locations.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

3 Village-town active travel connections

5 Long-distance active travel network

These three inter-urban active travel route recommendations combine to provide a nationwide network connecting Scotland's communities for people walking, wheeling and cycling.

Providing high-quality, safer and more convenient routes would encourage more walking, wheeling and cycling. A key factor is addressing safety fears through effective segregation from traffic, only using on-road routes if they are quiet and have low traffic speed limits.

These routes would deliver environmental improvements and provide health benefits to people walking, wheeling and cycling. They would also help address problems

4 Connecting towns by active travel

faced by those often excluded from transport, such as disabled, young and older people, and those without access to a car.

STPR2 recommends the creation of new and improved active travel routes to connect smaller rural communities with nearby towns (3), connect between Scotland's towns (4) and connect Scotland's cities, regions and major gateways (5).

Village town routes would encourage a switch from short rural car trips and allow people to benefit from improved access to local goods and services.

- 3 Village-town active travel connections
- 4 Connecting towns by active travel
- 5 Long-distance active travel network (cont'd)

Connecting-towns would ensure those not served by the long-distance active travel network are linked to nearby cities and towns. Priority would be given to connecting settlements that are relatively close and where the opportunities for switching from car to active travel are greatest.

Most benefits from the long distance active travel network are likely to arise from relatively short journeys between or within the communities that it would pass through. The network would enhance the existing National Cycle Network to create a national network of active travel routes that mirror, in part, the trunk road and rail networks.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

Influencing travel choices and behaviour

The recommendations in this theme focus on influencing people to make healthier, more sustainable and safer travel choices.

Some recommendations – Behavioural change initiatives **(6)**, Increasing active travel to school **(8)** and Increasing access to bikes **(9)** – seek to encourage and enable more people to make use of active, public and shared modes of transport. As well as delivering benefits in their own right, these interventions would also improve the value of many other STPR2 recommendations by enabling more people to make use of the infrastructure and services provided.

Other recommendations in this theme – Changing road user behaviour **(7)** and Expansion of 20mph limits and zones **(10)** – seek to improve road safety by reducing traffic speeds and promoting more responsible road use. These would not only generate benefits of fewer accidents, but also help overcome perceptions of road danger, which can be a key barrier to active travel.

To be effective, implementation of these STPR2 recommendations would require a partnership approach between the many public, private and community organisations involved in delivering changes in travel choices and behaviour.

6 Behaviour change initiatives

Encouraging more people to make active and sustainable transport choices more often would have significant health, inclusion and environmental benefits. There is growing evidence of the effectiveness of behavioural change initiatives to increase awareness and use of active and sustainable transport.

STPR2 recommends building on existing programmes to deliver local, regional and national initiatives that encourage, enable and incentivise more people to make use of active and sustainable choices more often. Activities would raise awareness

of sustainable transport options and encourage individuals to make the most appropriate transport choice for their journeys, such as walking, wheeling, cycling, public transport or shared mobility services.

Initiatives would include providing information, campaigns and promotional activities; financial incentives and community events. These initiatives are likely to be most effective if they raise awareness of new infrastructure and services, including those delivered by other STPR2 recommendations.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

7 Changing road user behaviour

Scotland's Road Safety Framework has a vision for Scotland to have the best road safety performance in the world by 2030. Ensuring all road users understand their road safety responsibilities can increase respect between users and improve attitudes and behaviours for the safety of themselves and others. This results in more responsible behaviour which, combined with speed enforcement, leads to fewer road casualties.

Improving safety is particularly important given other STPR2 recommendations which also seek to encourage more walking, wheeling and cycling.

STPR2 recommends implementation of speed enforcement technology and national road safety behaviour change campaigns, education and training initiatives (for example, Give Cycle Space and Road Safety Week) to enable all users to understand their road safety responsibilities. This would contribute to reducing traffic speeds and increasing understanding and respect between all road users. In turn, this would reduce road casualties and create safer environments which promote inclusivity and encourage active travel.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

8 Increasing active travel to school

Increasing walking, wheeling and cycling to school leads to health and wellbeing benefits for young people, their family groups and carers. This can help create healthy active travel habits for life.

The school run is a significant contributor to traffic levels and rates of walking to school in Scotland have been steadily declining over the past decade, only partly offset by increased cycling and scooting. Concern about road safety is one of the barriers to active travel most reported by parents and carers. This recommendation would seek to improve active travel routes, reduce traffic volumes

and speeds and tackle congestion, thereby increasing the uptake of active travel to schools.

STPR2 recommends improved and safer walking, wheeling and cycling routes to primary and secondary schools are created through a comprehensive package of local infrastructure schemes. These would include reallocation of road space and improved crossing points, surfacing and lighting – supported by traffic speed reduction measures where appropriate. This recommendation would also include behavioural change measures to promote better driver behaviour around schools.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

9 Improving access to bikes

The benefits of any investment in new or existing cycle route infrastructure can only be realised by people that have access to a bike. The cost of a bike and associated accessories – such as lights, locks and helmets – can be significant for many people, especially families or those who need more specialist cycles. Research shows that people experiencing social and economic hardship are less likely to use active modes of travel. Only one-third of Scottish households have access to one or more cycles and many households would not have cycles that suit every individual or have all appropriate accessories to safely use and store cycles.

There is also often a lack of access to training or support that would give people the necessary confidence and skills to cycle.

STPR2 recommends improving access to bikes through interventions that would build on existing successful programmes and the work of established support groups.

Measures would be designed to meet local community needs and address inequality by targeting those who would most benefit from cycling (and walking and wheeling as appropriate).

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

10 Expansion of 20mph limits and zones

The Scottish Government is committed to delivering a safer speed limit of 20mph on appropriate roads by 2025. Introducing more 20mph speed limits and zones at appropriate locations in cities, towns and villages can reduce fear of road danger which is a significant barrier to walking, wheeling and cycling for some people. Evidence indicates that road casualty rates fall with the introduction of 20mph zones, and accident survival rates are up to five times higher when a pedestrian is hit by a car driving at 20mph compared to 30mph. Lower speeds also increase the safety of people travelling in vehicles.

STPR2 recommends supporting the Scottish Government's 20mph Task Group by scaling up current local programmes and initiatives to provide new or expanded 20mph limits and zones on appropriate roads in cities, towns and villages across Scotland. These would typically be where there are high levels of pedestrian activity. A partnership working approach to delivery is essential as most 20mph measures would be on local (non-trunk) roads controlled by local authorities. Accompanying road safety campaigns would encourage better driver behaviour in 20mph zones.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

Enhancing access to affordable public transport

For many people, having access to affordable and reliable public transport is necessary, as it allows access to jobs, education and key services. This applies to those living in rural areas as well as our towns and cities. Investment in necessary infrastructure would encourage greater use of public transport which, in turn, would result in a reduction of car-based trips and associated emissions.

Addressing the differing needs of the population requires a suite of recommendations that recognise the particular challenges and barriers to those travelling by public transport. This includes improvements to transport stations and interchanges (**18,19,21,22**), and developing

suitable smart integrated ticketing and payment schemes (**23**) to enhance the overall accessibility and affordability of the services.

Complementing these are a range of measures that deal with more heavily populated city regions. These include recommendations where mass transit can provide a transformational change in the service provision (**11,12,13**) and those focusing on strategic routes or corridors where bus and rail provide the most effective service (**14,15,16,17**). In addition, bespoke options can reflect the particular needs of the less heavily populated communities through an expansion of Demand Responsive Transport (DRT) and Mobility as a Service (MaaS) (**20**).

11 Clyde Metro

Road congestion in Glasgow City Region makes public transport less attractive, contributing to more car journeys.

Metro transport systems include one of, or a combination of, bus rapid transit (BRT), tram, light rail and metro rail. These options would complement the service provided by traditional railways.

Clyde Metro is aimed to improve connectivity within the Glasgow conurbation by providing high quality public transport links to key hubs and unserved or underserved areas.

Clyde Metro would help tackle social exclusion; provide significant capacity to encourage switch from car use; reduce greenhouse gas emissions and improve air quality; and free rail capacity for longer-distance journeys.

STPR2 recommends that Transport Scotland continues to work with Glasgow City Council, Strathclyde Partnership for Transport and other regional partners in the development of Clyde Metro.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

12 Edinburgh and South East Scotland Mass Transit

A mass transit system for the region would provide more public transport options for cross boundary travel, reducing the need for unnecessary changes between services. This would improve region wide connectivity and encourage a switch from car to public transport and other more sustainable travel options.

The system would focus on key corridors of demand as well as where congestion

impacts on bus services and where the public transport offer is more limited, including targeting more disadvantaged areas where there can be greater dependence on public transport.

The system would help to deliver environmental benefits and improve public transport journey times and journey time reliability, making sustainable travel options more attractive.

12 Edinburgh and South East Scotland Mass Transit (cont'd)

STPR2 recommends that Transport Scotland works with regional partners to develop and enhance the cross-boundary public transport system for the Edinburgh and South East Scotland region, potentially comprising tram and bus-based transit modes including bus rapid transit (BRT) and bus priority measures.

This would complement and integrate with the region's current bus, tram and heavy rail networks, to provide improved connectivity between Edinburgh and the surrounding communities in the region, as well as more direct connections between communities outside Edinburgh.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

13 Aberdeen Rapid Transit

A bus-based rapid transit system for Aberdeen City region would provide more competitive and efficient public transport into and around the region. This would improve region-wide connectivity and encourage a switch from car to public transport and other more sustainable travel options. The system would focus on key corridors of demand as well as where congestion impacts on bus services. Travellers switching from car to public transport would reduce the congestion impacting on bus services and offer opportunities for placemaking improvements to support healthy and active lifestyles. The rapid transit system would help to

deliver air quality benefits and improve public transport journey times and journey time reliability, making sustainable travel options more attractive.

STPR2 recommends that Transport Scotland continues to work with Nestrans, Aberdeen City Council and Aberdeenshire Council in developing plans for Aberdeen. The rapid transit system would prioritise buses and connect two proposed corridors: Bridge of Don Park and Ride – Westhill (via City Centre); and Craibstone Park and Ride – (proposed) Portlethen Transport Interchange (via City Centre).

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

14 Provision of strategic bus priority measures

Bus priority measures, including reallocation of road space, can deliver greater punctuality and faster journey times. Research shows that such benefits would increase the attractiveness of travel by bus and help reverse the continued decline in use. Switching from car to this greener, cleaner option is essential if Scotland is to meet its net zero carbon emission target and the need for action is urgent, as confidence in the safety of travel by bus has reduced as a result of the COVID-19 pandemic.

STPR2 recommends bus priority options are implemented within Scotland's cities and towns where congestion is highest and that bus priority measures continue to be identified and implemented on the trunk road and motorway network. These could be taken forward within local networks using the Bus Partnership Fund process or similar.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

- 15** Highland Main Line rail corridor enhancements
- 16** Perth-Dundee-Aberdeen rail corridor enhancements
- 17** Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements

The COVID-19 pandemic has highlighted significant challenges for rail with respect to maintaining financial viability. The sector must meet changing passenger and freight customer requirements and achieve the traffic growth required to meet Scottish net zero, rail freight and car travel reduction targets.

For passengers, rail is typically best suited to the higher volume 'trunk' element of city-to-city journeys, complementing

door-to-door connectivity by bus and active travel. For freight, rail is often suited for longer-distance bulk/intermodal freight. Future passenger rail investment should, therefore, be targeted on the strongest city-to-city markets as these are the routes where the greatest value from improvements would be realised. Freight investment should be targeted on corridors from the Central Belt towards Aberdeen, Inverness and cross-border routes.

- 15 Highland Main Line rail corridor enhancements
- 16 Perth-Dundee-Aberdeen rail corridor enhancements
- 17 Edinburgh/Glasgow-Perth/Dundee rail corridor enhancements (cont'd)

STPR2 recommends a programme of strategic rail enhancements to improve journey times and increase capacity and reliability for passenger and freight services. For the Highland Main Line, these would include new and longer passing loops with more flexibility and permissible speed increases.

Both the Perth-Dundee-Aberdeen and Edinburgh/Glasgow-Perth/Dundee improvement programmes would include junction upgrades and permissible speed increases. Opportunities would be taken to increase gauge clearance to permit taller and wider trains.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

18 Supporting integrated journeys at ferry terminals

One of the major barriers to public transport uptake has been connectivity and lack of convenient options that allow complete journeys. Improving access and creating a better traveller experience at ferry terminals and interchange facilities would benefit rural and island communities as well as visitors. This would improve utilisation of available passenger capacity on ferries and, potentially, free up space on vehicle decks.

This would also provide more seamless travel choices and improve services, particularly for those not travelling with a car.

STPR2 recommends a detailed review of key ferry terminals to consider physical integration and accessibility. This would examine improvements in timetable information, signing, ticketing and other facilities required to deliver a seamless and integrated journey between different travel modes. The review would make recommendations on a programme of integration improvements to enhance the traveller experience and accessibility at ferry terminals.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

19 Infrastructure to provide access for all at railway stations

Implementing measures to improve the accessibility of Scotland's railway stations can help ensure that everyone can use the transport system with as few barriers as possible. This would encourage greater use of rail and switching from car travel to support Scotland's net zero carbon emission targets. Examples include step-free routes and platform access to passenger trains.

STPR2 recommends a review of station accessibility across Scotland to identify and remove barriers to travel and improve access for all to the rail network, prioritising those stations that have particular problems. This would include investigating the opportunities for trialling new technological solutions (for example enhanced audio announcements and help points) to improve the safety and accessibility at stations for people with reduced mobility.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

20 Investment in Demand Responsive Transport and Mobility as a Service

Targeted investment to make it easier for people to travel, particularly those without access to a car, can help promote equality through fairer access to jobs and services. In locations with low bus network connectivity, or where conventional fixed route services may not be suitable or viable, flexible options such as Demand Responsive Transport (DRT) and Community Transport (CT) – supported

by Mobility as a Service (MaaS) and smart technology, where appropriate – can be used to provide improved public transport connectivity.

This would be important in addressing the marked differences between and within regions.

20 Investment in Demand Responsive Transport and Mobility as a Service (cont'd)

STPR2 recommends that capital funding is used to support pilot schemes and demonstration projects to establish how DRT and CT services can provide improved public transport connectivity and integration without increasing the need for revenue support. This would draw on innovative solutions, international best practice and smart technologies.

This funding would help to establish whether scarce existing resources could be better utilised across the public network, home-to-school transport, special educational needs travel and non-emergency patient travel, either on the basis of fixed route services or through flexible routeing. The potential to better inform people on journey options through the use of MaaS would also be considered.

Meets key objectives:



Climate



Accessibility



Health



Economy

21 Improved public transport passenger interchange facilities

Improving the quality of passenger facilities at bus stations, railway stations and other transport interchanges encourages uptake of public transport and a switch from car use. This would include improving accessibility at bus stations and transport interchanges for people with reduced mobility.

Improvements can also be made to infrastructure design and security – to and within bus stations, railway stations and transport interchanges – as well as by enhancing the quality of the infrastructure information, signage and wayfinding for all users of the facilities.

Improvements will be particularly important in attracting passengers back to public transport following COVID-19.

STPR2 recommends building on Infrastructure to provide access for all at railway stations (**19**) and Scotland’s Accessible Travel Framework to roll out a programme of interchange upgrades. This would focus on improvements or, where needed, construction of new facilities. Opportunities to enhance interaction with active travel modes would also be considered to improve overall access to public transport services.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

22 Framework for the delivery of mobility hubs

Improving links between public transport services, active travel (walking, wheeling and cycling) and shared transport makes it easier for people, particularly those without a car, to get to and from their destination. This addresses one of the main barriers to uptake of public transport services.

Mobility hubs are facilities where various types of transport and, potentially, other services inter-connect. They support changing travel patterns – such changes as increased home-working and promotion of liveable places, including 20-minute neighbourhoods – that are resulting in a greater reliance on local

facilities. Mobility hubs can be developed in various contexts, including rural and island communities, and services can be tailored to support specific local characteristics and needs.

STPR2 recommends that a delivery framework is developed in collaboration with stakeholders (including the communities they serve) to facilitate the creation of high-quality mobility hubs across Scotland. To ensure their effectiveness, the framework would include guidance to allow robust assessment and coordination of future funding decisions. This would provide all stakeholders with a clear template and pathway for action.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

23 Smart, integrated public transport ticketing

Making it easier for people to reach their end destination by simplifying how they store and pay for tickets with different providers makes public transport a more convenient, flexible and attractive travel option. This encourages people to switch from private car use and supports more sustainable travel.

Improving integration involves introducing new services, technologies and systems which support easier payment and the opportunity to simplify fares, such as price capping. To fully integrate across all operators this can include electronic

payment, smartcard and mobile technologies coupled with improved administration systems.

STPR2 recommends building on recent interventions and new services to continue with the support and ongoing delivery of fully integrated smart ticketing and payment services across all public transport modes. This recommendation supports the Transport (Scotland) Act 2019 which includes establishing a National Smart Ticketing Advisory Board and setting a technological standard for smart ticketing.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

Decarbonising transport

To meet its legal commitments on addressing climate change, the Scottish Government has set a target to achieve net zero carbon emissions by 2045.

Transport is now the largest single source of carbon emissions, with car traffic on major roads having tripled during the last four decades. Cars now account for 39 per cent of transport emissions while goods vehicles account for a further 25 per cent.

Studies have shown that the only way the net zero target can be achieved is by a combination of:

- rapid decarbonisation of passenger and freight transport
- reduction in vehicle usage by switching to public transport and active travel
- reduced demand through shorter trips and, where possible, avoiding trips.

Various STPR2 recommendations described in earlier themes are directed at support for active travel (walking, wheeling and cycling) and measures to improve the attractiveness of public transport.

STPR2 recommendations aimed at rapid decarbonisation of passenger and freight transport include:

- Ferry vessel renewal and replacement, and progressive decarbonisation **(24)**
- Decarbonisation of the rail network **(25)**
- Decarbonisation of the bus network **(26)**
- Behavioural change and modal shift for freight **(27)**
- Zero emission vehicles and infrastructure transition **(28)**.

These recommendations align with, and support, the revised draft fourth National Planning Framework (NPF4) where decarbonisation of connectivity is a strong theme.

24 Ferry vessel renewal and replacement, and progressive decarbonisation

In addition to reducing emissions, continued investment in ferry renewals would address the needs of rural and island communities by improving the resilience, reliability, capacity, accessibility and standardisation of ferries. Progressive decarbonisation of the Clyde and Hebrides Ferry Services (CHFS) and Northern Isles Ferry Services (NIFS) networks would

support the 2018 to 2032 Climate Change Plan Update and the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

STPR2 recommends renewal and replacement of the CHFS and NIFS vessels including progressive decarbonisation by 2045.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

25 Decarbonisation of the rail network

Replacing diesel trains, the largest source of rail carbon emissions, with cleaner technologies offers multiple benefits in addition to helping meet net zero targets. Electrification would improve journey times and strengthen reliability of both freight and passenger rail services. Capacity could be expanded through the use of longer trains and timetable efficiencies achieved from improved acceleration. These provide indirect benefits for passenger and freight movements and would encourage a switch from road to rail.

Electric rolling stock has lower operational and maintenance costs than diesel. Battery and hydrogen traction solutions would still enable decarbonisation of rail operations on routes where overhead wire electrification is less cost effective.

STPR2 recommends the priorities for decarbonising key rail routes should align with the Rail Services Decarbonisation Action Plan.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

26 Decarbonisation of the bus network

The Scottish Government has committed to remove the majority of diesel buses from public transport by the end of 2023 with an investment of £120 million in support of this announced at the time of the 2018 to 2032 Climate Change Plan Update.

STPR2 recommends further investment to stimulate the commercial roll out of zero emission buses, including those used by

the home-to-school, community transport and tourist sectors. Further policy development may be required to ensure a fair and just transition to zero emission buses across all operators. Any provision of additional funding would need to reflect the expectation that the bus and coach industry will increasingly seek to acquire zero emission vehicles commercially, without the need for Government investment.

Meets key objectives:



Climate



Health

27 Behaviour change and modal shift for freight

A significant amount of freight needs to shift from road to rail or water, and the overall distance travelled needs to be reduced. This is necessary if Scotland is to meet its net zero carbon emission targets as these cannot be achieved by changes in technology alone. The development of a network to facilitate behavioural change and modal shift would be enabled by the implementation of Zero emission vehicles and infrastructure transition **(28)**.

STPR2 recommends the Scottish Government brings together public and private sector organisations to introduce

incentives and best practice to establish more efficient, environmentally friendly practices within the freight industry, including promoting sustainable transport options to encourage modal shift particularly but not exclusively for longer distance movements and enable the potential to reduce the number of goods vehicle movements on the road network.

A potential evolution of the existing grant and support schemes may be involved, as well as a programme of behaviour change initiatives, to increase compliance of the grant process and encourage a modal switch.

Meets key objectives:



Climate



Health



Economy



Safety

28 Zero emission vehicles and infrastructure transition

Alongside greater use of public transport and active travel, and the required reduction in travel demand, switching to zero emission vehicles is a key step in reducing greenhouse gas emissions from transport and achieving the Scottish Government's net zero target.

STPR2 recommends that a national framework for zero emission vehicles is established to support and accelerate the shift to zero emission mobility through targeted funding. This would enable investment in fleets, facilities and emerging technologies.

In addition, collaboration between the public and private sector would develop co-ordinated investment in a zero emission transport supply network of recharging and refuelling infrastructure across Scotland, including consideration of rural and island communities.

This framework would seek to maximise the impact of public expenditure and leverage commercial investment. The framework would incorporate freight, coaches and personal modes, and include capacity for longer-distance journeys.

Meets key objectives:



Climate

Increasing safety and resilience on the strategic transport network

The maintenance of safe and resilient transport networks and systems is vital to facilitate the daily lives of all communities, businesses and visitors to Scotland.

Transport Scotland is the roads authority for the Scottish trunk road and motorway network and is committed to measures to improve the resilience of the rail network, as prescribed by the Office for Road and Rail (ORR).

The recommendations within STPR2 supplement ongoing maintenance and operational requirements by focusing on

particular challenges associated with the need to operate a safe and resilient trunk road and motorway network.

Transport Scotland would continue to assess the network and implement a programme of renewals and measures that would address safety **(30)**, climate change adaptation **(31)** and resilience **(32)**.

STPR2 has considered these requirements and identified a series of routes and locations to prioritise. One specific priority of the Scottish Government is to address the resilience of the A83 at the Rest and be Thankful **(29)**.

Recommendations considering the management of speed on trunk roads **(38)** and mitigating the impact of trunk roads on local communities **(37)** would reduce risk of accidents and enhance the local environment.

The use of technologies would continue to play an important part in operating a safe and reliable system, and STPR2 recommends a suite of interventions aimed at creating the next generation of control centres with intelligent transport systems **(33)**, **(34)** and infrastructure **(35)**.

Recognising the specific needs of the road haulage industry, STPR2 recommends a detailed national audit and review of lorry parks to address barriers hampering their development **(36)**.

29 Access to Argyll (A83)

Ongoing closures of the A83 due to landslides at the 'Rest and Be Thankful' or on other sections of the road in Argyll and Bute due to accidents, flooding or roadworks have a significant negative impact on the region and its economy. Closures at the 'Rest and Be Thankful' can add detours of up to 50 miles for residents, businesses and visitors.

New or improved road infrastructure to address these closures would improve the reliability of the route as a vital artery through Argyll, as a connection for both the Kintyre and Cowal peninsulas, and as one of

only two trunk roads linking Argyll and Bute to the Central Belt.

STPR2 recommends work continues on developing a more reliable route. A preliminary assessment of 11 route corridor options has been completed with the Glen Croe corridor emerging as the preferred option.

Work undertaken to date has been accelerated, with speed of delivery a key criteria for assessment.

Meets key objectives:



Accessibility



Health



Economy



Safety

30 Trunk road and motorway safety improvements to progress towards 'Vision Zero'

Improvements are required across the trunk road and motorway network to help meet Scotland's Road Safety Framework vision for Scotland to have the best road safety performance in the world by 2030. The long-term goal is 'Vision Zero', where there are zero road fatalities and serious injuries by 2050. Safety improvements would reduce the risk of collision, mitigate the severity of injury

should a collision occur and improve route reliability and resilience by reducing delays associated with accidents. A high-quality, well maintained and efficient trunk road and motorway network also supports other Scottish Government programmes for active travel, Connected and Autonomous Vehicles (CAV) and bus priority investment – thereby contributing to the low carbon economy.

30 Trunk road and motorway safety improvements to progress towards 'Vision Zero' (cont'd)

STPR2 recommends road safety improvements are progressed across the trunk road and motorway network with a primary, but not exclusive, focus on rural sections where accident rates and severities are typically higher. Measures are likely to include one or a combination of junction improvements, carriageway widening, route realignment and provision of overtaking opportunities. The location and type of

improvements on specific routes requires further detailed investigation, potentially through the development of route action plans.

Where appropriate, these measures may be undertaken in conjunction with and to support the STPR2 trunk road and motorway recommendations related to climate change adaptation **(31)** and renewal **(32)**.

Meets key objectives:



Accessibility



Economy



Safety

31 Trunk road and motorway climate change adaptation and resilience

Adapting to the impacts of climate change is essential to ensuring that the trunk road and motorway network is safe, reliable and resilient. This includes developing measures to protect the operation of the network from severe weather events related to climate change such as flooding, landslides and high winds.

STPR2 recommends building on existing evidence around vulnerable locations to develop a fuller picture of those areas on the trunk road and motorway network most at risk of disruption due to weather events. This would provide a basis for

identifying, prioritising and implementing improvements.

Measures include, but are not limited to strengthening or replacing sea walls, upgrading coastal fences and stabilising embankments, slopes and hillsides.

Where appropriate, these measures may be undertaken in conjunction with, and to support, the STPR2 trunk road and motorway network recommendations related to renewal **(32)** and safety improvements **(30)**, with Access to Argyll A83 **(29)** a specific recommendation.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

32 Trunk road and motorway renewal for reliability, resilience and safety

The trunk road and motorway network comprises 3,739 route kilometres (2,323 miles) of road, 1,745 bridges and 2,492 other structures. It carries over 40 per cent of all traffic and over 60 per cent of all large goods vehicles. Like any piece of infrastructure, the road network has a design life that can be extended by regular maintenance, but also requires significant renewal after years of permanent use to maintain the integrity of the asset.

A co-ordinated programme of planned renewal and refurbishment work is also less disruptive and more cost-effective than addressing network failure.

STPR2 recommends continued and increased investment in the trunk road and motorway network over and above current maintenance levels to keep the network reliable and resilient for road users. Potential measures would include, but are not limited to, carriageway and structure schemes,

32 Trunk road and motorway renewal for reliability, resilience and safety (cont'd)

strengthening of major bridges, removal of accessibility barriers and development of integrated transport plans for Fort William and the A90 Kingsway through Dundee.

Where appropriate, these measures may be undertaken in conjunction with and to support STPR2 motorway and trunk road recommendations related to safety improvements **(30)** and climate change adaptation **(31)**.

Meets key objectives:



Accessibility



Health



Economy



Safety

- 33 Future Intelligent Transport Systems
- 34 Traffic Scotland System renewal
- 35 Intelligent Transport System renewal and replacement

These recommendations support Transport Scotland's management and operation of traffic across the strategic transport network.

Intelligent Transport Systems (ITS) can make a significant contribution in the overall safety of travel and support enhanced transport resilience, smoother journeys, quicker reaction to incidents and environmental improvements across the Scottish trunk road and motorway network.

ITS infrastructure is embedded within the transport network and includes equipment such as variable message signage, lane control signals, CCTV, emergency roadside telephones, traffic and weather monitoring devices, and the equipment that connect these together and to the Traffic Scotland

National Control Centre (TSNCC).

Investing in the renewal and replacement of the existing ITS roadside equipment would maintain the current high level of service to road users and provide greater resilience. The enhanced functionality of new ITS equipment would also contribute to reduced road accidents and the delivery of safer journeys.

STPR2 recommends investment to enhance and future-proof the capabilities of the current Traffic Scotland System (TSS) and to plan deployment of new roadside equipment, systems and services to maximise network operations and resilience. The IMS and other related systems would be upgraded to address both current and future requirements.

Recommendations



- 33** Future Intelligent Transport Systems
- 34** Traffic Scotland System renewal
- 35** Intelligent Transport System renewal and replacement (cont'd)

Exploiting Future Intelligent Transport Systems (**33**) involves deploying new roadside equipment and enhancing the TSS.

The TSS uses the information it collects about roadworks, accidents, congestion and weather events to reduce disruption and improve the operational efficiency and safety of the trunk road and motorway network.

Traffic Scotland system renewal (**34**) involves updating the Incident Management System (IMS) and the related Fault Management System (FMS) which are critical parts of the

TSS. This core software system supports the detection of, response to and management of incidents.

Intelligent Transport System renewal and replacement (**35**) reflects that there is a significant amount of roadside ITS equipment which is now reaching or past its end of life and a substantial renewal and replacement programme is now required.

* Accessibility and Health objectives only apply to Future ITS recommendation (33).

Meets key objectives:



Climate



Accessibility*



Health*



Economy



Safety

36 Strategy for improving rest and welfare facilities for hauliers

Providing adequate lorry parks would contribute to improving road safety and reducing crime, and would significantly improve working conditions for Heavy Goods Vehicle (HGV) drivers. It would also avoid disruption in locations not designed to accommodate lorry parking. Rest and welfare facilities are a key part of national and international road freight infrastructure and provision of these to an appropriate standard is fundamental to ensuring safe, efficient and effective supply chains. Improvements to facilities would, therefore, also help support the Scottish economy and its growth.

STPR2 recommends a national review

of freight parking/rest areas to better understand barriers hampering their development, consider their financial stability and develop adequate standards. Consultation would be undertaken with the freight industry, trade unions, representative bodies, local authorities and other stakeholders. This would cover the potential demand for alternative fuel provision for zero emission vehicles as part of an alternative fuel infrastructure network **(28)**.

The review would indicate which routes have gaps in provision and support Transport Scotland in making future decisions on the need (or otherwise) to address market failure.

Meets key objectives:



Health



Economy



Safety

37 Improving active travel on trunk roads through communities

Where a trunk road passes through a community, measures may be able to be introduced to reduce the problems created by severance and provide benefits for people that are currently prevented or discouraged from walking, wheeling or cycling along or across the main road. Such measures can reduce the adverse impacts of traffic, including perceived safety issues, and so improve access to key destinations for local people. This creates particular opportunities for people vulnerable to social exclusion such as disabled, young and older people, and those without access to a car.

STPR2 recommends the delivery of measures to reduce the adverse effects of trunk road traffic on people walking, wheeling and cycling in those communities that have a trunk road passing through them – for example, by reducing traffic speed, improving the width and quality of paths, and upgrading road crossing facilities. Measures would be tailored to local circumstances and informed by detailed feasibility studies. Transport Scotland would work with local authorities and communities to deliver interventions on those parts of the network that it controls to enable an increase in inclusive, sustainable travel.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

38 Speed Management Plan

Scotland's Road Safety Framework sets out the vision for Scotland to have the best road safety performance in the world by 2030 with a long-term goal of 'Vision Zero', where there are zero fatalities and serious injuries on Scotland's roads by 2050. Safe speeds within the Framework are based on aiding crash-avoidance and reducing the speed at which impacts occur.

Changing how speeds are managed also has the potential to help meet net zero emission targets by reducing vehicle fuel consumption and encouraging active travel.

38 Speed Management Plan (cont'd)

STPR2 recommends a national review to establish appropriate speed limits for different road types within Scotland. The review would consider a range of measures such as speed management on motorways, speed limits through roadworks and rural settlements on trunk roads, and reducing speed limits in urban environments and residential areas. There

would also be consideration of the national speed limits for Heavy Goods Vehicles (HGVs) over 7.5 tonnes on the trunk road network.

Significant changes could be required to the engineering, enforcement and education framework and the resources necessary to support these.

Meets key objectives:



Climate



Health



Economy



Safety

Strengthening strategic connections

It is important that long-distance strategic connections are maintained to facilitate travel within Scotland and across its border. Much of the strategic network is managed by Transport Scotland on behalf of Scottish Ministers and it is therefore appropriate for STPR2 to make a number of recommendations in this area. It is also relevant and important that STPR2 addresses the role that connectivity plays in supporting the proposed National Developments presented in the revised draft Fourth National Planning Framework (NPF4) and in facilitating passenger and freight movements through our major gateways.

Recommendations **(39)** and **(40)** address opportunities associated with access to two of the most significant gateways, recognised in the revised draft NPF4 National

Developments: Grangemouth and Stranraer. Addressing the needs of island communities to have reliable links to the mainland, STPR2 recommends investment in port infrastructure **(42)** and the investigation of potential fixed link connections (bridges, causeways and/or tunnels) at Sounds of Harris and Barra, and between Mull and the Scottish mainland **(41)**.

Recognising the important part that rail plays in facilitating longer-distance journeys, STPR2 makes three core recommendations. These involve continued investment in the major railway stations in Edinburgh, Glasgow, Perth and Inverness **(43)**, facilitating investment in future rail freight terminals **(44)**, and Transport Scotland continuing to work with UK Government to take forward high speed and cross-border rail connections **(45)**.

39 Sustainable access to Grangemouth Investment Zone

Grangemouth Investment Zone contains important strategic infrastructure, high value employment and manufacturing of materials that are currently vital for everyday life throughout Scotland. Industrial and economic activity at this hub is also vital to Scotland's economy and would

be designed to ensure that the region maintains and develops its competitiveness now and in our net-zero future. A sustainable transport access strategy would contribute towards that future.



39 Sustainable access to Grangemouth Investment Zone (cont'd)

STPR2 recommends improvements are made to transport that would enhance sustainable access to Grangemouth Investment Zone for both people and freight. Improvements are likely to include, but are not limited to:

- improved active travel connections, in line with the principles of the recommendations for Connected neighbourhoods **(1)** and Connecting towns by active travel **(4)**
- bus infrastructure improvements to support and encourage improved bus connections to Grangemouth from key areas
- supporting further transition to rail freight – in line with the principles of rail corridor enhancements **(15)**, **(16)**, **(17)**; mode shift for freight **(27)**; rail freight terminals and facilities **(44)**; and cross-border rail enhancements **(45)** – to enable more rail freight capacity
- M9 Junction 5 improvements where these provide specific freight and bus benefits.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

40 Access to Stranraer and the ports at Cairnryan

Stranraer and the ports at Cairnryan act as an important gateway to Scotland for ferry passengers and freight. Improving the transport assets in this location would support regeneration of South West of Scotland to benefit the economy and local communities.

STPR2 recommends that safety, resilience and reliability improvements are made on the A75 and A77 strategic road corridors, in turn supporting placemaking opportunities. This would include, but is not limited to, improving junctions, enhancing overtaking

opportunities at appropriate locations and widening or realigning carriageways.

These would provide more resilient connections to the Stranraer Gateway, Chapelcross Power Station Redevelopment and the ports at Cairnryan.

To encourage greater use of public transport and support wider town regeneration proposals, consideration should also be given to upgrading or relocating Stranraer railway station.

Meets key objectives:



Health



Economy



Safety

41 Potential Sound of Harris, Sound of Barra fixed link and fixed link between Mull and Scottish mainland

The current ferry routes on the Sound of Harris, Sound of Barra and between Mull and the Scottish mainland face a number of issues and challenges. Replacing ferry services with fixed links (bridges, causeways and/or tunnels) can improve reliability, connectivity, capacity and travel times and allow for the wider reconfiguration of ferry services.

STPR2 recommends that further work is undertaken on business cases to better understand the benefits, costs and

challenges associated with these options. These studies would further consider the feasibility of improving island connectivity through additional fixed links by replacing existing ferry services currently delivered by CalMac Ferries Ltd as part of the Clyde and Hebrides Ferry Services (CHFS) contract. These studies would also analyse in further detail the potential long-term savings associated with the public sector funding required to maintain the ferry services and would involve input from communities that may potentially be affected.

Meets key objectives:



Accessibility



Health



Economy



Safety

42 Investment in port infrastructure to support vessel renewal and replacement, and progressive decarbonisation

Investment in port infrastructure, including power supplies, would complement the introduction of new and upgraded ferry vessels. This would help meet the needs of rural and island communities by improving the capacity, resilience, reliability, accessibility and standardisation of ferry services.

Investment in port infrastructure means that there can be progress to standardisation and interoperability of new

and existing vessels, increasing network resilience. This investment would also contribute to reducing emissions across the ferry network and support Scotland's net zero carbon emission targets.

STPR2 recommends an investment programme in ferry port infrastructure, including shore power supplies to ferry vessels, to support Ferry vessel renewal and replacement and progressive decarbonisation **(24)**.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

43 Major station masterplans

Following on from the successful upgrade to Glasgow Queen Street Station, as well as recent station improvements at Aberdeen and Stirling, this recommendation involves the redevelopment of four major railway stations in Scotland's cities: Edinburgh Waverley, Glasgow Central, Perth and Inverness. Studies are continuing to progress plans to consider how re-modelling these stations can deliver specific benefits.

STPR2 recommends that station plans and masterplans are progressed to align with and support the investment priorities of Transport Scotland and Network Rail. The masterplan proposals would set the framework for future phases of work at the four stations to:

- accommodate passenger and, as appropriate, freight demand in line with sustainable travel
- support net zero targets
- coordinate with regional activity undertaken by other strategic partners.

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

44 Rail freight terminals and facilities

Sufficient provision of rail freight terminals is critical to achieving a significant shift of freight from road to rail. This would improve the sustainability and competitiveness of Scotland's supply chain.

Rail freight is transported on a commercial basis carried by private sector freight

operating companies and logistical providers. The role of Government is to put policies and strategies in place that facilitate growth – with Network Rail managing the core rail infrastructure and the regulator, the Office of Road and Rail (ORR), regulating compliance, safety and issuing of licences.

44 Rail freight terminals and facilities (cont'd)

STPR2 recommends that Transport Scotland supports industry partners in carrying out an updated market study for rail freight growth in Scotland. Linked to the Industry Growth Plan for Rail Freight, this would include a review of rail freight terminals and hubs to confirm how to meet long-term requirements to shift freight from road to rail.

The Scottish Government currently supports a range of grants to help with the transfer of freight from road to rail and would continue to explore opportunities to provide support. This would involve working in partnership with freight companies to implement measures, identified in the market study, that would provide a significant shift of freight from road to rail.

Meets key objectives:



Climate



Health



Economy



Safety

45 High speed and cross-border rail enhancements

Infrastructure upgrades to permit higher speeds on cross-border routes would enable journey times to London and other key destinations to be more competitive with air travel. This improved connectivity would encourage a shift from air to rail on longer-distance travel and support Scotland's net zero emission commitments. These improvements would also release capacity for additional regional passenger and freight services.

STPR2 recommends that Transport Scotland continues to work closely with the UK Government to take forward a programme of infrastructure upgrades targeted at longer-distance cross-border routes. This is likely to include the following routes:

- East Coast Main Line (ECML)
- West Coast Main Line (WCML)
- Glasgow and South Western Line (Glasgow to Carlisle via Dumfries).

Meets key objectives:



Climate



Accessibility



Health



Economy



Safety

This final STPR2 Report takes on-board the feedback received on the draft report published in January 2022. It provides a list of 45 recommendations to the Scottish Government for transport investment up to 2042.

The appraisal process adopted has followed Scottish Transport Appraisal Guidance (STAG), an established evidence-based approach to identify problems and opportunities, set transport objectives to address these, and generate, sift and appraise options for changes to the transport system. It has also involved extensive collaboration with stakeholders and the public.

This summary report is part of a series of materials including:

- The STPR2 Technical Report
- The Strategic Environmental Assessment (SEA) Environmental Report
- Equality Impact Assessment Report
- Island Communities Impact Assessment Report
- Fairer Scotland Duty Assessment Report
- Child Rights and Wellbeing Impact Assessment Report
- Habitats Regulations Appraisal Report
- Consultation Analysis Report
- Consultation Summary Report

- Online digital project pages which allow users to access information that has informed the final recommendations.

A Post Adoption Statement in relation to the Strategic Environmental Assessment Environmental Report will be published in early 2023.

These materials can be accessed from the Transport Scotland website.

Website details:

transport.gov.scot/stpr2/

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