



STRATEGIC TRANSPORT PROJECTS REVIEW

PROTECTING OUR CLIMATE AND IMPROVING LIVES



STPR2 Update and Phase 1 Recommendations

Jacobs AECOM

February 2021

STRATEGIC TRANSPORT PROJECTS REVIEW

Project No:	B2356701
Document Title:	STPR2: Update and Phase 1 Recommendations
Revision:	Final
Date:	3 February 2021

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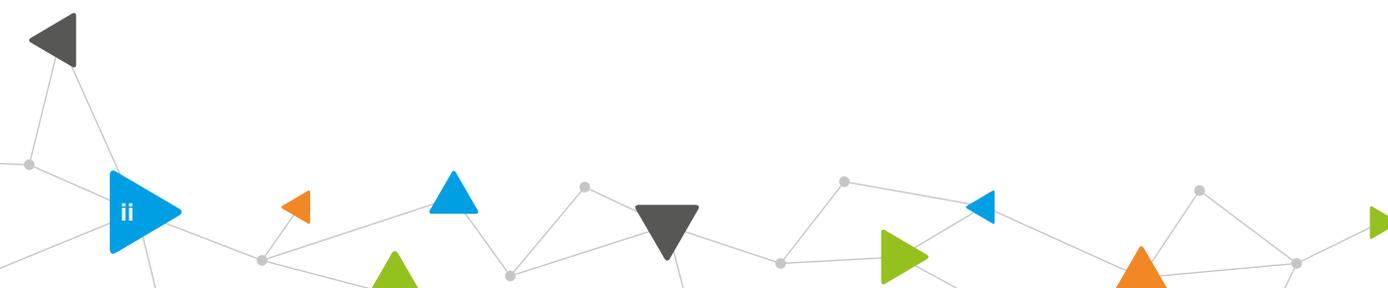
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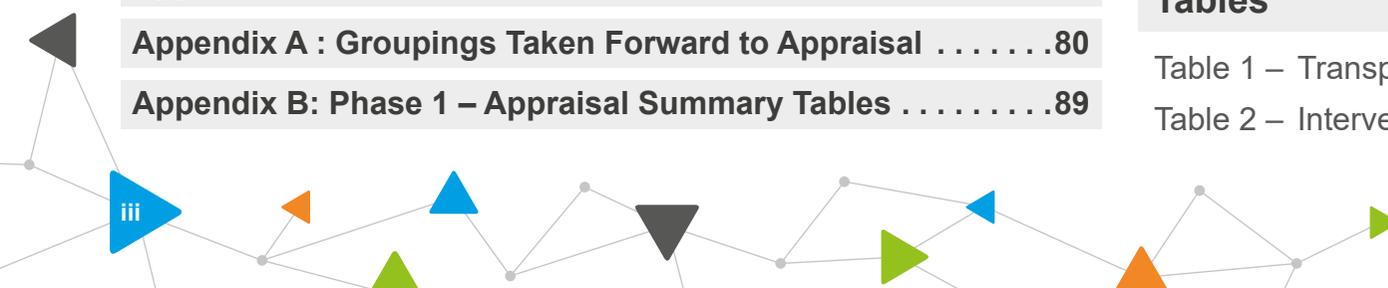
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List of Acronyms

BPRDF	Bus Priority Rapid Deployment Fund
CCP	Climate Change Plan
CHFS	Clyde and Hebrides Ferry Services
CoSLA	Convention of Scottish Local Authorities
CSR	Capital Spending Review
DAP	(Rail Services) Decarbonisation Action Plan
DfT	Department for Transport
EqIA	Equality Impact Assessment
G&SW	Glasgow & South West Line
GDP	Gross Domestic Product
GVA	Gross Value Added
HGV	Heavy Goods Vehicle
HLOS	Scottish High Level Output Specification
ICP	Islands Connectivity Plan
IIP	Infrastructure Investment Plan
LNR	Local Nature Reserve
NIFS	Northern Isles Ferry Service

NPF4	National Planning Framework 4
NTS2	National Transport Strategy 2
ORR	Office of Rail and Road
PfE	Places for Everyone
PfG	Programme for Government
RTWG	Regional Transport Working Group
SEA	Strategic Environmental Assessment
SfP	Spaces for People
STAG	Scottish Transport Appraisal Guidance
STPR2	Strategic Transport Projects Review 2
TELMoS	Transport and Economic Land-use Model of Scotland
TMfS	Transport Model for Scotland
TPO	Transport Planning Objective
ULEV	Ultra Low Emission Vehicle
VRDP	Vessel Replacement Deployment Plan
WCML	West Coast Mainline



Executive Summary

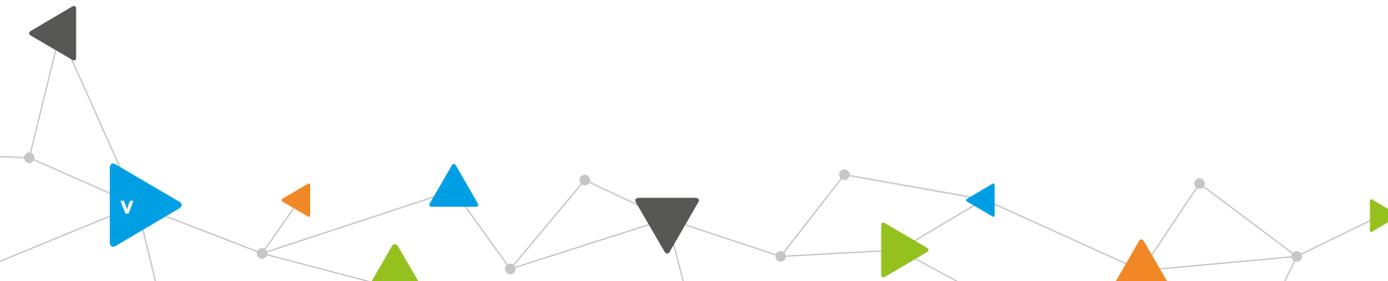
Introduction

In 2019, Transport Scotland commenced the second Strategic Transport Projects Review (STPR2) to help inform transport investment in Scotland for the next 20 years. STPR2 will help to deliver the vision, priorities and outcomes for transport set out in the National Transport Strategy (NTS2) and will align with other national plans such as the National Planning Framework (NPF4) and the Climate Change Plan.

As a result of the COVID-19 pandemic, STPR2 has a two Phased approach, with Phase 1 reporting to the original timescale of Winter 2020/21. Phase 2 will report later in 2021 and will inform the Scottish Government's future investment plans and spending reviews.

Programme for Government published in September 2020

“Public transport demand remains impacted by the need for physical distancing and a drop in public confidence. Working from home, the move to more shopping online and impacts on the tourism sector have seen major reductions in demand. Given the levels of uncertainty it is only right that we consider the implications for transport and how we re-start the second Strategic Transport Projects Review to ensure that this will help identify interventions that would aid or help accelerate economic recovery. We will take a phased approach to STPR2, with Phase 1 focusing on recommendations which “lock in” the benefits and travel behaviours of individuals and provide a step change in investment which supports the priorities and outcomes of the National Transport Strategy.”



Setting the Policy Context

The **National Transport Strategy 2 (NTS2)** sets the vision for the country's transport system over the next 20 years. At the heart of the strategy is the recognition that we need to deliver a step change in behaviour and provision of attractive, affordable, accessible and sustainable travel options. The actions to take forward the new National Transport Strategy are outlined in the **Delivery Plan**, published in December 2020. As well as outlining the role of STPR2, it also highlights other parallel workstreams that will deliver on the NTS2 vision and outcomes. This includes the Island Connectivity Plan (ICP), being prepared as the successor to the Ferries Plan 2013-22 and will be closely linked to the outcomes of the STPR2.

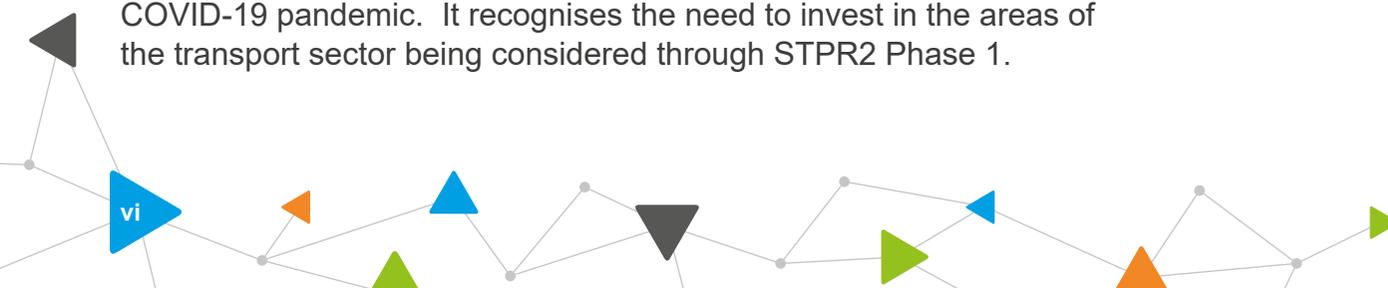
In December 2020, the Scottish Government produced its **Update to the Climate Change Plan (CCP)**, which sets out the approach to delivering a green recovery, with a focus on the period up to 2032. The transport related components of the plan build upon the new National Transport Strategy, with a specific commitment to reduce car kilometres by 20% by 2030.

The **Infrastructure Investment Plan (IIP)** for Scotland 2021 to 2026 provides additional detail to support the commitments made within the Programme for Government and sets the context of future investment in transport to deliver an effective response to the COVID-19 pandemic. It recognises the need to invest in the areas of the transport sector being considered through STPR2 Phase 1.

By aligning strategy, project and programme funding, the **Capital Spending Review (CSR)** provides confidence that the announced plans are affordable and fully funded. The review also sends a strong signal on the future need to adjust the balance of investment in favour of renewing and extending the life of existing infrastructure, both on environmental and value-for-money grounds.

The **National Planning Framework 4 (NPF4)** is being developed alongside a public consultation on the Draft Infrastructure Investment plan and STPR2. This presents the opportunity to embed the importance of "place" across land-use planning and transport. It will also set the context for developing an investment programme that is aligned with the sustainable travel hierarchy presented in the NTS2.

The policy, plan and investment landscape that we are presented with is complex and multi-layered. There is an overarching and urgent imperative to address climate change and to achieve net zero carbon by 2045. Alongside this are the needs to improve our health and wellbeing. There is also a clear need to deliver inclusive economic growth and to reduce inequalities. In terms of transport investment decisions being made now, all of this is necessarily viewed through the lens of COVID-19 which has increased uncertainty of future travel demand.



The recommendations in this Phase 1 Report do not constitute the full investment programme of Transport Scotland. They should be considered with the overall government spending commitments on transport outlined in the above documents and Scottish Government budgets. Some of the other Scottish Government transport spending commitments are out of scope for STPR2. For example:

- Asset management of the motorway and trunk road (e.g. routine and cyclic maintenance);
- Measures to improve resilience of the rail network (e.g. operations, maintenance and renewal); and
- Revenue based investment in public transport including ferries and air services (e.g. subsidies for operations and fares).

Challenges for Transport and Infrastructure

Transport's contribution to the climate emergency and net zero targets, means that there is a need to reduce unsustainable travel and deliver modal shift towards walking, cycling and public transport. If we continue as we are now, forecasts suggest a 40% increase in vehicular travel by 2037. However, recent work by the Committee on Climate Change set out the need for a 10% reduction in car kilometres with a modal shift from car to walking, cycling and public transport and the Scottish Government went further in the recent update to the Climate Change Plan setting a 20% target.

To achieve a modal shift of the scale required to address the climate emergency, will require significant changes to the complex travel behaviours of users, operators, and the public and private sectors. In accordance with the sustainable travel hierarchy, STPR2 should prioritise interventions that increase the modal share of shorter everyday trips by walking, wheeling and cycling; short to medium length trips by public transport and longer trips by rail and low emission vehicles.

The **COVID-19 pandemic** has directly led to a restructuring of STPR2. Phase 1 has been introduced in order to help expedite the development of interventions that can embed, support and extend the increase in travel by sustainable travel modes, and those that can be brought forward to support economic recovery. The scenarios being developed for Phase 2 in STPR2 will be for the medium and longer term (next 20 years) and do not need to consider the details of the present COVID-19 crisis. It is assumed that some effective means of managing coronavirus will be found, whether by vaccination or otherwise. Lasting responses to the crisis do however need to be taken into account, a most obviously example being that a major part of the economy has carried out a very large-scale experiment into the feasibility of consistent working at home.

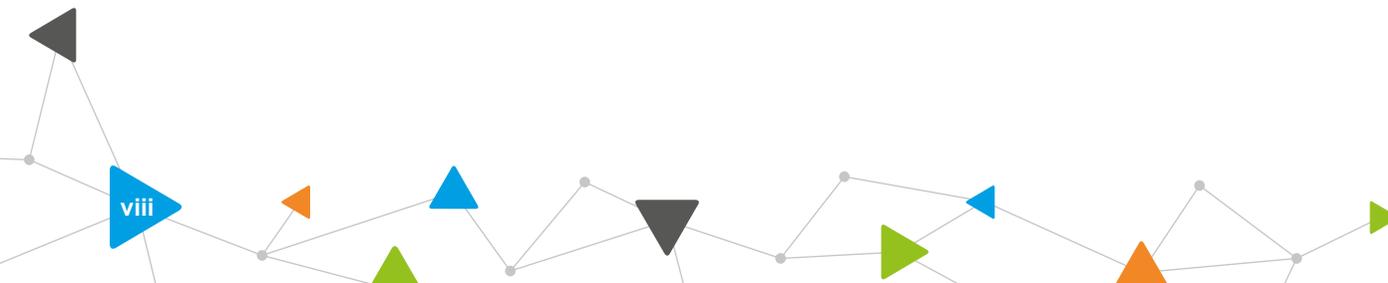
Generation and Sifting of Options

An extensive process of generating and sifting options has been undertaken, involving a collaborative approach with stakeholder groups across the country. Initially, approximately 14,000 options and ideas were collated. These were subsequently reviewed and cleaned to remove duplicates etc, to create a long list of approximately 2,800 options. Following an extensive sifting process, a further review was undertaken, which resulted in approximately 1,400 standalone options, which have resulted in 80 groupings (similar types of interventions) to take forward to the Phase 2 appraisal process, which will be undertaken during 2021.

The Phase 1 Approach and Recommendations

In order to assess and finalise options for assessment as potential Phase 1 measures, a proportionate approach has been developed, considering themes or packages that could potentially meet the short-term requirements, whilst being guided by the overall STPR2 options list.

The Phase 1 process has resulted in 20 interventions being recommended, against 8 themes (Figure 1). Within the list of themes and interventions, there are no specific priorities, as each component is important in addressing the complex transport needs of our nation. Neither are these interventions the sole responsibility of Transport Scotland to deliver, indeed many will rely heavily on partners to take them forward. However, by including these within Phase 1 of STPR2, Transport Scotland has confirmed its commitment to supporting and working in partnership with others to develop interventions which “lock in” the benefits and travel behaviours of individuals and provide a step change in investment which supports the priorities and outcomes of the National Transport Strategy.



Supporting smart and sustainable travel across Scotland

National measures that will support active and sustainable travel choices and placemaking principles

1. Development and delivery of Active Freeways
2. Expansion of 20mph zones
3. Influencing travel choices

Creating smart and sustainable towns and villages

Packages of sustainable transport improvements to enhance attractiveness and sustainability of our towns and villages

4. Transport's contribution to placemaking principles in neighbourhoods
5. Guidance and framework for delivering mobility hubs

Improving accessibility in rural and peripheral areas and for vulnerable groups

Improved public transport offering where fixed timetable services do not satisfactorily cover the needs of individuals, including consideration of demand responsive travel

6. Investment in Demand Responsive Transport and Mobility as a Service

Transforming Cities

Measures that will support active and sustainable travel alongside placemaking principles in Scotland's seven cities to help transform cities and neighbourhood centres

7. Reallocation of roadspace for active travel
8. Enhancing facilities at major rail stations (Rail Station Redevelopment)
9. Development of Glasgow Metro & Edinburgh Mass Transit strategies

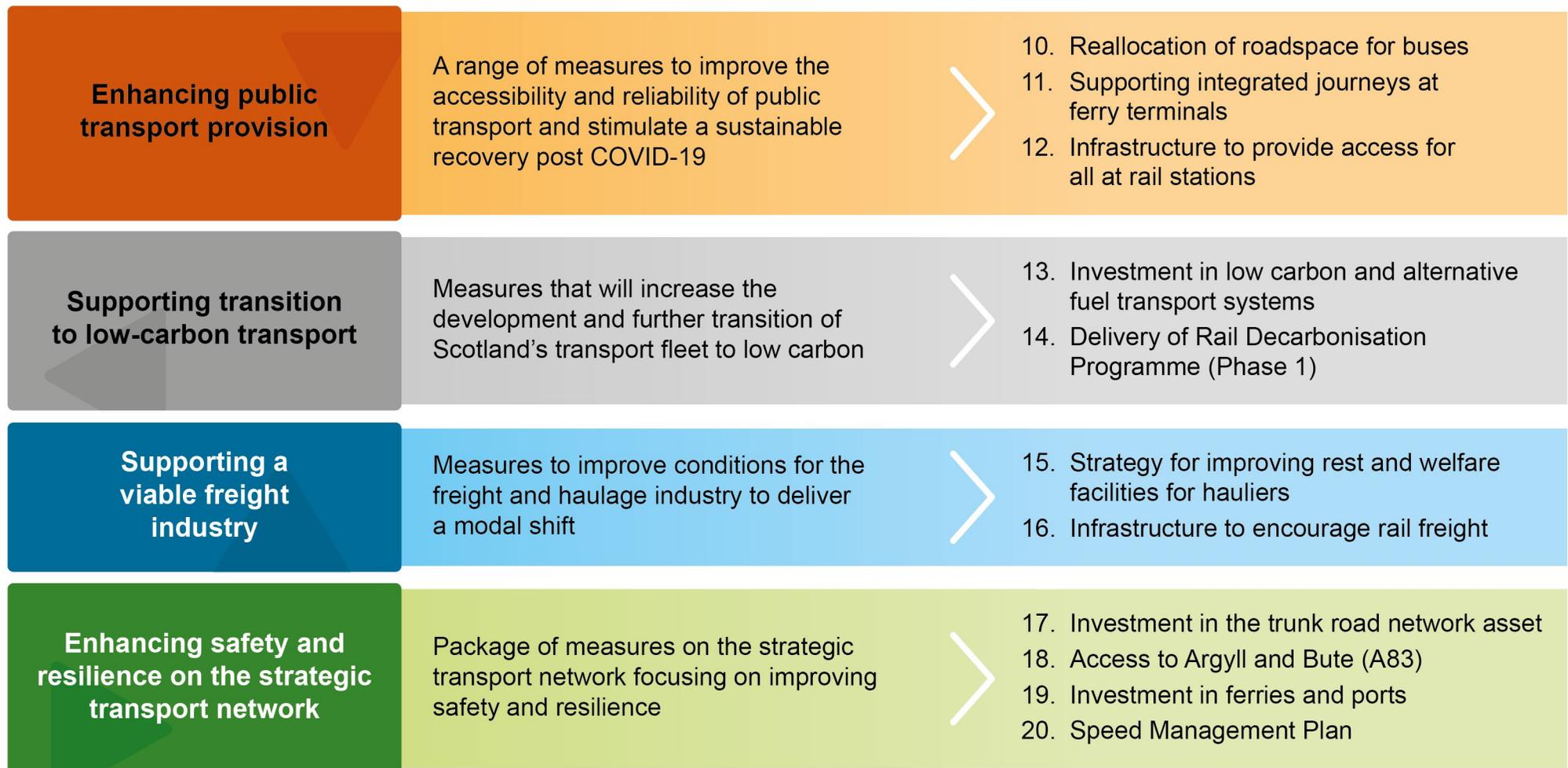


Figure 1 – Phase 1 Themes and Recommendations

1. Introduction

1.1. Background

In early 2019, Transport Scotland commenced the second Strategic Transport Projects Review (STPR2) to help inform transport investment in Scotland for the next 20 years. STPR2 will help to deliver the vision, priorities and outcomes for transport set out in the [National Transport Strategy \(NTS2\)](#) and will align with other national plans such as the National Planning Framework (NPF4) and the Climate Change Plan.

STPR2 involves conducting an evidence-based review of the performance of Scotland's strategic transport network across active travel, bus, ferry, rail and the trunk road network. The outcomes from STPR2 will:

- Enhance accessibility across Scotland for residents, visitors and businesses;
- Create better connectivity with sustainable, smart and cleaner transport options; and
- Highlight the vital contribution that transport investment can play in enabling and sustaining Scotland's economic growth.

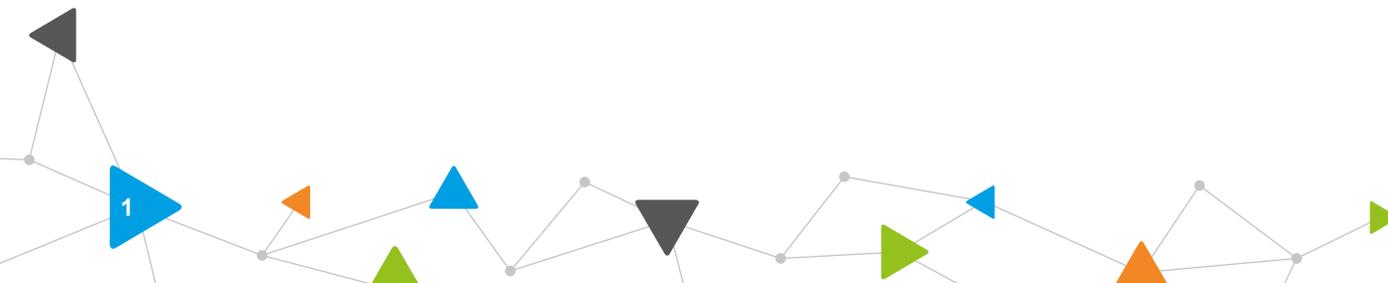
The review will help inform Scottish Ministers on a programme of potential transport investment opportunities for the period 2022-2042.

1.2. Scope of the Second Strategic Transport Projects Review

STPR2 will guide the Scottish Government's transport investment programme in Scotland for the next 20 years and help to deliver the vision, priorities and outcomes that are set out in NTS2. The aim of STPR2 is:

To conduct a Scotland wide, evidence-based review of the performance of the strategic transport system, against multiple criteria including safety, environment, economy, integration, accessibility and social inclusion and, fundamentally, to support the Scottish Government's aims, including sustainable inclusive growth and the move to a low carbon transport system.

In so doing, STPR2 will make recommendations for potential transport investments for Scottish Ministers to consider as national investment priorities, in an updated 20-year transport investment plan for Scotland.



It is recognised that Scotland’s geography is unique and varied, ranging from rural lowlands to remote uplands, and from large cities to sparsely inhabited islands, meaning no two parts of Scotland are the same, nor are their travel patterns and demands. For that reason, STPR2 is being progressed at both a national and regional level in order to appraise options in the context of place. A total of 11 regions have been established for STPR2. Full details of the regional structure are set out in the [National Case for Change Report](#).

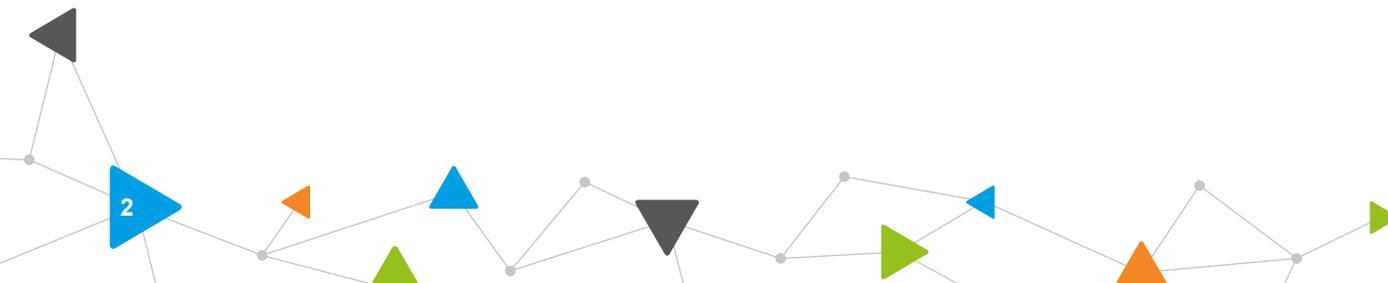
STPR2 specifically focusses on Scotland’s key strategic transport assets. In this context, a strategic transport project is defined as:

- Any transport project that plays a significant part in supporting the NTS2 priorities and related outcomes;
- Projects or groups of projects related to transport networks owned, operated and funded directly by Transport Scotland;
- Passenger and freight access to ports and airports of national significance; and
- The inter-urban bus and active travel networks and principal corridors within urban areas.

1.3. Phased Delivery

As a result of the COVID-19 pandemic, STPR2 will now take a two Phased approach, with Phase 1 reporting to the original timescale of Winter 2020/21. The final report will be published later in 2021 and will inform the Scottish Government’s future investment plans and spending reviews.

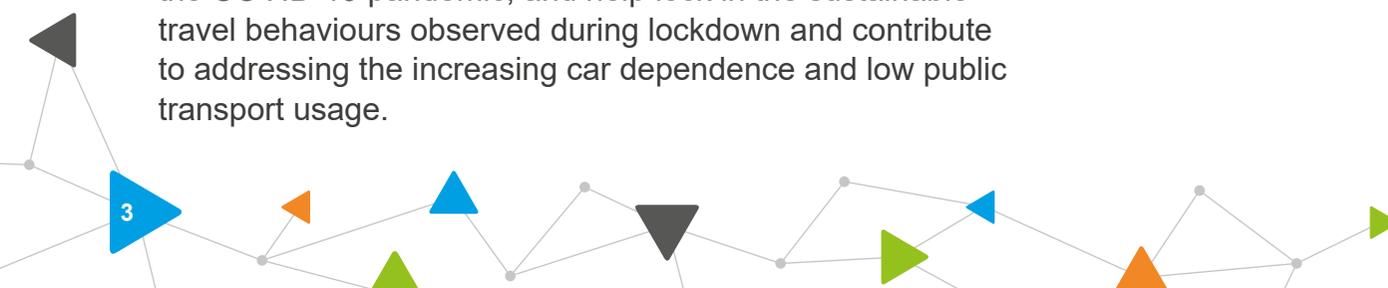
This approach was confirmed in the Programme for Government published in September 2020, where it stated *“public transport demand remains impacted by the need for physical distancing and a drop in public confidence. Working from home, the move to more shopping online and impacts on the tourism sector have seen major reductions in demand. Given the levels of uncertainty it is only right that we consider the implications for transport and how we re-start the second Strategic Transport Projects Review to ensure that this will help identify interventions that would aid or help accelerate economic recovery. We will take a phased approach to STPR2, with Phase 1 focusing on recommendations which “lock in” the benefits and travel behaviours of individuals and provide a step change in investment which supports the priorities and outcomes of the National Transport Strategy.”*



This report contains the emerging Phase 1 draft recommendations for investment by Transport Scotland on behalf of Scottish Ministers. These recommendations have been determined based on an approach to assessment that identifies those investments for which there is a high degree of confidence they will perform well against the following criteria:

- Can be delivered or significantly progressed in the short term;
- Will make a significant contribution to some or all of the STPR2 objectives:
 - A sustainable strategic transport system that contributes significantly to the Scottish Government’s net zero emissions target
 - An inclusive strategic transport system that improves the affordability and accessibility of public transport
 - A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing
 - An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland
 - A reliable and resilient strategic transport system that is safe and secure for users; and
- Will support a fair and sustainable economic recovery following the COVID-19 pandemic, and help lock in the sustainable travel behaviours observed during lockdown and contribute to addressing the increasing car dependence and low public transport usage.

It should be noted that STPR2 remains on-going and Phase 2 will report on a comprehensive set of interventions for investment over a 20-year period. Interventions recommended within Phase 1 will be taken forward, either in parallel with, or as part of, the Phase 2 process. Phase 2 will also take forward a number of additional interventions that have emerged through the option sifting process summarised in this report, and covered in more detail in the Case for Change reports.



1.4. Report Structure

The next chapter provides the policy context for the review, with a particular focus on the Phase 1 process. It outlines the policy context through the National Transport Strategy 2 and associated Delivery Plan. This is followed with a section considering the immediate and medium-term impacts associated with the COVID-19 pandemic, with the remainder of the chapter summarising recent Government commitments relevant to this review.

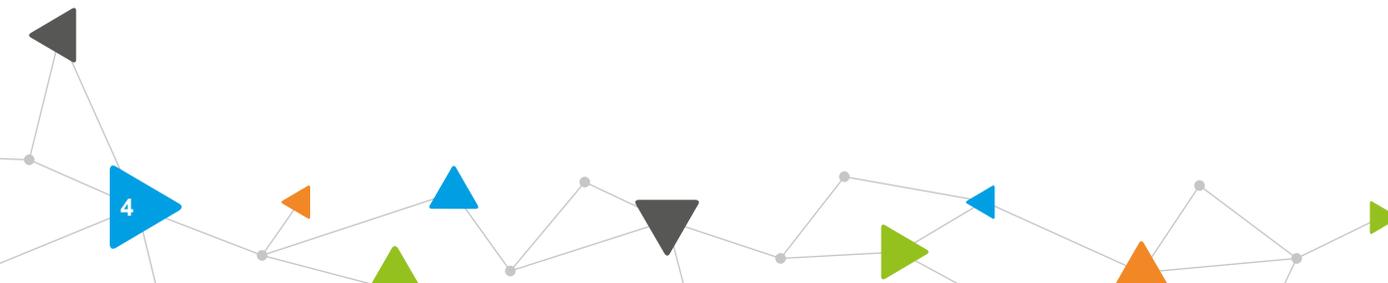
Building on the policy review, Chapters 3 and 4 present a summary of the baseline assessment within the National Case for Change report and the development of Transport Planning Objectives. Chapter 5 outlines the approaches taken to identify and sift options and to undertake the Phase 1 assessment. The output from this sifting is presented in Chapter 6 and the Phase 1 recommendations are listed in Chapter 7.

Further details of the output from the sifting and assessment process are contained in the appendices:

- [Appendix A](#) – Options taken forward to Phase 2
- [Appendix B](#) – Assessment Tables for the Phase 1 recommended interventions.

Supporting this report are a number of documents:

- National Case for Change and the COVID-19 Addendum;
- Eight [Regional Case for Change Reports](#);
- Three [Sifting Update Reports from the Pre-STPR2 Regional Pre-Appraisal Studies](#); and
- [SEA and Impact Assessment Progress Report\(s\)](#)



2. Policy Context

2.1. Introduction

A number of government policies, strategies and commitments set the overall context for STPR2. It is therefore important to highlight the key issues of direct relevance to this review and outline how these will influence and shape the output, of both Phase 1 and the Final Report. The following sections therefore summarise:

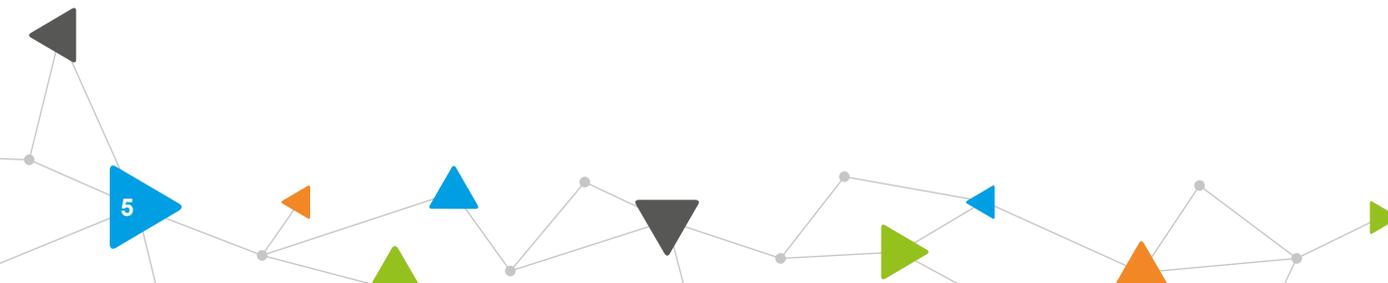
- National Transport Strategy 2 and Delivery Plan;
- Programme for Government;
- Climate Change Plan Update;
- Infrastructure Investment Plan for Scotland;
- Capital Spending Review;
- National Planning Framework 4; and
- Existing Funding Commitments

2.2. National Transport Strategy 2 and Delivery Plan

2.2.1. Introduction

NTS2 provides the national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system which helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out key priorities to support that vision: reducing inequality; taking climate action; helping deliver inclusive economic growth; and improving health and wellbeing.

NTS2 is set within the context of a Climate Emergency, with the Scottish Government committed to transitioning our transport system to one that is net zero in carbon emissions by 2045. Set against a backdrop of increasing amounts of travel in Scotland over recent years, particularly vehicular travel, NTS2 clearly articulates the need for change in transport provision in Scotland. STPR2 has a key part to play in supporting the delivery of the priorities and outcomes by outlining a range of targeted measures to achieve fundamental change in overall travel demand, a shift to more sustainable modes such as walking, cycling and public transport, and in transitioning to a net zero economy.



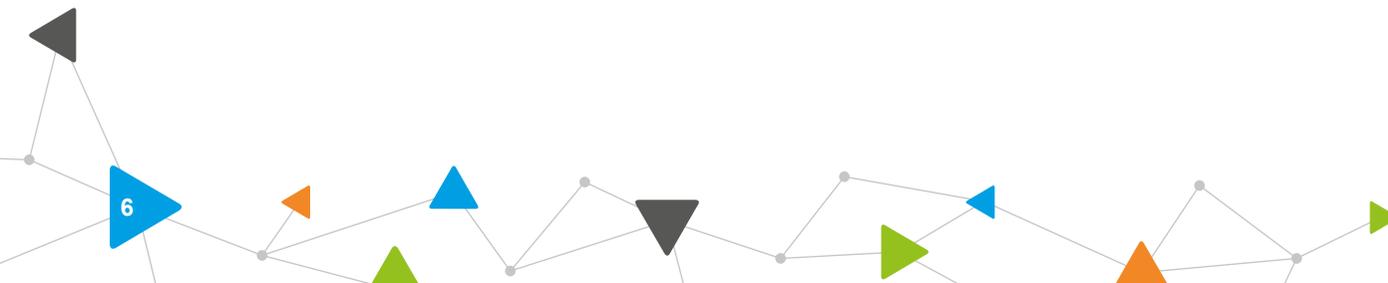
2.2.2. The Vision, Priorities and Outcomes

The Strategy presents the vision for Scotland’s transport system over the next 20 years, which is “We will have a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.”

The overall vision of NTS2 is underpinned by four priorities, each priority is expressed through a set of three outcomes which helps to explain the effect the policy is seeking to achieve, as shown in Figure 2.



Figure 2 – The National Transport Strategy 2 Priorities and Outcomes



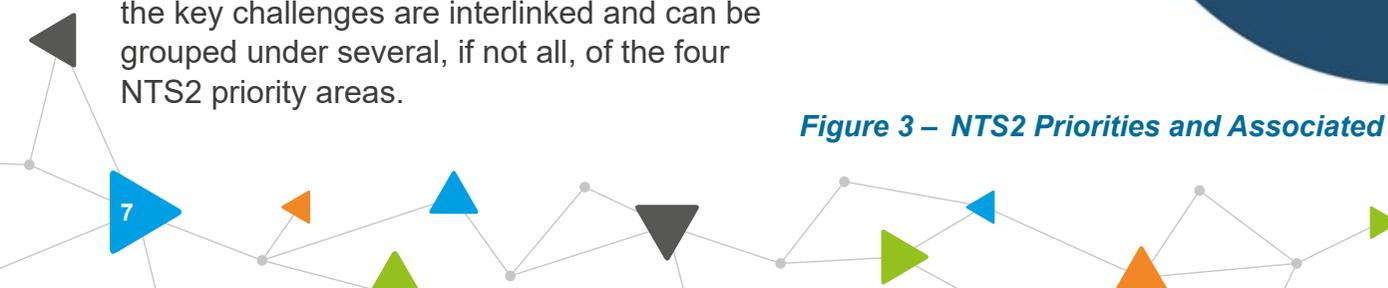
2.2.3. Challenges and Opportunities

The development of NTS2 has involved a comprehensive review of the key transport challenges facing Scotland and has included extensive engagement with a network of partners and authorities across the country comprising individuals, businesses and third sector organisations, to gather the views of a wide range of users of the transport system. Through this process, it has been identified that Scotland’s transport system continues to face a number of challenges: many people encounter problems when trying to access the services they need; vehicles continue to emit greenhouse gases and pollute the places residents live and work; businesses still face congestion and delays when reaching their customers; and people still face barriers when wanting to cycle or walk to their destination

Figure 3 illustrates how each of the 27 key challenges identified within NTS2 align with the four key priorities. It demonstrates that the key challenges are interlinked and can be grouped under several, if not all, of the four NTS2 priority areas.



Figure 3 – NTS2 Priorities and Associated Challenges



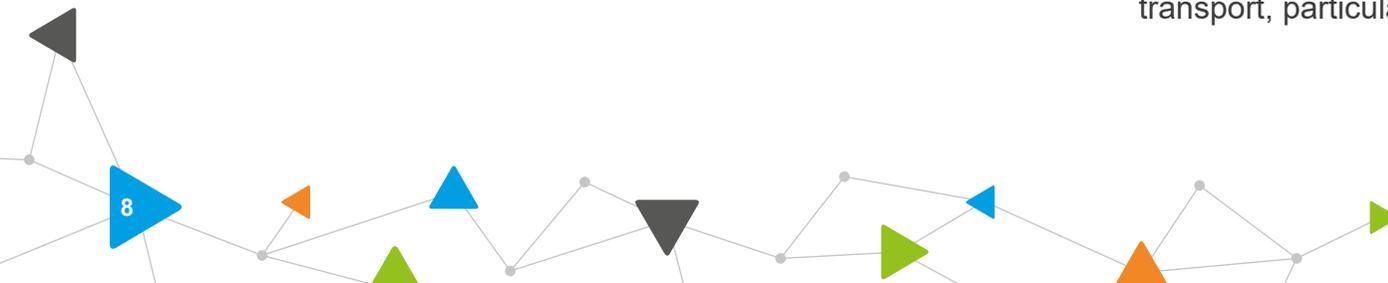
2.2.4. NTS2 and STPR2 Phase 1

The four priorities for NTS2 have gained added relevance during the pandemic and related economic recovery. Transport Scotland's 'Transport Transition Plan' has led a number of targeted initiatives aimed at adapting our transport systems as part of the Scottish Government's strategic response to COVID-19. The localisation of work, life and leisure activities has seen a shift to active modes while at the same time there has been a significant reduction in public transport journeys. In considering the Phase 1 recommendations, there is an opportunity to view the priorities through the lens of the current situation and use it to embed, strengthen and build on the positive changes in active travel alongside immediate and accelerated actions that will support an economic recovery that is both inclusive and climate ready.

2.2.5. NTS2 Delivery Plan

The first [NTS2 Delivery Plan](#) covers the period out to March 2022, after which there will be annual delivery plans. It updates on three initial areas around (i) increasing accountability, where amongst other initiatives, the NTS2 Delivery Board has been established; chaired by the Cabinet Secretary for Transport, Infrastructure and Connectivity and bringing together senior transport sector representatives. (ii) strengthening evidence, which focuses on the process and mechanisms being utilised to deliver STPR2 alongside work on monitoring and evaluation frameworks, and (iii) managing demand, which focuses on place-based initiatives and working with local authority partners.

When the NTS2 was published in February 2020 it recognised the need for its implementation to be flexible to adapt to emerging and changing evidence. This is particularly relevant in light of the COVID-19 pandemic and Government response, and the impact of this on Scotland's economy and society. As a result, the NTS2 vision and outcomes remain valid in terms of a long-term strategy setting the framework for decision making on transport in Scotland. However, given the impacts from the pandemic, it is pertinent to take account of the emerging evidence of the impact of COVID-19 on travel demand and behaviour, and its impact in terms of exacerbating existing inequalities, including around access to and affordability of transport, particularly for those already experiencing disadvantage.



This first Delivery Plan does this and sets out a series of commitments and actions under each of the four priorities. While many of these elements are relevant to the development of STPR2, those referencing it specifically are:

- “STPR2 will provide an evidence base for future investment decisions on physical barriers to public transport accessibility at transport interchanges, stations and terminals”;
- “An Islands Connectivity Plan (ICP) will be published, as the successor to the Ferries Plan 2013-22. It will develop objectives based on supporting delivery of NTS2 and the [National Islands Plan](#), and develop proposals to meet those objectives which justify the continued high level of Government intervention. The ICP will be closely linked to the outcomes of the STPR2, in order to consider island connectivity more broadly having regard to aviation, ferries and fixed links, and to connection and onward travel”;
- in the context of bus priority through the Bus Partnership Fund and managed motorways “Through STPR2 we will continue to investigate where else on the trunk and motorway network would be appropriate”; and
- “We will aim to ensure alignment between the STPR2 and NPF4, including assisting in the transport appraisal of the emerging NPF4 national spatial strategy and potential national developments as appropriate”.

Relevance for STPR2

The National Transport Strategy 2 sets the vision for the country’s transport system over the next 20 years. At the heart of the strategy is the recognition that we need to deliver a step change in behaviour and provision of attractive, affordable and accessible sustainable travel options. The COVID-19 pandemic has resulted in a positive shift towards active travel use but conversely a significant drop in demand for public transport. It is therefore vitally important that STPR2 Phase 1 is used to accelerate the provision of measures to address the vision, recognising the very different world we now live in. This is echoed in the NTS Delivery Plan covering the period to March 2022.



2.3. Programme for Government

The [Programme for Government \(PfG\)](#), published in September 2020, sets out the priorities and commitments for the Scottish Government during the 2020/21 period. Key elements that underpin the programme include, using the COVID-19 recovery to advance the delivery of a fairer, greener and more prosperous Scotland. Key commitments within the PfG that specifically relate to transport include:

- Ensuring that by 2040 we live in energy efficient, zero carbon housing with access to outdoor space, transport links, digital connectivity and community services. As a first step we will improve the quality of all Scottish Government grant funded homes;
- Working with local government to take forward ambitions for 20-minute neighbourhoods where people can live, work and learn in communities closer to home;
- Providing over £500 million over five years for large scale, transformational active travel infrastructure projects, access to bikes and behavioural change schemes;
- Introducing Low Emissions Zones in Scotland's major cities in the first half of 2022; and
- Establishing a zero-emission heavy duty vehicle programme and invest in the establishment of a zero-emissions drivetrain testing facility in 2021.

The Programme for Government sets out the phased approach to STPR2 resulting from the impacts of COVID-19 on transport system operations, uncertainties about travel behaviour changes and wider changes that may impact future demand, and the need to accelerate programmes that will support economic recovery. In particular, it brings a focus on localised transport with measures to 'step change' on active travel through the delivery of transformational infrastructure and 20-minute neighbourhoods.

Relevance for STPR2

“Given the levels of uncertainty it is only right that we consider the implications for transport and how we restart the second Strategic Transport Projects Review to ensure that this will help identify interventions that would aid or help accelerate economic recovery. We will take a phased approach to STPR2, with Phase 1 focusing on recommendations which “lock in” the benefits and travel behaviours of individuals and provide a step change in investment which supports the priorities and outcomes of the National Transport Strategy.”

2.4. Climate Change Action Plan

The Scottish Government published [Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 – update](#) in December 2020, which reflects the ambition of the new targets set in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. These comprise the reduction of Scotland’s greenhouse gas emissions to net zero by 2045 at the latest; with interim targets of at least:

- 56% by 2020;
- 75% by 2030; and
- 90% by 2040.

The transport chapter sets out context around the current situation and how the shift to home working may become a longer-term trend. Coupled with the focus on 20-minute neighbourhoods, the plan notes the opportunity to capitalise on these to reduce the need to travel, and when travel occurs for it to be focused on more sustainable modes.

The plan includes the following statement in relation to transport: *“By 2032 our roads will contain no new petrol and diesel cars and vans; we will have decarbonised our passenger railways; and we will have begun work to decarbonise challenging transport modes such as HGVs, ferries and aviation. Car kilometres will have reduced by 20%, and sustainable transport will be the instinctive first choice for people.”*

This statement is accompanied by a route map to 2032 that sets out the key milestones in the intervening years:

- **2024** – majority of new buses are zero emissions
- **2025** – need for any new petrol and diesel light commercial vehicles in public bodies phased out. Delivery of our first Active Freeways: segregated active travel routes on main travel corridors
- **2030** – conditions created to phase out the need for all new petrol and diesel vehicles in Scotland’s public sector fleet. Need for new petrol and diesel cars and vans phased out. Car kilometres reduced by 20%
- **2032** – Scotland’s passenger rail services considerably decarbonised, with just a few years to go until they are fully decarbonised

Relevance for STPR2

Transport remains Scotland’s biggest emitting sector (35.5% of emissions) with cars accounting for around 40% of emissions, and therefore significant action is required. It is also acknowledged that technological advances to green vehicles will not be enough, and managing demand and behavioural change will be needed. Therefore, STPR2 will be required to develop a programme of interventions to establish conditions that work towards a reduction in car kilometres of 20% by 2032.

2.5. Infrastructure Investment Plan for Scotland

The Scottish Government will publish the [Infrastructure Investment Plan for Scotland 2021/22 to 2025/26 \(IIP\)](#) in February 2021 following consultation on the Draft Plan in September 2020 and building on the previous IIP published. The IIP was published within the COVID-19 timeframe and is strategically aligned to addressing the impacts of the pandemic and those from the UK's exit from the European Union. It also draws in inputs from the work of the Infrastructure Commission for Scotland.

The vision of the IIP is that “our infrastructure supports Scotland’s resilience and enables inclusive, net zero, and sustainable growth.” The IIP identifies the need for investment in infrastructure to provide an effective response to both COVID-19 but also to the key longer-term trends of climate change, technological developments and demographic change.

The IIP is based on an investment hierarchy, as recommended by the independent Infrastructure Commission for Scotland, which complements the hierarchy outlined in NTS2. The new common investment hierarchy prioritises enhancing existing assets ahead of new build, which on a sequential basis comprises: determine future need; then maximise use of existing assets; then repurpose and co-locate; and finally replace or new build.

The IIP identifies delivery under three themes. These themes directly link to Scotland’s [National Performance Framework](#) and the [UN Sustainable Development Goals](#).

- Theme 1 – Enabling the transition to net zero emissions and environmental sustainability:
- Theme 2 – Driving inclusive economic growth:
- Theme 3 – Building resilient and sustainable places:

Relevance for STPR2

The Infrastructure Investment Plan provides additional detail on expenditure in the next few years to support the commitments made within the Programme for Government and sets the context of future investment in transport to deliver an effective response to the COVID-19 pandemic. The themes have a good strategic fit with the STPR2 objectives. The Plan recognises the need to invest in the areas of the transport sector being considered through STPR2 and Phase 1 provides the detail.

2.6. Capital Spending Review

The [Capital Spending Review Framework](#) was published alongside the draft IIP and the Capital Spending Review will be published in February 2021 alongside the final IIP. Both are closely aligned, with the Infrastructure Investment Plan setting out the strategy, and the Capital Spending Review ensuring that priorities are fully funded or financed. They have both been prepared to support delivery of projects and programmes with improved outcomes and benefits across three themes as outlined in Figure 4.



Figure 4 – The Capital Spending Review Outcomes and Benefit Key Themes

By aligning strategy, project and programme funding there is confidence that the announced plans are affordable and fully funded, whether through the Programme for Government 2020 or as set out in the Infrastructure Investment Plan.

The economic rationale for the National Infrastructure Mission is founded on the important role that infrastructure investment plays in improving the productive capacity of the economy and delivering long-term economic benefits. As such, delivering the National Infrastructure Mission will be a critical component of Scotland's recovery from the economic harm arising from COVID-19.

As the Infrastructure Investment Plan sets out, there is a need to adjust the balance of investment in favour of renewing and extending the life of existing infrastructure, both on environmental and value-for-money grounds. As such, the Capital Spending Review will target a material uplift in capital maintenance type investment, relative to current levels of investment, working towards doubling such annual investment over the next five years.

The Capital Spending Review also addresses the significant near-term challenges presented by the COVID-19 pandemic, recognising the profound impact the virus has had on our whole way of life, and the role infrastructure has to play in helping businesses and communities to adapt and recover. Alongside the harmful consequences of COVID-19, a number of positive shifts have been observed as people's lives have become more home-based, for example towards active travel or to make more use of digital services. Harnessing these changes will be key.

Relevance for STPR2

By aligning strategy, project and programme funding, the Capital Spending Review provides confidence that the announced plans are affordable and fully funded, whether through the Programme for Government 2020, the draft Infrastructure Investment Plan or STPR2 Phase 1. The review also sends a strong signal on the future need to adjust the balance of investment in favour of renewing and extending the life of existing infrastructure, both on environmental and value-for-money grounds.

2.7. National Planning Framework 4

The Scottish Government's Programme for Government highlights the significance of the National Planning Framework, along with the various local development and place plans in contributing to the future of long-term planning in Scotland. In November 2020 Scottish Government published a [Position Statement on the fourth National Planning Framework \(NPF4\)](#) which highlighted the importance of addressing climate change. In this context the statement recognises the need to plan our places in a way that reduces the need to travel.

To support the spatial strategy a number of policy changes are being considered, such as embedding the NTS2 sustainable travel and investment hierarchies into the appraisal and assessment of development proposal. The new spatial strategy is also expected to reduce the overall volume of travel by building quality places that work for everyone through the concept of 20-minute neighbourhoods.

To meet many of the future needs of society it is crucial that services and facilities are easily and affordably accessed. Therefore, the Position Statement advocates the infrastructure-first approach in planning for future development to provide communities with the opportunity to travel in a sustainable manner from the outset.

Relevance for STPR2

As the NPF4 is being developed alongside a public consultation on the Draft Infrastructure Investment Plan and STPR2, this presents the opportunity to embed the importance of "place" across land-use planning and transport. It will also set the context for developing an investment programme that is aligned with the sustainable travel hierarchy presented in the NTS2.

2.8. Existing Funding Commitments

The recommendations in this Phase 1 Report do not constitute the full investment programme of Transport Scotland. They should be considered with the overall government spending commitments on transport outlined in the above documents and Scottish Government budgets. Some of the other Scottish Government transport spending commitments are out of scope for STPR2. For example:

Asset management of the motorway and trunk road network

Transport Scotland are the roads authority for the [Scottish Trunk Road and Motorway network](#). It is Scottish Ministers' single biggest asset. With a gross asset value of over £20.8 billion it represents 6% of the total Scottish road network. It carries 35% of all traffic and 60% of heavy goods vehicles. In FY20-21 the Scottish Government will spend around £450 million on managing and maintaining the asset. Transport Scotland set out their asset management policy and strategy on their website.

Measures to improve resilience of the rail network

Transport Scotland are committed to measures to improve the resilience of the rail network. In Control Period 6, they will invest over £3.8 billion in the operation, maintenance and sustainable renewal of a high performing rail network for passengers and freight. The investment of this funding is prescribed by the Office of Rail and Road and therefore it is out with the scope of STPR2 to make recommendations on this investment. However, evidence gathered throughout the course of the Review, and in setting the themes for Phase 1 of STPR2 has demonstrated the importance of this investment and provided rationale.

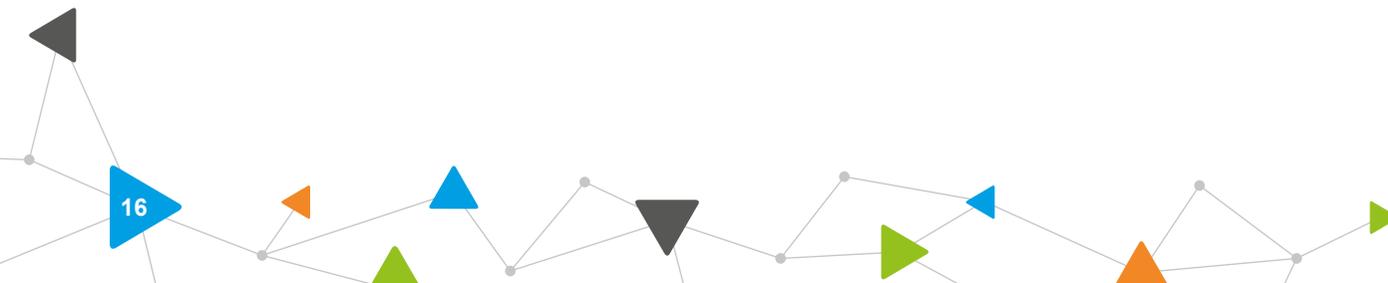
Investment in public transport subsidies

Transport Scotland invest in public transport services through various forms of subsidy and state in the NTS2 Delivery Plan that they will continue to consider additional support required for public transport and keep this under review in light of the uncertainty and other challenges presented by COVID-19. Public transport demand has been dramatically reduced across all modes but funding has been put in place to ensure that private sector commercial operators (primarily bus) as well as publicly funded operators (primarily rail) could continue to run services to meet demand and facilitate physical distancing. A commitment of up to £692 million has been made, up to end of March 2021, to support public transport.

Summary

The current policy, plan and investment landscape is complex and multi-layered. There is an overarching and urgent imperative to address climate change and to achieve net zero carbon by 2045. Alongside this are the needs to improve our health and wellbeing. There is also a clear need to deliver inclusive economic growth and to reduce inequalities. In terms of transport investment decisions being made now, a clear priority is to establish commonality and shared purpose that exists between strategic plans and the immediate needs of recovering from COVID-19, and in the context of STPR2:

- Building on the increases in walking and cycling during restrictions to make more journeys by these modes;
- Supporting public transport to maintain services and provide for improvements to support modal shift; and
- Increasing maintenance spending to make the most of the networks that we have and continuing to invest in key projects and programmes to support inclusive economic growth.



3. National Case for Change

3.1. Introduction

Building on the policy review in the previous chapter, this chapter presents a summary of the case for change, with further details contained in the National Case for Change report. It specifically covers key challenges for transport and infrastructure, and the impact of COVID-19 on current and future transport patterns.

3.2. Challenges for Transport and Infrastructure

Building on the NTS2 and the extensive data analysis and stakeholder engagement undertaken during the first stages of STPR2, has identified the key challenges that need to be considered when planning for strategic transport and investment, as outlined below include:

Transport's contribution to the climate emergency and net zero targets, means that there is a need to reduce travel and deliver modal shift towards walking, cycling and public transport. If we continue as we are now, forecasts suggest a 40% increase in vehicular travel by 2037. The recent work by the [Committee on Climate Change](#) set out an assumption of a 10% modal shift by 2030 within its net-zero scenario and the Update to the Climate Change Plan commits to reducing car kilometres by 20% by 2030.

To achieve a modal shift of the scale required to address the climate emergency, will require significant changes to the complex travel behaviours of users, operators and the public and private sectors. In accordance with the sustainable travel hierarchy, STPR2 should prioritise interventions that increase the modal share of shorter everyday trips by walking, wheeling and cycling; short to medium length trips by public transport and longer trips by rail or coach and low emission vehicles.

Transport is a derived demand and therefore key decisions and investments are required across several other sectors to meet net zero targets and in so doing put 'place' at the heart of the decision making process. Land use planning and digital connectivity are two areas not within the scope of STPR2 that will both have a significant part to play in meeting our net zero targets. This will help develop more sustainable and inclusive communities that encourage walking, wheeling and cycling as well as public transport as the preferred choice of travel. This will increase physical activity and realise health and wellbeing benefits.

It is clear that efforts over the last decade have not had a sustained impact on the increase in walking and cycling, particularly as a means to travel to work or education. In recent years, the Scottish Government, working with a number of key partners, has committed significant investment into active travel to help address this issue. Whilst the outcomes of this investment are still to be realised, it is clear that to make the sort of transformational change required, significant ongoing commitment to active travel investment is necessary, to not only deliver improved infrastructure and systems but to encourage the change needed in travel behaviours.

The decades of decline in bus use across most of Scotland is linked to a range of complex factors. Despite this, bus use makes up three quarters of trips by public transport in Scotland. It therefore has a vital role to play in delivering our interim net zero targets by 2030. STPR2 should prioritise interventions that increase the modal share of journeys by bus over the next decade and beyond.

Whilst bus use in Scotland has been in decline, rail use has increased by over 30% in the last decade. Based on current forecasts for future housing and employment land uses there will continue to be strong demand for rail services particularly within the key corridors to, from and between Edinburgh and Glasgow. This will further heighten the current terminal station capacity issues within Scotland's two largest cities, although this needs to be considered in light of the significant reduction in public transport use during the COVID-19 pandemic and the subsequent uncertainty over future travel patterns.

The safe, efficient and resilient movement of goods is vital for Scotland's economy and related import/export market. Most freight in Scotland is moved by road. Maintaining efficient and resilient connections will continue to be important to business. However, the movement of goods and the freight industry in general will need to play its part in meeting net zero targets by 2045. Advances in low carbon technology for the movement of goods by aviation, maritime, rail and road will play a significant part and STPR2 will explore further opportunities to increase rail freight and reduce the level of goods transported by road.

Scotland has strong trade links with over 100 countries across nearly 100 different industries and sectors. There is a great deal of uncertainty surrounding international trade, given the global impact of the COVID-19 pandemic and the ongoing discussions around future trade agreements following leaving the EU. Notwithstanding, in coming years, Scotland's economic success will be increasingly realised through its ability to connect with and compete within a global market. Strengthening links with the global economy will mean increased trade, inward investment and creation of an environment for sharing skills, expertise and collaborating with others to support sustainable inclusive growth.

The maintenance of safe and resilient transport networks and systems is also a vital part of the daily lives of all communities, businesses and visitors to Scotland. Recent examples of this include the A83 Rest and be Thankful, Winchburgh Junction and tunnel on the main rail line connecting Edinburgh and Glasgow, and the CalMac ferry network which all require further investment to maintain safe and resilient transport connections to all parts of Scotland. The sustainable investment hierarchy outlined within NTS2 makes clear that interventions should be prioritised firstly by their ability to reduce the need to travel and secondly their ability to help maintain and safely operate existing assets. This investment hierarchy will be imbedded within the STPR2 appraisal process.

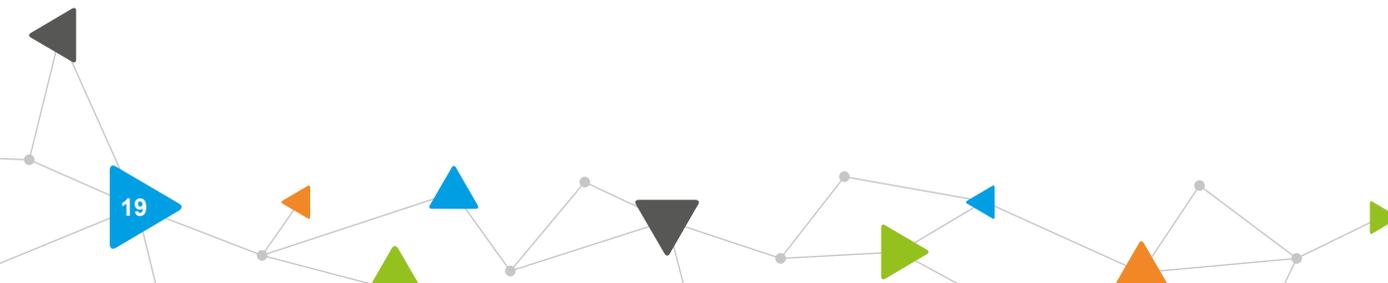
Fundamental to the delivery of an inclusive net zero economy and thus improve health and wellbeing, is the requirement to support and accelerate the transition to low emission vehicles. A collaborative public and private sector relationship will be crucial in achieving this transition.

3.3. COVID-19 Pandemic

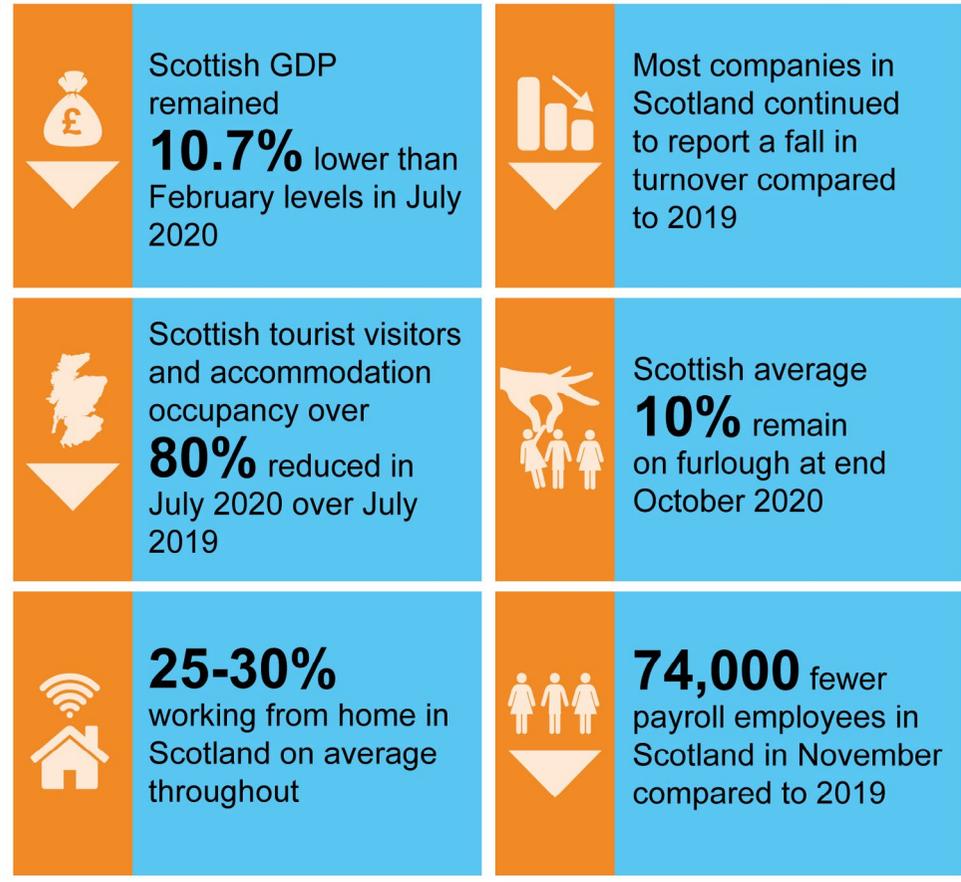
The STPR2 COVID-19 Addendum outlines the impact on travel patterns and behaviours over time as the result of the COVID-19 pandemic and helps provide some level of foresight on how COVID-19 will impact on behaviours in the short to medium term. Key issues of specific relevance for STPR2 are summarised below.

3.3.1. The Economy and Employment

The COVID-19 pandemic has resulted in a high level of uncertainty with respect to future economic forecasts. The advent of lockdown in late March 2020 all but halted activity in many sectors, due to the closure of non-essential services, shops and entertainment as well as many industries, that were unable to work remotely. As illustrated graphically in Figure 5 below, the short-term impact is highlighted by a stark drop in Gross Domestic Product (GDP), business turnover values below expectation, a proportion of employees on furlough or working from home, and unemployment rising.



COVID-19 Economic and Employment Summary



3.3.2. Transport Trends

To stem infection rates the UK went into lockdown on 23 March 2020. People were advised to only leave their homes for essential purposes, including to buy food, access healthcare, essential work that could not be done from home, or for exercise once a day. A significant number of employees were put on furlough, and a large proportion of the workforce abruptly had to change the way they work, often working from home full time. In response to this, and as shown in Figure 6, travel reduced with significantly fewer vehicles on the roads and many flights grounded. However, cycling levels increased during the spring and summer compared to the previous year, and although walking trips reduced overall compared to usual levels, around 10% of people said they were walking and cycling more. Around 60% of walking/wheeling and cycling trips made were to exercise.

Figure 5 – COVID-19 Economy and Employment Summary

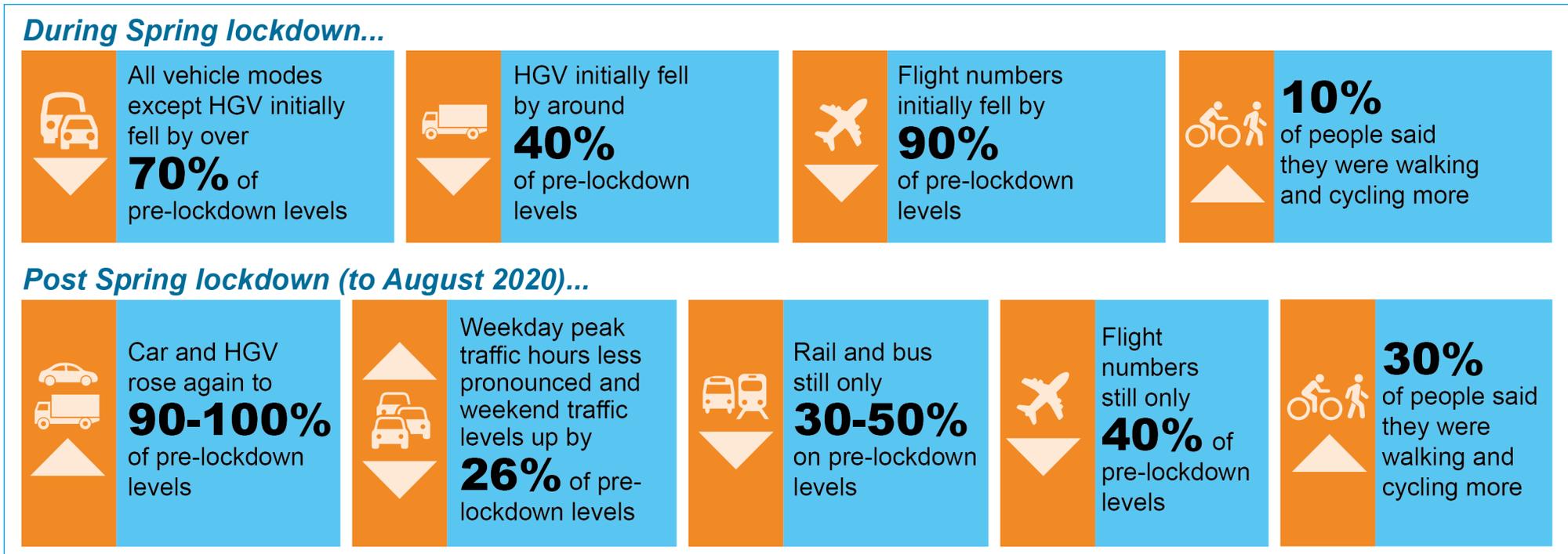


Figure 6 – COVID-19 Transport Trend Summary

When restrictions began to ease at the end of May 2020, traffic levels gradually increased towards pre-COVID-19 levels as people opted for the car over public transport due to COVID-19 related personal safety concerns, and convenience. Although this was not across public transport modes consistently and following the initial lockdown, patronage recovered quicker on bus than rail. Peak hours on the roads became less pronounced as travel spread more throughout the day, and weekend traffic also increased. Despite this, the propensity to walk and cycle continued to increase with 30% of people saying they were walking and cycling more.

3.3.3. Travel by Purpose

The closure of non-essential services, shops and entertainment as well as many industries in the UK wide Spring lockdown significantly reduced non-essential movements. As shown in Figure 7, lockdown substantially impacted on the way people shop – whilst traditional in store shopping and leisure movements significantly reduced as a result of Government messaging and closures, online shopping, grocery home deliveries and click and collect services increased substantially. As well as shopping online, people were also shopping for essential items closer to home.

There was also increased uptake of using online facilities across a range of purposes, including socialising, entertainment, banking, healthcare, adult education and attending a place of worship.

As restrictions eased into the summer, retail and recreation movements returned close to pre-lockdown levels. This may have been partially fuelled by domestic tourism during the summer months, with the Highlands and Islands in particular seeing an increase in grocery, pharmacy, retail and recreation movements to 100-120% of pre-lockdown activity in July and August. However, it could also be attributed to seasonality given that the data is indexed to the same movements in January to March pre-lockdown.

3.3.4. Future Attitudes, Impacts and Opportunities

Research undertaken to understand public attitudes to transport and travel during the COVID-19 pandemic is being undertaken by both Transport Scotland, and the Institute for Transport Studies, University of Leeds (ITS Leeds). The studies have monitored how attitudes to travel have changed throughout the past months and give an insight into how behaviour might impact on transport in the future. This is summarised in Figure 8.

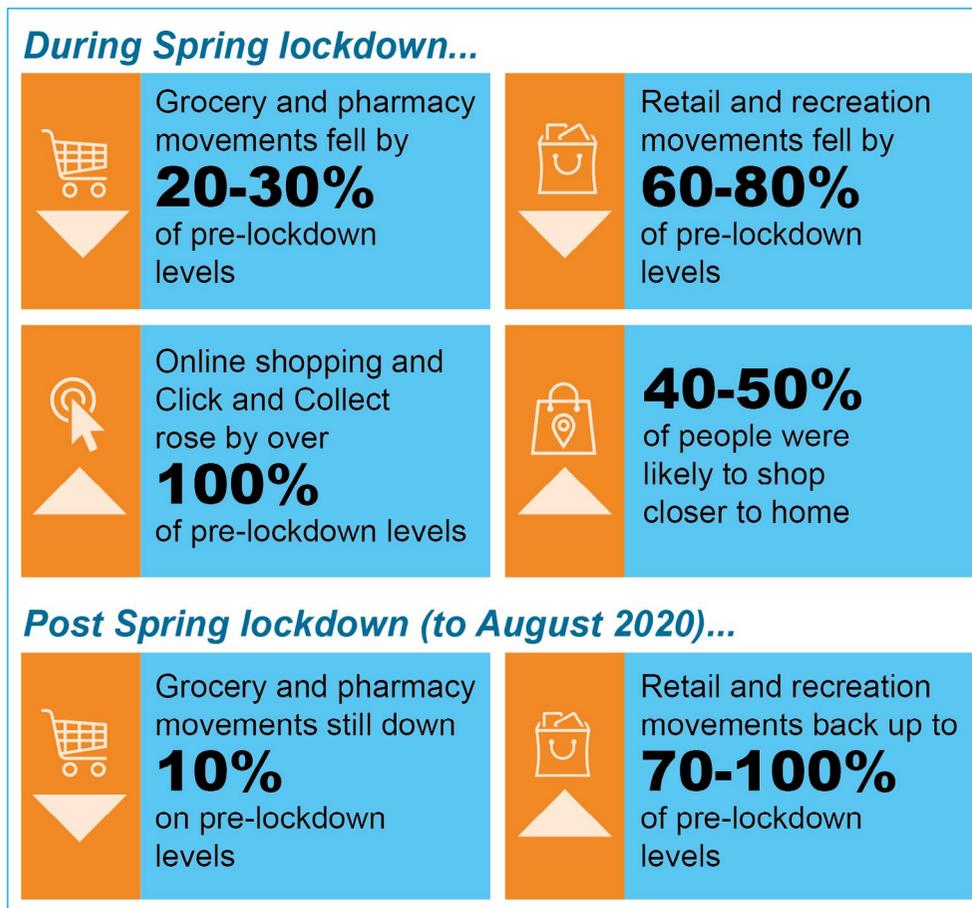


Figure 7 – COVID-19 Travel by Purpose Summary

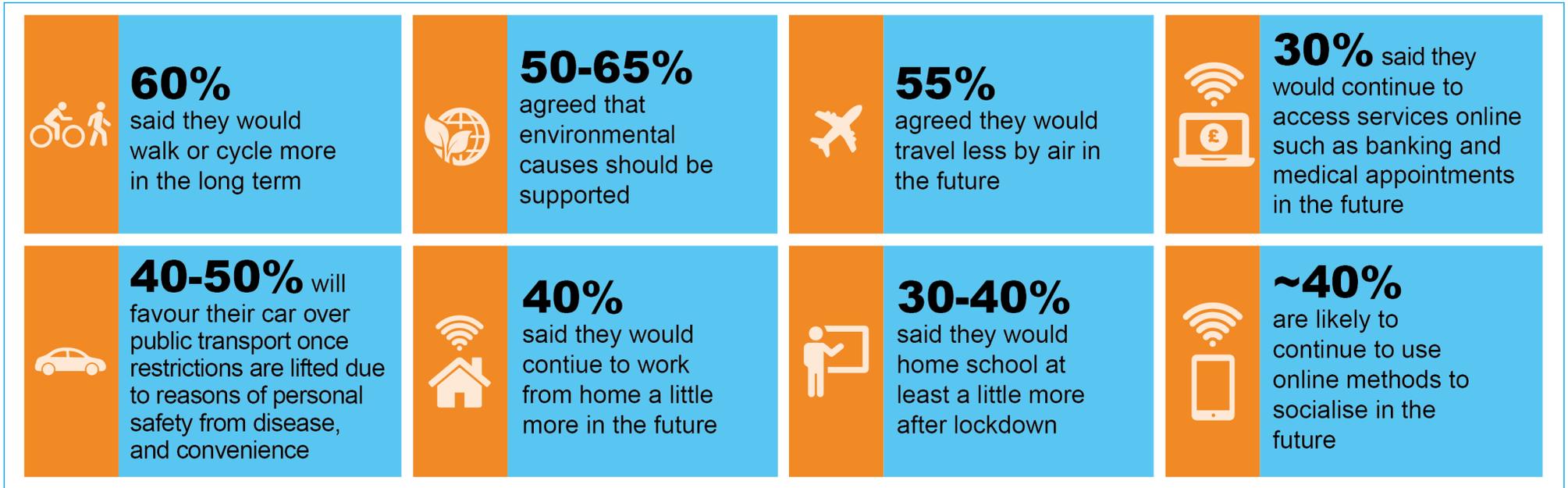


Figure 8 – COVID-19 Future Attitudes Summary

In terms of travel by mode, the switch from public transport to car, seen during lockdown, is likely to continue at least until a vaccine is rolled out and the spread of the virus is contained, with 40-50% of survey respondents during the Transport Scotland Public Attitude Surveys stating that they will use car more and avoid public transport when restrictions are lifted, partly due to high levels of concern around disease control and cleanliness with respect to Public Transport services but also due to the perceived convenience of car (15-21%).

The increased propensity to walk or cycle more in the long-term offers opportunities to go some way towards mitigating the anticipated traffic impacts, if reluctance to use public transport persists, particularly in urban areas. To what extent the opportunities can be exploited is likely to depend on the implementation of successful policies to promote such change in the long term both in terms of investing in active modes and restricting motor traffic. Respondents to ITS Leeds surveys highlighted high levels of support for policies to boost environmental causes as part of the recovery whilst support for investment in roads and supporting aviation was at best mixed.

Whilst the long-term changes in terms of the prevalence of remote working are not yet known, it is reasonable to assume that this will be more common in the long term, particularly as businesses seek to reduce costs in times of uncertainty. A reduction in work travel movement is likely to result, and this is likely to differ by mode due to differences in business locations and mode use between industry sectors.

There are opportunities for the revival of local shops and services following evidence of an increased likelihood to shop closer to home during lockdown. Transport Scotland's Transport Transition Plan had policies to encourage local service access and make them more attractive. For example, the Spaces for People fund and travel demand messaging has been consistent around essential journeys and staying local where possible.

The decline in instore retailing may have longer term impacts, on development locations, travel to retail jobs and consumer trip volumes and distribution. Increased uptake of using online facilities across a range of purposes, including socialising, entertainment, banking, healthcare, adult education and attending a place of worship could lead to a reduction in discretionary travel in the future.

In addition to changes in the future level of demand, travel post-COVID-19 may also see changes in the peak profile of demand i.e. when people travel throughout the day. Catering for tidal peaks, formerly a key consideration in planning transport infrastructure and services may become less pressing as levels of commuting are reduced particularly to urban locations where the density of professional, white collar occupations is high. Weekly lows in indexed retail and recreation movements at weekends indicate that travel for these purposes has also spread more evenly through the week, although it is uncertain to what extent these trends will continue once the vaccine is rolled out and the impetus to avoid busy periods disappears.

Likewise, the impacts of the pandemic on tourism remains uncertain – although a higher proportion of people have chosen to holiday within the UK rather than go abroad during 2020, overall tourist numbers are significantly reduced. It is unclear if or when overseas tourism will recover. However, with the rollout of the vaccine and around 55% of survey respondents suggesting they will travel less by air in the future, there may be opportunity to capitalise on the domestic tourist trade.

3.3.5. Summary in Context for STPR2

A key question for any forward-looking programme, such as STPR2, is what the longer-term impacts of COVID-19 might be given the evidence and opinions outlined above. However, the problem at present is the significant level of uncertainty and lack of robust data, so providing any degree of certainty around these is highly challenging. What is perhaps more useful is to consider trends to understand the potential answers to a series of questions:

- What were we doing that COVID-19 stopped, and it's either going to remain stopped or start back up again?
- What have we needed to do because of COVID-19, and we are either going to stop doing it or keep doing it?
- What were we on the cusp of doing, and COVID-19 has either accelerated it or pushed it back?

Considering these questions from a transport perspective, there are a number of potential trends that can be identified, including:

- Overall increase in the proportion of people working from home;
- Reduction in office space and more split working from home/office;
- A move away from traditional “9 to 5” to more flexible working patterns;
- Reduction in travel resulting from job losses from economic slowdown;

- More localisation of supply chains (which the UK exit from the European Union may further accelerate);
- Increased digitisation – digital by default; and
- Increased automation.

Within the context of STPR2 these issues are being addressed through the consideration of scenarios. For the purpose of the Phase 1 Assessment (Chapter 5) these focus very much on the present and short-term changes in behaviour, whereas, as the commission moves towards Phase 2 more comprehensive scenario planning will be adopted utilising the Transport Model for Scotland (TMfS) and the Transport and Economic Land-use Model of Scotland (TELMoS).

The scenarios being developed for Phase 2 in STPR2 will be for the medium and longer term, spanning several decades, and do not need to consider the details of the present COVID-19 crisis. It is assumed that some effective means of managing coronavirus will be found, whether by vaccination or otherwise. Lasting responses to the crisis do however need to be taken into account, a most obvious example being that a major part of the economy has carried out a very large scale experiment into the feasibility of working at home.

4. Establishing Transport Planning Objectives

4.1. Overview

The evidence outlined in the previous Chapter highlights that, without intervention, current issues around higher private vehicle usage, more unreliable journey times, increasing congestion, poor air quality and climate change will continue to increase or deteriorate. Traditionally infrastructure planning has sought to predict this increase and then plan infrastructure provision to provide for it (known as 'Predict and Provide'). However, in order to realise the vision and priorities set out within the NTS2 - particularly around climate change and net-zero - a different approach to planning infrastructure provision is required. As such, a more outcome led approach is proposed that will link infrastructure planning to the vision and priorities set out within NTS2. This approach will be more aligned with a 'Decide and Provide' process that will more closely support the vision sought by NTS2, and in so doing provide the infrastructure and assets best placed to achieve the vision. The strategic transport options needed to support the NTS2 vision will be determined by applying a framework of objectives that clearly set out how this future will be achieved.

4.2. Objectives

The Scottish Transport Appraisal Guidance (STAG) is an objective led appraisal process, requiring Transport Planning Objectives (TPOs)¹ to be developed that take full account of evidence pertaining to the particular problems and opportunities identified by the study, within the context of the relevant policies and strategies and evidenced by stakeholders and data. They should:

- Provide a clear indication of what STPR2 is trying to accomplish;
- Introduce clarity where there may exist strong vested interests and entrenched views on priorities; and
- Allow the proper appraisal of candidate options to allow the decision makers to make informed choices on investment priorities.

At the national level, the NTS2 sets out the Case for Change for Scotland and is at the heart of the objective setting process for STPR2. A consistent set of Transport Planning Objectives have been developed for use across the country during the appraisal process. These objectives are directly linked to each of the NTS2 priorities and outcomes. Sitting below the five TPOs are a set of national sub-objectives.

¹ Transport Planning Objectives are used to express the desired transport related outcomes in a study area.

Within this approach there is a need to reflect the regional focus from the analysis and stakeholder engagement undertaken to date. Therefore, each region has developed a set of specific sub-objectives to reflect the issues within their specific area.

It should be noted that in STAG, it is recognised that TPOs may not be entirely SMART (**S**pecific, **M**easurable, **A**ttainable, **R**elevant and **T**imed) at the Case for Change stage. However, they should be set in a way to facilitate the establishment of SMART TPOs in later stages of the appraisal. As such the STPR2 TPOs, at the national and regional levels, have been created in a way that allows for ‘SMARTening’ following this Case for Change stage.

4.3. National Transport Planning Objectives

As stated, the TPOs are based on the NTS2 priorities and associated outcomes presented in Section 2.1. Using these as building blocks, a framework of TPOs was created that also take account of the issues that impact on travel patterns across the country, which have been identified. A total of five TPOs have been derived, the first four of which align directly to each of the NTS2 priorities, and a final objective that aligns with the reliability, resilience and safety of the transport network; a theme that has come out strongly through the problems and opportunities analysis.

An extensive stakeholder engagement exercise was undertaken during the development of the TPOs. The draft TPOs were then presented in the suite of Case for Change reports published in draft in February 2020.

Sitting under each TPO are a series of sub-objectives that are intended to better define and ‘SMARTen’ the overarching objectives and aid their application in appraisal. The STPR2 TPOs are shown in Table 1.

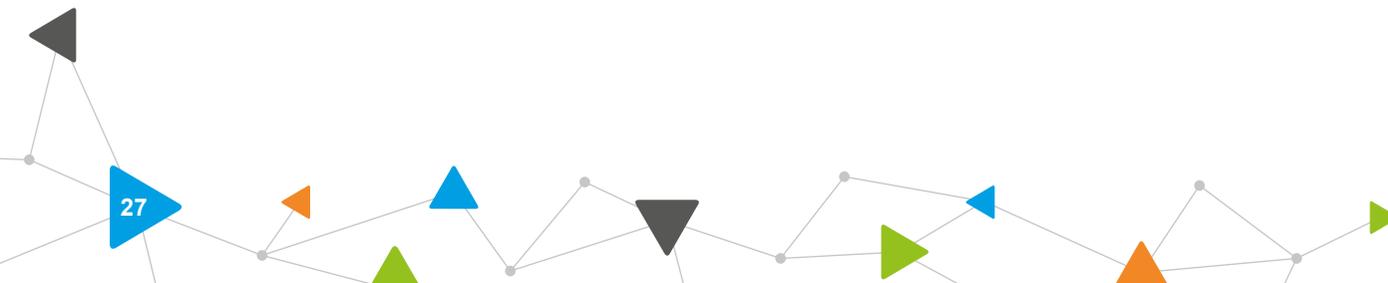
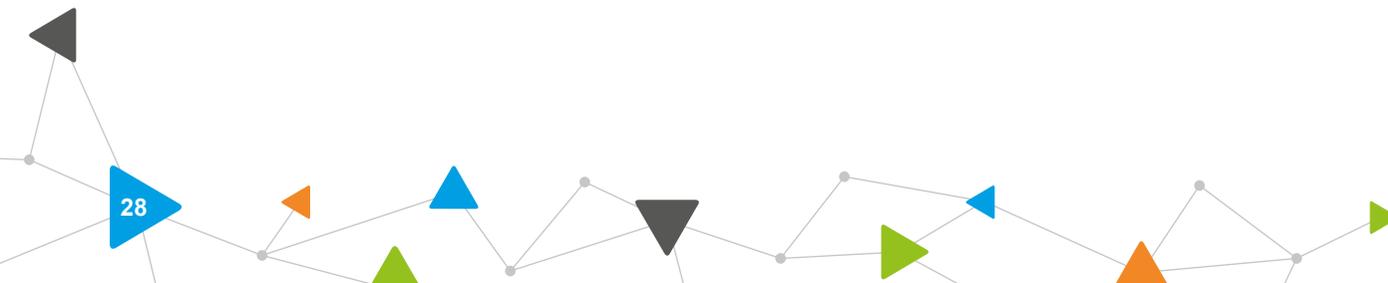
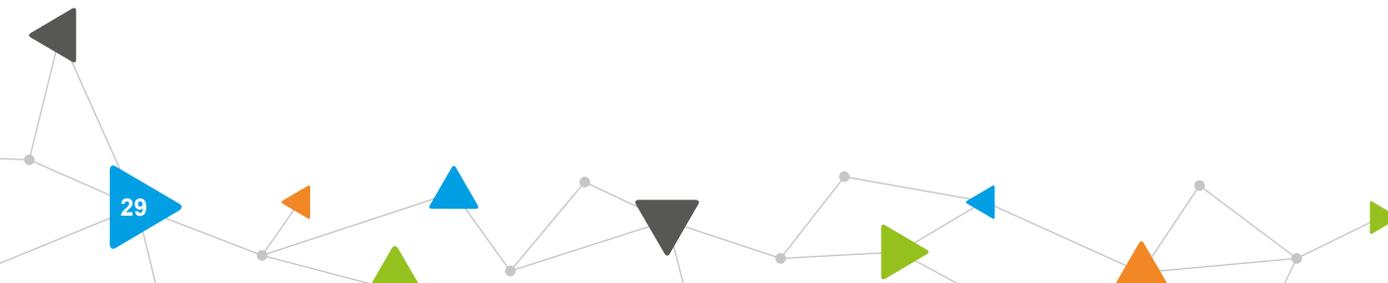


Table 1 – Transport Planning Objectives

STPR2 OBJECTIVES	SUB-OBJECTIVES
<p>A sustainable strategic transport system that contributes significantly to the Scottish Government’s net-zero emissions target</p>	<ul style="list-style-type: none"> ■ Reduce the consumption of fossil fuels through a shift to more sustainable modes of transport. ■ Increase the mode share of active travel for shorter everyday journeys. ■ Increase the mode share of public transport by providing viable alternatives to single occupancy private car use. ■ Reduce emissions generated by the strategic transport system.
<p>An inclusive strategic transport system that improves the affordability and accessibility of public transport</p>	<ul style="list-style-type: none"> ■ Increase public transport mode share by connecting sustainable modes of transport to facilitate integrated journeys. ■ Improve mobility and inclusion, recognising the specific needs of disadvantaged and vulnerable users. ■ Reduce transport poverty by increasing travel choice. ■ Reduce the reliance on private car for access to key centres for healthcare, employment and education.
<p>A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing</p>	<ul style="list-style-type: none"> ■ Reduce demand for unsustainable travel by embedding the place principle in the changes to the strategic transport system. ■ Increase the mode share of active travel for shorter everyday journeys. ■ Reduce demand for unsustainable travel arising from nationally significant growth areas, taking cognisance of the emerging NPF4.



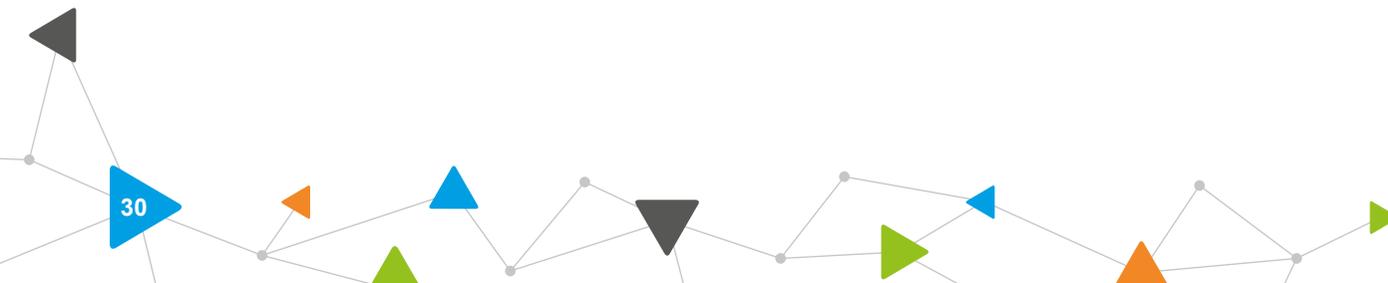
STPR2 OBJECTIVES	SUB-OBJECTIVES
<p>An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland</p>	<ul style="list-style-type: none"> ■ Increase sustainable access to labour markets and key centres for employment, education and training. ■ Increase competitiveness of key domestic and international markets, by reducing costs and improving journey time reliability for commercial transport. ■ Increase resilience of accesses to key domestic and international markets to encourage people to live, study, visit and invest in Scotland. ■ Increase the mode share of freight by sustainable modes
<p>A reliable and resilient strategic transport system that is safe and secure for users</p>	<ul style="list-style-type: none"> ■ Improve resilience from disruption through adaption of Scotland’s trunk road, rail and strategic ferry infrastructure. ■ Reduce transport related casualties in line with reduction targets. ■ Improve resilience through climate change adaptation within the management and maintenance of trunk road, rail and ferry infrastructure. ■ Improve perceived and actual security of the strategic transport system.



4.4. Regional Transport Planning Objectives

A top down/bottom up approach was adopted to inform the creation of regional sub-objectives that not only align directly to the outcomes sought by the NTS2 for Scotland as a whole, but that also reflect the unique aspects of each region, related to transport, of each of the 11 STPR2 regions.

Each regional Case for Change report outlines the TPOs and the associated regional sub-objectives. In general terms these were derived by identifying key regional problem and opportunity themes and linking, adjusting or removing them with the relevant national outcomes sought.



5. Option Sifting and Phase 1 Assessment

5.1. Introduction

This section provides a summary of the option generation, and sifting process undertaken during 2020. Further details are contained in the suite of Case for Change reports. The section also explains the process undertaken to develop and assess the Phase 1 recommended interventions.

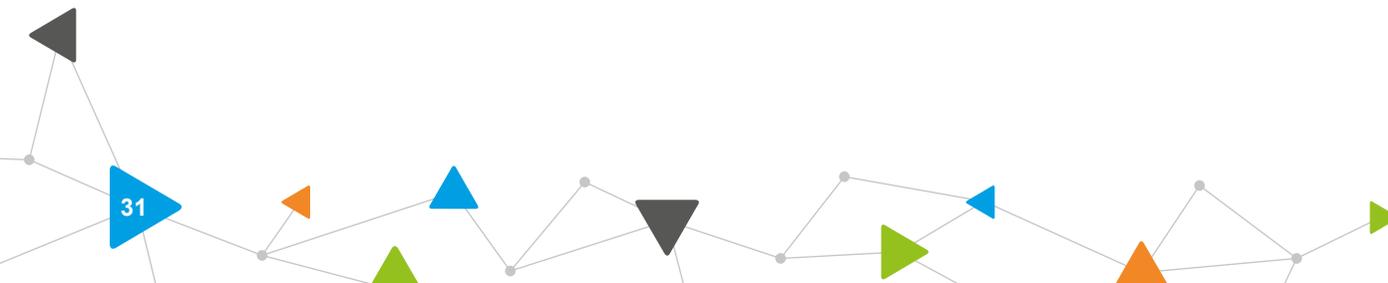
5.2. Defining of Strategic Options

In the context of STPR2, a strategic transport project is defined as any transport project that materially contributes to Scottish Government/Transport Scotland policies and strategies. Specifically, this will include:

- Any transport project that plays a significant part in supporting the four NTS2 priorities and related outcomes;
- Projects or groups of projects related to transport networks owned, operated and funded directly by Transport Scotland;
- Passenger and freight access to ports and airports of national significance; and
- The inter-urban bus and active travel networks and principal corridors within urban areas.

Within the overall definition above, options considered within the STPR2 may include:

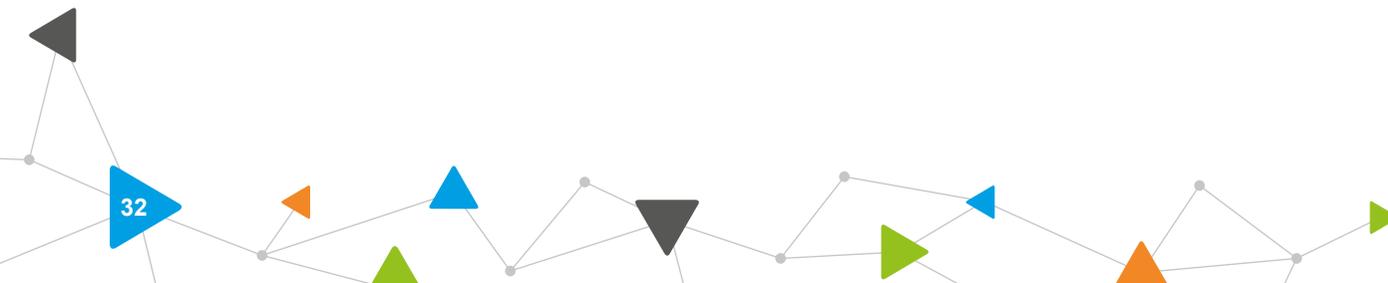
- Appropriate transport policy and financial instruments (that are within the responsibility of Scottish Government);
- Demand management measures, including use of technology, innovation and behavioural change;
- Asset management and safety measures;
- Measures to increase travel by active travel modes;
- Public transport improvements, including interchanges, road space allocation, technology and ticketing;
- Transport links to/from areas of economic activity of national significance;
- Targeted infrastructure improvements on the transport networks owned, operated and funded directly by Transport Scotland;
- Changes to the operation of ferry terminals and services that are part of the CHFS and NIFS network;
- Infrastructure measures at ports and harbours of national significance; and
- Improved access to major airports.



5.3. Approach to Option Generation and Sifting

In keeping with the principles of STAG, the Initial Appraisal: Case for Change has been developed to provide a robust method to generate, clean and sift options; ensuring a broad range of options across all modes are considered.

The option generation, cleaning and sifting approach is summarised overleaf in Figure 9, with further details provided in the remainder of this section.



Option Generation and Sifting

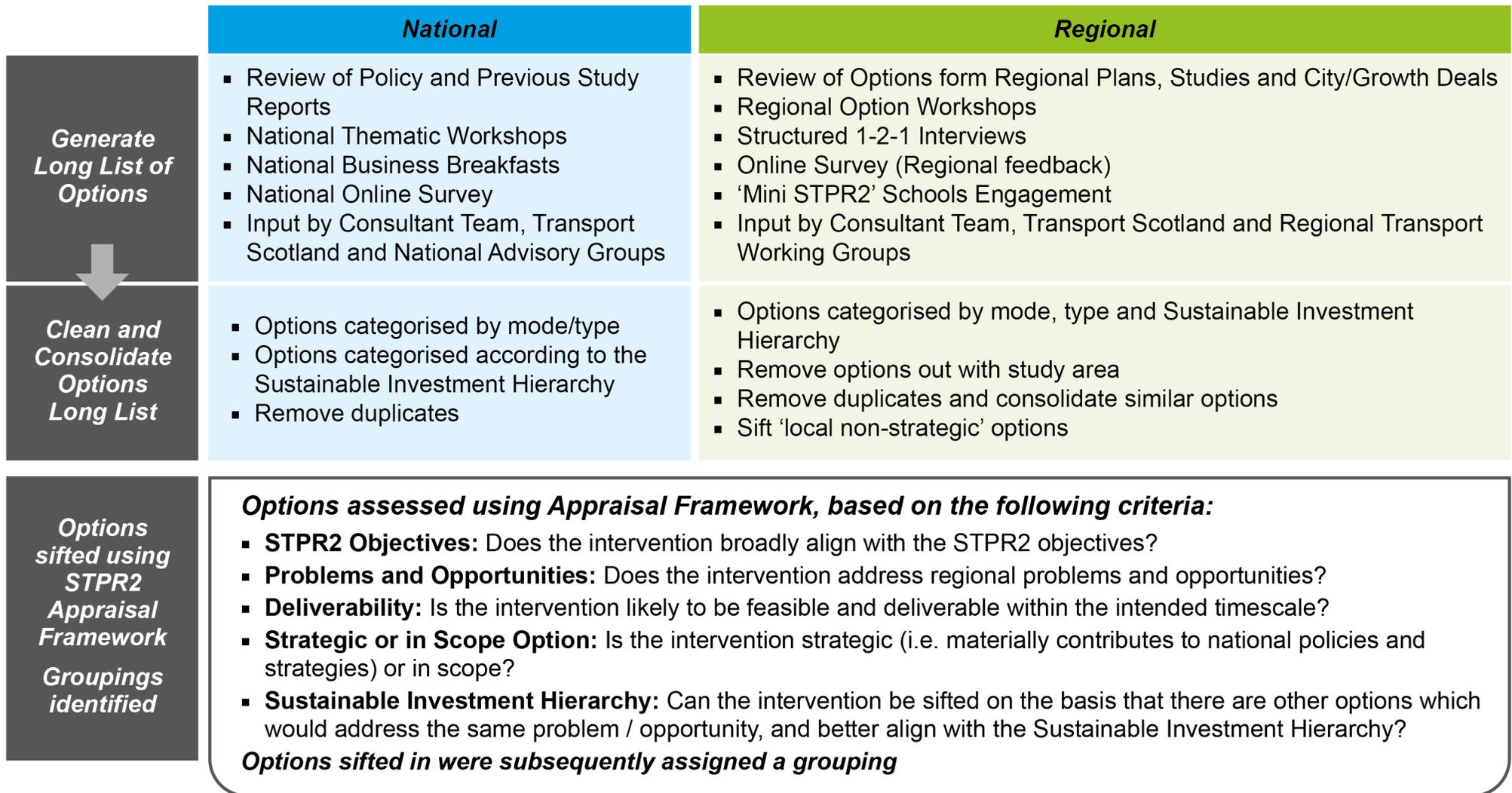


Figure 9 – Approach to Option Generation and Sifting

5.3.1. Generate Long List of Options

A long list of initial transport options was generated based on a range of sources, including: a review of options identified from recent local and regional studies and via extensive stakeholder engagement and public consultation activities. This included Stakeholder Workshops, Structured Telephone Interviews, Elected Members Briefings and an Online Survey. Options were also generated through discussions with the Regional Transport Working Group and supplemented by the Consultant team. Options were identified across all modes and encapsulate many of the main routes and key centres across the regions. Some of these options were well developed and had a clearly defined output, others were suggestions and ideas. All of these ideas/suggestions/options were collated and considered at this stage.

Over **13,900** individual ideas/suggestions/options were identified at this stage in the process.

5.3.2. Option Cleaning

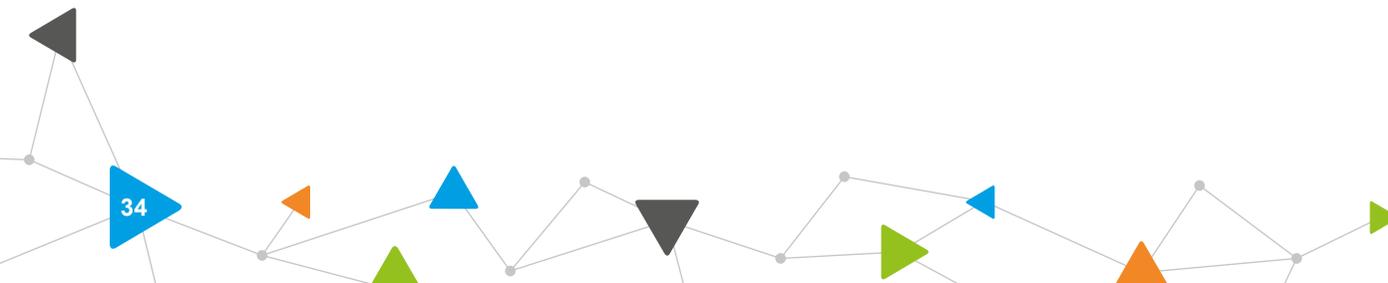
Although over 13,900 individual ideas/suggestions/options were identified, this included a number that required further definition, duplicated options and options which were broadly similar. As such, an exercise was undertaken to clean this 'long list'. Options were reviewed at a regional level or a national level depending on the initial source of the information. Options that required further definition were developed, and similar options were consolidated.

Following the option cleaning exercise, approximately **2,800** options were retained in the long list of interventions to be sifted.

5.3.3. Option Sifting

Each of the 2,800 options have been assessed using a methodology developed to drive consistency in the sifting of options across all the STPR2 regions. Following this process options were either:

- Recommended at a national level for further consideration through the STPR2 process;
- Recommended as part of a route / corridor level intervention for further consideration through the STPR2 process; or
- Sifted from the process and passed to the appropriate local/ regional transport authorities and partnerships for consideration out with STPR2.



Options were sifted out at this stage for one of the following reasons:

- Option is out of scope; and/or
- Option does not address the problems / opportunities in the region; and/or
- Poor performance against transport planning objectives/ sifting criteria; and/or
- Deliverability concerns; and/or
- The problems/ opportunities are better addressed through another option; and/or
- The option is being progressed out with STPR2.

A full list of options that were sifted out across all regions and at a national level is provided in the appendix section of the National Case for Change Report and Chapter 6 provides further information on the interventions that are being taken forward within STPR2 Phase 2.

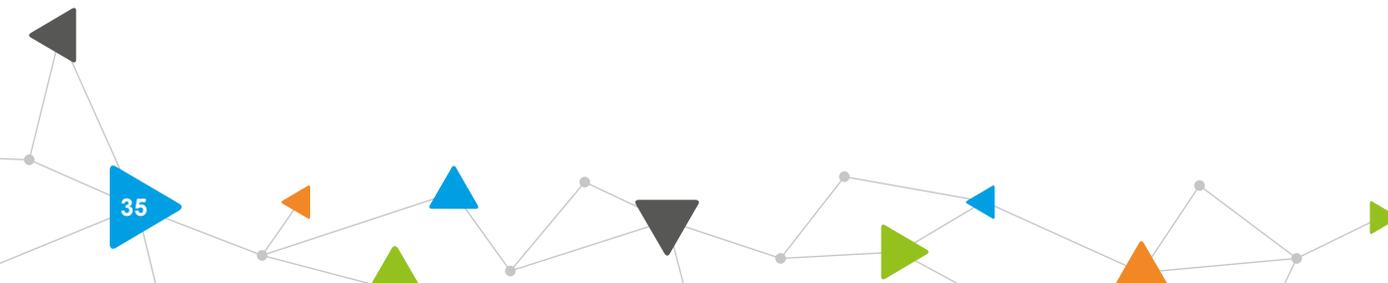
5.4. Approach to Phase 1 Assessment

5.4.1. Developing the List of Potential Interventions

As outlined in the previous section, almost 14,000 ‘ideas/options’ initially came forward which, following a cleaning and consolidation process, resulted in close to 3,000 options being taken forward for further consideration. These options formed the starting point for developing the interventions to be taken forward within Phase 1.

In order to assess and finalise interventions for assessment as potential Phase 1 measures, a proportionate approach has been developed, considering themes or packages that could potentially meet the short-term requirements, whilst being guided by the overall STPR2 options list. Prior to finalising the recommendations, discussions were held with the Regional Transport Working Groups.

Figure 10 below outlines the steps involved in developing the Phase 1 recommendations.



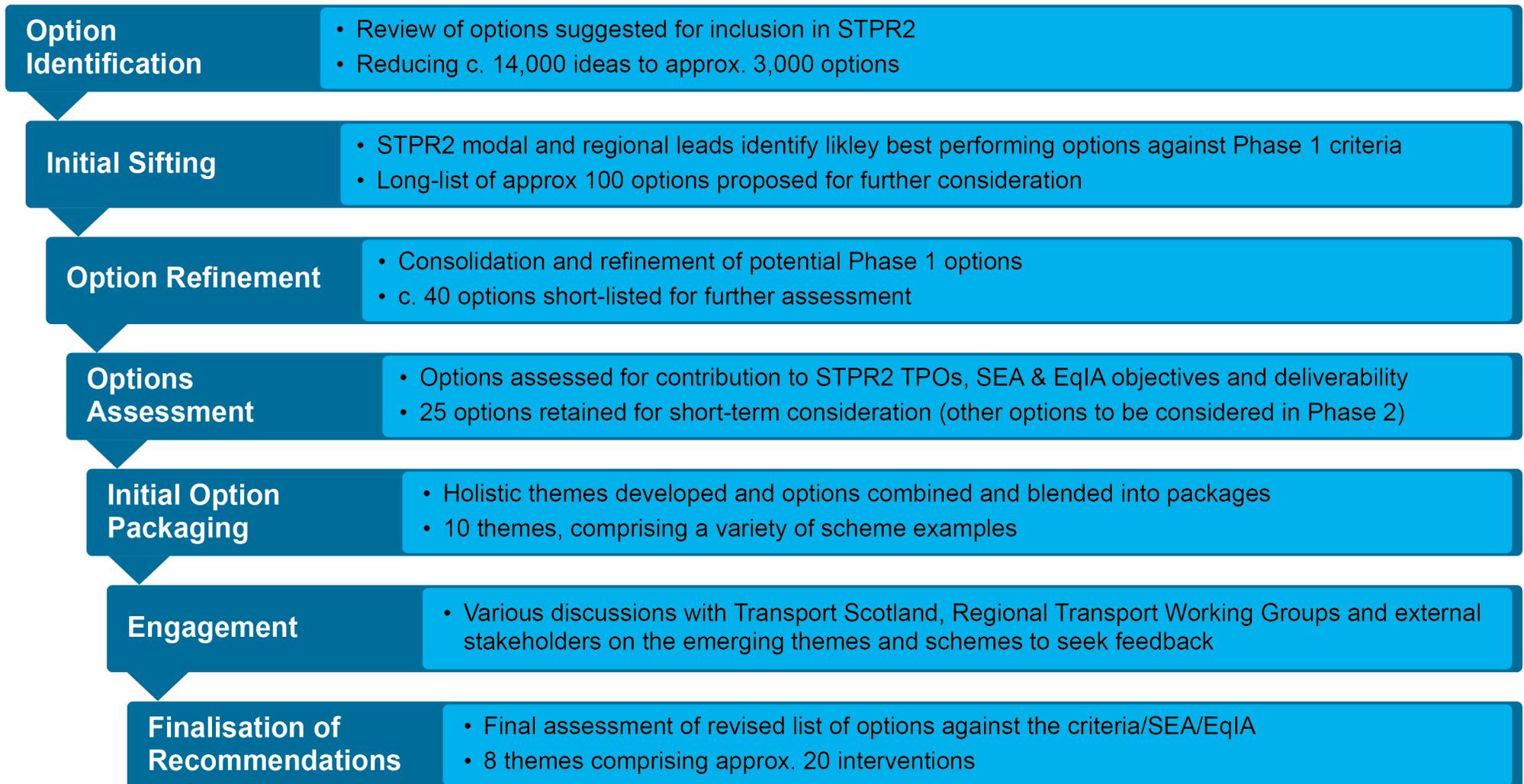


Figure 10 – Phase 1 Assessment Approach

Following the option identification step, an initial review was undertaken to consider a long list of options/packages from both a regional and modal/technical perspective that would meet the criteria for projects to be recommended in Phase 1.

This task produced a long list of approximately 100 options. These options were then refined through a process of consolidation (i.e. removal of duplicates; packaging of complementary options) to a short-list of around 40 options/packages to be taken forward for initial assessment.

The options/packages were then assessed using a process described in the next section. Following this, 25 were put forward for short-term consideration. These 25 were then packaged and refined into a set of 10 holistic packages or themes, which comprised the initial findings for Phase 1.

These initial findings were shared with the STPR2 Regional Transport Working Groups and internal stakeholders within Transport Scotland. Following this, a further refinement of the themes and packages was carried out, resulting in the final recommendations as described in Chapter 7.

It should be stressed that, any option assessed but not taken forward as a Phase 1 short-term recommendation at any stage in this Phase 1 process will still be considered in detail as part of the on-going STPR2 process, and could form part of the Phase 2 findings.

5.4.2. Assessment Criteria

The key aim during Phase 1 has been to identify options for which there is a high degree of confidence they will perform well against the following:

- Are likely to make a significant contribution to STPR2 transport planning objectives;
- Can be delivered or significantly progressed in the short term; and
- Would support a fair and sustainable economic recovery following the COVID-19 pandemic, and help lock in sustainable travel behaviours observed during lockdown.

Following the process outlined in the Scottish Transport Appraisal Guidance (STAG) the potential options were subjected to a multi-criteria assessment based on:

- Contribution to STPR2 objectives (including SEA and Equality Impact Assessment (EqIA) objectives);
- Performance against the Post COVID-19 priorities; and
- Implementability (feasibility, affordability and public acceptability).

In the context of a fair and sustainable economic recovery, consideration was given to the [findings of the Advisory Group on Economic Recovery](#) and the [response from the Scottish Government](#). Namely, the importance that employment, the environment, education and equality has in creating a society that is resilient and fair.

The Phase 1 assessment was undertaken at a time of huge uncertainty for the transport system. As set out in chapter 3, long-term transport trends have been substantially disrupted by COVID-19, and the transport impacts arising from economic and social changes caused by the pandemic are far from being fully understood. Therefore, in the absence of perfect foresight and in order to reflect this uncertainty in the assessment process, the anticipated contribution of each measure to the STPR2 objectives was considered against three scenarios. Further details of the criteria and scenarios are outlined next.

5.4.3. Post COVID-19 Scenarios

In assessing how the options perform, various scenarios linked to the recovery from the COVID-19 pandemic were considered. Given the level of uncertainty associated with the future recovery, it was important to identify interventions which performed well against the objectives in multiple scenarios. The scenarios were as follows:

Scenario 1 – Without COVID-19 (Simplistic):

Assumes the movement and travel characteristics that would have been expected if the pandemic had not occurred, and so is based on pre-COVID-19 data, trends and policy priorities.

Scenario 2 – Post COVID-19 (Quicker return to Pre COVID-19 travel behaviours):

Accounts for COVID-19 but assumes a relatively strong recovery towards previous travel patterns, such as may occur following introduction of an effective COVID-19 vaccine and a suppression of case numbers:

- Active travel use up significantly and remains high;
- Public transport use significantly lower in the short term but ramps up to close to pre-COVID-19 levels in the next few years;
- Road-based travel demand only slightly higher than pre-COVID-19 levels; whilst a higher proportion of journeys are being made by car than before, this is offset by reduced overall travel demand and trip length;
- The mix of journey-purposes and frequencies returns to close to pre-COVID-19 situations, albeit with reduced commuting for work through increased home working in a range of sectors; and
- Most people (other than the most vulnerable) feel comfortable to use a variety of modes of transport again.

Scenario 3 – Post COVID-19 (Maintaining Lockdown behaviours):

Has key characteristics that could be the result of on-going advice to maintain physical distancing and lasting changes in people's need/willingness to travel, especially to large urban centres:

- Active travel use up significantly in the short-term, but starts to decline during 2021/2022;
- Bus use significantly lower in short term and only slow recovery, resulting in some significant accompanying supply side reductions;
- Rail use significantly lower in short term and slowly ramps up during 2021/2022 but still not to pre-COVID-19 levels;
- Demand for travel (especially by public transport) to large urban centres (for employment, business, retail and leisure) remains significantly below pre-COVID-19 levels;
- Road-based travel is significantly higher than pre-COVID-19 levels as economy recovers and other modes remain unattractive; and
- Many vulnerable people (elderly or with health conditions) remain fearful of using public transport or being in public spaces.

5.5. Strategic Environmental Assessment and Impact Assessments

The accompanying STPR2 SEA Phase 1 Update Report provides a summary of the SEA work undertaken to date and the revised SEA assessment methodology to take account of the two Phased approach. It also includes the assessment findings of the intervention options presented in Phase 1, with the level of assessment reported on in the SEA Phase 1 Update Report commensurate with the detail presented in this report.

The SEA Phase 1 Update Report also signposts the next phase of assessment and opportunities for input into the final STPR2. Importantly, it should be noted that the SEA Phase 1 Report does not consider cumulative effects at the national scale or present mitigation or monitoring requirements, as these will be addressed fully within the SEA Phase 2 Environmental Report.

The Equality Impact Assessment (EqIA) Phase 1 Update Report provides information on the progress made to date on STPR2 in regard to equality issues. The report provides a summary of the key outputs of STPR2 as it has progressed through the Initial Appraisal: Case for Change (CfC) stage and how each stage considered and assessed equality issues. The EqIA Phase 1 Report then sets out the methodology and subsequent assessment for the EqIA analysis of the eight themes and establishes where there are gaps remaining in the assessment which need to be addressed for Phase 2 of STPR2. The EqIA Phase 1 Report concludes by identifying next steps and the Phase 2 methodology.

6. Output from Option Sifting

6.1. Definition of Option Groupings

Following the sifting exercise, approximately 1,400 options remain in the process. There are many of these options that share common traits across the regions and many options which in isolation would not deliver the strategic improvements STPR2 is seeking to deliver. Recognising the strategic and national dimension, options that have been sifted in for further appraisal have been allocated to Groupings. Groupings have been established to:

- Allow similar options to be collated together to provide a more manageable list for further appraisal;
- Collate similar options across regions, thus aiding consistency in definition and appraisal; and, where appropriate
- Allow options that may, on their own merit, not be considered strategic, however when grouped address the identified national and regional Problems and Opportunities.

These Groupings will be appraised in the next stages of STPR2. The Groupings represent the range of interventions that STPR2 will consider in the appraisal stages. Note options from the three advanced regions, Borders, North East and South West have been reviewed through the STPR2 sifting methodology and reported through Update Notes that sit alongside these Case for Change reports. These will be added into the list of Groupings and appraised in the next stages of STPR2.

6.2. Options being Taken forward

[Appendix A](#) lists the options, either as a standalone intervention, or as a Group, with further details contained in the various Case for Change reports. Figure 11 below summarises these Interventions/ Groupings by the respective categories in the Sustainable Investment Hierarchy.

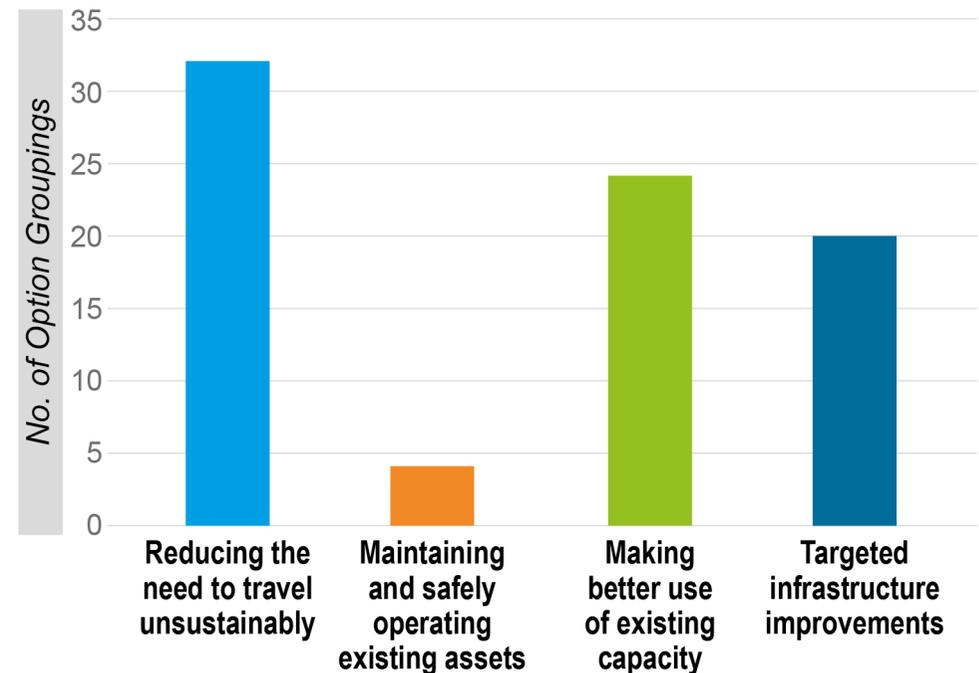


Figure 11 – Phase 2 Groupings categorised by the Sustainable Investment Hierarchy

7. Phase 1 Recommendations

7.1. Introduction

The role of STPR2 Phase 1 is to define the short-term transport investment priorities for Scottish Ministers in the next few years, in the face of great uncertainty. With the challenges faced by society as we tackle the pandemic, it is vitally important to consider transport investments around the overall vision set out in the NTS2 to ensure that we continue, at pace, towards the delivery of a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.

Given the above, the themes and packages outlined below constitute the fundamental components of the transport investment plan, alongside a robust rationale which ‘makes the case’ for the interventions in the short term. It is a key part of the first NTS2 Delivery Plan, as Government demonstrates the steps it is taking to achieve its outcomes. It also creates a foundation for business case development of the interventions, creating the strategic case for the investments. Transport Scotland are committed to continuing to develop the case for other longer-term interventions as part of STPR2 Phase 2.

7.2. Phase 1 Themes

Following the engagement exercise outlined in Chapter 3, a number of changes and refinements to the wording of the themes were made. The final list of eight themes is shown in Figure 12, with

further details of the recommended interventions within the themes presented in sections 7.3 – 7.10. Appraisal Summary Tables (ASTs), with fuller information on recommendation and rationale for investment, are included in [Appendix B](#).

Within the list of themes and interventions, there are no specific priorities, as each component is vital in addressing the complex needs of our nation. Neither are these interventions the sole responsibility of Transport Scotland to deliver, indeed many will rely on working together or for others to take forward. However, by including these within Phase 1 of STPR2, Transport Scotland has confirmed its commitment to supporting and working in partnership with others to develop, deliver and address the impacts of the pandemic. In many cases the interventions build on the recent individual investment and policy decisions taken in recent years, but the overall balance of Phase 1 recommendations reflects the strong commitments in the NTS2 and associated Delivery Plan.

The following sections provide further details on the interventions within these eight themes. It should be noted that, whilst the interventions have all been allocated to an individual theme, there are many that are complementary and indeed would deliver beneficial outcomes identified in some of the other themes. Therefore, the individual theme that each intervention is assigned to should not be interpreted too rigidly.



*Figure 12 –
STPR2 – Phase 1
Themes*

7.3. Theme: Supporting smart and sustainable travel across Scotland

National measures that will support active and sustainable travel choices and placemaking principles:

- Intervention 1** Development and delivery of Active Freeways
- Intervention 2** Expansion of 20mph zones
- Intervention 3** Influencing travel choices

7.3.1. Intervention 1 – Development and delivery of Active Freeways

‘Active Freeways’ are high quality arterial active travel corridors providing sustainable transport infrastructure between settlements and major trip attractors. In towns and cities worldwide, the implementation of high-quality segregated networks of routes for people walking, cycling and wheeling has been a key component in promoting healthy, sustainable and inclusive travel choices. The Active Freeways programme would build on the Sustrans Scotland’s Places for Everyone Programme to bring these benefits to some or all of Scotland’s cities and towns.

Active Freeways would connect centres of activity to outlying neighbourhoods, and to other major trip attractors in our cities and towns. It is recommended that these focus on high-demand travel corridors and on improving connections to communities for which transport exclusion is currently prevalent. Improved local connections from the main Active Freeway routes would ensure that people are able to access them from their homes, schools, workplaces and other destinations.



This would support delivery of the networks of routes that are already under consideration in many of our towns and integrate with existing active travel networks. It would expand and be complementary to the Places for Everyone Programme to provide direct, high-quality, segregated networks of routes for people travelling actively – whether walking, cycling or wheeling – enabling efficient, swift and safe options for short- and medium-length journeys.

Rationale for Intervention – Transport Scotland has set a strong policy framework for the promotion of active travel, including in its Active Travel Vision, [Active Travel Outcomes Framework](#) and NTS2. Through Places for Everyone funding, it is supporting the development of high-quality segregated cycling and walking routes at locations in Scotland’s towns and cities where local needs and opportunities are identified. The 2020 Programme for Government supported this outcome further, with a commitment of over £500 million of funding for active travel infrastructure and supporting measures over the next five years.

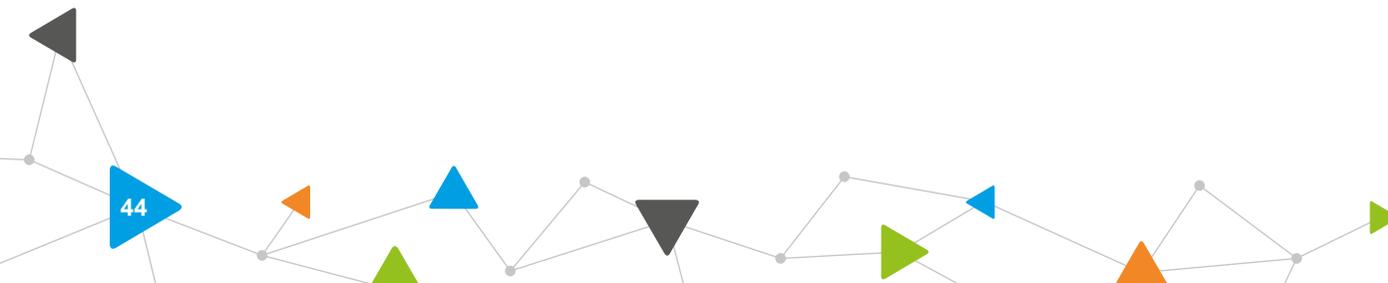
Fear of road danger is the biggest single barrier to increasing active travel rates ([Cycling Scotland, 2019](#)), so this intervention focusses on expanding the provision of high-quality segregated infrastructure in our towns, as an effective means to overcome this barrier.

A desire to improve active travel infrastructure was the clear highest priority of the respondents to the public survey undertaken for STPR2. It accords with the strong policy framework for supporting investment in active travel that has been set both by Transport Scotland (including through the NTS2) and by local and regional transport authorities.

The Active Freeways package would complement and go beyond those prior commitments. It would involve collaboration across various partners in some or all of Scotland’s cities and towns to develop and implement coherent, city-wide networks of high quality, efficient and safe active travel routes, connecting communities with key trip attractors. It would improve facilities for people walking, cycling and wheeling.

7.3.2. Intervention 2 – Expansion of 20mph zones

[Scotland’s Draft Road Safety Framework to 2030](#) is committed to creating a safer, healthier and greener Scotland. The introduction of more 20mph zones and limits would help contribute to these objectives. Reducing traffic speed on our urban roads, would create streets that provide a more equitable balance between different road users, alongside the creation of a safer environment which promotes inclusivity and encourages people to make active travel choices.

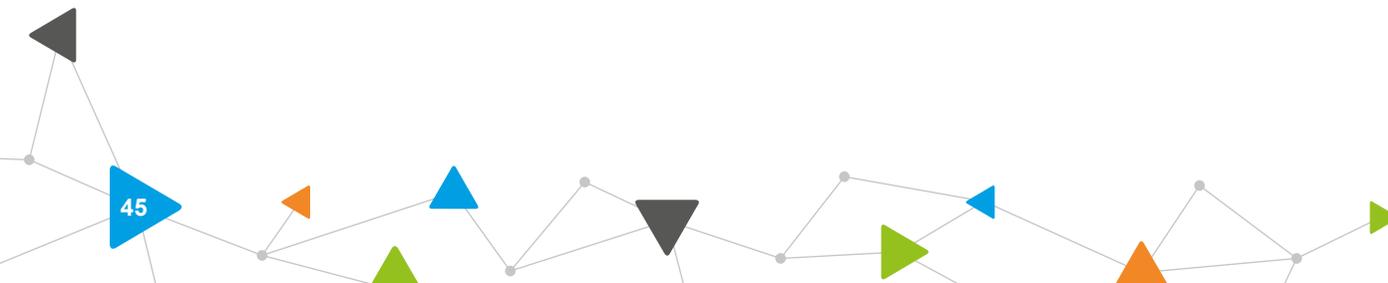


Taking forward the initiatives within the framework would involve a collaborative approach, investing in behaviour change and infrastructure measures focused on the wider roll-out of 20mph zones in urban areas, where appropriate. Within this collaborative framework it is recommended that the following is considered:

- Review of the effectiveness of the measures introduced to date (temporary and permanent);
- Development of a national strategy to guide the implementation of 20mph zones and limits;
- Development of best practice guidance to aid project implementation;
- Supporting local authorities (and other partners where appropriate) to implement 20mph zones and limits on appropriate urban active travel routes for key trip generators e.g. schools and hospitals; and
- Implementation of national Road Safety campaigns and other measure aimed at managing the compliance and to promote better driver behaviour in relation to 20mph zones.

Rationale for Intervention – As set out in Scotland’s Draft Road Safety Framework to 2030 almost half of serious injuries (43%), and 82% of serious pedestrian casualties occur on roads with 30mph limits (typically urban or suburban roads). Furthermore, evidence suggests that accident survival rates are between about [one](#) and [five](#) times higher when a pedestrian is hit by a car driving at 20mph, compared to 30mph. Whilst it is perhaps obvious that pedestrians and cyclists are particularly vulnerable in higher speed impacts, lower speeds also benefit car and vehicle occupant safety.

A number of Scottish Local Authorities have already started to introduce widespread 20mph limits on their roads. Between 2016-2018, City of Edinburgh Council introduced 20mph limits on more than 80% of Edinburgh’s roads – including all residential, shopping and city centre streets. [Recent research](#) has noted that road casualty rates in Edinburgh have fallen since the introduction of the zones, which “*provided compelling evidence that a structural change occurred...which can be associated with introduction of the 20mph speed limit*”.



The expansion of 20mph zones in urban areas would also support the aspirations of Transport Scotland and local authorities by creating an environment more amenable for active travel for all ages. Although the volume of evidence is still light, early indications are that they are welcomed if delivered effectively. As an example, research published by the City of Edinburgh Council has shown that popularity of their 20mph zone scheme has grown with 65% of households² now in support.

By committing to this measure as part of STPR2 Phase 1, it would help support local government in taking forward their ambitions for 20-minute neighbourhoods where people can live, work and learn in communities closer to home. It would also complement the extensive programme of active travel measures being introduced in the next few years.



7.3.3. Intervention 3 – Influencing travel choices

In order to 'lock-in' sustainable COVID-19 travel behaviours and help deliver long term modal shift, a number of interventions being led by Transport Scotland are outlined within Transport Scotland's NTS Delivery Plan under the outcomes, "We will improve the quality and availability of information and software systems to enable all to make more sustainable transport choices" and "We will fund active travel infrastructure projects, and sustainable and active behaviour change work".

Within the context of STPR2 it is recommended that Transport Scotland work with the Scottish Government, existing travel information partners, local authorities and other stakeholders to expand delivery of behaviour change marketing and communications using Travel Demand Management models deployed for major events and during the pandemic, for example:



² 1,200 households surveyed.

- Targeted communication campaigns towards high priority audiences including office workers and those travelling to town and city centres, encouraging sustainable and active travel as and when their travel requirements increase (and it is appropriate for them to do so);
- Campaigns focused on encouraging travelling locally and sustainably within Scotland's communities; and
- Workplace engagement and travel planning by delivering practical support and interventions that enable and encourage people to travel sustainably or reduce the need to travel (e.g. working from home, travel actively) as new work practices emerge.

These measures would complement and support improvements to active and sustainable travel infrastructure that would be brought forward by other STPR2 Phase 1 measures.

Rationale for Intervention – As part of the response to COVID-19, Transport Scotland is continuing to consider the impacts of the pandemic on the transport system and society. NTS2 sets out a vision for a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. While it did not consider the specific COVID-19 challenge, NTS2 and the associated Delivery Plan would continue to provide the guiding principles for long term transport recovery; this measure helps deliver on those principles.

Research carried out by Paths for All on their [Smarter Choices, Smarter Places](#) programme shows that behaviour change funding has a positive impact on active and sustainable travel messaging. The programme saw an increase in the outputs aligned to the outcome 'People's knowledge about sustainable transport choices increases' with a media reach of nearly 23 million across the UK, a 190% increase on the previous year. The report found a significant increase in the number of people 'choosing to walk or cycle for short local journeys', with over 150,000 people reporting that they have made more journeys by foot or bike.

Due to the COVID-19 pandemic and in line with Scottish Government guidance on suppressing the virus, physical distancing measures have been implemented. These measures have reduced the capacity of, and demand for, public transport. Added to this, COVID-19 has seen a dramatic change to the way people work and how they travel to work, with a significant increase in the number of people working from home. ITS Leeds research suggested that homeworking (5 days a week or more) increased between 10 and 20-fold compared to pre lockdown levels. Whilst these levels may alter as restrictions change, workplace travel tools could be implemented to encourage those who want to return to workplaces to do so on a reduced basis and to walk or cycle to workplaces where appropriate to do so.

7.4. Theme: Creating smart and sustainable towns and villages

Packages of sustainable transport improvements to enhance attractiveness and sustainability of our town centres and villages:

- Intervention 4** Transport's contribution towards placemaking principles in neighbourhoods
- Intervention 5** Guidance and framework for delivering mobility hubs

7.4.1. Intervention 4 – Transport's contribution towards placemaking principles in neighbourhoods

This intervention would involve the reallocation of road space away from the private car towards active travel. The creation of a high-quality urban environment can be an effective way of creating better places by enhancing the attractiveness of towns and villages, to the benefit of those that live in, work in and visit them.



It would support place-based investment, including town centre revitalisation and ambitions to develop 20-minute neighbourhoods, collaborating with local authorities and other partners deliver projects to achieve these outcomes. In this regard the interventions could be similar to those outlined in Intervention 7, aimed at reallocating roadspace for active travel.

This investment would support local authorities and other partners deliver projects to achieve these outcomes, using options including:

- Reallocation of road space to better provide for those that walk, wheel or cycle;
- Improved surfacing and cycle parking;
- Removal and/or rationalisation of on-street parking;
- Planters and increased outdoor seating;
- Increased green space and biodiversity; and / or
- The creation of accessible and family-friendly environments, friendly for sustainable modes.

It is recommended that Transport Scotland continues to work across Scottish Government and with other partners to deliver this investment. There is potential to undertake demonstrator projects in towns and villages where there is severance due to a trunk road acting as a barrier to creating a high quality environment for walking, wheeling and cycling for shorter everyday journeys. Elsewhere, implementation would be taken forward in partnership with local authorities who have similar aspirations and are committed to

reallocating road space and parking to allow for a more balanced street environment. Opportunities to contribute to projects identified through the Place Based Investment Programme could also be explored.

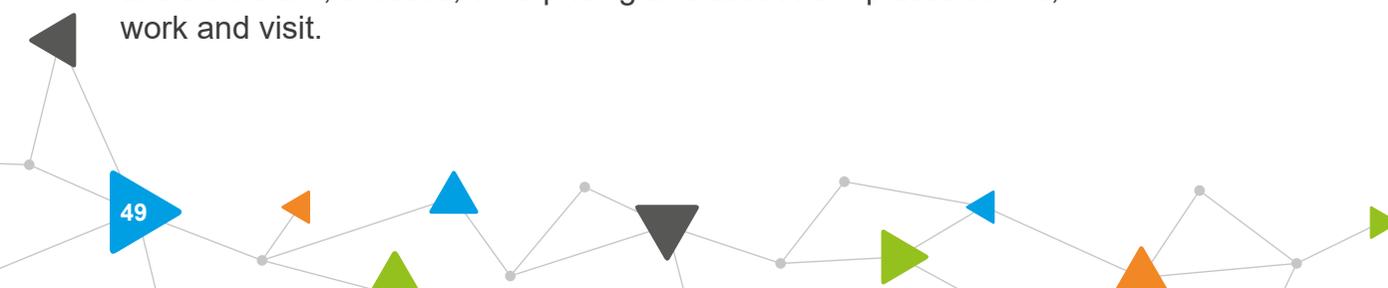
Rationale for Intervention – Transport has an important role to play in promoting the planning and development of healthier, inclusive, sustainable and well-designed places across Scotland. The public realm, including the design, layout and accessibility of our streets and spaces, has an essential role in creating better places. Good quality places will stand the test of time and provide much wider benefits for people’s health, wellbeing, the economy and environment. Being easy to move around is one of the six qualities of successful places, however transport cuts across others. This intervention will support the cross-cutting planning policy on design and place-making. It will also assist in delivering place-based policies to incorporate design considerations that reflect the diverse needs and aspirations of people.

Scotland’s city and town centres were already facing significant challenges prior to the COVID-19 pandemic. Our living and working patterns in recent months have raised further fundamental questions about their future. This intervention can help our town centres to respond to current and future challenges so that they can adapt and be vibrant, creative, enterprising and accessible places to live, work and visit.

7.4.2. Intervention 5 – Guidance and framework for delivering mobility hubs

As outlined in the [UK Mobility Hubs Guidance](#) a mobility hub is “A recognisable place with an offer of different and connected transport modes supplemented with enhanced facilities and information features to both attract and benefit the traveller”. It is recommended that best practice guidance and an appraisal framework for mobility hubs in Scotland is developed in collaboration with stakeholders, building on work developed elsewhere, to facilitate the creation of high quality mobility hubs across Scotland. This would produce outcomes which align with the sustainable travel and investment hierarchies and the NTS2 outcomes.

There is no “one-size fits all” model for the hubs, as the form must take cognisance of the local environment, and existing active travel and public transport provision. As a result, the initial work would involve a review of projects being delivered and development of a Scottish guidance and appraisal framework to provide a coordinated and consistent approach for the delivery of future facilities which contribute to the STPR2 objectives and sustainable travel hierarchy. This framework would allow robust assessment of future funding decisions on mobility hubs and determination of the most appropriate locations and facilities.





Mobility Hubs: Common Components (Source: CoMoUK)

Rationale for Intervention – One of the major barriers to public transport uptake historically has been connectivity and lack of convenient end-to-end travel options. Coupled with the above, there is a strong possibility that the COVID-19 pandemic would result in a change in travel patterns through increased home working, resulting in greater reliance on local facilities.

The creation of high-quality mobility hubs across Scotland will support the priorities of the NTS2 by increasing the attractiveness of public transport by increasing connectivity, improving links between public transport modes, active travel and shared transport options, and promoting seamless travel opportunities, particularly for those without access to a car. There is evidence that that the COVID-19 pandemic will result in a reduction in public transport use, with potentially long-lasting impacts; establishing multi-modal transport hubs could mitigate this by improving connectivity. To ensure the effectiveness of the mobility hubs, guidance and appraisal framework will be developed, building on work developed elsewhere, to facilitate the creation of a number of mobility hubs across Scotland.

7.5. Theme: Improving accessibility in rural, island and peripheral areas and for vulnerable groups

Improved public transport offering where fixed timetable services do not satisfactorily cover the needs of individuals, including consideration of demand responsive travel:

Intervention 6 Investment in Demand Responsive Transport and Mobility as a Service

7.5.1. Intervention 6 – Investment in Demand Responsive Transport and Mobility as a Service

It is recognised that flexible services have traditionally required ongoing revenue support, which does not fall under the remit of STPR2. However, there is the potential for capital funding solutions to help expand public transport provision in rural, island and peripheral areas, with Transport Scotland noting that engagement with Community Transport providers as part of the Mobility as a Service (MaaS) Investment Fund had raised the possibility of public sector capital funding to support electric vehicle purchase.

It is recommended that capital funding should be focused on pilot schemes and demonstration projects that seek to draw on innovative solutions, perhaps supported by MaaS or smart technology where appropriate, or on international best practice in bus service provision. These schemes 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 routing. Measures under this intervention could also be complementary to those outlined in Intervention 11 aimed at improving integration at ferry terminals.

Rationale for Intervention – As set out in NTS2, bus use declined by over 20% between 2007/08 and 2017/18. While NTS2 highlighted the impact that increasing congestion has had in reducing bus patronage, there are marked differences in levels of service provision between and within regions. Indeed, the [2019 Programme for Government](#) raised the issue of regional differences in service provision and the need to enhance Scotland’s connectivity in order to provide inclusive access to jobs and to address isolation and remoteness, with A Connected Scotland highlighting the role that transport can play in addressing these concerns.

NTS2 expanded on this role, emphasising the need to find solutions to regional differences in transport provision, particularly in remote, rural and island communities, but also in low-density suburban areas. This is captured in all four aspects of the Vision for Transport in Scotland, particularly in terms of promoting equality ('fair access to the services we need'), but also in terms of health and wellbeing ('make our communities great places to live') and economy ('get us to where we need to get to').

It is in this context that this intervention has been recommended within Phase 1 of STPR2. Indeed, the need for action has been exacerbated by the COVID-19 pandemic, with reductions in the financial viability of bus services particularly severe in rural, island and peripheral locations. Therefore, actions taken to improve the efficiency of bus service provision by seeking to provide connectivity in a more cost-effective manner would assist with the recovery in bus patronage post-COVID-19.

7.6. Theme: Transforming Cities

Measures that will support active and sustainable travel alongside placemaking principles in Scotland's seven cities to help transform cities and neighbourhood centres:

- Intervention 7** Reallocation of roadspace for active travel
- Intervention 8** Enhancing facilities at major rail stations (Rail Station Redevelopment)
- Intervention 9** Development of Glasgow 'Metro' and Edinburgh Mass Transit strategies

7.6.1. Intervention 7 – Reallocation of roadspace for active travel

Funded by the Scottish Government and managed by Sustrans Scotland, Spaces for People (SfP) is a temporary infrastructure programme which offers funding and support to make it safer for people who choose to walk, cycle or wheel for essential trips and exercise during the COVID-19 pandemic. To date, awards of over £38M have been made, primarily to local authorities.

This measure would support local authorities to make permanent those temporary schemes which have been successful, thereby providing long-term solutions which make it easier and safer for people to move around, whether they are walking, cycling or wheeling.

To be eligible for support through this measure, Spaces for People projects must meet the criteria for Places for Everyone (PfE) funding and local authorities should have gathered evidence and support for making these schemes permanent whilst they are temporary. Feedback on the temporary schemes from local people and local political support will be crucial in determining the schemes appropriate to be made permanent.

Rationale for Intervention – As many temporary Spaces for People schemes across Scotland are already in place, or are planned for the near future, making these permanent (where they are successful) is the next key step in creating a change to the way road space is allocated and supporting active travel. This package to expand and make permanent appropriate Spaces for People initiatives will help strengthen the commitment extended to all local authorities from across Scotland.

Some of the temporary schemes have brought significant benefits to people during the COVID-19 pandemic; bringing opportunities for enhanced physical distancing, increased physical activity and, by enabling more people to visit local shops and services, supporting the economy. Furthermore, walking, cycling or wheeling in the local area helps people feel connected in times of isolation, and can allow communities to discover their neighbourhood. Having these measures in place over the longer term will aid the recovery from COVID-19 and help “lock-in” sustainable travel behaviours to deliver a longer-term modal shift.



7.6.2. Intervention 8 – Enhancing facilities at major rail stations (Rail Station Redevelopment)

Following on from the successful recent upgrade to Glasgow Queen Street Station and the imminent station improvements at Aberdeen,



Motherwell and Stirling, this would involve taking forward the various plans for expansion of facilities at Edinburgh Waverley, Glasgow Central, Inverness and Perth stations. In summary the works to be taken forward are:

- **Edinburgh Waverley Station** – The masterplan proposes to improve city centre spaces for more efficient and effective public use, embracing active travel solutions, and refocusing the performance and operation of the centre of the city. In addition to better performance, enhancements in and around Edinburgh Waverley will enable a more frequent and reliable train service to operate, contributing to sustainable modal shift.
- **Glasgow Central Station** – This would involve a review of existing infrastructure capacity and identification of short-term improvement measures to enable longer and/or more frequent train services.

- **Perth Station** – Track and signalling infrastructure enhancements on the approaches to the stations will support faster journey times and better service performance. This also provides the opportunity, to enhance the station buildings and environs to provide an improved passenger experience (such as wayfinding, accessibility, and integration).
- **Inverness Station** – The works at Inverness would involve developing the station masterplan proposal. The proposal would put the needs of passengers and freight at its heart to create an enhanced station that would integrate with the city centre and facilitate innovative improvement opportunities, business opportunities, and benefits for surrounding areas.

It is recommended that these Station plans are progressed within the current Rail Control Period 6 (2019 - 2024).

Rationale for Intervention – Capacity constraints have been identified by [Network Rail's Scotland Route Study](#) at Glasgow Central, Edinburgh Waverley, Inverness and Perth. In order to support the delivery of the 2043 Indicative Train Service Specification (ITSS), the Scotland Route Study proposes remodelling of all four of the stations within its choices for funders.

Although the COVID-19 pandemic has had a significant impact on rail demand across the country, these masterplan proposals would set the framework for future phases of work at the respective stations to accommodate a return to pre-COVID-19 growth forecasts, and coordinate with regional activity by other strategic partners. They also support connectivity and the economic growth plans of the cities.

7.6.3. Intervention 9 – Development of Glasgow ‘Metro’ and Edinburgh Mass Transit strategies

Glasgow Metro

Glasgow Metro is an umbrella term or brand to describe a new level of public transport provision to serve and improve connectivity within the Glasgow conurbation. This would be focussed on Glasgow and the immediate surrounding areas in East Dunbartonshire, East Renfrewshire, North Lanarkshire, Renfrewshire, South Lanarkshire and West Dunbartonshire. The operating range will be determined on the characteristics of individual lines, but is based on ranges established in a benchmarking exercise. In terms of specific modes this may include one or more of bus rapid transit, tram, light rail and/or metro rail, with the network complementing and being integrated with the bus and heavy rail networks. It may include completely new alignments, reuse of disused former railway alignments and/or the conversion of existing rail alignments to a new mode. It will be targeted at improving connectivity within and across the conurbation; the city and immediate surrounding urban areas, and will augment and be integrated with the bus and rail network.



While corridors are not yet defined, it is envisaged that these would focus on:

- Unserved and underserved areas with relatively poor connectivity;
- Improving access to key hubs such as the city centre, hospitals, major education facilities key employment centres, retail hubs, major leisure/sports facilities; and
- Integrating with major transport hubs such as Glasgow Central and Queen Street railway stations, Glasgow Airport and suburban interchanges.

It is recommended that this intervention is developed within STPR2 Phase 2 and Transport Scotland continue to work with Glasgow City Council, Strathclyde Partnership for Transport and other regional partners on the Strategic Business Case for Glasgow Metro.

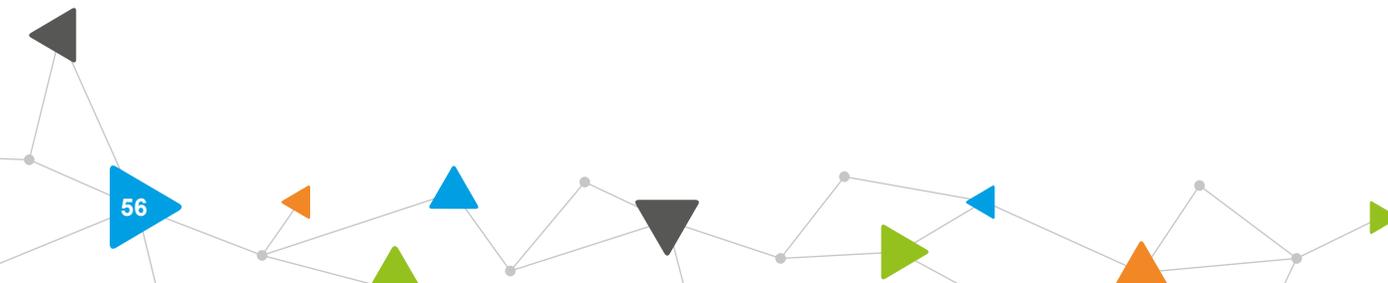
Rationale for Intervention – The Glasgow conurbation is not achieving its economic potential. The incidence of multiple deprivation, health issues and multi-generational unemployment have created a cycle that is becoming embedded and excluding people from achieving their potential and contributing to a flourishing and vibrant place. Climate change creates an urgent need to tackle carbon, but the just transition agenda has particular resonance for Glasgow. There are many solutions covering a wide range of topics that will need to act in concert to deliver change, and transport has a role to play in this.

The West of Scotland has the largest suburban rail network outside of London and, through the ScotRail franchise, operates a heavy-rail system that has been the aspiration of many cities that lacked an effective fixed track public transport network. This network has been critical in delivering commuter flows within the conurbation and particularly to and from Glasgow city centre (34% of people arriving in the city centre do so by rail). The overwhelming majority of this network is based on historical lines developed as part of the conurbation's industrial and spatial heritage. The value of these lines and the services that can operate on them to link within the city region and beyond is significant. However, the high level of rail use for city centre trips is not mirrored in public transport across the city and the conurbation in general. The difficulty in developing and delivering new heavy railway lines to serve more widespread areas and decentralised developments is substantial, and there is a need for a solution that better links areas of employment to areas of housing. Many cities have tackled this through the development of sub-heavy rail fixed route public transport (BRT, tram, light rail, metro); either expanding on existing historical networks or developing completely new (e.g. Copenhagen Metro). The extent of these systems generally aligns with the contiguous urban area of cities, which for Glasgow would include areas of East Dunbartonshire, East Renfrewshire, North Lanarkshire, Renfrewshire, South Lanarkshire and West Dunbartonshire.

Edinburgh Mass Transit

Edinburgh Mass Transit is an enhanced level of public transport provision in the city region, including Bus Rapid Transit (BRT) and Tram. It would complement and integrate with the current bus, tram and heavy rail networks, providing improved connectivity. Currently being led by City of Edinburgh Council through their Edinburgh Strategic Sustainable Transport Study Phase 2 the initial focus is on delivering mass transit connectivity from the north of the city (Granton), through the city centre to the south/east extremities of the city boundary. In addition to physical interventions, the system would be complemented by supporting measures that include integrated and smart digital ticketing and passenger information services.

This project would be further developed and appraised in 2021 and it is recommended Transport Scotland continues to engage closely with City of Edinburgh and regional partners, however in this Phase 1 the focus is on why the Edinburgh region would benefit from mass transit connectivity. Further extension could result in increasing frequency of mass transit services to Edinburgh from neighbouring local authorities, or introducing a south suburban railway within the city and a cross-Forth Light Rail Transit system to Fife.



Rationale for Intervention – The region’s rail network is limited with major commuter flows originating from beyond the city. Edinburgh is therefore heavily reliant on bus and, while the local network is excellent, high levels of passenger demand means that journey times are slow and infrastructure is reaching maximum capacity. Transit has a key role to play in delivering Edinburgh and south east Scotland’s future economic growth and supports the city’s ambition to achieve Carbon Neutral status by 2030. Transit forms a core element of the City Mobility Plan and City Centre Transformation.

The continued land-use growth across the city provides an opportunity to expand the existing network and create a world class Mass Transit system that integrates tram, suburban rail and bus to provide a safe and sustainable transport system that offers highly attractive travel choice between destinations within the city and satellite locations. Furthermore, a transport system that encourages a mode shift away from the private car is therefore a critical priority of the transport network in order to cater for increasing demand for travel in a sustainable manner, not only within the city but for cross boundary movements to/ from the city.



7.7. Theme: Enhancing public transport provision

A range of measures to improve the accessibility and reliability of public transport and stimulate a sustainable recovery post COVID-19:

- Intervention 10** Reallocation of roadspace for buses
- Intervention 11** Supporting integrated journeys at ferry terminals
- Intervention 12** Infrastructure to provide access for all at rail stations

7.7.1. Intervention 10 - Reallocation of roadspace for buses

During 2020 Transport Scotland established the Bus Priority Rapid Deployment Fund (BPRDF) to provide support to local authorities in developing interventions targeted at providing additional priority for buses, particularly within our cities and larger towns. These included measures for reallocating road space, introduction of bus gates and operational enhancements. Going forward the Bus Partnership Fund will support local authorities, in partnership with bus operators, to tackle the negative impact of congestion on bus services so that bus journeys are quicker and more reliable – encouraging more people to travel by bus.

Based on evidence of existing conditions for bus users, Transport Scotland is also progressing reallocation of road space on the motorway network through Glasgow, as committed within the Programme for Government in 2019. A number of measures are being considered in detail on the M8 through Glasgow and the M77 and M80 approaches to Glasgow, which is understood to report early in 2021.

It is recommended that Transport Scotland continue with this commitment to incorporate the introduction of bus priority measures at identified locations on the trunk road network, including interventions to



improve access from the local road network onto the motorway (e.g. ramp metering or Merge-in-Turn), as well as measures on the mainline to improve conditions for buses (e.g. the use of hard shoulders, or variable speed limits). The next phase of appraisal would focus on the M8 approach to Edinburgh and the A720 Edinburgh City Bypass, building on existing bus priority for cross-Forth travel, the forthcoming CAVForth, the Forth Road Bridge Public Transport Strategy and the aspirations of City of Edinburgh

Council for West Edinburgh. Also, it is recommended that where local authorities come forward with schemes through the Bus Partnership Fund, Transport Scotland support those with measures on the motorway and trunk road network.

Rationale for Intervention – As outlined in the National Transport Strategy (NTS2), bus use declined by over 20% between 2007/08 and 2017/18. This decline has been particularly apparent in the Glasgow City Region. Furthermore, analysis carried out by KPMG indicated that of the c27m reduction in bus patronage between 2011/12 and 2015/16, c18m was likely to be a result of increasing car ownership and increasing bus journey times. This indicates a need to rebalance the attractiveness of travel by bus relative to travel by car if the net zero target is to be met.

Congestion has been increasing in the larger urban areas, with worse than average congestion (measured on the basis of vehicle kilometres per kilometre of road) experienced in eight of Glasgow City Region's authorities (particularly North Lanarkshire, Glasgow City, Renfrewshire, West Dunbartonshire, East Renfrewshire and Inverclyde), five of Edinburgh and the South East's authorities (particularly City of Edinburgh and West Lothian), three each of Forth Valley's and Tay Cities' authorities (particularly Falkirk and Dundee City respectively), and in Aberdeen City.

As set out in the 2019 Programme for Government transport is Scotland's largest greenhouse gas emitting sector, with the Scottish Government aiming to 'bring forward a step change in investment to make bus services greener and more punctual and reliable, so that more people make the choice to take the bus'. This aligns with the National Transport Strategy's vision on how transport can help the economy prosper ('reliable, efficient and high quality' and 'get us where we need to get to') and can take climate action ('promote greener, cleaner choices' and 'help deliver our net zero target').

It is in this context that recommendation has been included within Phase 1 of STPR2. Indeed, the need for action has been exacerbated by the COVID-19 pandemic, as travel by bus – and confidence in the safety of travel by bus – have declined, materially impacting on the ability of the mode to contribute to the net zero target. Bus priority measures would increase the attractiveness of bus as a mode of transport, assisting with the recovery in bus patronage post-COVID-19.

7.7.2. Intervention 11 - Supporting integrated journeys at ferry terminals

Engagement undertaken as part of STPR2, supplemented with analysis of public transport integration opportunities at ferry terminals across the country, has highlighted the need for improved integration of ferries with other forms of public transport and active modes. This intervention would involve undertaking a detailed review of key ferry terminals to consider physical integration, timetabling, signing, ticketing and other facilities required to deliver a seamless service. The review will then recommend a programme of integration improvements to enhance the traveller experience.

As many of the ferry terminals are in rural locations, this intervention should be considered in parallel with some of the measures that will be taken forward under Intervention 6 looking at the opportunities for DRT and MaaS to improve access to public transport services.

Rationale for Intervention – One of the major barriers to public transport uptake historically has been connectivity and lack of convenient end-to-end travel options. Establishing further transport integration across modes at key ferry terminals will benefit rural and island communities and visitors alike. This would enhance the interchange facilities for all trips, but especially longer distance trips, providing more seamless travel choices, improving services for those not travelling with a car and supporting the improved use of existing ferry capacity, in line with the sustainable investment hierarchy.

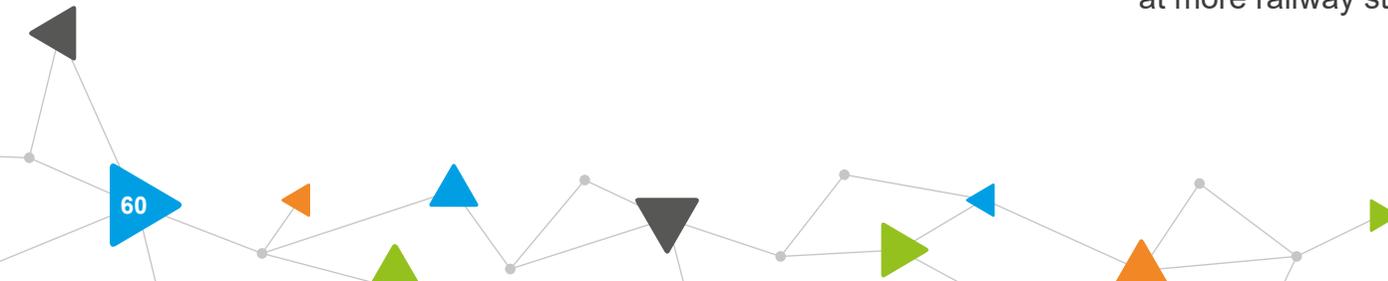
7.7.3. Intervention 12 - Infrastructure to provide access for all at rail stations

This intervention involves a review of station accessibility across Scotland to identify and remove barriers to travel and improve access for all to Scotland's rail network. While the initial work would focus on reviewing those stations that have particular accessibility problems, it is anticipated that some projects could be accelerated for delivery during 2021-2024. Work would also be progressed on identifying and trialling new technological solutions to improve the safety and accessibility of users with reduced mobility at stations, as well as identifying opportunities to improve integrated journeys at stations i.e. by reviewing onward accessibility particularly by bus and taxi.

It is also recommended that the current study 'Scotland's Railway – Parking and Station Connectivity' looks to ensure that an investment in provision and management of parking within the railway estate and multi-modal connectivity to and from stations are aligned with prevailing policy outcomes.

Rationale for Intervention – This intervention responds to the impetus provided by the NTS2, which prioritises efforts to reduce inequalities through delivering an inclusive transport system that “will provide fair access to services we need” and “will be easy to use for all”. The NTS2 recognises that people have different needs and capabilities and it is important that transport operators and bodies ensure that everyone can use the transport system with as few barriers as possible, as targeted through this intervention. Measures to improve the accessibility of rail stations can also encourage greater use and mode shift to rail, which will further support Scotland's net zero ambitions.

The Equality Act 2010 legally protects people from discrimination in wider society, and in a transport context paved the way for a number of inclusive access strategies. At a UK level, the [DfT's Inclusive Access Strategy](#) identifies the need for more rail journeys to be facilitated through step-free routes and for all passenger trains to be accessible; included in the Plan is the target to, by 2030, provide equal access for disabled people using the transport system (mainly road and rail). [Scotland's Accessible Travel Framework](#) is the first ever Travel Framework co-produced with disabled people in Scotland and outlines a range of issues raised by disabled people with Transport Scotland and the Convention of Scottish Local Authorities (COSLA), including the need to improve accessibility at more railway stations.



7.8. Theme: Supporting transition to low-carbon transport

Intervention 13 Investment in low carbon and alternative fuel systems

Intervention 14 Delivery of Rail Decarbonisation Programme (Phase 1)

7.8.1. Intervention 13 – Investment in low carbon and alternative fuel systems

The Scottish Government is committed to supporting the transition to Zero and Ultra Low Emission Vehicles (ULEVs) as detailed in the PfG; this includes the expansion of the electric charging infrastructure across rural, urban and domestic settings and strategic development of hydrogen infrastructure.

The PfG highlights the key role that ULEVs will play in reducing greenhouse gas emissions and improving air quality; bringing benefits to drivers, communities and the wider environment and economy.



It is recommended that the following actions are taken forward to accelerate the zero carbon transport transition:

- Supporting and introducing new models of financing and delivery, that support improvements in reliability, accessibility and availability of Electric Vehicle (EV) chargers as the market for EV grows – increasing the coverage and increasing the awareness of the network; and
- Accelerating the shift to zero emission mobility by collaborating across the public and private sectors to support and enable investment in fleets, infrastructure and technologies.

Rationale for Intervention – In passing the [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#) the Government enshrined into law a commitment to achieve net zero emissions by 2045. In 2018 transport accounted for 36.5% of Scotland's total greenhouse gas emissions highlighting the crucial role low carbon transport will play in achieving the aim of net zero by 2045. Achieving this target provides opportunities to support jobs and inward investment to Scotland, and economic gain can be achieved from Scotland being an early-mover.

There is also an opportunity to encourage more active and public transport, which will have positive impacts on the environment, as well as our health and wellbeing.

7.8.2. Intervention 14 – Delivery of Rail Decarbonisation Programme (Phase 1)

Transport Scotland's [Rail Services Decarbonisation Action Plan \(DAP\)](#) published in July 2020 focusses on decarbonising transport through modal shift to rail, and decarbonising rail traction energy through the removal of diesel passenger trains from the Scottish network by 2035. Diesel trains are the largest contributor to rail's annual emissions and if rail is to become a zero-emissions transport mode, diesel must be removed and replaced with other technologies. From a freight perspective, electrification would enable longer, heavier and faster freight trains at lower operating costs per tonne carried. Higher speed freight provides network capacity benefits, making it easier to provide regular, robust paths in the timetable for freight to run between passenger services, as well as passenger service journey time improvements, and lower performance risks across the rail network.

Progress is already underway to decarbonise the East Kilbride and Barrhead routes, as part of the first phase of delivery against the DAP, the remainder of Phase 1 of the DAP includes Borders Line and Fife Circle (Leven) decarbonisation.

These routes have largely been selected as a first phase due to their strong alignment with the rolling stock strategy to replace Class 156 fleets (will become life expired around 2025) and the efficiency this drives. New electric trains will reduce maintenance/ other operational costs, drive more efficient fleet use and produce greater emissions reductions. Introduction of new vehicles can also be phased as rail demand changes to support wider transport decarbonisation aspirations.



Rationale for Intervention – Rail traction is the single biggest source of rail carbon emissions; and the part of the rail industry where the most significant opportunity to achieve carbon net zero, with the least cumulative emitted carbon, is by taking the outlined action as set out in the Rail Services Decarbonisation Action Plan. In addition to contributing to net zero targets, decarbonising the country’s rail network could help contribute to a green economic recovery following the COVID-19 health pandemic through the development and growth of sustainable sectors involving green technology, most notably through battery and hydrogen traction energy sources.

As part of the route map to implement alternative fuel technologies, those routes which at present are not planned to be electrified offer significant opportunities for the development of new ‘green jobs’ as part of their associated supply chains, most notably for Battery and Hydrogen traction energy sources. Early decarbonisation would also enhance and protect the attractiveness for freight investors and organisations operating in Scotland.

It is in this context that this option has been promoted for taking forward as part of STPR2 Phase 1, with pilots of alternative traction technologies and a committed smoothed electrification programme providing an opportunity to develop Scotland’s capability in this area, supporting modal shift of both passengers and freight to rail, net zero carbon emission targets, and aiding a green economic recovery following the COVID-19 pandemic.

7.9. Theme: Supporting a viable freight industry

Measures to improve conditions for the freight and haulage industry to deliver a modal shift:

Intervention 15 Strategy for improving rest and welfare facilities for hauliers

Intervention 16 Infrastructure to encourage rail freight

7.9.1. Intervention 15 - Strategy for improving rest and welfare facilities for hauliers

A review of [Traffic Scotland’s Freight Info website page](#) shows 35 lorry parks, of which 14 are located on motorways. Even allowing for some additional facilities that are not featured on the website, for a country the size of Scotland this is a small number of rest facilities. It is therefore recommended that an audit of lorry parks and rest areas within 5kms of the trunk road network in Scotland is carried out. When undertaking the baseline review of lorry parking facilities on/ near the trunk road network this would be extended to make sure key strategic routes to rail freight terminals, major ports and airports and national development sites are included.

In addition to a physical audit, it is recommended the review is supplemented through consultation with freight industry representative bodies, Local Authorities and other stakeholders to collect views on the provision of lorry parks. The consultation would assist in gaining views on where and what type of facilities are required. The audit 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.

Rationale for Intervention – It is recognised that there is a relationship between tiredness, fatigue, levels of concentration and accidents. The transport industry operates on low margins and long hours. The European Union recognised the need to regulate the length of time that commercial vehicle drivers worked and introduced the Drivers' Hours Rules. They were revised and the current drivers' working hours are regulated by EU regulation (EC) No 561/2006 which entered into force on 11 April 2007 and still apply in the UK following Brexit.

The provision of adequate lorry parking facilities provides a vital service that supports the national and international road freight operations, which help facilitate the Scottish Economy and its growth. Lorry parks provide a number of key benefits to help to ensure road safety, preserve local amenity, reduce opportunities for crime and address the general needs of HGV driver working conditions. As supply chains are national / international it is critical that there is national oversight of the support for this service provision, which helps to create an environment that reduces the current barriers



hampering development, financial stability and adequate standards for these facilities.

There have been impacts on trade to / from the European Union and Northern Ireland following EU Exit. This has meant changes in the haulage sector and especially the prospect of unforeseen extra delays at border crossings to the European Union and Northern Ireland. We also know that during COVID-19, demand for online shopping increased dramatically, increasing demand for movement of goods.

7.9.2. Intervention 16 – Infrastructure to encourage rail freight

This intervention would assist in delivering the requirement as set out by Scottish Ministers in the [Scottish High Level Output Specification \(HLOS\)](#) and set out in the [Office of Road and Rail 2018 Periodic Review: Final Determination](#) which requires a 7.5% growth in rail freight traffic carried on the Scottish rail network by 31 March 2024.

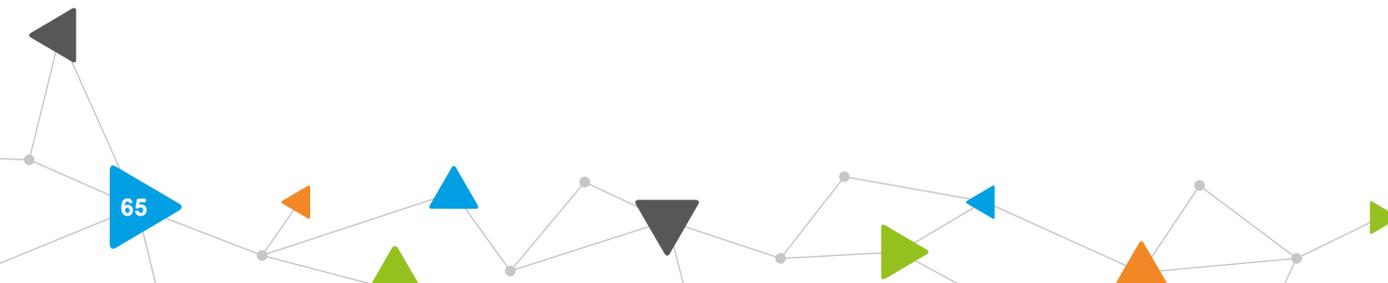
A survey and analysis of the core Scottish rail freight network capability was initiated in 2017 to identify which structures would require additional clearance to be created in order to efficiently accommodate larger intermodal container traffic. This survey and analysis work has made recommendations on which structures should be adjusted on a route-by-route basis.

It is recommended that a number of small-scale gauge improvements is undertaken within Phase 1 of the STPR2, with longer-term gauge improvements being appraised in Phase 2 to cover an optimal freight / electrification composite gauge programme as a key contributor to decarbonising Scotland's Railway through increased electric traction and an increased proportion of freight being carried in Scotland by rail.

The Phase 1 recommendations cover two specific elements of the work:

- The implementation of gauge clearance work on the shortlist of key structures on the Glasgow & South Western (G&SW) and Annbank routes; and
- Undertake analysis of the survey data outlined above to identify future works required on the West Coast Main Line, routes within Central Scotland and to the freight termini at Aberdeen / Inverness / Fife.

Rationale for Intervention – The Scottish Government's vision documented in its [2016 Rail Freight Strategy](#) is for a competitive, sustainable rail freight sector playing an increasing role in Scotland's economic growth by providing a safer, greener and more efficient way of transporting products and materials. Per tonne of cargo moved, rail freight produces 76% less carbon dioxide, emits less than one tenth of the nitrogen oxide and fine particulates of road haulage. A shift from road freight to rail, where this is viable, can help the Scottish Government meet its commitment to tackling climate change. Subsequently the [Scottish Joint Freight Board Industry Growth Plan in 2019](#) sets out the requirements of a Scottish Strategic Freight Network.



Freight carried on the Scottish rail network has undergone major change over the last few years, with a move away from the transport of coal to power stations towards a large growth in intermodal freight to and from the major markets and international ports in other parts of the UK. Growth in intermodal freight traffic being carried by rail is being hampered by the restricted loading gauge on parts of the Scottish rail network, which limits the ability for rail to carry the larger intermodal containers, which acts as a barrier to realising additional modal shift from road to rail.

This intervention would enable a greater share of the forecast freight demand throughout Scotland to be carried by rail through increasing the amount of the Scottish rail freight network that has the loading gauge required to accommodate these larger containers and swapbody equipment.



7.10. Theme: Enhancing safety and resilience on the strategic transport network

Package of measures on the strategic transport network focusing on improving safety and resilience:

- Intervention 17** Investment in the trunk road network asset
- Intervention 18** Access to Argyll and Bute (A83)
- Intervention 19** Investment in ferries and ports
- Intervention 20** Speed Management Plan

7.10.1. Intervention 17 – Investment in the strategic road network asset

Following inclusion of increased funding for asset management in the draft Infrastructure Investment Plan, this recommendation aims to make the case for that investment in renewing and improving Trunk Road Carriageways, Structures and Ancillary Assets.

The measures would include maintenance and minor improvement programmes for Trunk Road Carriageways, Structures and Ancillary Assets. The increased investment will bring a number of benefits: safety, economic benefits, jobs, connectivity, resilience, reliable journey times and customer satisfaction. A high quality, well maintained and efficient network also supports other Scottish government programmes for Active Travel, development of

Connected and Autonomous Vehicle infrastructure and Bus Priority Investment, and thereby contributes to the low carbon economy.

The programme would also include schemes being developed for the Removal of Accessibility Barriers (e.g. tactile paving, dropped kerbs, bus shelter and bus stop improvements, improved footway widths and crossfall) to assist pedestrian and wheeling access on the trunk road pedestrian network and for access to public transport, supporting equality.



Rationale for Intervention – The sustainable transport investment hierarchy set out in the NTS2 and being actively applied on STPR2, has been mirrored and expanded upon within the 2020 Draft Infrastructure Investment Plan for Scotland, through a new Scottish Government-wide infrastructure investment hierarchy. A key focus from this would be to protect the environment by considering how to enhance and repurpose what we already have before building new infrastructure. To support this, it is proposed by the Scottish Government to double investment in maintenance over the next five years to address backlogs by undertaking maintenance and asset enhancement. It is in this context, that Trunk Road Safety and Resilience is a key recommendation within Phase 1 of STPR2.

As reported in the [2016 Road Asset Management Plan for Scottish Trunk Roads](#), it was estimated by Transport Scotland's strategic financial models that £666 million (excluding inflation and allowance for the improvement of skid resistance and a reduction in maintenance backlog) would be needed to maintain 87% of carriageways in their current condition over the following 10 years. The impact of insufficient maintenance expenditure, Climate Change and traffic conditions means that the Trunk Road Network (TRN) is becoming more vulnerable to disruption. Disruption on the Trunk Road Network can have significant economic and social impacts through reduced connectivity, longer journey times and social isolation.

Public satisfaction in the quality of the TRN has been found to decrease in recent years as shown in the 2018 customer survey which found that 56% of road users considered that the condition of the TRN road surface worsened in the two years prior. Furthermore, 92% of users said they 'always', 'usually' or 'sometimes' encounter defects which they consider to be unsafe.

7.10.2. Intervention 18 – Access to Argyll and Bute (A83)

The A83 is one of only two strategic trunk road network connections between Argyll and Bute and the central belt and is therefore a vital artery running through Argyll, linking Mid-Argyll, Cowal and Kintyre with the rest of the country. Accidents or incidents (e.g. roadworks, landslides, flooding) occurring on any part of the A83 in Argyll & Bute means that for periods of time there is no continuous strategic road in the region, connecting it to the rest of the country. The lack of suitable alternative travel options and / or competitive routes when there is disruption on the transport network, can have a significant impact on residents, businesses and visitors when it occurs.

The proposed improvements to the network are to improve resilience for strategic traffic currently using the A83 and would consist of new or improved road infrastructure providing more resilient connection to the Kintyre/Cowal peninsulas. A Preliminary Assessment of 11 corridor options is being undertaken, following the announcement by the Cabinet Secretary at the A83 Taskforce meeting in August 2020, that a long-term solution to the problems of landslides at the A83 Rest & Be Thankful is being taken forward.

Rationale for Intervention – It is clear that the road network within the region plays a vital role in supporting local economy, facilitating the movement of goods and services throughout the area and connecting people with economic opportunities. It is also clear that closures of the A83 Rest & Be Thankful due to landslides has a significant impact on the access to the region. In such instances, closure can add up to approximately 50 miles for road users. Closures can have a more severe impact on residents who want to make shorter journeys from one side of the A83 Rest & Be Thankful to the other (such as Inveraray residents wanting to access services in Dumbarton or Helensburgh).



Considerable investment has been made in recent years to address the problem, including the installation of catch-pits and the upgrading of the 'Old Military Road', although it is not always feasible to open this road due to safety concerns. Despite fencing and catch-pits being installed, substantially reducing the numbers of days closed, closures continue, occurring in 2019 and more in 2020, at a location where there had not previously (in recent times) occurred and where no mitigation is in place. This has led to 'pro-active' closure and activation of the Old Military Road route during periods of substantial rainfall in the latter part of 2020. The likelihood of landslides is generally thought to increase in frequency as a result of changing weather patterns, with increasing uncertainty over locations. Therefore, a longer-term solution to remove the threat of potential serious injury or loss of life to road users due to landslides is considered to be a priority.

Argyll & Bute has a decreasing and ageing population. Outward migration is being driven by a combination of older individuals leaving to be nearer their families, health facilities or into care; and younger people moving out of the region to pursue higher education and employment opportunities. A policy review highlighted a strong emphasis on attracting additional skills, training & learning opportunities, new residents, visitors & businesses; along with aspirations to grow the economy by making more of its natural and built resources and in connecting high value business sectors with national and international markets.

7.10.3. Intervention 19 – Investment in ferries and ports

This package includes the production and maintenance of a long-term plan and investment programme for new ferries and development at ports. The long-term plan would help address and improve resilience, reliability, capacity, accessibility, increase standardisation, and reduce emissions across the Clyde and Hebrides ferry service (CHFS) and Northern Isles ferry service (NIFS) network, to meet the needs of island communities. This measure was identified in the draft Infrastructure Investment Plan (IIP) for Scotland 2021-22 to 2025-26 and is supported by investment of at least £580 million during the next five years.



Updated plans, outlining the future make-up of the ferry fleet serving the Clyde and Hebrides ferry service network, were last published in January 2018. The Vessel Replacement and Deployment Plan (VRDP) gives an overview of how existing, planned and prospective

vessels could be deployed across the CHFS network. An updated VRDP for consultation is in draft for the CHFS network and it is planned to commence a similar exercise for NIFS in 2021 to inform consideration of future vessel and port/harbour investments.

Rationale for Intervention – The challenges facing island communities have been clearly set out in both the National Transport Strategy and National Islands Plan. The baseline work on island connectivity that is progressing as part of STPR2 has also highlighted a range of issues currently facing Scotland’s island (and remote) communities that will be addressed by this plan

The further increase in the interoperability of ferries across the CHFS network would allow for a more coordinated approach to vessel redeployment during adverse weather conditions or when vessels are taken out of service for maintenance or repair. The average age of vessels operated in the CHFS network is 22 years, whilst the average age of vessels operated in the NIFS network is 20 years.

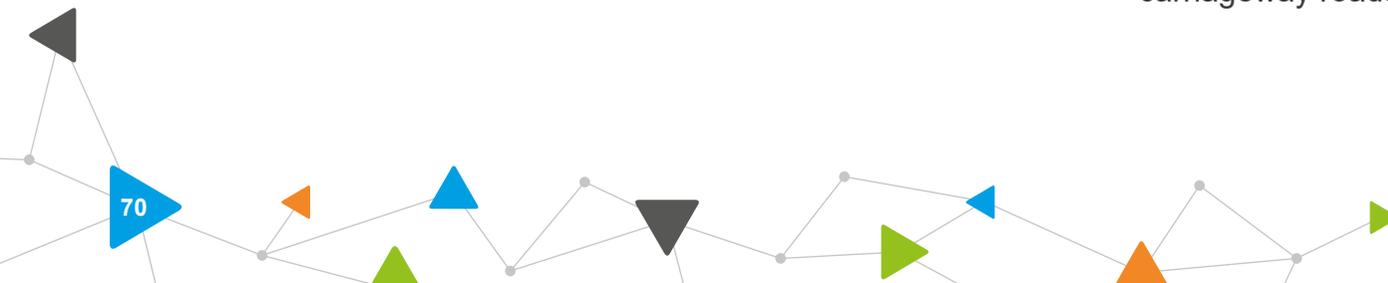
The production and maintenance of a long-term plan and investment programme for new ferries and development at ports will ensure synergy with the National Islands Plan which commits to this long-term plan to give confidence to island communities on Scottish Government’s ongoing commitment.

7.10.4. Intervention 20 – Speed Management Plan

During 2020, Transport Scotland published The Road Safety Framework to 2030 for consultation, with a vision to have the best road safety performance in the world by 2030. The framework is based on the Safe System, where safe speeds is one of the five pillars. To help implement this, it is recommended that a review is undertaken led by Transport Scotland to establish appropriate speed limits across the urban and rural roads network.

The speed management plan should look at a range of measures such as speed management on motorways, speed limits through roadworks, speed limits through rural settlements on the trunk road network and reducing speed limits in residential areas. A reduction in speed limits is not considered enough to have a significant impact on driver behaviour, therefore the package of measures could also include programmes to educate drivers on the importance of driving to the road conditions and not exceeding the speed limit. Depending on the extent to which speed limits may be changed, significant changes could be required to the engineering, enforcement and education framework and the resources necessary to support these.

This intervention should include a specific review of the national speed limit of HGVs over 7.5 tonnes on the trunk road network, increasing the speed limit from 40mph to 50mph on single carriageway roads and 50mph to 60mph on dual carriageway roads.



Rationale for Intervention – Scotland’s Road Safety Framework to 2030 was published for consultation in September 2020, with targets to significantly reduce the number of people killed or serious injured in road traffic accidents by at least 50% by 2030. The framework is based on the Safe System, which consists of five key pillars aimed at mitigating against human error, one of which is safe speeds. To achieve this, the Safe System states that speed limits should be based on aiding crash-avoidance and reducing the speed at which impacts occur, aiming to establish the appropriate speed limits according to the features of the road, function it serves and physical tolerance of those who use it. As the Safe System is likely to be introduced, a review should be undertaken to determine the most appropriate speed limit for each road type within Scotland.

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 sets targets to reduce Scotland’s emission of all greenhouse gases to net zero by 2045 at the latest, with interim targets of 75% by 2030 and 90% by 2040. Approximately 20% of greenhouse gases omitted in Scotland are attributed to road transport. A speed limit review could therefore help to meet these targets, with [evidence](#) suggesting that driving at 55mph instead of 65mph can reduce fuel consumption by 10% – 15%. Reducing speed limits in urban areas can also improve the sense of place and encourage active travel, which again should reduce greenhouse gas emissions.

7.11. Intervention Status

The recommended Phase 1 interventions presented in this report can be allocated to the respective categories with Transport Scotland’s Sustainable Investment Hierarchy as outlined in the NTS2 (Figure 13). This highlights the strong emphasis on the first two elements of the hierarchy within the first phase of STPR2.

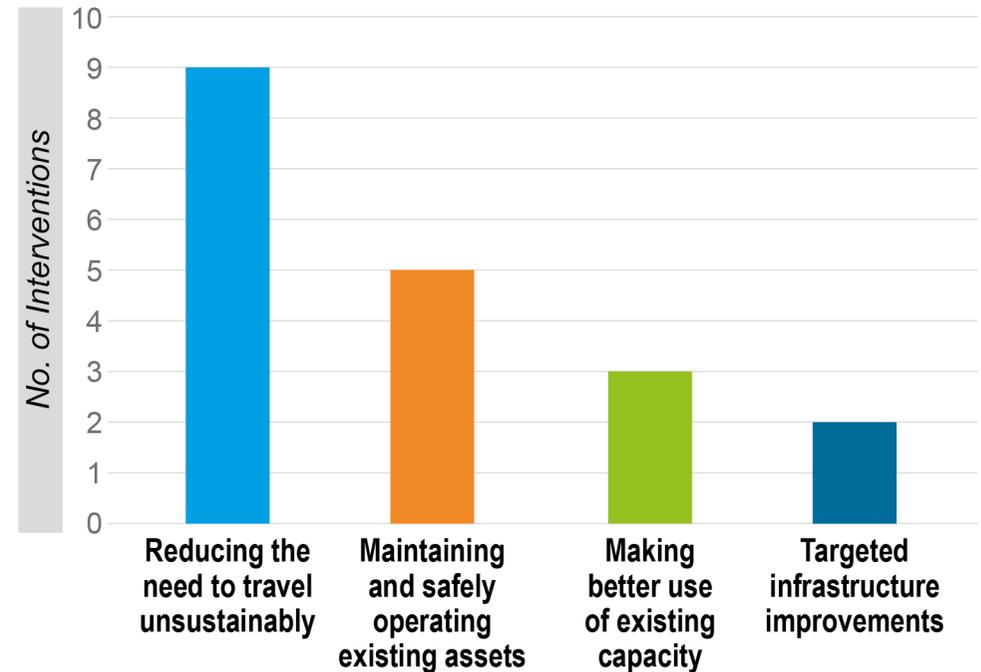


Figure 13 – Phase 1 Recommendations by Sustainable Investment Hierarchy

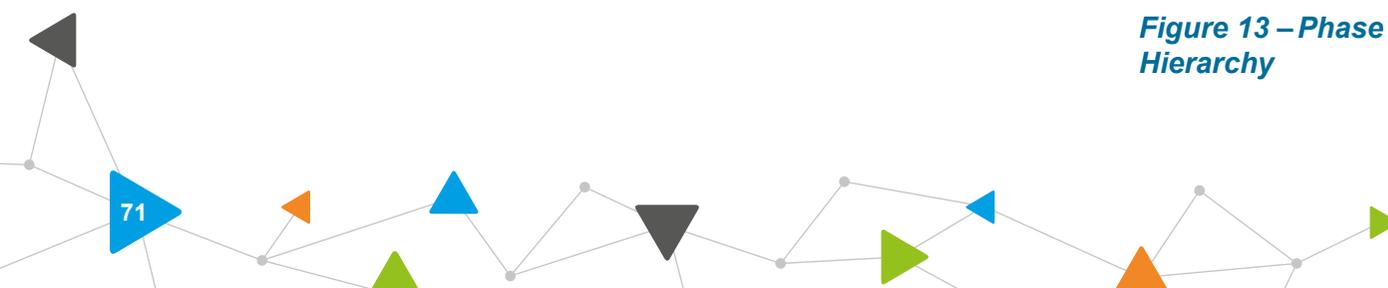


Table 2 following represents the status of the recommended Phase 1 interventions, at the time of publication.

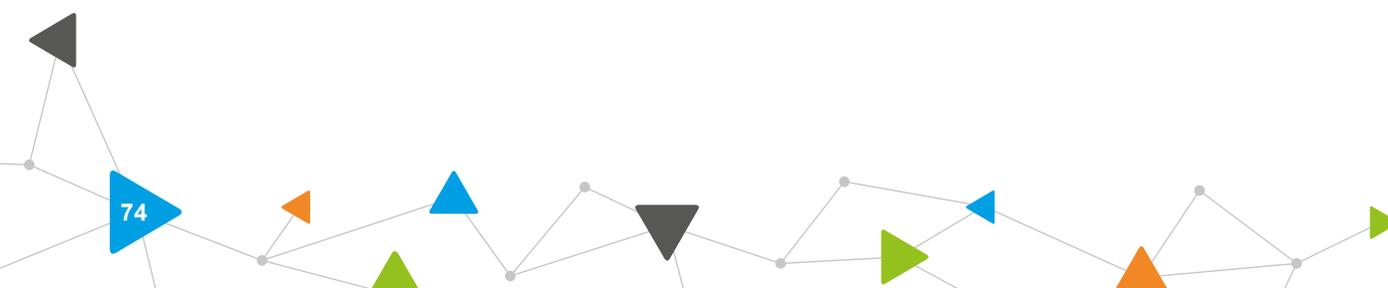
Table 2 – Intervention Status

In Development			
No.	Intervention Name	Sustainable Investment Hierarchy	Status
1	Development and delivery of Active Freeways	Reducing the need to travel unsustainably	Appraisal methodology to be developed, to support this investment. It will be used to identify appropriate locations for the first tranche of investment, secured through the Low Carbon Fund.
10	Reallocation of roadspace for buses	Reducing the need to travel unsustainably	Bus Partnership Fund has been launched, Transport Scotland progressing work on Glasgow Motorways project and appraisal of potential interventions around Edinburgh to be undertaken, building on current plans in that area.
9	Development of Glasgow 'Metro' & Edinburgh Mass Transit strategies	Targeted infrastructure improvements	Appraisal and business case work for Glasgow Metro to continue through STPR2 Phase 2. In addition, Transport Scotland will continue to work with Glasgow City Council's Metro Feasibility Project and City of Edinburgh Council's Mass Transit extension plans.
16	Infrastructure to encourage rail freight	Making better use of existing capacity	This work is being undertaken by Scotland's Railway as part of Rail Enhancements in Control Period 6 and beyond.
8	Enhancing major rail stations (Rail Station Redevelopment)	Making better use of existing capacity	This work is being undertaken by Scotland's Railway as part of Rail Enhancements in Control Period 6 and beyond.

Scoping

No.	Intervention Name	Sustainable Investment Hierarchy	Status
3	Influencing travel choices	Reducing the need to travel unsustainably	Transport Scotland to scope out how this would be delivered on an on-going basis, during COVID-19 recovery and on a permanent basis to support achievement of NTS2 outcomes.
11	Supporting integrated journeys at ferry terminals	Reducing the need to travel unsustainably	Transport Scotland to scope out a study to identify locations, options for intervention and develop business cases for investment.
12	Infrastructure to provide access for all at rail stations	Making better use of existing capacity	Transport Scotland to scope out with Scotland's Railway partners, a study to identify locations, options for intervention and develop business cases for investment.
15	Strategy for improving rest and welfare facilities for hauliers	Maintaining and safely operating our asset	Transport Scotland to scope out a study to undertake baseline review, identify locations, options for intervention, consultation and develop business cases for investment.
20	Speed Management Plan	Maintaining and safely operating our asset	Transport Scotland will undertake a review to establish appropriate speed limits across the urban and rural roads network, including different vehicle types. The speed management plan should look at a range of measures such as speed management on motorways, speed limits through roadworks, speed limits through rural settlements on the trunk road network and reducing speed limits in residential areas.
19	Investment in ferries & ports	Targeted infrastructure improvements	Transport Scotland will produce and maintain a long-term plan and investment programme for new ferries and development at ports.

Design Development and Statutory Processes			
No.	Intervention Name	Sustainable Investment Heirarchy	Status
14	Delivery of Rail Decarbonisation Programme (Phase 1)	Making better use of existing capacity	This work is being undertaken by Scotland's Railway as part of Rail Enhancements in Control Period 6.
18	Access to Argyll and Bute (A83)	Maintaining and safely operating our asset	Transport Scotland will identify a preferred corridor in Spring 2021 and thereafter proceed with subsequent stages of design and assessment followed by the statutory process.



In delivery with potential to 'go further'

No.	Intervention Name	Sustainable Investment Hierarchy	Status
7	Reallocation of roadspace for active travel	Reducing the need to travel unsustainably	Transport Scotland and Sustrans Scotland will support local authorities to make permanent those temporary schemes which have been successful, thereby providing long-term solutions which make it easier and safer for people to move around, whether they are walking, cycling or wheeling - through existing Places for Everyone fund.
6	Investment in Demand Responsive Transport and Mobility as a Service	Reducing the need to travel unsustainably	Transport Scotland will continue with their pilots and demonstration projects that seek to draw on innovative solutions, perhaps supported by MaaS or smart technology where appropriate, or on international best practice in bus service provision.
13	Investment in low carbon and alternative fuel transport systems	Reducing the need to travel unsustainably	Transport Scotland will consider expansion of the Electric Vehicle (EV) charging network – increasing the coverage and increasing the awareness of the network. Also, accelerating the shift to low emission technologies - investigate ways of working with the private sector to encourage greater investment in fleets, infrastructure and technology to accelerate the shift to ULEVs. Transport Scotland will review and monitor the role and use of Low Carbon Transport Loan Scheme – targeting improvements in the allocation / prioritisation of loans that stimulate greater uptake of ULEVs.
17	Investment in the trunk road network asset	Maintaining and safely operating our asset	This supports an existing investment commitment to increasing funding for the motorways and trunk road asset. Investment will be undertaken by Transport Scotland in line with Asset Management Policy and Strategy.

Working with others

No.	Intervention Name	Sustainable Investment Hierarchy	Status
4	Transport's contribution towards placemaking principles in neighbourhoods	Reducing the need to travel unsustainably	Transport Scotland will continue to work across Scottish Government and with other partners to deliver this investment. Opportunities to contribute to projects identified through the Place Based Investment Programme could also be explored, as well as the potential to undertake demonstrator projects in towns and villages where there is severance due to a trunk road acting as a barrier to creating a high-quality environment for walking, wheeling and cycling for shorter everyday journeys. Elsewhere, implementation would be taken forward in partnership with local authorities who have similar aspirations and are committed to reallocating road space and parking to allow for a more balanced street environment.
5	Guidance and framework for delivery of mobility hubs	Reducing the need to travel unsustainably	Initial work will involve a review of projects being delivered and development of a Scottish guidance and appraisal framework to provide a coordinated and consistent approach for the delivery of future facilities which contribute to the STPR2 objectives and sustainable travel hierarchy. This framework would allow robust assessment of future funding decisions on Mobility Hubs and determination of the most appropriate locations and facilities.
2	Expansion of 20mph zones	Maintaining and safely operating our asset	Transport Scotland will work with partners to review of the effectiveness of the measures introduced to date (temporary and permanent). Development of best practice guidance to aid those taken projects forward, supporting local authorities (and other partners where appropriate) to implement 20mph zones. Transport Scotland will implement national Road Safety campaigns and other measure aimed at managing the compliance and to promote better driver behaviour in relation to 20mph zones.

8. Next Steps

8.1. Phase 1 Recommendations:

Building on the details in Table 2 above, it is recommended that detailed delivery plans be developed for each of 20 interventions. This should include a programme, focusing on the next five years, along with an operational plan outlining the specific roles and responsibilities of those organisation responsible for taken the intervention forward.

The Phase 1 recommendations will also be included with the overall appraisal of the final STPR2 package of interventions, and the accompanying SEA and the various Impact Assessments.

8.2. Phase 2 Appraisal

An Appraisal Framework has been developed to guide the assessment of candidate interventions emerging through the STPR2 development process in a consistent and robust way. It has been prepared to address the key challenges of STPR2, namely:

- Achieving consistency and fairness between regions and nationally;
- Fairly assessing across modes and interventions (i.e. both infrastructure and non-infrastructure interventions);
- The treatment of options that are considered viable but out with the remit of STPR2 to deliver;
- The approach to dealing with competing options;

- Providing a robust audit trail of work, effectively tracking interventions through the process; and
- Dealing with uncertainty, exacerbated by COVID-19 impacts, and the potential impacts of alternative future scenarios on option appraisal.

The Appraisal Framework has been developed to be consistent with Scottish Transport Appraisal Guidance (STAG) but, where appropriate, has sought to strengthen the appraisal process by:

- Reflecting Transport Scotland's current policy position by embedding the new National Transport Strategy (NTS2) priorities and outcomes;
- Taking on board new and emerging areas of appraisal research, including research into inclusive growth and valuing the health benefits of schemes which increase active travel; and
- Ensuring the outcomes from the wider suite of statutory impact assessments being undertaken (e.g. SEA and EqlA) are fully integrated into the STPR2 appraisal process.

The next stage in the process will involve a Preliminary Appraisal of the recommended options set out in the Case for Change reports and summarised in this report. This will include a qualitative assessment of the likely impacts of options/groupings against the:

- STPR2 Transport Planning Objectives;
- STAG criteria [i.e. Environment, Safety, Economy, Integration, and Accessibility and Social Inclusion];
- Established policy directives; and
- Feasibility, affordability and public acceptability of options.

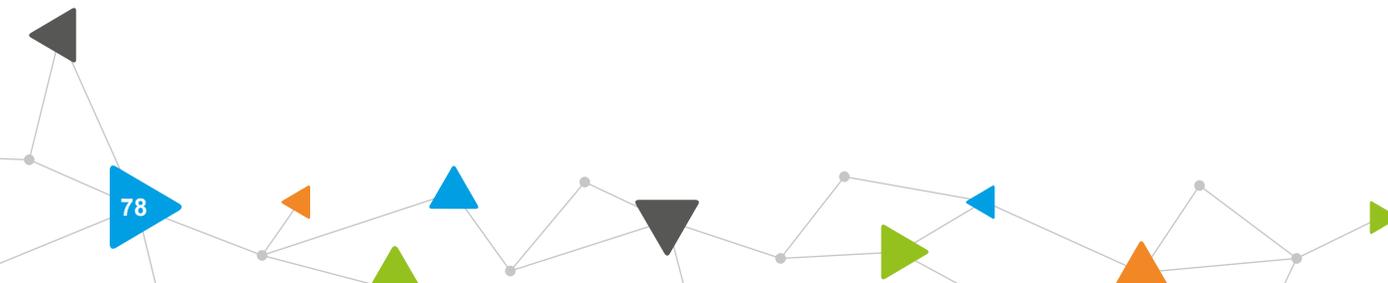
Following this, a detailed appraisal on intervention that are taken forward. This will follow the same approach as above but will include a greater level of quantification of impacts and benefits and will incorporate scenario planning with the approach.

8.3. *Providing Feedback*

As part of ongoing engagement, comments on this draft STPR2 Update and Phase 1 Recommendations can be submitted using a comments form that can be accessed here:

[Feedback Form](#)

The closing date for comments is midnight on Wednesday 31st March 2021.

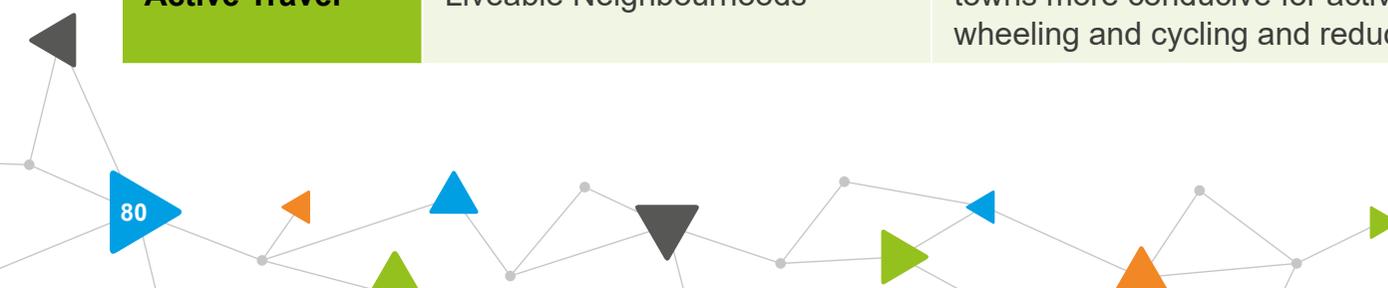




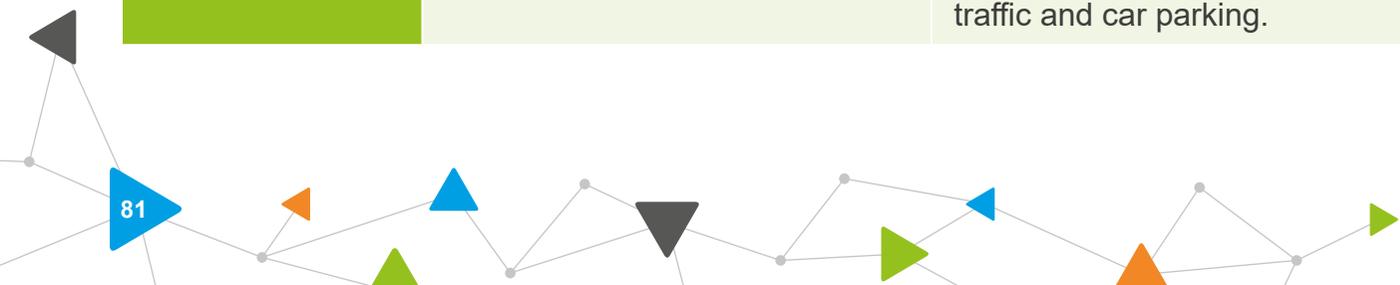
Appendices

Appendix A : Groupings Taken Forward to Appraisal

Category	Grouping Name	Grouping Description
Active Travel	Access to Bikes	Options to improve access to bikes (conventional and e-bikes) and equipment such as charging facilities, lights, locks and helmets through bike libraries and other initiatives.
Active Travel	Active Travel Hubs	Options to provide active travel hubs in Scotland's cities and major towns that provide advice, bike storage and maintenance facilities.
Active Travel	Connect More Settlements to the National Cycle Network (NCN)	Options to expand the NCN to reach more settlements.
Active Travel	Cycle / Public Transport Integration	Options (outside of franchise commitments) which allow the safe and efficient transport of bikes on public transport (bus, rail and ferry) and at transport hubs.
Active Travel	Current National Cycle Network	Options to upgrade the existing NCN, including addressing issues where there are safety concerns at on-road sections since their addition to the network.
Active Travel	Information & Signage for Active Travel	Options to provide good quality information, journey planning and signage of active travel networks and facilities.
Active Travel	Major Trip Attractor Accessibility by Active Travel	Options to provide safe, high quality active travel routes that enable easy access to major trip attractors (e.g. hospitals, major employment sites) in Scotland's cities and towns.
Active Travel	Liveable Neighbourhoods	Options to make urban and suburban neighbourhoods in Scotland's cities and towns more conducive for active travel by improving conditions for walking, wheeling and cycling and reducing traffic dominance.



Category	Grouping Name	Grouping Description
Active Travel	Strategic Road Severance	Options to improve facilities and crossings for pedestrians and cyclists in locations where strategic roads have a significant severance effect in communities.
Active Travel	Public Bike Hire Schemes	Options to facilitate the roll out of public bike hire schemes to enable their use by more people in more locations across Scotland.
Active Travel	Quiet Roads	Options to implement quiet roads, potentially including measures such as traffic calming measures and speed limit reductions that form parts of strategic active travel networks, where appropriate.
Active Travel	School Active Travel	Options to provide opportunities for safe and high-quality active travel routes that enables school pupil's resident in Scotland's cities and towns to walk, wheel or cycle to school.
Active Travel	Strategic Expansions of the National Cycle Network	Options to expand the NCN to reach more settlements and complete strategic gaps in the network.
Active Travel	Footway Enhancements on Strategic Routes	Options to upgrade existing footways on trunk roads and principal routes in our towns and cities, such as width, surfacing, drainage and drop kerbs at crossings. In addition, safe crossing facilities on major desire lines and adequate security (such as sightlines, lighting) where feasible.
Active Travel	Strategic Active Travel Corridors within and between Urban Areas (Active Freeways)	Options to provide high quality, segregated active travel routes on major distributor routes in Scotland's towns and cities, with connections to major trip attractors.
Active Travel	Thriving Centres	Options to make town and neighbourhood centres more conducive for active travel by improving the urban realm and reducing the dominance of vehicular traffic and car parking.

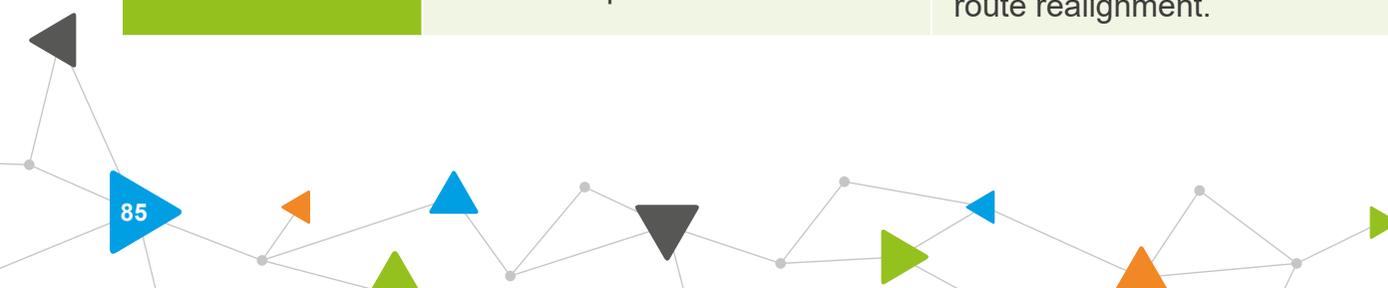


Category	Grouping Name	Grouping Description
Active Travel	Transport Node Connectivity	Options to provide high quality active travel routes between public transport nodes (rail stations, bus stations, interchange facilities) and their catchments (such as residential and key trip attractors), along with high quality cycle parking at the nodes.
Active Travel	Village – Town Active Travel Connections	Options to provide active travel routes from villages to a nearby town or regional centre.
Active Travel	Former Rail Route Re-use for active travel	Options to create more active travel routes on former rail lines.
Active Travel	Urban Placemaking	Options to facilitate placemaking schemes to improve the quality and ambiance of street spaces in Scotland’s cities, towns and villages.
Behaviour Change	School Streets	Options to facilitate traffic exclusion zones on streets where it is appropriate to do so near schools at school start/end times.
Behaviour Change	National Behaviour Change Programme	Options to implement a national, long-term campaign to promote the benefits of active and sustainable travel and give information on appropriate opportunities to do so.
Behaviour Change	Regional Behaviour Change Programmes	Options to support regional, long-term campaigns to promote the benefits of active and sustainable travel and give information on appropriate local opportunities to do so.
Behaviour Change	Expansion of Car Clubs	Options to expand car club availability and use across Scotland.
Behaviour Change	Improved Information on Sustainable Travel Modes	Options to improve information (such as printed, real time and on-vehicle announcements) about active and sustainable travel routes and services.
Behaviour Change	Sustainable Travel towns/Cities	City/Town-wide initiatives to give a holistic programme of promotion on active and sustainable travel choices.

Category	Grouping Name	Grouping Description
Behaviour Change	Road Safety Campaigns	Options that consider a national, long-term campaign (and/or support local/regional campaigns) to promote better driver behaviour and reduce road safety fears including people travelling actively.
Behaviour Change	Travel Demand Management	Measures to effectively manage travel demand and encourage more sustainable travel options.
Behaviour Change	Low Emission Zones (LEZ)	Options related to Low Emission Zones (LEZ), i.e. where only certain vehicles are allowed to enter, based on their emissions standards.
Bus	Bus Priority Infrastructure	Options to increase the roll out of bus priority measures, and where already available, improve existing measures.
Bus	Decarbonisation of the Bus Network	Options related to decarbonisation of the bus network (incl. fleet).
Bus	Demand Responsive Transport (DRT) / Community Transport	Measures to support Demand Responsive (DRT) and Community Transport, excluding revenue funding.
Rail	Central & North East Scotland Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and line speed improvements.
Rail	Glasgow, West Coast and South West Scotland Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and line speed improvements.
Rail	Edinburgh, East Coast and Borders Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and line speed improvements.
Rail	Highland and Far North Rail Improvements	Options to improve capacity, frequency and reliability of train services, such as, train lengthening and line speed improvements.
Rail	Decarbonisation of the Rail Network	Options related to decarbonisation of the rail network (incl. rolling stock).

Category	Grouping Name	Grouping Description
Rail	High Speed Rail	Development of High Speed Rail north of HS2 to Scotland and / or within Scotland.
Rail	New Rail Lines, Including Re-Opening of Disused Lines for rail services	Options related to re-opening of disused rail corridors for rail and opening new rail lines including associated new stations.
Rail	New Rail Stations	Options related to opening new rail stations on the existing rail network.
Rail	New Sleeper Routes	Option related to the introduction of new or extensions to existing rail sleeper routes .
Rail	Rolling Stock Quality	Improvements to the quality of heavy rail rolling stock not already committed to within the relevant ScotRail and Caledonian Sleeper franchise. This does not include decarbonisation options which are covered under RL5.
Public Transport	Public Transport Network Coverage, Frequency and Service Integration	Options to improve the network coverage, frequency and service integration of bus and rail, excluding revenue funding. Particularly access to key services such as healthcare, education, leisure and retail.
Public Transport	Mobility Hubs and Multi-modal Interchanges	Implement new / upgrade existing strategically important mobility hubs, Park & Ride sites and other multi-modal interchanges.
Public Transport	Regional Passenger Facilities/ Station Enhancements	Bus and rail passenger facilities and station enhancement improvements, including improved accessibility to facilities for passengers with reduced mobility.
Public Transport	Integrated Public Transport Ticketing	Integration of ticketing across public transport (bus, rail, light rail and ferries).
Ferries / Island Connectivity	Ferry Service Improvements on the CHFS and NIFS network	Options related to CHFS or NIFS network that suggest a change to ferry services, such as capacity, frequency or related port infrastructure.
Ferries / Island Connectivity	New Ferry Routes (Internal to Scotland)	Options related to new internal ferry routes (within Scotland) which may reduce operating costs or subsidy on the CHFS or NIFS network.

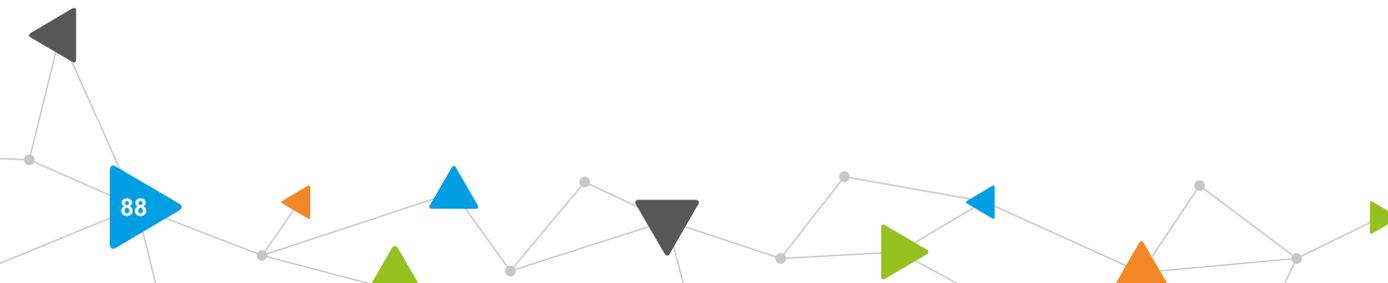
Category	Grouping Name	Grouping Description
Ferries / Island Connectivity	New International Ferry Routes	Options relating to new international ferry services that could bring positive economic benefit to Scotland, but which are not sufficiently attractive to the market.
Ferries / Island Connectivity	Decarbonisation of Ferry Network	Options related to decarbonisation of the ferry network (incl. vessels).
Ferries / Island Connectivity	Fixed Links	Options related to fixed links which meet at least one of the following criteria: <ul style="list-style-type: none"> ▪ Connect the Scottish mainland to an island; ▪ Reduce the operating costs of the CHFS or NIFS network; ▪ Address a strategic problem as identified through evidence-based appraisal that cannot be addressed by reasonable alternatives.
Road	North West Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	North East Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	South West Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.
Road	South East Scotland Trunk Road Network Improvements	Package of measures to improve the capacity, reliability and resilience of routes, such as overtaking opportunities, partial dualling, junction improvements and route realignment.



Category	Grouping Name	Grouping Description
Road	Low Emission/Ultra Low Emission/Electric Vehicle National Action Plan	A National Action Plan to support the shift to Low Emission/Ultra Low Emission/Electric Vehicles and help deliver Scottish Governments net zero targets.
Road	Road Safety (Vision Zero) Measures	A national package of road safety measures, such as road safety campaigns and technology to target casualty reduction.
Road	Trunk Road Space Reallocation	Package of measures to reallocate road space on the trunk road network, such as reduction of on-street parking, high occupancy vehicle lanes and no parking zones.
Road	Review of speed limits (national)	Review of speed limits across the road network, including the potential to implement 20mph zones.
Freight	Decarbonisation of Freight Deliveries	Measures to encourage low carbon fuels (including electric, hydrogen, CNG/ LNG) that will decarbonise the freight transport sector in line with the Scottish Government targets and commitments.
Freight	Freight Consolidation Measures	Measures related to Freight Consolidation and Multimodal Hubs to help facilitate sustainable freight deliveries.
Freight	Freight Rest Stops	Measures to help facilitate the introduction of freight rest stops for HGV drivers to take breaks and rest periods as required by regulation.
Freight	Freight Reliability and Efficiency Improvements	Measures aimed at improving the reliability and efficiency of freight journeys.
Freight	Last-Mile Logistics	Moving freight deliveries to low/zero carbon forms of transport, by encouraging the use of active travel measures and electric vehicles to service last-mile logistics.
Freight	Sustainable Modal Shift of Freight	Transferring the delivery of freight from road vehicles to more sustainable modes, such as rail and water freight.

Category	Grouping Name	Grouping Description
Freight	Rail Freight Enhancements	Measures to facilitate the growth of rail freight in Scotland, such as Gauge, Route Availability, Trailing Length, Terminals and Pathing.
Technology	Connected Autonomous Vehicles (CAV)	Measures related to Connected Autonomous Vehicles (CAV), i.e. the operation of vehicles without direct driver input to control. This grouping relates to all modes of transport.
Technology	Co-operative Intelligent Transport Systems (C-ITS)	Measures related to C-ITS, which are a group of technologies and applications that allow effective data exchange through wireless technologies between vehicles and infrastructure which can also be applied to vulnerable road users such as pedestrians, cyclists or motorcyclists.
Technology	Transport Scotland Operational Communications	Options related to both wireless and fibre communications to support the management and operation of Transport Scotland services.
Technology	Nationwide Open Data, Passenger Information and Communications	Options related to transport data and the provision of public transport information and passenger communications for journey planning.
Technology	Adaptive Traffic Control on the Trunk Road	Options that allow optimisation of the performance of the Trunk Road Network through adaptive control.
Technology	Incident Management System Upgrade	Measures to improve the system software or architecture of Incident Management Systems.
Technology	Control Centre of the Future	Development of operation functions and procedures within the Traffic Scotland National Control Centre to adapt to changing requirements.
Technology	Intelligent Transport Systems (ITS) Roadside Infrastructure on Motorways and Trunk Road Network	Options to improve transport outcomes such as transport safety, transport productivity, travel reliability, informed travel choices, social equity, environmental performance and network operation resilience.

Category	Grouping Name	Grouping Description
Multimodal	Improve Routes to Major Ports and Airports	Options related to improving surface access to Major Ports and Airports, by all modes.
Multimodal	Improved Resilience of the trunk road and rail networks	Options to improve the resilience of the trunk road and rail network including the impacts from climate change.
Multimodal	Mobility as a Service (MaaS) Digital Platform	Options which assist in the development and adoption of a MaaS digital platform for Scotland across a wide range of existing public, shared and demand-responsive transport services.
Mass Transit	Glasgow Metro	Development of the public transport network within the Glasgow city region, with consideration of bus rapid transport, rail conversion, light rail and underground elements.
Mass Transit	Edinburgh Mass Transit Options	Development of the public transport network within the Edinburgh City Region with consideration of bus rapid transit, rail conversion, and tram network extension.
Mass Transit	Aberdeen Mass Transit Options	Development of the public transport network within the Aberdeen City Region, with consideration of bus rapid transit, and light rail.



Appendix B: Phase 1 – Appraisal Summary Tables

[Link to the Appraisal Summary Tables](#)

