Draft Ayrshire & Arran Region Appraisal Summary Table

A draft Appraisal Summary Table (AST) has been developed for each of the eleven STPR Regions alongside the National AST. The ASTs are set out to provide:

- Regional/National Context, Problems and Opportunities – drawing on data presented in the Initial Appraisal: Case for Change reports[1] this summarises geographic, social, economic, environmental and transport matters in the region as well as the identified problems and opportunities. In line with STAG, appraisals are expected to explore location-specific problems and opportunities. Local problems and opportunities have been considered and presented to gain a full understanding of the regional and national issues, however some options to address these may not be within the scope of this strategic study.
- Package description – this presents the groupings (interventions) that were included in the detailed appraisal for the region.
- Fit with Policy – provides a summary of how well the appraised packages fit with key national policies including the second National Transport Strategy, Climate Change Plan Update, the draft National Planning Framework 4 and relevant regional policies.
- Transport Planning Objectives (TPO) Assessment – An assessment against each of the five TPOs is provided with quantified metrics provided, where appropriate, under the low traffic / emissions demand and high traffic / emissions demand scenarios (further information about these scenarios is provided in Appendix F). A seven point scoring scale is adopted for each TPO which is:
    - + + + = major positive (3 plus signs)
    - + + = moderate positive
    - + = minor positive
    - 0 = neutral
    - - = minor negative
    - - - = moderate negative
    - - - - = major negative (3 minus signs)
- STAG Criteria assessment – as above for the TPO assessment, key points regarding the performance of the package against each of the STAG criteria is presented with quantified metrics provided where appropriate.
- Deliverability – commentary is provided on the assessment of the package in terms of its feasibility, affordability and public acceptability. Note that due to the nature of a number of the STPR2 interventions, and this presenting the Strategic Case it has not been possible to derive cost estimates on a regional basis. However, broad capital spending ranges have been estimated over the period 2022 to 2042 at a national level.

---

[1] https://www.transport.gov.scot/our-approach/strategy/strategic-transport-projects-review-2/
https://www.transport.gov.scot/publication/borders-transport-corridors-pre-appraisal/
https://www.transport.gov.scot/publication/north-east-region-option-sifting-update-report-feb-2021-stpr2/
https://www.transport.gov.scot/publication/south-west-scotland-region-option-sifting-update-feb-2021-stpr2/

- Other Criteria Assessment – a summary of the performance of the packages against the Strategic Environment Assessment (SEA), the Equalities Impact Assessment (EqIA), Island Communities Impact Assessment (ICIA), Fairer Scotland Duty Act (FSDA), Child Rights and Wellbeing Impact Assessment (CRWIA) is provided. The seven point scale is adopted in these assessments where appropriate.

The assessments contained in the ASTs assume all interventions in the packages are progressed. However, it should be noted that not all interventions taken through the detailed appraisal will form a recommendation within STPR2.

The National AST is broadly similar to the regional documents, but presents the performance of the full package of interventions taken through detailed appraisal, relying on a combination of quantitative and qualitative information.

Summary of Assumptions

Quantification of the costs and benefits in the packages has been provided through a modelling exercise. Further information has been provided in Appendix F to Technical Report on the modelling scenarios that have informed the assessment of the STPR2 interventions. A summary of key assumptions is provided here:

- Population projections are based on the NRS Population Projections (2018-based).
- Economic projections are a combination of projections by Oxford Economics bought in 2019, the Scottish Fiscal Commission forecasts and more recently the OBR post-COVID estimates
- Land-use plans are based on data collected for Transport Scotland's Assembly of Planning Policy Inputs in 2018 from Scotland's 34 Planning Authorities.
- Permitting of vacant office and retail floorspace to be converted or redeveloped as housing post 2030.
- Working age is taken to be 16-64 (as a constant) to avoid difficulties with changing state pension age (and to reflect non-mandatory retirement)
- The economic results are presented, as is standard within appraisal as discounted values in 2010 prices. As a simple rule of thumb, presenting the numbers in current (2022) prices and discounted to 2022 only would cause the values to approximately double.

Modelling Tools

For the purposes of modelling accessibility by public transport, NaPTAT (National Public Transport Accessibility Tool) has been used. This allows an assessment of journey time to be compared between with and without STPR package.

Due to the strategic and national nature of STPR2, the national Transport Model for Scotland (TMfS) has been used. TMfS is a national scale mode with a focus on inter-urban trips. As such, whilst TMfS provides a suitable level of robustness at this stage of the appraisal for the larger infrastructure based interventions, there are limitations associated with modelling of smaller/discrete

interventions and those that are more urban in nature. As the recommended interventions are developed through the business case process, more detailed modelling will be undertaken using regional and / or local models as appropriate.

When considering the outputs presented in this AST the following should be considered

Metric	Comment/Consideration
CO_2 emissions	Likely to underestimate the benefits associated with public transport interventions due to the more limited representation of transport systems in urban areas and a degree of insensitivity to mode shift in TMfS.
Mode Share	Likely shift to public transport modes underestimated in the urban areas due to the more limited representation of urban transport systems and a degree of insensitivity to mode shift mode in TMfS.
Change in veh-km travelled	Likely to underestimate the benefits of reducing vehicle-kilometres travelled particularly for short distance journeys due to the more limited representation of urban transport systems and the relative coarseness of the model zone system.
Lost Time due to congestion	Likely to underestimate the benefits associated with interventions that would reduce roadspace due to the under-representation of the local/secondary road network in TMfS
Change in accidents	Likely to underestimate the benefits associated with mode shift to public transport interventions due to the more limited representation of urban transport systems and a degree of insensitivity to mode shift in TMfS.
Present Value of Benefits	Likely to underestimate the benefits to public transport users due to the more limited representation of urban transport systems. Likely to overestimate the dis-benefits to car-based trips due to the under-representation of the junctions and local/secondary road network in TMfS.

## Draft Detailed Appraisal Summary Table

Region:	Ayrshire & Arran Region

Regional Context

Geographic Context: The Ayrshire and Arran Region (herein referred to as "The Region") comprises the three local authorities of, South Ayrshire, East Ayrshire and North Ayrshire[2], including the islands of Arran and Cumbrae. The Region includes a mix of urban and rural areas with the Scottish Government's Urban Rural Six-Fold classification showing the following breakdown in the Region: Other Urban Areas (61%), Accessible Small Towns (15%), Remote Small Towns (5%), Accessible Rural (15%) and Remote Rural (5%). The Region's transport network comprises active travel routes, rail, bus and road networks, and ferry links to Arran and Cumbrae. Ardrossan and Brodick have also been identified as major ports for the purposes of STPR2. The ports at Cairnryan are also identified as major; although located out with the Region, the A77 does form the principal north-south route to access the ports. The Region is also home to Glasgow Prestwick Airport, which is identified as a major airport in STPR2 from a freight perspective.

Social Context: The total population in the Region was 369,360 in 2019. The Region's population has decreased by 1.2% since 2011 compared to an increase of 3.2% across Scotland. Ayr is the largest settlement in the region, followed by Kilmarnock and Irvine. There are a number of accessible small towns across the Region including Saltcoats, Ardrossan, Stevenston, Largs, Cumnock, Troon and Dalry.

71% of households in the Region have access to a car (higher than the national average of 69%) with travel to work modal share dominated by car; 68% of people in the Region commute to work by car, 8% walk, 7% use the bus, 4% use rail, and 1% cycle. A lower proportion of residents in the Region travel less than 10km to work compared to across Scotland (40% compared to 49%). Conversely, a considerably higher proportion

---
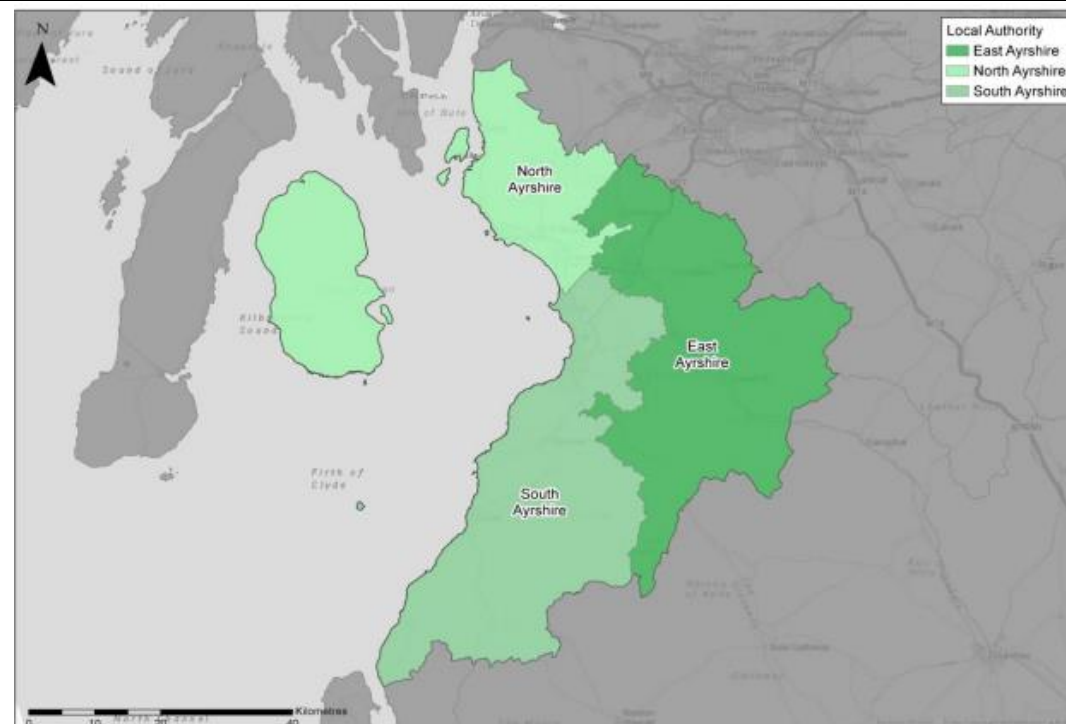
[2] The South West Scotland Transport Study Initial Appraisal: Case for Change was published in January 2020. It is noted that the study area for this covered most of Dumfries & Galloway (excluding the easternmost part around Langholm) and the southern parts of South Ayrshire and East Ayrshire (broadly south of Ayr). As such the study included analysis of transport problems and opportunities in the southern parts of South and East Ayrshire.

of residents travel between 10km and 60km compared to across Scotland (36% v 27%), reflecting the strong trend for travel to the Glasgow City Region from Ayrshire & Arran for accessing employment.

There are areas of deprivation across the Region, most notably within urban areas such as parts of Ayr, Irvine, Kilmarnock, Kilwinning and the Three Towns. Within the Region, 150 data zones are ranked amongst the 20% most deprived for employment across Scotland; equivalent to 30% of the Region's total. This indicates that there is a higher proportion of more deprived data zones in the Region compared to Scotland as a whole.

Economic Context: The Region has underperformed in economic terms compared with Scotland as a whole, with high rates of unemployment in the Region in 2019 (4.8% compared to 3.5% nationally). Over the 5-year period 2013 to 2018, GVA increased by 14.9%, which was 0.3 percentage points higher than the overall Scotland increase. However, the Region records high levels of transport poverty and a higher than average number of benefit claimants compared to Scotland as a whole.

Environmental Context: The Region has many areas classified as environmentally sensitive, with varying levels of statutory protection. Environmental designations include biodiversity, landscape and heritage designations which fall either wholly or partly within the Region. In addition, the Region contains a significant number of historic assets, including Sites of Special Scientific Interest, Special Protection Areas, Conservation Areas and Scheduled Monuments. The greatest modelled noise levels are located in the north of the Region, primarily associated with the M77 and strategic road corridors around Kilmarnock, together with the rail network along the west coast. Settlements at greatest risk of coastal flooding are along the Firth of Clyde and include coastal communities along the eastern extents of Arran, including Brodick, and within Great Cumbrae, in addition to towns along the Ayrshire coast such as Prestwick, Ayr, Troon and Largs. There are no Air Quality Management Areas (AQMAs) within the Region due to the rural and coastal nature of the landscape, along with lack of densely populated urban areas. In 2018, CO_2 emissions from transport within the Region constituted 5.9% of Scotland's total transport emissions overall.

Problems:

- **Active Travel Facilities and Safety:** mode of travel to work by bicycle and foot is lower in the Region compared to the Scottish average. This may in part be due to a lack of active travel facilities, including segregated cycle infrastructure for commuting purposes and on-board bike carrying facilities on trains and buses. Safety was also highlighted as a concern with accident data showing that there were 188 cyclist related casualties in Ayrshire & Arran between 2014 and 2018, with 2 fatal, 52 serious and 134 slight casualties.
- **Accessibility:** there are parts of the Region where there is limited access to public transport, particularly in rural areas. TRACC analysis demonstrates the problem; limited public transport accessibility restricts people's access to key services, with 90% of the Region's population able to access an employment centre by public transport within 60 minutes and only 65% within 30 minutes; 73% of the population can access a hospital by public transport within 60 minutes and 17% within 30 minutes.
- **Connectivity and Journey Times:** limited connectivity and long journey times were highlighted as a problem between Ayrshire and the M74 (via the non-trunk A70 and A71) and south of Ayr to access the ports at Cairnryan via the A77. On the A77 between Cairnryan and

Ayr, average speeds are around 38mph, thus lengthening journey times. Long journey times were noted to impact the economic competitiveness of the Region, including long journey times by bus. For example, journey time between Troon and Glasgow by car is approximately 50 minutes compared to 1 hour 10 minutes by bus, while travel between Cumnock and Glasgow is typically between 1 hr 20 mins and 1 hr 30 mins by bus, compared to around 55 minutes by car.

- **Resilience:** in the event of A77 route closure the diversionary route has been noted to be long and sub-standard for the volume and type of vehicles using it (e.g. HGVs). The A78 is also prone to flooding which leads to closure. Some 81% of all incidents recorded on the Region's trunk roads between 2015-18 were on the A77 or A78. Similarly, ferry cancellations can have an adverse impact on residents accessing key services and, more widely, on the economy. During the period September 2019 to August 2020, 12.8% of scheduled sailings were cancelled across the year between Ardrossan and Brodick, with the highest percentage (38.1%) recorded in February 2020.

- **Capacity Constraints and Congestion:** capacity constraints and congestion have been identified at Bellfield Interchange, which has recorded long queue lengths, the A77/A78 at Ayr at Monkton, Dutch House and Whitletts Roundabouts and the A737/A738 at Kilwinning. Capacity issues, linked to the introduction of RET, have also been recorded on the Ardrossan to Brodick ferry route. The Ardrossan to Brodick route has experienced vehicle deck capacity issues on peak sailings with 26% of all sailings in 2015-16 having a car deck utilisation of greater than 80%. In addition, the number of cars carried on the Ardrossan to Brodick route increased by 34% between 2008-2018 and by 18% on the Largs to Cumbrae route over the same time period.

- **Frequency and Fragility of Public Transport:** limited public transport coverage prevents access to services and can lead to forced car ownership. There is limited integration between public transport, particularly in rural areas, and limited interconnectivity between bus, rail and ferries with low frequency and limited operating hours. Bus patronage has fallen in recent years and bus mileage, bus connectivity and bus quality have been cited as contributory factors to this decline.

- **Transport Poverty and Affordability:** transport expenditure and poverty is generally higher in rural parts of the Region with 58% of data zones in the Region classified as being at high risk for transport poverty compared to 38% in Scotland. The cost of bus travel in the Region was noted to be high compared to car (and taxi) and there is a perceived lack of funding to encourage modal shift.

Opportunities:

- **Economic Development:** the signed Growth Deal Agreement document details the different areas and projects being taken forward as part of the £251 million deal to support economic development in the Region. The Economic Infrastructure Programme includes the following projects: HALO Kilmarnock, Ayrshire Engineering Park, Ayrshire Manufacturing Investment Corridor (AMIC) and the i3 Irvine Enterprise Area. The document also outlines other allocation areas, such as for an Energy, Circular Economy and Environment Programme, Digital and Skills and Inclusion. The Draft National Planning Framework 4 also identifies Hunterston as a national development site; this supports the repurposing of Hunterston port as well as the adjacent former nuclear power station site. The location

and infrastructure here offer potential for electricity generation from renewables, and a variety of commercial uses including port, research and development, aquaculture, the circular economy.

- **Tourism:** growing the active travel tourism market through the development and promotion of NCN type infrastructure across the Region was raised as a major opportunity by stakeholders, with areas such as Galloway Forest commonly referred to as an 'untapped resource'. There are also opportunities to support The Coig, which forms tourist trails across Ayrshire, Arran, Argyll & Bute and Inverclyde in seeking to emulate the success of the North Coast 500. Reflective of the aspirations to grow the number of visitors to the Region, the Ayrshire Growth Deal also includes reference to a Tourism Programme, which includes funding for the Development of The Great Harbour up to £14 million and Investment in Marine Tourism of up to £9.5 million.
- **Journey Time Reduction, Journey Quality and Improved Connectivity:** the Region's road network, including trunk road network, is single carriageway and this has been linked to adversely impacting journey times and journey quality. Stakeholders have suggested that improvements in journey time, journey quality and improved connectivity would make the Region more attractive to investors.
- **Travel Planning, Behaviour Change and Low Carbon:** there are opportunities in the Region to promote improved travel planning, behaviour change and a shift towards the use of low carbon technologies. Several areas in the south of South Ayrshire are between 10 to 20 miles from an Electric Vehicle charging point. A low carbon rail network features as part of the Rail Services Decarbonisation Action Plan, which sets out the plan to decarbonise the rail network by 2035, including electrification of parts of the network and alternative traction for rail services between Girvan and Stranraer. Opportunities also exist to promote digital connectivity and there is the potential for more people to work from home. Access to Super-Fast Broadband ranges between 40% to 64% in the Region, with North Ayrshire experiencing the highest levels in the Region with 64% of residential premises having access.
- **Improved Route Resilience:** improving route resilience is primarily related to the economy and how frequent route closures, arising from planned and unplanned closures, are often exacerbated by a lack of high quality diversionary routes. This can have an adverse impact on the local economy and depending on the route effected, on the regional and national economy.

Detailed Appraisal Package Description		
Package Groupings: Refer to Annex A for further grouping details		
Active Travel	• Improving Access to Bikes • Connected Neighbourhoods • Improving Active Travel on Trunk Roads through Communities	• Increasing Active Travel to School • Active Freeways • Village – Town Active Travel Connections	• Long-distance Active Travel Network • Connecting Towns by Active Travel • Cycle Parking Hubs
Bus	• Bus Priority Infrastructure • Decarbonisation of the Bus Network	• Demand Responsive Transport (DRT) / Community Transport	
Rail	• Corridor Enhancements: Central Belt	• Decarbonisation of the Rail Network	
Interchange	• Mobility Hubs and Multi-modal Interchanges • Regional Passenger Facilities/Station Enhancements		
Behaviour Change	• Behaviour Change Initiatives • Expansion of 20mph limits and zones		
Ferries and Ports	• Decarbonisation of CHFS and NIFS Ferry Network • Arran and Campbeltown Connectivity		
Freight	• Decarbonisation of Freight Deliveries • Railway Freight Terminals and Facilities • Freight Reliability, Resilience and Efficiency Improvements	• Freight Consolidation and Last-Mile Logistics • Freight Incentives and Freight Best Practice • Rail Freight Enhancements	
Resilience	• Improve Access to Major Ports and Airports • Trunk Road and Motorway Network Renewal for Reliability, Resilience and Safety • Trunk Road and Motorway Climate Change Adaptation and Resilience		
Technology	• Incident Management Software (IMS) Upgrade • Control Centre of the Future	• Intelligent Transport Systems (ITS) Roadside Infrastructure • Integrated Public Transport Ticketing	
Road	• South West Trunk Road and Motorway Network Improvements • Changing Road User Behaviour	• A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles	

Fit with Established Policy

Package Performance Against NTS2 Priorities and Outcomes:

Reduces inequalities	Reduces inequalities	Moderate Positive
	Will be easy to use for all	Major Positive
	Will be affordable for all	Minor Positive
Takes climate action	Will help deliver our net-zero target	Major Positive
	Will adapt to the effects of climate change	Minor Positive
	Will promote greener, cleaner choices	Major Positive
Helps deliver inclusive economic growth	Will get people and goods where they need to get to	Major Positive
	Will be reliable, efficient and high quality	Major Positive
	Will use beneficial innovation	Major Positive
Improves our Health and Wellbeing	Will be safe and secure for all	Major Positive
	Will enable us to make healthy travel choices	Moderate Positive
	Will help make our communities great places to live	Major Positive

The interventions included within this package support a wide range of national, regional and local policy documents in which transport improvements play a key role in both the enabling and delivery of outcomes.

Key policies supported include the Programme for Government, Infrastructure Investment Plan, NTS2, the Climate Change Plan Update 2018 - 2032, SPT's Regional Transport Strategy, the Ayrshire Timber Transport Strategy, North Ayrshire Local Transport Strategy; and Ayrshire and Strathclyde Freight Strategies, as well as non-transport-specific plans, such as the Ayrshire Growth Deal and East Ayrshire Economic Development Strategy.

Interventions in this package also have the potential to support improved transport connectivity to Hunterston, which has been identified as a national development site within the Draft National Planning Framework 4.

The policy framework for the Region has a strong emphasis on delivering strengthened connectivity to support a sustainable economy. This includes providing travel choices which promote equality and social inclusion and which promotes modal shift away from private car, increases walking and cycling opportunities, and provides an attractive place for visitors and businesses to invest and grow; the package thereby closely aligns with established policy directives.

STPR2 Transport Planning Objectives (TPOs) Assessment

STPR2 TPOs	Appraisal Metrics			Performance Summary
	Metric	Low	High	
A sustainable strategic transport system that contributes significantly to the Scottish Government's net-zero emissions target.	Change in CO_2eq (non-traded and traded emissions from regional road transport inc. grid emissions from charging light-duty vehicles).	27,700 tonnes decrease of 0.5% in 2030 21,600 tonnes decrease of 2.8% in 2045 1.3m tonnes reduction, of which -1.1m were traded, for the 60-year appraisal period from 2030 to 2089 The net economic benefits for the 60-year appraisal period in 2010 prices and values would be in the range £10m to £25m for the Low Travel Demand scenario.	31,300 tonnes decrease of 0.4% in 2030 65,300 tonnes decrease of 1.3% in 2045. 3.7m tonnes reduction, of which 452 thousand were traded, for the 60-year appraisal period from 2030 to 2089. The net economic benefits for the 60-year appraisal period in 2010 prices and values would be in the range £100m to £250m for the High Travel Demand scenario	CO_2eq is treated as a nationally important pollutant and so it has not been appraised for individual regions. National CO_2eq emissions decrease year-on year. This is due to decreasing vehicle exhaust (non-traded) emissions as numbers of internal combustion engine vehicles reduces. This is reflected in increasing traded grid emissions from charging increased numbers of battery-electric vehicles, and specifically in the Low Travel Demand scenario. The electricity grid is expected to be using predominantly renewable sources in the future and so increasing adoption of electric vehicles and a shift from direct, non-traded, emission to traded grid-based technology (i.e. battery) will support reducing CO_2eq emissions. Across both scenarios the interventions would reduce emissions of CO_2eq. There are predicted to be significantly higher overall emissions in the High Travel Demand scenario, either with, or without, the package. There is a relatively smaller overall reduction of emissions due to the interventions in the Low Travel Demand scenario due to the lower overall emissions. The economic impacts associated with air quality were assessed using the Department
	Change in mode share by active travel for all journeys	Potential increase in walking from 18% mode share to 22% mode share (4 percentage points). Potential increase in cycling from 0.4% mode share to 17% mode share (17 percentage points). The package will increase the proportions of journeys undertaken by active modes. If all the active travel and behaviour change interventions were fully implemented in every relevant location in the Region, rates of walking and cycling are anticipated to increase by around the following proportions:		

Local Authority	Walking	
	Without package	With STPR2 package
East Ayrshire	18%	22%
North Ayrshire	18%	23%
South Ayrshire	18%	22%
Regional average	**18%**	**22%**

Local Authority	Cycling	
	Without package	With STPR2 package
East Ayrshire	0.2%	15%
North Ayrshire	0.4%	15%
South Ayrshire	0.5%	21%
Regional average	**0.4%**	**17%**

Note that the cycling and walking growth forecasts have been developed independently of each other. Growth in use of one active mode is likely to abstract at least some trips from the other, but this effect is not accounted for within these forecasts.

Change in motorised veh-kms travelled	Reduction of 37.0 million motorised veh km 2% decrease (see Annex C)	Reduction of 37.3 million motorised veh km 1% decrease (see Annex C)
Scoring	**++**	**++**

for Environment Food & Rural Affairs (DEFRA) Damage Costs Appraisal Toolkit. The larger benefit from the High Travel Demand scenario is due to the greater overall emissions with, or without, the package, although the proportional change is lower.

Overall, the package will contribute to the net-zero emissions target by:
- Enabling more passenger journeys to be made by active modes and public transport
- Decarbonising some public transport operations
- Facilitating uptake of electric vehicles
- Enabling some road freight to switch to rail or other low carbon modes
- Providing a more resilient road network that will reduce congestion and associated emissions

An inclusive strategic transport system that improves the affordability and accessibility of public transport.	Change in transport poverty risk	Although the STPR2 interventions don't impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see a small reduction in transport poverty, due to the overall improvements in public transport availability.		Interventions included in this package would be anticipated to improve the inclusiveness of the transport system by: • Improving conditions for people walking, wheeling and cycling, the most inclusive transport modes, with particular benefits for people most often excluded (including children, older and disabled people, and people on low incomes) • Improving inclusive accessibility to public transport stops/stations • Seeking to promote public transport use and reduce operating costs, hence enhancing network sustainability The most significant population accessibility improvements observed in the Region were to the nearest major hospital particularly for journeys under 30 minutes by public transport, with a 2-percentage point increase from 27% in the without package assessment to 29% with the regional package in place. Kilmarnock observed a particular improvement, with accessibility to major hospitals within a 30 minute public transport journey increasing by 9 percentage points, from 53% in the without package assessment to 62% in the with package assessment.
	Change in Accessibility - population catchments increases to key services by journey time by public transport.	• Major Hospital Accessibility: An additional population of around 6,800 are able to access a major hospital by public transport in under 30 minutes, which represents an 8% increase compared to that in the without package assessment. • Higher Education: An additional population of around 2,500 are able to access a higher education site by public transport in under 30 minutes compared to that in the without package assessment. • Major Shopping Centre: An additional population of around 1,500 are able to access a major shopping centre by public transport in under 30 minutes compared to that in the without package assessment. • Large Food Store: An additional population of around 1,600 are able to access a large food store by public transport in under 30 minutes compared to that in the without package. (See Annex B for mapping)		
	Scoring	**++**	**++**	
A cohesive strategic transport	Change in mode share by active travel for all journeys	Potential increase in walking from 18% mode share to 22% mode share (4 percentage points).		The package will improve communities as places, supporting health and wellbeing by enabling more journeys to be made by active

system that enhances communities as places, supporting health and wellbeing.		Potential increase in cycling from 0.4% mode share to 17% mode share (17 percentage points). These forecasts are subject to all active travel interventions being delivered in all relevant areas to the Region.		and sustainable modes, and by improving road safety. This will: • Improve many people's physical health and mental wellbeing, with particular benefits for people most often excluded (including children, older and disabled people, and people on low incomes) • Reduce the adverse impacts of car use on communities and health (including reduced air pollution, noise, accident risk and perceived road danger) The analysis shows that through improved uptake of walking and cycling, there would be a forecast reduction 16 premature deaths per annum due to the health benefits arising from active travel.
	Potential for Change in 'Place'	The package will tend to improve the quality of the Region's places by improving local accessibility and reducing the adverse impacts of road traffic. Particular benefits may arise in neighbourhoods where active travel allows easier walking and cycling conditions, particularly in areas of the Region which are within walking / cycling distance to key destinations.		
	Change in Health Benefits	The health benefits of increased rates of walking and cycling as a result of the package have been quantified using the WHOs HEAT tool. This shows the following benefits by Local Authority: 	**Local Authority**	**Premature deaths prevented per annum**
---	---
East Ayrshire	4.9
North Ayrshire	5.4
South Ayrshire	5.9
Regional total	**16.2**			
	Scoring	**++**	**++**	
An integrated strategic transport system that contributes	Increased labour catchment by sustainable travel (PT/Active Travel)	• Access to local employment, which represents accessibility of employment located in the surrounding area of an origin within a 40 minute public transport journey time, showed improvements across the Region but noticeably in Prestwick, and parts of Ayr, Kilwinning, Stewarton and Irvine. In		The package will contribute to sustainable inclusive growth in Scotland by: • Improving integration of transport modes (especially between active modes and

towards sustainable inclusive growth in Scotland.		Prestwick specifically, an average of around 2,000 additional jobs locally could be reached within a 40-minute journey by public transport under the with package assessment. • Access to regional employment (employment located in Ayr and Glasgow) showed improvements, particularly to the north of the Region which is more closely associated with employment movements to Glasgow. The modelling shows that North Ayrshire and East Ayrshire observed an average increase of an additional around 3,000 and around 5,000 jobs that can be accessed within a 60 minute journey time by public transport. (See Annex B for mapping)		public transport) and between transport and major developments • Improving journey time reliability • Enabling more people to travel by improving the accessibility and affordability of the transport system, through greater mode choice and reduced reliance on the private car. This enables more people to access local retail and services, and opportunities for employment and education/training Encouraging modal shift to sustainable modes and reducing the volume of vehicles on network is anticipated to improve journey time reliability for all vehicles, providing benefits to businesses across the Region. A reduction in vehicles hours of between 34,000 and 39,000 hours is anticipated in the respective growth scenarios for business and commercial travel, contributing towards sustainable inclusive growth in Scotland.
	Change in lost time due to congestion (for business/ commercial transport)	Reduction of 34,500 hours 4% decrease	Reduction of 38,900 hours 2% decrease	
	Scoring	**++**	**++**	
A reliable and resilient strategic transport system that is safe and secure for users.	Change in accidents (PIA and 'damage-only')	Accident reduction related to motorised veh km is forecast to be 3%	Accident reduction related to motorised veh km is forecast to be 2%	The package will improve reliability, safety and personal security on the transport system by: • Improving journey time reliability, including through reduced likelihood of significant network disruptions • Reducing the risk of road accidents at hotspot locations on the trunk road network e.g. through targeted infrastructure improvements such as carriageway realignment and widening, the provision of overtaking opportunities and
		Whilst the number of accidents involving motorised vehicles is anticipated to reduce following the introduction of the interventions within this package, it is anticipated that it would increase walking and cycling journeys. The number of accidents involving these modes is therefore anticipated to increase, although each individual journey is anticipated be significantly safer.		

| | Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA only) | Sections of Realignment/Widening -reduction of 23% to 59%

Sections of Overtaking Opportunities – reduction of 35% to 73%

Locations of Junction Improvements – change of 42% (increase) to 64% (decrease) | | junction improvements. (It should be noted that replacing a priority junction with a signalised junction could increase the overall number of accidents, however the severity of accidents occurring should reduce)
• Reducing perceived risks to road safety and to personal security, so enabling more people (particularly children, women and older people) to travel independently
• Changing attitudes of road users, through behavioural change campaigns. This is anticipated to increase awareness of interactions with those walking, wheeling and cycling
• Improving active travel provision and providing more dedicated and segregated routes for walking, cycling and wheeling |
|---|---|---|---|---|
| | Change in lost time due to congestion | Reduction of 101,000 hours
8% decrease
(see Annex C) | Reduction of 190,000 hours
5% decrease
(see Annex C) | |
| | Journey Time Reliability /Availability of alternatives (modes/routes) | This package is forecast to reduce overall motorised vehicle kilometres by 3% and 2% under the Low and High Travel Demand scenarios respectively, thus reducing the risk of accidents occurring as a result of travel reductions, whilst improving resilience by reducing the number of road closures associated with accidents.

Targeted improvements at junctions where safety is a problem is forecast to reduce accidents and associated road closures thereby improving reliability. The provision of targeted improvements such as carriageway realignment and widening and the provision of overtaking opportunities is also designed to improve journey time reliability and the risk of accidents which can impact route resilience. Improvements in terms of renewals and climate change adaptation to protect the operation of the trunk road and motorway network would also positively impact on the reliability of the network.

Encouraging modal shift to sustainable modes and reducing the volume of vehicles on network is anticipated to improve journey time reliability, as indicated by reducing time lost to congestion of 101,000 | | |

		and 190,000 hours in the low and high growth scenarios respectively	
	Scoring	**++**	**++**

STAG Assessment				
STAG Criteria	Sub Criteria	Scoring		Performance Summary
		Low	High	
Environment	Air Quality	+	+	Total emissions of NO_X were predicted to decrease in future in both the High and Low scenario. Total emissions of NO_X were predicted to be effectively zero in 2045 in the Low Travel Demand scenario, and 2052 in the High Travel Demand scenario either with, or without, the proposed package. Total emissions of PM were predicted to increase in future predominantly due to non-exhaust emissions from road, tyre and brake-wear. However, the package will reduce harmful emissions slightly. Over the 60-year appraisal period there was a predicted 100% reduction in NO_X, 1.1% reduction in PM_{10} and 1.2% reduction in $PM_{2.5}$ in the Low scenario, and a 2.2% reduction in PM_{10} and a 2.2% reduction in $PM_{2.5}$ in the High Travel Demand scenario.
	Noise and Vibration	+	+	The anticipated modal shift is also expected to reduce levels of noise and vibration associated with the transport network. There is potential for a localised negative effects on noise and vibration due to the construction and operation of specific interventions e.g. South West trunk road and motorway network improvements, however the magnitude of effect will depend on the design and location of the intervention
	Biodiversity and Habitats	Please refer to SEA performance summary text in the 'Other Criteria Assessment' section below. Please note the scoring has been based on the SEA methodology for scoring, which has been agreed with the SEA Consultation Authorities.		
	Geology and Soils			

	Land Use (including Agriculture and Forestry)			
	Water, Drainage and Flooding			
	Historic Environment			
	Landscape			
Climate Change	Greenhouse Gas Emissions	+	+	CO_2eq is treated as a nationally important pollutant so it has not been appraised for individual regions. National CO_2eq emissions decrease year-on year, with decreasing direct (non-traded) exhaust emissions and increasing traded grid emissions associated with increased adoption and charging of battery-electric vehicles, and specifically in the Low Travel Demand scenario.
	Vulnerability to Effects of Climate Change	+	+	Across both scenario's the package will reduce emissions of CO2eq, although the change is greater in the High Travel Demand Scenario due to overall higher emissions.
	Potential to Adapt to Effects of Climate Change	+	+	The package provides an opportunity to adapt the transport network to the predicted effects of climate change, with one intervention specifically focused on adaptation.
Health, Safety & Wellbeing	Accidents (PIA and 'damage-only')	Accident reduction related to motorised veh km is forecast to be 3%	Accident reduction related to motorised veh km is forecast to be 2%	The package will reduce the number and severity of accidents through targeted infrastructure improvements and by encouraging modal shift away from private car, resulting in reduced accident risk due to reduced conflicts. Mode shift to sustainable modes will, by improving natural surveillance,

Percentage accident change for Targeted Infrastructure Improvements over 60 years, using default accident rate (PIA only)	Sections of Realignment/Widening – reduction of 23% to 59% Sections of Overtaking Opportunities – reduction of 35% to 73% Locations of Junction Improvements – change of 42% (increase) to 64% (decrease)
Security	The package will, by increasing the number of people travelling actively, tend to improve natural surveillance and through improvements to lighting and urban realm will tend to reduce the number of locations at which security is a concern. Options related to improving public transport passenger facilities and enhancing stations, such as improvements to waiting facilities, would consider security as part of interventions.
Health Outcomes	By increasing rates of active travel and hence physical activity, the package will improve both health and wellbeing outcomes. The estimated value of health benefits to the Region's population, appraised over a 60-year period, is in the range £500m to £1,000m. By encouraging car journeys to switch to less polluting modes, the package will also tend to improve local air quality, and hence health outcomes.
Access to Health and Wellbeing Infrastructure	• Around 6,800 of the population in the Region are now able to access a major hospital by public transport in a journey

make paths, bus stops, interchanges, and services, reduce the perception of isolation and this, accompanied by improved quality of facilities will improve perceived security.

The package will improve communities as places, supporting health and wellbeing, by encouraging modal shift away from private car and towards active travel. This will improve placemaking through reduced noise and better air quality due to reduced traffic, and reduced accident risk. It will also benefit many people's physical health and mental wellbeing.

		time of under 30 minutes compared to the without package assessment. • Public transport journey times to the nearest major hospital site showed an improvement in both North Ayrshire and South Ayrshire, with some localities reporting reductions of up to 10 minutes.		
	Visual Amenity	The package should have a positive impact on visual amenity through improvements to walking and cycling infrastructure and an improved sense of 'place'.		
Economy *(Transport Economic Efficiency)*	User Benefits (2010 prices and values for a 60 year appraisal period)	Present Value of Benefits (PVB) of approximately £100m to £250m Accidents Present Value of Benefits (PVB) of approximately £10m to £25m	Present Value of Benefits (PVB) of approximately £100m to £250m Accidents Present Value of Benefits (PVB) of approximately £10m to £25m	The majority of economic benefits that accrue are as a result of the sustainable transport interventions in the Region's package to enable and encourage mode shift to public transport modes. The public transport interventions including Bus Priority Infrastructure, and to a lesser extent the Rail and Interchange interventions, are the main contributors to the public transport user benefits in the Low Travel Demand scenario. The remainder of the benefits are largely due to the increase in public transport operator revenue as a result of the increased patronage levels arising from the mode shift away from car. The level of public transport user benefits are reduced in the High Travel Demand scenario, although this is partially offset by an increase in road user benefits. Nevertheless, even under this scenario the sustainable transport interventions contribute to the majority of user benefits. In terms of accident savings, the level of benefits is similar in both planning demand scenarios. This is due to the reduction in road-based vehicle-kilometres travelled in the Region, as a result of the active travel and public transport interventions encouraging a mode shift away from private car.

				Note that due to the nature of a number of the STPR2 interventions it has not been possible to derive indicative cost estimates on a regional basis.
Equality & Accessibility	Public Transport Network Coverage	Improving the active travel network and interchanges may provide users with access to a wider public transport network, by enabling easier access to multi-modal trips.		The package will improve accessibility to public transport by improving the coverage of the walking, cycling and public transport networks. This will provide particular benefits for people often excluded from transport, including older and young people, women, disabled people, and people living in more deprived communities. The package will also improve affordability by reducing forced car ownership, and situations where taxi is the only viable mode for people without access to a car. With regards to deprived areas in the Region, these areas observed an improvement in population accessibility by public transport to the nearest major hospital, and also for higher education, albeit to a lesser extent.
	Active Travel Network Coverage	Improvements to the Region's active travel network, both within and between settlements, mean that many more people will have convenient, high-quality and safe infrastructure for walking, wheeling and cycling journeys.		
	Comparative Access by People Group	Improvements to active travel networks and public transport will provide positive impacts on groups who are less likely to have access to a car and are more likely rely on public transport, walking and cycling for their journeys. This includes women, children and young people, older people, some ethnic minority groups and disabled people.		
	Comparative Access by Geographic Location	• For deprived areas in the Region, around 3,400 additional people can now access the nearest major hospital site in a journey time of under 60 minutes by public transport, representing a 4% improvement on those that could do so in the without package assessment. • For access to employment, deprived areas within East Ayrshire and North Ayrshire reported increases of around 2,900 and		

		around 2,800 in the number of regional additional jobs (likely located in Glasgow) that could be reached within 60 minutes by public transport. (see Annex B for mapping)
	Affordability	Although the STPR2 interventions don't impact on the direct costs of travel (e.g. fares, fuel price), the package of interventions would see a small reduction in transport poverty, due to the overall improvements to access and connectivity between modes.

Deliverability	
Criterion	Summary Assessment
Feasibility	The package has been developed with feasibility considerations in mind. The package mostly makes use of existing, proven technology and would generally be expected to largely operate inside existing design standards. There will be further work required on the feasibility of larger infrastructure provision including road improvements. Additionally, road space allocation across modes will need consideration if multiple modes are competing for similar road space. Overall, the package is expected to have a minor positive impact against this criterion.
Affordability	The package would require substantial capital and operational funding. Some aspects of the package may generate revenue, which could be used to offset some of these costs. Overall, the package is expected to have a moderate negative impact against this criterion.
Public Acceptability	The package is expected to improve accessibility, connectivity, choice and make transport cleaner, more efficient and more attractive across the Region, which would be positively received. There may be concerns in areas of congestion where road space reallocation or priority interventions are proposed, however the behavioural change elements of the package should help to mitigate this. There may also be acceptability concerns where construction works are expected to cause disruption or require land-take. Overall, the package is expected to have a minor positive impact against this criterion.

Other Criteria Assessment

Criterion	Performance Summary
SEA	The package supports modal shift to more sustainable modes of transport. Improved access to major port and airports, the creation of mobility hubs/interchanges, the improvements to passengers' services and facilities seeks to encourage modal shift, and, as a result, reduce levels of transport related air pollution and carbon emissions. The decarbonisation of the ferry, rail and bus network and freight deliveries will also support a reduction in greenhouse gas emissions and improvement in air quality. The package provides an opportunity to adapt the transport network to the predicted effects of climate change, with one intervention focused on this adaptation and promotes a more sustainable usage of the existing transport network Positive effects are anticipated on Population and Human Health due to an expected increase in sustainable access to essential services, increased travel choice and improved connectivity and planning for the future capacity of public transport. Active travel interventions will have positive outcomes for the SEA Population and Human Health topic - for example through expected improvements in air quality and increased uptake of physical exercise through walking, wheeling and cycling. Road interventions are anticipated to have positive effects on safety. Trunk road improvements which are focused on junction improvements, realignment / widening and overtaking opportunities are also not anticipated to have a notable impact on traffic volumes or mode share and subsequently transport-based emissions, in the majority of locations. The construction and operation of these interventions may result in minor negative effects on population and human health with the potential for in an increase in noise and vibration during construction and operation. This is dependent on the location and design of individual schemes. There is also potential for a negative effect on material assets due to the use of natural resources. The freight interventions are anticipated to result in minor negative effects on material assets as several interventions proposed involve enhancements to rail freight, terminals and facilities and therefore will require the use of natural resources. The multi modal interventions are also anticipated to result in minor negative effects on material assets as one of the interventions proposed involve renewal and improvement of the resilience of the trunk and motorway network, including preventative and programmed structural renewals of carriageways and network structures and therefore will require the use of natural resources. Where other new infrastructure is required, including, harbour upgrade requirements and road and rail interventions this could result in negative effects on biodiversity, soil, landscape, water, historic environment and material assets however the magnitude of effect is uncertain at this stage and will be determined by the design (and physical footprint) of the interventions.
EqIA	The package could improve public transport and active travel accessibility to key destinations and services including employment, education, healthcare and shopping for people living in the area. This will have a major positive impact on certain protected characteristic groups who are less likely to have access to a car and more likely to depend on public transport and active travel to

	make their journeys. This includes women, children and young people, older people, disabled people and people from certain ethnic minority groups. By encouraging modal shift to more sustainable modes, this package could also contribute to improving local air quality. Improved health outcomes as a result of better air quality are of particular benefit to those who are more vulnerable to air pollution, including children, older people, disabled people and pregnant women. The package will reduce the severity of accidents through targeted infrastructure improvements and by encouraging modal shift away from private car, resulting in reduced accident risk due to reduced conflicts. Some protected characteristic groups are more likely to be involved in road accidents, for example, children as pedestrian casualties and young males involved as car drivers and as such would have positive impacts on these groups. Mode shift to sustainable modes will reduce the perception of isolation on paths, bus stops, stations and services, and this, accompanied by improved quality of facilities will improve perceived security. This is likely to provide some benefit to those for whom security is of particular concern including women, the LGBTQ+ community and those from religious backgrounds most subject to hate crime. The package would therefore be anticipated to have a minor positive impact on addressing this criterion overall.
ICIA	Further to the overall benefits of the package, the investment into the decarbonisation of the ferry network would drive island connectivity improvements across the Clyde and Hebrides Ferry Service (CHFS) leading to a beneficial impact on island communities served by these routes. This could lead to a reduction in poor air quality for island communities within close proximity to ports and harbours. Further benefits may be realised through the procurement of new ferry vessels and infrastructure which would potentially be designed to increased accessibility standards than currently. The potential for capital funding investment into DRT would be likely to have a positive impact on island communities by providing more flexible public transport services meeting the needs of dispersed and remote island communities. The package would therefore be anticipated to have a minor positive impact on addressing this criterion overall..
CRWIA	By encouraging modal shift to more sustainable modes, this package could contribute to improving local air quality. Improved health outcomes as a result of better air quality are of particular benefit to those who are more vulnerable to air pollution, including children. The package could also improve public transport and active travel accessibility to higher education institutions and employment opportunities for young people living in the area. Safety is a key issue for children with regards to transport with child pedestrian casualties recorded in Scotland in 2019, accounting for 44% of all pedestrian casualties.

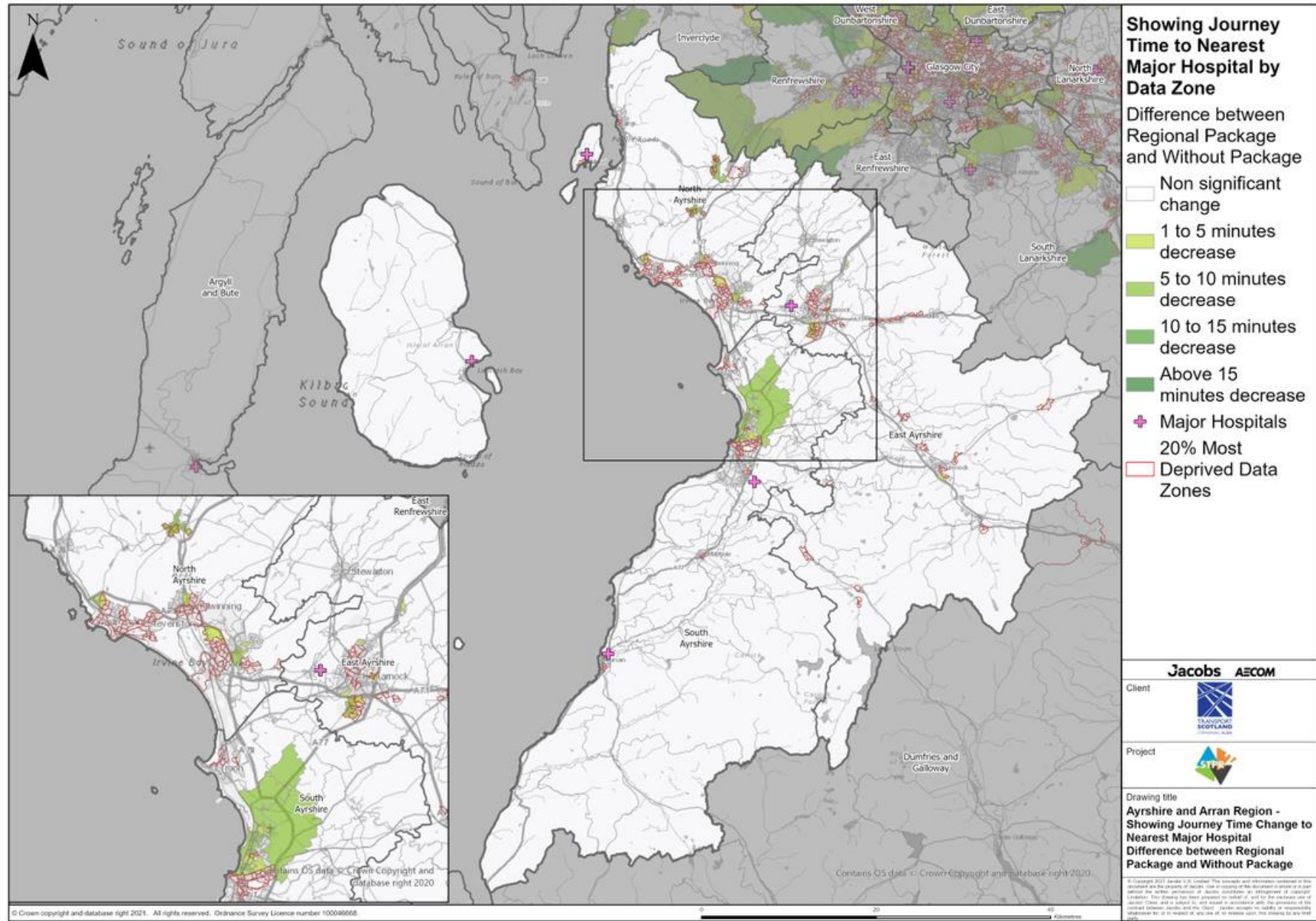|	
	The package will reduce the severity of accidents through targeted infrastructure improvements and by encouraging modal shift away from private car, resulting in reduced accident risk due to reduced conflicts.
	The package would therefore be anticipated to have a minor positive impact against this criterion overall.
FSDIA	This Region contains some areas included within the 10% most deprived in Scotland. The package has the potential to improve public transport connectivity and can therefore support regeneration and economic development and reduce inequalities caused by socio-economic disadvantage by improving accessibility to employment for deprived communities or communities where transport options are limited.
	The package would therefore be expected to have a minor positive impact on addressing this criterion overall.

Ayrshire & Arran Region

Grouping Title	Regional Description
Improving Access to Bikes	Improve access to bikes through a multi-faceted programme of interventions to enable people to cycle (and also to support walking/wheeling as appropriate), and to give them confidence and skills to do so, such that they can make use of new or existing active travel infrastructure. Measures would be designed to meet local community needs, and address inequality.
Connected Neighbourhoods	The transport components of 20-minute neighbourhoods within towns and cities. This would include, for example, packages of improvements to footways, road crossings and urban realm, aiming to make walking, wheeling and cycling more attractive, inclusive and safe.
Improving Active Travel on Trunk Roads through Communities	Packages of measures to reduce the adverse effects of trunk road traffic on people walking, wheeling and cycling in those communities that have a trunk road passing through them (for example by reducing traffic speed and improving footways and road crossing facilities).
Increasing Active Travel to School	Improved and safer walking, wheeling and cycling routes to schools, accompanied by traffic speed reduction measures and School Streets schemes where appropriate, as well as behaviour change measures. The types of interventions would often be the same as those of Connected Neighbourhoods, but this intervention is distinct because not all schools are within/close to town/neighbourhood centres.
Active Freeways	High-quality segregated infrastructure for people walking, wheeling and cycling on radial routes and other high-demand corridors in Scotland's large urban areas, with priority given initially to the larger cities.
Village – Town Active Travel Connections	Active travel routes, segregated from busy roads but making use of quiet roads where appropriate, to connect smaller communities to nearby towns.
Long-Distance Active Travel Network	Interurban active travel routes, segregated from busy roads but making use of quiet roads where appropriate, connecting Scotland's cities and regions. The grouping would enhance the existing National Cycle Network to create a strategic national network of active travel routes mirroring in part the trunk road and rail networks.
Connecting Towns by Active Travel	Segregated active travel routes on interurban connections between adjacent towns in locations where demand is expected to be high. Complements the Long-Distance Network and existing links on the National Cycle Network.
Cycle Parking Hubs	High-quality, high-capacity cycle parking facilities in urban centres and at other key trip attractors to cater for increased demand in locations where Active Freeway networks are implemented (in Scotland's large urban areas, with priority given initially to the larger cities).
Behaviour Change Initiatives	Delivery of activities which provide encouragement, enablement and incentivisation for more people to make use of active and sustainable transport choices more often. The initiatives would complement many other STPR2 interventions by raising awareness of, and encouraging individuals to use, the most appropriate transport choice for their journey.

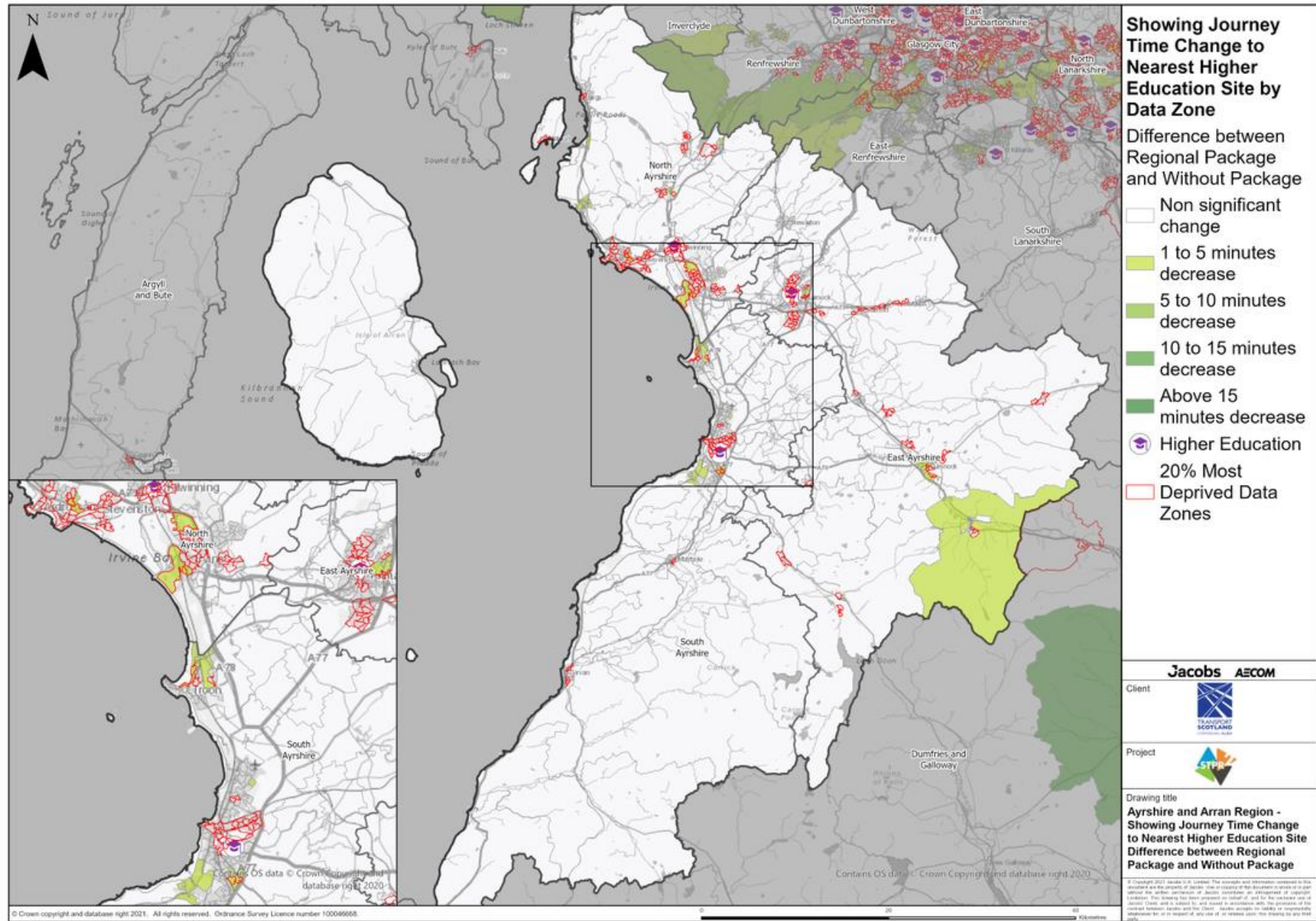|	
Expansion of 20mph limits and zones	Provision of new or expanded 20mph schemes across Scotland on appropriate roads in cities, towns and villages. This would reduce traffic speeds and create safer environments which promote and encourage active travel choices.
Bus Priority Infrastructure	Bus priority to deliver faster and more reliable journey times for bus passengers, particularly within Scotland's cities and towns where congestion is highest; including support for local/regional schemes to improve bus priority, funding for initial appraisal in some areas is currently being provided through the Bus Partnership Fund.
Decarbonisation of the Bus Network	Bus fleet decarbonisation, including use of funding to further stimulate rapid commercial investment in the roll out of zero-emission buses and associated infrastructure, including for vehicles used by the home to school and community transport sectors.
Demand Responsive Transport (DRT) / Community Transport:	Consideration of whether the outcomes from pilot studies funded through Phase 1 of STPR2 would enable capital funding to be used to support Demand Responsive Transport/Community Transport in providing improved public transport connectivity in rural, island and peripheral areas.
Decarbonisation of Freight Deliveries	Interventions to support the decarbonisation of freight deliveries, including awareness and education activities, alternative fuel infrastructure and alternative fuel HGV trials.
Railway Freight Terminals and Facilities	Improving the modal shift of freight from road to rail primarily for trunk haul movements (but not exclusively) through a network of rail freight terminals and facilities to include direct connections to manufacturing facilities and warehousing; at a regional level this includes a review of potential terminal locations.
Freight Reliability, Resilience and Efficiency Improvements	Freight reliability, resilience and efficiency improvements sets out options on how the road freight industry can be supported by implementing a variety of hard and soft measures that will reduce overall disruption, improving journey times and reducing costs for operators, such as: strengthening bridges, 50mph speed limits, implementing freight route signage.
Freight Consolidation and Last-Mile Logistics:	Introduction of measures to improve freight connectivity within urban and rural areas, such as improved access to cargo bikes, approaches to consolidation centres to aid 'last-mile' logistics and use of innovative technologies.
Freight Incentives and Freight Best Practice	Evaluation of future of Freight Facilities Grant and Mode Shift Revenue Support to encourage more efficient, environmentally friendly practices within the freight industry, including promoting sustainable transport options.
Rail Freight Enhancements	Rail freight enhancements required as outlined as part of the Scottish Strategic Freight Network (SSFN) by the Scotland Freight Joint Board in 2017. This infrastructure enables more efficient mode shift from road to rail. This includes: - Central Belt – Ayrshire - Increased train length, improved route availability (axle weight), better freight schedules and clearance for taller and wider wagons
Arran and Campbeltown Connectivity	Connectivity options for Clyde and Hebrides Ferry Services (CHFS) serving Arran and Kintyre, including Campbeltown.

Decarbonisation of CHFS and NIFS Ferry Network	Decarbonisation of the CHFS and NIFS ferry networks.
Improve Access to Major Ports and Airports	Introduction of a series of infrastructure and public transport service improvements that will provide better-quality surface connections to Scotland's major ports and airports by road, rail and public transport to allow Scotland to fully maximise the potential afforded by all its major ports and airports.
Trunk Road and Motorway Network Renewal for Reliability, Resilience and Safety	Renew and improve the resilience of the trunk road and motorway network. This would include preventative and programmed structural renewals of carriageways and network structures for consideration.
Trunk Road and Motorway Climate Change Adaptation and Resilience:	This focuses on the areas on the trunk road and motorway network most at risk of disruption due to weather events. This would involve identification of priorities and measures to strengthen the resilience of Scotland's trunk road and motorway network to adapt to a changing climate and unplanned events.
Mobility Hubs and Multi-modal Interchanges	Construction of new or upgrades to existing mobility hubs, P&R sites and other multi-modal interchanges to improve interchanges between modes.
Regional Passenger Facilities/Station Enhancements	Building on the Phase 1 recommendation, improvements to public transport passenger facilities, focusing on bus stations seeking to improve passenger facilities both in terms of improved quality and in terms of improved accessibility for those with reduced mobility.
South West Trunk Road and Motorway Network Improvements	Improving trunk and motorway network road safety and strategic access to National Developments and Key Gateways. Road safety improvements will focus on route sections where calculated local KSI and/or PIA accident rates are over 2 times greater than the national rates for routes of a similar nature and standard, over the period 2015 to 2019. Improvements are anticipated to include widening / realignment on single carriageway sections, targeted overtaking opportunities and junction improvements, with a primary focus on helping to achieve the Scottish Government's Target of 'Vision Zero' by 2050.
A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles	A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles: A National Action Plan to support the transition to Low Emission/Ultra Low Emission/Electric Vehicles to support the delivery of the Scottish Government's net zero targets through a multi-faceted programme of interventions. Measures include funding streams to support the delivery of infrastructure and innovative schemes to allow an equitable transition across the country.
Changing Road User Behaviour	Implementation of speed enforcement technology and national road safety behaviour change campaigns, education and training initiatives to enable all road users to understand their road safety responsibilities, allowing them to improve their attitudes and behaviours for the safety of themselves and others.
Corridor Enhancements: Central Belt	Provision of a platform for rail network enhancements within the Central Belt and on cross-border routes. This covers the Central Belt of Scotland (Glasgow-Edinburgh), communities within a commutable distance of these city regions and the two main rail routes for cross-border travel to England (East and West Coast Mainlines). At a regional level this includes enhancements to reduce capacity constraints on the West Coast Main Line, including interventions across the wider network such as the Glasgow-Dumfries-Carlisle route.

Decarbonisation of the Rail Network	Delivery of a continued, rolling programme of rail decarbonisation, including consideration of batteries and alternative fuel sources, in line with Transport Scotland's Rail Services Decarbonisation Action Plan (DAP).
Incident Management Software (IMS) Upgrade	New Incident Management System (IMS) Software to maintain and improve the current level of service across the network
Control Centre of the Future	This would involve investment enhancement of the capabilities of the Traffic Scotland National Control Centre, and how to plan for the future renewal and replacement of equipment, systems and services to maximise network operations.
Intelligent Transport Systems (ITS) Roadside Infrastructure	Investment in ITS which helps to ensure the availability, resilience, safety and quality of the transport infrastructure that is used to actively manage and control traffic during incidents and hazardous weather conditions.
Integrated Public Transport Ticketing	Integration of ticketing across public transport (bus, rail and ferries).

Showing Journey Time to Nearest Major Hospital by Data Zone

Difference between Regional Package and Without Package

- Non significant change
- 1 to 5 minutes decrease
- 5 to 10 minutes decrease
- 10 to 15 minutes decrease
- Above 15 minutes decrease
- ✚ Major Hospitals
- 20% Most Deprived Data Zones

Ayrshire & Arran Region – Showing Journey Time Change to Nearest Major Hospital Difference between Regional Package and Without Package

Showing Journey Time Change to Nearest Higher Education Site by Data Zone

Difference between Regional Package and Without Package

- Non significant change
- 1 to 5 minutes decrease
- 5 to 10 minutes decrease
- 10 to 15 minutes decrease
- Above 15 minutes decrease
- Higher Education
- 20% Most Deprived Data Zones

Ayrshire & Arran Region – Showing Journey Time Change to Nearest Higher Education Site Difference between Regional Package and Without Package

Showing Percentage Change in Local Jobs that can be Accessed

For Urban and Accessible Geographies for Journeys under 40 minutes

Difference between Regional Package and Without Package

- Non significant change
- 1%-5% more jobs that can be accessed
- 5%-10% more jobs that can be accessed
- 10%-15% more jobs that can be accessed
- >15% more jobs that can be accessed
- Employment Centre
- 20% Most Deprived Data Zones

Jacobs AECOM

Client

Project

Drawing title
Ayrshire and Arran Region - Access to Employment Destinations (i.e. jobs) located Locally for Urban and Accessible Geographies Difference between Regional Package and Without Package

Ayrshire & Arran Region – Access to Employment Destinations (i.e. jobs) located Locally for Urban and Accessible Geographies Difference between Regional Package and Without Package

Showing Percentage Change in Regional Jobs that can be Accessed

For Urban and Accessible Geographies for Journeys under 60 minutes

Difference between Regional Package and Without Package

- Non significant change
- 1%-5% more jobs that can be accessed
- 5%-10% more jobs that can be accessed
- 10%-15% more jobs that an be accessed
- >15% more jobs that can be accessed
- Employment Centre
- 20% Most Deprived Data Zones

Jacobs AECOM

Client

Project

Drawing title
Ayrshire and Arran Region - Access to Employment Destinations (i.e. jobs) located Regionally for Urban and Accessible Geographies Difference between Regional Package and Without Package
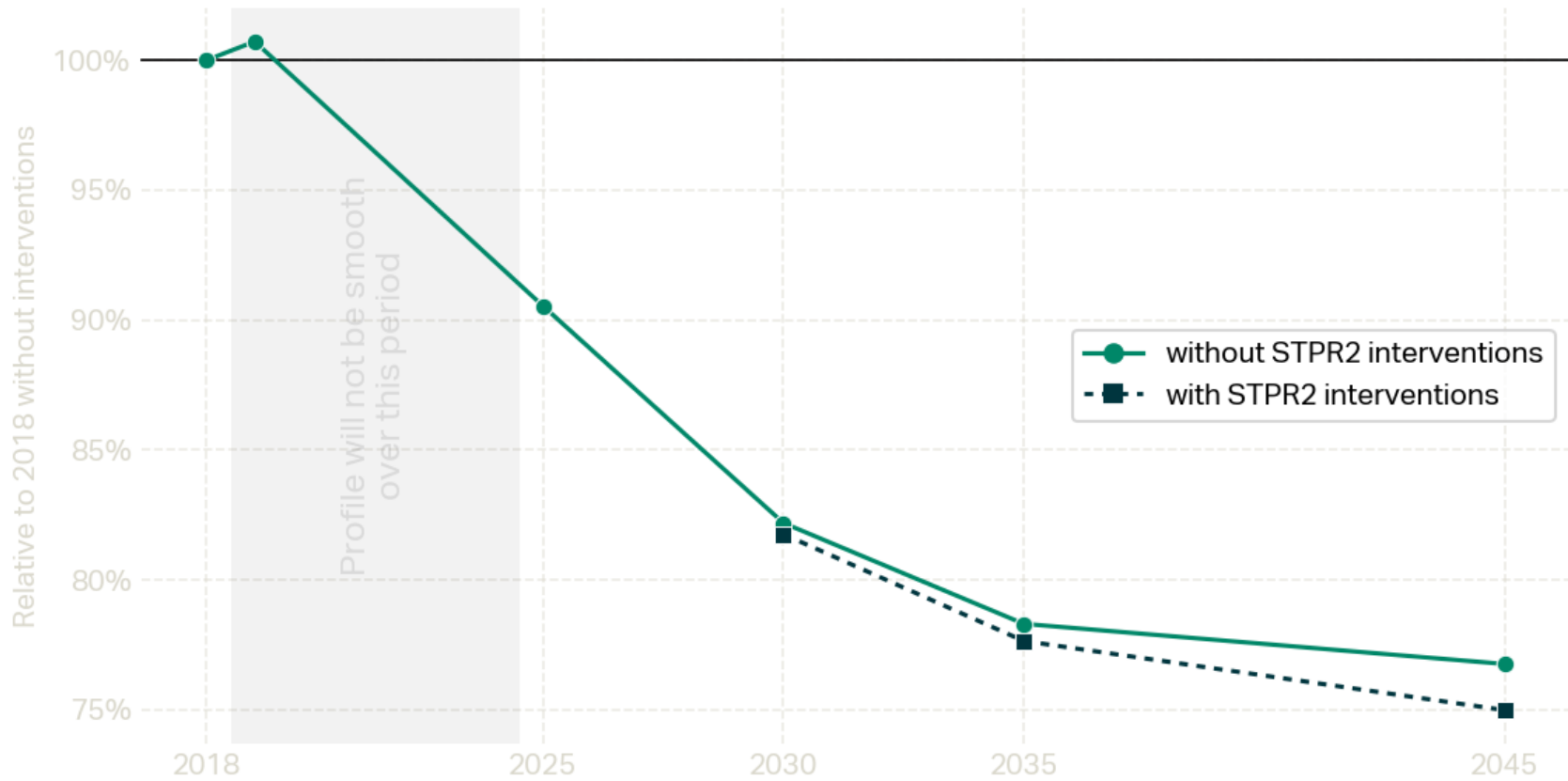
Ayrshire & Arran Region – Access to Employment Destinations (i.e. jobs) located Regionally for Urban and Accessible Geographies Difference between Regional Package and Without Package

Traffic Modelling Outputs

Ayrshire & Arran
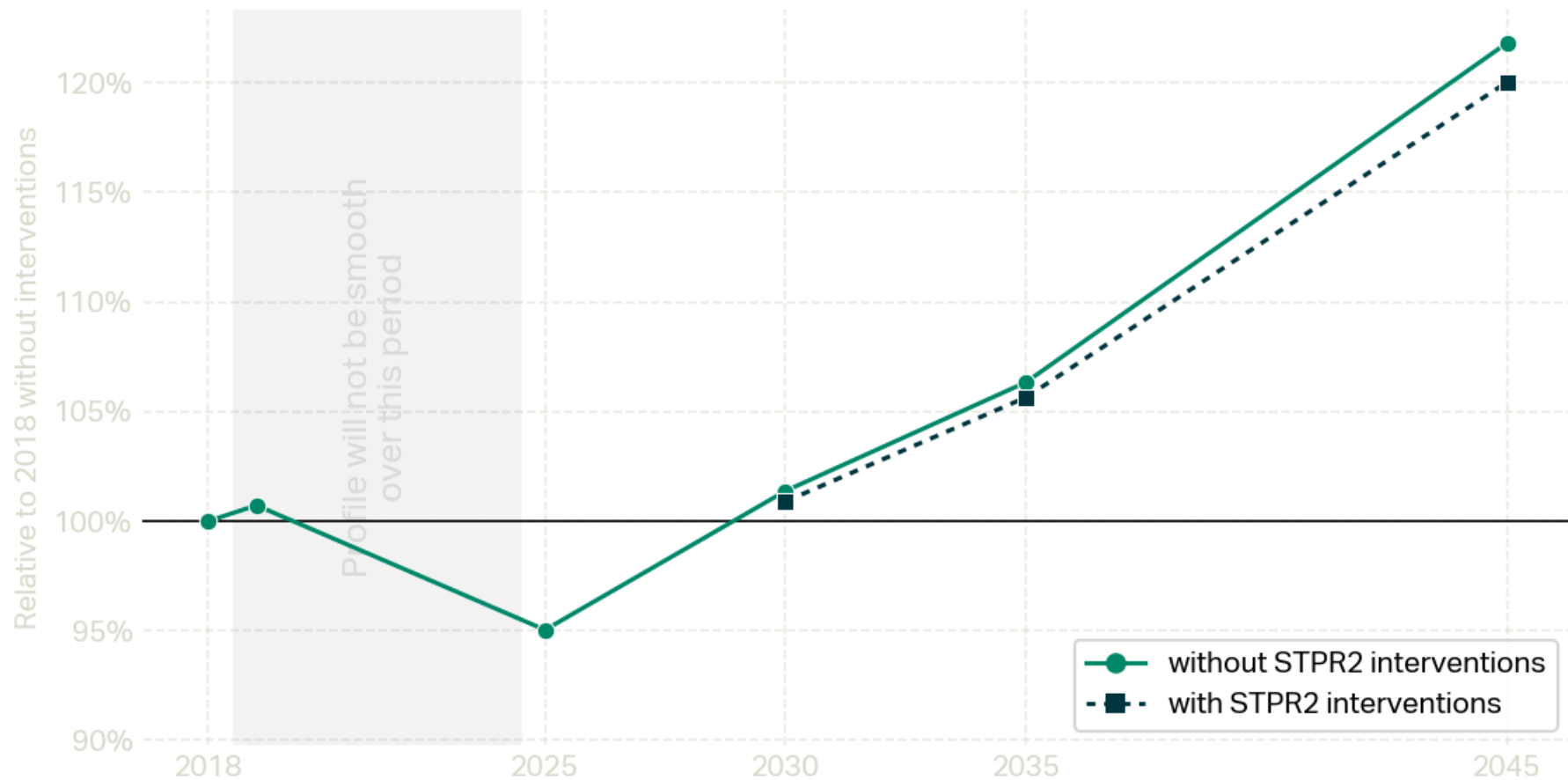## Low Motorised Traffic / Emission Demand

Modelled Annual Road Traffic (vehicle-kilometres)

Relative to 2018 without interventions

Profile will not be smooth over this period

- ● without STPR2 interventions
- ■ with STPR2 interventions

2018   2025   2030   2035   2045

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

Ayrshire & Arran
High Motorised Traffic / Emission Demand

Modelled Annual Road Traffic (vehicle-kilometres)
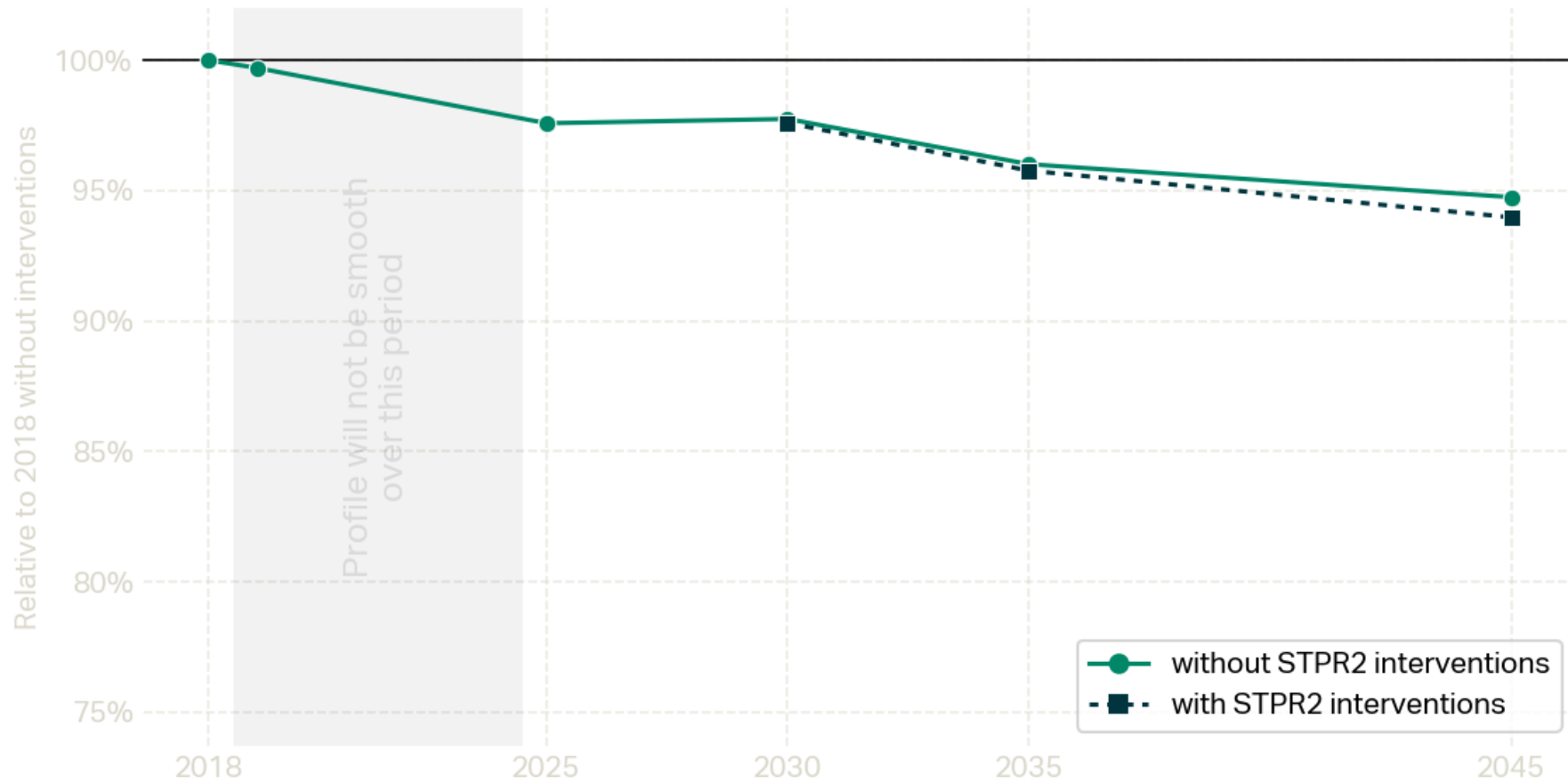

Relative to 2018 without interventions

Profile will not be smooth over this period

— without STPR2 interventions
---- with STPR2 interventions

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

Ayrshire & Arran
Low Motorised Traffic / Emission Demand

Modelled Road Journey Time (minutes per km)

Relative to 2018 without interventions

Profile will not be smooth over this period

- ━●━ without STPR2 interventions
- ┅■┅ with STPR2 interventions

100%
95%
90%
85%
80%
75%

2018   2025   2030   2035   2045

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.

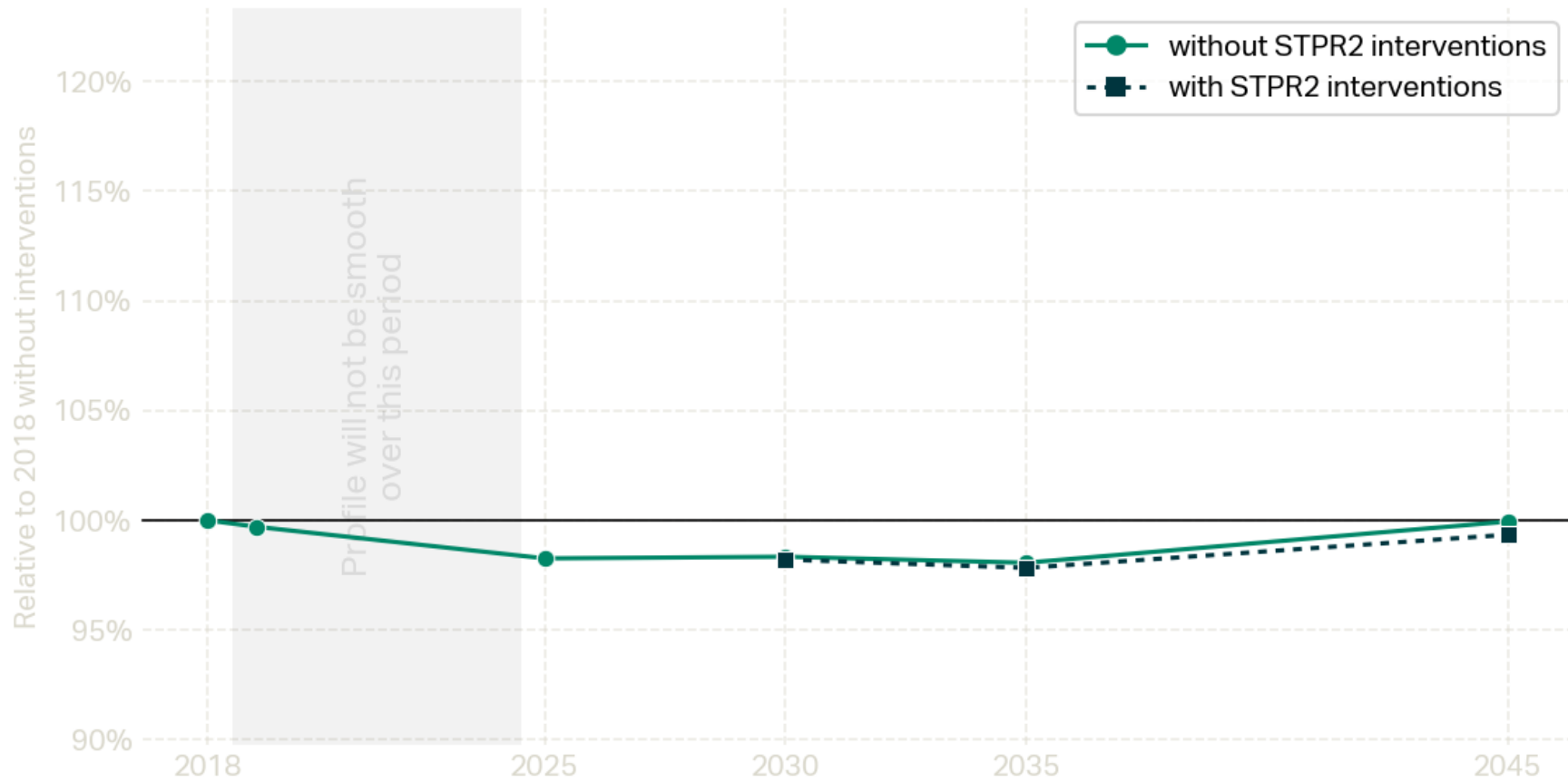**Ayrshire & Arran**
High Motorised Traffic / Emission Demand

Modelled Road Journey Time (minutes per km)

Relative to 2018 without interventions

Profile will not be smooth over this period

— without STPR2 interventions
----- with STPR2 interventions

120%
115%
110%
105%
100%
95%
90%

2018   2025   2030   2035   2045

Analysis undertaken January 2022. "Road" includes both Car and Goods Vehicle trips.