

# South West Scotland Transport Study - Initial Appraisal: Case for Change

January 2020

## EXECUTIVE SUMMARY



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## Executive Summary

### Background

In the 2017/18 Programme for Government, the Scottish Government committed to commence work for the second Strategic Transport Projects Review (STPR2) in the Dumfries and Galloway area. Responding to this commitment, AECOM and Stantec were commissioned to carry out the first stage in the Scottish Transport Appraisal Guidance (STAG) process, researching the case for investment in potential transport interventions in the South West of Scotland through an **Initial Appraisal: Case for Change study**.

The key aim of the work is to consider the rationale for improvements to road, rail, public transport and active travel on key strategic corridors in the South West of Scotland, including those served by the A75 and A77, with a focus on access to the ports at Cairnryan.

The study area includes Dumfries & Galloway and the southern extents of South Ayrshire and East Ayrshire and has focused on the following strategic corridors:

- Gretna – Stranraer
- South of Ayr – Stranraer
- Dumfries – Cumnock
- Dumfries – Lockerbie and Moffat

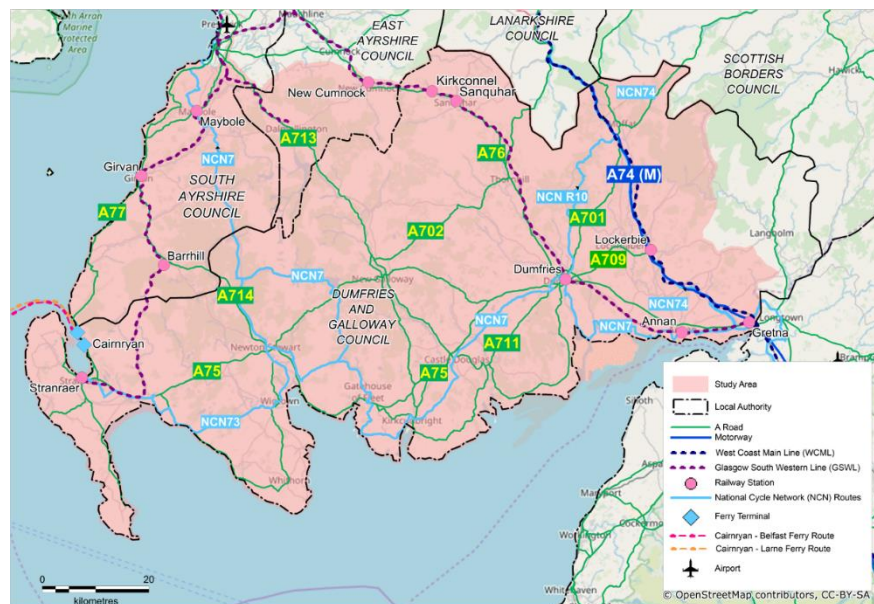


Figure 1: South West Scotland Transport Study - Study Area

### Approach

The Initial Appraisal: Case for Change constitutes the first stage of STAG and involves the following core tasks:

- **Analysis of Problems and Opportunities:** Establish the evidence base for problems and issues linked to transport on key corridors across the South West of Scotland drawing on targeted data analysis and engagement with the public and key stakeholders;
- **Objective Setting:** Develop initial Transport Planning Objectives to encapsulate the aims of any interventions and to guide the development of solutions; and
- **Option Generation, Sifting and Development:** Develop a long list of multi-modal options to address the identified problems and opportunities, and undertake a process of option sifting and development leading to the identification of a short list of interventions recommended for progression towards Preliminary Appraisal.

Subsequent stages of the STAG process - the Preliminary and Detailed Appraisal phases - involve more detailed appraisal work, considering the feasibility and performance of potential options to tackle the identified transport-related problems and opportunities, and these will be developed as the STPR2 process moves forward.

In taking forward the study, work has been overseen by a project Steering Group comprising Transport Scotland, Dumfries and Galloway Council (D&GC), the Ayrshire Roads Alliance<sup>1</sup>, SWestrans and Strathclyde Partnership for Transport (SPT).

## Policy Context

Key transport, planning and economic strategies and policies at the national, regional and local levels have been reviewed to provide background context against which this Case for Change study has been undertaken. This includes the National Transport Strategy, the Regional Transport Strategies of SWestrans and SPT, and Local Transport Strategies of Dumfries & Galloway Council, East Ayrshire Council and South Ayrshire Council.

At the national level, several key policies provide context for this study and cognisance has been taken of these throughout the process. The Scottish Government's **Programme for Scotland (PfG) 2017-18** set out the Government's ambitions to build a modern, dynamic and open economy which benefits everyone in Scotland, including a commitment to examine improvements in transport links in the South West of Scotland, indicating that it shall "...commence work for the second **Strategic Transport Projects Review** in the Dumfries and Galloway area. The Programme for Government 2019-20 has now also been published. The PfG is closely aligned to the Climate Emergency. The Scottish Government declared a Climate Emergency in April 2019, outlining that action needs to be taken to limit the effects of global warming. The new Climate Change Bill commits to a target of net-zero emissions of all greenhouse gases by 2045, and the Scottish Government aims for an ambitious plan to reduce emissions by 75% by 2030. Dumfries and Galloway Council also declared a Climate Emergency in June 2019 and issued a 12-point plan of commitments.

The role of transport improvements in addressing longstanding issues and supporting economic growth aspirations was the focus of discussion at **Transport Summits** held in Dumfries in 2016 and Kilmarnock in 2018. The Summits brought together officials from across Scottish Government, local authorities, economic agencies and local stakeholders with an interest in transport, to discuss transport-related problems across the region. A key issue discussed related to connectivity, including to the ports at Cairnryan, with poor road infrastructure and limited public transport integration highlighted by a number of stakeholders and interventions put forward across all modes to address the identified problems.

As part of the **Growth Deal initiative**, both Ayrshire and The Borderlands (Dumfries & Galloway, Scottish Borders, Northumberland, Carlisle and Cumbria) are involved in taking forward Growth Deals, supported by the UK and Scottish Governments, designed to provide investment that encourages economic growth. Proposals have also been set out by the Scottish Government for the creation of a South of Scotland Enterprise Agency, covering the Dumfries & Galloway and Scottish Borders local authorities, to drive forward economic development. The impetus being given to economic development opportunities in the region, both through the establishment of Growth Deals and the South of Scotland Enterprise Agency, provides further context to this study.

An overview of the strategies and policies reviewed is presented in Figure 2.

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<sup>1</sup> The Ayrshire Roads Alliance – comprising East and South Ayrshire Council – delivers shared Council roads and transportation services to communities across East and South Ayrshire.



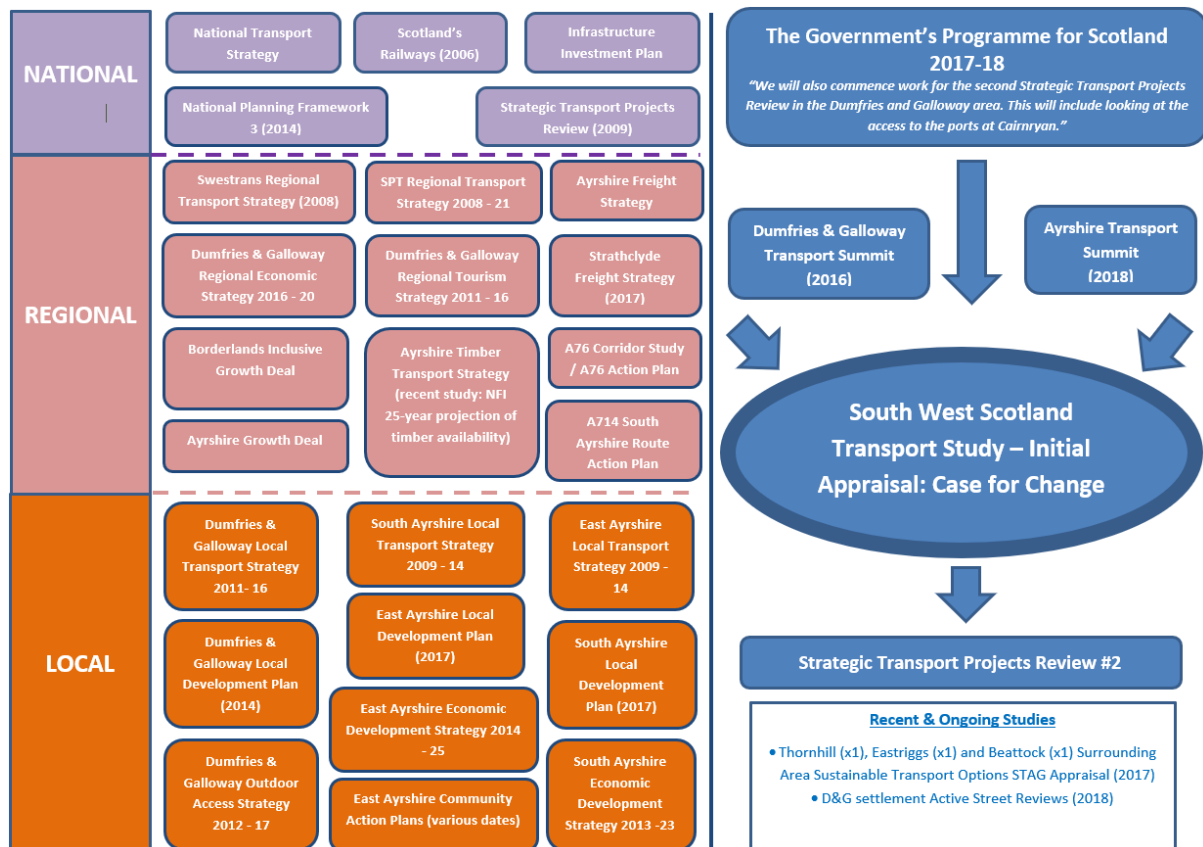


Figure 2: Strategy and Policy Overview

To inform the identification of transport-related problems and opportunities in the South West of Scotland, a baseline review of transport, socio-economic and environmental conditions in the study area was undertaken. Given the focus of the study, particular attention has been given to the role of the ports at Cairnryan.

## South West Scotland Ports

The ports at Cairnryan provide:

- the only surface trade route between Scotland and Northern Ireland / Ireland;
- the only ferry routes to enable personal travel directly between Scotland and Northern Ireland, two nations with historic and cultural ties;
- a short sea crossing route to Northern Ireland for traffic from across England;
- local employment on the ferries themselves and at the ports. During the engagement exercise for this study, it was noted by the ferry operators that over 300 people are employed at the ports and on the ships, with a considerable proportion of employees living locally. In addition, while local benefits of through-traffic to the ports which does not stop (such as driver spend) is likely to be limited, many freight business ferry users employ HGV drivers (and other support staff) from the local area. Any reduction in port usage could therefore reduce locally available employment opportunities;
- employment across Scotland in the freight and logistics sector involved in moving freight using the South West of Scotland ferry routes.

The future viability and success of these routes is of key importance to Scotland as a society and an economy. The Irish Sea ferry market is highly competitive and any loss of major customers to other routes could lead to a diminution of the current service with associated negative impacts. The baseline review has therefore been undertaken to understand existing trends associated with traffic through the ports at Cairnryan.

Data indicates that between the two operators (P&O and Stena Line), 1.75 million passengers, 413,000 cars, and over 400,000 goods vehicles were moved in 2017. These figures underline the freight-focussed nature of the Irish

Sea routes with the total number of commercial vehicles carried almost matching the number of cars carried. Averaged across the year, around 1,100 commercial vehicles per day are therefore using the ports at Cairnryan.

Analysis of **origin-destination surveys** shows that freight traffic travels from across the UK to access the ports, owing to the relatively shorter sailing time compared to competitor ports. As shown in Figure 3, while there is a concentration of freight movements in the Central Belt, traffic can also be seen originating from as far away as the south coast of England, clearly illustrating the national reach of the ports at Cairnryan.

To support a greater understanding of goods vehicle movements on the A75 and A77 and the importance of these strategic routes in supporting the role and operation of the ports at Cairnryan, surveys were undertaken focused on freight movements on these routes. **Port observations** confirmed the vehicle departure pattern from the port terminals was characterised by an initial spike of traffic in the first 15 minutes after the ship docked followed by a longer tail of intermittent freight vehicles which had been transported on the ferry as unaccompanied trailers. Observations also confirmed that the dominant flow of freight vehicles from the ports was towards the A75 rather than the A77. The percentage split across the survey was two thirds towards the A75 and one third to the A77.

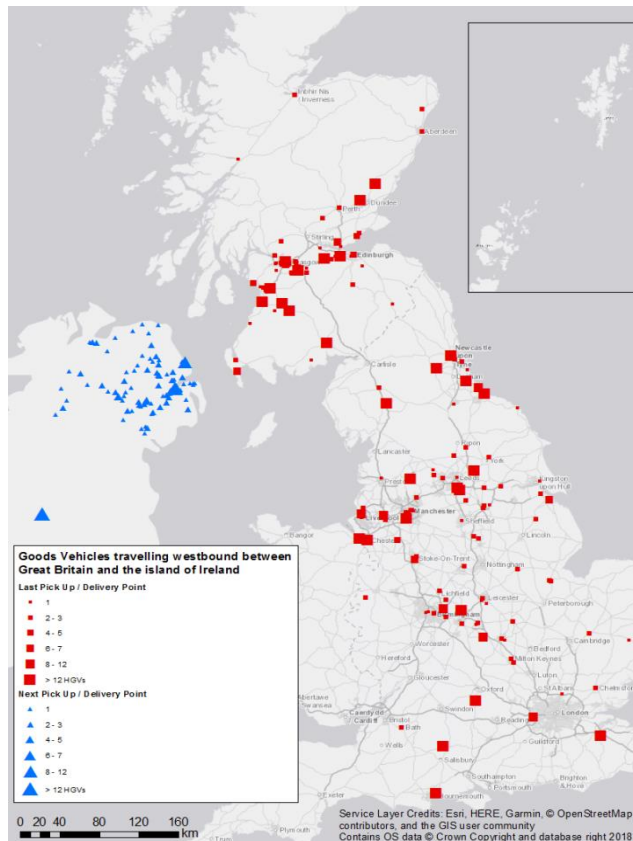
**Specialised Goods Vehicle Counts** (a record of HGVs and specific details about them) in Dumfries and Ayr also identified a significant volume of port-related traffic (estimated to be around 35%), as well as other important freight flows directly supporting the economy of the South West of Scotland. Based on observations and valuations of the type of goods being transported, approximately £26 million worth of goods per day is estimated to use the A75 East of Dumfries, £20 million on the A75 West of Dumfries with approximately £10 million moving on the A77 south of Ayr.

The analysis confirmed the strategic importance of the A75 and A77 to the freight industry in terms of providing access to the short sea crossings from the ports at Cairnryan. Despite this, journey time analysis suggests that travel times to the ports at Cairnryan are considerably longer for the last 100 miles of their journey, relative to competitor ports at Heysham, Liverpool and Holyhead. Concerns have therefore been raised by stakeholders in the South West of Scotland about a potential loss of ferry market share to competitor ports owing to relatively poorer surface access arrangements.

## Strategic Transport Network

In terms of the **active travel network**, there are several National Cycle Network (NCN) routes within the study area, including NCN Route 73 (South), NCN Route 7, NCN Route 74, and NCN Regional Route 10. Baseline active travel levels were unavailable for this study, though a number of active travel audits undertaken for communities in the Dumfries and Galloway region have been reviewed to consider the nature of barriers and constraints to increasing active travel levels.

The **rail network** in the South West of Scotland is served by the Glasgow South Western Line (GSWL), which provides services between Glasgow to Stranraer and Glasgow to Carlisle/Newcastle via Dumfries, and the West Coast Mainline (WCML) between Glasgow and Birmingham/London. There is no rail access in the Stranraer to



**Figure 3: Origin-Destinations for Goods Vehicles between Great Britain and the Isle of Ireland**

Gretna Corridor, meaning communities along the route have to travel up to 35 miles to access their nearest station.

Analysis of passenger numbers and rail user surveys has been undertaken to develop a better understanding of travel trends on the rail corridors in the South West of Scotland, including station catchments. As would be expected Dumfries has the highest number of inbound and outbound journeys of all the stations within the study area, while Lockerbie on the WCML attracts the second highest number of passengers. Both stations also draw on a large catchment.

Journey times from Lockerbie to Glasgow are significantly quicker than the equivalent journeys from Dumfries and, during the week, connections are more frequent. Similarly, journey times from Lockerbie to Edinburgh are significantly quicker than the equivalent journeys from Dumfries with only indirect connections available between Dumfries and Edinburgh. Due to high numbers of people driving to Lockerbie Station for onward travel by rail to the Central Belt, problems with both a lack of parking and indiscriminate parking at Lockerbie were frequently noted during consultation.

In terms of the **bus network** within the study area, this faces significant challenges with passenger journeys decreasing. Overall, two-thirds of buses operating in Dumfries and Galloway operate with partial or full subsidy, and this subsidy is reducing due to budgetary pressures. For commercially run services, the overall viability is in many cases only achievable due to high use in the mornings and afternoons by school children.

The most developed part of the network and the majority of commercial services are concentrated in and around Dumfries, while there is also relatively high bus frequency on key corridors into the town, including the A75 between Dumfries and Gretna, the A76 between Dumfries and Thornhill, and the A709 between Dumfries and Lockerbie. Bus service frequency is lower across the more rural parts, with particularly low frequency levels between Glenluce and Port William, across several routes into Castle Douglas and Kirkcudbright, between Moniaive and Thornhill, and between Bellsbank and Carsphairn in the centre of the study area.

Analysis of issues on the **road network** has focused on the trunk roads in the study area (A75, A77, A76, and the A701) as well as the A709 which, while not a trunk road, is one of the busiest routes in the network and the primary link between Dumfries and Lockerbie providing accessing to the A74(M).

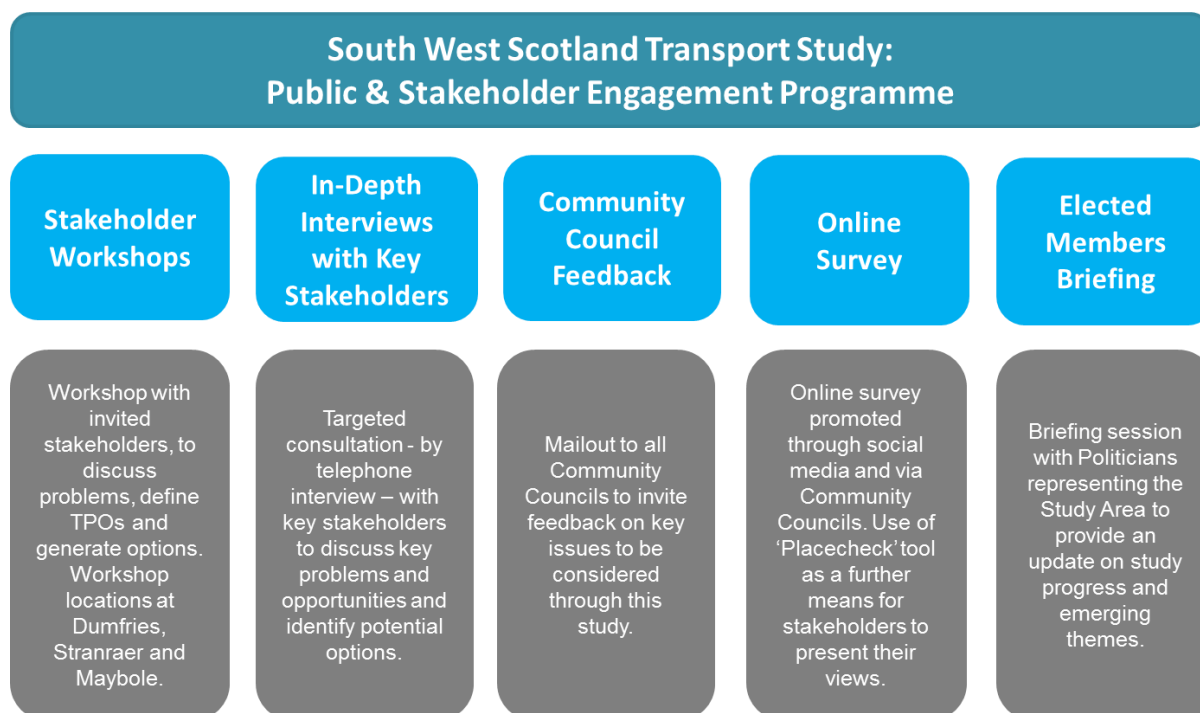
An assessment of average speeds on the strategic road network compared to other routes in Scotland identified that the A77 between Ayr and Cairnryan had the lowest overall speeds (38mph) of all the routes assessed, which is likely to be a result of the large number of speed-limited settlements which the route passes through. While the speed on the A75 is higher (45mph), it is still below other strategic routes in the country.

Vehicle platoon data for trunk roads in the study area confirms a high presence of platooning, including a considerable proportion of long platoons (24%) which were formed by five or more vehicles, making overtaking difficult. While platoons tend to be led by light vehicles, it was also found that a consistently higher proportion of HGVs lead the longer platoons of 3 or more and 5 or more vehicles. Consultees noted that the presence of platoons leads to lower speeds and driver frustration leading to risky overtaking manoeuvres and potential accidents. In addition, it was noted that platoons of HGVs can be intimidating for drivers on the opposing carriageway, particularly in periods of adverse weather and at night.

In terms of safety, analysis of accident data across the study area showed while the overall number of accidents in the study area is lower than the national rate, the proportion of killed or seriously injured (KSI) accidents is higher than the equivalent national values across all routes. This suggests that when accidents do happen on the strategic roads of the South West of Scotland, they are more likely to be more serious.

## Public & Stakeholder Engagement

An extensive engagement exercise with the public and stakeholders was undertaken between September and December 2018 following the approach shown in Figure 4.



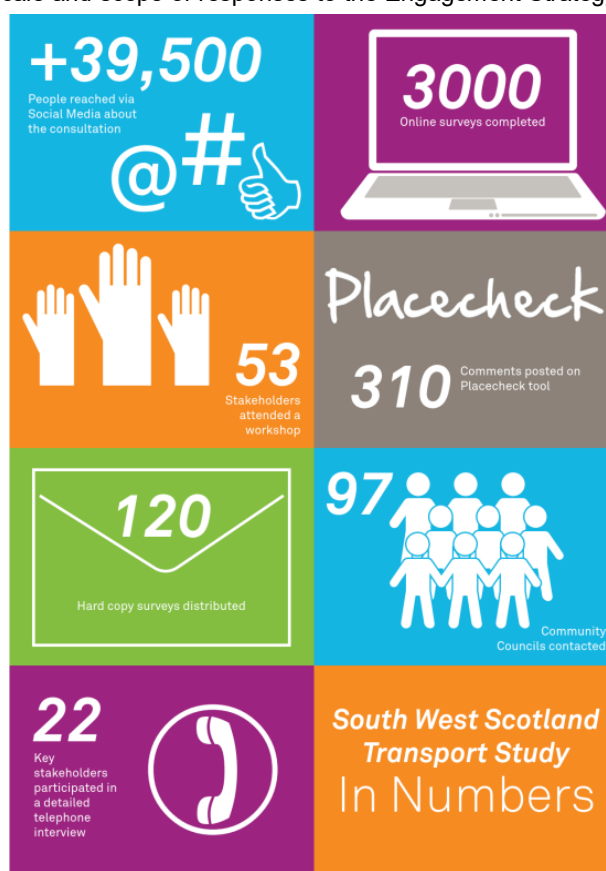
**Figure 4: Public and Stakeholder Engagement Programme**

The consultation exercises generated a strong level of feedback which has guided the analysis of problems as well as the identification of options. A snapshot of the scale and scope of responses to the Engagement Strategy is presented in Figure 5, with key findings from across the engagement approaches presented below.

**Stakeholder Workshops** held in Stranraer, Dumfries and Maybole were attended by over 50 stakeholders representing a range of organisations across the three locations. Key findings included:

- Concerns relating to road quality and their 'fitness for purpose' given their importance as strategic freight corridors;
- HGV platoons, coupled with frequent bends, result in limited overtaking opportunities on key routes including the A75 and A77 coinciding with ferry arrivals;
- Perception of safety issues;
- Concerns regarding a reluctance for individuals and business to invest in the region, particularly the ports, if connectivity with other parts of the UK is not improved;
- Long diversionary routes in the event of incidents and road closures reduce the resilience of the strategic transport network;
- Long journey times by rail, particularly to the Central Belt, deters commuters and visitors from using rail, as does long travel distances to the nearest rail station for some parts of the region.

**1-2-1 Interviews** undertaken with a wide range of key stakeholders provided an opportunity for detailed feedback to be collated. A recurring theme was the view that the South West of Scotland is the "forgotten part of Scotland", in terms of transport infrastructure investment.



**Figure 5: Consultation in Numbers**

The South West of Scotland is the "forgotten part of Scotland", in terms of transport infrastructure investment.

**Community Councils** were targeted as a further source of consultation. Although a limited response was received, Community Councils were asked to assist in promoting a public **Online Survey** designed to understand travel patterns and transport-related problems facing residents of the South West of Scotland and the improvements sought by those who regularly travel throughout the study area. In total, over 3,000 responses were received to the survey which was supported by the Placecheck tool, which invited stakeholders to record things they like, dislike and that need to be worked on using an interactive map of the study area. An additional 300 comments were recorded on Placecheck, further informing the identification of problems and opportunities.

**Elected Members briefings** were also held in Dumfries and Ayr as an update on study progress and emerging themes. These sessions revealed strong agreement over the need for increased transport infrastructure investment in the region.

A Feedback Survey was available for members of the public and organisations to provide their views on the draft Initial Appraisal: Case for Change Report between June and September 2019. Feedback from the survey has informed the production of the final report.

## Problems & Opportunities

Problems and opportunities have been identified through a range of sources including previous studies, data analysis and public and stakeholder engagement. The key problems, presented by mode, are summarised below.

### Active Travel-Based Problems

**AT1 – Active Travel Links to Key Interchanges:** Active travel links to interchange points is limited, with a review of infrastructure highlighting a lack of ‘bus boarder’ kerbs and ‘drop kerb’ crossing points. Within the public survey, around a third of respondents indicated they were dissatisfied with active travel links to railway stations and several comments were received regarding unsafe walking routes to bus stops.

**AT2 – Cycle Facilities at Rail Stations / on Trains:** There is a perception that cycling facilities at stations in the study area are poor and there is limited space for bikes on trains, with survey respondents noting that this contributes to people choosing to drive to rail stations instead of cycling.

**AT3 – Cycle Infrastructure and Facilities:** There is a lack of (safe) off-road cycle routes alongside the key trunk road routes, offering limited active travel accessibility across the area, and to bus and railway stations in key settlements. The majority of the National Cycle Network in the study area is classified as on-road, with survey respondents highlighting the lack of appeal of on-road cycling due to the high proportion of HGVs. Issues with path maintenance can also deter people from cycling and result in safety concerns.

### Bus-Based Problems

**BU1 – Bus Quality and Accessibility:** Bus vehicle quality varies across the region, with ageing vehicles used on several routes. This reduces the journey quality and leads to accessibility problems for some elderly, disabled or mobility impaired users.

**BU2 – Bus Service Frequency:** Bus service frequencies across much of the South West of Scotland are low, with some areas having no service in the off-peak periods. This increases reliance on the car and impacts particularly on those unable to drive (or who would prefer not to drive), likely contributing to a range of socio-economic issues, including difficulty accessing suitable employment and healthcare, increasing social isolation, and ‘forced car ownership’.

**BU3 – Bus Operating Hours:** The hours over which bus services operate constrain use of the network early and later in the day to access e.g. shift-based employment and evening social & leisure opportunities, which can be a particular issue for younger people.

**BU4 – Bus Service Reliability:** There is limited real time information on bus services in the area and feedback from the consultation exercise suggests that bus services can be unreliable. This can lead to a lack of confidence in the bus network which could be a contributing factor for declining bus patronage.



**BU5 – Bus Fares:** Bus fares across the network are high, sometimes higher than travel by rail, and noticeably higher than the cost of travel by private car in several instances. This leaves those without access to a car at a cost disadvantage in terms of their ability to access jobs and education opportunities.

**BU6 – Integrated Ticketing:** A lack of integrated ticketing in the area may be constraining the ability of residents to effectively and economically access employment. Improved ticket integration may be particularly beneficial in supporting younger people's access opportunities, with data showing a decreasing trend for this demographic to own a car.

**BU7 – Service Integration:** There is a lack of integration between bus services, bus and rail services, and bus and ferry services. This can result in long wait times for passengers, resulting in long journey times and reducing access for those without access to a car. Physical integration of rail and bus services can also be problematic, particularly for those with mobility impairments.

### **Rail-Based Problems**

**RA1 – Access to Rail Stations:** The limited rail coverage across the region constrains local people's ability to use rail as a means of transport. This can be a significant disadvantage for those without access to a car and leaves people reliant on the bus network.

**RA2 – Rail Station and Rolling Stock Quality:** Several stations across the study area have poor quality access and facilities, putting those with mobility needs, such as the elderly and young families with prams etc., at a disadvantage in accessing the rail network. There is also a perception of poor quality rolling stock on the rail network.

**RA3 – Parking at Stations:** There are problems with insufficient parking and a lack of disabled parking at some stations, including Barrhill and Lockerbie.

**RA4 – Rail Fares:** The cost of rail travel from the study area is high compared to equivalent trips by car, and those who are unable to access Lockerbie Station are unable to benefit from the lower fares (and shorter journey time) to both Edinburgh and Glasgow than the equivalent trips on the Glasgow South Western Line.

**RA5 – Rail Service Frequency:** Large gaps in the rail timetable and between direct services on the Glasgow South Western Line (for Stranraer) can constrain use of the rail network by those in the study area. There is a more consistent train service between Lockerbie and Glasgow compared to Dumfries and Glasgow during the day meaning those unable to access Lockerbie are disadvantaged.

**RA6 – Rail Operating Hours:** Short operating days at some stations, particularly at weekends, can limit the opportunities for travel for people in the study area. This can impact the ability to access both regular and out of office hours' employment as well as social and leisure opportunities.

**RA7 – Rail Journey Times:** Journey times to the Central Belt are much slower on the Glasgow South Western Line compared to those from Lockerbie on the West Coast Main Line. Those who are unable to access Lockerbie Station are not able to benefit from the much shorter journey times to both Edinburgh and Glasgow, constraining their accessibility.

### **Bus/Rail-Based Problems**

**BR1 – Public Transport Accessibility:** Public transport coverage across the area varies greatly by location. The more rural areas are less well connected and have significantly reduced access to employment opportunities, healthcare and further and higher education. This is likely to be impacting on feelings of community isolation and the ability of these areas to retain young economically active people within their communities, as well as placing a financial burden on families whose children are looking to take up further and higher education opportunities. With an ageing population, the ability to access healthcare is becoming increasingly important, and limited access to healthcare from rural locations will place a financial burden on the Health Service and the communities themselves to ensure suitable access.

## **Road-Based Problems**

**RD1 – Road Standard and Usage:** There are a range of issues with regards to the road network which impact upon network performance and hence how the network in the South West of Scotland is perceived locally and by those in other parts of Scotland and the UK. Traffic platoons can form, particularly on both the A75 and A77, due to the high volume of HGV traffic on the roads often leaving and arriving at the ports at Cairnryan at similar times in line with ferry arrivals and departures. This reduces overtaking opportunities on these routes. The single carriageway nature of the roads, along with poor sight lines and road alignment further add to the inability to overtake. This leads to a slower overall road speed, driver frustration and a higher propensity for severe accidents.

**RD2 – Route Consistency:** Each of the trunk roads in the area as well as the A709 linking Dumfries to Lockerbie run directly through town and village centres. The A75 routes through two villages to the west of Dumfries, with the A77 between Ayr and Stranraer routeing through eight settlements. When passing through these communities, the speed limit on the trunk routes is reduced. As well as causing driver frustration at the lower speed, the traffic through these communities causes local disruption in the form of noise, vibration, severance, poor air quality and safety issues.

**RD3 – Road Maintenance:** There is a perception that road condition is poor within the study area which can have implications for safety and can contribute to longer / unreliable journey times. In comparison to the Scottish average, a higher proportion of roads in the study area either have some deterioration and require investigation or are in poor overall condition and require planned maintenance soon. During consultation, concerns were expressed about the quality of road maintenance and it was highlighted that poorly maintained roads result in damage to vehicles and accidents.

**RD4 – Diversionary Routes:** When a diversionary route is required, often as a result of an incident and unplanned road closure, the alternative route is generally on poorer quality roads which route through rural communities and significantly increase journey distance and journey time, as well as increasing the maintenance costs on the local routes used during the diversion. For businesses, the increased fuel and staff costs and wear and tear to vehicles impact on business operations and can lead to a 'loss of faith' in the reliability of port access.

**RD5 – HGV Parking / Rest Areas:** There are few formal HGV parking / rest areas with appropriate eating, toilet or rest facilities in the study area. During consultation, concerns were raised about HGVs stopping in inappropriate locations, particularly during incidents on the road network.

**RD6 – Traffic in and around Dumfries:** Dumfries is the regional and administrative centre in Dumfries and Galloway and the meeting point of the A75 and A76 trunk roads, with traffic delays in and around the town centre highlighted during engagement as having an impact on the ability of traffic to move around the town, impacting on journey times for traffic on the trunk routes, increasing carbon emissions and reducing air quality.

**RD7 – Electric Vehicle Infrastructure:** There are limited electric vehicle charging points in the study area. This is likely to constrain uptake in electric vehicle use, especially given the distances involved in making strategic trips in the region.

## **Opportunities**

In addition to the identification of evidence-based problems, consideration has been given to key opportunities that transport improvements in the South West of Scotland can support and help to realise. Several opportunities relate to **encouraging inward investment** through delivering accessibility improvements that can help stimulate investment with associated positive impacts on the local economy. **Growth Deals** for both Ayrshire and the Borderlands alongside the development of the South of Scotland Enterprise Agency also present opportunities to drive economic development across the region and will require to be supported by appropriate consideration of transport infrastructure improvements. A number of high-profile **development opportunities** have also been identified in the region, including the redevelopment of the marina and waterfront area in Stranraer, the former Ministry of Defence site at Eastriggs and the decommissioned nuclear power station at Chapelcross. Across the sites, development opportunities could be realised if easier and better transport accessibility is enabled. The strong **tourism** offer in the South West of Scotland was frequently raised during consultation, with it being noted that improved transport connectivity and reduced journey times could attract a greater number of tourists to the region, while development of the 'South West Coastal 300' was also identified as having the potential to increase

tourist numbers as part of a scenic route initiative. The potential to move timber and other freight more sustainably as **rail freight** if suitable road to rail facilities were available, and the availability of increased **electric vehicle charging infrastructure** to encourage more sustainable travel were other opportunities identified.

### Socio-Economic Impacts

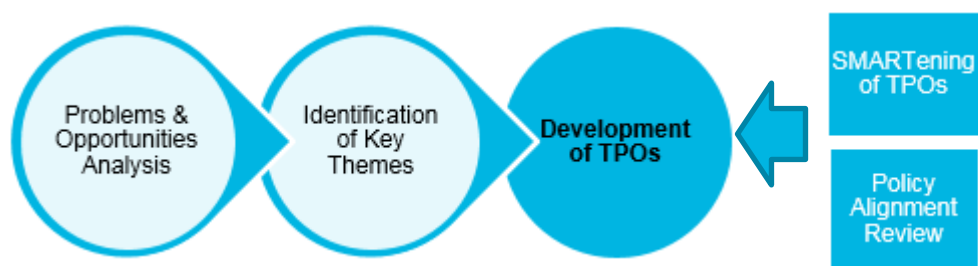
During a two-day study team workshop, the problems and opportunities identified were collated and reviewed and each problem was 'mapped' to one or more Transport 'Themes' (**Average Journey Times, Journey Time Reliability, Mobility, Connectivity, Environmental Impact, Safety and Cost**) with consideration given to the socio-economic impacts associated with each of the themes.

In terms of socio-economic impact, as supported by the stakeholder feedback, travel times by road and the level of connectivity provided by public transport impacts on the opportunities and life-chances for residents, the attractiveness of the area to in-migrants, and the prospect for encouraging investment in the area to realise opportunities, such as tourism. These issues will in turn be impacting on the local demographic profile and levels of prosperity in the area. Improved connections to major centres such as Carlisle, Edinburgh and Glasgow, and regional centres such as Ayr, Kilmarnock and Dumfries would widen the opportunities available to current or prospective residents, leading to, for example, a more sustainable demographic mix, greater prosperity, a less socially isolated population and potentially improved health outcomes.

From a national perspective, the erosion of the competitive position of the ports at Cairnryan could lead to a cycle where investment is not forthcoming, service levels are reduced, and market share is lost, leading to a cycle of decline. As raised during stakeholder consultation, there is a concern that this could represent a threat to local employment in the South West of Scotland and the operations which are based in the rest of Scotland as a result of the presence of the ports.

## Transport Planning Objectives

The development of the Transport Planning Objectives (TPOs) for this study has been driven by a detailed understanding of the evidence-based problems and opportunities in the region (drawn from data analysis and the findings from public and stakeholder engagement) which in turn have informed the identification of the key transport themes. In addition, consideration has been given to wider local, regional and national policy to ensure the TPOs align with this, as well as the SMART criteria; that is the extent to which the TPOs as Specific, Measurable, Attainable, Relevant and Timed.



**Figure 6: TPO Development Process**

The TPOs for this study are as follows:

- **TPO1:** Reduce journey times across the strategic transport network in the study area to the ports at Cairnryan.
- **TPO2:** Reduce accident rates and the severity of accidents on the trunk road network in the South West of Scotland.
- **TPO3:** Improve the resilience of the Strategic Transport Network across the South West of Scotland.
- **TPO4:** Improve journey quality across the road, public transport and active travel networks in the South West of Scotland.

- **TPO5:** Improve connectivity (across all modes) for communities in the South West of Scotland to key economic, education, health and cultural centres including Glasgow, Edinburgh, Ayr, Kilmarnock and Carlisle.

A mapping exercise showing the linkage from the problems and opportunities to the TPOs is presented below.

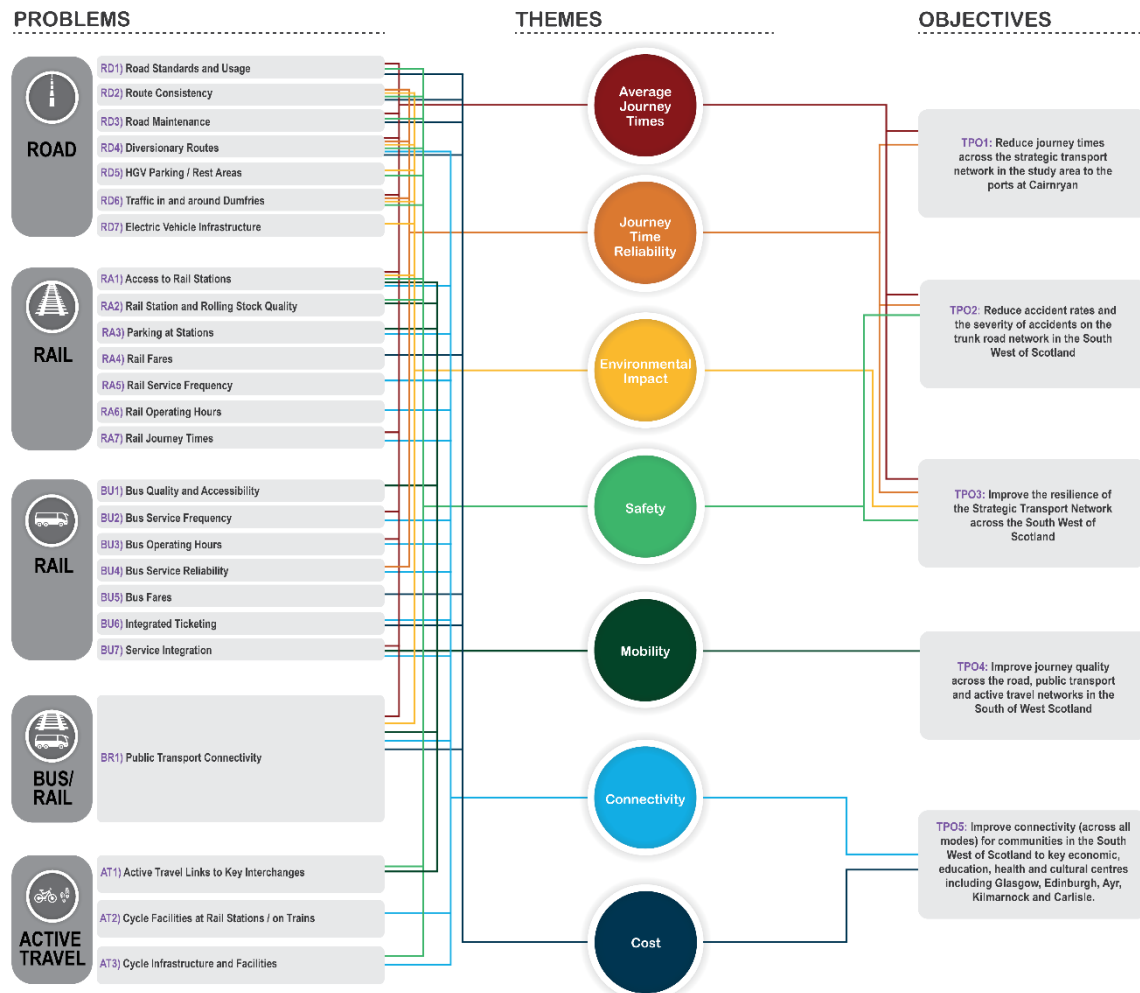


Figure 7: TPO Mapping Exercise

## Option Generation, Sifting & Development

### Approach

An initial long list of options for improving transport was developed based on a range of sources including a review of options raised in previous studies, on-site observations and findings from the public and stakeholder engagement programme. In developing proposed improvements, interventions were generated across all transport modes and across the strategic corridors identified for the study area. In addition, several region-wide options were identified in recognition that some options do not exclusively apply to a single corridor. In total, across these sources, over **650** individual options were identified.

An initial sift of the long list of options was undertaken based on their geographic coverage whereby options considered to be local or which were located outside of the study area were removed. On completion of the Sift 1 stage, approximately **330** options remained.

A further sift was then undertaken based on 'scope', whereby options not considered to be within the scope of this strategic study were removed. Examples of the types of options sifted at this stage include specific roads



maintenance interventions, options concerning fares and ticketing and regional bus service options. On completion of the Sift 2 stage, approximately **210** options remained.

The remaining options were grouped by strategic corridor and packaged together where options were broadly similar. This resulted in the identification of **56** option packages which were subject to a high-level appraisal against the TPOs and 'Implementability' criteria to determine their suitability for taking forward to more detailed appraisal.

A final packaging exercise was then undertaken based on further consolidation of similar options. Through this exercise, the 56 appraised options have been grouped into **23** multi-modal option packages recommended for further assessment, as presented in Table 1.

Before presenting the final set of options recommended for further appraisal, it is important to note that options sifted at each stage of the process have not been discarded but rather shared with the relevant organisations for their consideration and implementation. This includes **local measures** which were considered to be out with the scope of this strategic study but merit investigation from partners at Dumfries and Galloway Council, the Ayrshire Roads Alliance, SWestrans and SPT; and, for example, specific roads issues for consideration by other teams within the Scottish Government and its partner agencies e.g. roads maintenance issues that require attention by the trunk road operating company.

## Recommended Options

**Table 1: Recommended Option Packaging for Further Appraisal**

| Option Package No. | Option Package Description  |
|--------------------|---|
| 1                  | <b>Improved transport integration at main hubs</b><br><i>Package of measures to improve integration of transport at main transport hubs and interchanges (e.g. Stranraer, Dumfries and Lockerbie), including improved integration of bus and rail times, improved cycle connectivity to rail stations and ticket integration.</i> |
| 2                  | <b>Development of the Strategic Active Travel Network</b><br><i>Package of measures to develop the Strategic Active Travel Network in the South West of Scotland to better connect communities to key destinations, including cycle paths parallel to trunk roads and improvements to the National Cycle Network.</i>             |
| 3                  | <b>New Rail Stations on the Glasgow South Western Line</b><br><i>New rail stations on the Glasgow South Western Line, such as at Cumnock, Thornhill, Eastriggs, Pinwherry, Dunragit and South of Ayr.</i>   |
| 4                  | <b>Enhanced Rail Services on the Glasgow South Western Line</b><br><i>Package of measures to enhance rail services on the Glasgow South Western Line, such as rail service, rolling stock and infrastructure improvements and Stranraer Station relocation.</i>   |
| 5                  | <b>New Rail Stations on the West Coast Main Line</b><br><i>New station at Beattock.</i>   |
| 6                  | <b>Enhanced Rail Services on the West Coast Main Line</b><br><i>Package of measures to enhance rail services on the West Coast Main Line, such as increased services operating from and improved access to rail services at Lockerbie, including increased park and ride provision.</i>   |
| 7                  | <b>New Rail Link between Dumfries and Stranraer</b><br><i>Development of a rail link between Dumfries and Stranraer.</i>  |
| 8                  | <b>New Rail Link between Stranraer and Cairnryan</b><br><i>Development of a rail link between Stranraer and Cairnryan.</i>  |
| 9                  | <b>New Rail link between the Glasgow South Western Line and the West Coast Main Line</b><br><i>Development of a rail link between the Glasgow South Western Line and the West Coast Main Line.</i>  |
| 10                 | <b>Enhanced Rail Freight Capacity</b><br><i>Enhancement of rail freight capacity, such as freight hubs at Girvan and Barrhill.</i>  |

| Option Package No. | Option Package Description   |
|--------------------|--|
| 11                 | <b>Development of the Timber Transport Network</b><br><i>Package of measures to support the transport of timber freight by road, rail and sea in the South West of Scotland.</i>   |
| 12                 | <b>Development of Enhanced Diversionary Routes and Route Planning</b><br><i>Package of measures and improvements to the secondary road network which performs a strategic function when the trunk road network is closed to increase resilience of the transport network.</i>  |
| 13                 | <b>Development of Enhanced Service, Rest Areas and Laybys</b><br><i>Package of measures to deliver improved rest provision for all road users in the South West of Scotland, such as truck/lorry stops and rest facilities on the A75 and A77 and enhanced laybys for buses on main routes.</i>  |
| 14                 | <b>HGV Speed Limit Increase</b><br><i>HGV speed limit increase to 50mph on the trunk road network in the South West of Scotland.</i>   |
| 15                 | <b>A75 Capacity Enhancements</b><br><i>Development of capacity enhancement measures on the A75, such as partial dualling, town/village bypasses and improved overtaking opportunities.</i>   |
| 16                 | <b>A75 Safety Measures</b><br><i>Implementation of targeted measures, such as improvements to road geometry, bends, and junction improvements to improve safety on the A75. Package will also include consideration of safety camera deployments through the Scottish Safety Camera Programme annual site prioritisation exercise.</i>                             |
| 17                 | <b>A77 Capacity Enhancements</b><br><i>Development of capacity enhancement measures on the A77, such as partial dualling, town/village bypasses and improved overtaking opportunities.</i>   |
| 18                 | <b>A77 Safety Measures</b><br><i>Implementation of targeted measures, such as improvements to road geometry, bends and junction improvements to improve safety on the A77. Package will also include consideration of safety camera deployments through the Scottish Safety Camera Programme annual site prioritisation exercise.</i>                              |
| 19                 | <b>A76 Capacity Enhancements</b><br><i>Development of capacity enhancement measures on the A76, such as improved overtaking opportunities and town/village bypasses.</i>   |
| 20                 | <b>A76 Safety Measures</b><br><i>Implementation of targeted measures, such as route improvements to enhance road geometry, bends and junction improvements to improve safety on the A76.</i>   |
| 21                 | <b>Road Capacity Enhancements between Dumfries and the A74(M)</b><br><i>Development of road capacity enhancements between Dumfries and the A74(M), such as partial dualling which would improve overtaking opportunities, and/or bypasses. Package also potentially includes considering the possibility to re-classify the status of the A701 and A709 roads.</i> |
| 22                 | <b>Road Safety Measures between Dumfries and the A74(M)</b><br><i>Implementation of targeted measures between Dumfries and the A74(M), such as road geometry, bends, junction improvements and measures to address pinch points.</i>   |
| 23                 | <b>Junction Improvements (M6)</b><br><i>Improvements to the M6 for North to West movements (i.e. coming off the A74(M) north to the A75).</i>  |

## Next Steps

The Initial Appraisal: Case for Change report presents the context for the appraisal of interventions for the South West of Scotland and has considered the rationale for improvements to road, rail, public transport and active travel on the key strategic corridors in the region, with a focus on access to the ports at Cairnryan. Evidence-

based problems and opportunities in the study area have been identified and in turn a set of TPOs have been developed which have guided the generation, sifting and development of a wide range of potential interventions across all transport modes in the study area.

Following a process of options sifting, assessment and packaging, 23 multi-modal option packages across the study area have been recommended for further consideration through the STPR2 process.

In line with STAG, the next stage in developing the options will be to undertake a Preliminary Options Appraisal, which will entail a qualitative appraisal of the recommended options from the Initial Appraisal. This will include an assessment of the likely impacts of the options against the TPOs, the STAG criteria [i.e. Environment, Safety, Economy, Integration, and Accessibility and Social Inclusion]; established policy directives; and an assessment of the feasibility, affordability and public acceptability of options. This will be considered through the STPR2 process.