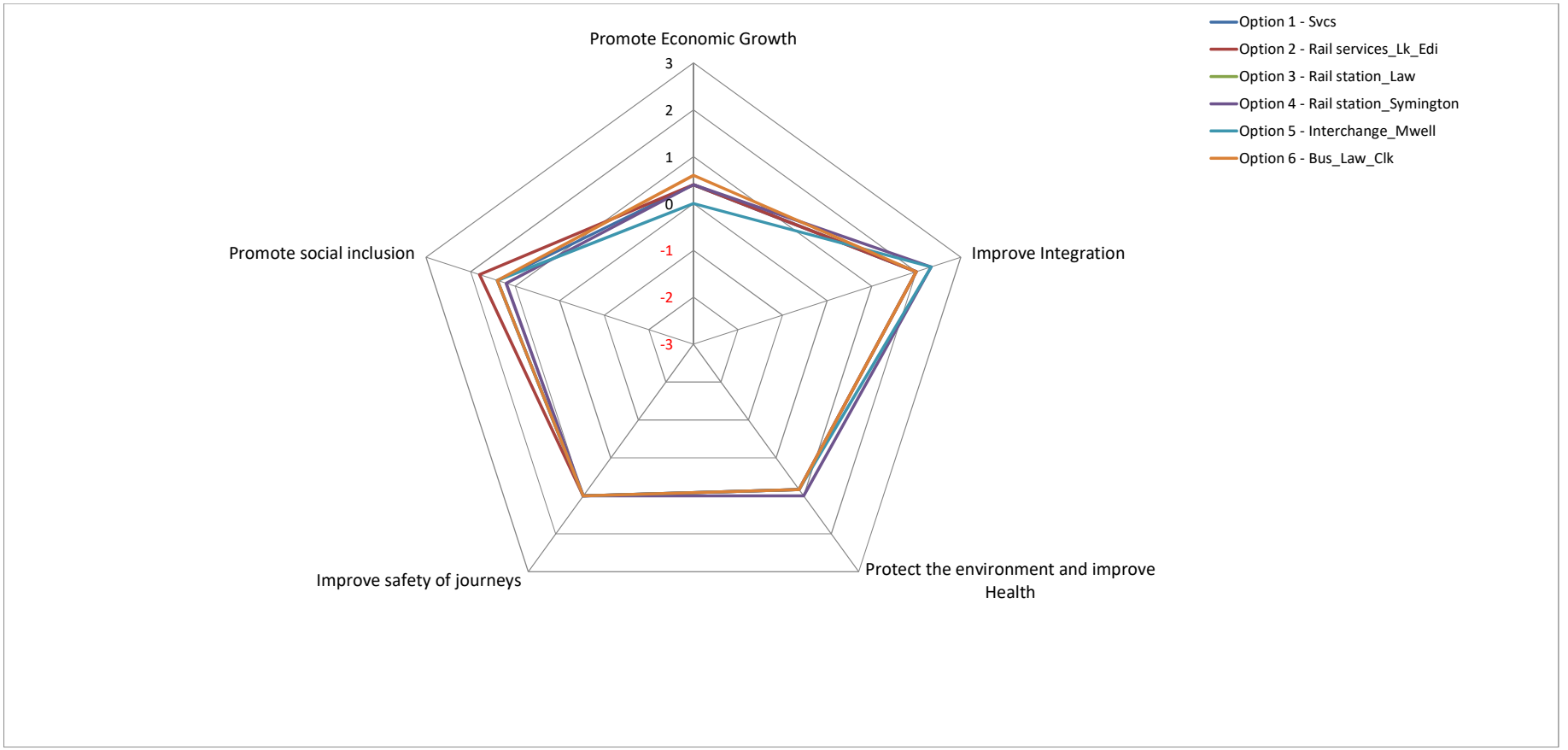
Appendices A.2 and A.3

A.2 Policy Assessment Diagrams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Protect the environment and improve Health
Improve safety of journeys
Promote social inclusion
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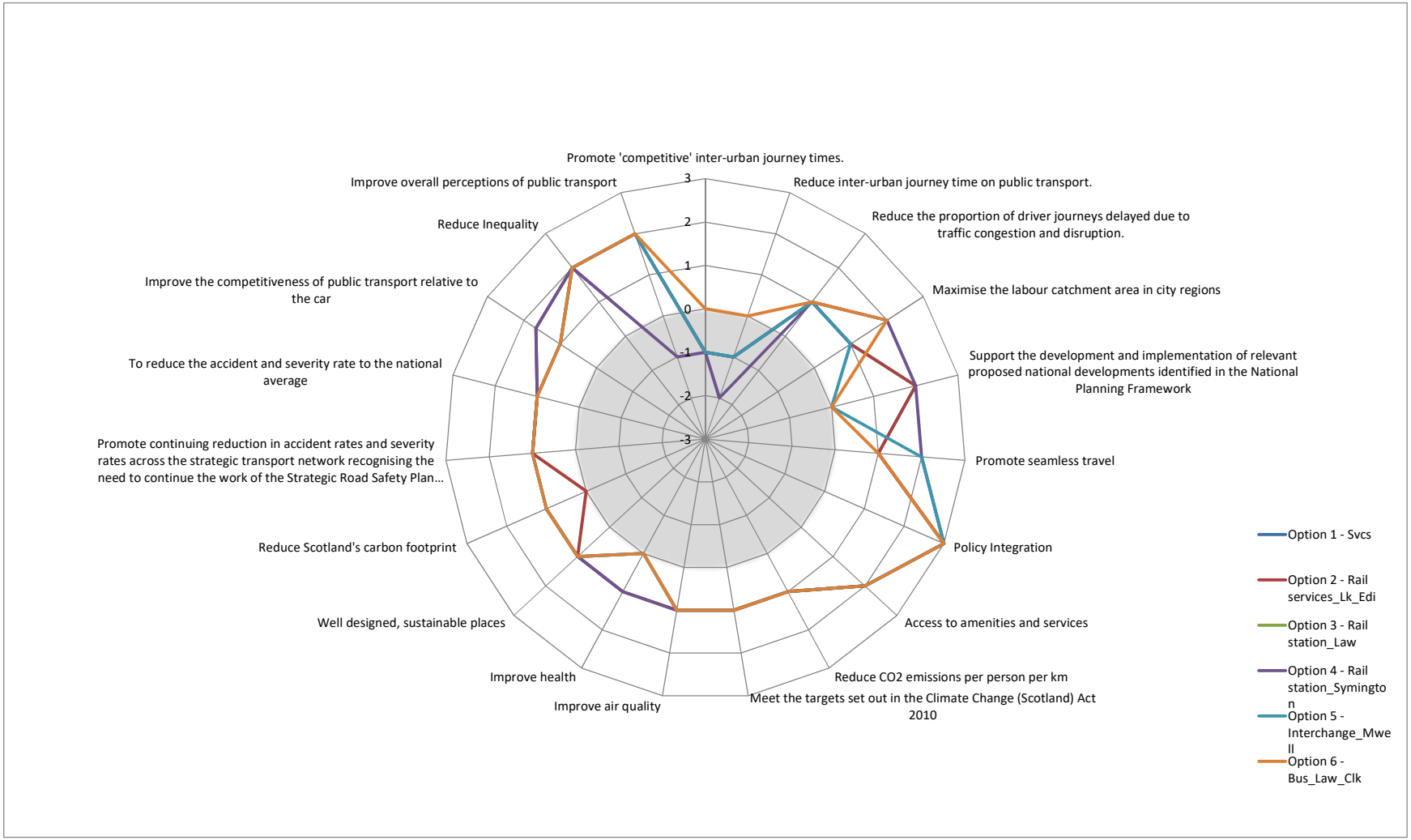
Option 1 - Svcs
Option 2 - Rail services_Lk_Edi
Option 3 - Rail station_Law
Option 4 - Rail station_Symington
Option 5 - Interchange_Mwell
Option 6 - Bus_Law_Clk


Promote 'competitive' inter-urban journey times.
Reduce inter-urban journey time on public transport.
Reduce the proportion of driver journeys delayed due to traffic congestion and disruption.
Maximise the labour catchment area in city regions
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Access to amenities and services
Reduce CO2 emissions per person per km
Meet the targets set out in the Climate Change (Scotland) Act 2010
Improve air quality
Improve health
Well designed, sustainable places
Reduce Scotland's carbon footprint
Promote continuing reduction in accident rates and severity rates across the strategic transport network recognising the need to continue the work of the Strategic Road Safety Plan...
To reduce the accident and severity rate to the national average
Improve the competitiveness of public transport relative to the car
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Option 1 - Svcs
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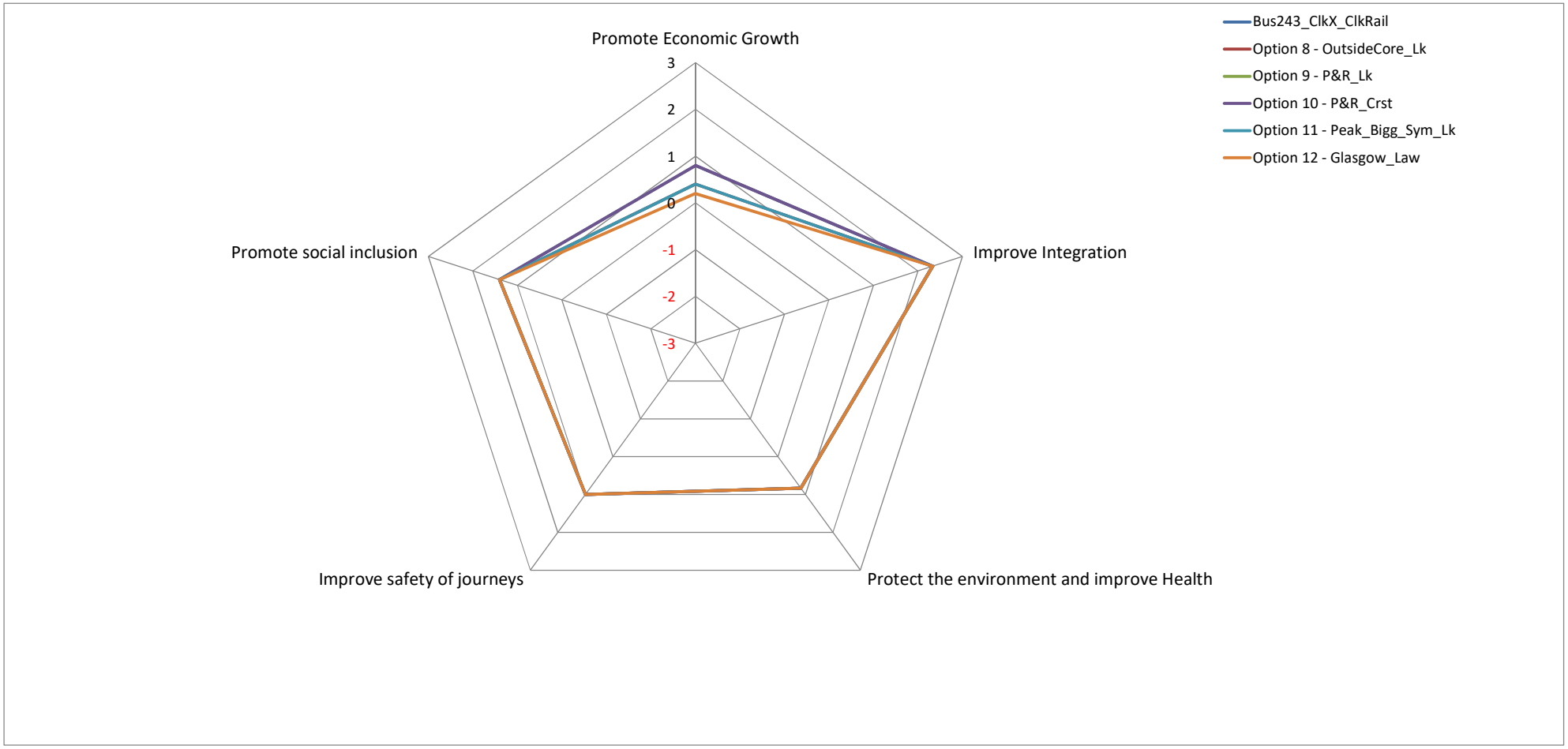
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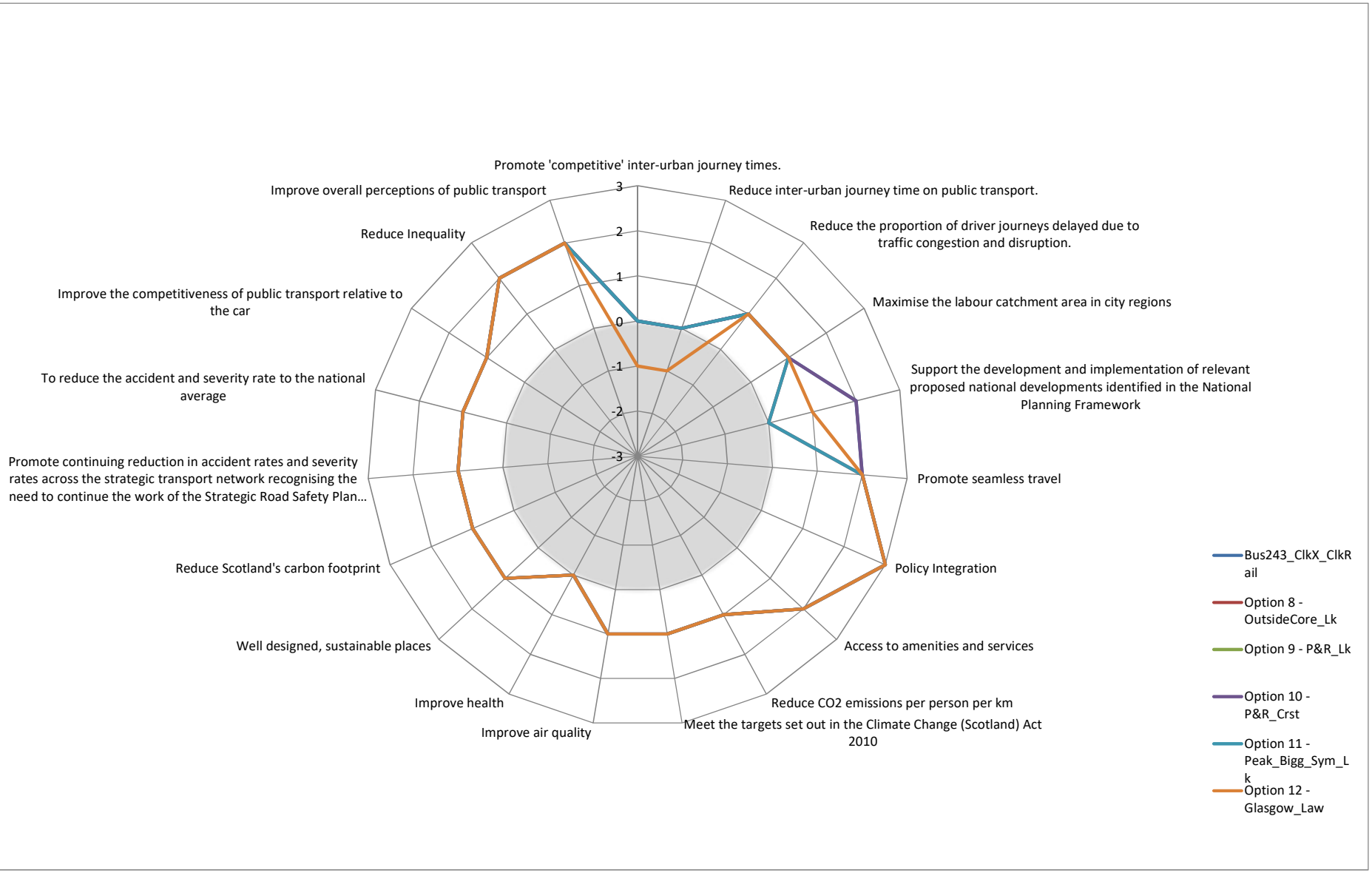
Option 9 - P&R_Lk
Option 10 - P&R_Crst
Option 11 - Peak_Bigg_Sym_Lk
Option 12 - Glasgow_Law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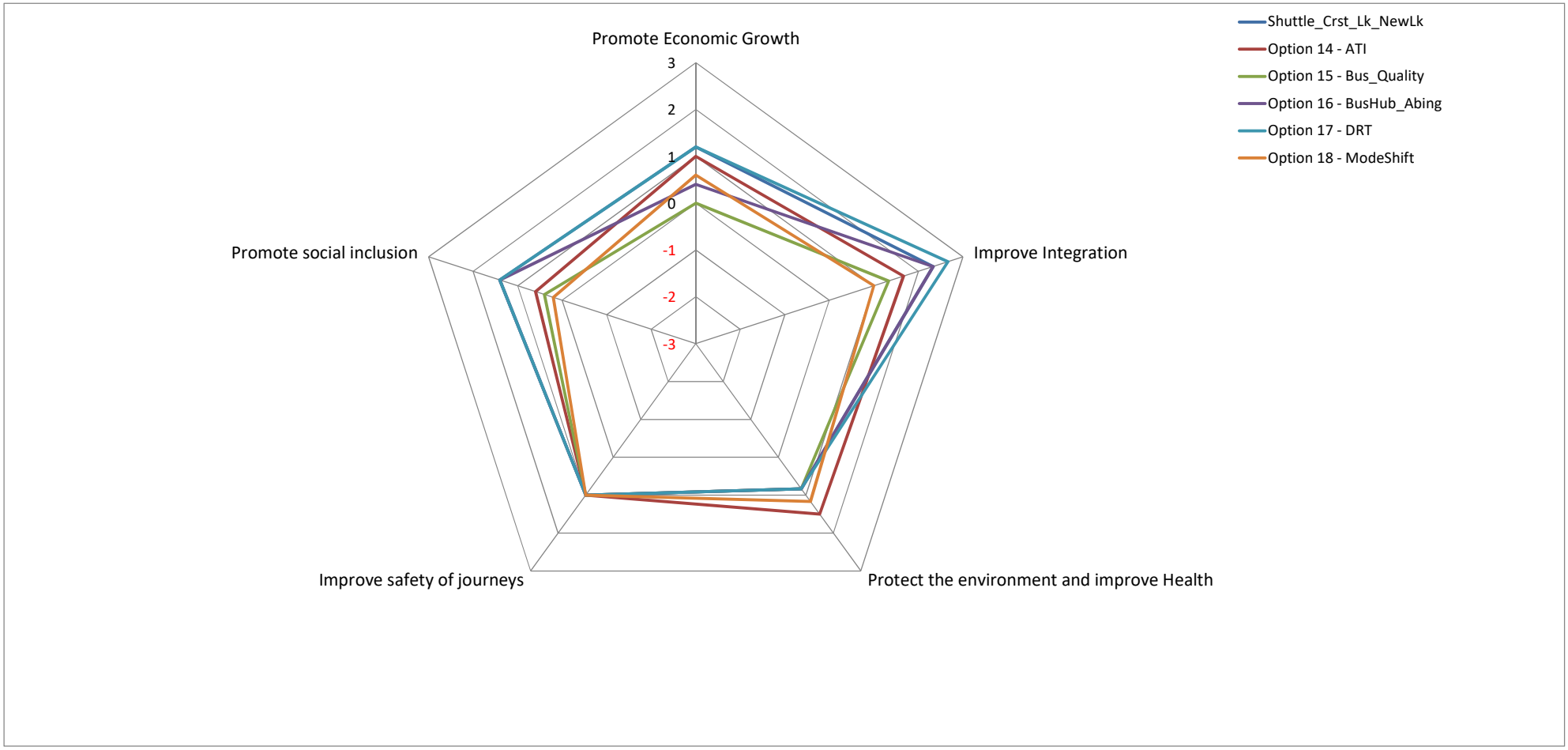
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Improve Integration
Protect the environment and improve Health
Improve safety of journeys
Promote social inclusion
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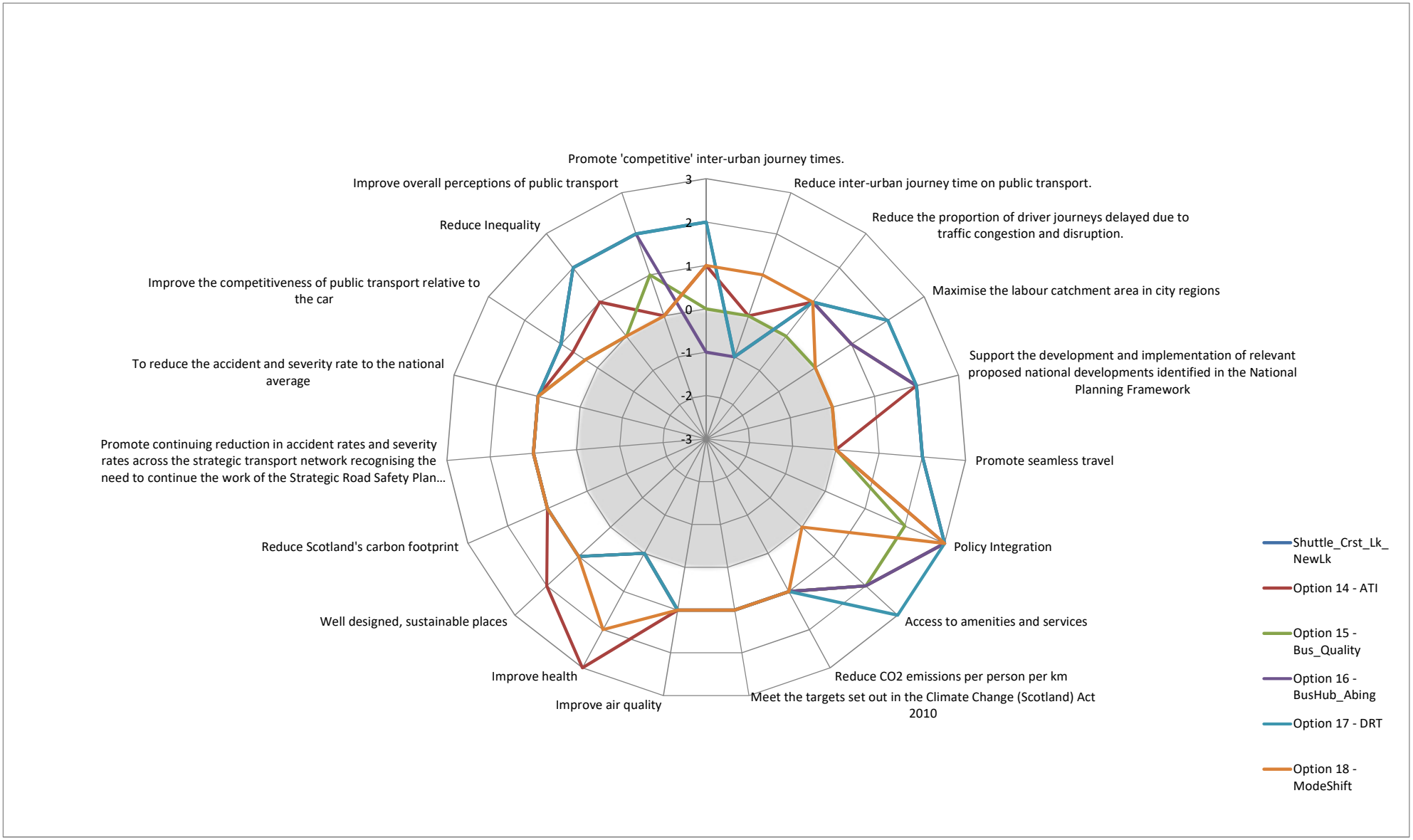
Shuttle_Crst_Lk_NewLk
Option 14 - ATI
Option 15 - Bus_Quality
Option 16 - BusHub_Abing
Option 17 - DRT
Option 18 - ModeShift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A.3 Pre-Appraisal Report

Clydesdale Transport Study

STAG Pre-Appraisal Report

On behalf of **South Lanarkshire Council**

Project Ref: 40051 | Rev: 1.1 | Date: May 2017

Office Address: 2nd Floor, 160 West George Street, Glasgow G2 2HG
T: +44 (0)141 352 2360 E: glasgow@peterbrett.com

Document Control Sheet

Project Name: **Clydesdale Transport Study**

Project Ref: **40051**

Report Title: **Pre-Appraisal Report**

Doc Ref:

Date: **May 2017**

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Approved by:	Dougie McDonald	Partner	D McD	29/3/17
For and on behalf of Peter Brett Associates LLP				

Revision	Date	Description	Prepared	Reviewed	Approved
1.1	23.05.2017	Final Report	CP	DMcD	DMcD

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Appendices

Executive Summary

Study Background

South Lanarkshire Council commissioned Peter Brett Associates LLP (PBA) to undertake a Scottish Transport Appraisal Guidance (STAG) Pre-Appraisal of sustainable transport options across the Clydesdale County areas within South Lanarkshire.

STAG is Transport Scotland's official appraisal guidance and all investment proposals seeking government sign-off or funding are required to comply with STAG. STAG is an objective-led framework and is not driven by pre-determined solutions. It is based on an understanding of the transport problems, issues, opportunities and constraints; consultation; and evidence-based objective setting.

Clydesdale is a historical county region which is wholly located within South Lanarkshire. The area is geographically large although the population is relatively small with a number of small towns spread across a wide rural area. The northern parts of Clydesdale are home to the majority of the local population, in the towns of Carluke, Lanark and Law.

The area possesses major transport infrastructure with both the M74 motorway and the West Coast Mainline (WCML) running through Clydesdale. In addition to the M74 motorway which allows fast direct travel from the study area to Glasgow, there are a number of routes to Edinburgh from Clydesdale including the A702 trunk route and the A70/A721.

Despite the WCML passing through the study area, there is a stretch of the line, 48 miles in length, without a station from Carstairs through to Lockerbie, 27 miles of which is contained within Clydesdale. At present, there are rail stations located at Carluke, Lanark and Carstairs which provide good links to Glasgow, there have however been calls from the local community and politicians to provide improved links to the rail network from southern sections of Clydesdale. Presently, there are a small number of direct rail services from Carluke and Carstairs which link Clydesdale to Edinburgh.

This STAG Pre-Appraisal is fully multi-modal and seeks to identify and evidence the transport problems & opportunities within the Clydesdale study area and the most appropriate solutions for addressing them through the consideration of all sustainable transport modes.

Problems and Opportunities

Problems and opportunities for the study have been identified through three key tasks:

- **Economic and Social Data Analysis** – to set the wider appraisal in the Clydesdale specific context – considering population, labour market, economic activity, house prices, deprivation and future development in the area;
- **Transport and Trends Data Analysis** – considering the existing sustainable transport network and benchmarking, Census travel to work data and current public transport and private car accessibility; and
- **Consultation** – with current bus and rail operators, community transport providers, community councils and the public.

The analysis highlighted:

- The area is performing well against local (and often national) comparators in terms of average incomes, educational attainment levels, claimant rates, house prices and

deprivation, suggesting an overall reasonably affluent area, despite including large rural areas and pockets of deprivation;

- New Lanark is a world heritage site and major tourist location, the area could/should play an important role in the region and the local economy however transport links to the site are less than ideal;
- There are direct rail services from Clydesdales three rail hubs to Glasgow Central, and a small number of services each day from Carluke and Carstairs to Edinburgh;
- Direct bus services to Glasgow are available from the larger towns within Clydesdale but most of the remaining towns and villages require bus interchange to access Glasgow. From these areas, public transport access to key employment centres is relatively low due to longer travel times;
- Public sentiment that the biggest transport problem faced was limited travel mode choice in the area with long bus journey times and low bus service frequencies, lack of rail options and a lack of bus/rail integration. All raised as issues restricting access to healthcare, education services and retail/shopping opportunities; and
- A public desire for new rail stations at Law and Symington over other sustainable transport improvements, however, there are concerns from rail stakeholders regarding the potential reinstatement of the stations due to timetabling additional rail stops and in the case of Symington, how to service the station based upon current service patterns.

Based on the analysis and consultation, the following **problems** have been identified:

- Transport provision is generally poor in the rural parts of Clydesdale, meaning residents are unable to access education, healthcare and employment opportunities. This particularly affects young people and those with a low income who may not be able to afford a private car.
- A large proportion of Clydesdale residents do not live near to the rail network, meaning they must rely on other modes, such as bus or car, to access a station.
- Many of the off peak bus services do not integrate with rail services, meaning residents are unable to use them to access connecting rail services to Glasgow, Edinburgh and beyond.
- Private car ownership and use is high, resulting in environmental impacts such as carbon emissions.
- Law is closely located between Carluke and Wishaw with regular bus and rail services running past the village however there is no rail halt and an issue with local bus operators has cut the village off completely by public transport.
- There are no direct bus services from many locations in Clydesdale to Glasgow, from these areas, interchange is required at Lanark or Carluke for any onward travel.
- There are very limited public transport connections to tourism sites including the World Heritage Site at New Lanark, limiting the potential of the area.
- The West Coast Mainline is currently constrained and would be unable to support additional, slow moving services, or potentially the introduction of new stops.

Based on the analysis and consultation, the following opportunities have been identified:

- Increase the accessibility of health and social facilities.

- Increase the accessibility of employment and education opportunities.
- Increase the proportion of residents employed in higher value sectors. It may be that current transport connectivity is constraining access to higher value employment opportunities.
- Improve house prices in Clydesdale which are lower than the national average but higher than the local authority average. Transport accessibility is one of a number of factors which influence house prices, with improvements in transport access having the potential to lead to increases in the supply and demand for housing.
- Increase the accessibility to tourism in the area, and take particular advantage of the World Heritage Site at New Lanark, and take cognisance of the important role tourism plays in the region and the local economy.
- Encourage modal shift away from private car use and increase the sustainable transport mode share.
- Potential future opportunity for rail, if rail capacity is freed up by the extension of HS2 to Scotland, enabling the introduction of new potential rail stations at Symington and or Law. In this regard, both existing and future train movements, train timetabling, potential stopping time at new stations, train path availability and signalling need to be fully understood. If the West Coast Main Line is substantially upgraded or alternatively bypassed by new HS2 bypasses lines it will still be in use for freight traffic. Local passenger services will be able to operate alongside freight services as the speed differential between a 75mph multimodal freight train and a stopping passenger train is much reduced compared with the current differential between 75 mph freight trains and 110/125 mph non-stopping passenger trains.
- Potential for rail freight integration.

Based on the analysis and consultation, the following issues have been identified:

- The commercial viability of any new bus services that may be introduced and private operator appetite to operate new services, similarly, the vulnerability of existing services, SPT and SLC note withdrawal of specific services in recent years;
- The potential subsidy that may be required to increase bus provision in the area.
- The commercial bus market does not believe it is feasible to divert services to Law, losing journey time and potential patronage between Carluke and Wishaw.
- A potential rail station at Law would be sited very close to two existing train stations at Carluke and Wishaw.
- Symington sits on a segment of line that is not currently served by ScotRail, and is only served by operators which run intercity services. In this area, ScotRail is focussed on their existing commitments providing station expansions and redevelopments which are not focused in/around Symington area.
- The existing station at Carstairs and proposals for Carstairs redevelopment may weaken the case for the development of a new rail station in Clydesdale due to the proximity of catchment areas.

The following constraints have been identified:

- Available Council and SPT budget to operate subsidised bus services.
- Site specific infrastructure (signalling and points) constraints at Law Junction.

- Capacity issues on the West Coast Main Line.

- Limited rail station catchment population at Symington and Law given both are relatively close to neighbouring stations.

- The West Coast Main Line is a highly important strategic link between Scotland and England subject to both high speed rail traffic and freight traffic, with freight paths protected to enable the government to achieve objectives and aims with regards to modal shift for transporting freight. The line is currently approaching capacity which could make the introduction of stops and services challenging, however this needs to be explored in greater detail with consideration of the future impact of an extension of HS2 into Scotland which could provide greater scope for the introduction of local rail services. Both existing and future train movements, train timetabling, stopping time at new stations, train path availability and signalling need to be fully understood, especially in light of the Scotland Route Study.

Transport Planning Objectives

In line with the problems and opportunities identified, the Transport Planning Objectives for the study focus on addressing the provision of sustainable travel options that facilitate improved access to employment and key services as well as supporting the tourism industry.

- **TPO 1:** Increase the mode share of sustainable transport for all journey purposes

- **TPO 2:** Increase transport integration

- **TPO 3:** Increase public transport accessibility

- **TPO 4:** Increase accessibility to Clydesdale's attractions for people within and outwith the area.

It should be noted that increased accessibility in TPO3 relates to both increased access to destinations through improved connectivity and/or reduced journey times.

Option Generation

Eighteen options were developed as set out in the table below.

Table 1.1: Options Generated

Option No.	Description
1	Increasing the frequency of rail services between Carluke, Carstairs and Edinburgh
2	Introduce new rail services between Lanark and Edinburgh
3	Provide rail halt at Law
4	Provide rail halt at Symington
5	Improve rail time table to allow improved interchange at Motherwell station for Clydesdale residents who require to access Hamilton
6	Provide a dedicated shuttle bus service between Law, and Carluke train station, working on a high frequency and integrating with the rail timetable
7	Extend the current Subsidised service 243 from Carluke X to Carluke Rail Station. This service would need to run to a higher frequency than it does presently
8	Improve bus/rail integration before/after core hours at Lanark rail station to ensure connections are available to Clydesdale towns and village out with the core working day
9	Provide strategic park and ride facility at Lanark with local bus services calling at the station, bus timetable integrated with rail
10	Provide strategic park and ride facility at Carstairs, with local bus services calling at the station, bus timetable integrated with rail
11	During peak travel hours, provide half hourly service between Biggar/Symington and Lanark. SPT subsidise the early and late services on an hourly frequency. Proposal to increase the frequency connecting with commuter trains to Glasgow to half hourly services
12	Encourage bus services to Glasgow to stop at Law
13	Provide dedicated shuttle service linking Carstairs rail station, Lanark rail station and New Lanark Heritage Village, integrated with the rail network. Note, that services to Carstairs would not have to be high frequency as there are only limited train services calling at Carstairs each day
14	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Law, Carluke and Braidwood. Investigate the Old Wishaw Road, would require surfacing and lighting
15	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Biggar and Symington
16	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Carnwath and Carstairs
17	Ensure appropriate/suitable walking access is provided to transport hubs and stops including rail stations, bus stations and bus stops
18	Improve vehicle quality for bus services in the area

Option Sifting

All the options developed all have the potential to contribute towards delivering against the TPOs and STAG criteria and thus could be considered in more detail at the STAG 1 appraisal stage.

Next Steps

Each of the options which have been generated are worthy of more detailed consideration at STAG Part 1 Appraisal.

If a STAG Part 1 Appraisal were undertaken, each of these options would be qualitatively assessed in more detail, before the option(s) that best meet the Transport Planning Objectives and STAG criteria would be taken forward to a full, quantitative STAG 2 Appraisal.

1 Introduction

1.1 Overview

1.1.1 South Lanarkshire Council commissioned Peter Brett Associates LLP (PBA) to undertake a Scottish Transport Appraisal Guidance (STAG) Pre-Appraisal of sustainable transport options across the Clydesdale County areas within South Lanarkshire. The location of the study area within South Lanarkshire and the key population centres is provided as Figure 1.1 below.

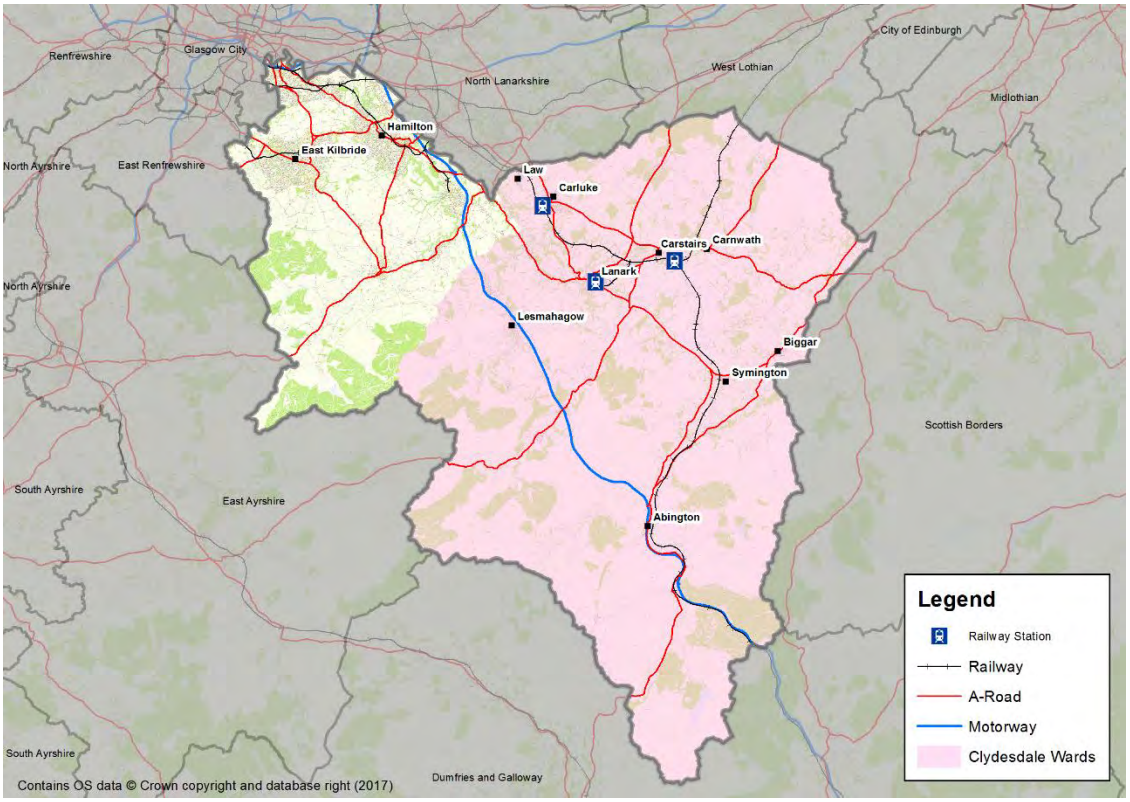

Figure 1.1: Study Area

1.1.2 At this early stage it should be noted that in addition to traditional transport links to Glasgow, South Lanarkshire Council has evidence of a desire from local people to travel to Edinburgh for employment and services. This desire is particularly prevalent within the rural areas of Clydesdale outwith the main Glasgow commuter belt.

1.1.3 Clydesdale is a historical county region which is wholly located within South Lanarkshire. The area is geographically large although the population is relatively small with a number of small towns spread across a wide rural area. The northern parts of Clydesdale are home to the majority of the local population, in the towns of Carluke, Lanark and Law.

1.1.4 The area possesses major transport infrastructure with both the M74 motorway and the West Coast Mainline (WCML) running through Clydesdale. In addition to the M74 motorway which allows fast direct travel from the study area to Glasgow, there are a number of routes to Edinburgh from Clydesdale including the A702 trunk route and the A70/A721.

1.1.5 Despite the WCML passing through the study area, there is a stretch of the line, 48 miles in length, without a station from Carstairs through to Lockerbie, 27 miles of which is contained within Clydesdale.

1.1.6 At present, there are rail stations located at Carluke, Lanark and Carstairs which provide good links to Glasgow, there have however been calls from the local community and politicians to provide improved links to the rail network from southern sections of Clydesdale. Presently, there are a small number of direct rail services from Carluke and Carstairs which link Clydesdale to Edinburgh.

1.2 Scottish Transport Appraisal Guidance

1.2.1 STAG is Transport Scotland's required appraisal guidance and all investment proposals seeking government sign-off or funding are required to comply with STAG.

1.2.2 STAG is an objective-led framework and is thus not driven by pre-determined solutions. It is based on an understanding of the transport problems, issues, opportunities and constraints; consultation; and evidence-based objective setting. This ensures that the ultimate option or options progressed address the transport needs of the communities in question.

STAG Pre-Appraisal

1.2.3 The STAG guidance highlights the importance of what is known as the 'Pre-Appraisal'. This stage involves the baselining of the study area and the identification of the transport-related problems, issues, opportunities and constraints within it. Pre-appraisal is often overlooked in STAG studies, yet it is a critical stage in the process, as it provides a basis for setting objectives and testing and developing options.

1.2.4 This Report constitutes the STAG Pre-Appraisal for Clydesdale and consists of a further six chapters, as follows:

- Chapter 2 – Background & Context
- Chapter 3 – Consultation
- Chapter 4 – Problems, Issues, Opportunities & Constraints
- Chapter 5 – Objective Setting
- Chapter 6 – Option Development & Sifting
- Chapter 7 – Next Steps

1.2.5 In addition to these main chapters, we have undertaken an extensive data collection and analysis programme reported within appropriate appendices.

2 Background and Context

2.1 Overview

2.1.1 This chapter sets the wider appraisal in the Clydesdale specific context. Recognising that transport is a critical enabler of economic development and regeneration, a socio-economic profile of the Clydesdale study area, benchmarked against the local authority and national averages where appropriate is provided. This is followed by a review of the local transport network, travel-to-work patterns and, as this study is focussed on sustainable transport, public transport accessibility.

2.1.2 STAG is clear that the resource invested in appraisals should be proportionate to the size of the study area and schemes in question. Consequently, the analysis undertaken is based on a review of the relevant secondary data sources (e.g. the 2011 Census) and attempts to draw out the main points of relevance rather than provide an exhaustive review of every area.

2.2 Data Geography

2.2.1 Due to the need to provide complete anonymity when reporting socio-economic data, the various datasets used in this chapter are only made available at specific geographic levels, as shown in Figure 2.1.

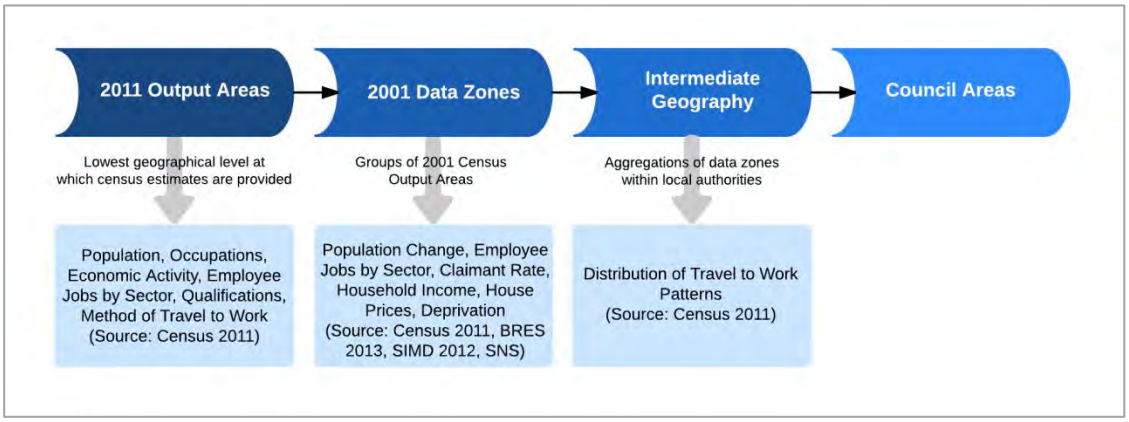

Figure 2.1: Data Used for Analysis by Different Geographic Levels

2.2.2 Figure A.1, Figure A.2 and Figure A.3 in Appendix A show the geographic area covered by each of the geographic levels for Clydesdale. As shown, while the ward boundary for the Clydesdale area aligns reasonably well with the above output area, datazone and intermediate zone boundaries, there is some misalignment in the area to the south-west of Law. However, the difference is marginal and is unlikely to result in any considerable impact on the results given the rural location of the area in question.

2.3 Socio Economic Profile

2.3.1 Key socio-economic data is presented and reviewed in Appendix B with a summary of key findings presented here. The review considers the socio-economic profile of the study area considering key issues such as population, the labour market, deprivation and property.

2.3.2 The key points and findings are as follows.

- Over a 10 year basis 2002 – 2011, the population of Clydesdale has increased at a quicker rate that that of both South Lanarkshire and Scotland. It should however be noted that there has been a drop in population since 2011.
- Carluke and Lanark are the largest population centres in Clydesdale and are situated in the north of the study area. Between 2003 and 2012, Lesmahagow and Carstairs saw the largest increase in population followed by Law.
- Clydesdale has a lower proportion of people of working age and a higher proportion of people over 65 compared to South Lanarkshire and Scotland, with smaller proportions of people aged 16-35. It may be that current transport connectivity could be a 'push' factor in young people leaving the area due to difficulties accessing higher education or employment.
- Resident employment in Clydesdale is fairly mixed with large proportions in the professional, skilled trades and process, plant and machine operative occupational categories. However, there are comparatively lower numbers in associate professional and technical roles.
- Clydesdale performs comparably well in terms of the economic activity rate of its population. However, the area has a larger proportion of retired individuals than both South Lanarkshire and Scotland as a whole. It may be that current transport connectivity to employment and education is a factor in economically active young people moving from the area.
- The claimant rate for Clydesdale is lower than the South Lanarkshire local authority average but above that of Scotland as a whole.
- Overall, a smaller proportion of residents in Clydesdale are employed in higher value sectors compared with the local authority and Scotland figures. It may be that current transport connectivity is constraining access to higher value employment opportunities.
- Clydesdale performs less well than the national averages in terms of educational attainment levels but is ahead of South Lanarkshire as a whole.
- Average income in Clydesdale is higher than the local and national averages, which is in keeping with the data on resident employment.
- House prices in Clydesdale are lower than the national average but higher than the local authority average. Transport accessibility is one of a number of factors which influence house prices, with improvements in transport access having the potential to lead to increases in the supply and demand for housing.
- There are pockets of deprivation within the Clydesdale area, with 14% of data zones in the region amongst the 20% most deprived in Scotland. Over time there has been a general reduction in deprivation across some areas and an increase in other locations. It may be that poor transport connectivity is contributing towards some of these trends.

2.4 Transport Supply and Trends

2.4.1 Having considered the socio-economic case, the next step is to review the local transport network, travel-to-work patterns and, as this study is focussed on sustainable transport, current public transport accessibility.

2.4.2 The data analysis undertaken is presented in full in Appendix C with a summary of the key findings presented here.

Existing Bus Services

2.4.3 The existing bus services to/from the Clydesdale area are discussed in detail in Appendix C including details of service frequencies, operators, journey times and first and last departure times. Services include direct connections between:

- Lanark, Carluke and Glasgow;
- Lanark, Carluke and Hamilton;
- Lanark, Carstairs and Carnwath; and
- Lanark, Symington and Biggar.

2.4.4 In summary:

- **Overall, there are regular services including express services between Lanark, Carluke and Glasgow**, however, large parts of the study area have no direct connections to Glasgow;
- There are connections provided which link the smaller towns in the study area however some of these run with low service frequencies;
- There are limited direct connections from Clydesdale to Hamilton (the principle town of South Lanarkshire) with the only services calling at Lanark and Carluke and services which follow the M74 corridor - **no other towns/areas have connections to Hamilton**;
- There are **no direct bus connections from Clydesdale to East Kilbride,** East Kilbride is a major town within South Lanarkshire which is an area for education, healthcare and retail;
- Law, despite its size and proximity to larger towns has poor bus services. Commercial operators previously withdrew from the village and SPT now subsidises an hourly route between Carluke, Law and Hamilton. **This does not access Carluke railway station, and direct connections from Hamilton to Law are not available after 18.00;** and
- There is an hourly bus service from Dumfries and Galloway which calls at Biggar providing a direct connection to Edinburgh. There are currently **no other direct bus connections from Clydesdale to Edinburgh**.

Existing Rail Services

2.4.5 There are three railway stations in the area; Carluke, Carstairs and Lanark. Carluke and Carstairs stations are located on the West Coast Main Line (WCML) and Lanark station is located on a short branch off the WCML.

2.4.6 Carluke boasts a very frequent service to Glasgow Central High Level with two or three trains per hour. Journey times are around 40 minutes, however there are limited stop services which can cover the route in shorter journey times.

2.4.7 From Carluke there are 6 direct services to Edinburgh each weekday, all of which stop at Carstairs station. These are limited stop services with journey times of approximately 43 minutes. Out with these times, passengers can travel to Edinburgh via Motherwell or Bellshill. Journey times on these interchange routes increase to around 1 hour 40 minutes.

2.4.8 ScotRail has provided passenger numbers travelling between Clydesdale stations and Edinburgh. Since January 2015, there has been a large growth in passengers travelling between Edinburgh and Carluke and Carstairs. Full details are available within Appendix C.

2.4.9 Lanark currently has a half hourly service (hourly on Sunday) to Glasgow Central High Level via Motherwell and Bellshill. There are no direct trains from Lanark to Edinburgh and passengers are required to change at Carluke, Motherwell or Bellshill. Journey times are approximately 50 minutes to Glasgow and 1 hour 45 minutes to Edinburgh.

2.4.10 Carstairs has 12 direct rail connections to Glasgow each day with an average journey time of approximately 42 minutes. There are also 6 direct services to Edinburgh each day with journeys of approximately 33 minutes.

2.4.11 Table C.1 in Appendix C shows the typical journey adult fares from rail stations in Clydesdale to a range of destinations.

2.4.12 Rail passenger numbers at the three Clydesdale stations have risen from 547,139 in 2005/06 to 787,078 in 2015/16, **an increase of 239,939 (43.9%) over the ten-year period**.

2.4.13 Individually, Carstairs and Carluke have both seen a gradual and sustained increase in passenger numbers over the 10-year period with Carluke overtaking Lanark in 2012-2013 with the highest number of passenger entries and exits. This increase in patronage is likely a reflection of the opening of a large Park & Ride facility (330 spaces) at Carluke in 2010 and the option of a new service to and from Edinburgh from both Carluke and Carstairs, making Carluke a more attractive option for commuters who might previously have used Lanark. Whilst there is no documented statistics, SLC have received anecdotal reports of overcrowding on these services on Saturdays.

Public Transport Benchmarking

2.4.14 Table C.3 in Appendix C compares the number of buses / trains and the average journey time to key destinations within Clydesdale to key destinations both within the study area and further afield.

2.4.15 The analysis shows that:

- **There are excellent bus and rail connections from Carluke to Glasgow;**
- **Lanark has a high frequency of rail connections to Glasgow but limited bus options;**
- **Carluke also has high numbers of direct bus services to Hamilton, but no direct rail links;**
- **Both Carluke and Carstairs have limited number of direct rail services to Edinburgh;** and
- **Currently there are only direct bus services to Edinburgh from Biggar. No other locations within the study area have direct bus links to the capital.**

2.4.16 Overall, there are regular connections to Glasgow from Lanark and Carluke. However, outside of these locations connections are more limited, with those living elsewhere in the study area having to interchange at Lanark and Carluke in order to access the city. There are very limited opportunities to travel to Edinburgh by public transport and people have to rely upon private car access in the main to make this journey. It should also be noted that there are park and ride sites on the outskirts of Edinburgh at Staiton and Hermiston which may encourage people to drive to these locations from Clydesdale.

2.5 The Rail Network (Infrastructure)

2.5.1 An overview has been prepared to provide an understanding of the railway network in Clydesdale and also more widely where it impacts on the operation of Clydesdale railways. The

overview is provided within Appendix D. The Appendix also provides detail on the operations of both local, long distance and freight services where they use the network.

2.5.2 Key points of the overview are as follows.

- The spine of the current Clydesdale rail network is still the West Coast Main Line (WCML) running from Carlisle through Lockerbie and over Beattock summit down to Carstairs and through to Law Junction where it splits into two routes. The western route is the main long distance passenger route direct to Motherwell and Glasgow Central. The eastern link runs through Wishaw and goes to Mossend freight yards.

- From Carstairs, the route to Edinburgh branches off with a triangular junction which permits trains from both Carlisle and the south and Glasgow and the north to reach Edinburgh. The legs of the triangle are quite short which results in tight curves and consequently slow speeds. Carstairs station, the most southerly in Clydesdale, is located such that it is on both the Glasgow – Carlisle and Glasgow – Edinburgh routes.

- The 2½ mile Lanark branch is the only remaining branch line on the WCML. It is a single track line, turning south off the WCML at Lanark Junction 2½ miles on the Glasgow side of Carstairs.

- North of Carstairs the WCML changes from a long distance trunk route into a fully multi-use route with the half hourly Lanark services and the two hourly ScotRail Edinburgh to Glasgow Central service also using the route. The ten mile two track section to Law Junction includes Lanark Junction where the Lanark services access the Lanark branch and Carluke station. This routing means that every Glasgow bound ScotRail train has to cross the route of a Carlisle or Edinburgh bound cross-border train at both Law Junction and Shieldmuir Junction as well as avoid conflicts on the single line section at Shieldmuir and on the single line Lanark branch. This significant limits the flexibility in timetabling the ScotRail services.

- The above essentially means that the railways serving Clydesdale are part of two wider networks; the WCML from England via Carlisle to Glasgow and Edinburgh and the ScotRail network in south central Scotland. This adds a surprising degree of complexity and interaction with a Lanark to Glasgow Central train crossing the southbound Glasgow – Carstairs – Carlisle line at no fewer than four junctions.

- The train services in Clydesdale are broadly comparable with similar services in central Scotland as regards the Lanark to Glasgow service. However, all the links to Edinburgh and also Carstairs to Glasgow are poor compared with elsewhere.

2.6 Census Travel to Work

2.6.1 The travel-to-work analysis undertaken makes use of 2011 Census data for Scotland at Locality level for the mode of travel to work and Intermediate Geography level for the distribution of travel to work patterns. The key points are as follows.

- The car is the dominant travel to work mode for residents of Carluke (75%), Lanark (67%), Carstairs (77%), and Symington (72%). Other towns and settlements display similar characteristics.

- The share of public transport at each of the above location is below the Scottish average, with Carstairs seeing the lowest overall public transport share (7%), followed by Symington (8%).

- As would be expected given the location of the rail stations in the study area, rail travel is most popular in Carluke, Lanark and Carstairs.

- The proportion walking to work is particularly high in Lanark (14%) and is above the Scottish average (10%).

- Overall, 42% of residents of Clydesdale worked in Clydesdale in 2011, with 30% working at places of employment in the study area and 12% working at home

- 58% of residents worked outside of the study area, with the most popular work destination for this group being North Lanarkshire (14%), followed by South Lanarkshire (11%). Amongst those travelling to North Lanarkshire, the most popular destination was Wishaw, with the majority of these likely to be travelling to Wishaw General Hospital. Amongst those travelling to South Lanarkshire, most were travelling to Hamilton.

- 9% of the Clydesdale residents commute to Glasgow compared to 4% who commute to Edinburgh. Limited opportunities to access Edinburgh may play a role in this, depriving local residents the chance to access those jobs and Edinburgh the opportunity to tap into the Clydesdale labour pool;

- The majority of people working in Clydesdale live in Clydesdale (70%), with a further 22% traveling to the area for work from North Lanarkshire or other parts of South Lanarkshire.

2.6.2 In addition to examining the travel to work patterns for Clydesdale residents as a whole, a comparison of the travel to work patterns for residents of and workers within a) Carluke and b) Biggar, Symington, Thankerton and Dolphinton was also undertaken. The key points from this analysis are as follows.

- A large proportion of residents (38%) of Biggar, Symington, Thankerton and Dolphinton work in Biggar, Symington, Thankerton and Dolphinton. This compares to just 21% of Carluke residents who work within Carluke.

- Overall, 55% of residents of Biggar, Symington, Thankerton and Dolphinton work in the South Lanarkshire local authority area compared to 46% of Carluke residents.

- North Lanarkshire is the most popular destination for work outside of South Lanarkshire amongst residents of Carluke with Wishaw (and likely Wishaw General Hospital) again the most popular destination in North Lanarkshire. Edinburgh is the most popular external location amongst residents of Biggar, Symington, Thankerton and Dolphinton

- The largest proportion of people working in each location live in that location, with the proportions slightly higher for Biggar, Symington, Thankerton and Dolphinton (47%) than compared to Carluke (40%).

2.7 Accessibility

Public Transport vs. Private Car Travel Times

2.7.1 Table 2.1 below shows a comparison of car and public transport travel times from key towns in the study area to Hamilton, East Kilbride, Edinburgh and Glasgow. The travel times are taken in uncongested conditions for the car and for public transport using the fastest journey time possible over the entire day. The table shows that the travel times by public transport are, in most cases, much longer than those by car. Overall, journeys between Biggar and East Kilbride have the biggest differential in favour of car, with public transport journeys between these locations taking approximately 1 hour and 10 minutes longer than the car. Just one journey (Carstairs to Edinburgh) is quicker by public transport as a result of the direct rail connection.

Table 2.1: Approximate Public Transport vs. Private Car Journey Times

	Travel Time to (minutes)							
	Hamilton		East Kilbride		Edinburgh		Glasgow	
From	Car	Public Transport	Car	Public Transport	Car	Public Transport	Car	Public Transport
Symington	40	70	45	100	60	90	55	80
Carluke	20	35	30	70	60	60	40	40
Lanark	30	55	35	70	70	90	40	55
Carstairs	30	50	40	90	60	55	50	50
Biggar	45	80	50	120	55	65	60	90

3 Consultation

3.1 Overview

3.1.1 Effective and proportionate consultation is an important part of the STAG process. At the Pre-Appraisal stage, the aim is to identify current and future transport problems, issues, constraints and opportunities. These may be real or perceived and may have been raised by one or more stakeholders or members of the community.

3.2 Consultation Approach

3.2.1 The approach to the Pre-Appraisal consultation included:

- An online public survey;
- An online survey for Community Councils;
- A briefing and information workshop session with South Lanarkshire elected members;
- A briefing and information workshop with internal and external stakeholders who included:
  - SLC Traffic and Transportation;
  - SLC Planning and Economic Development;
  - Transport Scotland (represented by term consultants); and
  - Abellio ScotRail
- Face-to-face consultation with Strathclyde Partnership for Transport;
- Project development meeting with Network Rail and Abellio ScotRail; and
- Telephone consultation with TransPennine Express.

3.2.2 Further information on these is provided below. It should be noted that this section captures and records the comments made by stakeholders and does not necessarily set out the evidence that supports some of the comments made – which would need to be considered in detail if certain types of options were taken forward. This is especially the case when considering some of the comments made by the rail industry. At the pre-appraisal stage the consultation was focussed on engaging with various stakeholders and asking for informed judgement and opinion, rather than any binding agreements.

3.3 Public Survey

3.3.1 An online public survey was made available over the period 17th February 2017 – 19th March 2017. The survey asked questions on:

- Modal use;
- Most frequented destinations and the purpose of trips to these destinations;
- Existing problems when using various travel modes; and
- Suggested improvements to the transport network.

3.3.2 For those unable to complete the survey online, a telephone number was made available through which paper copies could be requested.

3.3.3 The survey was publicised by a variety of means as follows:

- Information on the survey was provided to each of the Community Councils in the study area;
- A press release on the survey was issued, alongside updates and reminders on South Lanarkshire Council's twitter feeds;
- Local Councillors were provided the link and press release and asked to circulate to their constituents using social media or other mailing lists as appropriate; and
- Community Councils were provided the link and press release and asked to circulate and raise awareness with their members.

Survey Results and Analysis

3.3.4 Appendix E contains the full analysis of the survey results.

3.3.5 In total, **568** responses were received from the survey, with the majority of respondents (33%) living within the Law area. A further 17% live in Carluke, 13% within Lanark and 10% in Biggar. Also, 13% of respondents classed themselves as 'Other within Clydesdale'.

3.3.6 The survey was completed by a wide range of age groups, with the highest level of responses being generated by the 35 – 44 year old group.

3.3.7 Analysis of the responses highlighted:

- The car as the most dominant mode for those who travel in the study area;
- Glasgow and Lanark are key destinations for the people of the area - mostly driven by retail/shopping, leisure and entertainment opportunities available, note however there are significant volumes of people who travel to Edinburgh for work;
- In terms of transport problems, the most common problems were:
  - Lack of direct public transport routes (74%)
  - Limited choice of travel modes (70%)
  - Long travel times to get to destinations (47%)
- The single biggest transport problem in the area was noted as the lack of direct public transport routes;
- In terms of the road network, the quality of the roads was the biggest problem identified;
- In terms of travel by bus and the bus network:
  - Current bus users cited 'service frequency as the largest issue, noted by 68% of respondents (n=157). 'Lack of direct routes' (60%) and 'service reliability' (39%) were also noted as key issues;
  - The most significant impact on bus users of the identified problems was the need to start journeys early or later (59%). Difficulty in accessing key services was also noted by 49% of respondents;

- The main reasons given by non-bus users for not travelling by bus were 'No direct routes to where I need to go' and 'Low frequency'.

- The most significant improvements to the bus network that would have a positive impact were considered (answer by both bus and non-bus users) to be 'increased bus services' and 'increased bus frequencies'.

- In terms of travel by rail and the rail network;

  - When non-rail users were asked why they didn't travel by rail (266 respondents), given that there are only three rail stations in the area, it was unsurprising that 'Nearest station is located too far away' was the most common answer, as noted by 58% of respondents. 31% of respondents also noted that there were easier travel options than to travel to a rail station and make an onward journey;

  - Of those who did travel by rail (294 respondents), the key problem faced with rail travel included 'cost of rail travel' (48% of respondents) and 'lack of direct routes' (40% of respondents)

  - 61% of all respondents (both existing rail users and non-rail users) stated there would be an impact or effect upon them should a station be opened. Key impacts stated were:

    - 'Increased access to retail and leisure opportunities further afield' 80% of respondents);

    - 'Reduce the feeling of distance from towns and cities', (76% of respondents)

    - 'Increased potential employment opportunities' (64% of respondents)

  - Interestingly, of the 266 respondents who do not currently travel by train, 65% noted that the opening of a new station would have an effect upon them.

- Participants were asked if there were to be a rail station located within Clydesdale, where should it be situated in order to benefit them. Law was the most popular location choice which generated 58% or response (n=192), followed by Symington (19%). It should be remembered that respondents from Law accounted for 33%(n=190) of all responses to the survey;

- In terms of travel by active travel modes, the distance of journeys and concerns over safety were cited as the main barriers to the use of active travel modes;

- On being provided with a list of mode specific interventions including road based improvements, additional/enhanced bus services; Additional/enhanced rail services to existing stations, new rail station local to you with appropriate rail services; and Improved walking and cycling facilities:

  - With the exception of walking and cycling facilities, there were high numbers of respondents who felt the other improvements would provide major benefits;

- Open responses at the end of the survey highlighted:

- Many calls for improvements to rail services including:

  - New rail stations at Law, Symington and a number of other areas

  - Rail services which route via Hamilton; and

  - Rail services between Lanark and Edinburgh

- Bus issues including;
  - Issues with the timetabling and reliability of bus services, and in particular, the lack of integration with the rail timetable;
  - Bus specific problems noted at Law
  - Concerns that people who live out with areas of good public transport service may be considering moving home.

3.4 Community Council Engagement

3.4.1 The following Community Councils were contacted and asked to participate in the study via an online submission form. A small number of questions were provided to guide and structure responses. Questions were purposely left 'open' to allow Community Councils to contribute their thoughts and issues without being constrained by a series of closed questions. In total, 16 Community Councils were invited to contribute as follows:

- Biggar;
- Black Mount;
- Carluke;
- Carnwath;
- Carstairs;
- Coalburn;
- Crawford & Elvanfoot;
- Douglas;
- Duneaton;
- Leadhills;
- Lesmahagow;
- Pettinain;
- Quothquan and Thankerton;
- Symington;
- Tarbrax; and
- The Royal Burgh of Lanark;

3.4.2 Responses were received from 4 Community Councils, (Biggar, Blackmount, Quothquan and Thankerton and Duneaton). Whilst the responses tended to echo those from the public survey, it was useful to read concerns of the community themselves. Common themes which were reported included:

- Issues with local bus services not connecting with the rail timetable, often leaving people stranded, or unable to plan a journey due to uncertainty. Bigger Community Council expanded upon this point noting that SPT have secured funding for a bus service between Biggar and Carstairs however, no operator can be found to take this on;
- Lack of public transport accessibility can lead to social isolation, the public are effectively trapped if they have no vehicular access, improvements to the transport network, in particular bus and rail connections to larger towns and cities can provide employment opportunities; and
- Calls for additional rail stations in the southern/rural parts of Clydesdale.

3.5 Information Workshop with South Lanarkshire Elected Members

3.5.1 A meeting with South Lanarkshire Elected Members was held on 9th February 2017. Councillors were given a short presentation introducing the project and the STAG process before being asked to contribute their thoughts and experiences on a number of issues. This workshop was supplemented by a telephone conversation with Provost Logan who was unable to attend the workshop but wanted to participate.

3.5.2 The discussion highlighted the following key points.

- From the Biggar area (and nearby locations) Councillors believe there is a draw for people to travel to Edinburgh and the Borders. Despite this, public transport connections in Clydesdale typically only support traveling west to Glasgow and the wider Glasgow conurbation.
- Travelling to East Kilbride is particularly difficult from the Clydesdale area with various interchanges required.
- Councillors highlighted a problem of access to education, particularly the colleges in Hamilton, Motherwell, and East Kilbride as well as higher education. Councillors cited a few anecdotal examples where students started courses but gave up as lack of public transport options and connections made life difficult. Cars are often unaffordable for students and without suitable transport options, students are faced with either living away from home (which may not be affordable or palatable) or not choosing a university or college education.
- Younger children and family lifestyles were also noted. In many areas of Clydesdale, public transport connections are not available to get children to after school or weekend activities. They have to rely on their parents having access to a car.
- Transport also affects housing options for local people, meaning they may be unable to accept social housing if it means they cannot access their workplace.
- Access to healthcare was also considered an issue – particularly a lack of buses from all conurbations in the study area to the Queen Elizabeth University Hospital in Glasgow. Services between Gartnavel hospital (Hyndland Station) and Hamilton were seen as good, however it is difficult for the residents of Clydesdale to access Hamilton.
- Wishaw General Hospital was identified as a key employer in the area as well as healthcare location. Services to the hospital from Carluke were viewed as acceptable but those from

other towns and villages across Clydesdale are poor, particularly out with peak times which typically coincides with visiting hours and shift work.

- Concerns were raised about recent timetable route changes which have resulted in th withdrawal of direct rail connections from Lanark and Carluke to Hamilton. Passengers are now required to interchange which can be unpalatable and crucially, there are concerns with both timetable integration and reliability of connecting services.

- It was believed that Carluke/Carstairs rail services to Edinburgh are well used. The timetabling suits commuters traveling in peak times however there are a limited numbers of services, circa 6 per day. Councillors also suggested that connections from Lanark to Edinburgh should be provided.

- Councillors believed that access to the rail network is crucial, and should be supported by connecting bus services.

- Significant concerns that the bus network does not integrate with the train timetable, particularly after 6pm in the evening. For the majority of the Clydesdale area, bus/rail integration is not a viable option as connections are not available or reliable. This has meant that for large parts of Clydesdale, having access to a private car is an essential part of life.

- Specific concerns raised about the withdrawal of bus services from Law which appears to be a situation South Lanarkshire Council are aware of.

- Bus fares are believed to be high – despite widespread public opinion of them being a cheaper option for short journeys. Introduction of multi-modal tickets should be a priority.

- Concerns at lack of bus facilities in smaller villages and settlements. Lack of suitable bus shelters were noted.

- Glespin and Douglas Water were identified as being very isolated, and there have been issues in the past of the bridge entry crossing being closed which meant significant diversions were required for residents to access Lesmahagow and other services.

- Generally, the road network was viewed as adequate with the exception of current delays on the M74 trunk network. SLC officers noted that work is ongoing with North Lanarkshire Council to improve the junction at Horsely Brae which has previously been identified as a key constraint in the network and source of significant journey time delays.

- Tourism was identified as key issue. Access to the World Heritage Site at New Lanark is difficult from Edinburgh. There is currently a small service bus which links from Lanark rail station but this is not attractive or well known to tourists. It should be noted that in order to travel from Edinburgh via Carstairs, two buses will be required.

3.6 Workshop with Internal and External Stakeholders

3.6.1 A meeting with South Lanarkshire Council staff from Traffic and Transportation, and Planning and Economic Development teams; plus, key external stakeholders including Abellio and Transport Scotland, represented by their term consultants was held on 9th February 2017.

3.6.2 The discussion highlighted the following.

- During a recent place making consultation, SLC officers found residents in Clydesdale scored their local area high on factors such as quality of the environment, however access to jobs and health care scored low. It was felt that there is a great sense of isolation, particularly in young people.

- Rigside and Glespin have shown evidence of depopulation and age profiles are expected to be skewed towards older generations, as this continues to happen, SLC will have to make decisions as to whether to continue investing in social housing in these types of areas. In deprived areas, there are no local jobs, and without adequate transport links, the situation is only likely to deteriorate further.

- Feelings of isolation are mirrored in Law, despite being closer to towns like Wishaw and Carluke. The main issue is that there is no rail services and bus connections can be poor and/or non-existent.

- Realistically residents will leave the Clydesdale area for work. The main drivers for employment are East Kilbride, Glasgow and Edinburgh. For those in Biggar and Symington many people gravitate towards Edinburgh.

- Many of the proposed developments identified within the current LDP have not been realised due to economic circumstances, SLC intend to progress with identified sites however this is led by the market. There are significant proposals for residential areas set aside within Clydesdale which if delivered, could see more than 3000 additional housing units provided at locations including Carluke, Lanark, Coalburn, Lesmahagow and the former Law Hospital site;

- SPT and South Lanarkshire have developed park and ride facilities at Carluke and Carstairs. The small car park at Carstairs is already over capacity, SLC officers noted that Carstairs railway station is one of the fastest growing stations in Scotland in terms of uplift in patronage. SLC are considering how to secure funding to expand park and ride provision at this station;

- Carstairs station itself is due for a refurbishment soon. It was believed that there is an opportunity to turn Carstairs in to a transport hub for rural South Lanarkshire, with a substantial park and ride and bus interchange.

- Car parking facilities for 70-100 is proposed for Lanark Station as part of the redevelopment of the interchange. This large scale can now be justified by high patronage figures.

- Given the deregulated nature of the bus industry, services can get pulled very quickly which often leaves those living in rural areas isolated. The services that do run often do not suit those traveling outside peak hours, especially in rural areas.

- There is currently no bus service between Forth and Carluke, or Carnwath and Biggar.

- Ticketing was also raised as a potential barrier; the Clydesdale area falls within SPT Zonecard area but this doesn't allow passengers to travel onwards to Edinburgh.

- The Horsely Brae junction was identified as a road network issue; however, it was noted that North Lanarkshire Council are progressing the situation with a CPO (to be completed within 2017 calendar year). SLC working in partnership with NLC to develop this project.

- ScotRail is investing in a significant amount of cycle parking at stations across the country, potentially soon to include Lanark.

- The current Park & Ride spaces at Lanark station are being utilised by people living within 1 or 2 miles of the station. As such, there should be consideration of measures to encourage sustainable travel.

3.7 Strathclyde Partnership for Transport

3.7.1 A meeting was held with a representative from Strathclyde Partnership for Transport (SPT) on 13th February 2017.

The discussion highlighted the following.

- Whilst SPT do not have any official rail powers, they actively support partners in development and delivery of projects such as Robroyston Station. SPT also host the West of Scotland Rail forum, with ScotRail, Network Rail, Transport Scotland and invited bus operators.

- SPT regularly liaise with the rail industry, in particular it is important to understand timetable changes to allow bus services to be appropriately integrated.

- SPT have had historic involvement with understanding the feasibility of a rail station at Law. They produced a 2003 feasibility study, which identified Law as a preferred location out of various in the area, however demonstrated some concerns such as capacity constraints on the line.

- SPT do however have concerns about introducing an additional stop on to the West Coast Mainline and its impact on other services.

- SPT is currently investing in the redevelopment of Lanark station as a bus/rail interchange. Its position as a rail head and access to the surrounding Clydesdale area make it a focal point. As part of the redevelopment, SPT are looking to provide a formal park and ride car park.

- Many of SPT's subsidised bus services are commercial during the day. SPT believe the bus services to Lanark do integrate with the trains but generally only every second train. This provides a fast, direct service to Glasgow Central high level. SPT note that the provision of bus and rail services at Lanark is as good as it's ever been. Patronage levels would currently not justify an increased bus services to meet every rail service.

- SPT concede that rail timetable integration between Motherwell and Hamilton is not ideal at the moment, and understand why the requirement to interchange since the route changes came into effect have become a source of concern for residents of Clydesdale.

- SPT has identified supressed demand for residents travelling from Clydesdale to Edinburgh. Traditionally people only considered travelling in to Glasgow.

- SPT note that many rural island populations are in fact served better by public transport than mainland rural services. SPT questions why island communities are provided significant subsidies for transport connections but rural communities do not enjoy this access.

- SPT believe that a robust connecting bus service that integrates at critical points (e.g. Lanark, Hamilton, Larkhall, Carstairs) would be easier, quicker and more economical to provide for passengers than a new rail halt. Journey times may be longer but passengers would have to wait much less time to see improvements. A train station at one location would only serve a small portion of the study area and at a significant cost. SPT believe the financial cost of a new station is difficult to justify given the significant improvements it could make to bus services across the area for the same investment.

- SPT advised that Dumfries & Galloway is a useful template, or case study, where good bus services have been used to support a rural train services. Dumfries & Galloway only has 4 train stations, which is similar to rural South Lanarkshire.

3.8 Project Meeting with Network Rail and Abellio ScotRail

3.8.1 A meeting was held on 10th February 2017 with representatives from Network Rail and Abellio ScotRail.

3.8.2 The discussion highlighted the following key points.

- Network Rail (NR) has identified areas of improvement required for the Carstairs station redevelopment. These include reviewing the track, signalling assets and junction layout, particularly line speeds to reduce journey times. This is in order to meet capacity requirements in 30 year look ahead (route study). NR are also looking to rationalise and improve asset life to make them maintainable. Cost is a driving factor in considerations plus the trade-off between providing for different operators such as freight.

- Network Rail has a desire to increase line speeds on the West Coast Main line. They would consider running additional services however state that the line is nearing capacity.

- When asked about the capacity element, NR explained that available space on a line does not necessarily translate to a new train path. The WCML passes through many junctions, all of which have timetables carefully timed. Adding a train service to one route can have significant knock on effects for all services in the region. Whilst not necessary for STAG pre appraisal, the implications of additional services should be modelled for later work within the STAG process to fully understand the issues and constraints.

- ScotRail mirrors concerns about the impact a new station could have on the rest of the network and other users, however is supportive of more long distance services stopping at Motherwell.

- It was noted that Glasgow Central Station is nearing capacity. Network Rail are currently undertaking an exercise to consider how any additional services fit in to the station.

- HS2 is also a key consideration. Capacity may be released depending upon the solutions. High level study findings expected later this year (2017).

- Both ScotRail and Network Rail agreed that now is the time to put forward any aspirations for rail to be considered alongside ScotRail's timetable of improvements.

- ScotRail are planning electrification of the Shotts line by May 2019. There are then options to alter servicing of areas without changing the number of trains available. The end aspiration is for 3 or 4 trains an hour but will be incremental changes until then. There are constraining factors such as number of trains, amount of electricity etc. NR are looking to provide new electricity substation to cater for future demands.

- ScotRail believed the Glasgow – Edinburgh service via Carstairs was performing well, noting that on average 60 passengers on board the AM peak service from Carluke. Both morning and evening peak services are well timed to take advantage of commuter patterns. ScotRail view this success as suppressed demand however cannot presently run more services as Virgin XC holds the paths and are unlikely to free up capacity soon. ScotRail did however state that if paths were available, they would look to provide an hourly service on the line.

- The issue with timetable realignment which removes the Hamilton loop was discussed. Whilst the concerns with loss of connection is understood, timetable realignments have seen significant increases in patronage. ScotRail advised that since the December 2014 timetable change they have noted around 500k extra journeys on the Argyle Line, Whifflet and Motherwell – Cumbernauld routes on top of base growth in the last 2 years. ScotRail note that they have seen a large growth in flows from Lanark, Carluke and Wishaw stations in this time period after the realignment. It was felt that the key benefit was the new standardised timetable and direct access to Glasgow Central High Level. Due to the success of the new timetable, there are no current plans to revert to the previous route.

- Carstairs station has a small car park currently although this has been increased recently. Redevelopment of this station provides an opportunity to create a transport hub for rural areas.

- NR have previously circulated a list of concerns with the potential alignment of a station in the area at Law Junction to SPT, elements regarding concerns over capacity would be valid for any other new station located on the WCML within Clydesdale. Despite these concerns, NR note that they do not take a role in deciding policy on new stations and will investigate and work with promotors at the appropriate stage.

3.9 TransPennine Express

3.9.1 A telephone discussion was conducted with Jerry Farquharson the Service Planning Director at TransPennine Express on 9th February 2017.

3.9.2 The discussion centred around the following points.

- TPE are a Train Operating Company who consider and serve intermediary stations, as such, they would be interested in at least having an involvement in discussions around the Clydesdale study.

- TPE note that whilst they stop at Lockerbie, they do not consider the stop as Lockerbie but rather a connection to the Dumfries and Galloway hinterland. A stop in Clydesdale could serve a similar function for the Clydesdale communities. Carstairs and Carluke both fit the bill, with Carstairs closer to rural Clydesdale. Alignment issues are a problem however at Carstairs as the stop would not be a conventional through stop and would require manoeuvres to access the platform which would require unacceptable delays to journey times, however, if Carstairs station was realigned, this could be something which would appeal to TPE. The other issue with Carstairs is the constrained parking. For a TPE tie in to be effective it would require enhanced parking.

- TPE note that Carluke could also be worth considering although it is further from rural Clydesdale it does have significant catchment populations in Carluke, Lanark, Law and rural areas, and would get around the platform configuration issue. Carluke also has a large park and ride car park.

- If a TPE service was to stop in Clydesdale, TPE suggest what would make it the service attractive and feasible would be the ability to integrate with Edinburgh/Glasgow trains. If TPE passengers are travelling north from Manchester, they could get TPE to Clydesdale, get off the train and 5 minutes later there is a train to Edinburgh.

- TPE also think it would be worthwhile ScotRail increasing the Glasgow – Edinburgh via Carstairs services to an hourly service.

- TPE believes that the Glasgow Edinburgh via Carstairs services are performing reasonably and were showing growing demand.

- TPE would like to be kept informed about the study progress and would like to be involved in later stages should the study be continued. TPE believe that there is potential for improvements to be made for rail in Clydesdale.

4 Problems, Issues, Opportunities and Constraints

4.1 Overview

4.1.1 The purpose of this stage of a STAG study is to identify the problems, issues, opportunities and constraints within the **current and future** transport system. These terms are defined within the STAG Guidance as follows:

- **Problems:** Existing and future problems within the transport system, e.g. unreliable journey times;
- **Opportunities:** Chances to improve the current situation by making changes to the transport system, e.g. improve journey times;
- **Issues:** Uncertainties that the study may not be in a position to resolve, but must work in the context of, e.g. impact of LDP; and
- **Constraints:** The bounds within which the study is being undertaken, e.g. available funding.

4.1.2 This chapter sets out the identified problems, opportunities, issues and constraints associated with the study area identified through the baselining, consultation and desk-based research.

4.2 Problems

4.2.1 The STAG Guidance states that it is important to recognise that **actual and perceived problems or opportunities** within the transport system must form the rationale for any STAG study.

4.2.2 The following key problems have been identified based on the evidence base provided within this report.

- Transport provision is generally poor in the rural parts of Clydesdale, meaning residents are unable to access education, healthcare and employment opportunities. This particularly affects young people and those with a low income who may not be able to afford a private car.
- A large proportion of Clydesdale residents do not live near to the rail network, meaning they must rely on other modes, such as bus or car, to access a station.
- Many of the off peak bus services do not integrate with rail services, meaning residents are unable to use them to access connecting rail services to Glasgow, Edinburgh and beyond.
- Private car ownership and use is high, resulting in environmental impacts such as carbon emissions.
- Law is close caught between Carluke and Wishaw with regular bus and rail services running past the village however there is no rail halt and an issue with local bus operators has cut the village off completely by public transport.
- There are no direct bus services from many locations in Clydesdale to Glasgow, from these areas, interchange is required at Lanark or Carluke for any onward travel.
- There are very limited public transport connections to tourism sites including the World Heritage Site at New Lanark, limiting the potential of the area.

- The West Coast Mainline is currently constrained and would be unable to support additional, slow moving services, or potentially the introduction of new stops.

4.3 Opportunities

4.3.1 The following opportunities have been identified.

- Increase the accessibility of health and social facilities.
- Increase the accessibility of employment and education opportunities.
- Increase the proportion of residents employed in higher value sectors. It may be that current transport connectivity is constraining access to higher value employment opportunities.
- Improve house prices in Clydesdale which are lower than the national average but higher than the local authority average. Transport accessibility is one of a number of factors which influence house prices, with improvements in transport access having the potential to lead to increases in the supply and demand for housing.
- Increase the accessibility to tourism in the area, and take particular advantage of the World Heritage Site at New Lanark, and take cognisance of the important role tourism plays in the region and the local economy.
- Encourage modal shift away from private car use and increase the sustainable transport mode share.
- Potential future opportunity for rail, if rail capacity is freed up by the extension of HS2 to Scotland, enabling the introduction of new potential rail stations at Symington and or Law. In this regard, both existing and future train movements, train timetabling, potential stopping time at new stations, train path availability and signalling need to be fully understood. If the West Coast Main Line is substantially upgraded or alternatively bypassed by new HS2 bypasses lines it will still be in use for freight traffic. Local passenger services will be able to operate alongside freight services as the speed differential between a 75mph multimodal freight train and a stopping passenger train is much reduced compared with the current differential between 75 mph freight trains and 110/125 mph non-stopping passenger trains.
- Potential for rail freight integration.

4.4 Issues

4.4.1 The following issues have been identified.

- The commercial viability of any new bus services that may be introduced and private operator appetite to operate new services, similarly, the vulnerability of existing services, SPT and SLC note withdrawal of specific services in recent years;
- The potential subsidy that may be required to increase bus provision in the area.
- Commercial bus market does not believe it is feasible to divert services to Law, losing journey time and potential patronage between Carluke and Wishaw.
- Potential rail station at Law would be sited very close to two existing train stations at Carluke and Wishaw.
- Symington sits on a segment of line that is not currently served by ScotRail, and is only served by operators which run intercity services. In this area, ScotRail is focussed on their existing commitments providing station expansions and redevelopments which are not focused in/around Symington area.

- Existing station at Carstairs and proposals for Carstairs redevelopment may weaken the case for the development of a new rail station in Clydesdale due to the proximity of catchment areas.

4.5 Constraints

4.5.1 Constraints in STAG represent the physical, legal and institutional boundaries in which the study is being undertaken. STAG appraisals must take cognisance of all relevant constraints and ensure that the options developed are in keeping with them.

4.5.2 The following constraints have been identified.

- Available Council and SPT budget to operate subsidised bus services.
- Site specific infrastructure (signalling and points) constraints at Law Junction.
- Capacity issues on the West Coast Main Line.
- Limited rail station catchment population at Symington and Law given both are relatively close to neighbouring stations.
- The West Coast Main Line is a highly important strategic link between Scotland and England subject to both high speed rail traffic and freight traffic, with freight paths protected to enable the government to achieve objectives and aims with regards to modal shift for transporting freight. The line is currently approaching capacity which could make the introduction of stops and services challenging, however this needs to be explored in greater detail with consideration of the future impact of an extension of HS2 into Scotland which could provide greater scope for the introduction of local rail services. Both existing and future train movements, train timetabling, stopping time at new stations, train path availability and signalling need to be fully understood, especially in light of the Scotland Route Study.

5 Objective Setting

5.1 Overview

5.1.1 This chapter sets out the Transport Planning Objectives (TPOs) for the study.

5.1.2 The TPOs express the outcomes sought from the study and describe how the identified key problems can be alleviated (without indicating any potential solution). The objectives will form the basis for appraisal of the options at STAG Part 1 Appraisal (and subsequently, with refinement, during the more detailed STAG Part 2 Appraisal).

5.1.3 The development of the Transport Planning Objectives has been informed by:

- consideration of the key problems and opportunities as discussed in Chapter 4;
- the wider established transport, land use planning and economic policy context as discussed below;
- discussions during the stakeholder engagement programme; and
- discussion with the Client Group.

5.1.4 At the Pre-Appraisal stage, there is not a requirement within STAG to ensure that objectives are SMART (Specific, Measurable, Attainable, Relevant and Time-Bound). However, setting initial SMART objectives at Pre-Appraisal is generally helpful in ensuring that the appraisal is focussed. It is assumed that a further process of refinement of the objectives would be undertaken at STAG Part 1 Appraisal if any option were to be progressed.

5.1.5 The objectives have therefore been developed with SMART principles in mind, such that they are:

- **Specific:** It will say in precise terms what is sought;
- **Measurable:** There will exist means to establish to stakeholders' satisfaction whether or not the objective has been achieved;
- **Attainable:** There is a general agreement that the objectives set can be reached;
- **Relevant:** The objective is a sensible indicator or proxy for the change which is sought; and
- **Time-Bound:** The objective will be associated with an agreed future point by which it will have been met.

5.2 Transport Planning Objectives

5.2.1 The setting of TPOs is a key step in the STAG process as they define what the policymaker is seeking to achieve through the transport intervention. The objectives developed for this appraisal are designed to reflect and address the problems, issues, opportunities and constraints outlined above, whilst also focussing on the delivery of the wider policy context.

5.2.2 The TPOs set for the study, while reflecting the identified problems, also support the range of established national, regional and local policy directives, plans and strategies.

5.2.3 Appendix F shows the key transport, planning and economic policy, strategy and plan hierarchy under which the study is positioned, and to which the study objectives are aligned.

5.2.4 Details of the key aims and objectives for each of the noted policy directives, plans and strategies is shown in Appendix F.

5.2.5 The TPOs for Clydesdale are set out below. In line with the problems and opportunities identified, they are focussed on addressing encouraging the provision of sustainable travel options that facilitate access to employment and key services and maximising the potential of the area.

- TPO 1: Increase the mode share of sustainable transport for all journey purposes including access to new employment opportunities
- TPO 2: Increase transport integration
- TPO 3: Increase public transport accessibility
- TPO 4: Increase accessibility to Clydesdale's attractions for people within and outwith the area.

5.2.6 Table 5.1 summarises the TPOs against the identified problems.

Table 5.1: Problems and Transport Planning Objectives

Problem	Objectives			
	TPO1: Increase the mode share of sustainable transport for all journey purposes	**TPO2:** Increase transport integration	**TPO3:** Increase public transport accessibility	**TPO4:** Increase accessibility to Clydesdale's attractions for people within and outwith the area
Transport provision is poor in many parts of the area meaning residents have to rely on the private car to access employment, education and services		✓	✓	
Large proportion of the population do not live near the rail network therefore have to interchange or use alternative modes		✓	✓	
Many of the off peak bus services do not integrate with rail services meaning residents are unable to use them to access connecting rail services to Glasgow, Edinburgh and beyond		✓	✓	✓
Private car ownership and use is high, resulting in environmental impacts	✓	✓	✓	✓

Problem	Objectives			
	TPO1: Increase the mode share of sustainable transport for all journey purposes	**TPO2:** Increase transport integration	**TPO3:** Increase public transport accessibility	**TPO4:** Increase accessibility to Clydesdale's attractions for people within and outwith the area
such as carbon emissions				
Regular bus and rail services run past Law however there is no rail halt and an issue with local bus operators has led to no direct public transport options	✓	✓	✓	
There are no direct bus services from many locations in Clydesdale to Glasgow - from these areas interchange is required at Lanark or Carluke for any onward travel		✓	✓	
There are very limited public transport connections to tourism sites including the World Heritage Site at New Lanark, limiting the potential of the area		✓	✓	✓

5.3 The STAG Criteria

5.3.1 A STAG Appraisal must test each option and its performance against the five STAG criteria of Environment, Economy, Safety, Integration and Accessibility / Social Inclusion. The STAG Appraisal also considers issues related to the feasibility, affordability and public acceptability of each option.

6 Option Development and Sifting

6.1 Overview

6.1.1 Drawing on the problems and opportunities identified in Chapter 4, an initial list of options which could potentially resolve them has been developed. In line with STAG, the potential options were derived through:

- ideas / outputs from the consultation process;
- ideas / proposals that have previously been developed and remain viable options; and
- ideas / outputs from structured decision making processes, followed by our team undertaking an 'optioneering' exercise.

6.2 Options

6.2.1 This section sets out the potential options which we have identified for addressing the transport problems and opportunities across Clydesdale. Note that options are not in all cases mutually exclusive and could be packaged together.

Do Minimum & Reference Case

6.2.2 STAG requires the establishment of a 'Do Minimum' and 'Reference Case', as follows.

- The 'Do Minimum' is the current position plus any committed investments which have policy and funding approval. The Do Minimum is the basis against which all other options should be measured.
- The 'Reference Case' includes other non-controversial but as yet uncommitted transport schemes and / or development profiles, which can also be used as a baseline for option comparison.

6.2.3 With no committed transport improvements in the Clydesdale area, the 'Do Minimum' and 'Reference Case' for this study represent one and the same – i.e. the continuation of the current situation.

6.2.4 The generated options are shown in Table 6.1.

Table 6.1: Generated Options

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
1	Increasing the frequency of rail services between Carluke, Carstairs and Edinburgh	Provide improved frequency of rail services between Clydesdale and Edinburgh	Require available paths and an operator to pick up the service	ScotRail confirmed that if there were additional paths they would provide an hourly service. TPE are currently providing stopping services at Motherwell and may be interested in a Clydesdale stop	✓	✓	✓	✓
2	Introduce new rail services between Lanark and Edinburgh	Provide direct connections between Lanark and Edinburgh	Would require significant investment in new track and infrastructure to allow services to call at Lanark.	Services currently call at Carstairs and Carluke, if infrastructure was provided to serve Lanark, this could be achieved.	✓	✓	✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
			Would result in journey time increases for these services. This may result in unacceptable delays on the WCML and network into Glasgow					
3	Provide rail halt at Law	Increased public transport accessibility. Direct connections to Glasgow for work, leisure, education,	Constraints on WCML. Constraints at Law Junction. Likely to require significant investment. Would require journey time increases on	Route is in place. Station halt could be provided on site of former station or a more advantageous site. Potential to provide station on loop, allowing WCML	✓		✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
		healthcare and services	existing services to allow calling point at Law, may impact wider rail network Current rail stations located in surrounding towns of Carluke and Wishaw	services to run through				
4	Provide rail halt at Symington	Increased public transport accessibility. Direct connections to Glasgow for work, leisure, education,	Constraints on WCML. Likely to require significant investment. Would require ScotRail services to be extended	Opportunity to provide for populations of Symington and Bigger, in addition to hinterland	✓		✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
		healthcare and services	beyond Lanark /Carstairs in order to call at Symington. Could impact upon wider network timetable					
5	Improve rail time table to allow improved interchange at Motherwell station for Clydesdale residents who require to access Hamilton	Shorter journey times as transport interchange improves	Would require ScotRail to realign timetable which has recently been optimised. Any changes to improve this element may lead to disbenefits elsewhere		✓	✓		
6	Provide a dedicated shuttle bus service between Law, and	Provides direct access over a 3-mile stretch to	Will require subsidies to	Reasonable intermediate option, will cost	✓	✓	✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	Carluke train station, working on a high frequency and integrating with the rail timetable	the rail network over the course of the day	provide bus service	less than rail station. Potential use as a measurement of patronage over time providing evidence for future rail station at Law. Could also be linked to current subsidised service provided by SPT which only travels as far as Carluke Cross				
7	Extend the current Subsidised service 243 from Carluke X to Carluke	Provides direct access over a 3-mile stretch to	Current SPT subsidised service may be	Current subsidised services operate between Carluke	✓	✓	✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	Rail Station. This service would need to run to a higher frequency than it does presently	the rail network over the course of the day	timetabled to maximise operations. May not be scope to extend reach without adding additional bus.	Cross, Law and Hamilton. Extending to Carluke rail station would add approximately 5 minutes of journey time to the route.				
8	Improve bus/rail integration before/after core hours at Lanark rail station to ensure connections are available to Clydesdale towns and village out with the core working day	Providing access to the rail network for towns and villages in rural Clydesdale via improved transport integration and service frequency enhancements	Will require additional funding to provide enhanced services	Opportunity to take advantage of station interchange proposals at Lanark	✓	✓	✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
9	Provide strategic park and ride facility at Lanark with local bus services calling at the station, bus timetable integrated with rail	Providing access to the rail network for towns and villages in rural Clydesdale via improved transport integration and service frequency enhancements	Will require additional funding to provide enhanced bus services. Land availability may be an issue as site is constrained. Realistically, site at Carluke may be more appropriate	Opportunity to take advantage of station interchange proposals at Lanark. Could form a park and ride hub for rural Clydesdale strengthening local links into Lanark from the surrounding communities and strengthen Lanarks role as the main local centre	✓	✓	✓	
10	Provide strategic park and ride facility at Carstairs, with local bus services calling at the	Providing access to the rail network for towns and villages in rural	Will require additional funding to provide	Investigations are ongoing for improvements to Carstairs Rail Station. Provision	✓	✓	✓	

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	station, bus timetable integrated with rail	Clydesdale via improved transport integration and service frequency enhancements	enhanced bus services. May not be enough rail services calling at Carstairs to justify this. Land availability may be an issue. Realistically, site at Carluke may be more appropriate	of suitable car parking and connecting bus services may be a timely intervention				
11	During peak travel hours, provide half hourly service between Biggar/Symington and	Improved access to the rail network and improved	Funding will be required to provide services.		✓	✓	✓	

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	Lanark. SPT subsidise the early and late services on an hourly frequency. Proposal to increase the frequency connecting with commuter trains to Glasgow to half hourly services	transport integration allowing more access to jobs, leisure, education, health care and services. Note proposal is only suggesting increasing frequencies during core hours to connect with commuter rail services	Unsure if there is a large enough local population to support these services					
12	Encourage bus services to Glasgow to stop at Law	Direct connections for	Will require to subsidise the		✓		✓	

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
		the population of Law to reach Glasgow	current operators who route the services on the A73 past the entrance to Law					
13	Provide dedicated shuttle service linking Carstairs rail station, Lanark rail station and New Lanark Heritage Village, integrated with the rail network. Note, that services to Carstairs would not have to be high frequency as there are only limited train services calling at Carstairs each day	Bespoke shuttle bus providing interchange with rail services at Carstairs, allowing tourists public transport opportunities to access New Lanark Heritage Site from Edinburgh, Glasgow and beyond	Will require subsidy to operate	Opportunity to encourage more visits to Clydesdale to take advantage of tourism	✓	✓	✓	✓

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
		Significant economic benefits to the region if the potential is realised						
14	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Law, Carluke and Braidwood. Investigate the Old Wishaw Road, would require surfacing and lighting	Safer access by sustainable modes between nearby settlements. Environmental and health benefits	Will require appropriate alignments, surfacing and potentially lighting	Could benefit from Sustrans Community Links funding	✓			
15	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a	Safer access by sustainable modes between	Will require appropriate alignments, routing, surfacing	Could benefit from Sustrans Community Links funding	✓			

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	demonstrable flow. Biggar and Symington	nearby settlements. Environmental and health benefits	and potentially lighting					
16	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Carnwath and Carstairs	Safer access by sustainable modes between nearby settlements. Environmental and health benefits	Will require appropriate alignments, routing, surfacing and potentially lighting	Could benefit from Sustrans Community Links funding	✓			
17	Ensure appropriate/suitable walking access is provided to transport	Improves connectivity by sustainable modes,	May be local constraints at specific locations		✓		✓	

Option No.	Option Description	Benefits	Disbenefits	Opportunities	High-level Appraisal against Objectives			
					TPO1: Increase sustainable transport mode share	TPO2: Increase transport integration	TPO3: Increase public transport accessibility	TPO4: Increase accessibility to Clydesdale's attractions for people within and outwith the area
	hubs and stops including rail stations, bus stations and bus stops	encourages use of public transport and less reliance on private car						
18	Improve vehicle quality for bus services in the area	Improves efficiency, air quality benefits, encourages uptake of bus services	Requires funding. Private operators who are making marginal profit may not see worth in the proposal		✓		✓	

6.3 Option Sifting

6.3.1 The 'rule' in STAG is that all options should be retained until unequivocal evidence is provided that the option will not deliver against the TPOs and STAG criteria (and hence will not address the problems and opportunities). At Pre-Appraisal, it is recommended that options which will clearly not deliver the intended outcomes should be eliminated from further consideration.

6.3.2 All the options developed have the potential to contribute towards delivering against the TPOs and STAG criteria and thus could be considered in more detail at the STAG 1 Appraisal stage.

7 Next Steps

7.1 STAG Part 1 Appraisal

7.1.1 This Pre-Appraisal Report has set the context for the appraisal of sustainable transport options for the Clydesdale area.

7.1.2 The report has identified the key transport and economic problems, issues, opportunities and constraints in the study area. In line with STAG, this baseline has been used as the basis for objective setting and the generation of a long-list of sustainable transport options to be appraised.

7.1.3 The options considered worthy of more detailed consideration at STAG Part 1 Appraisal are as summarised in Table 7.1 below.

Table 7.1 Options to be considered at STAG Part 1 Appraisal

No.	Option
1	Increasing the frequency of rail services between Carluke, Carstairs and Edinburgh
2	Introduce new rail services between Lanark and Edinburgh
3	Provide rail halt at Law
4	Provide rail halt at Symington
5	Improve rail time table to allow improved interchange at Motherwell station for Clydesdale residents who require to access Hamilton
6	Provide a dedicated shuttle bus service between Law, and Carluke train station, working on a high frequency and integrating with the rail timetable
7	Extend the current Subsidised service 243 from Carluke X to Carluke Rail Station. This service would need to run to a higher frequency than it does presently
8	Improve bus/rail integration before/after core hours at Lanark rail station to ensure connections are available to Clydesdale towns and village out with the core working day
9	Provide strategic park and ride facility at Lanark with local bus services calling at the station, bus timetable integrated with rail
10	Provide strategic park and ride facility at Carstairs, with local bus services calling at the station, bus timetable integrated with rail
11	During peak travel hours, provide half hourly service between Biggar/Symington and Lanark. SPT subsidise the early and late services on an hourly frequency. Proposal to increase the frequency connecting with commuter trains to Glasgow to half hourly services
12	Encourage bus services to Glasgow to stop at Law

No.	Option
13	Provide dedicated shuttle service linking Carstairs rail station, Lanark rail station and New Lanark Heritage Village, integrated with the rail network. Note, that services to Carstairs would not have to be high frequency as there are only limited train services calling at Carstairs each day
14	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Law, Carluke and Braidwood. Investigate the Old Wishaw Road, would require surfacing and lighting
15	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Biggar and Symington
16	Provide safe walking and cycling routes connecting towns/villages in close proximity where there is a demonstrable flow. Carnwath and Carstairs
17	Ensure appropriate/suitable walking access is provided to transport hubs and stops including rail stations, bus stations and bus stops
18	Improve vehicle quality for bus services in the area

7.1.4 If a STAG Part 1 Appraisal were undertaken, each of these options would be qualitatively assessed in more detail, before the option(s) that best meet the Transport Planning Objectives and STAG criteria would be taken forward to a full, quantitative STAG 2 Appraisal.

Appendix A Data Geography

A.1.1 Figure A.1. Figure A.2 and Figure A.3 show the geographic area covered by each of the geographic levels for Clydesdale.

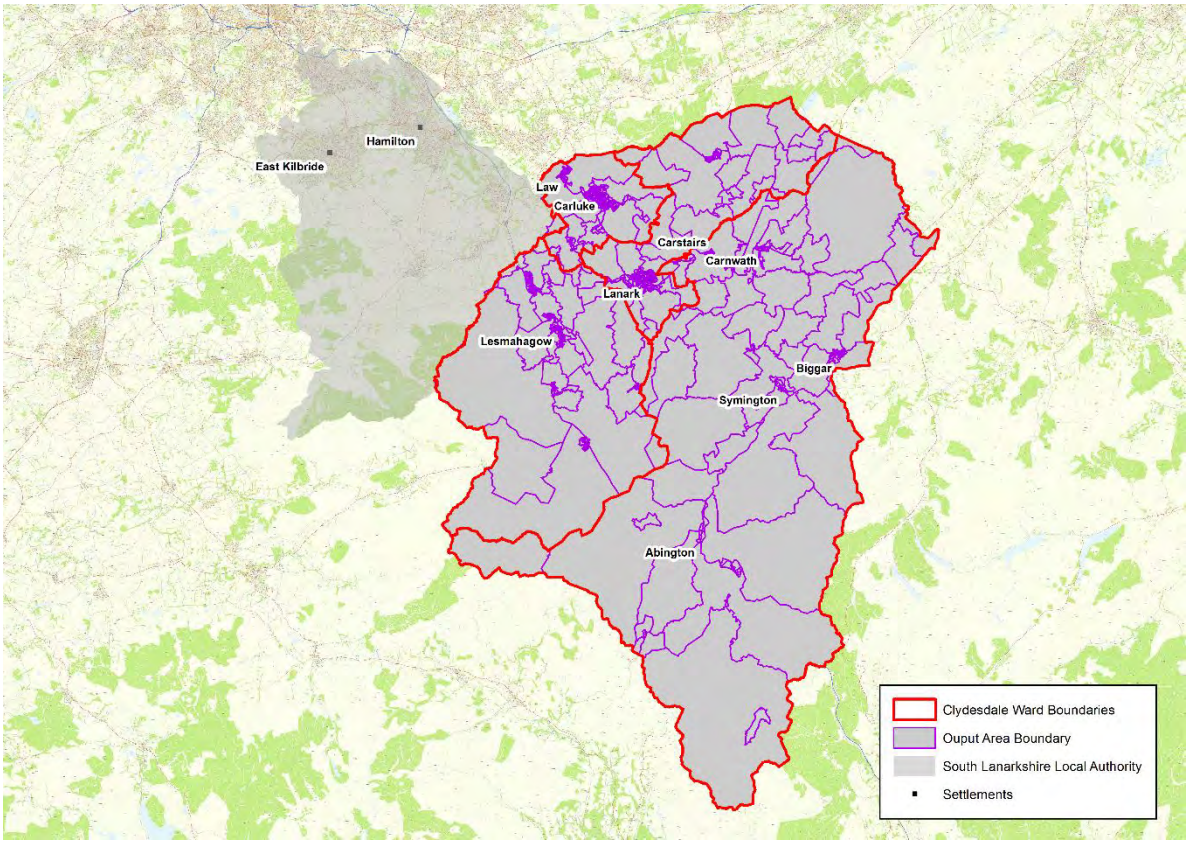

Figure A.1: Clydesdale Ward and Output Area Boundaries

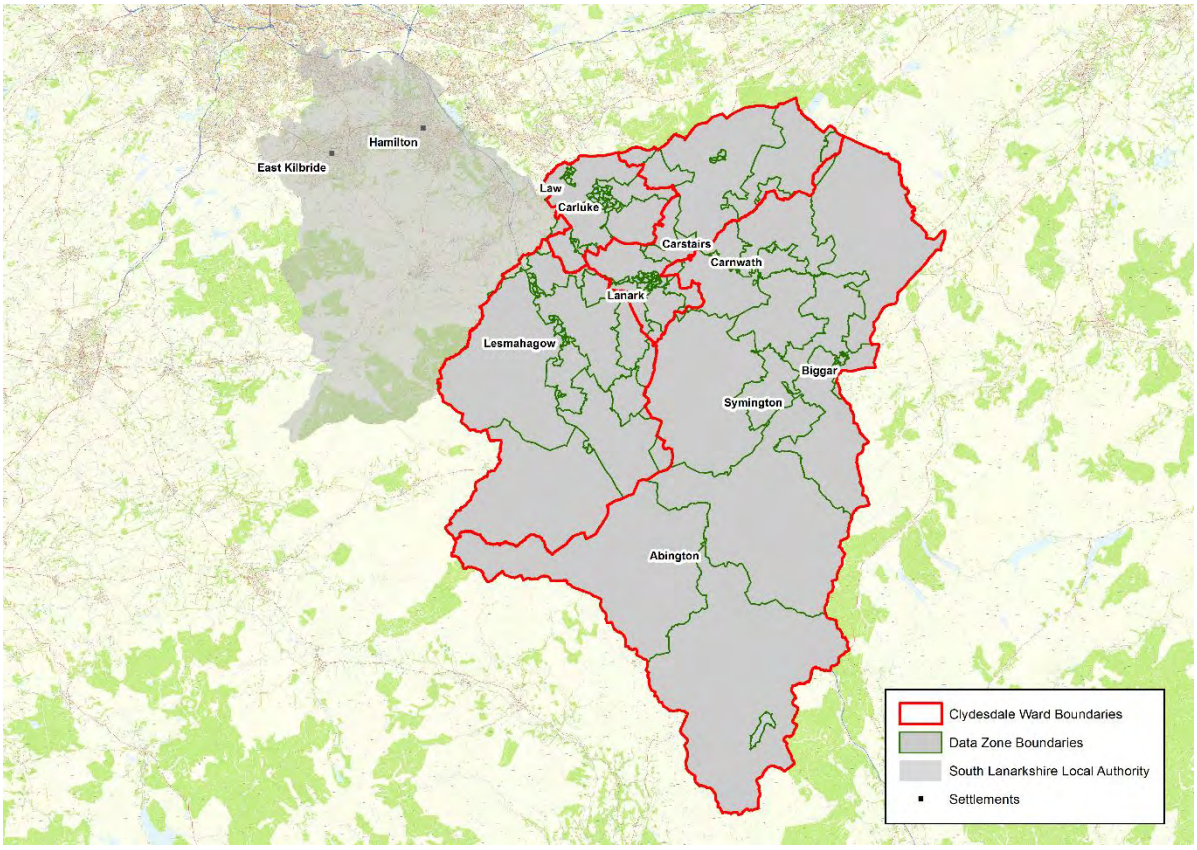

Figure A.2: Clydesdale Ward and Datazone Boundaries

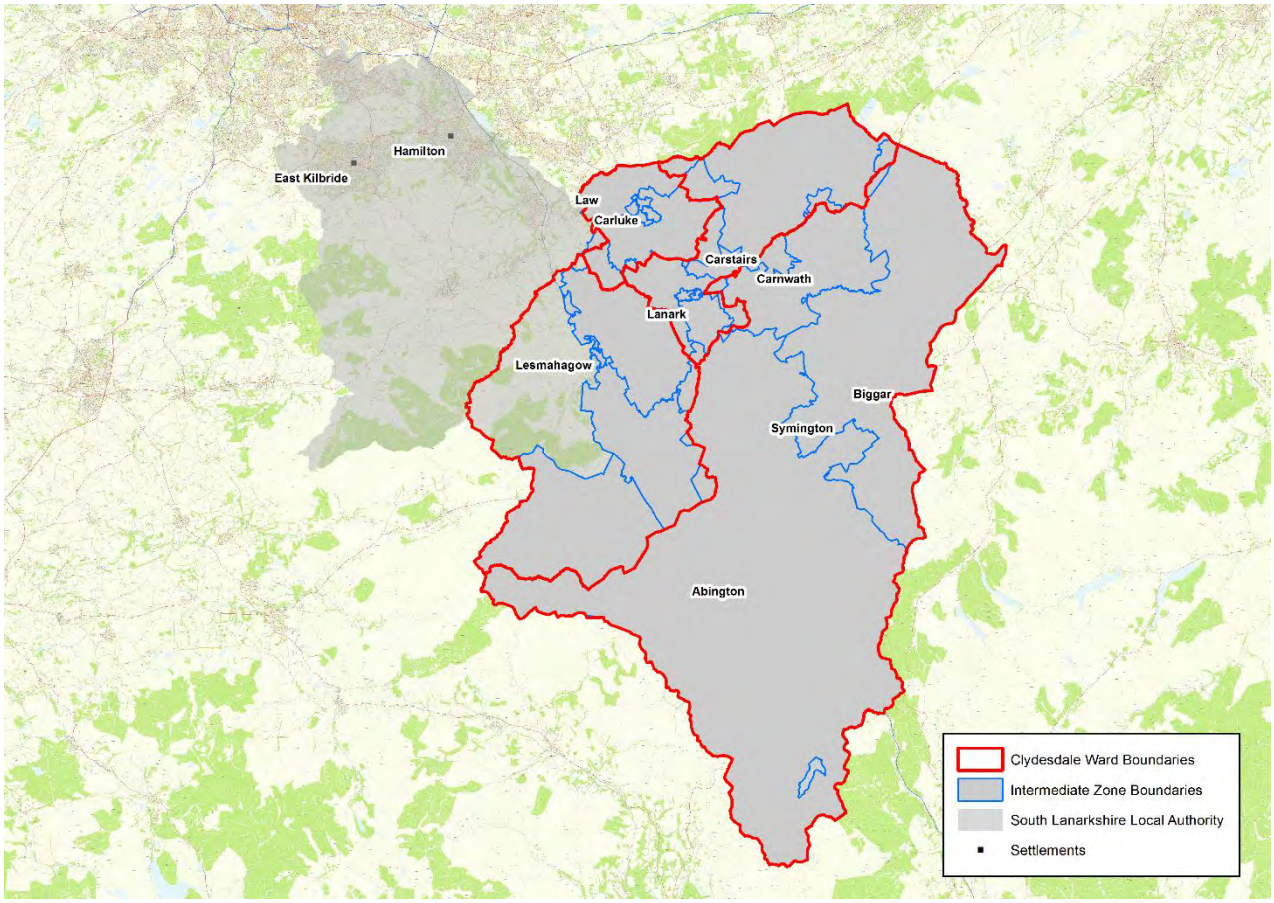

Figure A.3: Clydesdale Ward and Intermediate Zone Boundaries

Appendix B Socio-Economic Profiling

B.1 Introduction

B.1.1 This section reviews the socio-economic profile of Clydesdale, considering key issues such as population, the labour market, deprivation and property.

B.2 Population

B.2.1 The trend in population is often seen as a barometer of the economic health and attractiveness of an area. Areas with a stable or growing working age population are often seen to be in better economic health than those with a declining and / or ageing populace.

Overall Population

B.2.2 The population of the Clydesdale Wards is 61,806 according to the 2011 Census, which represents 19.7% of the total population of South Lanarkshire.

B.2.3 According to mid-year population estimates, between 2002 and 2011, the population of the Clydesdale Wards increased by 5% compared to a 4% increase in South Lanarkshire and a 5% increase for Scotland. However, as shown in figure B1, there has been a notable decline in the population of Clydesdale since 2011, while the population of South Lanarkshire and Scotland has continued to increase over this period.

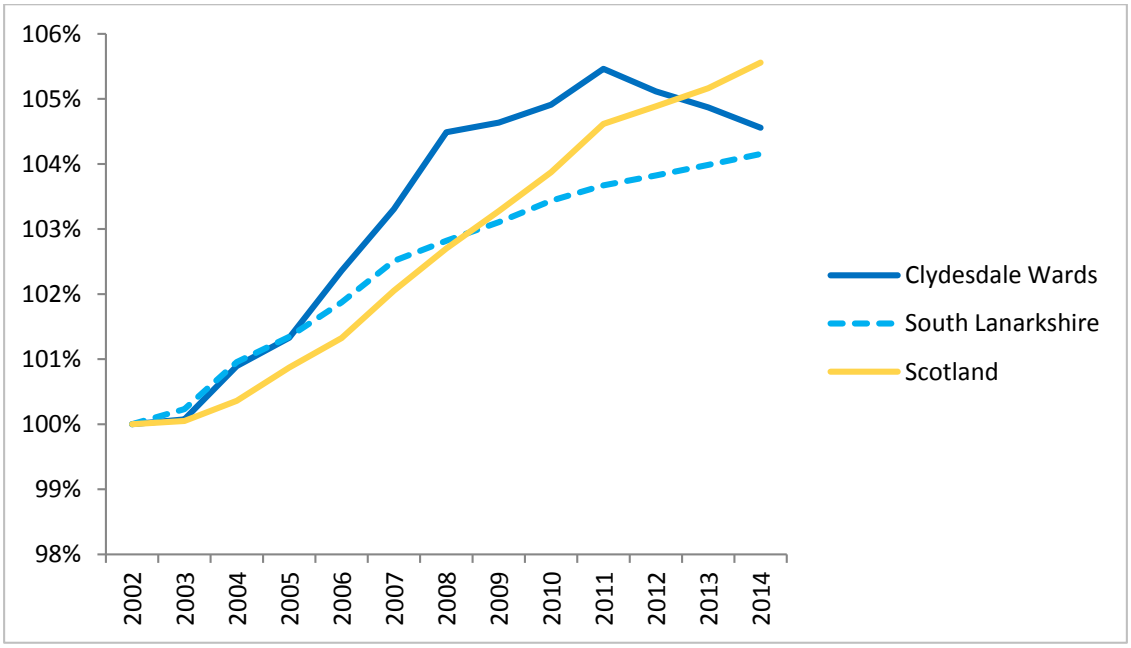

Figure B.1: Population Trend at Datazone Level 2002-2013 (Source: NRS mid-year population estimates)

Key Point

There has been slight decline in the population of Clydesdale since 2011. It may be that current transport connectivity of the area is deterring people from living in the area.

Population of Key Localities

B.2.4 The table below shows the mid 2012 population of the key settlements in Clydesdale and the wider South Lanarkshire area along with the percentage change in population between 2003 and 2012. It is noted that data is not available for Abington. As shown Hamilton and East Kilbride are the largest localities in South Lanarkshire, with Carluke and Lanark the largest settlements in Clydesdale. Between 2003 and 2012 Lesmahagow and Carstairs saw the largest increase in population followed by Law.

Table B.1: Population of Key Localities (NRS 2015)

Settlement	Mid 2012 Population	Percentage change in population 2003 - 2012
East Kilbride	74,740	1%
Hamilton	53,200	10%
Rutherglen	31,180	-4%
Carluke	13,370	-1%
Lanark	8,890	9%
Lesmahagow	4,380	16%
Law	3,250	11%
Biggar	2,330	4%
Carnwath	1,430	-5%
Carstairs	890	16%
Symington	760	-30%

Key Point

Carluke and Lanark are the largest population centres in Clydesdale and are situated in the north of the study area. Between 2003 and 2012 Lesmahagow and Carstairs saw the largest increase in population followed by Law.

Population Age Structure

B.2.5 Figure B.2 illustrates the age structure of Clydesdale as well as that of South Lanarkshire and Scotland as a whole. Clydesdale has a slightly lower proportion of people of working age (64%) compared to South Lanarkshire (65%) and Scotland as a whole (65%) and a higher proportion of people aged 65 and over (19% compared to 18%). Amongst those of working age, the proportion of people in the younger age categories (16-35) is particularly low (20%) compared to that of South Lanarkshire (22%) and Scotland (25%).

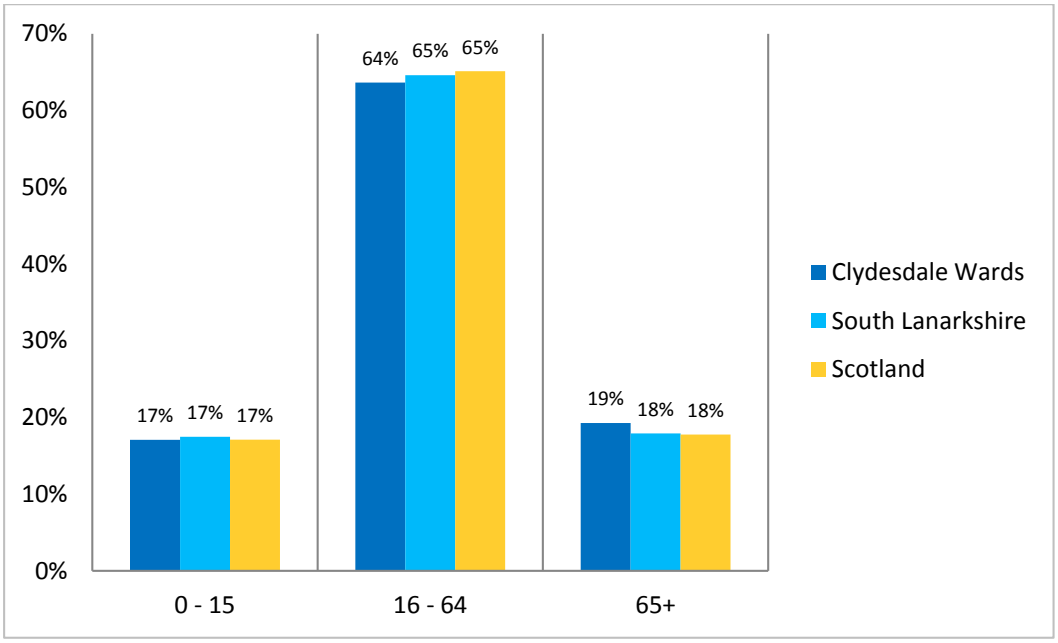

Figure B.2: Population Age Profile (Source: 2013 NRS)

Key Point

Clydesdale has a lower proportion of people of working age and a higher proportion of people over 65 compared to South Lanarkshire and Scotland, with smaller proportions of people aged 16-35. It may be that current transport connectivity could be a 'push' factor in young people leaving the area due to difficulties accessing higher education or employment.

B.3 Labour Market

Occupations

Figure B.3 shows the range of occupations of residents aged 16 to 74 in employment in Clydesdale as well as South Lanarkshire and Scotland as a whole. It is useful to compare occupations across different locations as the occupations often reflect the range of skills in those locations. For instance, residents employed within the occupational categories of managers, and senior officials, professional occupations and associate professional and technical occupations are typically highly skilled and well-paid, whereas those employed within the occupational categories of elementary occupations and process, plant and machine operatives typically possess a lower skill level and receive lower wages.

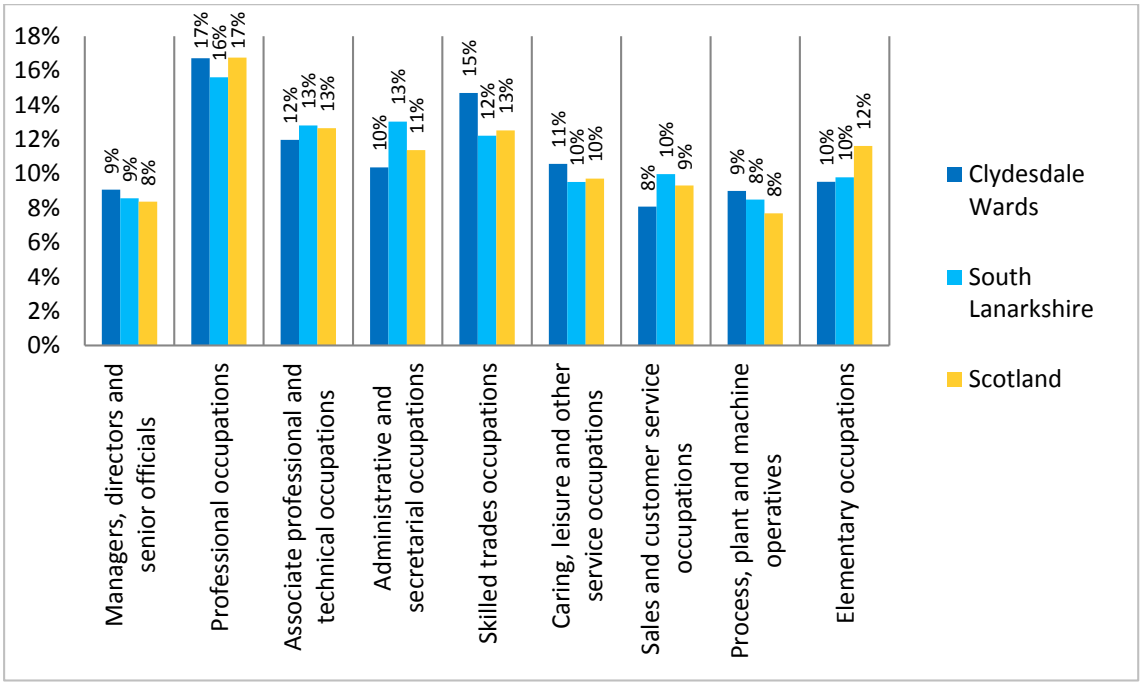

Figure B.3: Population Age Profile (Source: 2011 Census)

B.3.1 As shown, the largest category of occupation in Clydesdale in 2011 was 'professional occupations' which accounted for 17% of all employed people aged 16 to 74 (compared to the local authority and national averages of 16% and 17%).

B.3.2 The area also has a relatively high proportion of people in 'skilled trade occupations' (15%) and process, plant and machine operatives' (9%) compared to South Lanarkshire and Scotland and a smaller proportion in 'associate professional and technical' occupations.

Key Point

Resident employment in Clydesdale is fairly mixed with large proportions in the professional, skilled trades and process, plant and machine operative occupational categories. However, there are comparatively lower numbers in associate professional and technical roles occupations.

Economic Activity

B.3.3 The economic activity rate is a critical indicator of the economic wellbeing of an area. The economically active are those defined as in work or actively looking for work, whilst the economically inactive are defined as those neither in work nor seeking employment (e.g. retirees, students, long-term sick, unpaid carers etc.). The usual measure of economic activity is based on the working age population (16-64) but the Census uses 16-74.

B.3.4 Of the 46,179 people in Clydesdale aged between 16 and 74 in employment in 2011, 69% were economically active (either in or looking for work) compared to 70% in Dumfries and Galloway and 69% in Scotland (Census 2011).

B.3.5 Figure B.4 shows the breakdown of usual residents aged 16 to 74 in Clydesdale by economic status. Overall, Clydesdale has a higher proportion of people in employment compared to the local authority and Scottish averages, with slightly smaller proportions of both the unemployed and students. In comparison to South Lanarkshire and Scotland, Clydesdale has a larger proportion of retired individuals (17% compared to 16% and 20% respectively).

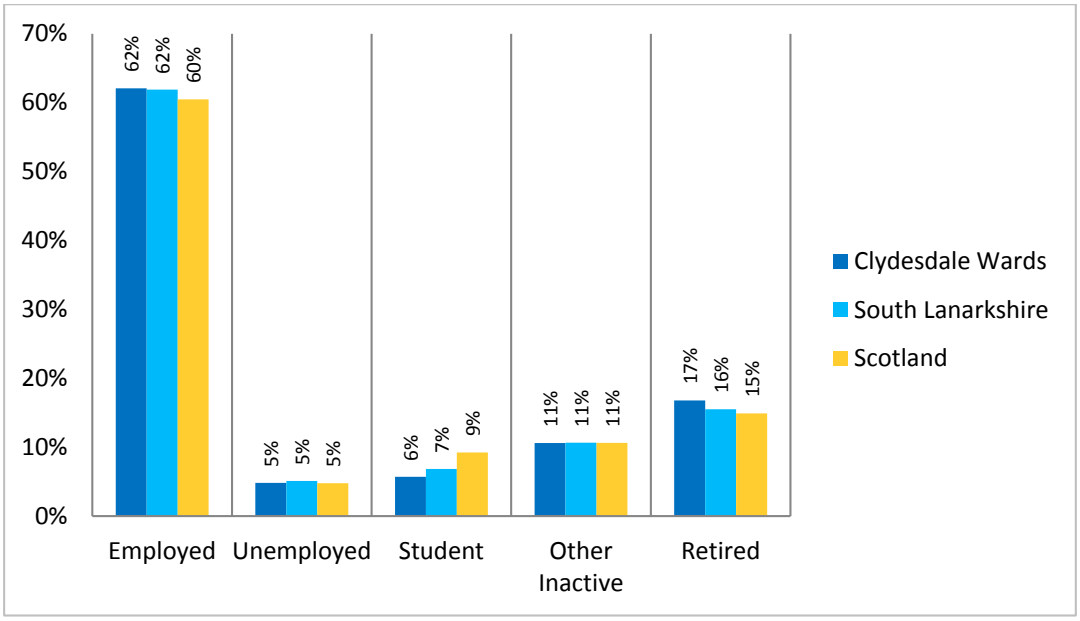

Figure B.4: Economic Status (Source: Census 2011)

Key Point

Clydesdale performs comparably well in terms of the economic activity rate of its population. However, the area has a larger proportion of retired individuals than both South Lanarkshire and Scotland as a whole. It may be that current transport connectivity to employment and education is a factor in economically active young people moving from the area.

Key Benefits and Job Seekers Allowance Claimant Rate

B.3.6 The claimant count[1] which records the number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work is an important socio-economic indicator and is used as a proxy measure of unemployment in an area.

B.3.7 In Clydesdale, approximately 3.2% of the working age population were claiming the above in 2013. This was below that of South Lanarkshire (3.5%) but above the Scottish average (3.1%).

Key Point

The claimant rate for Clydesdale is lower than the local authority but above that of Scotland as a whole. However it is noted that these figures may potentially mask under-employment, whereby access to higher skilled employment opportunities are limited.

Employment

B.3.8 The Business Register and Employment Survey (BRES) provides workplace employment data by industry. Figure B.5 however shows the proportion of employment by sector in Clydesdale, South Lanarkshire and Scotland in various industries.

[1] The number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work

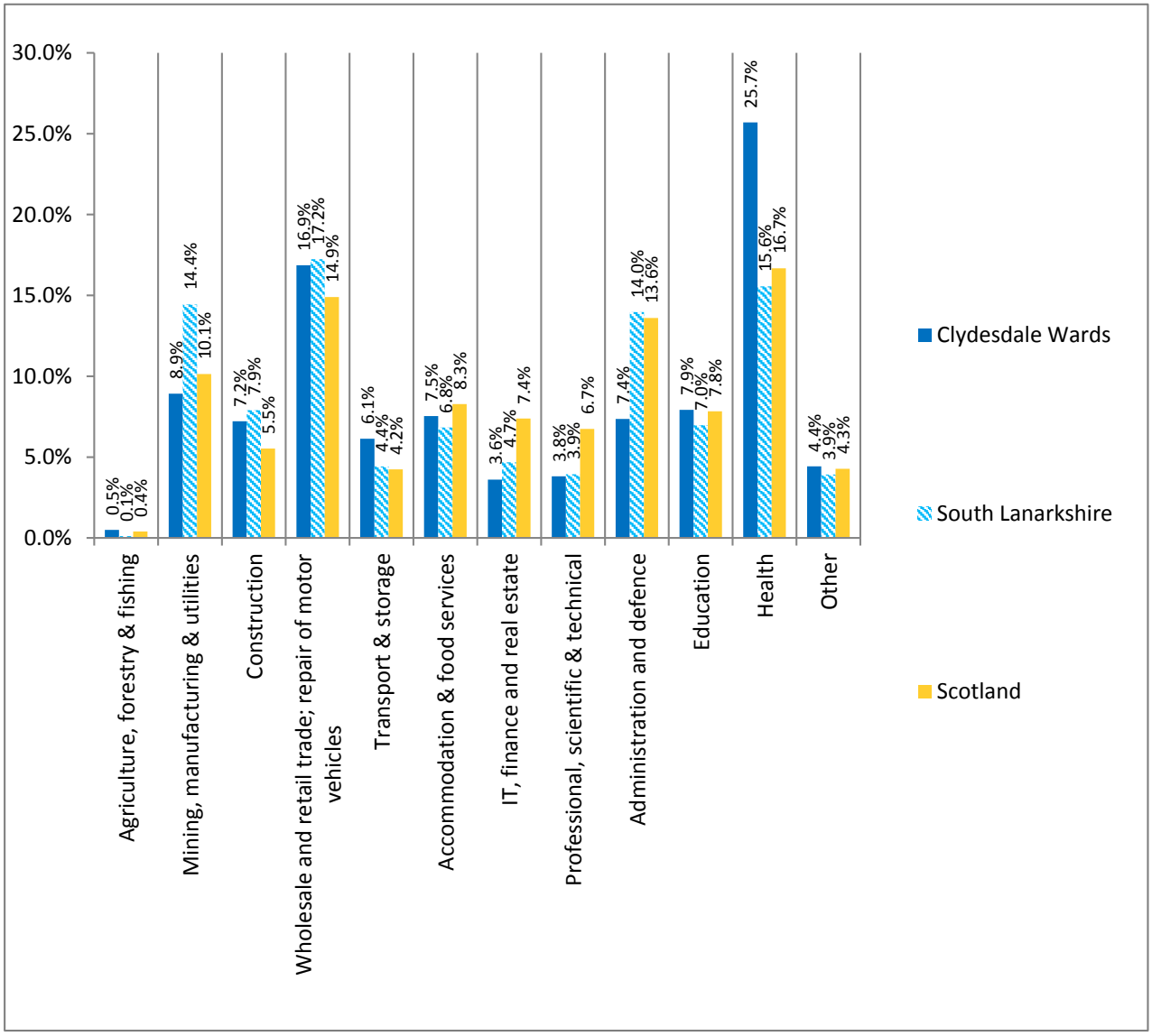

Figure B.5: Proportion of Employment by Sector (Source: BRES 2015)

B.3.9 The key points from the above Figure are:

- There is a considerably higher concentration of employees in health and social care in Clydesdale (25%) compared to South Lanarkshire and Scotland as a whole;
- There is a lower concentration of employees in sectors such as 'IT, finance and real estate' and 'professional, scientific and technical activities' than the local authority and Scotland figures; and
- There is a relatively high concentration of employment in ''wholesale, retail trade and repair of motor vehicles', 'transportation and storage' and 'accommodation and food services' in Clydesdale compared to the local and / or national levels;

Key Points

Overall, a smaller proportion of residents in Clydesdale are employed in higher value sectors than that of the local authority and Scotland figures. It may be that current transport connectivity is constraining access to higher value employment opportunities.

Tourism

B.3.10 There are a number of tourism attractions within Clydesdale, with key attractions including:

- New Lanark;
- Lanark and Biggar Museums;
- Lanark Loch;
- Clyde Valley Tourist Trail; and
- Tinto hill.

B.3.11 Data on tourism figures are limited. However, according to Visit Scotland[2], tourism employs 8,600 people in South Lanarkshire, equivalent to 7% of all jobs in the local authority area.

Key Points

There is potential for improvements in accessibility to increase the number of inbound visits and the range of facilities and opportunities offered.

Residents

Qualifications

B.3.12 The level of qualifications held by the population of an area is seen to be an indicator of economic performance. Areas with a high proportion of well qualified people tend to perform comparatively better (in terms of occupational classification, average wages etc.) than areas characterised by low educational attainment.

B.3.13 Figure B.6 shows the highest level of qualification[3] attained by the population in the study area.

[2] Tourism employment in Scotland, Topic Paper, December 2016, http://www.visitscotland.org/pdf/InsightTopicPaperTourism%20Employment2016.pdf, accessed 26/01/2016

[3] The dataset is split across four levels as follows:

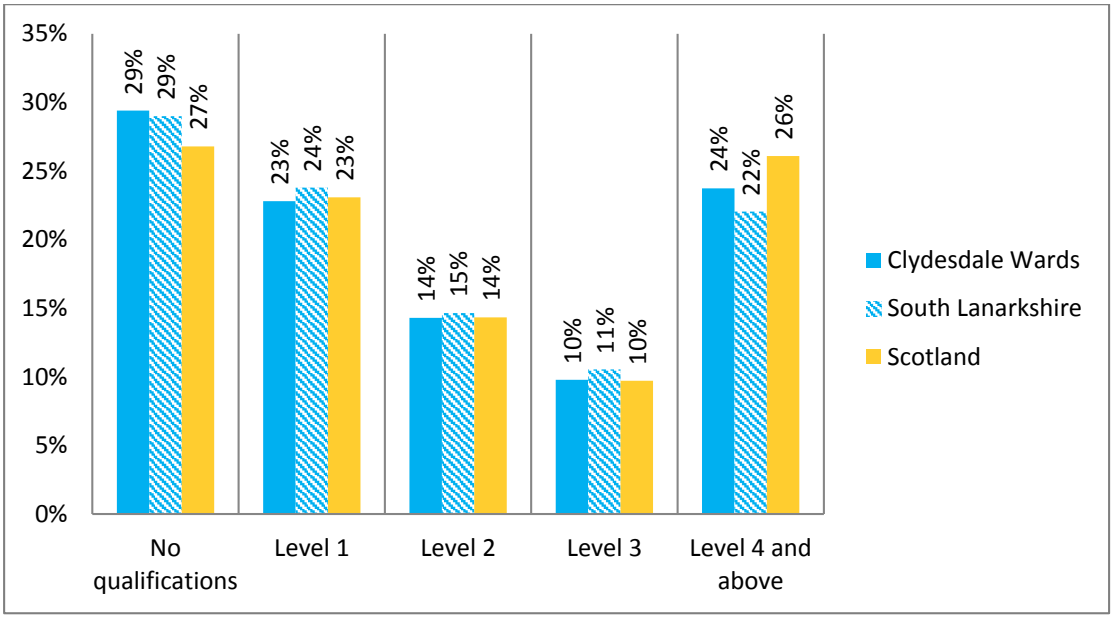

Figure B.6: Highest Level of Qualification (Source: Census 2011)

B.3.14 As shown, the majority of residents in Clydesdale (29%) have no qualifications. This figure is equivalent to that for South Lanarkshire but is lower higher than the Scottish average. In terms of higher level qualifications, 24% of Clydesdale residents have Level 4 and above compared to 22% in South Lanarkshire and 26% in Scotland as a whole.

Key Point

Clydesdale performs less well than the national averages in terms of educational attainment levels but is ahead of South Lanarkshire as a whole.

Household Income

B.3.15 Household income is a further barometer of the economic wellbeing of an area. The most recent data on household income available is for 2008-9. The median household weekly income in Clydesdale at this time was £396, 1.6% higher than the average for South Lanarkshire and Scotland (£390). It is noted that average household income is likely to have declined since this date as a result of the economic downturn.

Key Point

Average income in Clydesdale is higher than the local and national averages, which is in keeping with the data on resident employment.

- Level 1: 0 Grade, Standard Grade, Access 3 Cluster, Intermediate 1 or 2, GCSE, CSE, Senior Certification or equivalent; GSVQ Foundation or Intermediate, SVQ level 1 or 2, SCOTVEC Module, City and Guilds Craft or equivalent; Other school qualifications not already mentioned (including foreign qualifications);
- Level 2: SCE Higher Grade, Higher, Advanced Higher, CSYS, A Level, AS Level, Advanced Senior Certificate or equivalent; GSVQ Advanced, SVQ level 3, ONC, OND, SCOTVEC National Diploma, City and Guilds Advanced Craft or equivalent;
- Level 3: HNC, HND, SVQ level 4 or equivalent; Other post-school but pre-Higher Education qualifications not already mentioned (including foreign qualifications); and
- Level 4 and above: Degree, Postgraduate qualifications, Masters, PhD, SVQ level 5 or equivalent; Professional qualifications (for example, teaching, nursing, accountancy); Other Higher Education qualifications not already mentioned (including foreign qualifications).

House Prices

B.3.16 The price of property reflects the balance between the demand to live in an area and the supply of different types of property. Areas with lower than average house prices are generally seen as a less 'in-demand' than those with higher average house prices (which in turn affects development viability). Transport connectivity is one of a number of factors which impact on house prices (although obtaining an empirical estimation of the extent of this influence has always been challenging).

B.3.17 In 2013, the mean house price in Clydesdale was £132,813 which was 4% higher than the average prices in South Lanarkshire (£127,966) and 16% lower than the average house price in Scotland (£157,779).

Key Point

House prices in Clydesdale are lower than the national average but higher than the local authority average. Transport accessibility is one of a number of factors which influence house prices, with improvements in transport access having the potential to lead to increases in the supply and demand for housing.

Deprivation

B.3.18 The Scottish Government regularly produces the Scottish Indices of Multiple Deprivation (SIMD), which "identifies small area concentrations of multiple deprivation across all of Scotland in a fair way. It allows effective targeting of policies and funding where the aim is to wholly or partly tackle or take account of area concentrations of multiple deprivation". SIMD combines 38 indicators across 7 domains, namely: income, employment, health, education, skills and training, housing, geographic access and crime. SIMD is essentially a social tool (i.e. it measures the performance of 'society') and it can act as detailed statistical barometer of the social performance / social capital in a given area.

B.3.19 The generally accepted point at which an area is defined as deprived is when it is classified in the '20% most deprived'.

B.3.20 Figure B.7 below shows the levels of deprivation within Clydesdale and the surrounding area in 2012 by percentile.

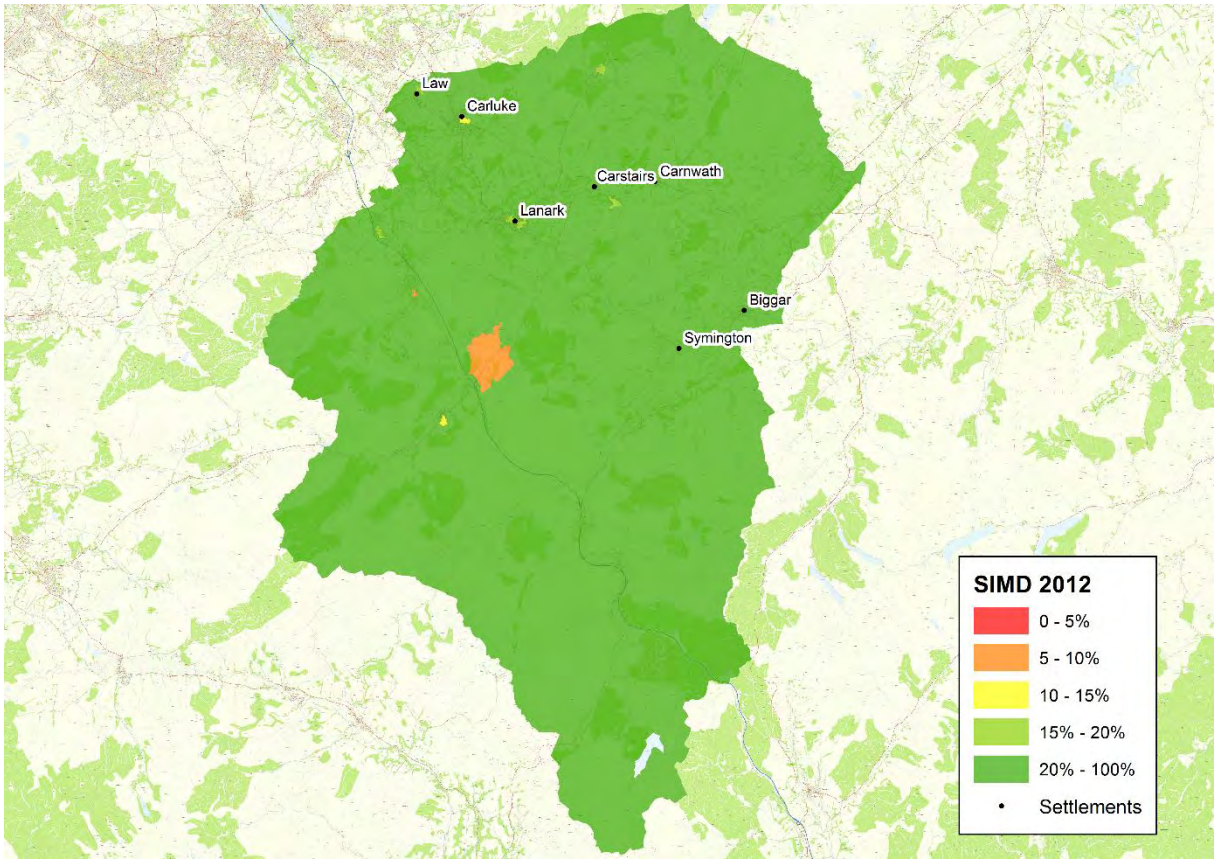

Figure B.7: Deprivation by percentile (Source: SIMD 2012)

B.3.21 As shown in Figure B.7 above, the majority of datazones in Clydesdale are outside of the 20% most deprived, with only small pockets of deprivation spread across the area. Overall, 14% of datazones in the region fall within the 20% most deprived category, including areas near Lesmahagow. Newtonhead, Douglas and Carluke.

B.3.22 Figure B.8 below shows the change in deprivation in Clydesdale between 2006 and 2012. As shown, there has been a decline in relative deprivation across much of the area with increases in the north (by 13 and 18 percentile points respectively) and I more rural locations to the east and west.

Error! Reference source not found. Figure B.8: Change in Deprivation 2006 to 2012 (Source: SIMD 2006 and S IMD 2012)

Key Point

There are pockets of deprivation within the Clydesdale area, with 14% of data zones in the region amongst the 20% most deprived in Scotland. Over time there has been a general decline in deprivation across some areas and an increase in other locations. It may be that poor transport connectivity is contributing towards some of these trends.

Appendix C Transport Supply and Trends

C.1.1 The existing services to/from the study area are discussed below. This Appendix also presents the location of the nearest stations; Lanark, Carstairs and Carluke and connections available from these stations.

Existing Bus Services

C.1.2 There is an extensive amount of bus services (37) operating across the study area, a small number are wholly commercial services, with the remainder either part or fully subsidised by SPT. The most frequent services are;

- Service 240 - Carluke to Glasgow - Operated by First
- Service 41 – Lanark to Hamilton via Carluke Cross – Operated by JMB Travel Ltd
- Service 37 – Lanark to Carnwath via Carstairs – Operated by Stuarts Coaches
- Services 91 & 191 – Lanark to Biggar via Symington – Operated by Stuarts Coaches Ltd

C.1.3 The Service 240 is a fully commercial service delivered by First Bus begins operating at 04:40 in the morning and first calling in Carluke at 06:20, then stopping every 20 minutes until 18:09. On Saturdays the service starts at 07:30 and operates every 20 minutes from 08:54 until 18:21. Notably on Sundays this service does not stop in Carluke.

C.1.4 The Service 41 is provided by JMB Travel Ltd. The service starts at 06:27 in Lanark or 0613 in Carluke Cross and operates every 15 minutes until 17:27 when it runs as part route (Lanark to Wishaw) until 19:14. On a Saturday the service begins at 06:57 at operates every 15 minutes between 09:57 and 16:57. The service again runs as a partial route between 17:32 till 18:57. There is no timetable information available for Sundays. Fares are £3.50 for a Day Saver ticket (unlimited travel). Like the 240, the 41 is a fully commercial service.

C.1.5 The Service 37 is part commercial and part subsidised, provided by Stuarts Coaches and SPT where appropriate. From Monday to Saturday the service begins at 06:50 and runs hourly between 09:30 and 17:30. On Sunday the service offers a limited route with services every two hours between 09:57 and 21:57.

C.1.6 Service 91 is also operated by Stuarts Coaches and SPT on a part commercial/part subsidised basis and operates an hourly service between 0915 and 1715 on Monday to Saturday. Service 191 operates hourly between 06:15 and 08:15 and then 1817 and 22:17, offering a ‘top and tail’ service to 91. On Sunday the 191 service runs hourly between 09:20 and 22:20.

C.1.7 In addition to the high frequency services, SPT subsidise an hourly route 243 between Carluke, Law and Hamilton. This is currently the only route that serves Law after commercial routes were withdrawn. The service runs hourly until around 17.30pm and then is replaced by service 10 which operates between Law and Carluke. It should be noted that none of these services call at Carluke or Wishaw train stations. The 243 does terminate at Hamilton bus station located beside Hamilton Central railway station however the journey time is 30 minutes by bus. Direct services between Hamilton and Law stop at 18.10 each evening, requiring passengers to interchange again.

Existing Rail Services

C.1.8 There are three railway stations in the area; Carluke, Carstairs and Lanark. Carluke and Carstairs station are located on the West Coast Main Line (WCML) and Lanark Station is located on a short branch off the WCML.

C.1.9 Carluke boasts a very frequent service to Glasgow Central High Level with two 0r three trains per hour. Journey times are around 40 minutes, however there are limited stop services which can cover the route in shorter journey times.

C.1.10 From Carluke there are 6 direct services to Edinburgh each weekday, all of which stop at Carstairs station. These are limited stop services with journey times of approximately 43 minutes. Out with these times, passengers can travel to Edinburgh via Motherwell or Bellshill. Journey times on these interchange routes increase to around 1 hour 40.

C.1.11 Lanark currently has a half hourly service (hourly on Sunday) to Glasgow Central High Level via Motherwell and Bellshill. There are no direct trains from Lanark to Edinburgh and passengers are required to change at Carluke, Motherwell or Bellshill. Journey times are approximately 50 minutes to Glasgow and 1 hour 45 to Edinburgh.

C.1.12 Carstairs has 12 direct rail connections to Glasgow each day with an average journey time of approximately 42 minutes. There are also 6 direct services to Edinburgh each day with journeys of approximately 33 minutes.

C.1.13 Table C.1 shows a range of adult fares from Carluke and Lanark to a range of destinations.

Table C.1: Approximate Typical Rail Fares

From	To	Anytime single	Anytime return	Off-peak return
Carluke	Glasgow Central	£5.50	£8.70	£6.30
	Edinburgh Waverley	£9.40	£17.30	£10.70
	Lanark	£3.20	£4.90	£3.50
	Carstairs	£3.40	£5.20	£3.50
Lanark	Glasgow Central	£7.00	£11.40	£7.60
	Edinburgh Waverley	£9.40	£17.30	£10.70
	Carluke	£3.20	£4.90	£3.50
	Carstairs	£3.20	£5.20	£3.50

From	To	Anytime single	Anytime return	Off-peak return
Carstairs	Glasgow Central	£7.00	£11.40	£7.70
	Edinburgh Waverley	£7.70	£13.50	£8.90
	Carluke	£3.40	£5.20	£3.50
	Lanark	£3.40	£5.20	£3.50

C.1.14 The nearest railway station to the north of the study area is Wishaw, this is on the "Wishaw loop" which parallels the WCML between Law Junction and Shieldmuir Junction, to the south of Motherwell. Services using Carluke also pass through Wishaw. Shotts rail station is around 13km north of Carluke and located on the Shotts line providing a link between Glasgow Central and Edinburgh Waverley. For Lanark Fauldhouse or Addiewell are easiest to reach closer (Breich is closest but has a minimal service)

C.1.15 To the south of the study area, Lockerbie rail station is located 26 km from the southern tip of the study area and is on the WCML. Dumfries station is around 45km to the south of the study area. This is on the Glasgow South West Line and serves Newcastle – Carlisle – Kilmarnock – Glasgow Central. It should be noted that changes to the GSW timetable are anticipated in December 2017 which may impact on future proposals but could alternatively provide increased connections and opportunities.

C.1.16 A second service from Carlisle serves Gretna – Annan – Dumfries – Kirkconnel – Sanquhar – Kilmarnock. Despite the distances noted above, it should be remembered that existing rail stations are located in the north of the study area so distances to Dumfries and Lockerbie are much larger, for example distances from Lanark to Dumfries and Lockerbie are 81km and 89km respectively.

Station Usage

C.1.17 The Office of Rail Regulation publish estimates of station usage, consisting of total numbers of people The estimates of station usage consist of the total numbers of people travelling from or to the station (entries and exits); and those interchanging at the station (interchanges).

C.1.18 The figure shows an initial increase in passenger numbers at Lanark Station until 2011-2012 with a peak of 350,014 passengers before declining to 306,236 in 2015-2016. Figure C.1 below illustrates changes in passenger use over the previous 10 years.

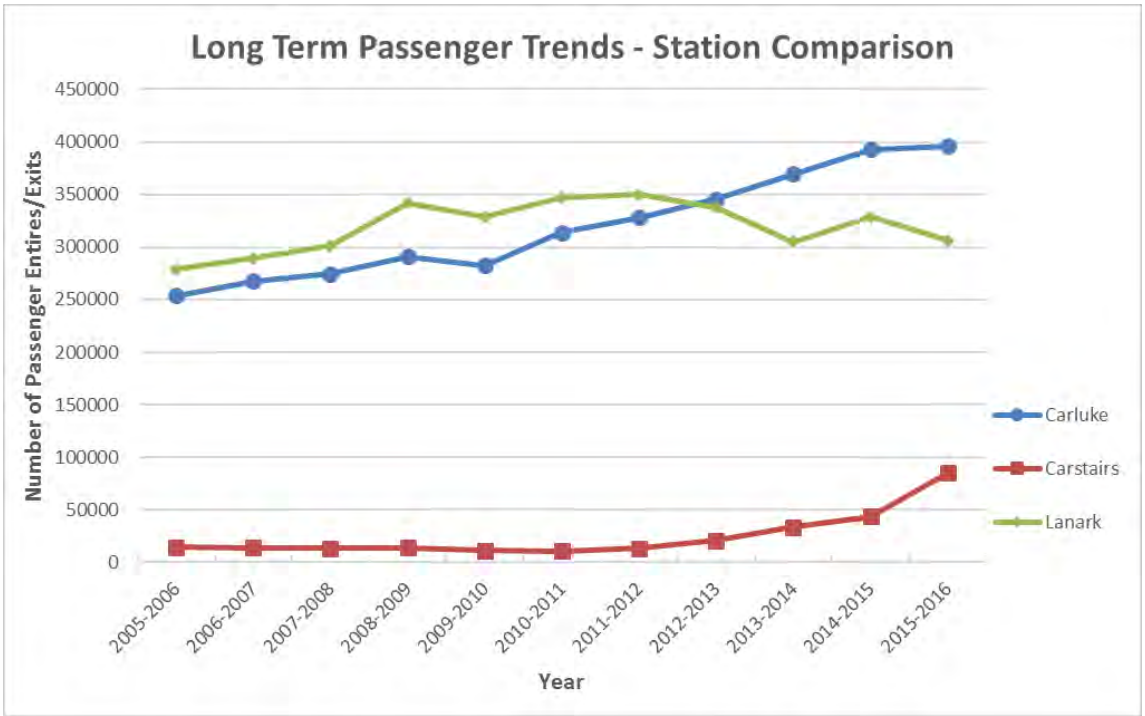

Figure C.1: Estimates of Station Usage – Office of Rail Regulation

C.1.19 Carstairs and Carluke have both seen a gradual and sustained increase in passenger numbers over the 10-year period with Carluke overtaking Lanark in 2012-2013 with a highest number of passenger entries and exits. This increase in patronage is likely a reflection of the opening of a large Park & Ride facility (330 spaces) at Carluke in 2010 and the option of a new service to and from Edinburgh from both Carluke and Carstairs, making Carluke a more attractive option for commuters that might previously have used Lanark.

C.1.20 It is notable that when considering the three stations combined the total number of passengers across the study area has risen from 547,139 in 2005-2016 to 787,078 in 2015-16.

C.1.21 ScotRail were able to supply journey data from Clydesdale stations to Edinburgh and return. Over the last two years, significant growth in journeys can be seen from both Carluke and Carstairs to Edinburgh as follows:

Table C.2 Rail flows between Clydesdale and Edinburgh

	Jan 2015	December 2017	Difference
Carluke and Edinburgh	3305	4320	1015
Carstairs and Edinburgh	1657	3316	1659

7.1.5 There are specific peaks around June/July and November/December each year but in general, the trend is towards a growing volume of flows between Clydesdale and Edinburgh in each 4 weekly period where records are kept.

Public Transport Benchmarking

C.1.22 Table C.3 compares the modal share of commuters and the number of **direct** buses / trains to key destinations from the study area and a number of other towns in the study area. It should be noted that despite its size, there are no direct connections between the study area and East Kilbride.

Table C.3: Public Transport Benchmarking

		Symington	Carluke	Carstairs	Lanark	Biggar
Rail Station		No	Yes	Yes	Yes	No
PT Mode Share*		8%	10.3	10%	7.3%	4.3%
To Glasgow (Weekday) Number of:	Bus	0	46	0	12	0
	Train	0	58	15	45	0
To Edinburgh (Weekday) Number of:	Bus	0	0	0	0	12
	Train	0	6	6	0	0
To Hamilton (Weekday) Number of:	Bus	0	85	0	86	0
	Train	0	0	0	0	0
To Glasgow Average Journey Time:	Bus	N/A	1 hr Ex 1 hr 40 others	N/A	60 min	0
	Train	N/A	40 min	45 min	50 min	N/A
To Edinburgh Average Journey Time:	Bus	N/A	N/A	N/A	N/A	1hr10
	Train	N/A	40 min	30 min	N/A	N/A
To Hamilton Average Journey Time:	Bus	N/A	35 min	N/A	55 min	N/A
	Train	N/A	** 42min	*** 1hour 10min	N/A	N/A

**Public Transport Modal Share based on 2011 Census Travel to Work Data for bus and train.*
***No direct service available, requires interchange at Motherwell.*
****No direct service available, **infrequent service** requires interchange at Motherwell. Average JT 1hour 10mins.*

C.1.23 As can be seen in Table C.3 Symington has a similar modal share to Lanark for public transport, despite no rail station or direct bus services to key commuter destinations. Carluke and Carstairs unsurprisingly have a higher percentage of public transport modal share with frequent bus and train services to Glasgow but a very limited service to Edinburgh.

C.1.24 Within the study area, only Carluke and Lanark have both direct bus and train services to Glasgow, however there is a notable different in journey time between the two, with the train an hour faster to reach the city centre.

C.1.25 Until recently, there were rail connections between Lanark, Carluke and Hamilton however these were removed with the rail timetable and routing rationalisations in December 2014.

C.2 Census Travel-to-Work

C.2.1 The travel-to-work analysis below makes use of 2011 Census data for Scotland at Locality level for the mode of travel to work and at Intermediate Geography level for the distribution of travel to work patterns (as explained in Section 2.2 of this report). The figure below shows the main mode of travel-to-work for the key localities in the study area.

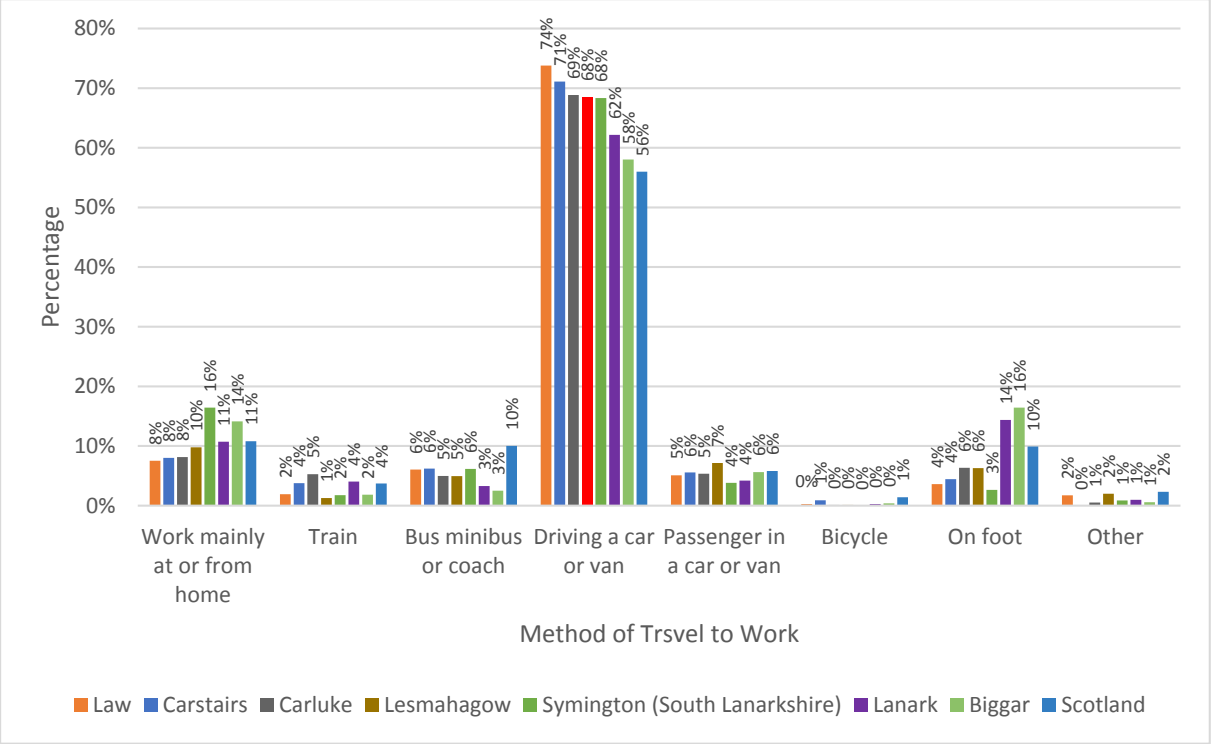

Figure C.2: Method of Travel-to-Work (Source: Census 2011)

C.2.2 Overall, driving is the dominant travel to work mode, accounting for between 62% and 73% of the travel to work share at each location compared to a national average of 56%. Law has the highest car share, followed by Carstairs.

C.2.3 The share of public transport at each location is below the Scottish average, with Biggar seeing the lowest overall public transport share (4%).

C.2.4 As would be expected given the location of the rail stations in the study area, rail travel is most popular in Carluke, Lanark and Carstairs.

C.2.5 The proportion of the population walking to work is particularly high in Lanark (14%) and is above the Scottish average (10%).

C.2.6 Table C.4 and Figure C.33 show the main work destinations for people living in Clydesdale - the key points are:

- Overall, 42% of residents of Clydesdale worked in Clydesdale in 2011, with 30% working at places of employment in the study area and 12% working at home
- 58% of residents worked outside of the study area, with the most popular work destination for this group being North Lanarkshire (14%), followed by South Lanarkshire (11%). Amongst those travelling to North Lanarkshire, the most popular destination was Wishaw with the majority of these likely to be travelling to Wishaw General Hospital. Amongst those travelling to South Lanarkshire, most were travelling to Hamilton.
- 9% of the Clydesdale residents commute to Glasgow compared to 4% who commute to Edinburgh.

Table C.4: Distribution of Travel-to-Work Patterns – Main Work Destinations (Source: Census 2011)

	Study Area (Residence)	% Study Area
Clydesdale	8795	30%
North Lanarkshire	4047	14%
Working at home	3534	12%
No fixed place of work	3320	11%
South Lanarkshire	3297	11%
Glasgow City	2575	9%
Edinburgh, City of	1087	4%
West Lothian	1052	4%
Renfrewshire	171	1%
Scottish Borders	160	1%
Other	186	1%
Total	29,291	100%

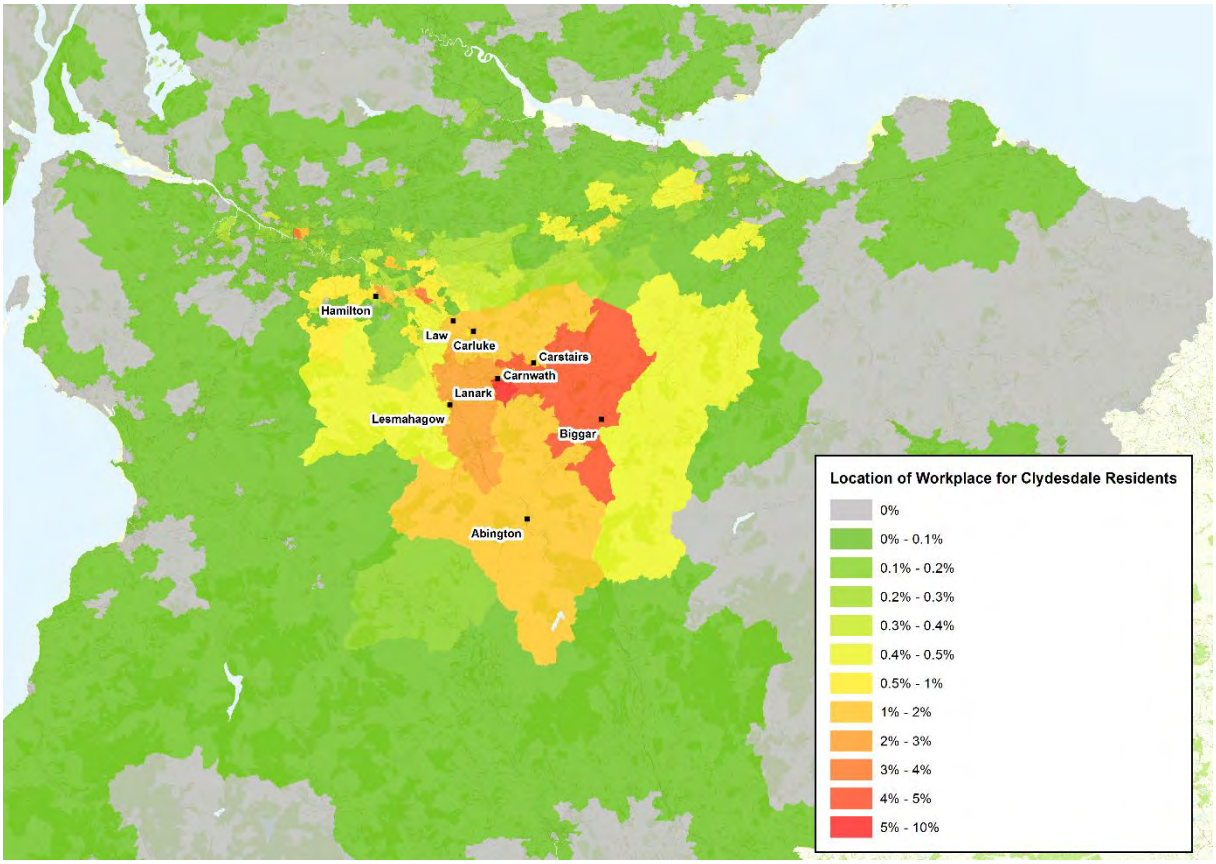

Figure C.3: Location of Workplace for Clydesdale Residents (Source: Census 2011)

C.2.7 Table C.5 and Figure C.3 display the origins of those people who normally reside in Scotland and work in Clydesdale. As shown the majority of people working in Clydesdale live in Clydesdale (70%), with a further 22% traveling to the area for work from North Lanarkshire or South Lanarkshire.

C.2.8 It is noted that the Scottish Census travel to work dataset only reports on the employment location of those people who reside in Scotland. As a result, the figures below do not include people who reside in areas out with Scotland and work in Clydesdale.

Table C.5: Distribution of Travel-to-Work Patterns – Main Places of Residence (Source: Census 2011)

	Study Area (Workplace)	% Study Area
Clydesdale	8795	70%
North Lanarkshire	1480	12%
South Lanarkshire	1242	10%
Glasgow City	231	2%
West Lothian	147	1%
Scottish Borders	108	1%
East Ayrshire	93	1%
Edinburgh, City of	78	1%
Dumfries & Galloway	69	1%
Total	12,530	100%

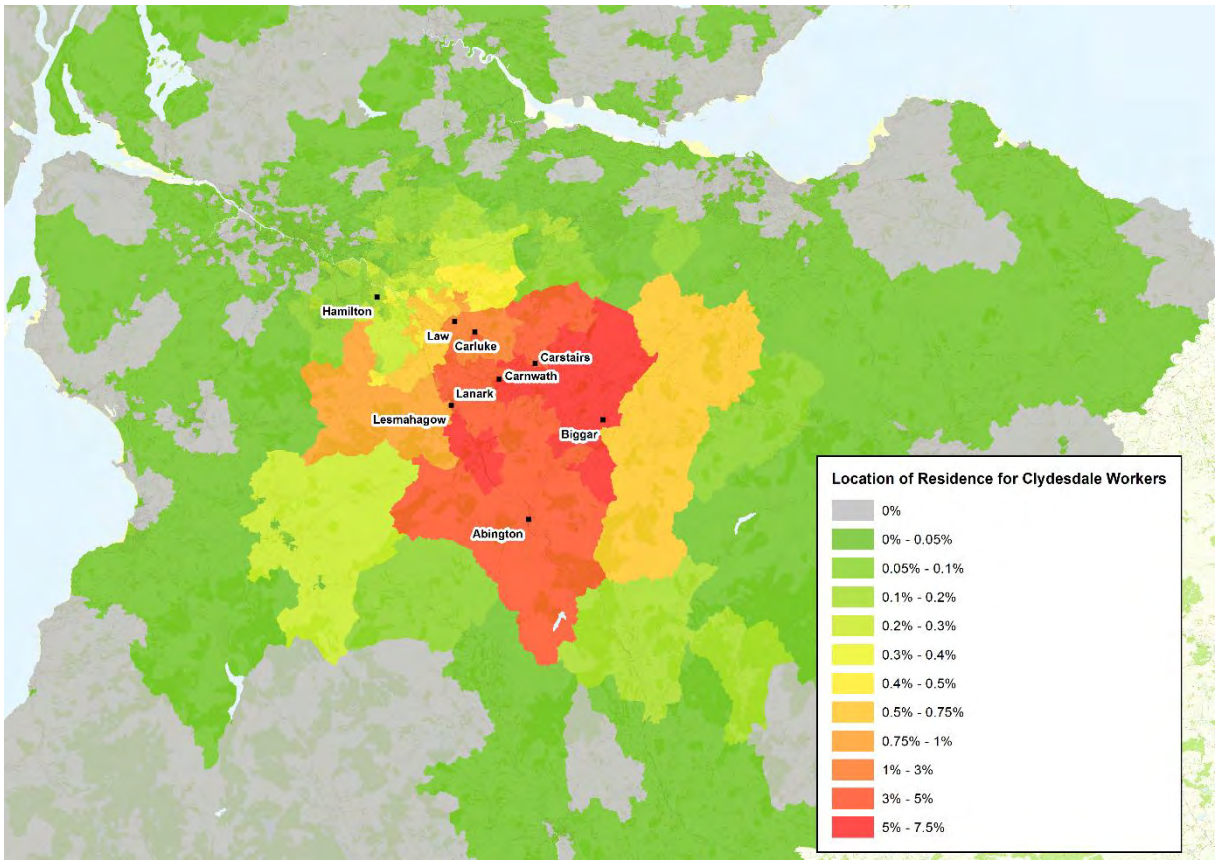

Figure C.4: Location of Residence of Clydesdale Workers (Source: Census 2011)

C.2.9 In addition to examining the travel to work patterns for Clydesdale residents as a whole, a comparison of the travel to work patterns for residents of and workers within a) Carluke and b) Biggar, Symington, Thankerton and Dolphinton was also undertaken. The geographic extent of these areas is shown in Figure C.5 below. As noted above, this is the most disaggregate level at which origin destination Census Travel to Work Data is available.

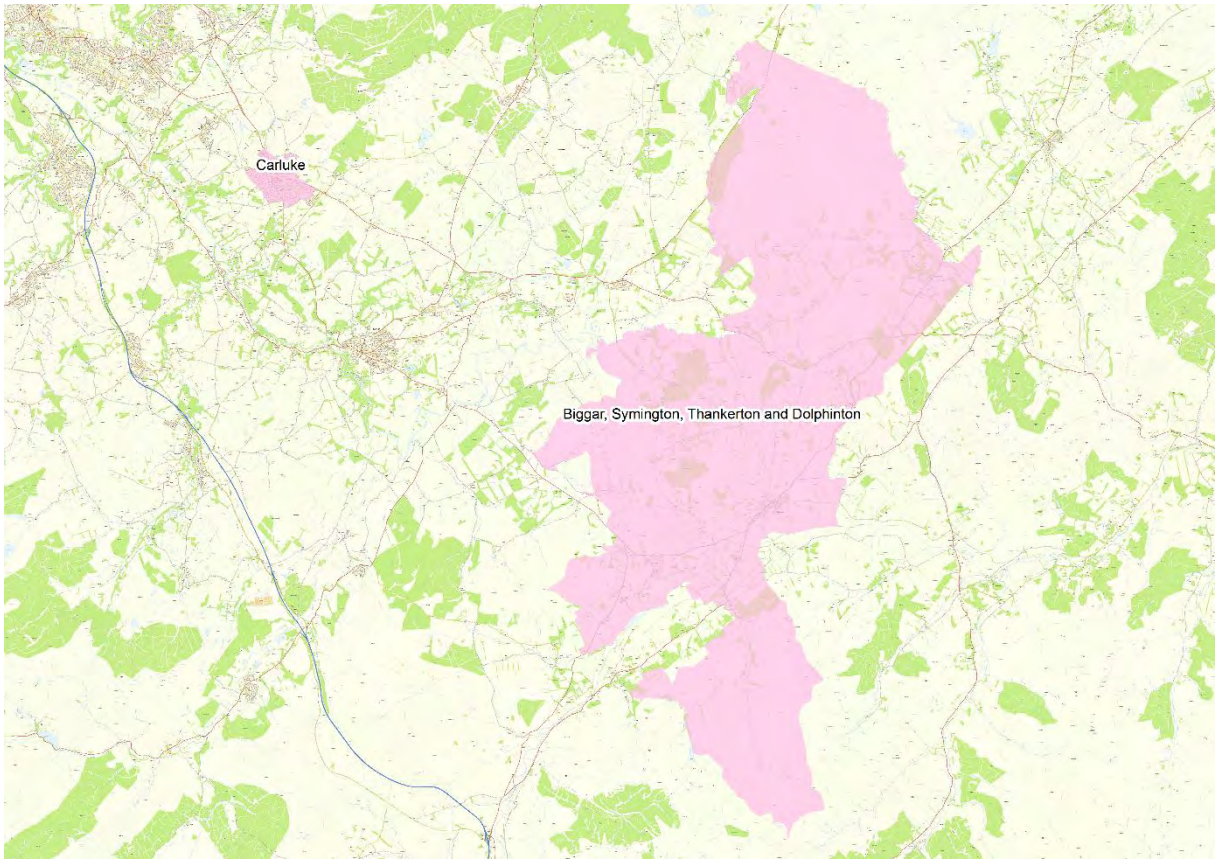

Figure C.5: Geographical Extent of the Areas Examined

C.2.10 Table C.6 shows the main work destinations for people living in Carluke while Table C.7 shows the main work destinations of those living in Biggar, Symington, Thankerton and Dolphinton with Figures C.6 and C.7 respectively providing a graphical representation of this data.

C.2.11 The key points are:

- A large proportion of residents (38%) of Biggar, Symington, Thankerton and Dolphinton work in Biggar, Symington, Thankerton and Dolphinton. This compares to just 21% of Carluke residents who work within Carluke.
- Overall, 55% of residents of Biggar, Symington, Thankerton and Dolphinton work in the South Lanarkshire local authority area compared to 46% of Carluke residents.
- North Lanarkshire is the most popular destination for work outside of South Lanarkshire amongst residents of Carluke with Wishaw (and likely Wishaw General Hospital) again the most popular destination in North Lanarkshire. Edinburgh is the most popular external location amongst residents of Biggar, Symington, Thankerton and Dolphinton.

Table C.6: Place of Workplace for Carluke Residents (Source: Census 2011)

	Study Area (Workplace)	% Study Area
North Lanarkshire	1,314	23%
Clydesdale Other	848	15%
Carluke	720	13%
Glasgow City	706	12%
South Lanarkshire	592	10%
No fixed place of work	570	10%
Working at home	487	8%
West Lothian	134	2%
Edinburgh, City of	119	2%
Other	242	4%
Total	5,732	100%

Table C.7: Place of Workplace for Residents of Biggar, Symington, Thankerton and Dolphinton (Source: Census 2011)

	Study Area (Workplace)	% Study Area
Biggar, Symington, Thankerton and Dolphinton	553	20%
Working at home	499	18%
Clydesdale Other	379	14%
Edinburgh, City of	333	12%
No fixed place of work	306	11%
Glasgow City	119	4%
North Lanarkshire	104	4%
West Lothian	100	4%
Scottish Borders	95	3%
South Lanarkshire	89	3%
Other	180	7%
Total	2,757	100%

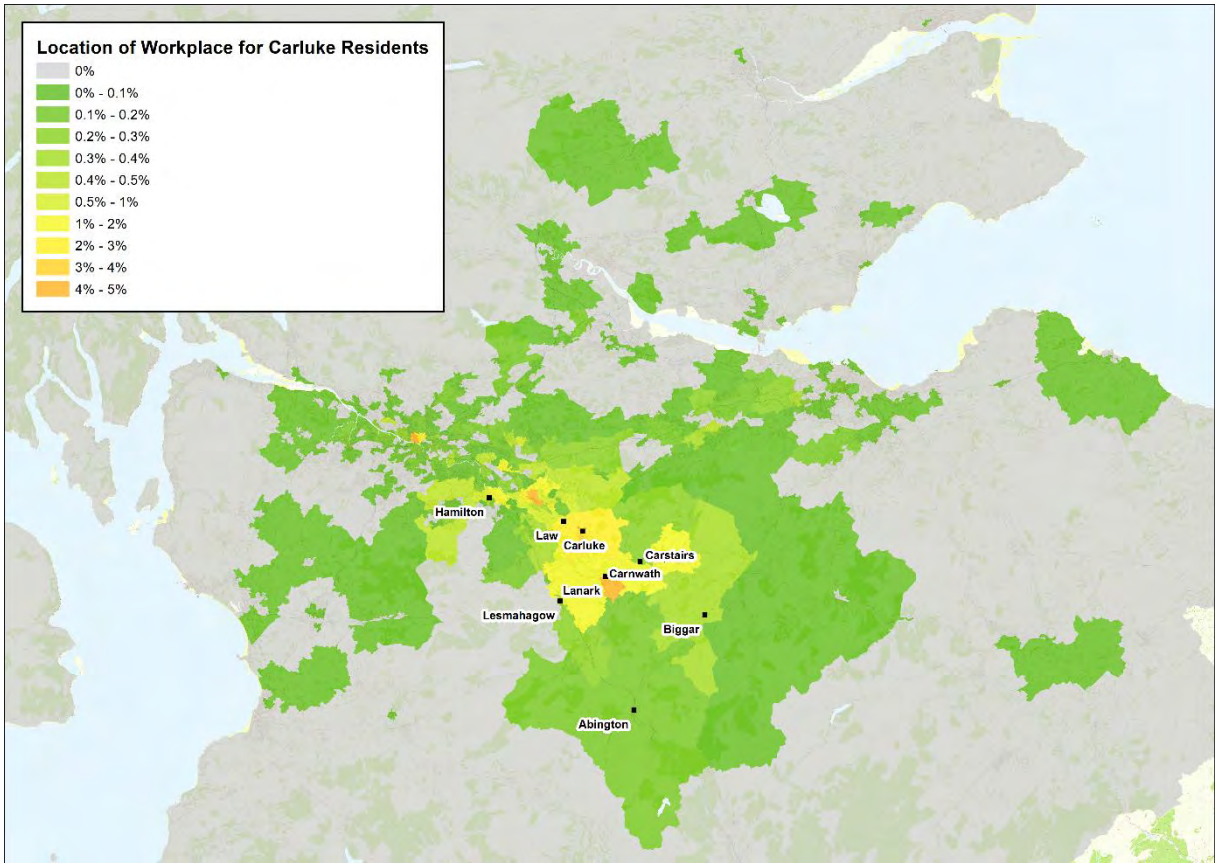

Figure C.6: Location of Workplace for Carluke Residents (Source: Census 2011)

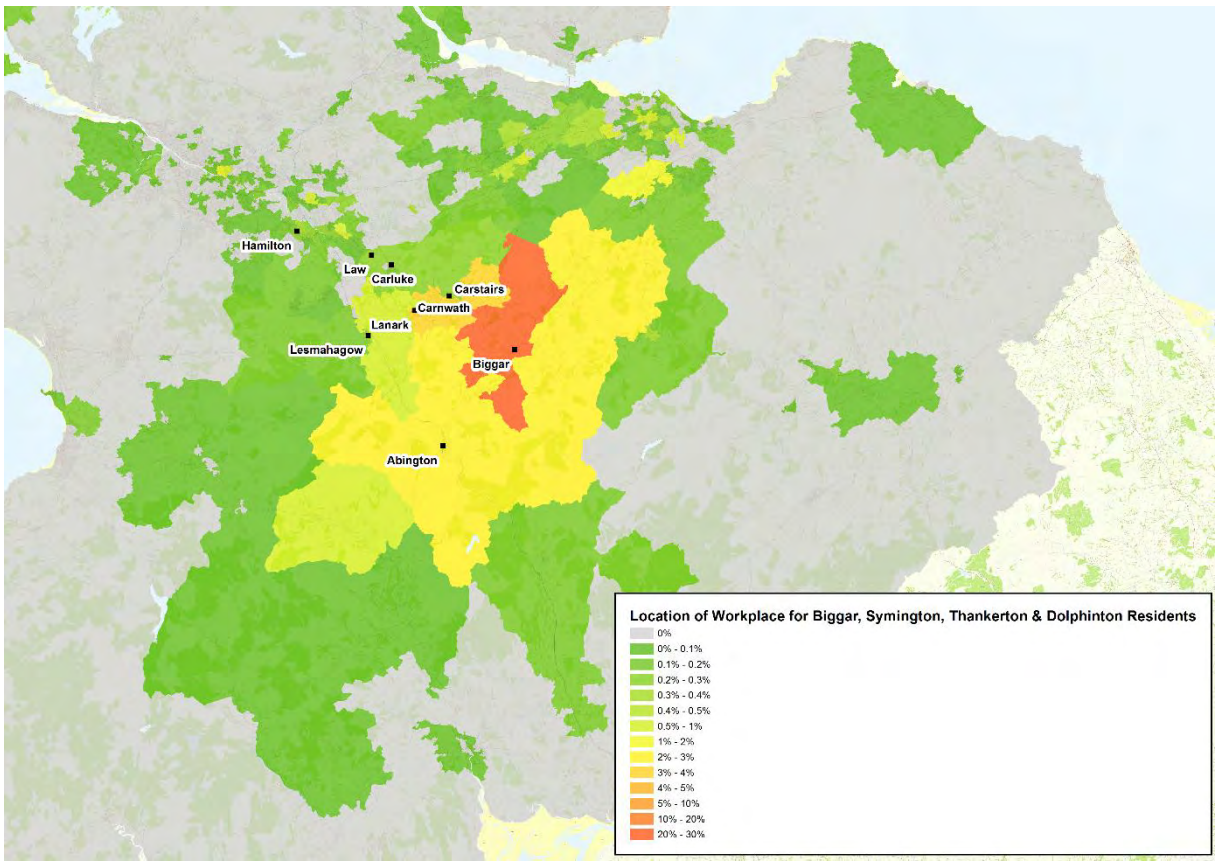

Figure C.7: Location of Workplace for Residents of Biggar, Symington, Thankerton and Dolphinton (Source: Census 2011)

C.2.12 Table C.8 shows the origins of people who normally reside in Scotland and work in Carluke and Table C.9 shows the origins of people who normally reside in Scotland and work in Biggar, Symington, Thankerton and Dolphinton. Figures C.8 and C.9 display the graphical representation of this data respectively.

C.2.13 As shown the largest proportion of people working in each location live in that location, with the proportions slightly higher for Biggar, Symington, Thankerton and Dolphinton (47%) than compared to Carluke (40%). As shown in the figures below, workers based in Biggar, Symington, Thankerton and Dolphinton are drawn from a larger area although it is noted that the numbers are small.

Table C.8: Place of Residence of Clydesdale Workers (Source: Census 2011)

	Study Area (Workplace)	% Study Area
Carluke	720	40%
Clydesdale Other	472	26%
North Lanarkshire	335	18%
South Lanarkshire	202	11%
Glasgow City	42	2%
West Lothian	23	1%
East Renfrewshire	4	0%
Edinburgh, City of	4	0%
Other	19	1%
Total	**1,821**	**100%**

Table C.9: Place of Residence of Biggar, Symington, Thankerton and Dolphinton Workers (Source: Census 2011)

	Study Area (Workplace)	% Study Area
Biggar, Symington, Thankerton and Dolphinton	553	47%
Clydesdale Other	423	36%
South Lanarkshire	69	6%
Scottish Borders	60	5%
North Lanarkshire	20	2%
Glasgow City	17	1%
Edinburgh, City of	14	1%
East Ayrshire	9	1%
Other	21	2%
Total	**1,186**	**100%**

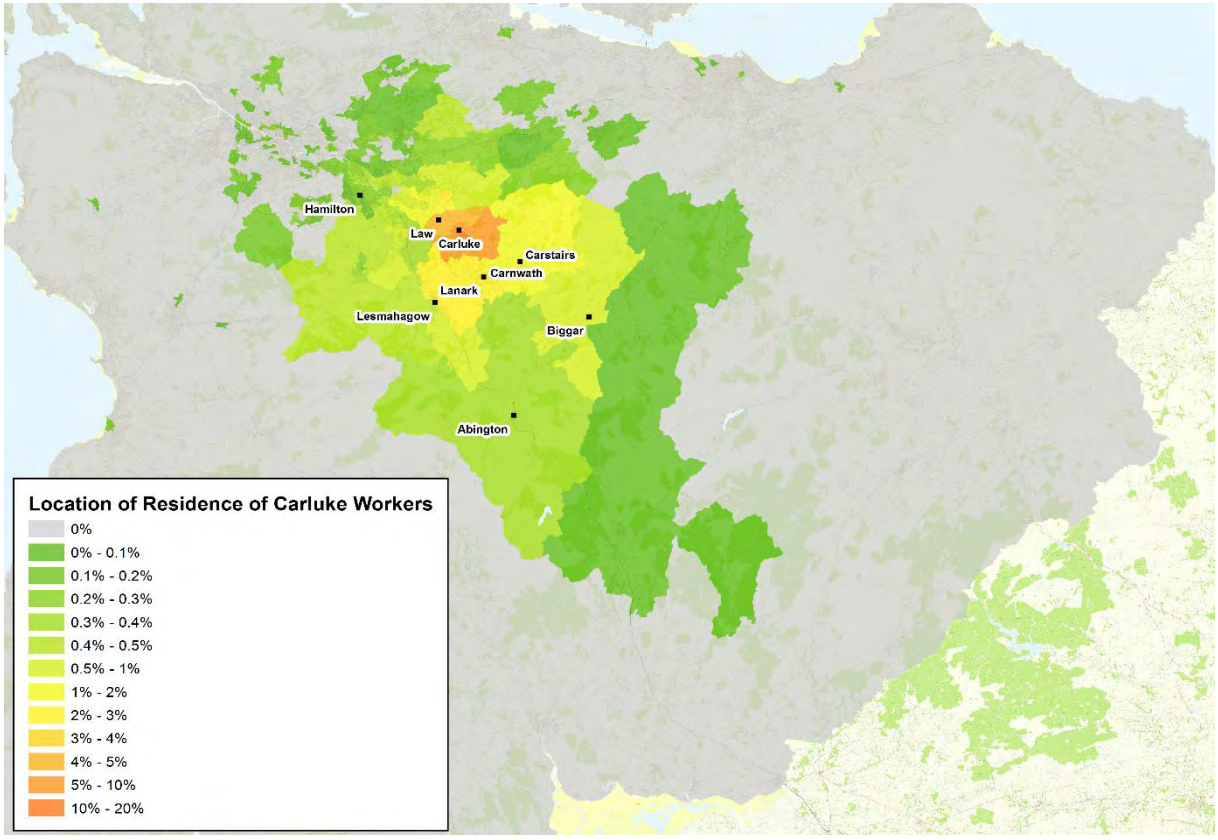

Figure C.8: Location of Residence of Carluke Workers (Source: Census 2011)

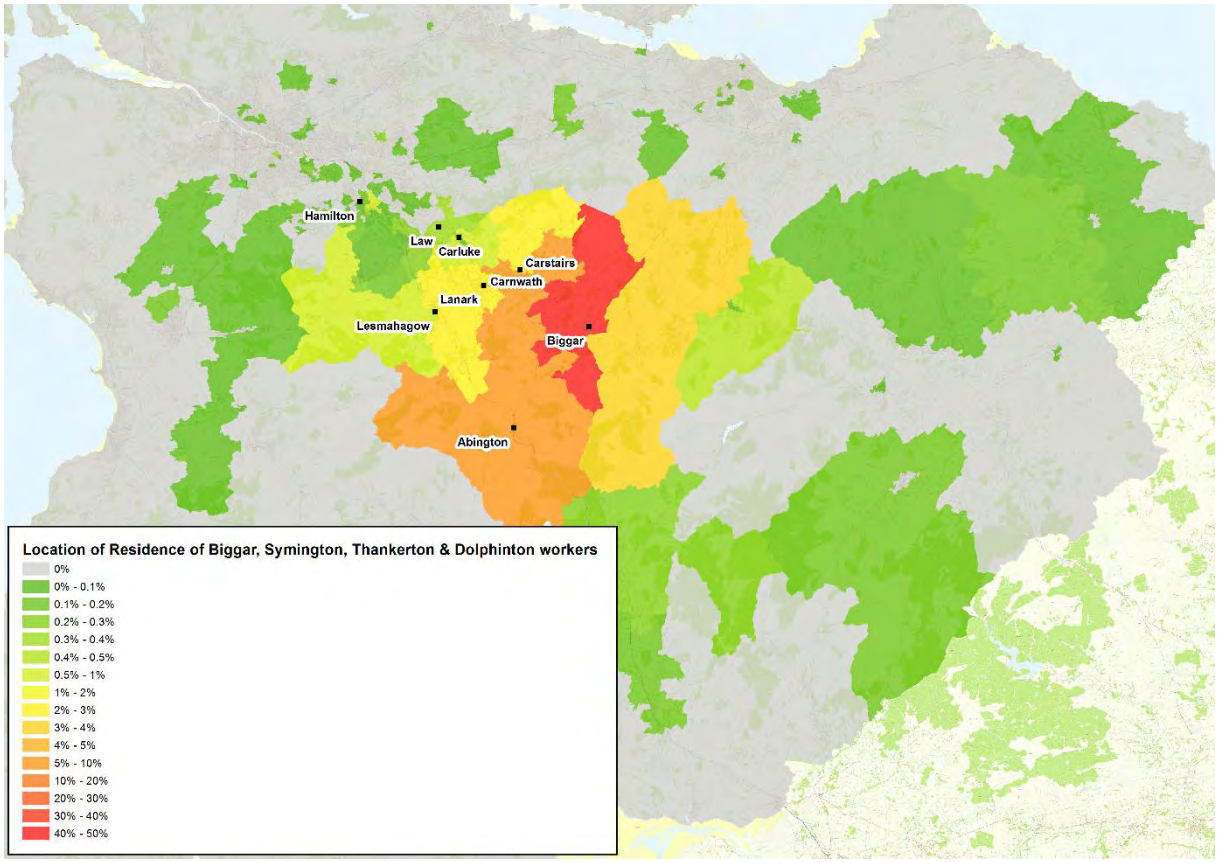

Figure C.9: Location of Residence of Biggar, Symington, Thankerton and Dolphinton Workers (Source: Census 2011)

Appendix D Rail Infrastructure

Background

D.1.1 This Appendix has been prepared to provide an overview of the railway network in Clydesdale (Clydesdale is taken as being South Lanarkshire Council's four Clydesdale wards) and also more widely where it impacts on the operation of Clydesdale railway's. It gives an overview of the operation of especially the local services, but also long distance services where they influence the provision of local services. This also includes information from Network Rail and ScotRail following a meeting on 10th February 2017.

History

D.1.2 All of the currently operational railways in the Clydesdale were originally part of the Caledonian Railway pre 1923 and thus the London Midland and Scottish Railway from 1923 – 1947, before becoming part of British Railways Scottish Region and now Network Rail's Scotland Route.

D.1.3 The importance of this is that the Clydesdale railways were planned and constructed as a single network by a single company, although not all at the same time. This is not the case in many parts of Scotland.

D.1.4 The Caledonian Railway was conceived as a part of the West Coast route from London to Scotland, and ran from Carlisle to Aberdeen with branches into Edinburgh, Glasgow (two) and Dundee. It had a substantially English shareholding when it started and opened through Clydesdale in 1848. As a consequence of its conception as a trunk route it was laid out for high speed running, following the valleys of the Annan and Clyde and did not attempt to serve any local towns, including Lanark and Biggar.

The Network Today

D.1.5 The spine of the current Clydesdale rail network is still the West Coast Main Line (WCML) running from Carlisle through Lockerbie and over Beattock summit down to Carstairs and through to Law Junction where it splits into two routes. The western route is the main long distance passenger route direct to Motherwell and Glasgow Central. The eastern link runs through Wishaw and goes to Mossend freight yards. It is used by many freight trains for Mossend, Coatbridge and Grangemouth and by a few long distance passenger trains, which re-join the WCML at Uddingston. It is also used by the local passenger services to serve Wishaw, which then take a short single track link line to re-join the western line at Shieldmuir Junction.

D.1.6 From Carstairs the route to Edinburgh branches off with a triangular junction which permits trains from both Carlisle and the south and Glasgow and the north to reach Edinburgh. The legs of the triangle are quite short which results in tight curves and consequently slow speeds. Carstairs station, the most southerly in Clydesdale, is located such that it is on both the Glasgow – Carlisle and Glasgow – Edinburgh routes. Trains running from Carlisle to Edinburgh can call, but they need to change direction in the platform, which adds considerably to the running time.

D.1.7 The distance between Lockerbie and Carstairs is 48.25 miles and is the longest distance between two stations on the Britain railway network. Beattock station survived until 1972, but was closed prior to the 1974 electrification as there was no desire to stop long distance trains there.

D.1.8 The 2.5 mile Lanark branch is the only remaining branch line. It is a single track line, turning south off the WCML at Lanark Junction 2.5 miles on the Glasgow side of Carstairs. The station has two platforms.

D.1.9 Carluke station is located eight miles north of Carstairs and Law Junction a further two miles north of Carluke.

D.1.10 All the routes are electrified and controlled from Motherwell Power Signal box, which was commissioned in the early 1970s as part of the WCML electrification works. Signalling renewal and upgrade is currently under way and in the next three years control of the signalling will be transferred to the West of Scotland signalling centre at Springburn on the north side of Glasgow. The north end of the Edinburgh line is controlled from Edinburgh signalling centre, located beside Waverley station.

D.1.11 In general, the railways follow good alignments with speeds of up to 125 mph (by tilting trains only) and 110 mph for by conventional trains.

Local Features

D.1.12 Carstairs is the main local feature of the Clydesdale railway network. As noted above the triangle is quite small so the speeds at low, other than on the WCML Carlisle – Glasgow side where 90 mph is permitted.

D.1.13 The west to east side (Glasgow – Edinburgh) is restricted to 15 mph as is the south to east side (Carlisle – Edinburgh) at the west/south end rising to 30 mph at the east end. This is a very slow speed section for what is generally a high speed long distance route.

D.1.14 The remodelling, which is driven by the need to renew the point work and signalling, of the essentially steam era layout at Carstairs is intended to deliver higher speeds on these currently slow route sections to reduce journey times, but the speeds will still be around 30/40/50 mph due to the land constraints. Higher speeds would require completely new alignments.

D.1.15 There was a triangle at Lanark Junction with the west to south leg offering Lanark to Carstairs (and then Edinburgh) journeys. This was closed in 1968 and it has since been removed. The track of the chord is still visible in places but it has been partly built over adjacent to the WCML. Whilst the former chord is unlikely to be able to be reinstated there is land close by that would enable a new chord to be built on a new and better alignment.

D.1.16 Law Junction is right on the limit on the Clydesdale area (and also South Lanarkshire). It is a relatively high speed junction with the main line, direct to Motherwell, running through at 80 mph and the line to Wishaw deviating at 50 mph.

D.1.17 There are loops to enable slower trains to be overtaken by faster trains on the WCML at Abington, 15 miles south of Carstairs, Carstairs and Law Junction.

Current Railway Operations

D.1.18 WCML south of Carstairs - passenger

D.1.19 The railway operations in Clydesdale are dominated by the WCML services which are now operating more intensively that at any time in the past. They all pass into Scotland at Gretna just north of Carlisle.

D.1.20 The core daytime passenger service is provided by Virgin: an hourly Euston – Glasgow fast service and an hourly Euston – Birmingham – Glasgow/Edinburgh service (alternating Edinburgh and Glasgow).

D.1.21 In addition, there is now an hourly Manchester Airport - Glasgow/Edinburgh service (alternating Edinburgh and Glasgow and in the opposite hours to the Virgin Birmingham service). This is operated by First TransPennine.

D.1.22 These services combined offer two express trains an hour on the Carlisle – Glasgow route and one per hour on the Carlisle – Edinburgh route.

D.1.23 There are plans for additional TransPennine services on the Liverpool – Glasgow corridor which will be a new route for direct services.

WCML south of Carstairs - Freight

D.1.24 The WCML is the UK's main freight route. There are now a number of intermodal trains operating to/from Mossend/Eurocentral, Coatbridge and Grangemouth serving the ports of Liverpool, Felixstowe, London Gateway and Southampton. These trains carry imports and especially Scottish high value exports.

D.1.25 Additionally, there are services that operate out of the major distribution terminal at Daventry predominately for retail customers. They also carry "back-loaded" swop-bodies with Scottish products (especially food and drink and timber) for distribution in England.

D.1.26 These trains are all operated as "Class 4" trains which have a maximum speed of 75mph. They tend to be long, some are longer than many of the loops on the route, and are generally, but not exclusively electric hauled.

D.1.27 There are also mail trains serving the Royal Mail terminal at Shieldmuir which can operate up to 100 mph.

D.1.28 All of these services operate to strict timetables, comparable to the operation of passenger trains.

D.1.29 There are also a smaller number of more traditional freight trains conveying predominately oil and cement products and some Network Rail engineering trains using the route. These generally operate as "class 6" trains limited to 60 mph.

WCML north of Carstairs - passenger

D.1.30 The WCML north of Carstairs carries the two long distance trains an hour from Carlisle, plus a two hourly Glasgow – Edinburgh – Newcastle – York – Leeds – Birmingham – Southwest Cross Country service which calls at Motherwell and the relatively new Glasgow Central – Edinburgh ScotRail service which calls at intermediate stations in Clydesdale.

D.1.31 Additionally, there are two trains an hour from Lanark to Glasgow Central (High Level) which call at Carluke and Wishaw. These trains crisscross the route of the long distance trains, with interactions starting on the west of the WCML at Lanark, joining at Lanark Junction, crossing to the east side at Law Junction through Wishaw before re-joining the WCML at Shieldmuir Junction. At Motherwell these trains then turn off to the north at Lesmahagow Junction (at Motherwell station) to run through Bellshill before again re-joining the WCML at Uddingston Junction for the rest of the way into Glasgow Central High Level.

WCML north of Carstairs - freight

D.1.32 The bulk of the freight from south of Carstairs plus any from the Edinburgh direction makes use of the southern part of this route section, but freight is generally routed off the WCML at Law Junction via Wishaw to Mossend/Coatbridge and Grangemouth. However, routing is flexible and freight can run on the WCML as far as Lesmahagow Junction before turning off for Mossend.

D.1.33 There is little freight on the WCML beyond Motherwell.

D.1.34 The Royal Mail trains use this route to run directly to Shieldmuir terminal

Carstairs to Edinburgh

D.1.35 This route is not busy to the south of Midcalder Junction with one of the trains to/from Carlisle every hour and alternatively the two hourly Cross Country service which calls at Motherwell and the Glasgow Central – Edinburgh service. This gives only two trains an hour. North of Midcalder Junction there are two trains an hour between Edinburgh and Glasgow Central via Shotts, giving a total of four passenger trains an hour.

D.1.36 ScotRail indicated that they are seeking to substantially recast the Shotts line timetable from May 2019 to deliver the greatest possible benefits from the electrification work which is now fully underway. These plans include planning the timetable with additional paths to provide for more trains as demand rises and more rolling stock becomes available. These services are likely to be operated by a combination of the existing class 380 emus and the new class 385 emu. This may be the same for the services that operate via Carstairs, although if they continue to link with North Berwick services the class 385s are most likely. The Lanark – Glasgow Central High Level services are also likely to move to class 380/385 units, which will provide some extra capacity and also passenger comfort on these outer suburban services.

D.1.37 There are a small number of freight services either from Carlisle to the Edinburgh area, predominately Network Rail with some cement traffic. But there has been a recent development of multi-modal trains from Teesport to Mossend, which could grow as Teesport develops its business model.

D.1.38 However, the electrification of the shorter route via Shotts will also bring improved freight gauge clearances which will permit the passage of bigger containers, and additional signalling is installed, offers the possibility that these trains may be diverted via Shotts in 2018/9.

Network Constraints and Changes

D.1.39 Train services in the Clydesdale area are influenced by the rail network stretching from Carlisle to Edinburgh and Glasgow.

WCML South of Carstairs

D.1.40 The major issues on this 73 mile route are the speed differentials between different types of trains and the lengths of the loops that are provided for slower trains, predominately freight trains, to be overtaken by faster trains.

D.1.41 The difference in the speeds of the trains can result in poor utilisation of the route with long gaps developing behind faster trains. These gaps are generally unusable by long distance trains. Conversely slower trains have to be put into loops to permit the fast trains to overtake, which extends freight running times and is a poor utilisation of equipment and drivers.

D.1.42 With the advent of more powerful locomotives train lengths have extended so that the commercially acceptable train length is now longer than at least some of the loops along the route. This restricts timetabling options and can present serious performance problems during perturbed working.

D.1.43 This route section is constrained in that it is not easy to find capacity for more trains at the times that the customers require. The advent of HS2 (initially in 2027 with an hourly service to Glasgow, but by 2033 with an hourly service to Edinburgh as well) trains will exacerbate the problem. This is recognised in the rail industry and there are proposals to start the development of options to enhance the capacity of the route.

D.1.44 Right at the south is Gretna Junction where trains to and from the Glasgow & South Western route through Dumfries join the WCML. These will shortly be operating on an hourly frequency over this route section with timings constrained by the single lines north of Kilmarnock and connections and turnrounds in Carlisle. This further constrains the operation of the route.

Carstairs

D.1.45 Carstairs is a triangular junction with route to Carlisle, Glasgow and Edinburgh. The Carlisle to Glasgow side (the west side) is a relatively high speed route with speeds of 90/95 mph for all trains permitted to run at that speed. The Pendolino tilt speeds (known as “enhanced permissible speeds”) only operate on the route south of Carstairs.

D.1.46 The current Network Rail proposals for Carstairs include raising the line speed a little on this route, but at considerable cost and disruption to the network. However, all the pointwork in the area required renewal as it dates from the early 1970s Motherwell re-signalling.

D.1.47 The Up passenger line (to Carlisle), used by the fast trains, passes the "outer" (east side) platform with the "inner" side being the loop line, whereas generally on the railway the slower speed loop lines are located outside (to the left in line of travel) of the fast lines,

D.1.48 At the south end of the platforms is Carstairs Station Junction which enables trains from the Glasgow direction to go toward Edinburgh. It is limited to 15mph, because of the cant (super-elevation) required on the main lines to provide the 90mph through speeds. The line through to Carstairs East Junction is sharply curved and limited to 15mph, until the approaches to Carstairs East Junction where the speed rises to 30 mph.

D.1.49 The third leg of the triangle, which provides for Carlisle to Edinburgh journeys is also sharply curved and limited to 15mph at Carstairs South Junction and 30mph thereafter. This 30mph is continues to the Edinburgh side of the sharp curve beside hospital which is a relic of the former "Victoria" curve that ran straight on here and joined the WCML to the south of Carstairs. The formation of this line can still be seen in spite of its closure in 1860.

D.1.50 These speeds result in poor journey times, but the low speeds also take capacity where conflicting moves are being made, such that each train from Carlisle towards Edinburgh requires a planned gap of five minutes in the train service on the Glasgow to Carlisle route to allow for the conflicting move to be made.

D.1.51 Carstairs station is only usable by trains on the Carlisle – Glasgow and Glasgow – Edinburgh routes. There is no platform on the Carlisle – Edinburgh route, although train on this route can call by reversing in the station but this will incur a considerable (at least five minutes) time penalty.

D.1.52 The Network Rail plans for Carstairs remodelling – which are included in the Scotland Route Study and the RDG publication "Investing in the Future" include significant rationalisation and some speed increases, but no radical changes. There may impact on the station, which currently has two platforms available for use. The detailed scope changes are not yet finalised and Value Management exercises are planned to identify the best value layout.

D.1.53 Carstairs station does not currently have step free access, but is staffed during the morning.

Carstairs to Motherwell

D.1.54 North of Carstairs the WCML changes from a long distance trunk route into a fully multi-use route with the half hourly Lanark services and the two hourly ScotRail Edinburgh to Glasgow Central service also using the route. The ten mile two track section to Law Junction includes Lanark Junction where the Lanark services access the Lanark branch and Carluke station. At Law Junction the ScotRail and most of the freight services take the Wishaw loop line to the east of the WCML which is sharply curved at Garriongill resulting in a short section of 60mph running.

D.1.55 The ScotRail services re-join the WCML at Shieldmuir Junction using a short single track link, with Shieldmuir station just to the north of the junction.

D.1.56 This routing means that every Glasgow bound ScotRail train has to cross the route of a Carlisle or Edinburgh bound cross-border train at both Law Junction and Shieldmuir Junction as well as avoid conflicts on the single line section at Shieldmuir and on the single line Lanark branch. This significant limits the flexibility in timetabling the ScotRail services.

D.1.57 Additionally, the ScotRail trains take 8½ minutes between Lanark Junction and Law Junction, whereas the non-stop cross border trains only take five minutes. Freight trains take various times between these two limits depending on their load and maximum permitted speeds. This further constrains the times at which ScotRail trains can run.

D.1.58 Freight trains that turn off at Law Junction through Wishaw run directly via Holytown to Mossend, Coatbridge and Grangemouth and do not return to the WCML. Law Junction is one possible candidate for grade separation to reduce the conflicts. This is not seen as an early intervention and is not included in plans up to 2029.

D.1.59 There are loops at Law Junction to assist with the regulation of slower running, predominately freight trains, with the Up (south bound loop) only accessible off the Wishaw line, but being relatively long, so able to accommodate most freight trains.

D.1.60 The Down (north bound) loop is shorter, available for trains using both WCML direct to Shieldmuir and the Wishaw loop, but it is of limited value as the circumstances when it would its use would provide a better outcome than keeping the train running are limited.

D.1.61 At Motherwell station the WCML crosses the Hamilton – Coatbridge/Cumbernauld route which is part of the Glasgow suburban network's Argyle line. Only one Argyle line train an hour crossing the junction – located right at the north end of the platforms at Motherwell station and known as Lesmahagow Junction. The other train, on the opposite half hour, of the Hamilton service currently terminates at Motherwell and does not cross the junction.

D.1.62 The ScotRail services from Lanark turn off here to provide services for Bellshill, which adds a third crossing of the Up line for the Glasgow bound services.

D.1.63 This route section is a complex mix of infrastructure and services which create a significant constraint on the overall train plan.

Motherwell to Glasgow

D.1.64 The section north of Motherwell to Uddingston is generally only used by the two or three cross border trains that operate every hour and the currently two hourly Edinburgh via Carstairs trains. However, at Uddingston Junction the above mentioned Lanark trains re-join the WCML with the north bound trains making their fourth conflicting move across the WCML here. However, they are joined by two trains per hour from Edinburgh via Shotts and Bellshill, making a total of four moves an hour to and from the Bellshill line. The bulk of the ScotRail services call at Uddingston, although the Edinburgh via Carstairs trains do not. Uddingston Junction is another possible candidate for grade separation, but again not in the short/medium term.

D.1.65 At Newton West Junction four trains an hour from Hamilton (including those serving Larkhall) also join the WCML and run along it to Rutherglen Junctions where they turn off into the Argyle line, through to Glasgow Central Low Level. Newton West Chord and Junction have been redoubled under the Edinburgh Glasgow Improvement Project (EGIP) programme which has eliminated a significantly restrictive single line section.

D.1.66 The Lanark and Hamilton trains call at Cambuslang which adds to the line occupation in this busy section. It normally carries ten or eleven trains an hour, with varying conflicts and different running times according to the train type and the need to call at Cambuslang. The calls in the Lanark services are largely to provide connections to the stations on the Argyle line.

D.1.67 Rutherglen Junctions will be upgraded during a current programme of renewals. This will reduce conflicts and improve line speeds and thus slightly reduce the timetabling constraints at this location as well as improve performance.

D.1.68 The route from Rutherglen into Glasgow Central is four or more tracks and relatively unconstrained. There are only two long platforms at Glasgow Central that are normally used for long cross border trains, platform one and two on the east side of the station, which avoids conflicts with the large number of local services that are also using the station.

D.1.69 Platforms 9, 10 and 11 in the middle of the station can be used for longer trains, but their use requires conflicting moves across trains using the shorter local platforms 3 to 8. Some of these shorter platforms are too short to hold the six coach trains with 23m coaches that are becoming

more common across the Scottish network. One potential future change will be to extend these platforms, but that might involve a reduction in the number of platforms, which will make the station more constrained in its ability to handle more trains.

D.1.70 The through linking of Ayr to Edinburgh trains, as now happens with some of the Edinburgh to Glasgow Central via Carstairs services, adds a complexity to both timetabling and the operation of Glasgow Central station. An Ayr to Edinburgh train will arrive on the western most approach line and depart on one of the eastern most departure lines, requiring to cross the whole of the station throat in one or two conflicting moves. This is likely to continue with the electrification of the Shotts line, but only with class 380 units so it is unlikely to become a much more frequent move. It may well free the services via Carstairs of the need to link into Ayr services.

D.1.71 A limited number of morning and evening peak Carstairs services are routed via the Argyle line through Glasgow Central Low Level. This extends the journey time to Glasgow Central, but increases the connectivity within the cities central area. These are additional trains to the all-day service in the Argyle Line and add to the pressure on the very heavily used route section between Partick and Hyndland East Junction which is the most intensively used two track section of the Scottish network. There is no scope to add more trains on this route without some investment.

D.1.72 There is a reversing siding at Exhibition Centre, but it does not have a platform, so trains come into and go out of service at Anderston. This facility is only of limited value. Network Rail has examined a number of train terminating facilities in this area and there are potential options, but nothing has been taken forward. If there is a desire to run more trains onto the Argyle line the lack of suitable reversing facilities is a constraint.

D.1.73 The Argyle Line platforms are quite short, only catering for six coach train where each coach is 20m long. The use of the more modern 23m coaches that have recently or about to come into service on ScotRail (the class 380 fleet and the new class 385 fleet for EGIP) would present challenges on the Argyle line, and they are unlikely to be deployed on these routes.

D.1.74 The Argyle line is not an easy route to operate to high levels of performance as there are so many interaction points, both with other ScotRail services, but especially with long distance services which have poor levels of performance in comparison with the local services. Experience during the Lamington closure illustrated this very clearly. The consequence is that both ScotRail and Network Rail are reluctant to introduce more trains onto the network as they are potentially liable to have a disproportionate adverse impact on performance.

Carstairs to Edinburgh

D.1.75 This route section is not heavily used, but it has a very limited capacity due to the limited number of signals between Carstairs East Junction and Midcalder Junction. North of Midcalder Junction there are more signals, but there are also twice as many trains and the once an hour stopping train via Shotts, which makes five local calls, takes longer to cover this section than the non-stop trains.

D.1.76 Unusually this section is also one where the electrical capability is also a capacity constraint – in this case the need to upgrade the Currie track sectioning cabin to a fully-fledged feeder station which requires a connection from the Scottish Power grid network. Because of this need to upgrade the grid this is unlikely to be completed until into the early 2020s.

D.1.77 Freight trains also use this section and the trains coming from Edinburgh take a lot of capacity because the junction at Slateford is only 20mph which results in a very slow climb away from Edinburgh, again taking a lot of capacity.

D.1.78 Trains from Carstairs and Midcalder Junction direction meet the Edinburgh – Glasgow route at Haymarket East Junction. They have to use the south lines through Haymarket station (platforms 3 & 4) and the south Haymarket Tunnels to Princes Street Gardens. These lines are shared with the Edinburgh – Glasgow via Falkirk High services, the bulk of the services via the new Airdrie – Bathgate lines and some of the Edinburgh – Dunblane services. All these services

are heavily inter-related with conflicts to be managed at Newbridge and Polmont Junctions. The south lines at Haymarket are running well towards their realistic capacity with 12 -14 trains per hour booked to use the route.

D.1.79 Capacity in Edinburgh Waverley station is also a constraint especially as there are only three platforms accessible from the west that are long enough for the eleven car Pendolino trains that Virgin operate on the Birmingham services. These are also required for East Coast trains. The rail industry recognises this and work is due to start on providing platforms for long East Coast trains at the east end of the station, which will reduce the conflicts with WCML trains.

General Observations

D.1.80 The railways serving Clydesdale are part of two wider networks; the WCML from England via Carlisle to Glasgow and Edinburgh and the ScotRail network in south central Scotland. This adds a surprising degree to complexity and interaction with a Lanark to Glasgow Central train crossing the southbound Glasgow – Carstairs – Carlisle at no fewer than four junctions.

D.1.81 There are timetable “loops” which introduce unexpected interactions such as the Glasgow – Carstairs – Edinburgh trains interacting with the Glasgow – Shotts – Edinburgh trains at both ends of the route.

D.1.82 Any desire to vary the timetable or add more trains will need careful consideration, but the Shotts line post-electrification timetable is being planned with a view to the future needs and service via Carstairs could be included in this future-proofing. A step up to an hourly service between Edinburgh and Glasgow via Carstairs is likely to require two additional class 385 units and crews.

Appendix E Public Survey

E.1.1 In total, **568** responses were received from the survey, with the majority of respondents (33%) living within the Law area. A further 17% live in Carluke and, 13% within Lanark and 10% Biggar. 13% of respondents classed themselves as 'Other within Clydesdale'.

E.1.2 More respondents were female (64%, n=343) than male (34%, n=184), with a small number of people preferring not to respond to the question.

E.1.3 The survey was completed by a wide range of age groups, with the highest level of responses being generated by the 35-44 year old group. Figure E.1 shows the breakdown of responses by gender and age groups.

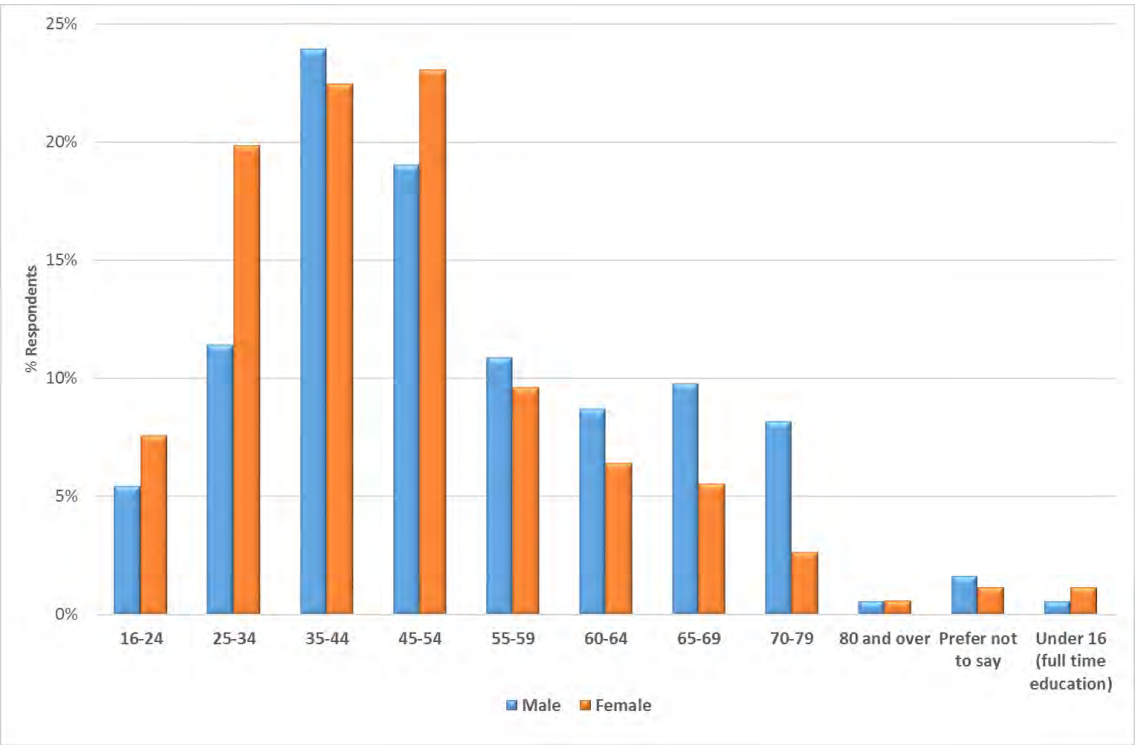

Figure E.1: Age / Gender breakdown

E.1.4 Car is the most dominant mode for those who travel in the study area, with 69% of respondents (n=393) indicating they either drive or travel as a passenger in a car as their main mode of travel on a daily basis. 18% travel by bus with a further 8% utilising rail. Active modes account for 4% of responses. Figure E.2 illustrates main mode of travel across the study area.

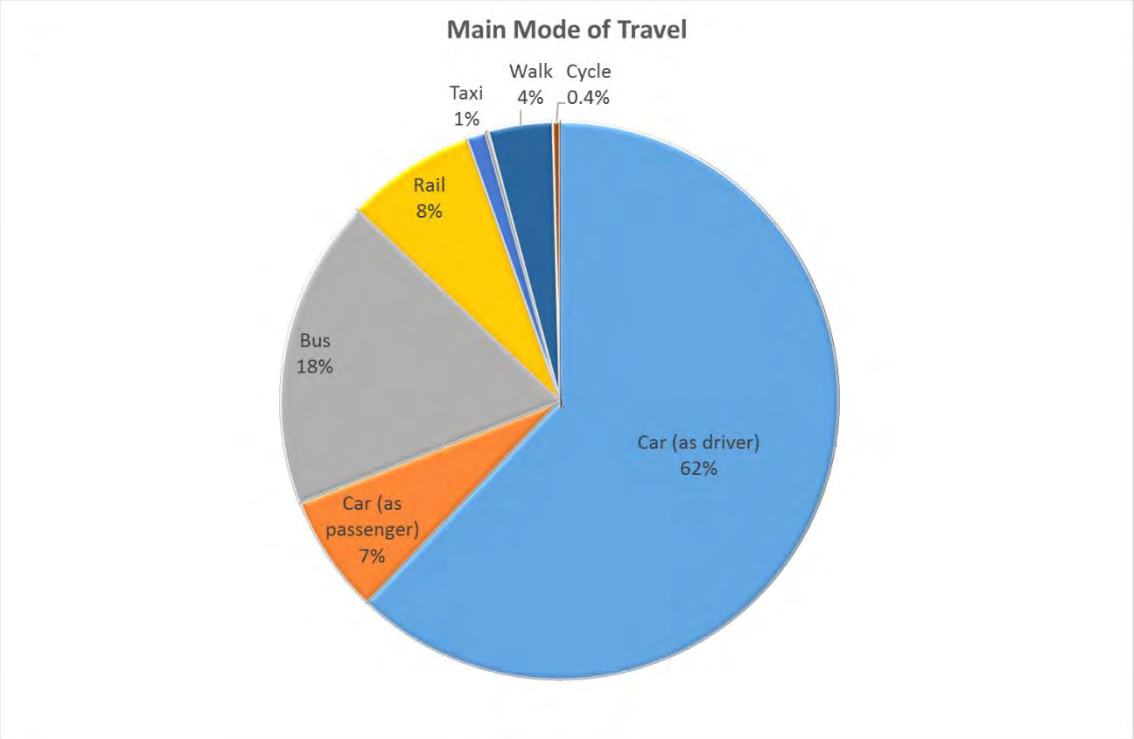

Figure E.2: Main mode of travel

E.1.5 Respondents were asked which locations they regularly travel to and the journey purpose for each location. Results are shown in Figure E.3. Glasgow and Lanark were the most popular locations, this was mostly driven by Retail/Shopping, Leisure and Visiting Friends and Relatives. Interestingly Employment was only the fourth most cited reason for visiting both these towns. Despite this, significant numbers of people (n=87) report travelling to Edinburgh for employment. This makes Edinburgh the second most popular *named destination* for travel for employment and correlates with South Lanarkshire Council's anecdotal evidence that Edinburgh is a key destination for those from Clydesdale. We can also see that there is also significant travel to the capital for Retail/Shopping and Leisure.

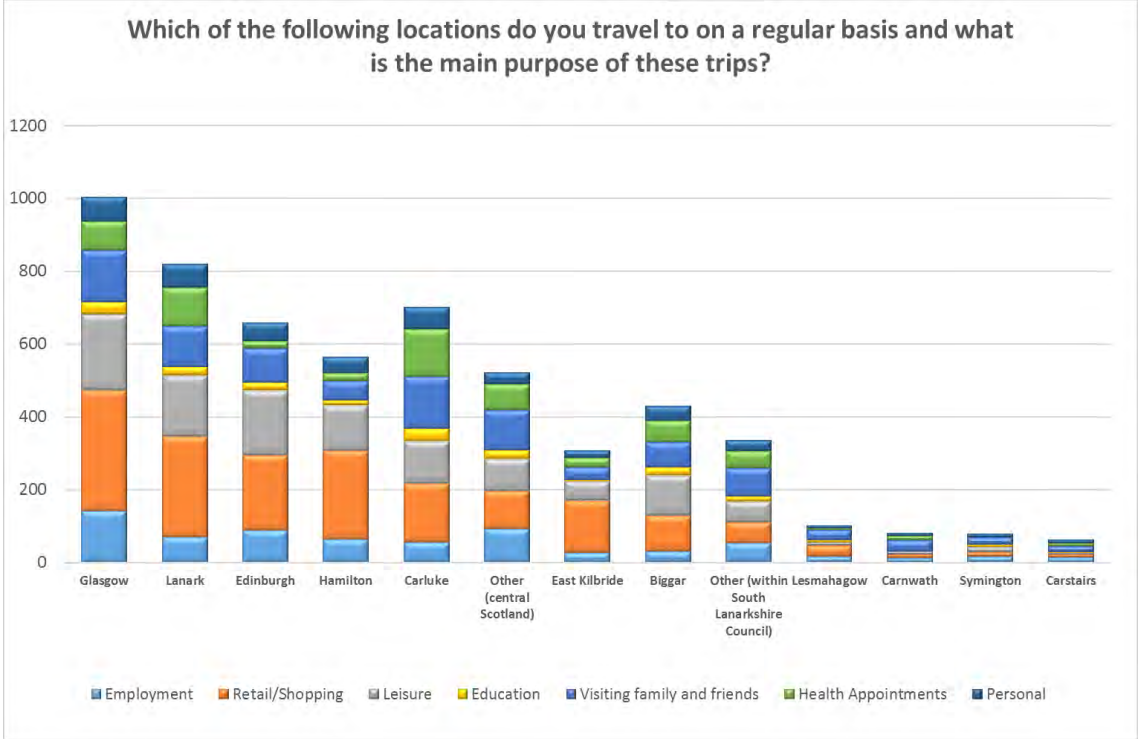

Figure E.3: Locations people regularly travel to and Journey Purpose

Problems on the Transport Network

E.1.6 Respondents were asked two questions with regards transport problems faced in the area. The initial question asked respondents to note if they believed each stated transport problem represented an issue to them. This was a multiple response question with respondents free to comment on each. Results showed that by far the most common problems were:

- Lack of direct public transport routes (74%);
- Limited choice of travel modes (70%); and
- Long travel times to get to destinations (47%).

E.1.7 The second question asked respondents to note what they believed to be **the single biggest transport problem in the area**. Whilst the three options listed above were again listed as the biggest issues, lack of direct public transport routes was noted as the single biggest transport issue by 38% of respondents. Results can be seen in Figure E.4.

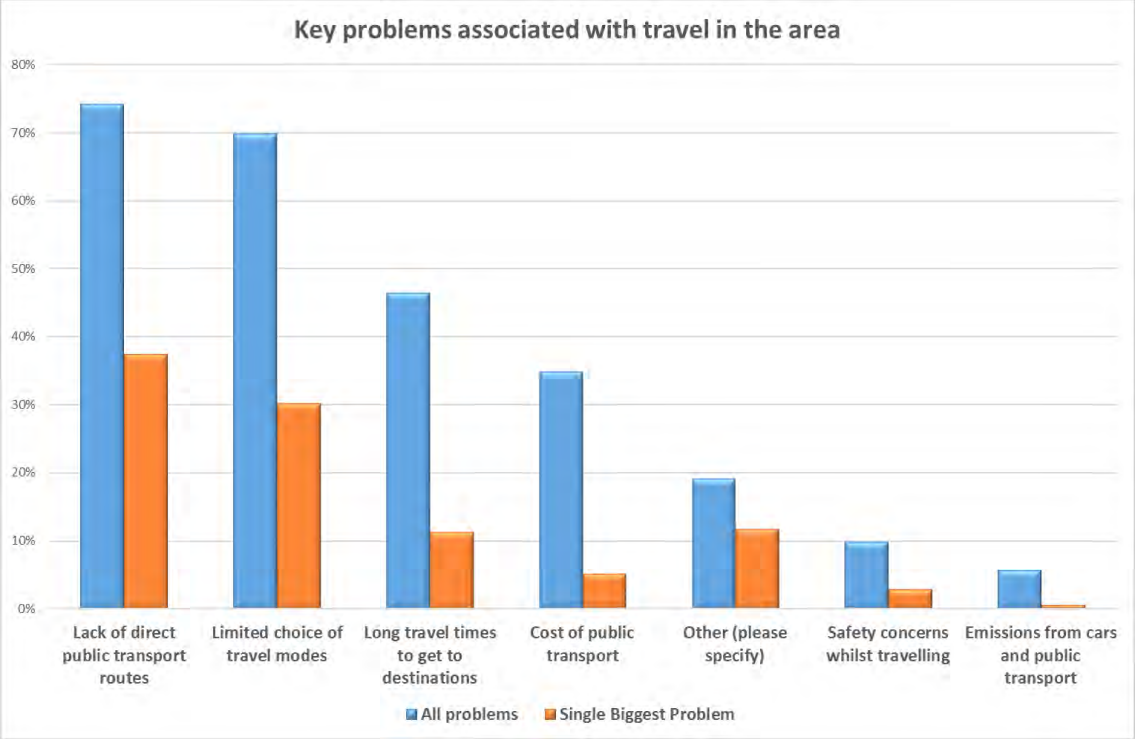

Figure E.4: Key Problems Associated with the Transport Network

Road Network

E.1.8 In total, 504 (89%) respondents identified themselves as regular drivers/passengers and were routed to the following questions with regards the road network. Note, this question was targeted at all people who travel in cars, not only those who previously indicated it as their *main mode* of travel.

E.1.9 Road users were asked to note the key issues they faced on a regular basis when travelling. Poor quality of roads was the largest issue, noted by 67% of respondents (n=337). Congestion and delay (49%) and queuing at key junctions (29%) were also noted as key issues. Figure E.5 shows the key problems faced on the road network.

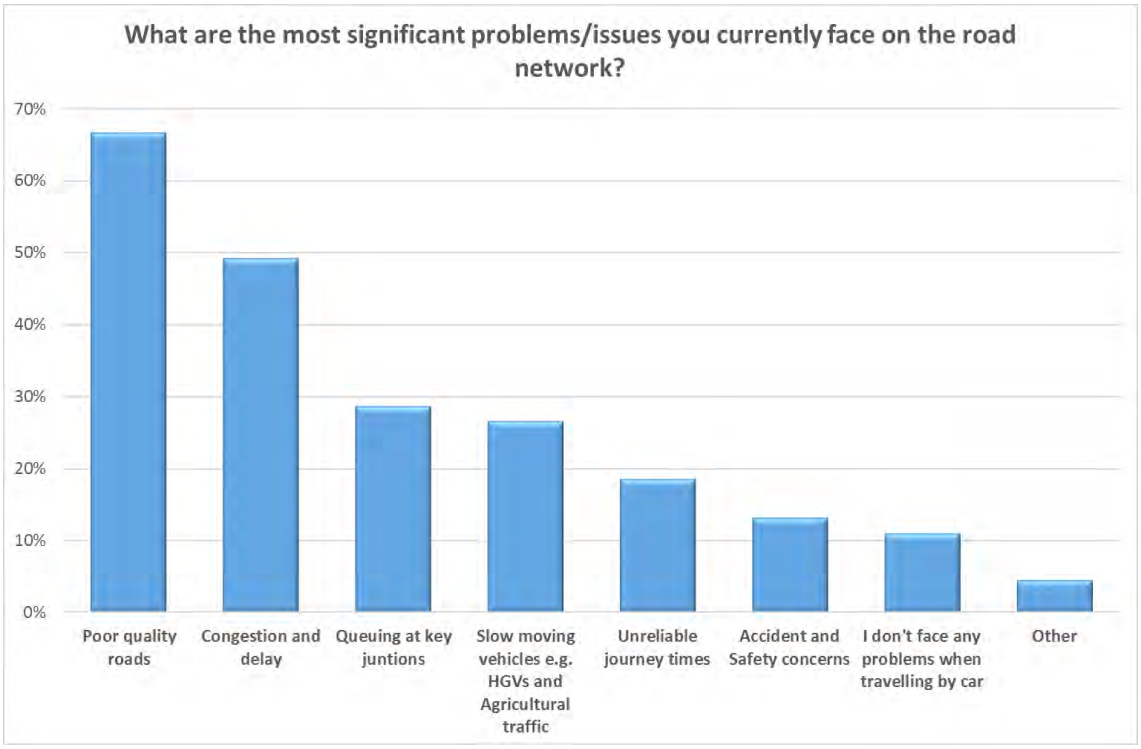

Figure E.5: Issues on the road network

E.1.10 Respondents were asked to consider how the identified problems with the road network impacted upon them. Figure E.6 shows that 61% of respondents (n=282) noted that they had to begin their journey early or late to avoid delays. Being late for work was also a key problem (36%), as was being late for and missing appointments (30%) and difficulty in accessing key services (28%). It should be noted that there have been significant works on the M74 for the last two years, it is unclear how much of these delays can be attributed to the current ongoing situation or whether the problems are more localised.

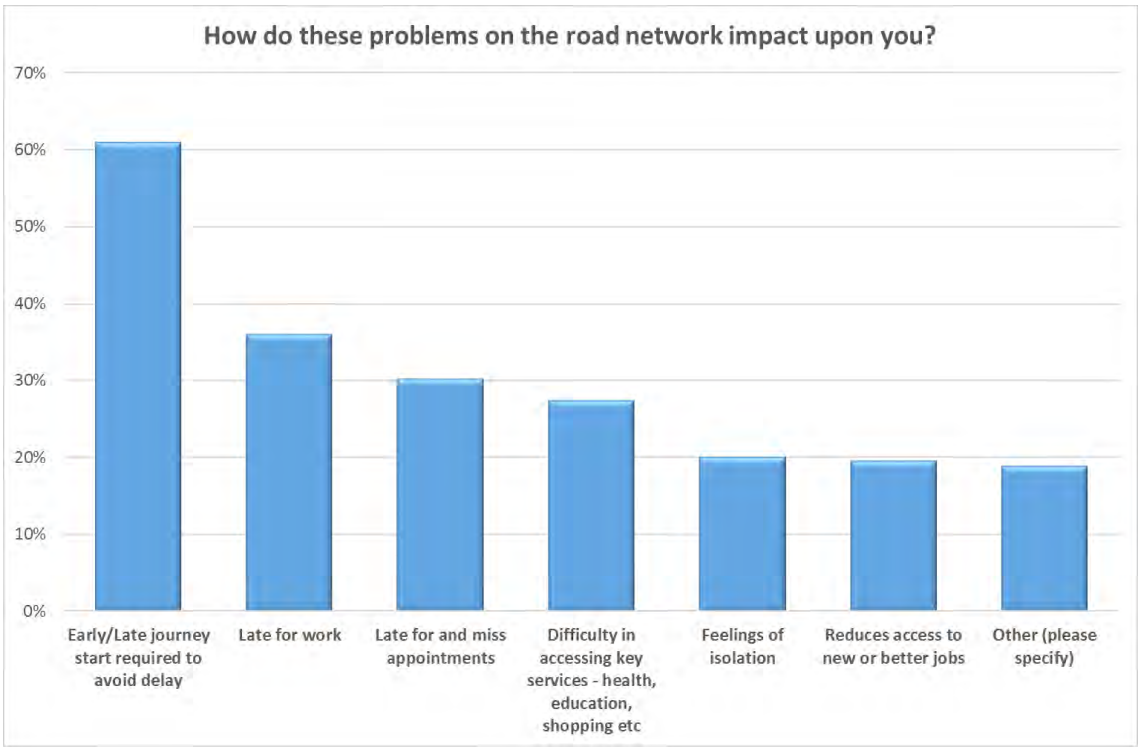

Figure E.6: Impacts of Problems on the road network

Bus Travel

E.1.11 In total, 232 respondents identified themselves as regular bus users. The remaining 336 respondents were asked why they do not currently travel by bus in the study area. 'No direct routes to where I need to go' and 'Low frequency' were the biggest reasons to not travel by bus as noted by 61% and 44% of respondents respectively (n=353). Other common reasons given were that 'buses are unreliable' (37%) and 'prefer the car' (30%).

E.1.12 Bus users were asked to note the key issues they faced on a regular basis when travelling. Three issues were clearly prevalent, 'service frequency was the largest issue, noted by 68% of respondents (n=157). 'Lack of direct routes' (60%) and 'service reliability' (39%) were also noted as key issues. Figure E.7 shows the key problems faced on the bus network.

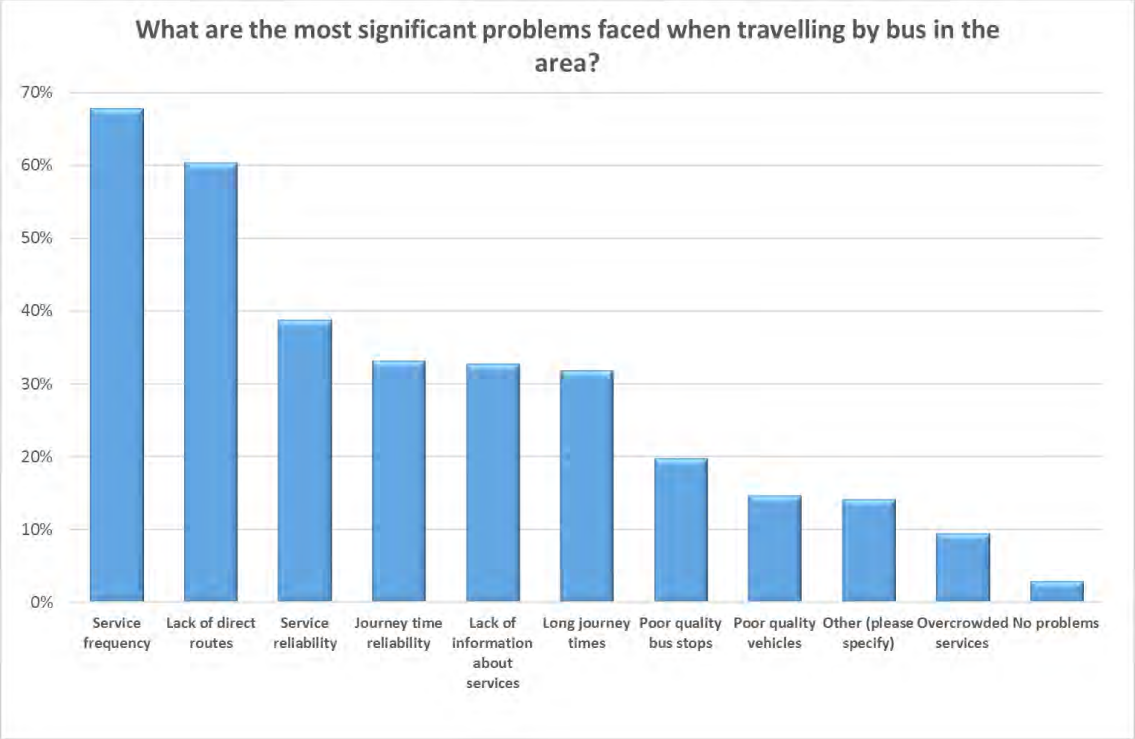

Figure E.7: Problems faced when travelling by bus

E.1.13 Respondents were asked to consider how the identified problems with bus travel impacted upon them. Figure E.8 shows that problems were broadly consistent with those faced by car users. 'Early/late journey start required to avoid delay', was the biggest issue as indicated by 59% of respondents (n=130). Difficulty in accessing key services was also an important factor, indicated by 49% of respondents.

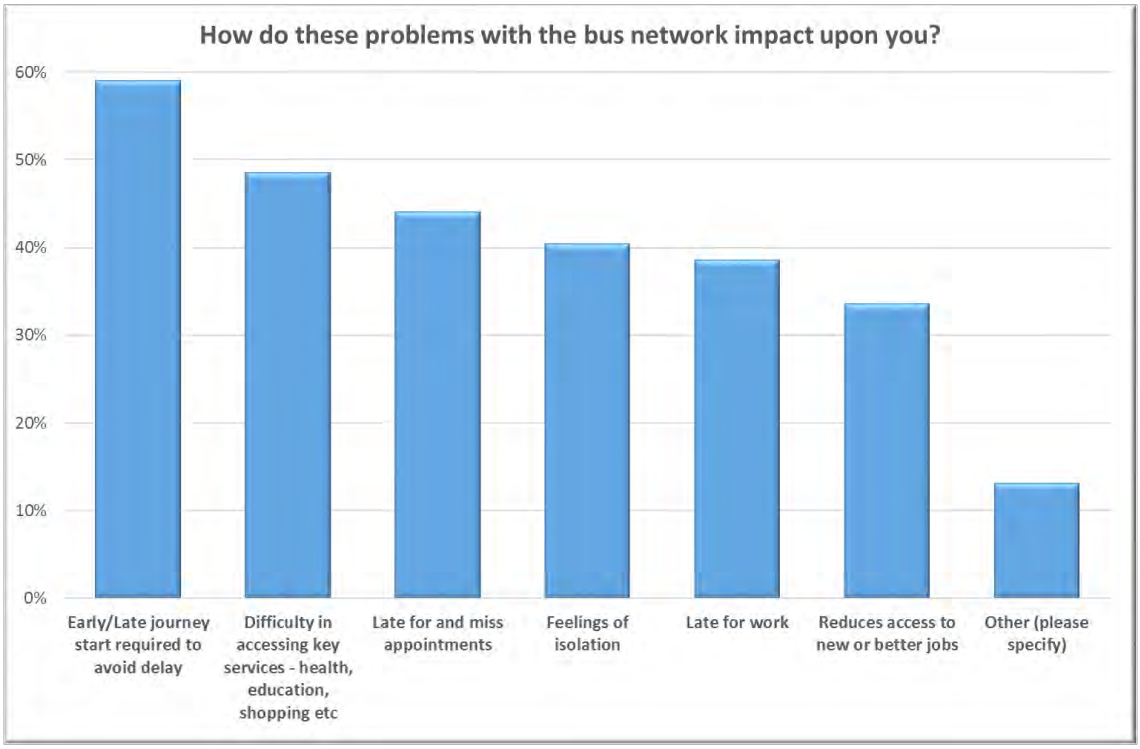

Figure E.8: Impacts of Problems with the bus network

E.1.14 All respondents were asked which improvements to the bus network would have a positive effect on them. Note that this question was not limited to bus users only. 'Increased bus direct bus services' (71%, n=399) and 'increased bus frequencies' (62%, n=348) were judged to be the most popular improvements. 'Services which run earlier in the morning and later in the evening' (57%) and 'Increased express bus services to major cities' (54%) were also judged to be important. Results are shown in Figure E.9.

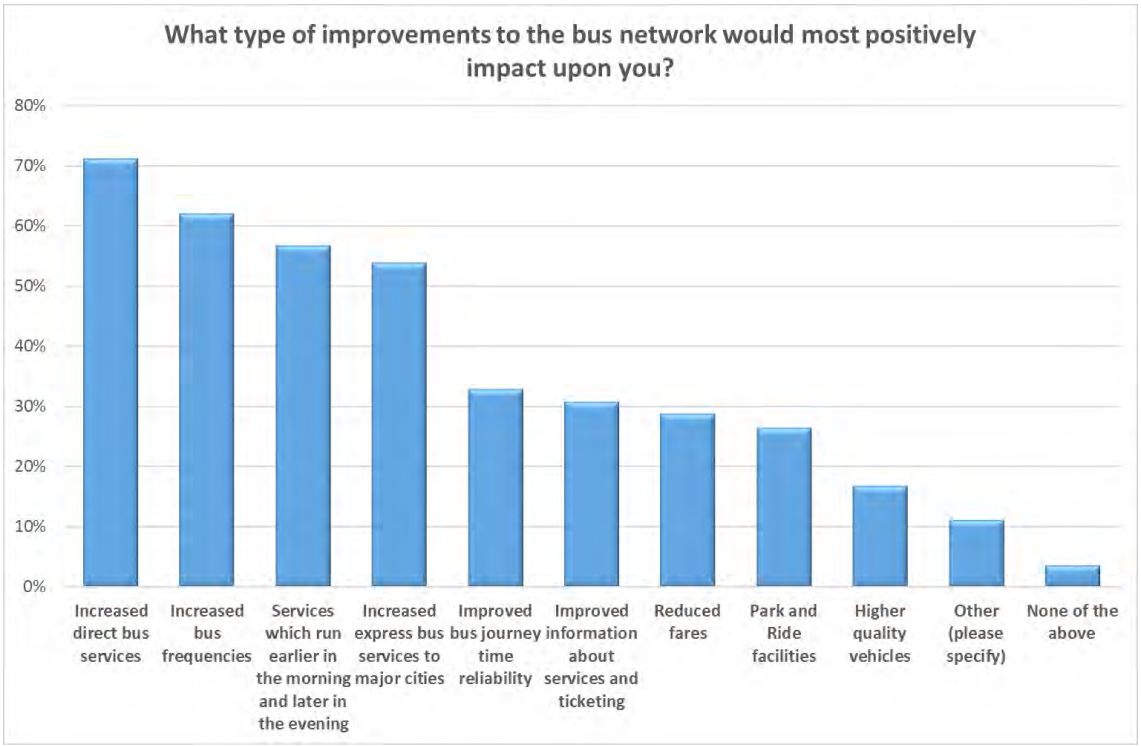

Figure E.9: Appetite for improvements to bus services

Rail Travel

E.1.15 In total, 300 respondents identified themselves as regular rail users. The remaining 266 respondents were asked why they do not currently travel by rail in the study area. Unsurprisingly, 'Nearest station is located too far away' was the biggest reasons to not travel by rail as noted by 58% of these respondents (n=151). Other common reasons given were, 'Faster options than to travel to a rail station and then get rail to my destination' (31%) and the cost of rail travel (25%).

E.1.16 Rail users were asked to note the key issues they faced on a regular basis when travelling. The cost of rail travel was the most common answer, as noted by 48% of respondents (n=141). Other commonly cited reasons were a lack of direct routes (40%), and that no rail station is close enough for effective use (36%). Figure E.10 shows the key problems faced when travelling by rail.

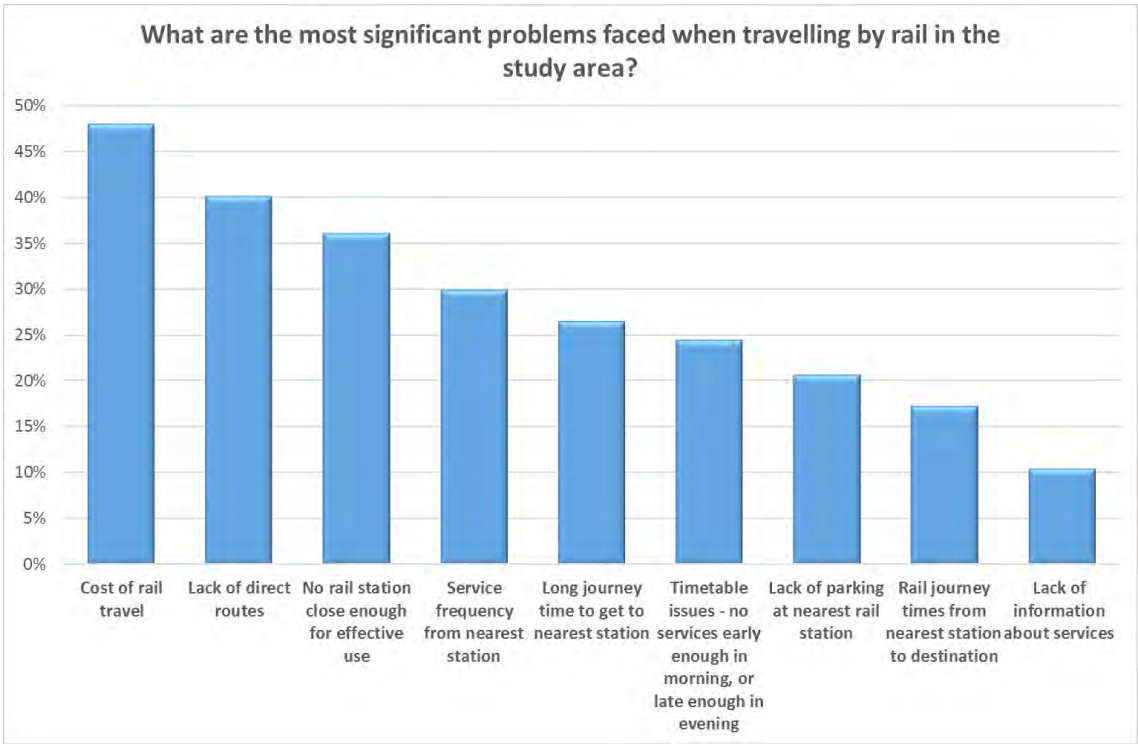

Figure E.10: Impacts of Problems faced when travelling by rail

E.1.17 Respondents were asked to consider if the introduction of a rail station within the study area would have any effect upon them. In total 61% of respondents (n=346) stated that there would be an impact or effect upon them should a station be opened. Interestingly, of the 266 respondents who do not currently travel by train, 65% noted that the opening of a new station would have an effect upon them.

E.1.18 Participants were asked if there were to be a rail station located within Clydesdale, where should it be situated in order to benefit them. Law was the most popular location choice which generated 58% or response (n=192), followed by Symington (19%). It should be remembered that respondents from Law accounted for 33% of all responses to the survey.

E.1.19 A further question asked how the presence of a new station would impact upon the respondent. The most common answers provided included 'Increased access to retail and leisure opportunities further afield' 80% (n=271), 'Reduce the feeling of distance from towns and cities', 76%, and 'Increased potential employment opportunities' 64%. Full details are provided within Figure E.11. Interestingly, the results correlate well with earlier questions on where people

would like to travel to for trip purposes, suggesting travel for leisure and entertainment opportunities are important in the study area.

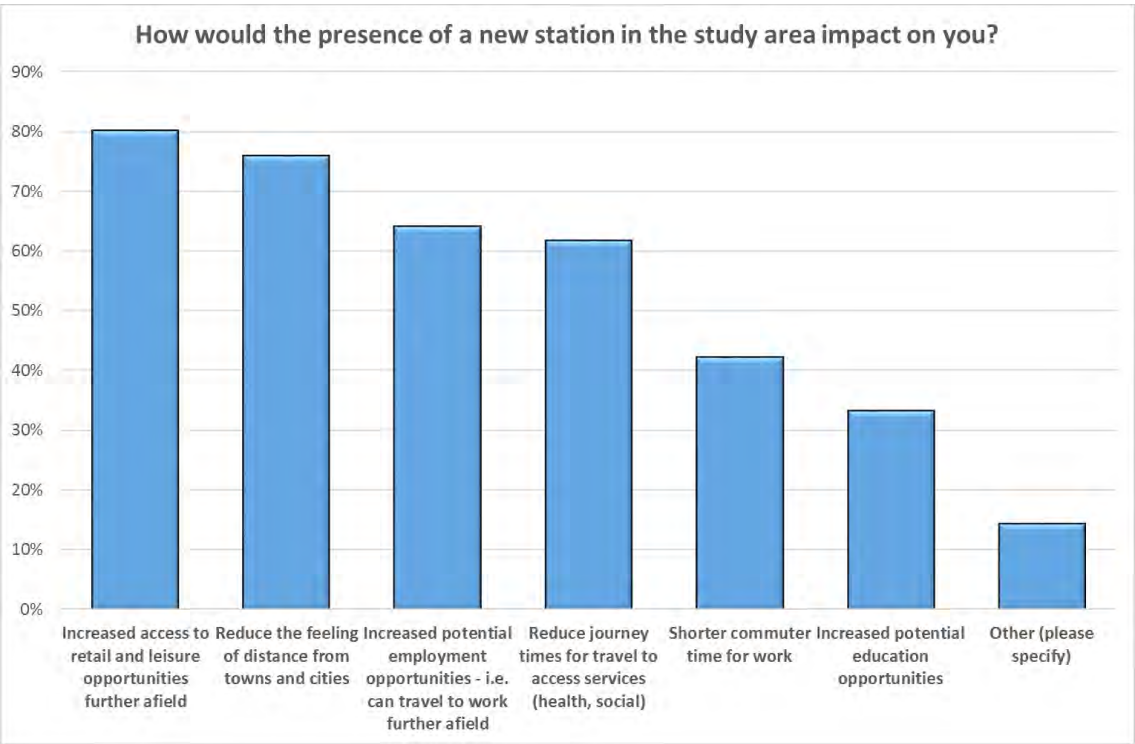

Figure E.11: Impacts of a new rail station in the study area

Active Travel

E.1.20 In total, 188 respondents identified themselves as people who regularly make journeys by active travel (walking and cycling).

E.1.21 All respondents were asked what the main barriers to using active modes of travel were. The most common response was that distances were too far to use active modes (60%, n=329). This type of answer is typical within a rural location. Concerns over safety was noted at 39%, followed by 'lack of available walking and cycling routes' (36%) and 'weather' (31%). Barriers to walking and cycling can be seen in Figure E.12.

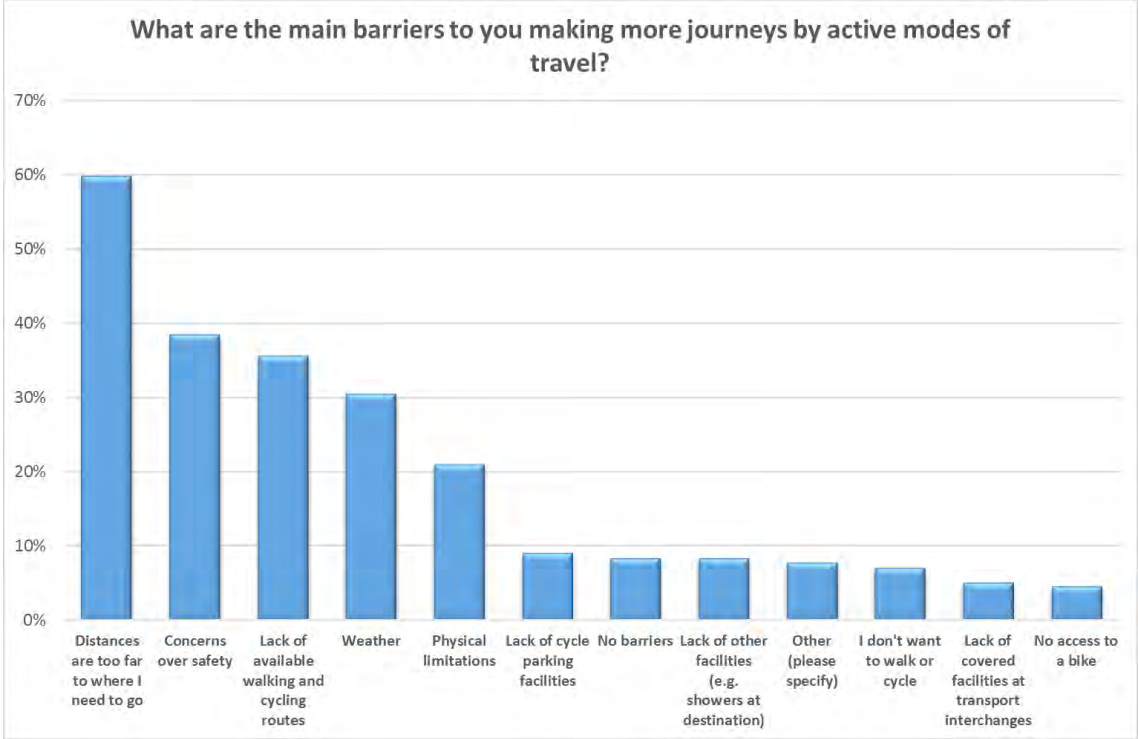

Figure E.12: Barriers to active travel

Suggested Interventions

E.1.22 Respondents were provided a list of mode specific interventions and asked to convey what sort of benefits each would have on them personally, should they be delivered. Interventions included the following:

- Road based improvements;
- Additional/enhanced bus services;
- Additional/enhanced rail services to existing stations
- New rail station local to you with appropriate rail services; and
- Improved walking and cycling facilities.

E.1.23 Figure E.13 shows that the public believe road, bus and rail services will all provide major benefits, with these modes all been given a similar weighting. 63% of respondents judged *'a new rail station local to you with appropriate rail services'* to provide major benefits (n=527). 66% saw major benefits resulting from additional/enhanced bus services, 64% additional/enhanced rail services to existing stations, and 63% judged this for road based improvements. 41% of respondents (n=213) believed improved walking and cycling facilities would bring minor benefits.

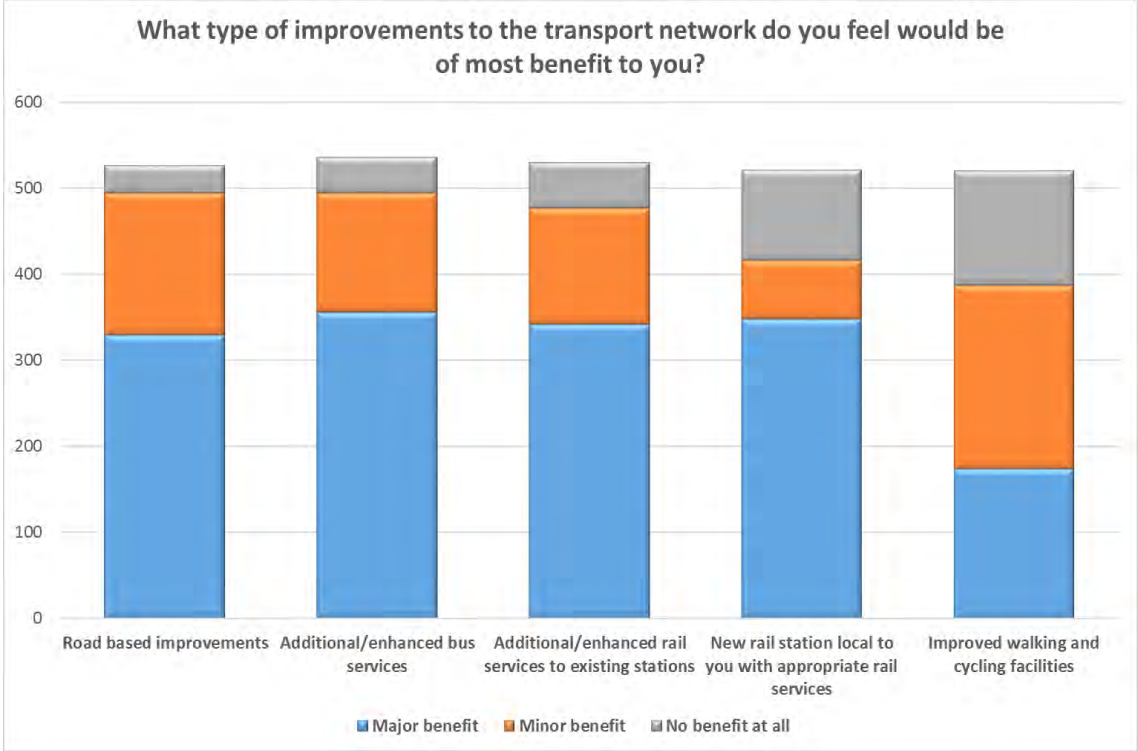

Figure E.13: Opinions on scale of benefits from mode based improvements

Open Responses

E.1.24 The survey also provided the opportunity for people to provide open comments. Many respondents used this section to call for improved rail services in the area, particularly for a new rail halt at Law. Several respondents also called for improved services to Edinburgh from Clydesdale in general but also specific calls for connections from Lanark. The issue of lack of bus services calling at Law was also raised on numerous occasions.

"A station at Law would be a major benefit. Since Irvine's buses closed there is a very limited service and the village is isolated which is why I rely on my car. If traveling by rail I need to travel to Carluke to park and ride, but if I'm driving anyway I tend to just use my car. A local rail station I would absolutely use rail more frequently for work and social outings. In a few years I'm hoping my children could use rail to travel to further education. "

"Law is now a vast populated area and transport services are extremely limited, the opening of a rail station would be beneficial & extremely well used for people of all ages for easier access to other towns/cities. I find it extremely poor that law doesn't even have an unmanned platform (like Shieldmuir) it would encourage all to use it as it is desperately needed, i know people in Law who have moved on due to bad travel links and I myself will be doing this also as unacceptable nowadays that cannot get near access to trains or more regular bus services.

"Re-opening trans stations would have a major economic boost, as in the Borders."

"More direct trains to Edinburgh and back at a reasonable price. More cycle friendly routes are needed in the area."

"No proper waiting room at Lanark station. Poor park and ride facilities. Need a train service from Lanark to Edinburgh."

Train services would benefit from more late night services, increased frequency to Edinburgh and better onward connections to Hamilton. More carriages/peak services would ease overcrowding.

"More frequent direct trains required to Edinburgh from Carluke. Starting earlier, finishing later (both for Edinburgh and later home from Glasgow) and more frequent all day to/from Edinburgh. Would improve our quality of life as partner works in the capital and he currently has to drive 20mins to another town to get a better rail service."

E.1.25 Timetabling and the integration of bus services was also a common theme, with many people commenting they cannot reach connecting rail services to or on the way home from their destinations.

"The bus doesn't wait for a train to come in when it is just a few minutes late, therefore the many customers that would have got on the off the train and onto the bus have to wait an hour in the cold."

"The basic infrastructure of paths, cycle routes and train service is virtually non-existent in my area. Bus stop is a mile away and has a limited and unreliable service. We live only 20mins from Glasgow by car but it takes at least 2 hours by public transport, this is impossible with young children. "

"The lack of bus services in rural areas is shocking. It severely limits any journeys other than by car. I would definitely use the bus if we had a service."

"From Braidwood there is no direct bus into the town. We only have a scheme bus which is only in the village 3x per day. Due to these times I need to walk to my work in dark. There is very limited lighting in the area"

"We were promised the bus from Biggar to Lanark would not leave Lanark until the train had arrived at the station and people had a chance to walk to the bus but this doesn't seem to be happening."

"Local bus service is rarely on time and I have been stranded in Lanark because bus left too early."

I work at Wishaw General Hospital. The lack of weekday buses is appalling. As a result, I have had to take out a taxi contract to ensure I get to/from work. This is an unnecessary, and MAJOR chunk of my wages. I should not be forking out this huge sum of money to get to my place of employment, which is only 4 miles away from my home. The bus services which are in place, are HUGELY unreliable. With certain drivers missing out stops if running late. They frequently run late, and get quite abusive if anyone tackles them about it. The bus service is shambolic."

E.1.26 Walking and cycling routes were mentioned, particularly with regards to reaching connecting bus or rail services.

"I wish that children had more safe walk and cycle routes to/from Biggar primary and high school and to local parks/surrounding villages"

"Living in Law I walk over a mile to get the bus to college then again at night when I return from college. The road is very isolated and in the winter quite dark."

"*Pedestrian walkways around the area are scare and prevent general outdoor leisure activities for me and my family i.e cycling from Law to Carluke is impossible with kids due to lack of pavement/cycle routes and speed of vehicles on one land only main route that does have a pavement. Old road which is 'safer' is unsuitable due to condition of ground all all times of year."*

"A safe cycle path to Biggar would encourage myself and my children to use bikes more regularly"

E.1.27 Finally, this question was repeatedly used to highlight the impact current transport provision is having on people's wellbeing, access to key services, and importantly perception of living and working in the Clydesdale area.

"We live 6 miles from the nearest shop, dentist, doctors etc we have no buses and for some in this area getting to these places is troublesome, children miss out on local activities, clubs as there is none in our area, a bus route would benefit, even if it was 2-3 times a day only"

"It costs me £12 for taxis to get me to Carluke Station and back for a train to Glasgow. Then the train passes through Law where I live I feel our community has expanded and we are disadvantaged in our employment and leisure options. I would move but I'm trapped by low house prices."

"I do not drive so have to depend on others or taxis to get me out of Law early in the morning to get to work. I work in Glasgow and Edinburgh and am considering selling my home to move to an area with better transportation. My immediate family all live within the village so this would be a major upheaval for me. I also know of other workers/commuters who are considering the same"

"I gave up a well-paid part-time job in city centre, Edinburgh due to travel issues and lack of choice."

"I am considering moving out of Law and one of the main reasons for this is due to the very poor public transport services available to the village. It feels like Law has been forgotten about and that in future it will become more and more cut off from other areas leading to it becoming a dead end town with limited opportunities for future generations. Better transport would make a huge impact on my thoughts about leaving the village where my family have lived for many generations."

Appendix F Policy Overview

Level	Policy, Plan or Strategy	Purpose	Objectives
National	National Transport Strategy (Transport Scotland, 2016)	To act as an enabler of economic growth – to support businesses in achieving their local, national and international objectives and to improve the lives of individuals and communities by connecting them with their economic future.	• Improved journey times and connections, to tackle congestion and lack of integration and connections in transport; • Reduced emissions, to tackle climate change, air quality, health improvement; • Improved quality, accessibility and affordability, to give choice of public transport, better quality services and value for money, or alternative to car; • Promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency; • Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network; • Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy; • Improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff; and • Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport.
	Scotland's Railways (Transport Scotland, 2006)	The document sets out Transport Scotland's plan over the next 20 years for potential intervention over	Objectives for the Glasgow suburban network • Continue to target capacity issues. Objectives for Rural Routes: •Revise train services in the light of changing travel patterns and markets including tourism developments. It is noted that promoting social inclusion is a driver in these areas as is economic growth through tourism.

Level	Policy, Plan or Strategy	Purpose	Objectives
		the short, medium and longer term to ensure that Scotland's railway network continues to improve.	
	National Planning Framework 3 (Scottish Government, 2014)	The NPF3 sets out the long-term vision for the spatial development of Scotland and is the spatial expression of the Government Economic Strategy.	South Lanarkshire forms part of the Glasgow and Clyde Valley region – Scotland's biggest economic region with particular strengths in energy, financial services, universities, life sciences and tourism. "*Regeneration is the central focus of planning across this city region. Partnership working is driving consolidation and renewal of the built environment, embedding future growth within a distinctive placemaking agenda."* *"The relationship between Glasgow and its surrounding communities is crucial. Considerable progress is being made in transforming many of the towns across the region. Whilst sharing the common driver of adapting to economic change, these towns are finding distinctive solutions which reflect each of their unique qualities, whilst working together to contribute to the wider cities agenda*."

Level	Policy, Plan or Strategy	Purpose	Objectives
Regional	Regional Transport Strategy: A Catalyst for Change Strathclyde Partnership for Transport (SPT)	The purpose of this Strategy is to set out SPT's vision for transport, the goals shared with partner organisations, transport objectives, strategic priorities and monitoring indicators.	The strategy vision is *"A world class sustainable system that acts as a catalyst for an improved quality of life for all."* Strategic Objectives: • Improved Connectivity: The West of Scotland has a transport system that underpins a strong, sustainable economy; • Access for All: The west of Scotland has a transport system that is safe, secure and accessible to all • Reduced Emissions: The west of Scotland has a transport system that promotes sustainable travel for a cleaner environment and healthier lives; and • Attractive, Seamless, Reliable Travel: the West of Scotland has a transport system that provides attractive, seamless, reliable travel
	Tourism Lanarkshire (2016-2020)	The Regional Tourism Strategy outlines the Lanarkshire area tourism partnership's strategy for developing tourism in region.	The shared vision for Tourism Lanarkshire is "by 2020 Lanarkshire will be a destination offering distinct authentic experiences, excellent quality, value for money and accessible for all". The document sets out their mission of growing tourism expenditure in Lanarkshire by 2.5% per year from 2016 to 2020.

Level	Policy, Plan or Strategy	Purpose	Objectives
Local	Local Transport Strategy (South Lanarkshire Council, 2013-2023)	South Lanarkshire Council's Local Transport Strategy sets out the Council's policies and actions in relation to roads and transportation in the area for the next 10 years.	The LTS vision statement is "Our transportation network and assets will be high quality, safe and well maintained. It will be accessible and integrated with well served internal and external links to essential services, employment and education opportunities. It will support economic recovery and regeneration whilst protecting and preserving the environment and will be safe and attractive for users. It will be sustainable and offer genuine travel choice." Six strategic objectives are identified, as follows: • Ensure that transport supports and facilitates economic recovery, regeneration and sustainable development; • Improve quality and safety for all by improving the condition of road and footway infrastructure; • Alleviate the impacts of traffic congestion and traffic growth throughout south Lanarkshire, which adversely affect the economy and environment; • Improve health and wellbeing by facilitating and encouraging active travel, through the development of attractive, safe and convenient walking and cycling networks; • Promote accessibility, to key services, job opportunities and community facilities through the development and influencing of public transport improvements; and • Mitigate, adapt and manage the effects of climate change, including flooding, on transport infrastructure and communities.
	Local Development Plan (South Lanarkshire, 2015-2020)	The LDP sets out the strategy to guide future land use and development within South	The plan's strategic vision is "*to promote the continued growth and regeneration of South Lanakrshire by seeking sustainable economic and social development within a low carbon economy whilst protecting and enhancing the environment*". Four distinctive themes were identified including Economy & Regeneration, People & Place, Environment and Infrastructure, which provided the basis for identifying four broad objectives; • Encourage sustainable economic growth;

Level	Policy, Plan or Strategy	Purpose	Objectives
		Lanarkshire Council until 2020	• Meet the community's needs; • Enhance and safeguard the environment; and • Maximise the use of existing infrastructure.
	Single Outcome Agreement (South Lanarkshire Council, 2013 - 2023)	The Single Outcome Agreement sets out South Lanarkshire Partnership's vision for South Lanarkshire and is the main partnership planning document for the region.	The vision underpinning the South Lanarkshire Single Outcome Agreement is that of the community plan, namely; *"To improve the quality of life for all in South Lanarkshire by ensuring equal access to opportunities and to services that meet people's needs".* The relevant national priorities and community plan objectives include; • Economic Recovery & Growth: Supporting the development of a sustainable transport infrastructure In encouraging economic growth and regeneration it is imperative that South Lanarkshire Council has a high quality transport network. Transport systems that are reliable, fast, convenient, easily accessed and safe will provide local businesses with access to markets and encourage new developments.
	Promoting Growth and Prosperity – An Economic Strategy for South Lanarkshire (2013-2023)	The strategy provides a framework for collective action to generate improvements in South Lanarkshire's economy	The vision for the document is *"over the next ten years our vision is for South Lanarkshire to have one of the strongest and most dynamic economies in Scotland, where businesses, communities and residents achieve their full potential and prosper".* Under the heading of physical infrastructure and place, a number of relevant key priorities are identified; • Completing key strategic roads and transport infrastructure projects; • Supporting and participating in the development of plans to develop local infrastructure systems and networks; and

Level	Policy, Plan or Strategy	Purpose	Objectives
			• Protecting, developing and promoting South Lanarkshire's environment, unique landscape, cultural and built heritage and green network.
	Air Quality Strategy [Consultative Draft] South Lanarkshire Council 2014 - 2019.	The strategy outlines South Lanarkshire Council's commitment to air quality management and improvement. It is intended as high level guidance to help inform other strategies and policies across the wide range of services that the Council provide.	The strategy is intended as guidance to inform other strategies and policies across SLC, and as such demonstrates the connections of Air Quality with a number of other policies including the Local Development Plan and the Local Transport Plan. Under the theme of people and communities, *"it is widely acknowledged that road traffic is a major source of air pollution, particularly in urban areas where there is a high incidence of congestion but also in rural settlements where high volumes of traffic require to pass along narrowed streets. Consequently, there are a number of positive connections between this strategy and the South Lanarkshire Local Transport Strategy which was adopted by the Council in 2013."* In relation to this study, the strategy proposes to: • Create close links and synergy between this strategy and other Council led strategies including the Local Transport Strategy, the Local Development Plan and the South Lanarkshire Core Paths Plan to help reduce the need to travel and reliance on private vehicles; • Work with Transport Scotland to improve air quality in the AQMAs attributed to the trunk road network and ensure air quality does not deteriorate in South Lanarkshire due to changes in emissions from the trunk road network; • Ensure the regular exchange of information between transport planners and air quality professionals relating to both air quality information and traffic information; and • Promote active travel schemes in tandem with other Council and partnership strategies, including the LTS and the LDP

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