

Strategic Transport Projects Review (STPR2)

Consultancy Support Services Contract



Initial Appraisal: Case for Change

Forth Valley Region

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ABBREVIATION	
AADF	Annual Average Daily Flow
AQMA	Air Quality Management Area
BRES	Business Register and Employment Survey
CRWIA	Children's Rights and Wellbeing Impact Assessment
EqIA	Equality Impact Assessment
FSDA	Fairer Scotland Duty Assessment
GDP	Gross Domestic Product
GVA	Gross Value Added
ICIA	Island Communities Impact Assessment
NCN	National Cycle Network
NPF	National Planning Framework
NSA	National Scenic Area
NTS	National Transport Strategy
ORR	Office of Road and Rail
RTP	Regional Transport Partnership
RTS	Regional Transport Strategy
SABI	Scottish Access to Bus Indicator
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environmental Protection Agency
SEStran	South East of Scotland Transport Partnership
SIMD	Scottish Index of Multiple Deprivation
SPA	Special Protection Area
SRMCS	Scottish Road Maintenance Condition Survey
SSSI	Site of Special Scientific Interest
STAG	Scottish Transport Appraisal Guidance
STPR	Strategic Transport Projects Review
Tactran	Tayside and Central Scotland Transport Partnership
TMfS	Transport Model for Scotland
TPO	Transport Planning Objective

1. Introduction

1.1. Background and Report Purpose

Transport Scotland is currently undertaking the second Strategic Transport Projects Review (STPR2) to inform the Scottish Government's transport investment programme in Scotland over the next 20 years (2022 – 2042). STPR2 takes a national overview of the transport network with a focus on regions and will help deliver the vision, priorities and outcomes that are set out in the new National Transport Strategy (NTS2)¹.

STPR2 is being carried out in accordance with the Scottish Transport Appraisal Guidance (STAG)² which is an objective-led, evidence-based transport appraisal process. The four key phases of STAG are illustrated in Figure 1.

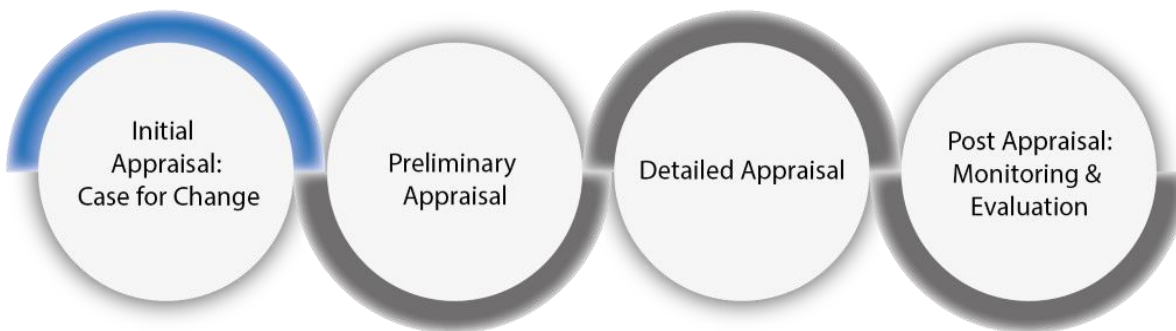


Figure 1: The Four Key Phases to the Scottish Transport Appraisal Guidance

This report sets out the *Initial Appraisal: Case for Change* for the Forth Valley region as shown in Figure 2 and forms one of eleven STPR2 regions. The Case for Change constitutes the first phase of STAG and sets out the evidence base for problems and opportunities linked to the strategic transport network across the Forth Valley region drawing on relevant data analysis, policy review and stakeholder engagement. This report is supported by a national level Case for Change report which sets out the overarching vision for transport investment in Scotland and the challenges that must be addressed to support delivery of the priorities set out in NTS2.

STPR2 specifically focusses on Scotland's key strategic transport assets, which are wide ranging and varied. In the context of STPR2, the strategic transport network is defined as being:

- All transport networks and services owned, operated and funded directly by Transport Scotland;
- Transport Access to Major Ports and Airports; and
- The inter-urban bus and active travel network and principal routes within the City Region areas.

¹ New National Transport Strategy (NTS2) (Transport Scotland, Feb 2020)

www.transport.gov.scot/media/47052/national-transport-strategy.pdf

² Scottish Transport Appraisal Guidance (STAG) (Transport Scotland)

www.transport.gov.scot/media/41507/j9760.pdf

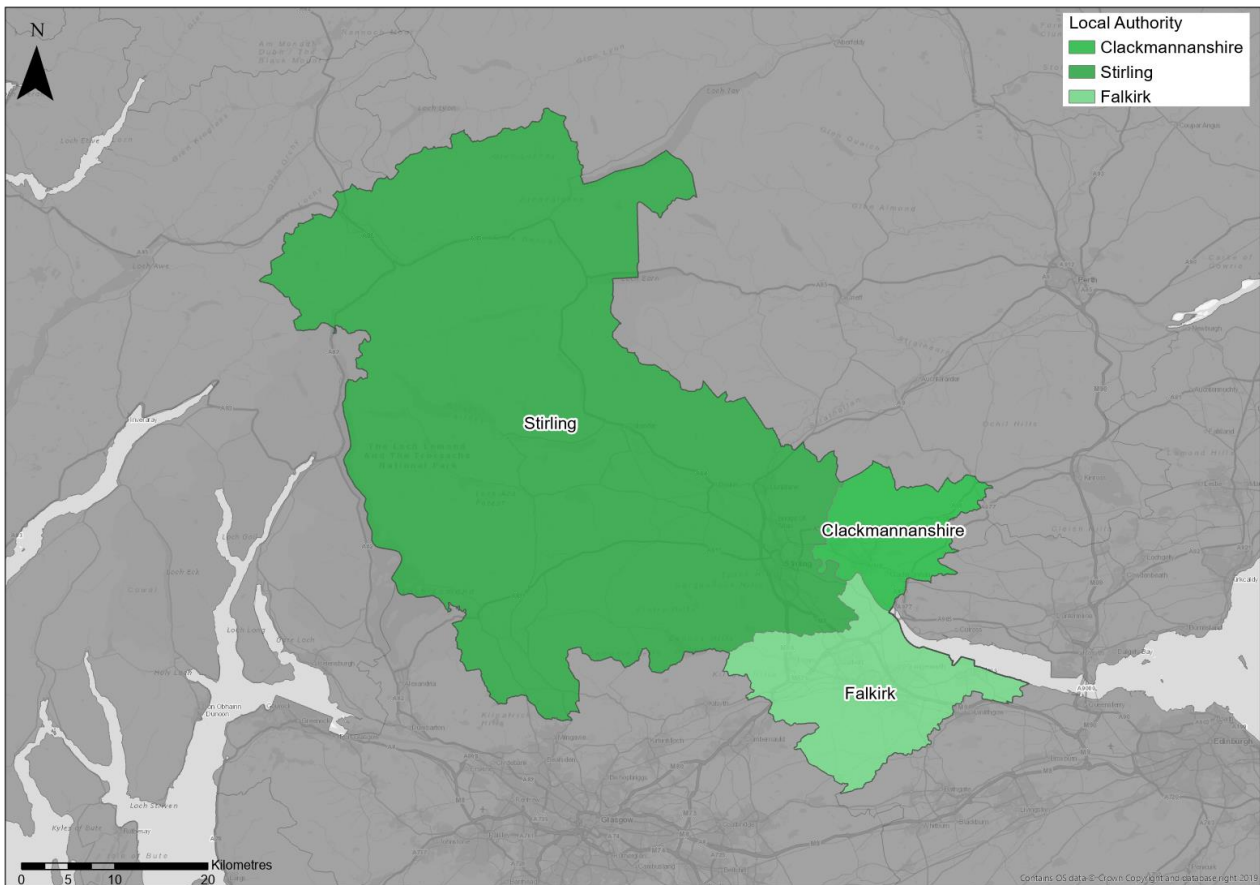


Figure 2: Forth Valley Study Area (click image to enlarge figure)

The Forth Valley region comprises the three local authorities of Clackmannanshire, Falkirk and Stirling. It has an extensive transport network, including active travel, rail and road.

To reflect the regional approach of STPR2, a Regional Transport Working Group (RTWG) has been established with representatives from the three local authorities (Clackmannanshire, Falkirk and Stirling), the two Regional Transport Partnerships (RTPs); SEStran and Tactran, Transport Scotland and the STPR2 consultant team.

This Case for Change report also presents a draft set of Transport Planning Objectives, aligned with the national STPR2 objectives. The Transport Planning Objectives express the outcomes sought for the region and describe how problems may be alleviated. Additionally, the Transport Planning Objectives provide the basis for the appraisal of alternative options and, during Post Appraisal, will be central to Monitoring and Evaluation.

A long list of multi-modal options to address the identified problems and opportunities in the study area is currently being developed and will be sifted in line with the proposed approach presented in this report.

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

The following Chapter sets out the Socio-Economic, Environmental and Transport Context for the Forth Valley region.



2. Context

2.1. Policy Context

At the national, regional and local levels, relevant transport, planning and economic strategies and policies have been reviewed to provide background context against which this Case for Change has been developed. A comprehensive list of policy documents reviewed is included in Appendix B. Figure 3 provides an overview of the strategies and policies reviewed, with a summary of key documents presented below.

- Programme for Government; sets out the Scottish Government's ambitions and aims to make Scotland a more successful country with opportunities and increased wellbeing for all.
- The National Transport Strategy (NTS2); the NTS2 provides the emerging national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system which helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out key priorities to support that vision: reduces inequalities; takes climate action; helps deliver inclusive economic growth; and improves our health and wellbeing.
- Climate Emergency; declared by the Scottish and UK Governments and multiple local authorities, including Falkirk Council and Stirling Council, in 2019. As part of this, the Climate Change Bill commits the Scottish Government to a target of net zero emissions of all greenhouse gases by 2045.

At the regional and local levels, transport objectives are set out in the relevant RTPs' Regional Transport Strategies for SEStran and Tactran, and the three authorities' Local Transport Strategies. As part of the £214 million Stirling and Clackmannanshire City Region Deal, the Heads of Terms Agreement published in May 2018 includes a commitment to invest in new and improved Active Travel routes.

In addition to the four key priorities presented above, the NTS2 supports the adoption of a Sustainable Travel Hierarchy, which promotes walking, wheeling, cycling, public transport and shared transport options in preference to single occupancy private car use, as well as a Sustainable Investment Hierarchy, which prioritises investment aimed at reducing the need to travel unsustainably and maintaining and safely operating existing assets ahead of new infrastructure investment.

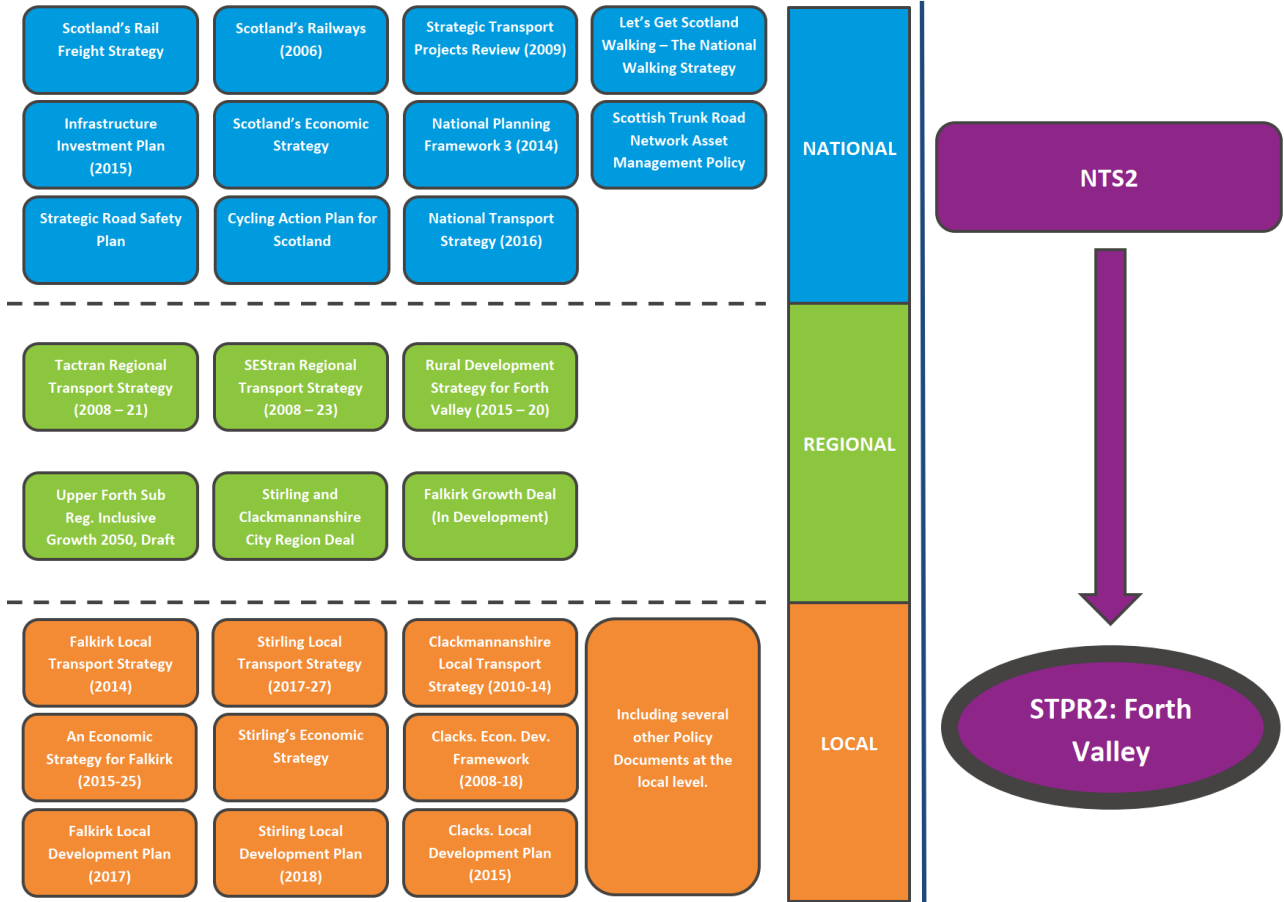


Figure 3: Policy Review (click image to enlarge figure)

In addition, supporting the development of STPR2, a Strategic Environmental Assessment (SEA) an Equality Impact Assessment (EqIA), a Children’s Rights and Wellbeing Impact Assessment (CRWIA), a Fairer Scotland Duty Assessment (FSDA) and an Island Communities Impact Assessment (ICIA) are being undertaken. Early work on these assessments has informed this Case for Change.



2.2. Geographical Context

The Forth Valley region is a mix of urban and rural settlements and areas, comprising three local authorities; Clackmannanshire, Falkirk and Stirling. The analysis below is based on the Urban Rural 2016 six-fold Classification:³

- Large Urban Areas
- Other Urban Areas
- Accessible Small Towns
- Remote Small Towns
- Accessible Rural
- Remote Rural

Of the above, four classifications are represented within the Forth Valley region. 70% of the region's population is located in Other Urban Areas (e.g. Stirling, Falkirk, Alloa and Denny), 13% in Accessible Small Towns (e.g. Clackmannan, Dunblane and Callander) and the remaining areas classed as either Accessible Rural (15% of the population) or Remote Rural (2% of the population) (predominantly located to the north west of the region).

Figure 4 shows the urban/rural makeup of the region.

³ Scottish Government Urban Rural Classification 2016 (Scottish Government, March 2018) <https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/>

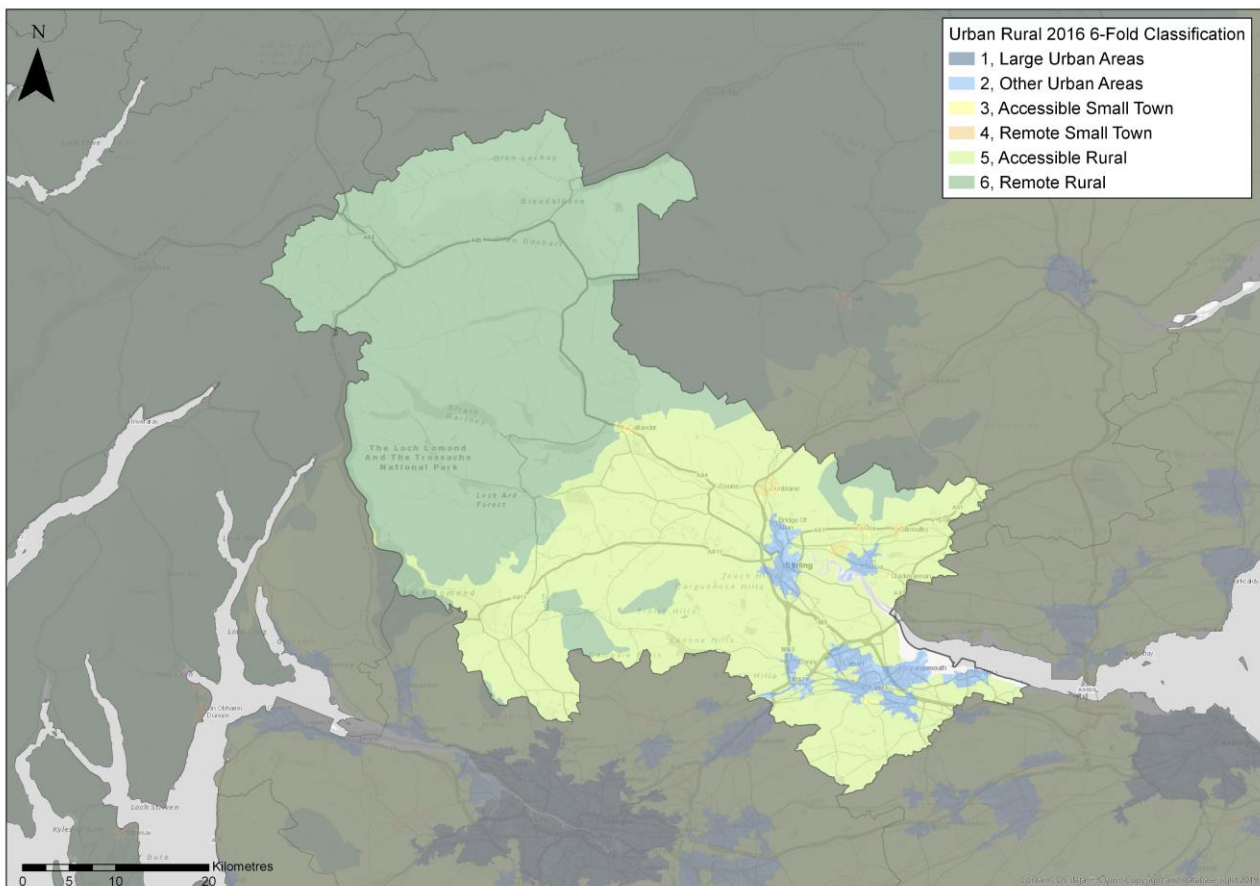


Figure 4: Urban Rural 2016 six-fold Classification (click image to enlarge figure)

2.3. Socio-Economic Context

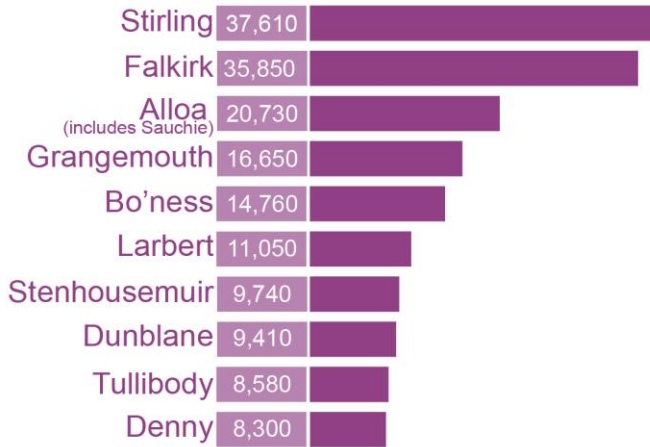
2.3.1. Population

In 2018, the Forth Valley region had a population of 306,070, which was an increase of 5,670 (1.9%) from 2014⁴. This represented 5.6% of Scotland’s total population. In 2018, approximately 64% of people were of working age, 17% are aged 15 and under and 19% were aged over 65 (a similar profile as Scotland). Figure 5 shows the population in 2016 of the ten largest Forth Valley settlements.

⁴ Mid-Year Population Estimates (National Records of Scotland, 2018)
<https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates>



Top 10 Mid-2016 Population Localities



2018 Population
306,070

POP Density
116 pers/sq. km
70 pers/sq. km

■ Forth Valley Region
■ Scotland

Figure 5: Forth Valley Population Statistics (2016, 2018)

The net migration figures show that between 2011 and 2016 11,919 people moved into Forth Valley, with 8,670 moving out - a total net increase of 3,249. All three council areas recorded an increase in population due to net migration.

The 2018 population age structure is shown in Figure 6 with the change in population age structure between 2011 – 2018 illustrated in Figure 7.

Figure 7 indicates an increase in the 65+ population and a decrease in the 15 and under population from 2011 – 2018, with the 2018 population age structure for the Forth Valley region identical to the Scottish structure (Figure 6).

Population Age 2018

■ Forth Valley Region ■ Scotland

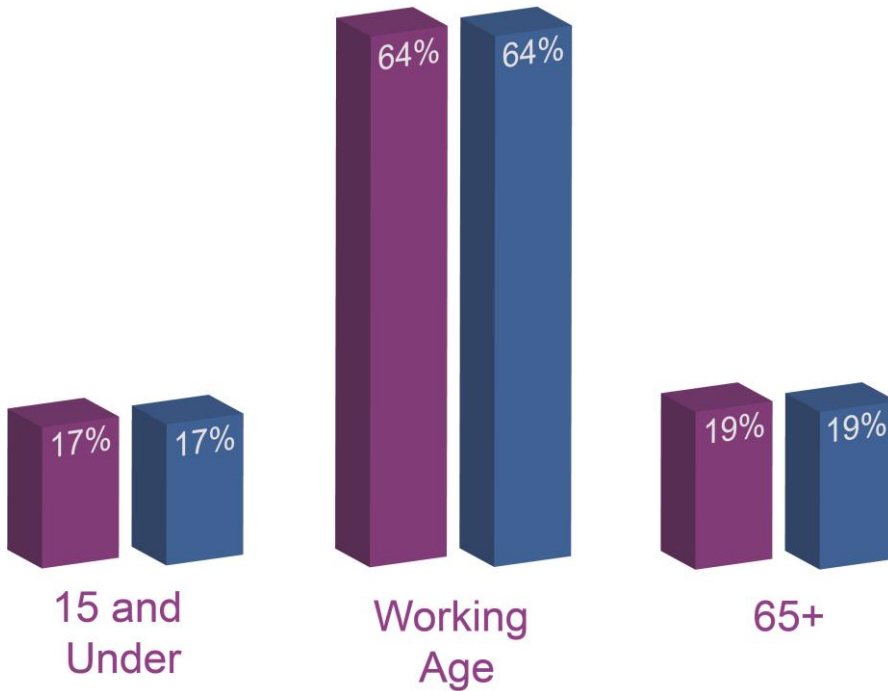


Figure 6: Forth Valley Population Age Structure 2018

Population Age Change from 2011 to 2018

Census Mid-Year NRS

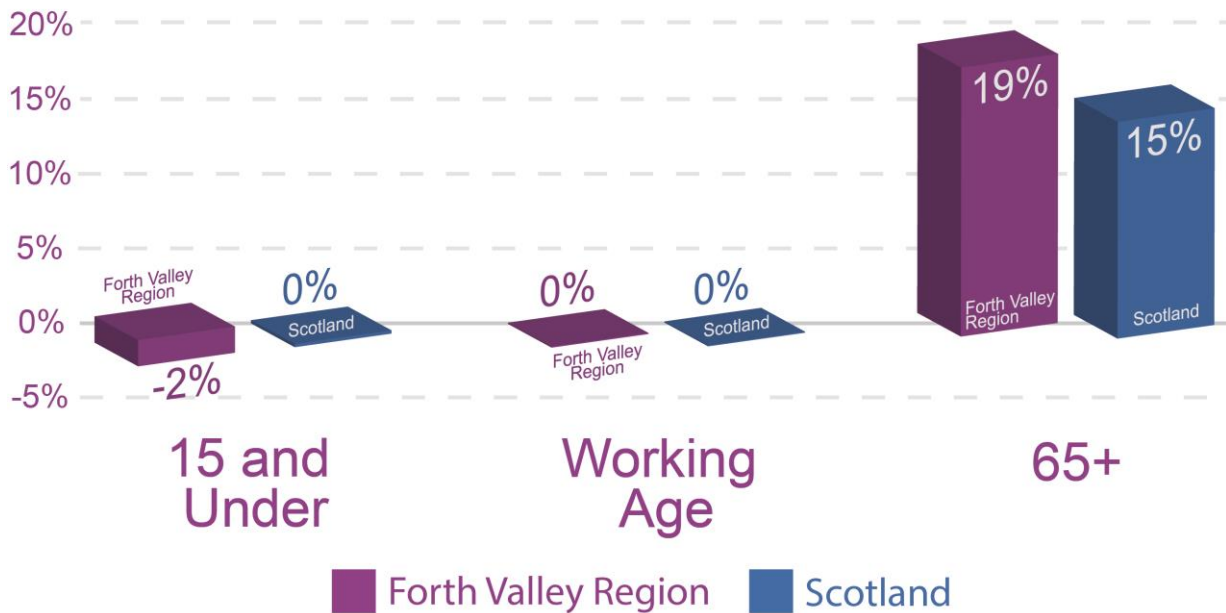


Figure 7: Forth Valley Population Age Change 2011 to 2018

Figure 8⁵ shows that four of the ten largest localities within the region recorded a decline in population between 2012 and 2016 and six localities recorded increases.

Top 10 Mid-2016 Population Localities – Change from 2012

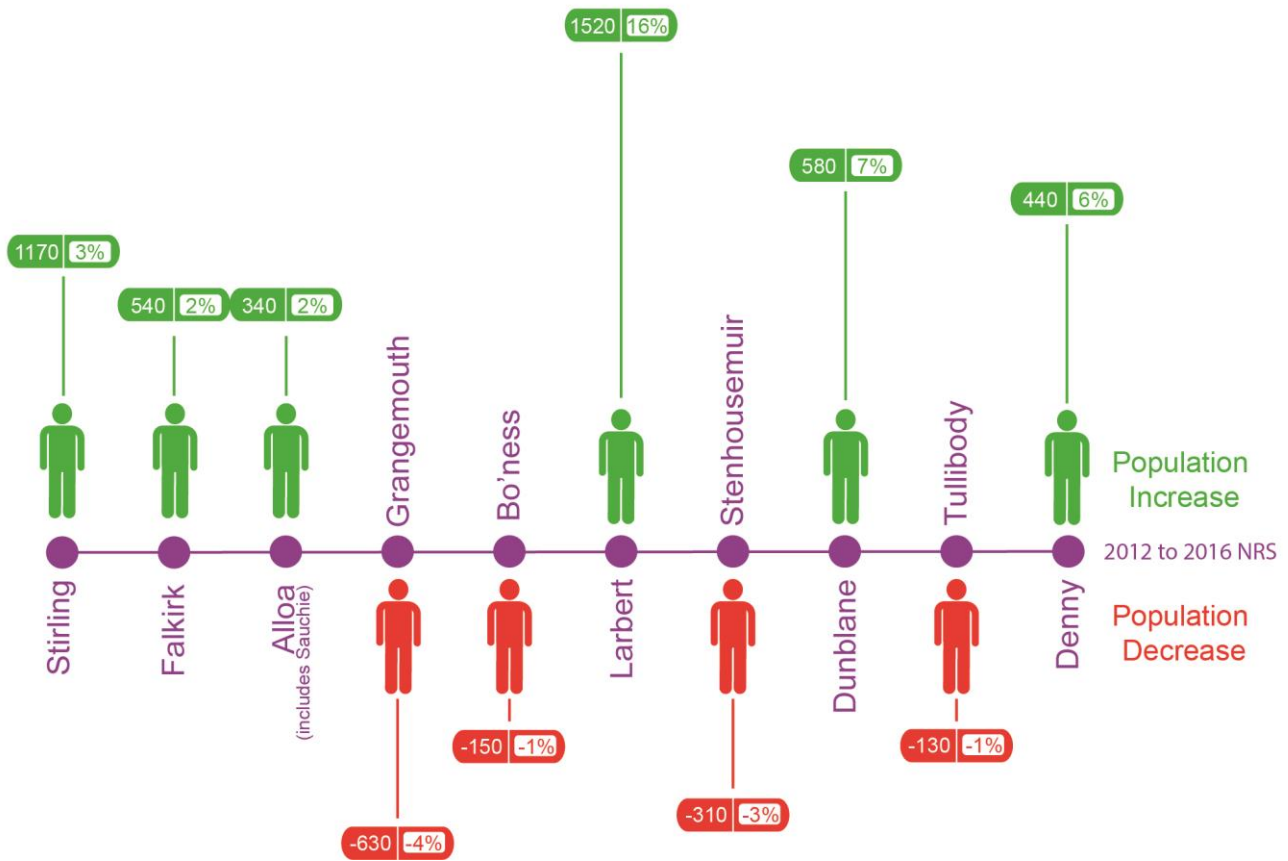


Figure 8: Top Ten Mid-2016 Forth Valley Localities, change from 2012

⁵ Population Estimates for Settlements and Localities in Scotland (National Records of Scotland, July 2014, March 2018) <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/special-area-population-estimates/settlements-and-localities/background-information>

2.3.2. Travel to Work - Mode Share

Travel to work mode share (Figure 9) is also largely consistent with the national average with 70% of residents using car or van as their main mode of commuting (62% for Scotland), 5% using bus (10% for Scotland), 4% using rail (same as Scotland), 10% working from home (11% for Scotland), 7% walking (10% for Scotland) and 1% cycling (same as Scotland)⁶.

Travel to Work Mode Share 2011

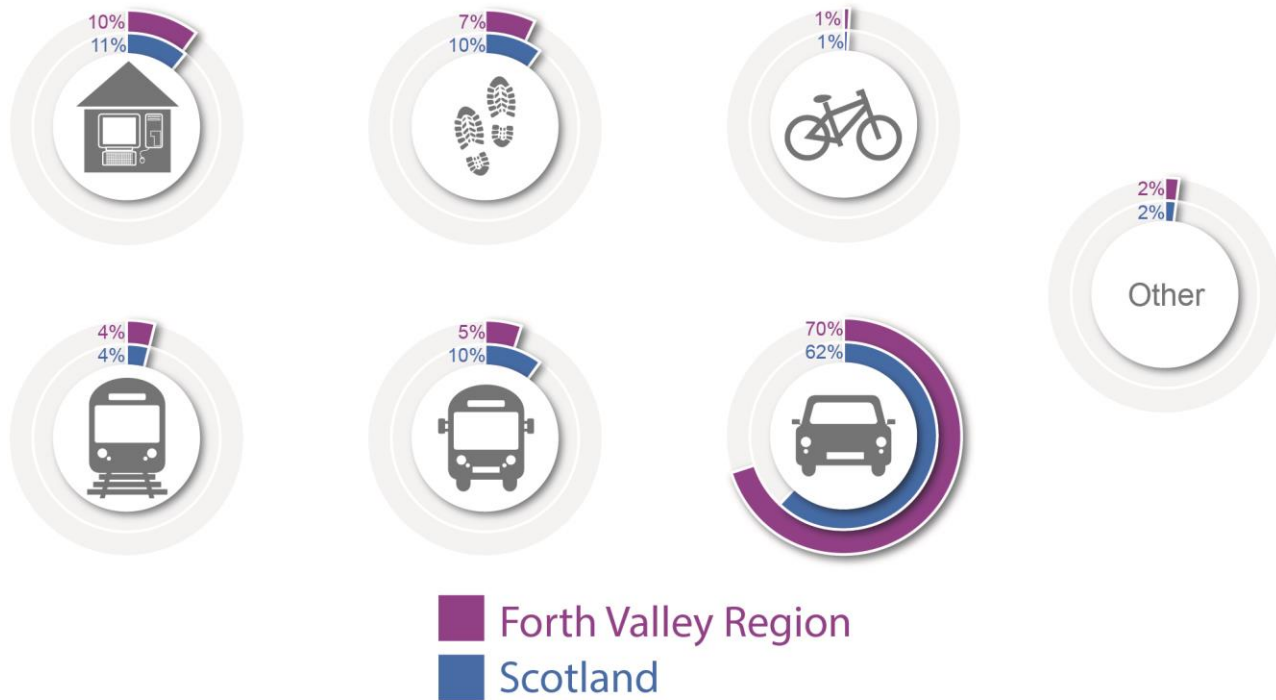


Figure 9: Travel to Work Mode Share 2011

Access to one car or van in Forth Valley (Figure 10)⁷ is similar to the national average, although the percentage of households without access to a car or van is 6 percentage points lower than the national average (24% vs 31%), and the percentage of those with two cars is 4 percentage points higher than the national average (26% vs 22%).

Households with access to one or more car or van varies across the local authorities (75.1% in Clackmannanshire, 74.8% in Falkirk, 77.7% in Stirling) but is higher in all three areas than the Scotland average of 69.5%.

As a component of Transport Poverty (explained further in Section 3.2.1), the levels of car availability in the Forth Valley region indicate that 55% of datazones are classed as 'high risk' for this measure. This compares to 44% of datazones nationally which are classed as 'high risk'. Whilst the proportion of 'medium risk' datazones (39%) is comparable to the national proportion (40%), the proportion of 'low risk' datazones in the Forth Valley region (6%) is lower than the national proportion (16%).

⁶ Census 2011 Method of travel to work or study (ONS)

<https://www.scotlandscensus.gov.uk/variables-classification/transport-place-work-or-study>

⁷ Census 2011 Number of cars or vans owned or available for use by household (ONS)

<https://www.scotlandscensus.gov.uk/variables-classification/cars-or-vans-number>



Car or Van Availability per Household 2011

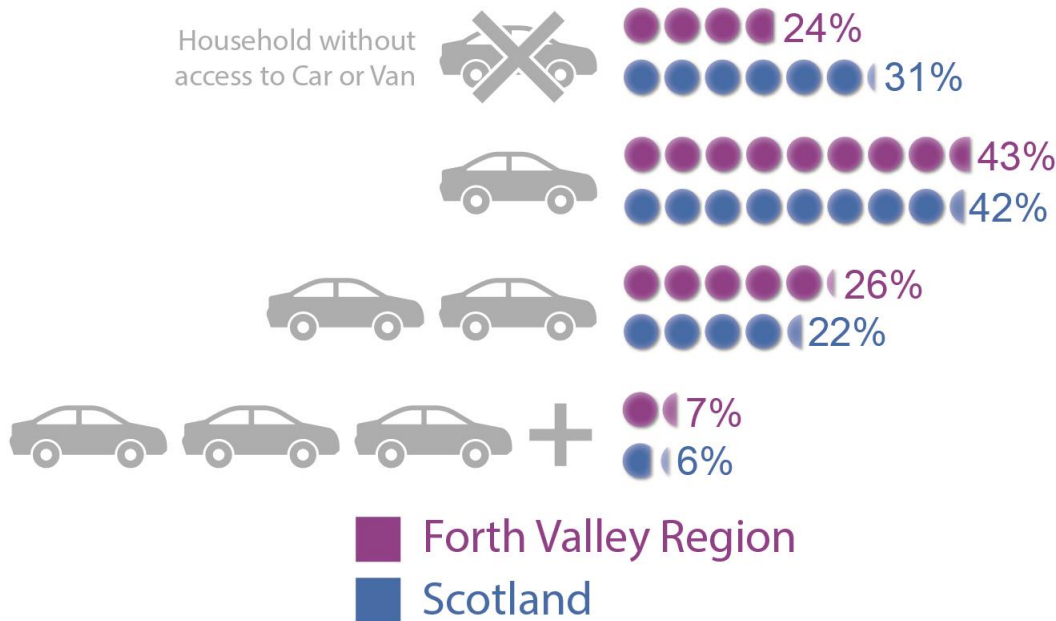


Figure 10: Access to Car or Van 2011

2.3.3. Travel to Work – Distance Travelled

Analysis of the travel to work data⁸ highlights that the majority of travel to work trips (70%) in Forth Valley are intra-regional. And within the Forth Valley region, the largest proportion of people worked within the same local authority in which they lived for all local authorities. This proportion was higher in Falkirk and Stirling (84% for both), than in Clackmannanshire (54%).

As shown in Figure 11⁹, a lower proportion of Forth Valley residents travel less than 10km to work compared to across Scotland (46% compared to 49%). Conversely, a higher proportion of Forth Valley residents travel between 10km and 60km compared to across Scotland (32% v 27%).

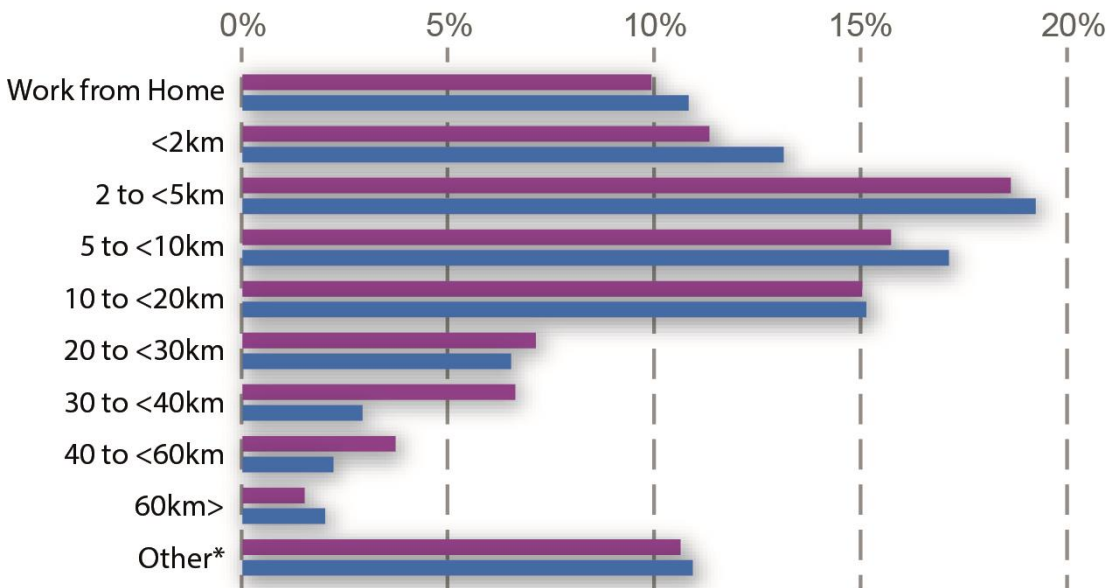
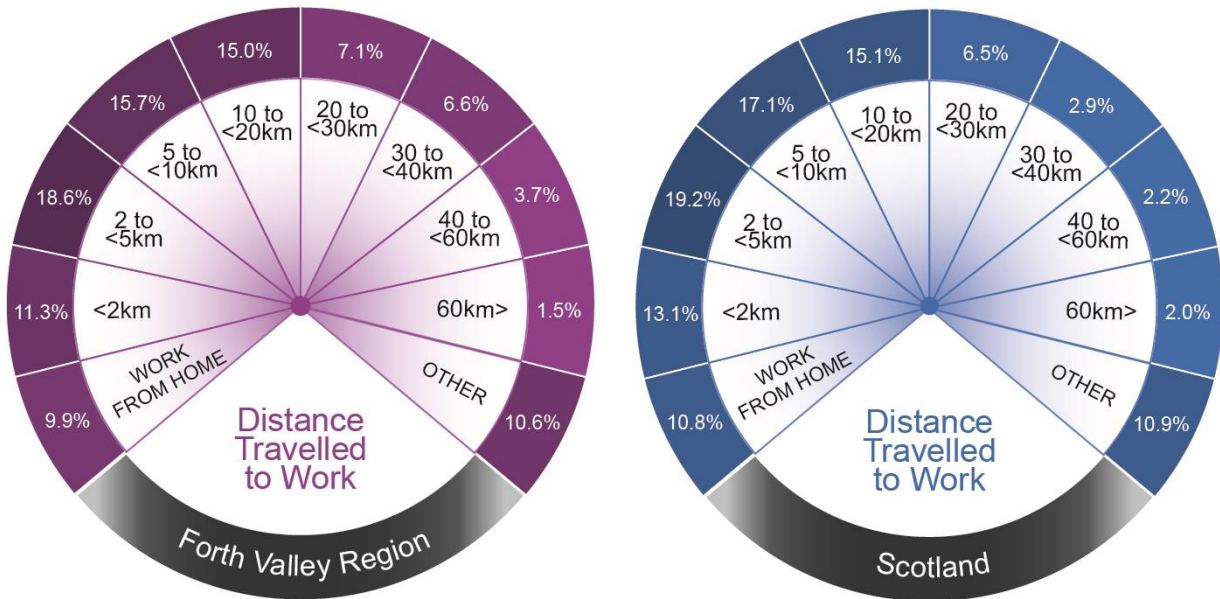
Notable cross-authority working patterns included 35% of people living in Clackmannanshire working in Stirling; 14% of people living in Falkirk working in Stirling; 11% of people living in Stirling working in Falkirk; and 11% of people living in Clackmannanshire and working in Falkirk. Only 5% of people living in Stirling and 2% of people living in Falkirk worked in Clackmannanshire.

⁸ Census 2011 WU03BSC_IZ2011_Scotland - Location of usual residence and place of work by method of transport <https://www.scotlandscensus.gov.uk/ods-web/data-warehouse.html#additionaltab>

⁹ Census 2011 Distance travelled to work or place of study (ONS) <https://www.scotlandscensus.gov.uk/variables-classification/distance-travelled-work-or-place-study>



Distance Travelled to Work 2011



*Other includes no fixed place of work, working on an offshore installation and working outside of the UK.

Figure 11: Distance Travelled to Work 2011 (All modes)



Looking at key travel to work destinations outwith the region, in Forth Valley, 7.3% of people worked in Edinburgh; 5.8% worked in Glasgow; 3.7% worked in West Lothian, 3.4% worked in North Lanarkshire; 2.1% worked in Fife, and 1.2% worked in Perth & Kinross. The proportions for each local authority varies as shown below:

- 4.8% of people in Clackmannanshire worked in Fife; 3.6% worked in Edinburgh; 2.8% worked in Glasgow; 1.9% worked in North Lanarkshire; 1.6% worked in Perth & Kinross; and 1.5% worked in West Lothian.
- 10.0% of people in Falkirk worked in Edinburgh; 5.7% worked in West Lothian; 5.1% worked in Glasgow; 4.4% worked in North Lanarkshire; and 1.8% worked in Fife.
- 8.9% of people in Stirling worked in Glasgow; 4.5% worked in Edinburgh; 2.4% worked in North Lanarkshire; 2.2% worked in Perth & Kinross; 1.2% worked in East Dunbartonshire; 1.1% worked in Fife; and 1.1% worked in West Lothian.

This highlights some of the outbound commuting trends and the importance of e.g. Glasgow, Edinburgh, Fife and West Lothian as commuter destinations. Car driving was the most common mode for travel to work within and outside the region. Driving was less prevalent for the shortest travel to work distances of 5km or less, ranging from 51% in Stirling to 61% in Clackmannanshire. Rates generally increased with distance, and this was the case for travel to work within local authorities, cross local authority travel to work within the region, and travel to work outside the region. The exception to this was for the longest trips of 20km or more outside the region, where travel to work by driving represented 71% of travel, compared to 91% for external travel between 10km and 20km.

Bus generally made up 5-12% of travel to work within local authorities. For travel to work between local authorities, bus was more common for short to medium journeys (8-10%) compared to travel to work over 20km (4%). For travel to work outside the region, bus share decreased from 11% of the shortest travel to work, to only 2% of the longest travel to work.

Train was not used for travel to work within Clackmannanshire or Falkirk, however 3% of 5-10km travel to work and 1% of 10-20km travel to work within Stirling was by train. Between the regional local authorities, train made up between 1% and 4% of travel to work, increasing with distance. For travel to work outside the region, train made up only 0-1% of travel to work less than 20km. However, for travel to work of 20km or more, train made up 16%.

In general, walking was common for travel to work less than 5km; 22% in Clackmannanshire, 19% in Falkirk, and 26% in Stirling. However, with the exception of travel to work over 20km in Falkirk and Stirling (for which it is considered that reported walking may be part of a multi-modal journey), for all other distances, all travel to work across local authorities within the region, and all travel to work outside the region, walking represents a very small proportion of travel to work, between 0% and 2%.



2.3.4. Economic Activity

Measures used to assess economic performance include unemployment rate, mean and median annual earnings, GVA, GVA/head, employment, range of sectors / industries.

In 2018, unemployment rates in the region at 2.7% were lower than the national benchmark (at 4.4%)¹⁰.

In 2017 the average (mean) annual full-time earnings for residents of Stirling was £37,494, followed by Clackmannanshire with £26,682 and Falkirk with £26,043; Stirling's average constituting the highest of all Local Authorities, and £10k higher than the average for Scotland of £27,412¹¹. Comparison of the median earnings shows less variation between the areas and Scotland (Clackmannanshire £23,908, Falkirk £23,579, Stirling £25,524, Scotland £23,176) but Stirling is still highest within the region. The ~£12,000 difference between the median and mean salaries for Stirling is indicative of the large variation in earnings within the local authority.

As a second component of Transport Poverty (explained further in section 3.2.1), the level of income deprivation in the Forth Valley region indicates that 53% of datazones are classed as 'high risk' for this measure. This compares to 52% of datazones nationally which are classed as 'high risk'. The proportion of 'medium risk' datazones (14%) is below the national proportion (18%), with the proportion of 'low risk' datazones in the Forth Valley region (32%) higher than the national proportion (30%).

In terms of total GVA in 2016¹², Forth Valley region's was £6,546 million, which accounted for 4.9% of Scotland's GVA. This was an increase of 27.2% between 2011 and 2016, up from £5,148 million. In the same period the national figure increased by 18.4% from £113,246 million to £134,038 million.

In the Forth Valley region, GVA per head in 2016 was £21,499 which was £3,301 less than the national figure of £24,800. The GVA per head for Forth Valley increased by 24.5% between 2011 and 2016, up from £17,271, an increase of 8.4 percentage points more than the national benchmark increase. These increases in total GVA and GVA per head were the highest of all STPR regions over the same period of time.

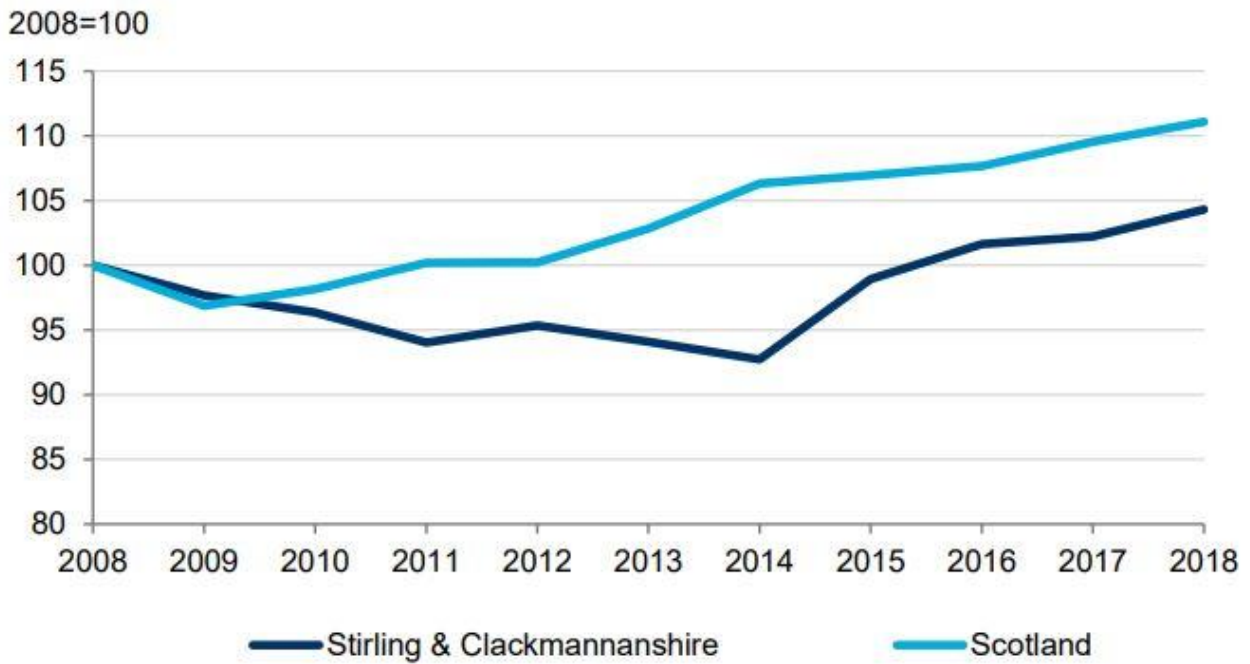
It is also noted that while Scotland as a whole recovered from the 2008-09 recession, levels of GVA across Forth Valley were slower to recover to pre-recession levels, as illustrated in Figure 12 for Clackmannanshire & Stirling and Figure 13 for Falkirk¹³, implying Forth Valley was hit harder by the recession.

¹⁰ Nomis 2018, <https://www.nomisweb.co.uk/>

¹¹ Annual Survey of Hours and Earnings - Resident Analysis, Nomis
<https://www.nomisweb.co.uk/articles/1136.aspx>

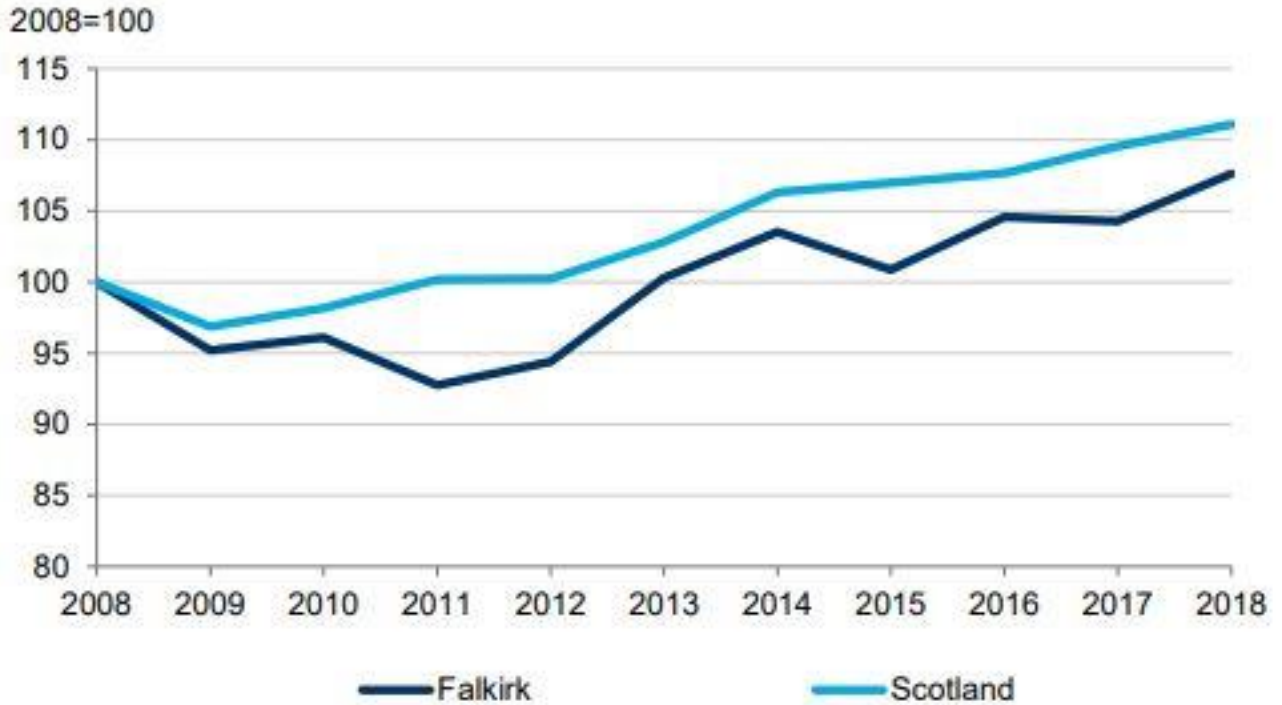
¹² Regional Gross Value Added (Balanced) by Local Authority in the UK (ONS, Dec 2017)
<https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedbalancedbylocalauthorityintheuk>

¹³ International Research on Regional Economies, Implication for Delivering Inclusive Growth in Scotland, Oxford Economics (May 2019)
<https://www.scottishfuturetrust.org.uk/storage/uploads/internationalresearchonregionaleconomiesmay2019.pdf>



Source: Oxford Economics

Figure 12: Index of GVA Stirling & Clackmannanshire and Scotland, 2008-2018



Source: Oxford Economics

Figure 13: Index of GVA Falkirk and Scotland, 2008-2018



The sectoral profile can also be seen to differ across the region with that of Stirling and Clackmannanshire broadly similar to Scotland as a whole (Figure 14), whereas there is a more marked difference between Falkirk’s and Scotland’s profiles (Figure 15).

Stirling and Clackmannanshire have a comparatively large share of activity in the education sector, linked to the local university. It also holds a similar advantage in sectors such as professional services and finance and insurance, which are key growth sectors across both the national and UK economies (Figure 14).

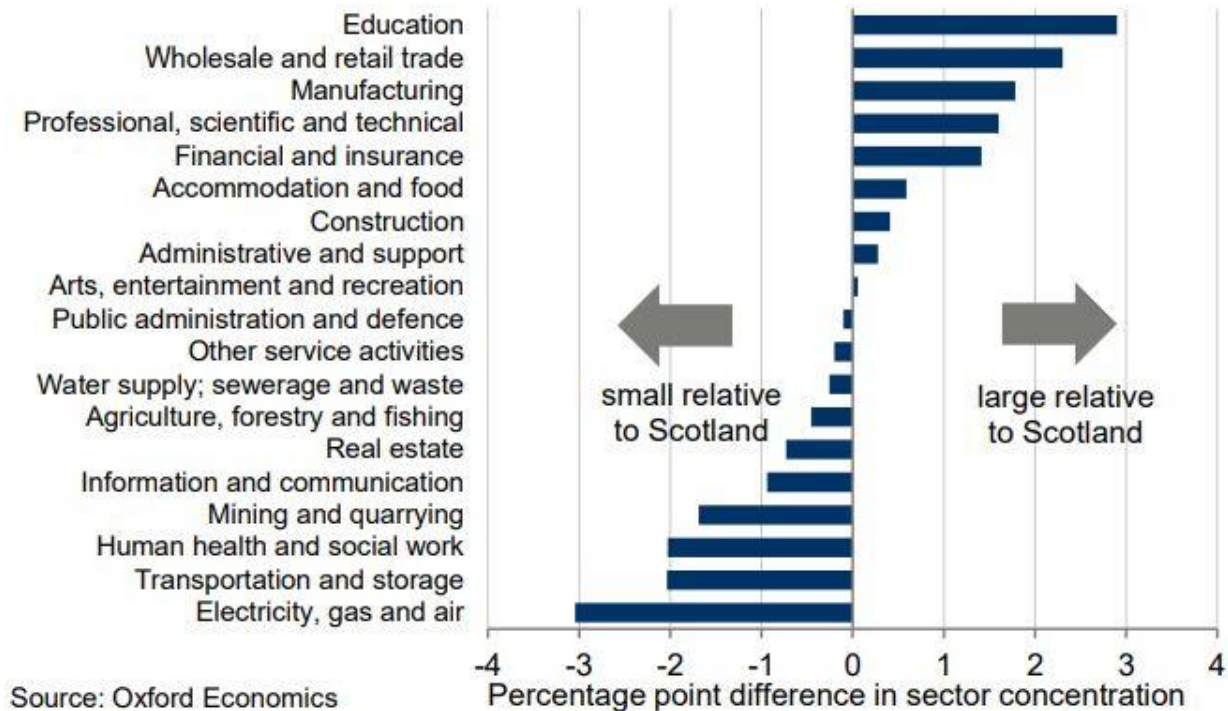


Figure 14: Sector GVA Share Stirling & Clackmannanshire vs Scotland 2018



Falkirk’s economy (Figure 15) is dominated by manufacturing activity, mostly linked to the petrochemical industry associated with the Grangemouth refinery. It is noted that transportation holds the second highest share of Falkirk’s economy though this includes both pipeline and tanker operations. A large share of Falkirk’s economic activity is concentrated in both manufacturing (19%) and transportation & storage (10%) that is largely associated with operations at the refinery. As illustrated in Figure 15, this is around an 8 and 6 percentage point difference in sector concentration relative to Scotland.

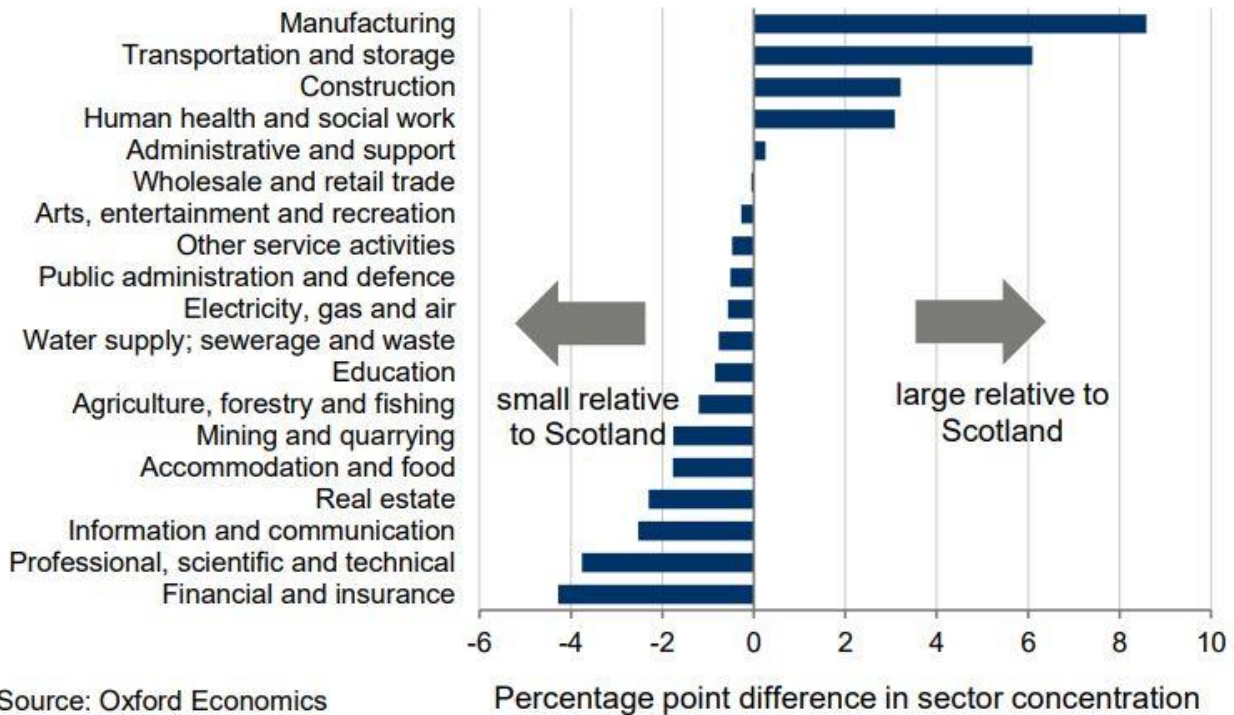


Figure 15: Sector GVA Share Falkirk vs Scotland 2018

The sector profile for the whole of Forth Valley, compared to that of Scotland, is further illustrated in Figure 16.¹⁴

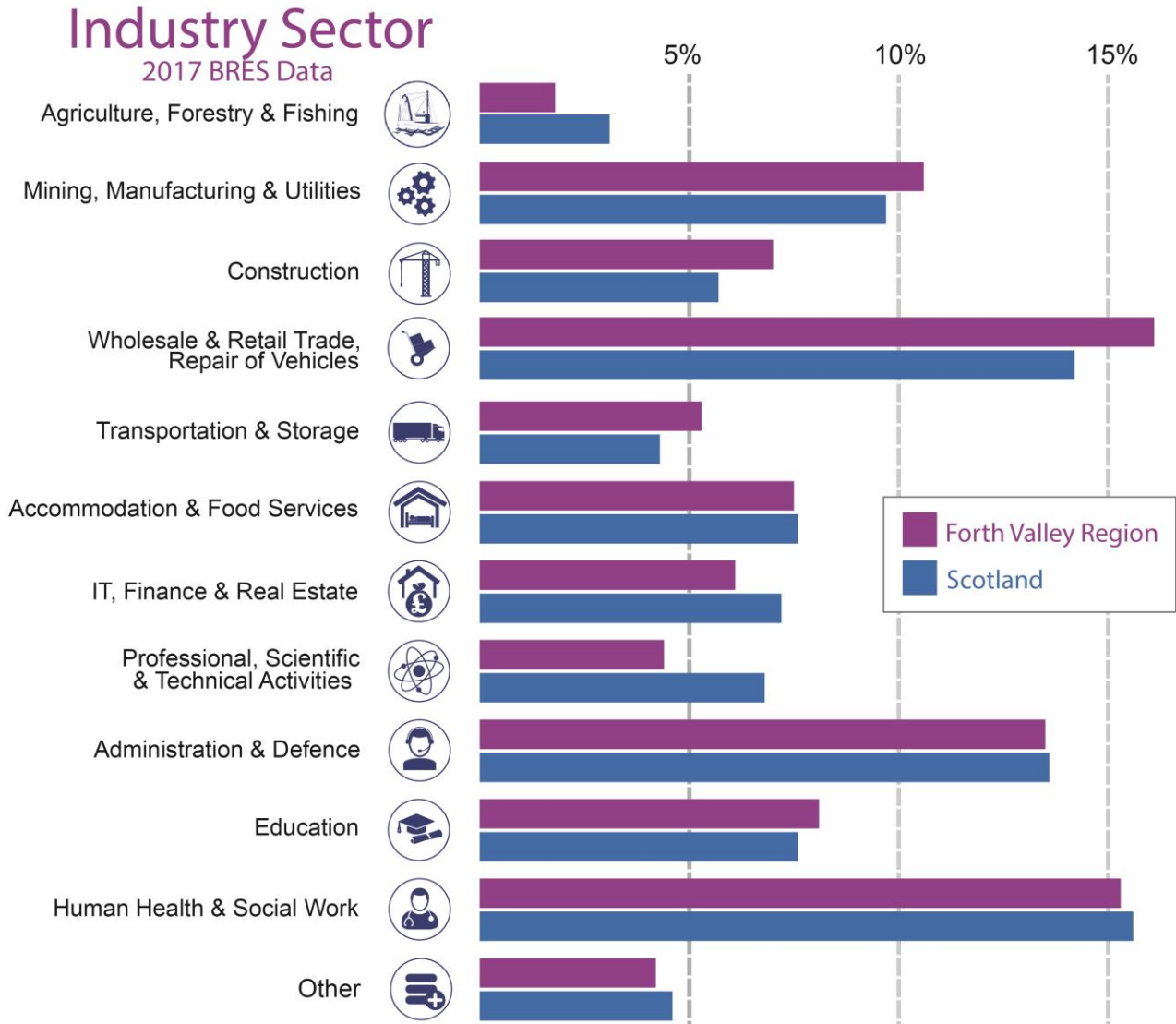


Figure 16: Percentage of people working in each industry sector for Forth Valley Region, compared to Scotland

¹⁴ Office for National Statistics – NOMIS – Business Register and Employment Survey (2017)
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/employeesintheukbyregion/2018>

2.3.5. Access to Employment

Figure 17 illustrates the accessibility in the region to key employment centres by public transport on a typical weekday morning. Key employment locations¹⁵ are mostly located in the east of the region

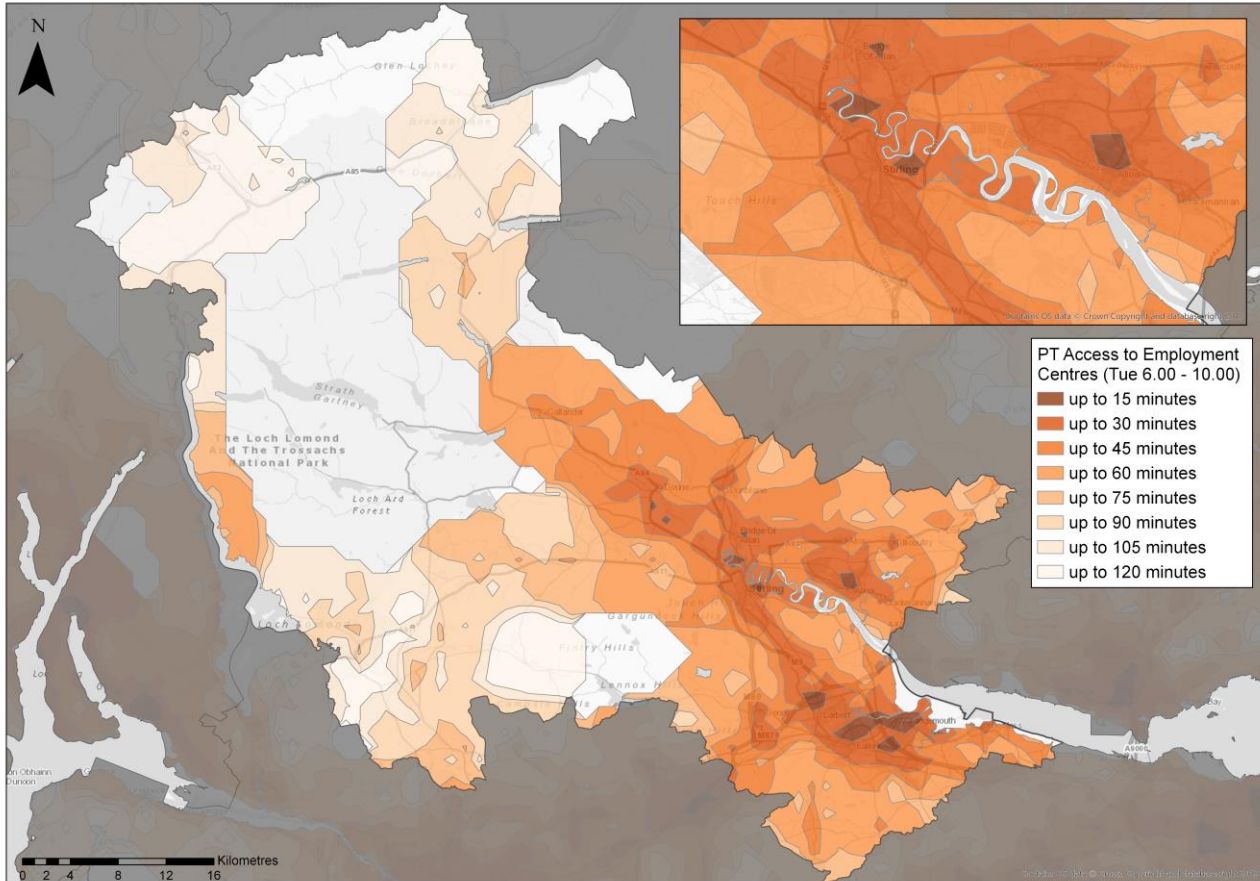


Figure 17: Access to Employment (click image to enlarge figure)

TRACC analysis (explained in further detail in Section 3.2.1) indicates that 77% of the Forth Valley population can access at least one key employment centre within 30 minutes by public transport on an average weekday morning (0600-1000).

¹⁵ BRES employment data used to identify top ten employment locations across the region by number of employees.

2.3.6. Deprivation

The Scottish Index of Multiple Deprivation (SIMD)¹⁶ demonstrates the socio-economic issues experienced in the region, with 15.7% of all datazones in the region (equating to 64 datazones) in the 2016 release within the 20% most deprived in Scotland. The red areas on the map (Figure 18) show the deprived areas, the blue areas on the map are least deprived. Pockets of deprivation are particularly evident in datazones within Alloa, Stirling, Falkirk, and Bonnybridge (datazones are groups of 2011 Census output areas which have populations of around 500 to 1,000 residents. There are 6,976 2011 Data Zones¹⁷).

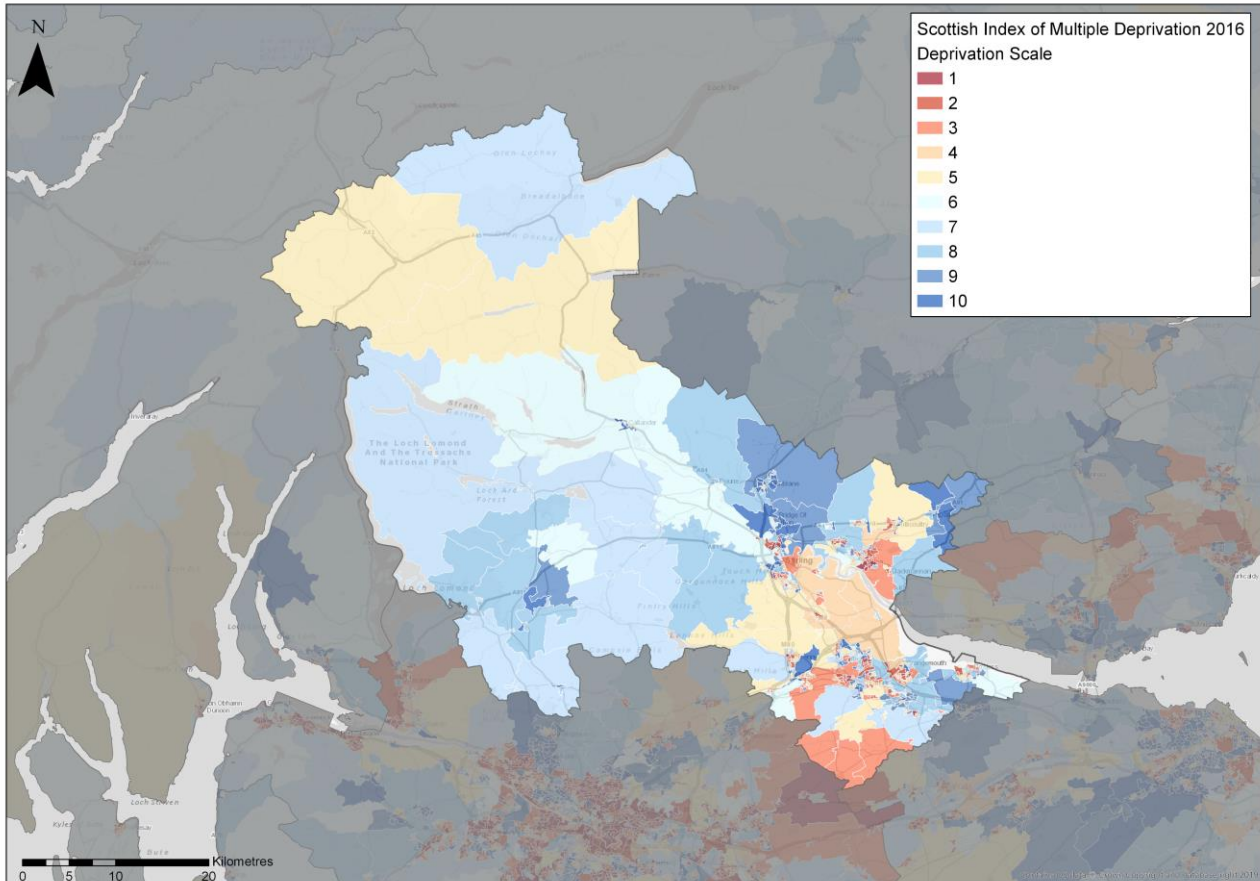


Figure 18: Scottish Index of Multiple Deprivation 2016 (click image to enlarge figure)

2.3.7. Health

According to the 2011 Census data 19.8% of the population in the region’s day-to-day activities are limited by their disability¹⁸. Applying this proportion to the 2018 population statistics, implies 60,667 people with a limiting disability in the Forth Valley region.

¹⁶ Scottish Index of Multiple Deprivation (SIMD 2016)
<https://simd.scot/#/simd2016/BTTTTFTT/9/-4.0000/55.9000/>

¹⁷ <https://www.scotlandscensus.gov.uk/variables-classification/sns-data-zone-2011>

¹⁸ Proportion of Population with a Long Term Physical or Mental Health Condition,
<https://www.scotlandscensus.gov.uk/news/census-2011-release-3f-detailed-characteristics-health-scotland>



2.3.8. Summary of Socio-economic Context

To summarise the Socio-Economic situation in Forth Valley is as follows:

- Population of 306,070. In 2018, approximately 64% of people were of working age, 17% are aged 15 and under and 19% were aged over 65 (a similar profile as Scotland).
- The net migration figures show a total net increase of 3,249 people.
- Access to at least one car or van in Forth Valley (76%) is higher than the national average (70%).
- Travel to work mode share is similar to the national average, with 70% of residents using car or van as their main mode of commuting.
- In 2018, unemployment rates in the region at 2.7% were lower than the national benchmark (at 4.4%).
- GVA per head in 2016 was £21,499 which was £3,301 less than the national benchmark of £24,800.
- The sectoral profile differs across the region. Stirling and Clackmannanshire are broadly similar to Scotland as a whole, whereas there is a more marked difference between Falkirk's and Scotland's profiles, primarily due to Grangemouth.
- Stirling and Clackmannanshire have a comparatively large share of activity in the education sector, linked to the local university. It also holds a similar advantage in sectors such as professional services and finance & insurance.
- Falkirk's economy is dominated by manufacturing activity, mostly linked to the petrochemical industry associated with the Grangemouth refinery.
- The Index of Multiple Deprivation 2016 demonstrates the socio-economic issues experienced, with 15.7% of all datazones in the region within the 20% most deprived in Scotland.
- Pockets of deprivation are particularly evident in datazones within Alloa, Stirling, Falkirk, and Bonnybridge.
- 19.8% of the population's day-to-day activities are limited by their disability.

2.4. Environmental Context

2.4.1. Constraints

An environmental constraints mapping exercise has been undertaken, as presented in Figure 19. A summary of key features is given below:

- The Antonine Wall is a designated World Heritage Site within the study area. It stretches across the central belt of Scotland from the Clyde to the Forth and is the largest relic of the Roman occupation of Scotland.
- There are large Designated Battlefield Areas to the north-east for the Battle of Stirling Bridge and to the south of Stirling for the Battle of Bannockburn and Battle of Sauchieburn.
- Loch Lomond and the Trossachs National Park occupies a significant area in the north-west of the region.
- There are three National Scenic Areas in the region.
- There are four Air Quality Management Areas (AQMAs) in the region: Grangemouth, Haggis, Falkirk Centre and Banknock.
- There are 129 Surface Water features in the study area.
- There are 12 Special Areas of Conservation (SAC), seven Special Protection Areas (SPA) and approximately 30 Sites of Special Scientific Interest (SSSI).
- National Cycle Network (NCN) Routes 76, 764, 765 and 768 are within the study area.

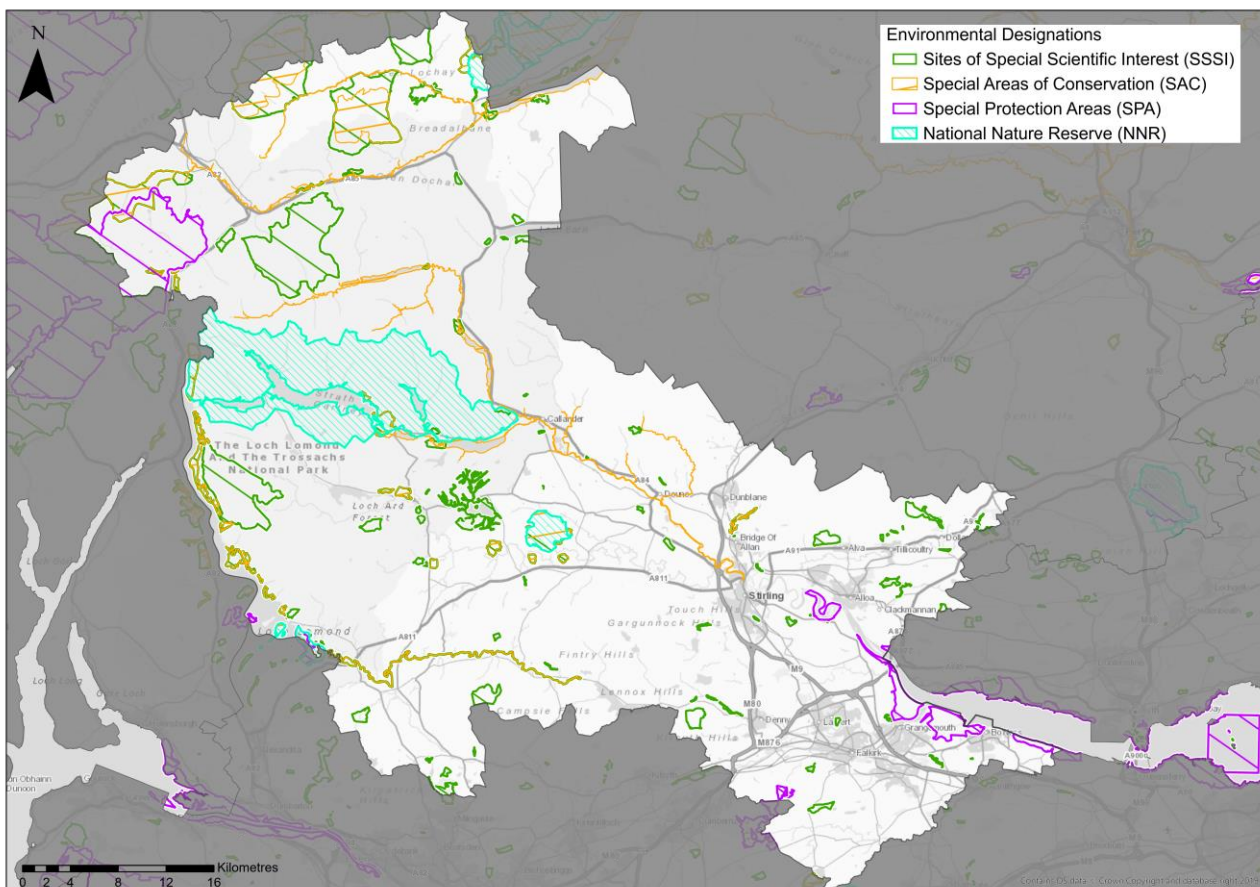


Figure 19: Environmental Designations (click image to enlarge figure)



The Scottish Environmental Protection Agency (SEPA) indicates a medium risk of surface water flooding in the area east of Falkirk, with some high risk around Grangemouth. There is a medium/high risk of surface water to the areas north and west of Stirling and a high risk to the areas north and west of Alloa, especially throughout the central Clackmannanshire area.

2.4.2. Carbon Emissions

SEPA published the Scottish Pollution Release Inventory, covering 2017. Emissions of up to 180 pollutants were reported by 1,237 industrial sites across the country. In terms of carbon emissions, Falkirk records higher carbon dioxide (CO₂) emissions per capita (14.9t) compared to Clackmannanshire (10.3t) and Stirling (5.5t) and has the highest CO₂ emissions per capita in the country, followed by Shetland and East Lothian (2017/18)¹⁹ The average for Scotland is 5.3t per capita.

Ineos at Grangemouth is noted to be the biggest emitter of carbon dioxide, emitting 1.6 million tonnes of the gas in 2017 (14.2% of Scotland total). In addition to this, four other Ineos facilities at Grangemouth featured in Scotland's top 12 carbon dioxide emitters²⁰ (emitting a further 18% of the Scotland total). The high environmental impact should be viewed in context of the nationally significant facility generating approximately 4% of Scotland's GDP (2016 figures) and employing 1650 people²¹.

2.4.3. Air Quality

Transport has a number of negative impacts on human health, in terms of air quality, emissions of key air pollutants and noise. A transport system that is not conducive to walking and cycling reduces opportunities for people to undertake physical activity and can lead to an increase in obesity and other conditions arising from inactivity. Particulate matter of less than 10 microns in diameter (PM₁₀) is particularly damaging to human health. Figure 20²² shows the highest concentrations of PM₁₀ within the region.

Air pollution is the biggest environmental threat to health in the UK, with between 28,000 and 36,000 deaths a year attributed to long-term exposure. There is strong evidence that air pollution causes the development of coronary heart disease, stroke, respiratory disease and lung cancer, and exacerbates asthma.²³

¹⁹ UK Local Authority and Regional Carbon Dioxide Emissions National Statistics 2005 to 2017 (Department for Business, Energy and Industrial Strategy, 2019) <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017>

²⁰ Scottish Pollutant Release Inventory (SEPA, 2017) <https://www.sepa.org.uk/environment/environmental-data/spri/>

²¹ Welcome to Ineos Grangemouth, downloaded 31 Jan 2020 <https://www.ineos.com/globalassets/ineos-group/grangemouth/about/ineos-grangemouth-a5-visitor-welcome-bookletfinal-pdf.pdf>

²² UK National Atmospheric Emissions Inventory (Ricardo Energy & Environment) <https://naei.beis.gov.uk/>

²³ Review of interventions to improve outdoor air quality and public health, (Public Health England, 2019) <https://www.gov.uk/government/news/public-health-england-publishes-air-pollution-evidence-review>

Figure 20 shows that the higher concentrations of PM₁₀ from road transport are located in those areas where there are highly trafficked routes traversing the region and in the more urbanised areas. For example, the M80 at Hags and M80 / M876 at Bankhead show higher concentrations of PM₁₀. Grahamston in Falkirk, the M876 / M9, M9 junction 5 and the vicinity of Earl's Road Grangemouth also show high concentrations of PM₁₀.

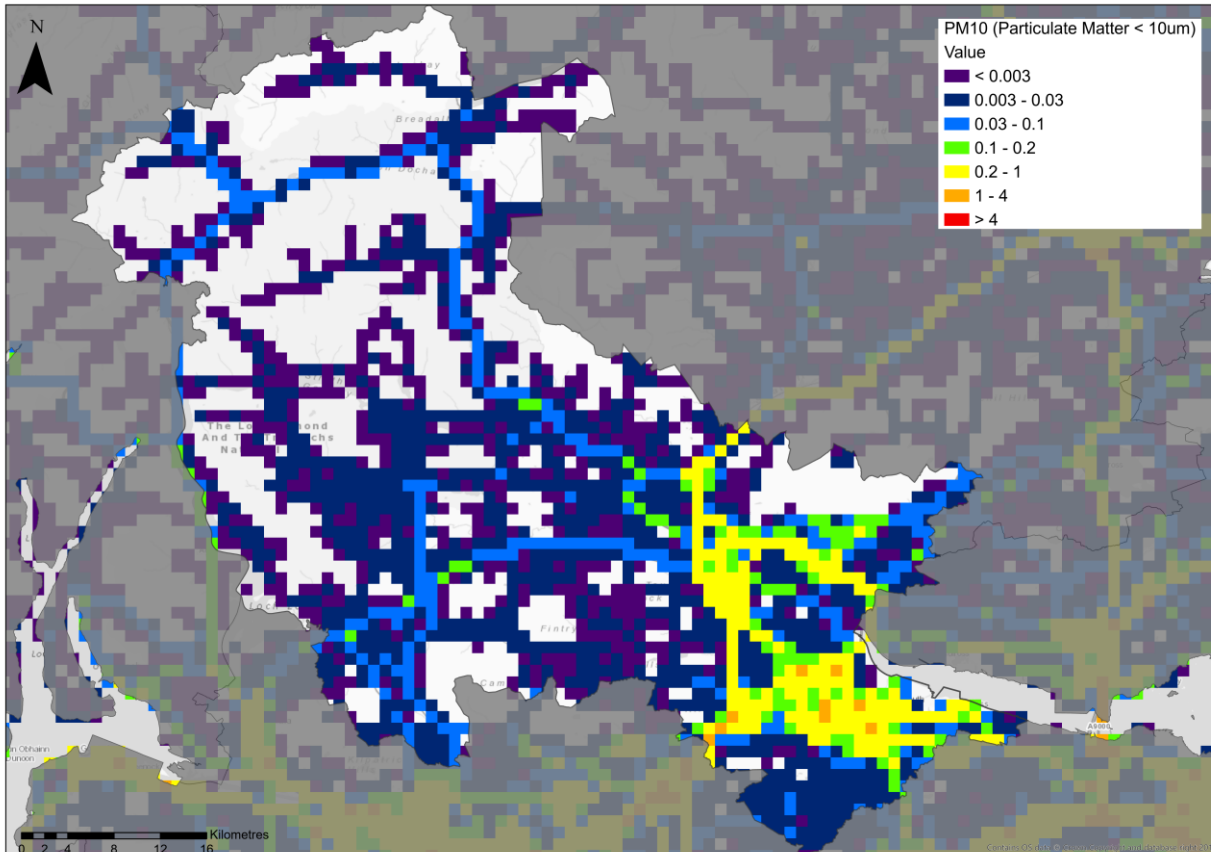


Figure 20: Air Quality - PM₁₀ concentrations (click image to enlarge figure)

2.4.4. Summary of Environmental Context

To summarise the Environmental situation in Forth Valley is as follows:

- Forth Valley has a number of key features / constraints including; The Antonine Wall, large Designated Battlefield Areas, Loch Lomond and the Trossachs National Park, three National Scenic Areas, four Air Quality Management Areas, 129 Surface Water features, 12 Special Areas of Conservation, seven Special Protection Areas and approximately 30 Sites of Special Scientific Interest and NCN Routes 76, 764, 765 and 768.
- Falkirk records higher carbon dioxide (CO₂) emissions per capita compared to Clackmannanshire and Stirling and has the highest CO₂ emissions per capita in the country.
- Ineos at Grangemouth is noted to be the biggest emitter of carbon dioxide, emitting 1.6 million tonnes of the gas in 2017.
- Air quality is poorest in highly trafficked routes traversing the region and in the more urbanised areas such as the M80 at Hags and M80 / M876 at Bankhead, Grahamston in Falkirk, the M876 / M9, M9 junction 5 and the vicinity of Earl's Road Grangemouth.

2.5. Transport Context

2.5.1. Introduction

This section outlines the supply and demand for transport in the Forth Valley region. Figure 21 shows the transport network in the region (the cycle network and core paths are additionally shown on separate maps for clarity).

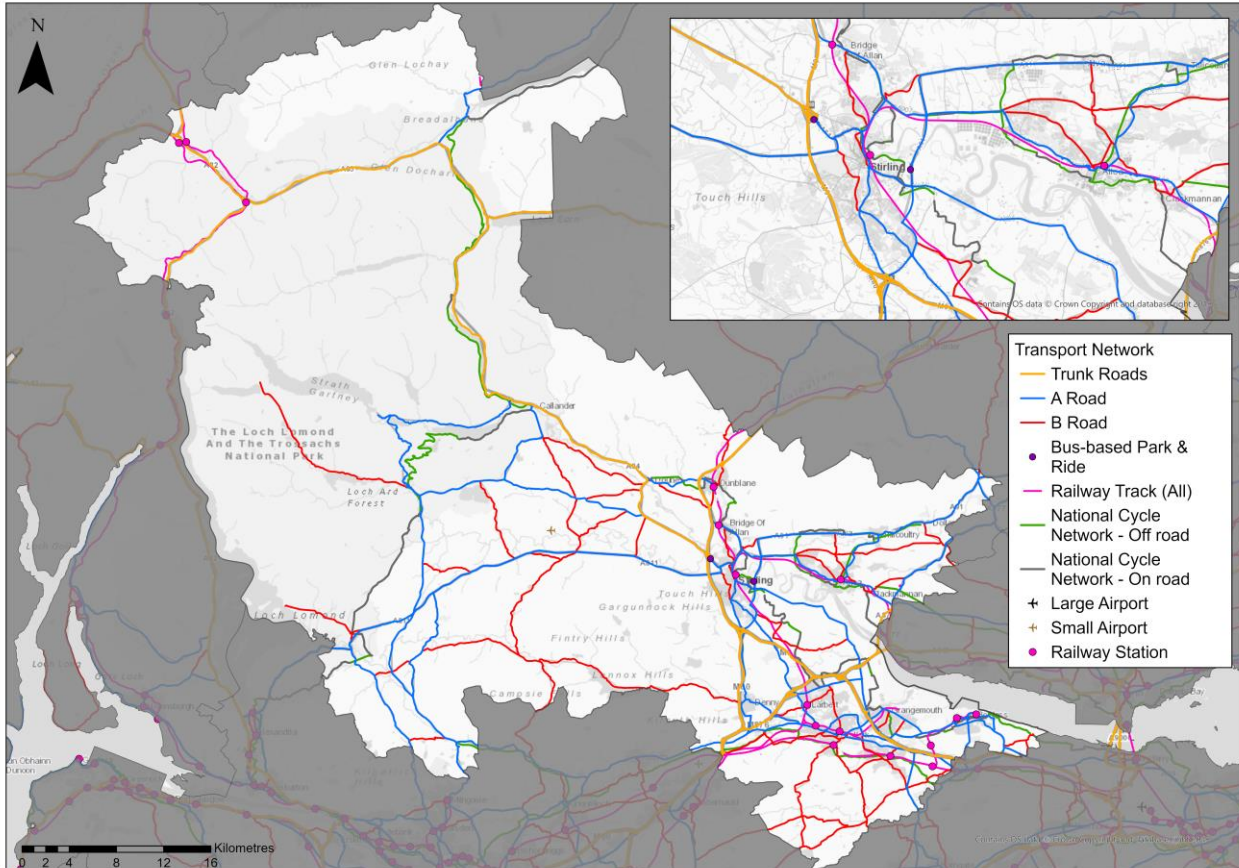


Figure 21: Transport Network (click image to enlarge figure)

2.5.2. Active Travel

The National Cycle Network (NCN) is shown in Figure 22. Several off-road and on-road cycle routes make up the NCN in the region, which includes:

- NCN Route 7 (Sunderland to Inverness: passing through Loch Lomond and the Trossachs National Park);
- NCN Route 754 (Edinburgh to Glasgow: running along the Union Canal and passing the Falkirk Wheel);
- NCN Route 755 (Kirkintilloch to Strathblane: running along the Strathkelvin Railway Pass);
- NCN Route 76 (Berwick-upon-Tweed to Kirkcaldy: running through Stirling along the Forth Estuary);
- NCN Route 764 (Clackmannan to Dunfermline: known as the West Fife Way and following the course of the former Dunfermline to Alloa railway);
- NCN Route 767 (Alloa to Dollar: known as the Devon Way and following the course of the former Devon Way railway); and
- NCN Route 768 (Tullibody to Alva: continuation of the railway path (part of Route 76) that runs from Cambus).

In addition, the region has an extensive core paths network.



Figure 22: National Cycle Network (click image to enlarge figure)

2.5.3. Bus Network

A map illustrating scheduled bus routes is shown in Figure 23.

Alloa has a number of services serving the smaller towns and connecting with Stirling, however there are no direct bus services to cities other than Stirling. The only direct connection outwith the region is to Dunfermline.

Falkirk has a number of services serving the population within the region. There are also services connecting to Edinburgh, Glasgow, Bathgate, Broxburn, Cumbernauld and Dunfermline.

Stirling has services operating all over the council area connecting the smaller towns to Stirling. Stirling has connections to Edinburgh, Glasgow, Perth, Dundee, London and Aberdeen. Crianlarich has services to Stirling, Fort William, Edinburgh, Glasgow, Uig and Oban. Stirling has two park and ride sites which operate services into Stirling only.

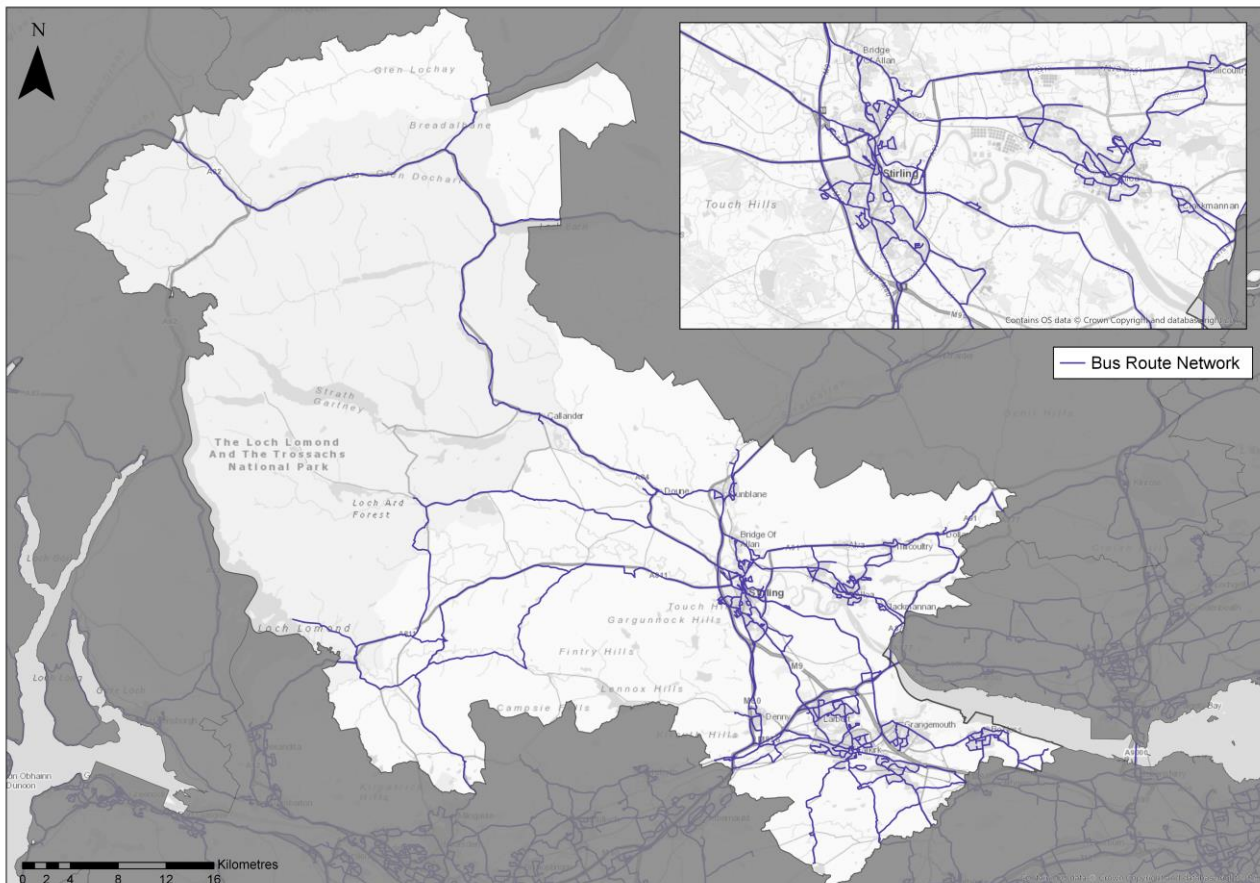


Figure 23: Forth Valley Bus Routes (click image to enlarge figure)

The area served by scheduled bus routes reduces in the evening – as shown in Figure 24.



Figure 24: Wednesday Offpeak (18:00 – 23:59) Bus Routes (click image to enlarge figure)

Demand Responsive Transport (DRT) accounts for several bus journeys in Forth Valley, although due to its nature accurate data is not available. DRT schemes typically operate in local areas where there are few or no conventional bus services. The exact route and stopping points are usually flexible, but in all cases journeys must be booked in advance. Some DRT services are only for specific groups of people in the community, such as the elderly or disabled. The service usually operates like a taxi and costs around the same as bus fare. Dial-a-journey provides transport services for people who have mobility difficulties in Falkirk, Stirling and Clackmannanshire. There are additional operators/services throughout the Forth Valley region.

The share of the population using a bus more than four days per week decreased in Clackmannanshire by 3.8% between 2003/04 and 2017, in Falkirk by 3.5% and in Stirling by 1.5%²⁴ (Figure 25). In relative terms i.e. the percentage decline in travel by region, the Forth Valley region was ranked in the worst quintile alongside Ayrshire & Arran.

Based on research into the causes of bus patronage decline, the worst performing factors that have contributed to patronage decline in the Forth Valley region have been identified

²⁴ Transport and Travel in Scotland (Transport Scotland, 2017) <https://www.transport.gov.scot/media/43105/sct08183658301.pdf>



as congestion, bus mileage (total scheduled vehicle km) and bus connectivity, with Falkirk Council one of the local authorities in the worst two quintiles for congestion²⁵.

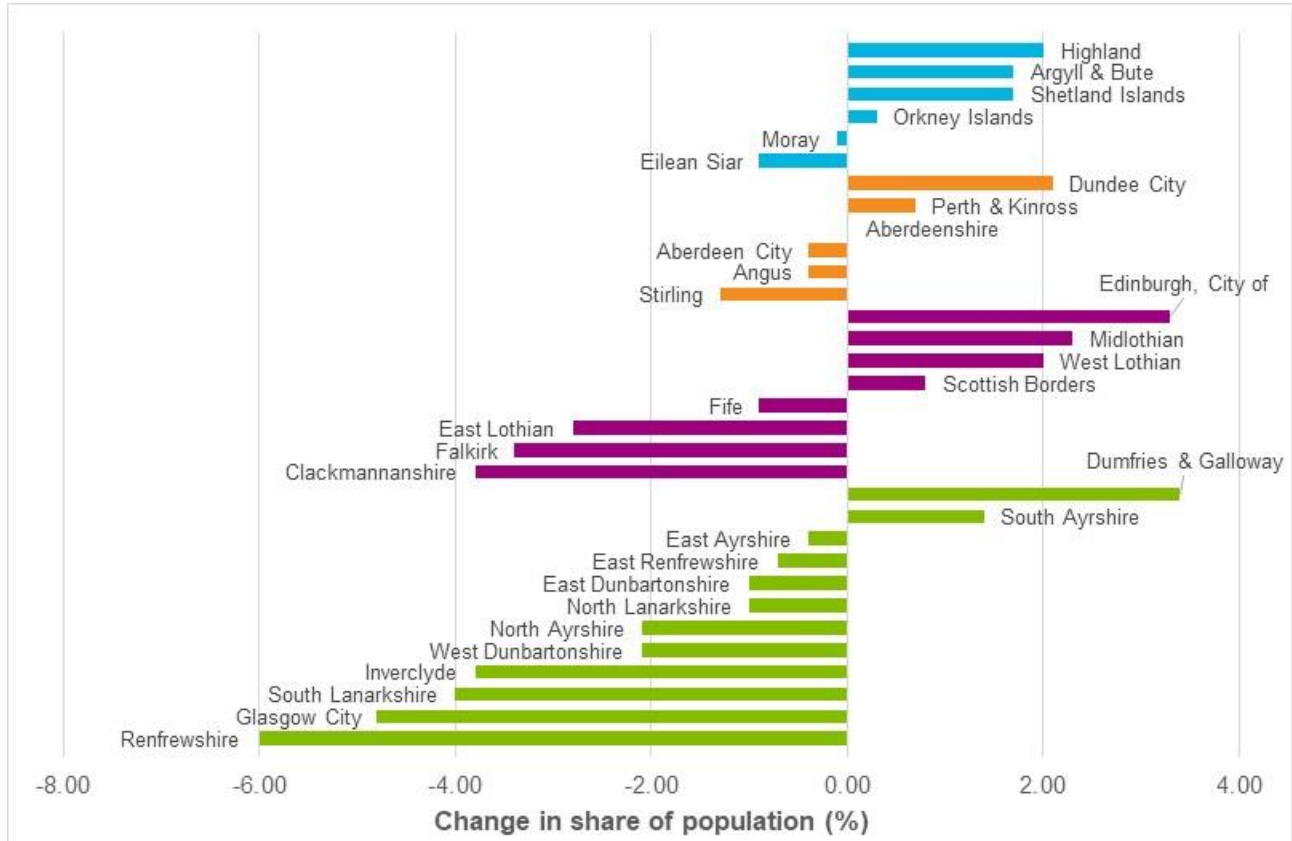


Figure 25: Bus use: change in share of population by local authority 2003/04 to 2017

²⁵ Calculations based on KPMG calculations of patronage decline between 2011/12 and 2015/16 (Trends in Scottish Bus Patronage (November 2017))

2.5.4. Rail Network

The Forth Valley region has a total of 12 rail stations - 9 in the east and 3 in the northwest of the region. Estimated annual entry and exit numbers for each of these stations from the period 2016 to 2019 are detailed in Table 1 – it is clear that rail patronage is generally increasing across the network.

Table 1: Office of Rail and Road (ORR) Estimates of Station Usage for Forth Valley

Station	2016-17	2017-18	2018-19
Stirling	2,337,656	2,503,092	2,480,154
Falkirk High	846,642	872,426	909,868
Larbert	803,812	850,346	858,388
Polmont	756,212	789,052	793,658
Falkirk Grahamston	669,976	690,380	720,008
Dunblane	519,370	553,028	547,270
Alloa	360,596	388,194	370,452
Bridge Of Allan	271,416	289,060	290,858
Camelon	132,166	127,576	142,044
Crianlarich	16,672	17,586	16,960
Tyndrum Lower	5,510	5,366	5,996
Upper Tyndrum	4,512	5,290	5,702

The top five destinations for journeys originating in each of the local authority areas are as follows²⁶:

Clackmannanshire:

- Glasgow
- Stirling
- Edinburgh
- Falkirk
- East Dunbartonshire

Falkirk:

- Edinburgh
- Glasgow
- Stirling
- Falkirk
- West Lothian

Stirling:

- Edinburgh
- Glasgow
- Stirling
- Falkirk
- Clackmannanshire

Station Travel Plans have been prepared for three of the twelve Forth Valley stations and details of services are included below:

Stirling station, which is located on the former Caledonian Railway main line between Glasgow and Perth, is a key commuter station for journeys to Glasgow, Edinburgh and Perth, served by four trains per hour to Glasgow Queen Street, three trains per hour to Edinburgh Waverley and three trains per hour to Perth during peak times. The station is also served by long distance services to Dundee (hourly), Aberdeen (hourly) and

²⁶ Scottish Transport Statistics No37, 2018 Edition / ORR Estimates of Station Usage
<https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage/>



Inverness (four trains per day) and is the junction for the branch line to Alloa, with three trains per hour to Dunblane. The majority of services are operated by Abellio ScotRail, with some limited services offered to London Kings Cross by Virgin Trains East Coast and Caledonia Sleeper services.²⁷

Falkirk High is on the main line between Edinburgh and Glasgow and is managed by ScotRail. Services stopping here are operated by ScotRail. Trains to Edinburgh are routed via Polmont and Linlithgow, whilst trains to Glasgow are via Croy. There are services to Edinburgh and Glasgow four times per hour during peak hours Monday to Saturday, with a twice hourly service operating in the evenings and on Sunday.²⁸

Falkirk Grahamston rail station is on the Edinburgh to Dunblane Line and is managed by ScotRail. The vast majority of services stopping at the station are operated by ScotRail. There are regular services to Edinburgh, Glasgow and Dunblane from Monday to Saturday, and a reduced service operating on Sunday. There is also a daily service to Inverness from Monday to Friday. From December 2018 service levels were improved; to exploit electrification and new trains, a new half hourly electric service between Glasgow and Edinburgh via Cumbernauld was introduced, calling at Falkirk Grahamston. This doubled the service level to Edinburgh, helping to make it a more attractive alternative to Falkirk High.

2.5.5. Maritime

There are no passenger ferry routes which operate within the Forth Valley region. The commercial port, Forth Ports Grangemouth, is Scotland's largest port, handling nine million tonnes of cargo each year through specialist container, liquid and general cargo terminals. This cargo flow represents as much as 30% of Scotland's gross domestic product (GDP), highlighting the port's essential role as an economic facilitator for Scotland²⁹. A range of liquid bulks, containers and general cargo commodities transit the port using road, rail and sea.

²⁷ Stirling Station Travel Plan (ScotRail July 2017)

https://www.scotrail.co.uk/sites/default/files/assets/download_ct/stirling_station_travel_plan.pdf

²⁸ Falkirk Station Travel Plan (ScotRail March 2019)

https://www.scotrail.co.uk/sites/default/files/assets/download_ct/falkirk_station_travel_plan.pdf

²⁹ <https://www.forthports.co.uk/our-ports/grangemouth/> accessed January 2020



2.5.6. Road Network

The trunk road network consists of the following routes:

- A82 (Glasgow to Fort William / Inverness)
- A84 (Stirling to Loch Earn)
- A85 (Oban to Dundee)
- A876 (Clackmannanshire Bridge)
- A9 (Edinburgh to Inverness)
- A985 (Kincardine Bridge to Rosyth)
- M80 (Glasgow to Bannockburn)
- M876 (Bonnybridge to Kincardine Bridge)
- M9 (Edinburgh to Dunblane).

In addition to these roads, it was identified through consultation that the A91, A905, A907, A977, A801 and A811 serve a number of strategic movements within the region. Table 2 lists the maximum Annual Average Daily Flow (AADF) on these roads (within Forth Valley) together with traffic mix³⁰ in 2018. The percentage of freight has been estimated as proportion of LGV + HGV in the total motor vehicles

³⁰ Traffic Counts (Department for Transport) <https://data.gov.uk/dataset/208c0e7b-353f-4e2d-8b7a-1a7118467acc/gb-road-traffic-counts>

Table 2: AADF on strategic roads (2018)

Road	Cars and taxis	LGVs	HGVs	Total motor vehicles	Percentage freight (LGV+HGV) /Total
A801	8,395	2,144	963	11,556	26.9
A811	12,708	1,459	259	14,540	11.8
A82	4,596	861	449	6,433	20.4
A84	14,439	1,802	334	16,697	12.8
A85	2,166	818	348	3,413	34.2
A876	25,078	5,164	3,194	33,746	24.8
A9	23,901	3,737	3,528	31,508	23.1
A905	18,751	5,836	756	25,578	25.8
A907	20,672	3,152	726	24,948	15.5
A977	3,667	1,385	712	5844	35.9
A91	19,865	3,549	807	24,371	17.9
M80	54,239	11,300	7,571	73,615	25.6
M876	33,869	7,769	4,416	46,320	26.3
M9	50,873	10,194	5,985	67,336	24.0

2.5.7. Aviation

There are no airports in the Forth Valley region, but the region is in close proximity to Glasgow and Edinburgh Airports as detailed in Table 3.

Table 3: Proximity to Airports

Origin	Airport	Distance	Mode	Journey Time ³¹	Journey stages
Alloa	Edinburgh Airport	29 miles	Road	35 minutes	
			Public Transport	1 hour 39 minutes	3 (train to Stirling/Larbert; train to Edinburgh Park; tram to airport)
	Glasgow Airport	42 miles	Road	48 minutes	
			Public Transport	47 – 56 minutes	2 (train to Glasgow Queen Street; bus to airport)
Falkirk	Edinburgh Airport	19 miles	Road	25 minutes	
			Public Transport	45 – 56 minutes	2 (train to Edinburgh Park/Haymarket; tram to airport)
	Glasgow Airport	32 miles	Road	41 minutes	
			Public Transport	47 minutes – 1 hour 13 minutes	2 (train to Glasgow Queen Street; bus to airport)
Stirling	Edinburgh Airport	30 miles	Road	35 minutes	
			Public Transport	59 minutes – 1 hour 8 minutes	2 (train to Edinburgh Park; tram to airport)
	Glasgow Airport	35 miles	Road	41 minutes	
			Public Transport	1 hour – 1 hour 4 minutes	2 (train to Glasgow Queen Street; bus to airport)

³¹ Google journey planner (weekday journey) – correct as of 20 Feb 2020



2.5.8. Summary of Transport Context

To summarise the Transport situation in Forth Valley is as follows:

- **Active Travel:** Several off-road and on-road cycle routes make up the NCN in the region, including NCN 7, 754, 755, 76, 764, 767, 768 and an extensive core path network.
- **Bus:** Alloa has services serving the smaller towns and connecting with Stirling. There are no services to cities other than Stirling. The only connection outwith the region is to Dunfermline. Falkirk has services serving the population within the region and also to Edinburgh, Glasgow, Bathgate, Broxburn, Cumbernauld and Dunfermline. Stirling has services operating over the council area connecting the smaller towns to Stirling, plus services to Edinburgh, Glasgow, Perth, Dundee, London and Aberdeen. In addition to scheduled services that operate in urban locations, there are also services that operate from some of the region's more rural locations e.g. Criarlarich has services to Stirling, Fort William, Edinburgh, Glasgow, Uig and Oban. Stirling has two park and ride sites which operate services into Stirling only. DRT also accounts for several journeys in the region. Bus patronage is continuing to decline across the region.
- **Rail:** The region has a total of 12 stations (9 in the east and 3 in the northwest) the busiest of which are Stirling, Falkirk High, Larbert, Polmont and Falkirk Grahamston. Top destinations of most rail travel from all local authority areas include; Edinburgh, Falkirk, Glasgow and Stirling (in no particular order). Rail patronage is generally increasing
- **Maritime:** There are no passenger ferry routes which operate within the Forth Valley region. The commercial port, Forth Ports Grangemouth, is Scotland's largest port.
- **Road:** The trunk road network consists of A82 (Glasgow to Fort William / Inverness), A84 (Stirling to Loch Earn), A85 (Oban to Dundee), A876 (Clackmannanshire Bridge), A9 (Edinburgh to Inverness), A985 (Kincardine Bridge to Rosyth), M80 (Glasgow to Bannockburn), M876 (Bonnybridge to Kincardine Bridge) and M9 (Edinburgh to Dunblane). In addition to these roads, it was identified through consultation that the A91, A905, A907 and A811 serve a number of strategic movements within the region. Maximum AADF data from 2018 for each road ranges from 3413 to 73615, with percentage freight (estimated as LGV+HGV as proportion of total) ranging from 12% to 34%.
- **Aviation:** There are no airports in the region, but the region is in close proximity to Glasgow and Edinburgh Airports with Alloa, Falkirk and Stirling all being within 30 miles of one airport.



2.6. Context Summary

- Key documents and policies considered within the context of STPR2 generally have a strong focus on tackling climate change and strengthening connectivity as a driver for economic growth.
- In economic terms, the sectoral profiles of Stirling and Clackmannanshire are broadly similar to Scotland as a whole, whereas there is a more marked difference between Falkirk's and Scotland's profiles, primarily due to Grangemouth.
- 15.7% of all datazones in the region are within the 20% most deprived in Scotland.
- There has been a slight increase in the region's population in recent years.
- Household car / van availability is higher than the Scottish average, which is reflected in this mode's dominance for travel to work. Conversely, travel to work by bike and foot is below the Scottish average.
- A lower proportion of Forth Valley residents travel less than 10km to work compared to across Scotland. Conversely, a higher proportion of Forth Valley residents travel between 10km and 60km compared to across Scotland.



3. Problems & Opportunities

3.1. Approach to Problem & Opportunity Identification

Deriving evidenced transport related problems and opportunities is a critical element of the Initial Appraisal: Case for Change. They are identified from a range of sources including a review of existing policy and strategy documents, data analysis and extensive stakeholder engagement. This Chapter sets out the problems and opportunities with the strategic transport network in the Forth Valley region and details the approach to their identification.

3.1.1. Data Analysis

A wide range of data sources has been used to identify transport related problems and opportunities in the region. Analysis of the data has also enabled problems and opportunities identified through stakeholder engagement to be evidenced to understand the real and perceived nature of feedback and comments raised. Sources of analysis have included primary data such as Scottish Household Survey³², Transport and Travel in Scotland³³, journey time data³⁴, accident data, public transport provision, as well as data gathered from recent reports and studies in the region. Key findings from the data analysis are presented below, to evidence the problem and opportunity themes set out.

³² <https://www2.gov.scot/Topics/Statistics/16002>

³³ <https://www.transport.gov.scot/publication/transport-and-travel-in-scotland-results-from-the-scottish-household-survey-1/>

³⁴ Data supplied by INRIX via Transport Scotland



3.1.2. Stakeholder Engagement

Stakeholder engagement is an important element in the identification of problems and opportunities. For the Forth Valley region this has consisted of:

- Problems and Opportunities Workshops held in Falkirk and Stirling with regional stakeholders in May and June 2019 respectively;
- An Option Generation Workshop was subsequently held in Stirling in November 2019 to generate potential options which may address the identified problems and opportunities. The same stakeholders invited to the May and June workshops were invited to the Option Generation workshop, as well as a number of additional stakeholders;
- Structured Interviews with senior officers across the local authorities and other organisations in the region;
- An Elected Members Briefing Workshop was held in January 2020. A number of elected members were invited and it was an opportunity for them to hear first-hand about the project and its programme, the problems and opportunities gathered, the interventions generated, as well as putting forward their own views;
- An Online Survey carried out between 2nd December 2019 and 10th January 2020 for the public and organisations to provide their views on transport issues and challenges in their day to day journeys;
- Regional Transport Working Group meetings, comprising of representatives from the three constituent Councils, SEStran, Tactran and Transport Scotland; and
- Schools Engagement is underway throughout the country, with one primary and one secondary school in Forth Valley involved to date in undertaking an exercise to consider the transport problems and opportunities in their area and to develop this into a transport plan setting out what is required.

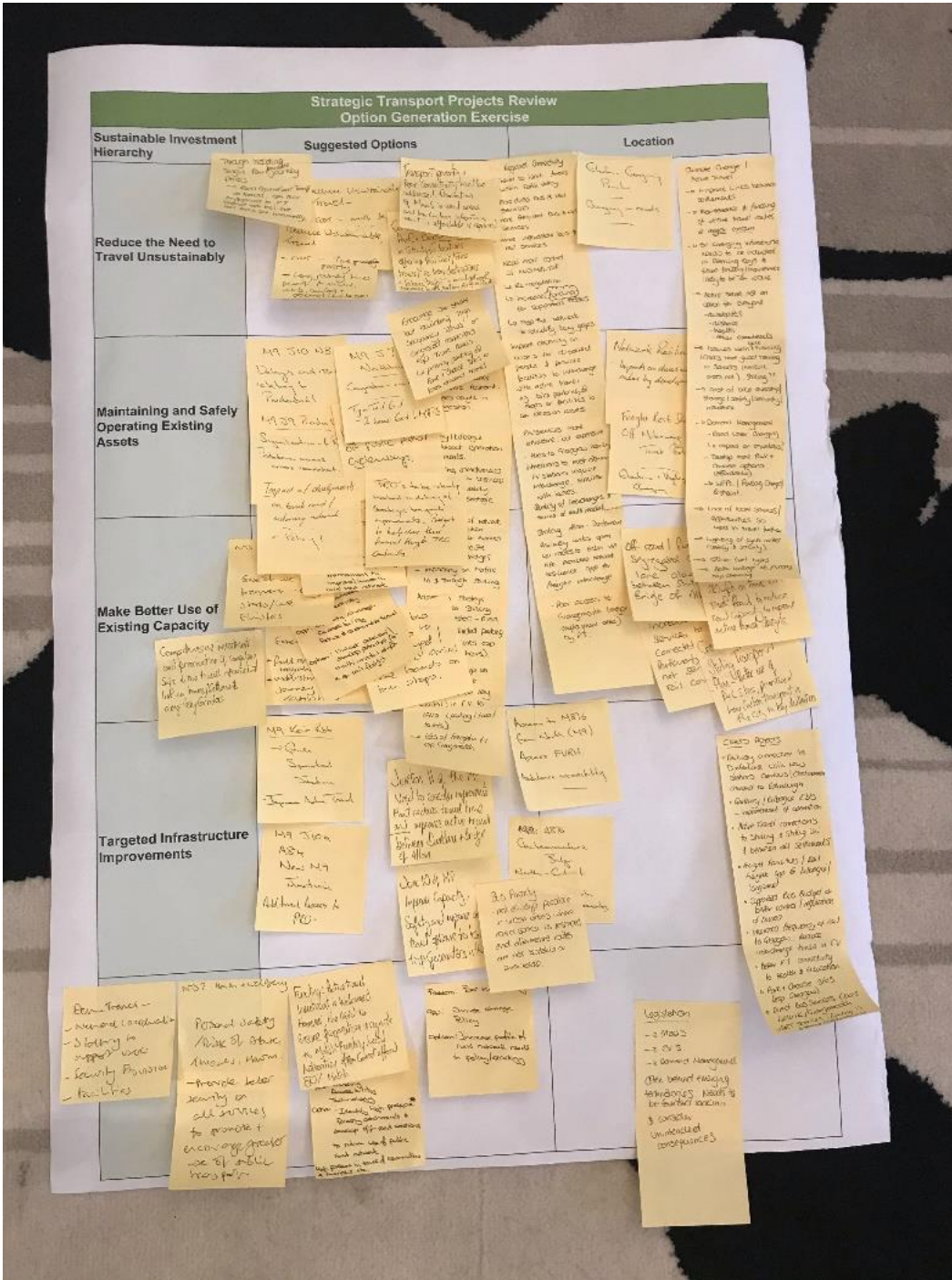


Figure 26: Stakeholder Engagement

Further details of stakeholder engagement activities are available in Appendix C.



3.2. Problem and Opportunities

Based on the activities described above, the following key transport related problems and opportunities have been identified for the Forth Valley region. Evidence to support the key themes listed below is provided in this section:

Problems

- Poor accessibility and connectivity
- Poor road user experience
- High cost of public transport fares
- Barriers to active travel
- Limited digital connectivity.

Opportunities

- Public Transport Interchange, Accessibility and Connectivity
- Active and Sustainable Travel
- Climate Change Emergency
- Technology

Evidence to support the themes is provided in this section.

3.2.1. Problems

POOR ACCESSIBILITY AND CONNECTIVITY

Geographic Access

Figure 27 shows Geographic Access by datazone in the Forth Valley region and helps to demonstrate the extent of the transport network. This data, which constitutes one of the seven SIMD domains, considers drive time to key services such as GP Surgeries, Fuel Stations, Post Offices, Retail Centres and Schools and public transport journey times to GP Surgeries, Post Offices and Retail Centres. The output shows that access is considerably greater in urban areas compared to rural parts. In terms of overall geographic access, much of the region, except for the immediate vicinity of urban settlements, is ranked in the bottom 50% of all Scottish datazones. This further highlights the inequality of access between the region’s rural and urban locations.

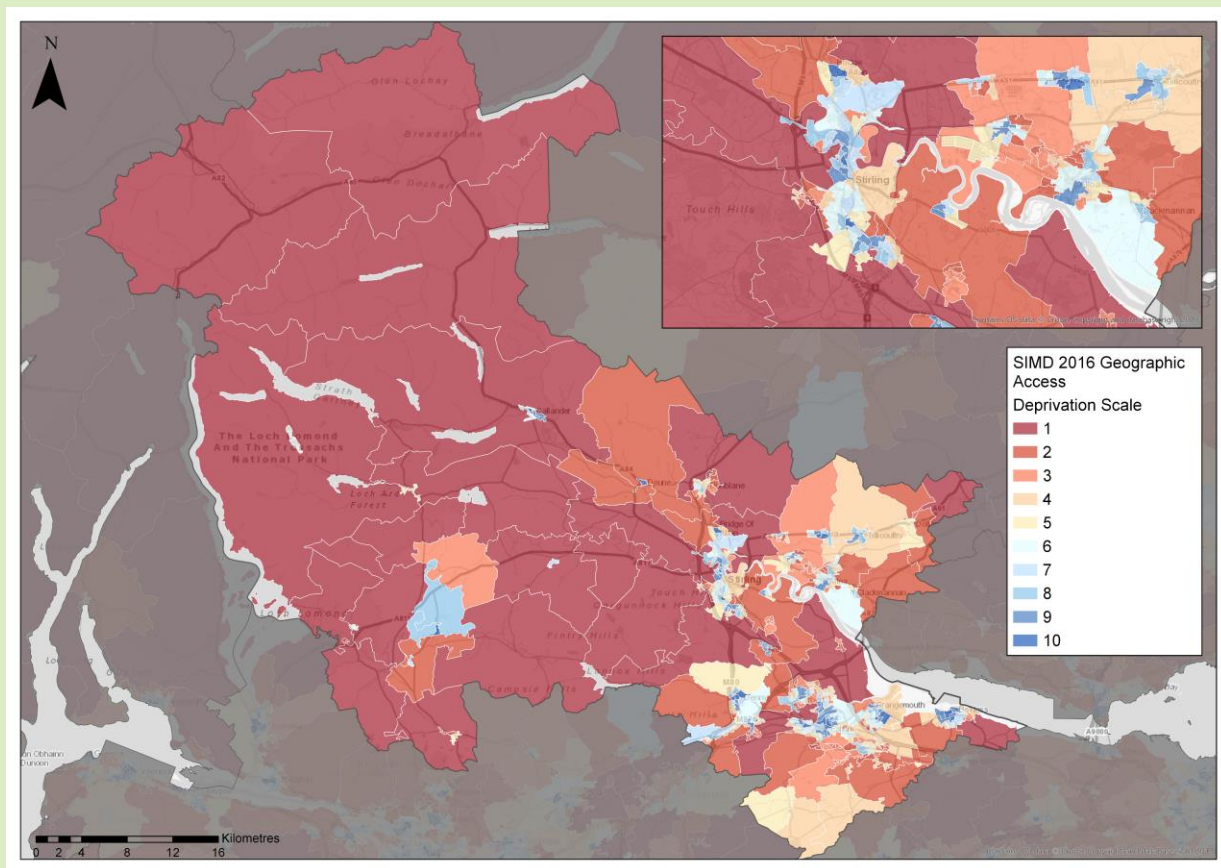


Figure 27: SIMD 2016 Geographic Access (click image to enlarge figure)

In addition to roads-based accessibility / connectivity issues as illustrated in Figure 27, a lack of railway stations in the west of the region, with very few outwith the built up areas in the east, further contributes to overall accessibility and connectivity issues.

There are 12 rail stations in the region, although 9 out of 12, with the exception of Crianlarich, Upper Tyndrum and Lower Tyndrum, are located in the east of the region. Those located in the northwest are not directly connected to other parts of Forth Valley

POOR ACCESSIBILITY AND CONNECTIVITY

by rail (journeys must be made via Glasgow). Figure 28³⁵ illustrates the rail stations / routes in the central region.

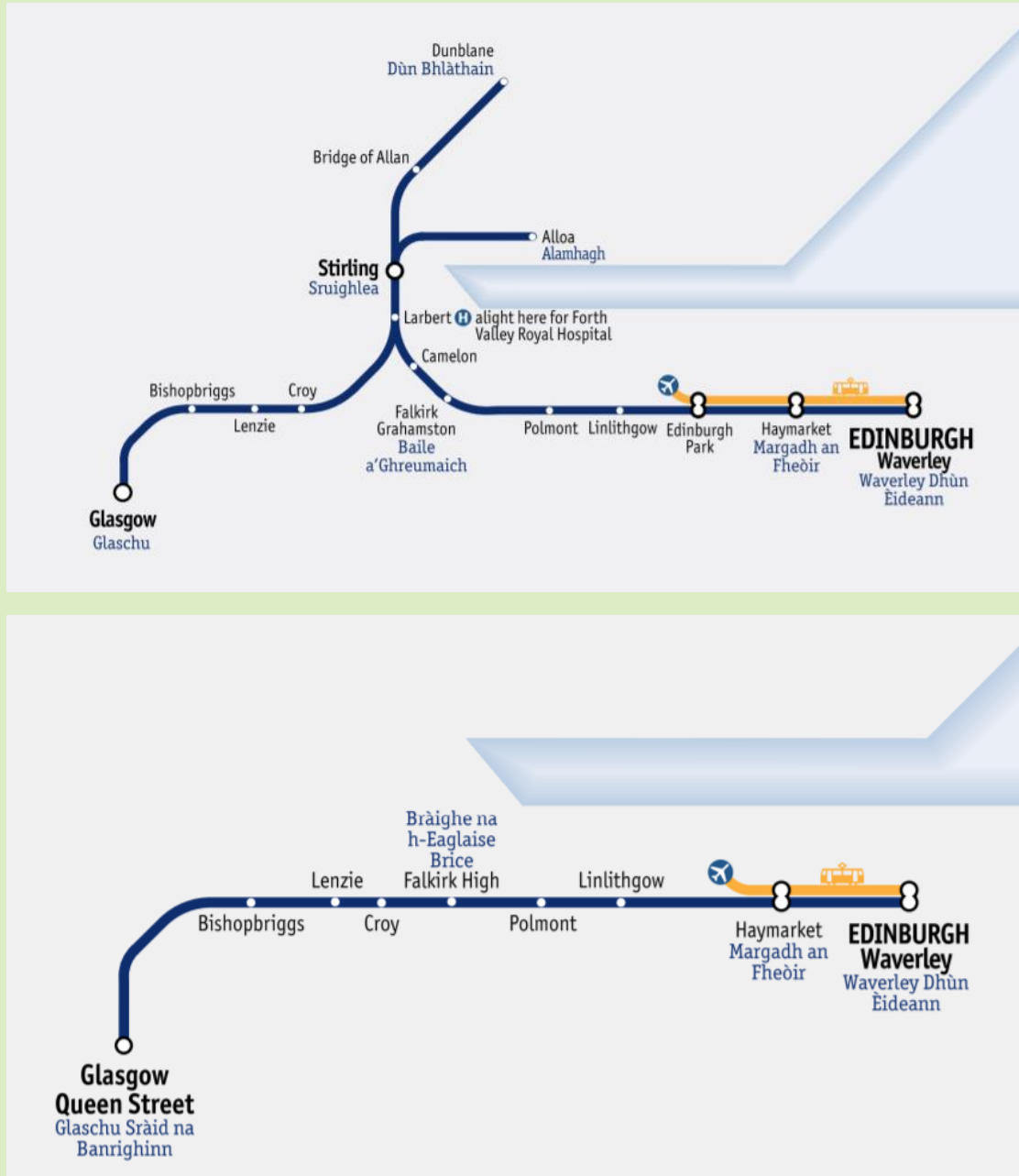


Figure 28: Central Scotland stations

³⁵ Extracted from two ScotRail timetables https://www.scotrail.co.uk/sites/default/files/assets/download_ct/20246_central_scotland_l.pdf and https://www.scotrail.co.uk/sites/default/files/assets/download_ct/20230_glasgow-edinburgh_via_falkirk_high_lp.pdf

POOR ACCESSIBILITY AND CONNECTIVITY

Analysis shows that some rail stations in the region are within an 800m³⁶ catchment of key destinations (shown in Figure 29), for example: Stirling Station is within 800m of Thistles Shopping Centre and Springkerse Industrial Estate, Alloa Station is within 800m of Forth Valley College Alloa Campus and Falkirk Grahamston is within 800m of Howgate Shopping Centre, Central Retail Park, Falkirk Community Hospital and Callander Square Shopping Centre. Other key attractions such as Falkirk Wheel, The Helix and Queen Elizabeth Forest Park are within 800m of a bus stop, well served by variety of routes.

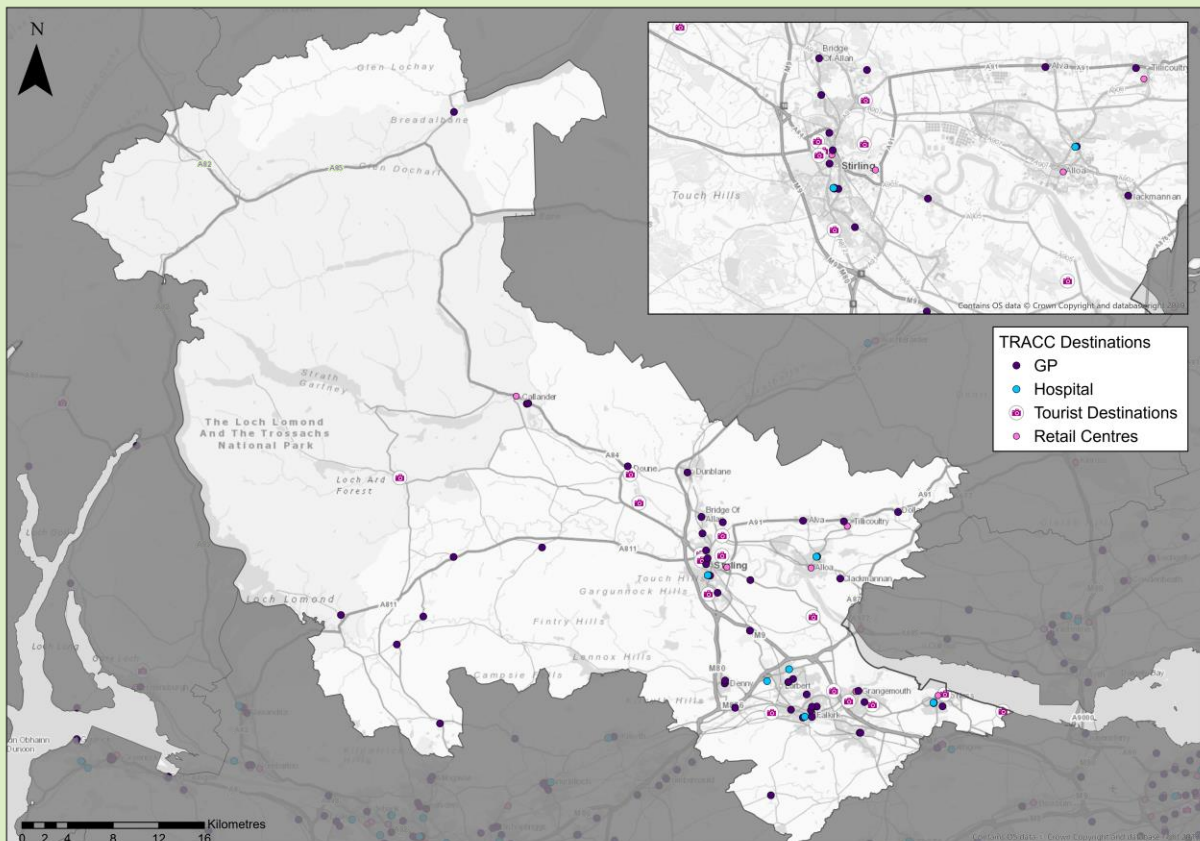


Figure 29: Destinations used in TRACC analysis (click image to enlarge figure)

A survey conducted as part of Falkirk Station Travel Plan demonstrates that the most frequently cited improvement needed at Falkirk High is public transport access to and from the station. This suggests that there may be potential for modal shift and greater interchange opportunities at Falkirk High Station. Further to this, the third most frequently cited improvement needed is to pedestrian / cycle access to and from the station, again suggesting the potential for modal shift.

In addition, general perceptions from survey respondents included *“The walking paths from the station are dark and possibly unsafe late at night I normally get the last train back so have to walk them alone. Lack of buses that go direct from the station and there’s no late services. Not many taxi’s waiting at the station.”*

³⁶ Straight-line distance

POOR ACCESSIBILITY AND CONNECTIVITY

Results from a survey undertaken as part of the Stirling Station Travel Plan identified the top 3 reasons for respondents travelling by car as being; journey time (19%), lack of suitable alternatives (17%) and journey reliability (15%).

The results of engagement activities and data analysis indicate that the region needs to be better connected internally (particularly to / from rural areas), including to health, key employment, education and leisure sites within Forth Valley.

Accessibility Analysis

Accessibility analysis was undertaken using TRACC - a multi-modal travel time analysis tool. Utilising public transport network data, public transport timetable data and active travel network data, the tool was used to calculate public transport and active travel journey times to / from key origins and destinations. These journey time thresholds (isochrones) were then used to calculate the population within this area. Population data used was 2011 Census Output Area populations.

The following figures further demonstrate poor accessibility and connectivity in certain areas by public transport to key destinations such as healthcare, higher and further education, and by walking to schools.

Access to Healthcare by Public Transport

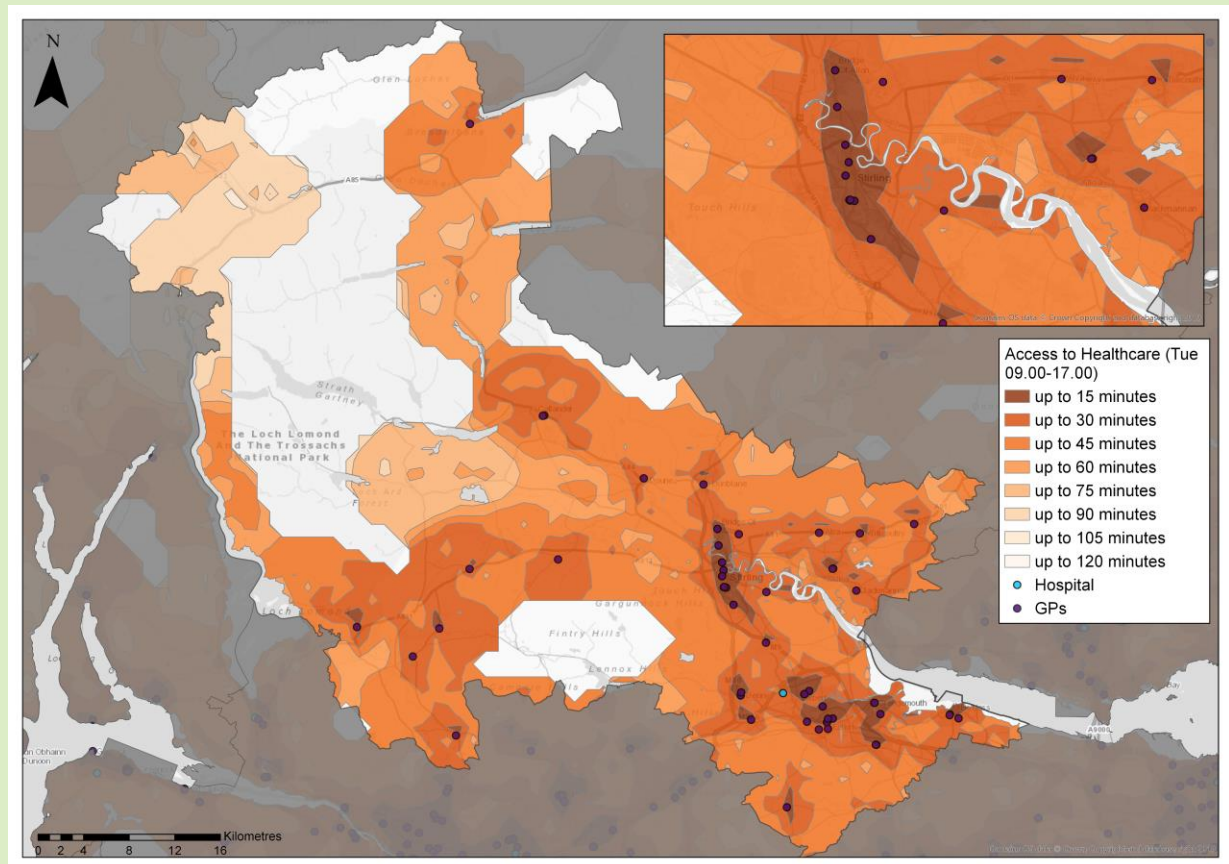


Figure 30: Public Transport Access to Healthcare (click image to enlarge figure)

POOR ACCESSIBILITY AND CONNECTIVITY

Figure 30 shows the access by public transport to GP healthcare facilities, up to 120 minutes. The TRACC analysis shows that 94% of all Forth Valley inhabitants are able to access GP healthcare facilities within 30 minutes by public transport to / from their home on an average weekday (0900-1700).

Access to Further / Higher Education by Public Transport

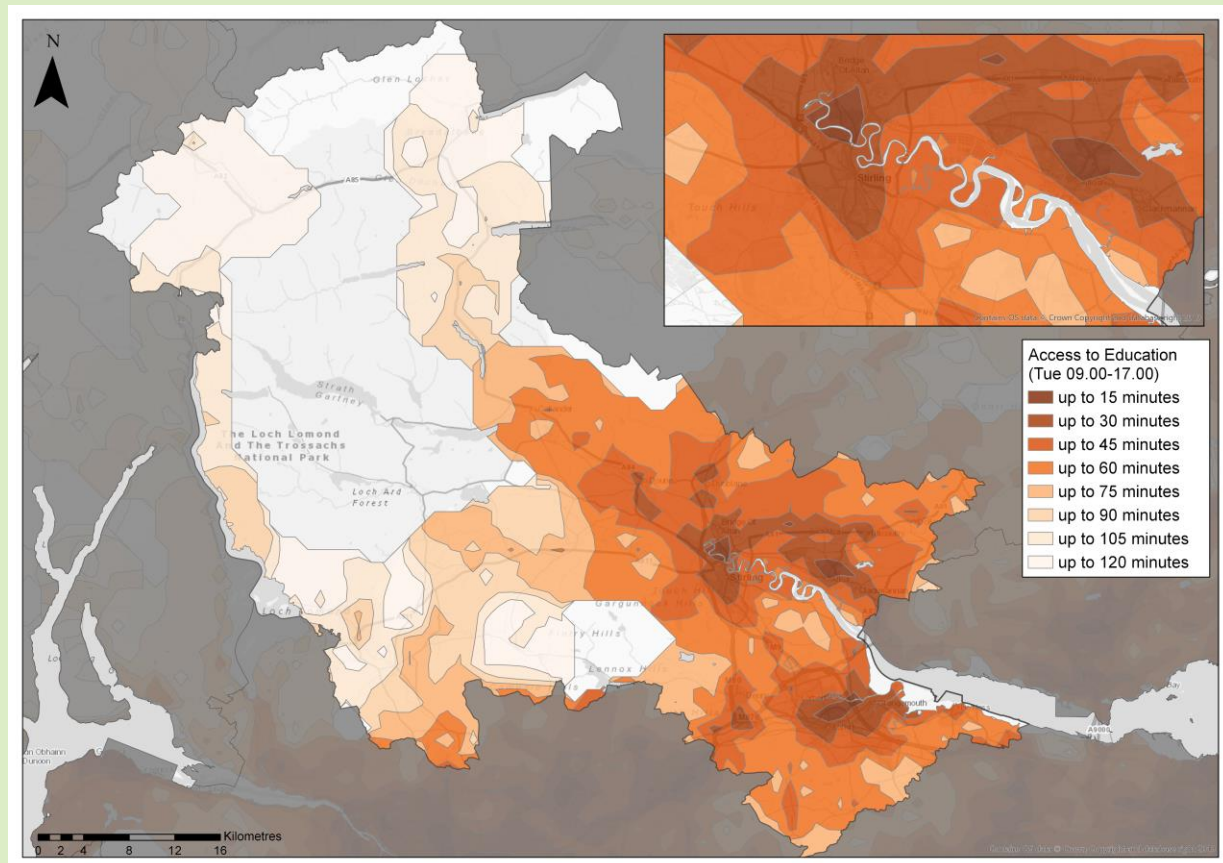


Figure 31: Public Transport Access to Further/Higher Education (click image to enlarge figure)

Figure 31 shows the access by public transport to further / higher education facilities, up to 120 minutes. TRACC analysis shows that 60% of all Forth Valley inhabitants are able to access further / higher education facilities within 30 minutes by public transport to / from their home on an average weekday (0600-1000 outbound; 1500-1900 inbound).

POOR ACCESSIBILITY AND CONNECTIVITY

Access to School by Walking

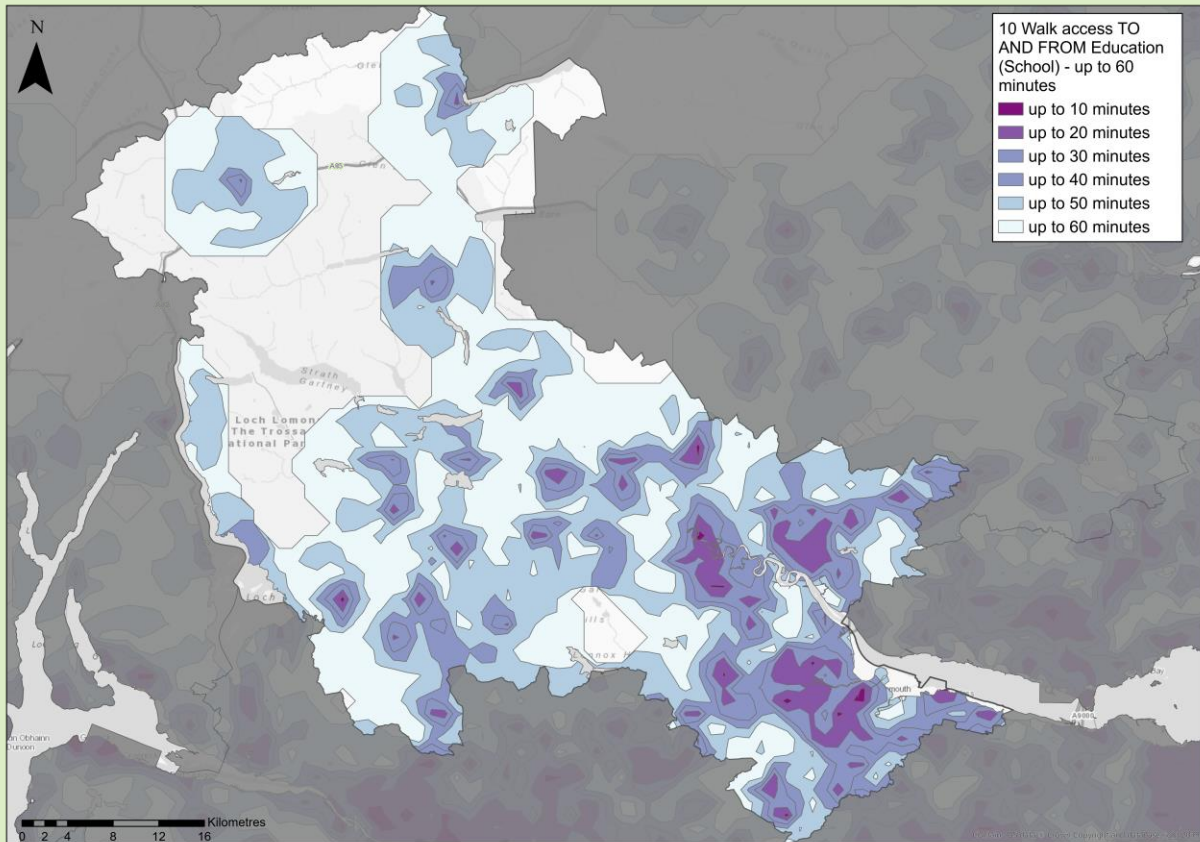


Figure 32: Walk Access to/from School (click image to enlarge figure)

Figure 32 shows the access by walking to /from school, up to 60 minutes. TRACC analysis indicates that 93% of all Forth Valley inhabitants are within a 30 minute walk catchment between School and their home (51% within 20 minutes and 28% within 10 minutes).



POOR ROAD USER EXPERIENCE

Road Condition

The Scottish Roads Maintenance Condition Survey (SRMCS) is an annual survey which assesses the condition of the Scottish adopted road network. It is used to calculate a Road Condition Indicator (RCI) that is used by Audit Scotland as a Statutory Performance Indicator (SPI) for reporting road condition. The survey is undertaken by an independent contractor, accredited by the Transport Research Laboratory (TRL).

The survey results are banded into 3 categories dependant on the severity of the defects present at the time of the survey. This is represented by Red, Amber and Green convention as follows:

- *Red - the road has deteriorated to the point at which it is likely repairs to prolong its future life should be undertaken*
- *Amber - further investigation should be undertaken to establish if treatment is required*
- *Green - minor defects may be present, but the road is considered to be in an acceptable condition*

42% of Stirling’s local authority roads are categorised as red (10%) or amber (32%), which is above the Scotland wide averages (7% red, 30% amber) respectively. Falkirk and Clackmannanshire are broadly in line with Scotland wide averages³⁷ (Table 4).

The data for Stirling suggests that road quality could be improved by undertaking repairs to prolong its future life. Relative to Scotland, the problem of poor quality roads raised during the stakeholder engagement is validated in Stirling. The problem is less acute for Falkirk and Clackmannanshire.

Table 4: Road Condition Indicator

Council Area	All Roads – Red (%)	All Roads – Amber (%)
Clackmannanshire	6	30
Falkirk	5	32
Stirling	10	32
Scotland	7	30

99% of 506 respondents from the Stirling Council LTS consultation (2016) agreed that ‘road safety, road maintenance, quality of roads and street environment for residents and visitors need to be considered when delivering the second LTS’.

³⁷ <https://www.transport.gov.scot/media/44025/scottish-transport-statistics-no-37-2018-edition.pdf>

POOR ROAD USER EXPERIENCE

Long Journey Times

Journey time analysis was undertaken using the INRIX tool which provides a comprehensive collection of historic speed and travel time data. The tool was used to analyse data for key corridors in the region. Analysis shows that average journey speed between Lochearnhead and Stirling (M9 Junction 10) is around 39mph, it further shows that average journey speed between Aberfoyle and Stirling (M9 Junction 10) is around 37mph highlighting slow journey speeds relative to signposted speed limits, between rural areas and a main employment and leisure centre. Whilst it is noted that signposted speed limits are not a target speed and drivers should drive to the conditions of the road, these average journey speeds can be seen to contribute to the perception of long journey times.

In addition to slow journey speeds, the data also illustrates an element of journey time variability in the region e.g. journey times from Tyndrun to Stirling (M9 Junction 10) range from around 65 minutes to around 75 minutes for a distance of 48.3 miles. By comparison, trips on the motorway network between M74 Junction 1 and M74 Junction 13, despite a longer distance (37 miles), have a shorter journey time of around 35 minutes at the same time of day.

POOR ROAD USER EXPERIENCE

Pinch-Points

Modelled data from the Transport Model for Scotland (TMfS14) has been analysed to establish the volume capacity ratio³⁸ of the trunk road network. This has been used to identify ‘pinch-points’ on the network i.e. roads in the 0.75-1 band or higher have been considered as over capacity.

Figure 33 illustrates that areas with the highest volume capacity ratios were generally in the city and more urban areas such as Stirling, Falkirk, Dunblane and Bridge of Allan, as well as at the key entry and exit points to the M80.

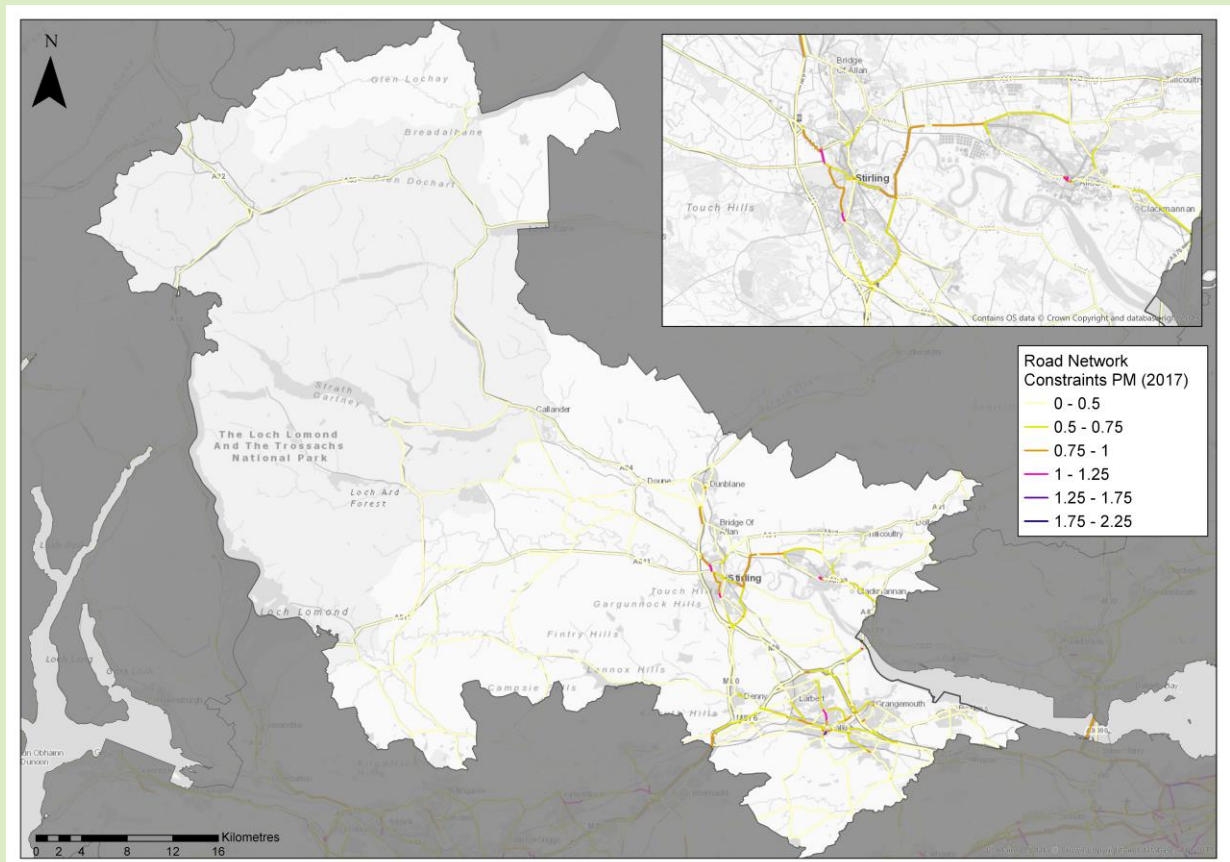


Figure 33: Network Capacity Constraints 2017 PM (TfMS) (click image to enlarge figure)

³⁸ Volume capacity ratio has been calculated by taking $([Time\ Period]_V + [Time\ Period]_{BUS_FLOW} * 2.2) / CAP$ for each time period in turn.

Where:

[Time Period]_V = Total non-PT time period hourly flow on the link in PCUs

[Time Period]_{BUS_FLOW} = Total time period hourly bus flow on the link in VEHICLES

CAP = Capacity of the link, in PCUs per hour

Note that the bus flow has been multiplied by 2.2 to convert from vehicles to PCUs.

HIGH COST OF PUBLIC TRANSPORT FARES

Fares

In addition to the actual cost of public transport fares, the relative measures of transport expenditure and transport poverty provide insight as to the true 'cost' of transport for residents of the Forth Valley region.

Bus and rail fares in the region are relatively high when compared to the rest of the country. The average full rail fare in the Forth Valley region is £0.24 per mile, this is the third most expensive in the country, with North East Scotland first and Tay Cities second³⁹. The cost of day tickets in each of Alloa, Falkirk and Stirling (£4.80 - £5) are also higher compared to the equivalent ticket type in Dundee (£3.50 / £3.80) and Perth (£4). The same is true for monthly tickets (£74.10 - £78) for Alloa, Falkirk and Stirling compared to £46 / £50 for Dundee and £42.50 for Perth⁴⁰.

There is also a considerable variation in the relative cost of fares for journeys of different types i.e. intra-regional and inter-regional. For example, Bridge of Allan to Stirling by train takes four minutes and a single ticket costs £2.60 (distance of approx. three miles) and Stirling to Edinburgh has a journey time of around 45 minutes (distance of approx. 37 miles) and costs only £9.40; proportionately, the shorter Bridge of Allan to Stirling trip is significantly more expensive. The rail fare between Stirling and Bridge of Allan costs 60p per minute, or 87p per mile, whereas the fare between Stirling and Edinburgh is 21p per minute, or 26p per mile.

By rail, Stirling to Edinburgh/Glasgow/Dundee is approximately the same travel time, however it costs approximately £12 more to travel to Dundee. Peak Return prices from Stirling are £16.10 to Edinburgh; £14.20 to Glasgow; £28.10 to Dundee (source National Rail, 2019). This limits the realistic work place destinations for people in Alloa and Stirling as well as limiting the potential hinterland for Dundee at the expense of Edinburgh and Glasgow.

There are approximately 3,400 designated parking spaces in Stirling⁴¹, with many more undesignated or on/off-street parking. Parking is readily available and relatively low cost compared to alternative modes of transport. E.g. parking for a family of four at the Forthside Car Park is £2 compared to £3.60 from the Park and Ride (P&R) (two adults + two children)⁴². It is increasingly challenging to encourage a switch to P&R and sustainable travel options with traffic contributing to congestion entering and leaving the area.

³⁹ MOIRA2.2 rail planning tool which utilises data sourced from the rail industry's ticketing and revenue system, LENNON.

⁴⁰ Operator's websites (correct as of 20 Feb 2020)

⁴¹ Stirling Strategic Park and Ride Study: Case for Change, (Systra, Feb 2020)

⁴² Stirling Car Park Information (Stirling Council, Feb 2020)

<https://www.stirling.gov.uk/roads-transport-streets/parking-zones-permits/parking-car-parks/>

HIGH COST OF PUBLIC TRANSPORT FARES

Similarly, all day town centre parking is available in Falkirk from £1.90⁴³ and free of charge in Alloa town centre⁴⁴, with all 800 Council managed public parking spaces in Clackmannanshire free of charge.

Views from young people⁴⁵ show many depend on public transport to access work and education but affordability of bus and train fares is an issue.

Transport Expenditure

The Office for National Statistics collects information on average weekly expenditure on goods and services in the UK, which is shown by region, age, income group, for example. 12 categories of spending are included in the information involving Food and Drink, Clothing, Household Goods and Education. Transport is included as one of the 12 categories. Within the category of Transport, expenditure is broken down into the sub-categories of Purchase of Vehicles, Operation of Personal Transport (fuel and repairs), and Transport Services (public transport costs). For the purposes of this analysis, detailed household expenditure by gross income decile group (FYE 2018) has been used.

Based on the information provided covering the financial year ending 2018, the average household in the UK in total spends £572.60, with £80.80 of this on Transport. This represents a 14.1% proportion of total expenditure. Of the 12 specified categories, Transport is the category with the most spent on it. This is compared to Food and Non-Alcoholic Drinks at £60.60, Clothing and Footwear at £24.30, and Housing, Fuel and Power at £76.10. The Transport category is then broken down by Purchase of Vehicles at £27.90, Operation of Personal Transport at £33.20, and Transport Services at £19.70.

Figure 34 shows the household expenditure on transport for the Forth Valley region which illustrates that household expenditure for a large proportion of the region exceeds the national average, equating to 19-20% of all expenditure in a number of locations, many of which are concentrated in the north west of the region.⁴⁶

⁴³ Falkirk Car Park Information (Falkirk Council, Feb 2020)

<https://www.falkirk.gov.uk/services/roads-parking-transport/streets-parking/car-parks.aspx>

⁴⁴ Clackmannanshire Car Park Information (Clackmannanshire Council, Feb 2020)

<https://www.clacks.gov.uk/transport/parking/>

⁴⁵ All Aboard, (Scottish Youth Parliament, Jan 2019) <https://syp.org.uk/campaign/all-aboard/>

⁴⁶ Spending patterns of UK households (ONS, Jan 2019)

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure>

HIGH COST OF PUBLIC TRANSPORT FARES

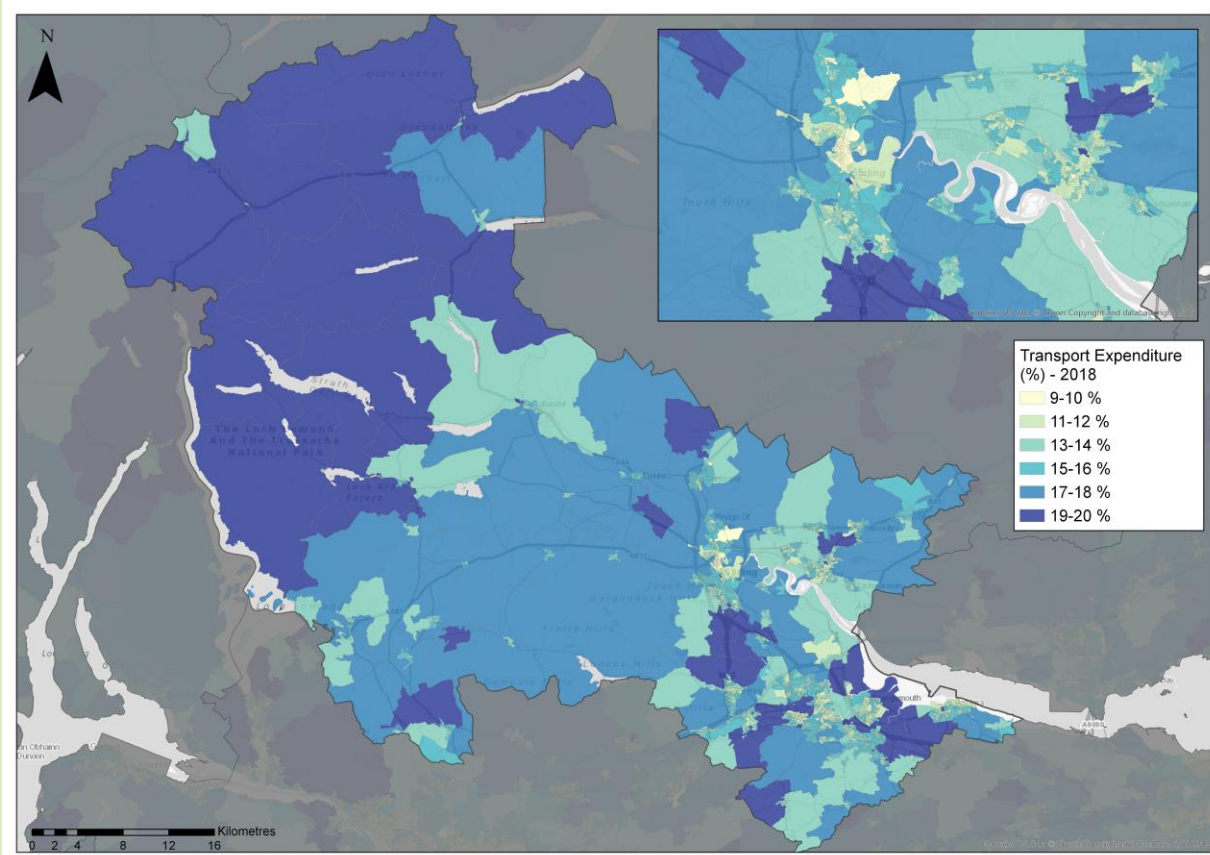


Figure 34: Transport Expenditure as Percentage of Household Expenditure (click image to enlarge figure)

Transport Poverty

A risk rating was allocated to each Scottish data zone by bringing together data on income, car availability and access to the public transport network, based on methodology developed by Sustrans⁴⁷. This highlights areas where motoring costs may place pressures on income, and where there may be risk to communities from exclusion when alternatives to accessing key services are not available.

Risk of transport poverty was considered to be greatest in areas with (relatively) low income, high car availability and low access to essential services by public transport. Each datazone is categorised as high, medium or low risk of Transport Poverty (Figure 35) and is mapped across Forth Valley in Figure 36.

⁴⁷ Transport Poverty in Scotland (Sustrans, 2016) https://www.sustrans.org.uk/media/2880/transport_poverty_in_scotland_2016.pdf



Figure 35: Derivation of transport poverty score

In the Forth Valley region, 50% of datazones were classified as high risk for transport poverty compared to 38% in Scotland; 43% were classified as medium risk compared to 41% in Scotland; and 7% were classified as low risk compared to 21% in Scotland. This suggests that the region is at relatively high risk of transport poverty (Figure 36). With 64% of Clackmannanshire’s datazones categorised as high risk in terms of transport poverty, it represents the joint 5th highest proportion amongst all Scottish local authorities. Table 5 presents the proportion of datazones in each risk level for the Forth Valley local authority areas.

Table 5: Transport Poverty 2016 by Local Authority

Council Area	High Risk Datazones (%)	Medium Risk Datazones (%)	Low Risk Datazones (%)
Clackmannanshire	64	35	1
Falkirk	50	43	6
Stirling	41	47	12
Scotland	38	41	21

In comparison to other regions, the level of Transport Poverty in the Forth Valley region has the 6th highest proportion of high risk datazones.

HIGH COST OF PUBLIC TRANSPORT FARES

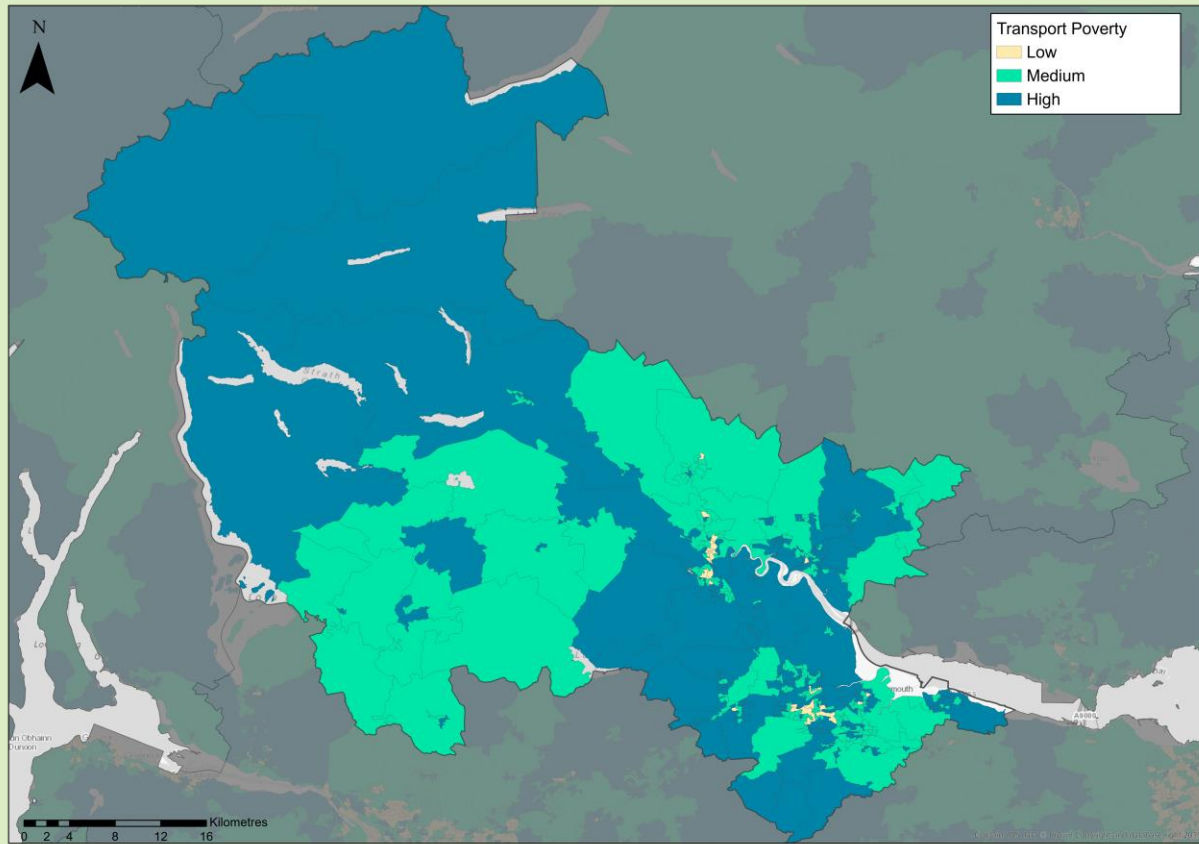


Figure 36: Transport Poverty 2016 by Datazone (click image to enlarge figure)

BARRIERS TO ACTIVE TRAVEL

The Stirling Local Development Plan Development Planning & Management: Transport Appraisal Guidance (DPMTAG) report identified 'a number of problems and issues that primarily act as a barrier to movement and act as a disincentive to travel by sustainable and active travel modes'⁴⁸. These are listed below:

- *Stirling city transport network is dominated by a dual carriageway with two busy roundabout junctions restricting movement in and out of the city centre. Some of the active travel routes are severed by busy arterial routes, railway lines, and the River Forth;*
- *Incomplete cycle network;*
- *Severance issues act as barriers to walking;*
- *Safety concerns from cyclists;*
- *Other than travel to and from the University of Stirling and Kildean, which reflects a higher proportion of walking and cycling trips than elsewhere across the city, the scope to promote active travel modes is not as great as in the city centre;*
- *Limited existing walking and cycling opportunities between the communities and to and from Stirling;*
- *Physical constraints such as A91 act as barriers to walking and cycling from eastern villages; and*
- *Limited safe walking and cycling routes in the countryside to local facilities and services.*

Stakeholder engagement activities including schools workshops further identified concerns regarding active travel provision in rural locations with a lack of cycle routes and pedestrian facilities between villages highlighted. Fragmented cycle routes was raised as a concern in workshops and highlighted in stakeholder engagement reports.

Where cycle routes are available, they are frequently classified as on-road routes⁴⁹; this has been raised by stakeholders as a direct contributory factor of safety concerns and as such deterring many from cycling. For example, the NCN network between Falkirk and Stirling and Stirling to Dunblane is on road (Figure 22).

At a local level, the Cycling Scotland Monitoring Report provides further information although date for this data not recorded. There is a wide variation in the levels of Level 2 Bikeability Scotland training in primary schools across Forth Valley: 33.3% of schools in Clackmannanshire, 6% in Falkirk, and 71.8% in Stirling⁵⁰. The same report notes the percentage of employees cycling to work usually / regularly across the region: 5.3% in Clackmannanshire, 5.4% in Falkirk, and 3.6% in Stirling. Percentage of households with access to one or more bikes for private use range from 31.9% in Clackmannanshire, 33% in Falkirk, to 42% in Stirling.

⁴⁸ Stirling Local Development Plan Development Planning & Management: Transport Appraisal Guidance report (SiAS, June 2016)

<https://my.stirling.gov.uk/media/3647/transport-dpmtag-appraisal-report.pdf>

⁴⁹ National Cycle Network mapped <https://osmaps.ordnancesurvey.co.uk/ncn>

⁵⁰ Annual Cycling Monitoring Report 2019 (Cycling Scotland, 2019)

<https://www.cycling.scot/mediaLibrary/other/english/6353.pdf>

BARRIERS TO ACTIVE TRAVEL

Scottish Road Safety Reduction 2020 targets were established by the Road Safety Framework and came in to effect in 2010, taking the place of the previously applied UK-wide targets. The targets are based on a 2004-2008 baseline⁵¹. Table 6 presents the number of recorded casualties by mode of transport from the baseline period of 2004-2008 to 2013-2017. A casualty is defined as a person killed or injured in an accident. Casualties are sub-divided into killed, seriously injured and slightly injured⁵²:

- Killed: Human casualties who sustained injuries which caused death less than 30 days (before 1954, about two months) after the accident. Confirmed suicides are excluded
- Serious injury: An injury for which a person is detained in hospital as an “in-patient”, or any of the following injuries whether or not they are detained in hospital: fractures, concussion, internal injuries, crushings, burns (excluding friction burns), severe cuts, severe general shock requiring medical treatment and injuries causing death 30 or more days after the accident. An injured casualty is recorded as seriously or slightly injured by the police on the basis of information available within a short time of the accident. This generally will not reflect the results of a medical examination, but may be influenced according to whether the casualty is hospitalised or not. Hospitalisation procedures will vary regionally
- Slight injury: An injury of a minor character such as a sprain (including neck whiplash injury), bruise or cut which are not judged to be severe, or slight shock requiring roadside attention. This definition includes injuries not requiring medical treatment.

Table 6: Average Yearly Casualties 2013-2017 by Mode

Local Authority	Bike	Bus	Car	HGV	LGV	Motor cycle	Pedestrian	Other
Clackmannanshire	8	1	48	0	2	4	14	1
Falkirk	23	2	209	2	9	19	38	3
Stirling	18	4	162	3	11	24	25	3
Forth Valley	50	7	418	5	22	48	77	7

Although the number of road casualties in Forth Valley has decreased between 2004-08 and 2013-17 across most modes, the number of casualties involving cyclists has increased over the same time period. Mode share figures suggest there hasn't been an increase in cycling activity across the same time period. Table 7 shows the severity of

⁵¹ Scotland's Road Safety Framework to 2020 (Scottish Government, 2009)

<https://www2.gov.scot/resource/doc/274654/0082190.pdf>

⁵² Reported Road Casualties in Great Britain: notes, definitions, symbols and conventions – 2017

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/743853/reported-road-casualties-gb-notes-definitions.pdf

BARRIERS TO ACTIVE TRAVEL

cyclist casualties by year in Forth Valley between 2013 and 2017⁵³. Figure 37 maps the location of the cyclist casualties in Forth Valley between 2013 and 2017.

Table 7: Cyclist casualties by severity

Year	Slight	Serious	Fatal	Total
2013	52	10	0	62
2014	38	15	1	54
2015	37	10	0	47
2016	38	7	1	46
2017	32	9	0	41
Total	197	51	2	250

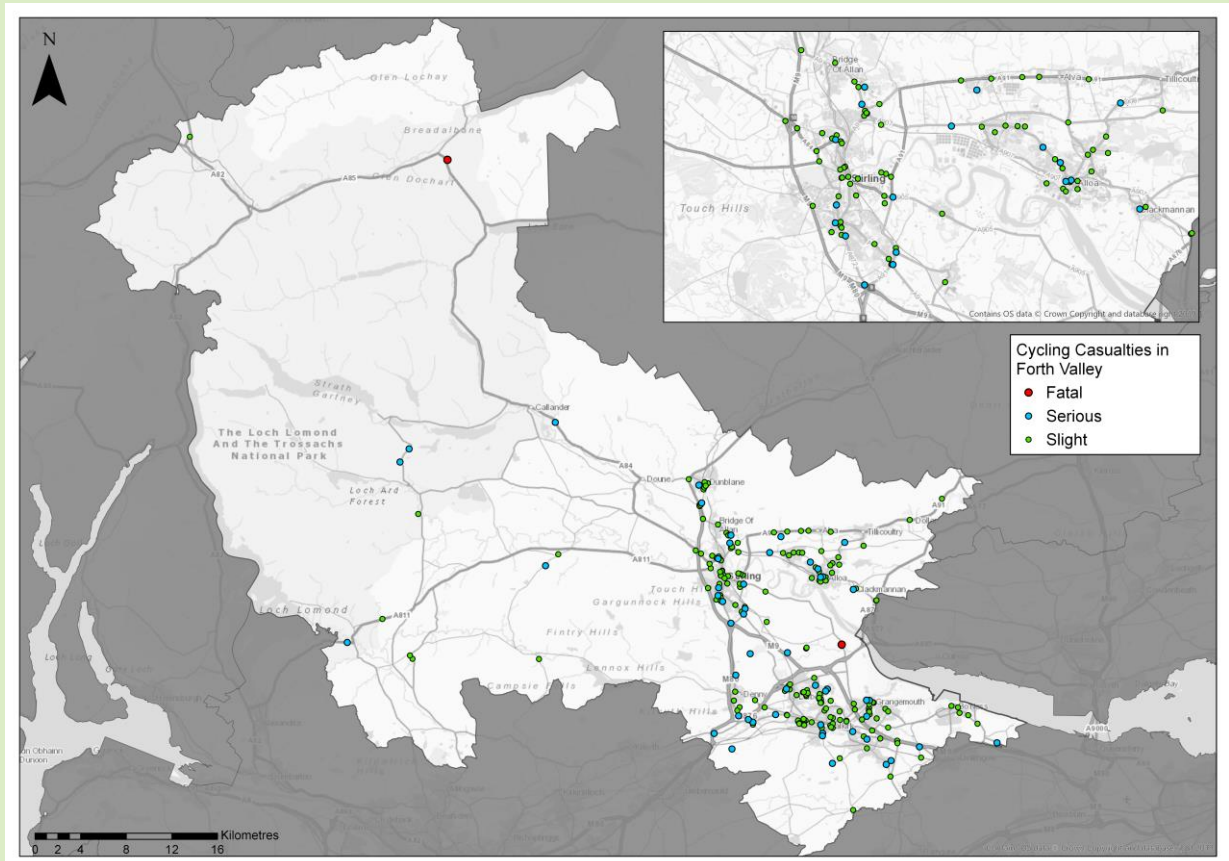


Figure 37: Cyclist Casualties in Forth Valley 2013-2017, by severity (click image to enlarge figure)

⁵³ STATS19 Accident Data (DfT) <https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data>

BARRIERS TO ACTIVE TRAVEL

The Cycling Scotland Monitoring Report 2019⁵⁴ notes that for Scotland the KSI rate per million cycle vehicle kms increased from 0.54 in 2016 to 0.61 in 2017 but that the overall casualty rate per million cycle vehicle kms decreased from 2.74 in 2016 to 2.51 in 2017 (it is not possible to compare figures to earlier years as the cycle vehicle km calculations were revised in 2016).

Table 8 shows the severity of pedestrian casualties by year in Forth Valley between 2013 and 2017. Figure 38 maps the pedestrian casualties in Forth Valley between 2013 and 2017. The pedestrian casualties are concentrated in the more built-up areas.

Table 8: Pedestrian casualties by severity

Year	Slight	Serious	Fatal	Total
2013	74	20	3	97
2014	46	16	0	62
2015	57	25	3	85
2016	57	15	0	72
2017	42	26	1	69
Total	276	102	7	385

⁵⁴ Annual Cycling Monitoring Report 2019 (Cycling Scotland, 2019)
<https://www.cycling.scot/mediaLibrary/other/english/6353.pdf>

BARRIERS TO ACTIVE TRAVEL

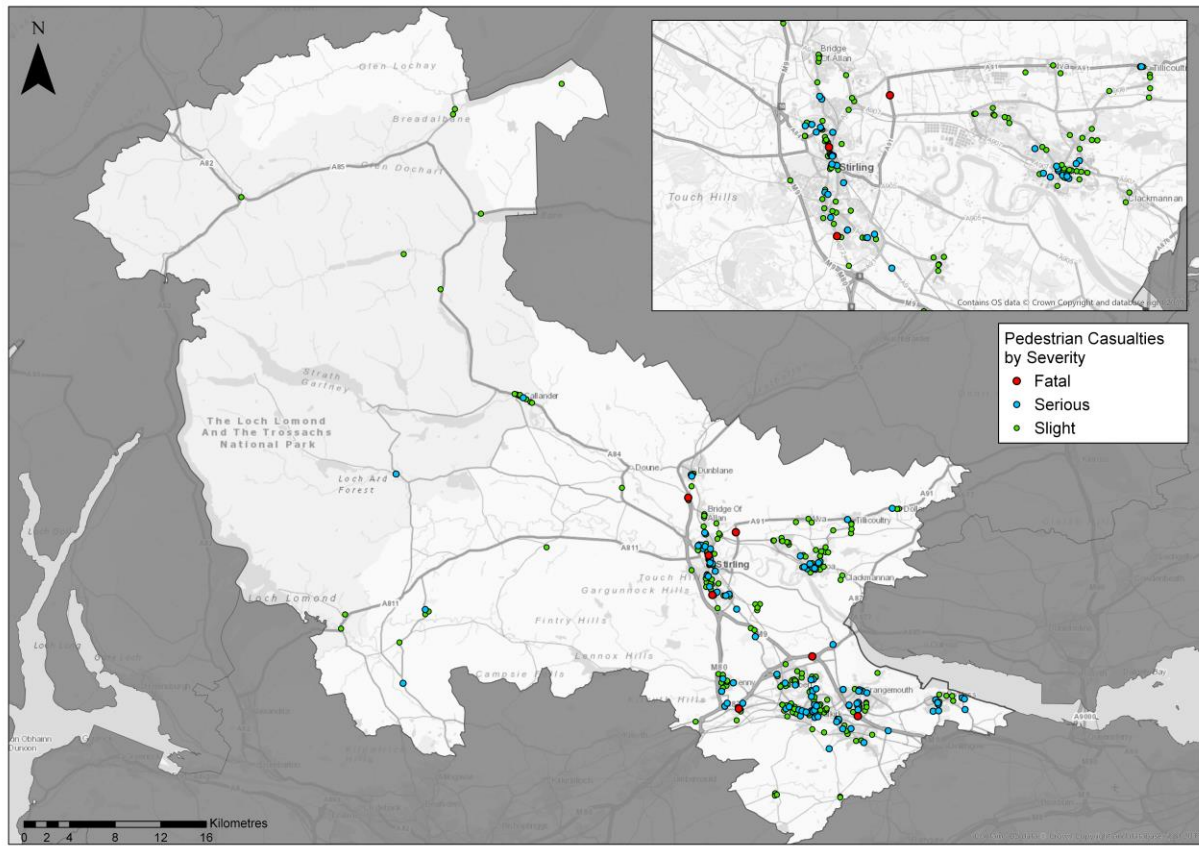


Figure 38: Pedestrian Casualties in Forth Valley 2013-2017, by severity (click image to enlarge figure)

LIMITED DIGITAL CONNECTIVITY

In a transport context, digital connectivity is of importance due to its role as an enabler of e.g.:

- Managing traffic systems;
- Providing real-time passenger information services; and
- Working from home and remote meeting services.

However, it could be argued that increasing the levels of working from home may reduce the demand for public transport.

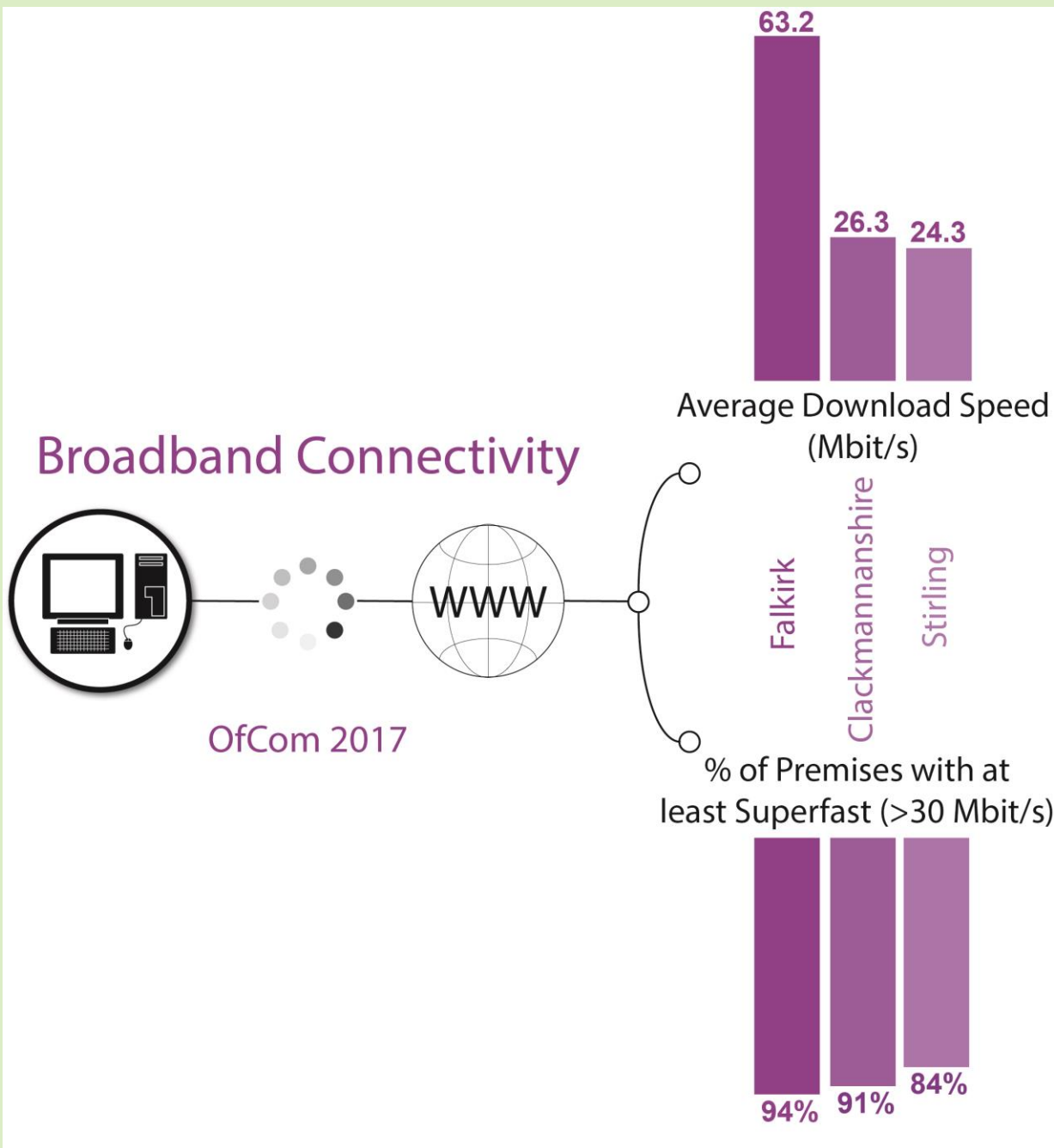


Figure 39: Broadband availability

LIMITED DIGITAL CONNECTIVITY

According to the Connected Nations Update from summer 2019 (Figure 39), there is a degree of variability across the Forth Valley region regarding broadband speed and availability⁵⁵.

SFBB = Access to a download speed of 30Mbit/s or higher (superfast)

UFBB = Access to a download speed of 300Mbit/s or higher (ultrafast)

Full fibre = Full-fibre broadband uses fibre optic cables to connect the exchange directly to each premises. Full-fibre connections are capable of download and upload speeds over 1 Gbps. It is currently the fastest and most reliable broadband technology.

The Connected Nations update report further illustrates that:

- 94% of premises in Clackmannanshire had access to superfast broadband (SFBB) and 78% in Stirling which is much greater than the 14% for the Falkirk area. This compares to 93% of all Scottish households.
- 83% of premises in Falkirk have ultrafast broadband (UFBB), making it the highest of Forth Valley local authorities, compared to just 10% in Stirling and less than 1% in Clackmannanshire. This compares to 46% of all Scottish households.
- 5% of Stirling households have access to Full Fibre whilst Falkirk and Clackmannanshire were less than 1%. This compares to 6% of all Scottish households.
- Whilst the proportion of premises with access to SFBB and Full Fibre suggests connectivity in Forth Valley is improving, the figures illustrate that for many in the region, digital connectivity remains an issue.
- Stirling has the highest proportion (4.7%) of households in Forth Valley that are unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s which is the UK Universal Service Obligation (USO). This compares to 0.3% of households in Clackmannanshire, 1.3% of households in Falkirk and 4% of Scottish households.

Digital connectivity is limited in Forth Valley and remains an issue, as slow broadband speed limits the opportunities for home working. However, this is not an area that STPR2 can directly address.

⁵⁵ <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-update-summer-2019>



3.2.2. Online Survey: Reported Problems in the Forth Valley Region

As part of the wide-ranging engagement exercise undertaken for STPR2, an online survey was promoted to collect the views from the public and organisations across Scotland on the transport issues and challenges that impact their day to day journeys. As part of the survey, respondents were asked to rank their top 3 priority problems.

Top ranking problems for the Forth Valley region included:

- **Bus - Frequency and reliability of bus services**, which **30** respondents ranked as their top priority and **53** ranked within their top 3;
- **Cycling - Availability of safe cycling infrastructure**, which **26** respondents ranked as their top priority and **32** ranked within their top 3;
- **Roads - Quality of roads infrastructure**, which **16** respondents ranked as their top priority and **38** ranked within their top 3;

Other commonly raised areas of concern related to access to the nearest rail station, cost of rail travel, connectivity to other parts of Scotland, and cost of bus travel.

The findings from the survey have been used to inform and further validate the identification of the transport related problems described in this section.

3.2.3. Opportunities

This section provides a summary of key opportunity themes identified for the Forth Valley region.

Public Transport Interchange, Accessibility and Connectivity

The opportunities offered for improved transport (especially public transport) accessibility and connectivity are evidenced earlier in this report under the problems section. As is often the case a problem can be the starting point for an opportunity under the right circumstances. In addition to the evidence outlined earlier, stakeholder engagement highlighted the strong policy and strategy (NTS2) framework for improvements to public transport services in Scotland. A number of stakeholders mentioned the opportunity to better integrate transport services within the Forth Valley region.

Active and Sustainable Travel

The strong political and policy environment for active travel was noted repeatedly during stakeholder engagement. This is evidenced in the more than doubling of the Scottish Government budget for active travel measures in recent years and the emphasis placed on walking, wheeling and cycling within the sustainable travel hierarchy within NTS2.

It was noted that development of the active travel network for everyday as well as leisure and recreational trips, *“helps people make healthy living choices and assists in delivering places that are happier, more inclusive and equal, and more prosperous”*⁵⁶. In so doing this supports the people and places agenda within Scottish Government.

Transport Scotland’s Review of Active Travel Policy Implementation (2016)⁵⁷ identifies the factors that enable more people to walk and cycle more often:

- The right infrastructure (good quality routes, connecting the right places, associated parking and other elements)
- The right information
- The right enablers of change (access to bikes, led walks, etc)
- The right attitudes (active travel seen to be relevant, acceptable).

Recent research undertaken for Cycling Scotland⁵⁸ shows that, setting aside journeys that are too far to cycle and poor weather, the main perceived barriers to cycling are feeling unsafe and lack of appropriate infrastructure, both of which can be addressed by appropriate network development.

Climate Change Emergency

The Climate Emergency was often cited in the stakeholder consultation as offering an opportunity to make transport investment decisions that encourage people out of private vehicles through better active travel and public transport provision. It was felt that the time was right for a step change in sustainable transport provision when linked to the strong political and policy environment and increasing awareness within the wider public. There are therefore opportunities for transport to shape the pathways to help deliver a net zero Scotland. It is also acknowledged that elements of the climate emergency (in the context of STAG) are more related to issues than opportunities.

⁵⁶ Scottish Government Active Travel Framework, 2019
<https://www.transport.gov.scot/media/46400/sct09190900361.pdf>

⁵⁷ <https://www.transport.gov.scot/publication/review-of-active-travel-policy-implementation/>

⁵⁸ Attitudes and Behaviours Towards Cycling in Scotland
<https://www.cycling.scot/mediaLibrary/other/english/7268.pdf>



Technology

Technology was viewed by stakeholders as a potential aid to address some of the problems raised earlier in this report or leveraging other opportunities. Areas specifically identified include:

- Alternative Low Emission Fuels – there is significant potential for alternative low emission fuels in the region. Transport definitely has a role to play in their development but it is acknowledged that wider issues within the energy market and other industry sectors may have more influence on how the market develops.
- Ticketing – the advent of modern, integrated and in some instances digital ticketing solutions represents an opportunity for the transport industry that to date was not considered as well developed in the Forth Valley region. Comparisons were drawn with Edinburgh.
- MaaS/Online travel information – Tactran has recently been awarded funds from the MaaS Scotland Investment Fund, to roll out MaaS solutions in partnership with NHS Tayside, Dundee & Angus College and Loch Lomond and the Trossachs National Park. SEStran are also developing related initiatives.
- Home/Flexible Working– opportunities exist to reduce the need to travel by working from home or having flexibility on the time and date of travel. This is often linked to improved digital infrastructure and services, which in the context of STPR2, is considered to be an issue not an opportunity.

The above initiatives and others demonstrate a good willingness from the region's transport authorities and other partners to identify and capitalise on the new technological opportunities becoming available within the transport sector.

During stakeholder engagement, issues around alternative transport governance arrangements were identified alongside the constraints of current funding streams. It was noted that the NTS2 does identify that transport governance and collaboration will be improved through the continuation of the work initiated through the NTS roles and responsibilities group. Stakeholders also noted the opportunities available for alternative funding streams such as the emerging Growth deals in the region, 'greening the last mile' and workplace parking levies as contained within the recent Transport (Scotland) Act.



3.2.4. Summary of Problems & Opportunities

- Poor accessibility and connectivity: This has been identified as a problem across the region, but most significantly in the areas outwith urban centres, predominantly to the north west of the region.
- Poor road user experience: This has been identified primarily in relation to the quality and maintenance of existing infrastructure, slow journey times and network 'pinch-points'.
- High cost of public transport fares: A larger proportion of Forth Valley datazones are classified as being at 'high risk' of Transport Poverty compared to the national proportion. Household expenditure on transport for a large proportion of the region exceeds the national average, equating to 19-20% of all expenditure in a number of locations, many of which are concentrated in the north west of the region
- Barriers to active travel: Where cycle routes are available, they are frequently classified as on-road routes, leading to perceived safety issues. Physical constraints such as the A91 act as barriers to walking and cycling from eastern villages and there are limited safe walking and cycling routes in the countryside to local facilities and services.
- Limited digital connectivity: Digital connectivity is limited in Forth Valley and remains an issue, as slow broadband speed limits the opportunities for home working. However, this is not an area that STPR2 can directly address.
- There are opportunities in the region associated with: Public Transport Interchange; Accessibility and Connectivity; Active and Sustainable Travel; Climate Change Emergency; and Technology.

3.2.5. Future Conditions

The problems and opportunities identified above are focused on current issues drawing on the findings from data analysis and engagement. Given the timescales for the delivery of STPR2, there is a need for 'horizon scanning' to better understand how potential future uncertainties could impact the operation and management of the strategic transport network, a knowledge of which will support the identification of interventions that are resilient in the face of potential alternative futures. This process of scenario planning will consider major disrupters and uncertainties (e.g. alternative working practices, new transport technologies, future transport policy developments) and is accordingly being carried out at a national level for the STPR2 programme as a whole. However, to support this, consideration has also been given to future network conditions and uncertainties at a more localised level.



For Forth Valley, a review of the national transport model, the Transport Model for Scotland (TMfS), has suggested that between 2014 and 2037, the following trends have been projected⁵⁹; this assumes that current policies remain in place and no interventions beyond those already committed will be undertaken.

- Road Traffic (billion vehicle miles p.a.): a 34% increase in the region, slightly lower than the national growth of 37%.
- Road Congestion (PM Peak Delay seconds/mile): 9% increase in the region, lower than 37% rise across Scotland.
- Bus Passenger mileage forecasts: 10% decrease, higher than the national decline of 5%.
- Rail Passenger mileage forecasts: 72% increase compared to a 42% rise across Scotland.

Based on these projections, it is clear that there are major challenges ahead which STPR2 must respond to if the transport sector is to play its role in supporting the Scottish Government commitment to meet its net zero emission target.

⁵⁹ Transport Forecasts 2018 Results from Transport Scotland's Land-use and Transport Models, Transport Scotland: <https://www.transport.gov.scot/media/43316/transport-forecasts-2018.pdf>



4. Transport Planning Objectives

Transport Planning Objectives (TPOs) are of central importance to the STAG process. In line with STAG, TPOs should align with the outcomes sought by the study, be based on a comprehensive understanding of problems and opportunities and lend themselves to clear and transparent appraisal of transport options. The TPOs are a key element of the appraisal process from initial option identification and sifting through to Preliminary and Detailed appraisal and subsequent monitoring/evaluation.

For STPR2, TPOs have been developed to sit at both the national and regional levels. At a national level, an overarching set of programme-level TPOs, supported by national sub-objectives, have been established which are closely aligned with the four priorities, 12 outcomes and 24 policies contained within the new National Transport Strategy (NTS2).

A series of regional sub-objectives sit within the overall direction of the national objectives but with a particular focus on the specific evidence-based problems and opportunities for Forth Valley. The national TPOs and draft emerging regional focused sub-objectives are also presented in Table 9 detailed below.



Table 9: National and Regional TPOs

STPR2 OBJECTIVE	SUB-OBJECTIVES
<p>A sustainable strategic transport system that contributes significantly to the Scottish Government’s net zero emissions target.</p>	<ul style="list-style-type: none"> ▪ <i>Reduce the consumption of fossil fuels through managing travel demand and enable a shift to more sustainable modes of transport, alleviating pressure on and improving air quality at 'pinchpoints' and AQMAs.</i> ▪ <i>Increase the share of active travel for everyday journeys, particularly in the main population centres of Alloa, Falkirk and Stirling.</i> ▪ <i>Increase the share of public transport, with a particular focus on travel outwith the main population centres of Alloa, Falkirk and Stirling.</i> ▪ <i>Reduce emissions generated by the transport system.</i>
<p>An inclusive strategic transport system that improves the affordability and accessibility of public transport.</p>	<ul style="list-style-type: none"> ▪ <i>Increase public transport share by connecting sustainable modes of transport, with a focus on key interchanges in the region.</i> ▪ <i>Improve mobility and inclusion, with a particular focus on interventions that improve mobility for all, particularly outwith the urban centres of Alloa, Falkirk and Stirling.</i> ▪ <i>Reduce transport poverty by increasing travel choice, particularly outwith the urban centres of Alloa, Falkirk and Stirling.</i> <ul style="list-style-type: none"> ○ <i>Reduce the reliance on private car by enhancing public transport options to access key centres for healthcare, employment and education, within the region and key destinations, particularly in the central belt.</i>
<p>A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing.</p>	<ul style="list-style-type: none"> ▪ <i>Reduce demand for unsustainable travel by only promoting interventions that support and embed holistic place principles in changes to the strategic transport system.</i> ▪ <i>Increase the share of active travel for shorter everyday journeys, particularly in the main population centres of Alloa, Falkirk and Stirling.</i> ▪ <i>Reduce demand for unsustainable travel arising from nationally significant growth areas, taking cognisance of</i>



STPR2 OBJECTIVE	SUB-OBJECTIVES
	<p><i>the Local Development Plans and emerging NPF4 network.</i></p>
<p>An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland.</p>	<ul style="list-style-type: none"> ▪ <i>Increase sustainable access to labour markets and key centres for employment, education and training both within Forth Valley and other key destinations in the Central Belt.</i> ▪ <i>Increase competitive transport access by all modes to key domestic and international markets, by reducing costs and improving journey time reliability for commercial transport, within Forth Valley, to key destinations in the Central Belt and to Forth Ports.</i> ▪ <i>Increase resilience of accesses to key domestic and international markets to encourage people to live, study, visit and invest in Forth Valley.</i> ▪ <i>Make better use of existing transport infrastructure through the adoption of beneficial transport innovations</i> ▪ <i>Increase the mode share of freight by sustainable modes</i>
<p>A reliable and resilient strategic transport system that is safe and secure for users.</p>	<ul style="list-style-type: none"> ▪ <i>Increase resilience from disruption on Forth Valley’s strategic road and rail infrastructure.</i> ▪ <i>Reduce transport related casualties in line with reduction targets, with a particular focus on reduction of the number and severity of cycling collisions in Forth Valley.</i> ▪ <i>Improve resilience through climate change adaptation within the management and maintenance of Forth Valley's strategic road and rail infrastructure.</i> ▪ <i>Improve perceived and actual security on Forth Valley's strategic road and rail infrastructure</i>

Table 10 demonstrates the alignment of the objectives/outcomes developed for the Forth Valley region with the identified problems and opportunity themes in the region.

Table 10: Objectives vs Problems / Opportunities

National Objective/Outcome	Regional Sub-Objective/Outcome	Problems					Opportunities			
		Poor accessibility and connectivity	Poor road user experience	High cost of public transport fares	Barriers to active travel	Limited digital connectivity	Public Transport Interchange, Accessibility and Connectivity	Active and Sustainable Travel	Climate Change Emergency	Technology
A sustainable strategic transport system that contributes significantly to the Scottish Government's net zero emissions target	Reduce the consumption of fossil fuels through managing travel demand and enable a shift to more sustainable modes of transport, alleviating pressure on and improving air quality at 'pinchpoints' and AQMAs.									
	Increase the share of active travel for everyday journeys, particularly in the main population centres of Alloa, Falkirk and Stirling.									
	Increase the share of public transport, with a particular focus on travel outwith the main population centres of Alloa, Falkirk and Stirling.									
	Reduce emissions generated by the transport system.									
An inclusive strategic transport system that improves the affordability and accessibility of public transport	Increase public transport share by connecting sustainable modes of transport, with a focus on key interchanges in the region.									
	Improve mobility and inclusion, with a particular focus on interventions that improve mobility for all, particularly outwith the urban centres of Alloa, Falkirk and Stirling.									
	Reduce transport poverty by increasing travel choice, particularly outwith the urban centres of Alloa, Falkirk and Stirling.									
	Reduce the reliance on private car by enhancing public transport options to access key centres for healthcare, employment and education, within the region and key destinations, particularly in the central belt.									
A cohesive strategic transport system that enhances communities as places, supporting health and wellbeing	Reduce demand for unsustainable travel by only promoting interventions that support and embed holistic place principles in changes to the strategic transport system.									
	Increase the share of active travel for shorter everyday journeys, particularly in the main population centres of Alloa, Falkirk and Stirling.									
	Reduce demand for unsustainable travel arising from nationally significant growth areas, taking cognisance of Local Development Plans and the emerging NPF4.									
An integrated strategic transport system that contributes towards sustainable inclusive growth in Scotland	Increase sustainable access to labour markets and to key centres for employment, education and training both within Forth Valley and other key destinations in the Central Belt.									
	Increase competitive transport access by all modes to key domestic and international markets, by reducing costs and improving journey time reliability for commercial transport, within Forth Valley, to key destinations in the Central Belt and to Forth Ports.									
	Increase resilience of accesses to key domestic and international markets to encourage people to live, study, visit and invest in Forth Valley.									



National Objective/Outcome	Regional Sub-Objective/Outcome	Problems					Opportunities			
		Poor accessibility and connectivity	Poor road user experience	High cost of public transport fares	Barriers to active travel	Limited digital connectivity	Public Transport Interchange, Accessibility and Connectivity	Active and Sustainable Travel	Climate Change Emergency	Technology
	Make better use of existing transport infrastructure through the adoption of beneficial transport innovations									
	Increase the mode share of freight by sustainable modes									
A reliable and resilient strategic transport system that is safe and secure for users	Increase resilience from disruption on Forth Valley's strategic road and rail infrastructure.									
	Reduce transport related casualties in line with reduction targets, with a particular focus on reduction of the number and severity of cycling collisions in Forth Valley.									
	Improve resilience through climate change adaptation within the management and maintenance of Forth Valley's strategic road and rail infrastructure.									
	Improve perceived and actual security on Forth Valley's strategic road and rail infrastructure									



5. Approach to Option Generation and Sifting

5.1. Strategic Options

As set out earlier, STPR2 specifically focusses on Scotland's key strategic transport assets. In the context of STPR2, a strategic transport project is defined as any transport project that materially contributes to Scottish Government/Transport Scotland policies and strategies.

Specifically, this will include:

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

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

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

A strategic transport project will not include:

- Changes in vehicle regulation and taxation;
- Planning led initiatives (e.g. changes to the statutory planning process);
- Changes to the governance framework within which transport delivery and operation takes place;
- Concessionary fares; or
- Routine and cyclic maintenance measures.



5.2. Approach to Option Generation and Sifting

The approach to the generation of interventions for STPR2, including the interventions identified at the regional level for Forth Valley, is summarised in Figure 40 below.

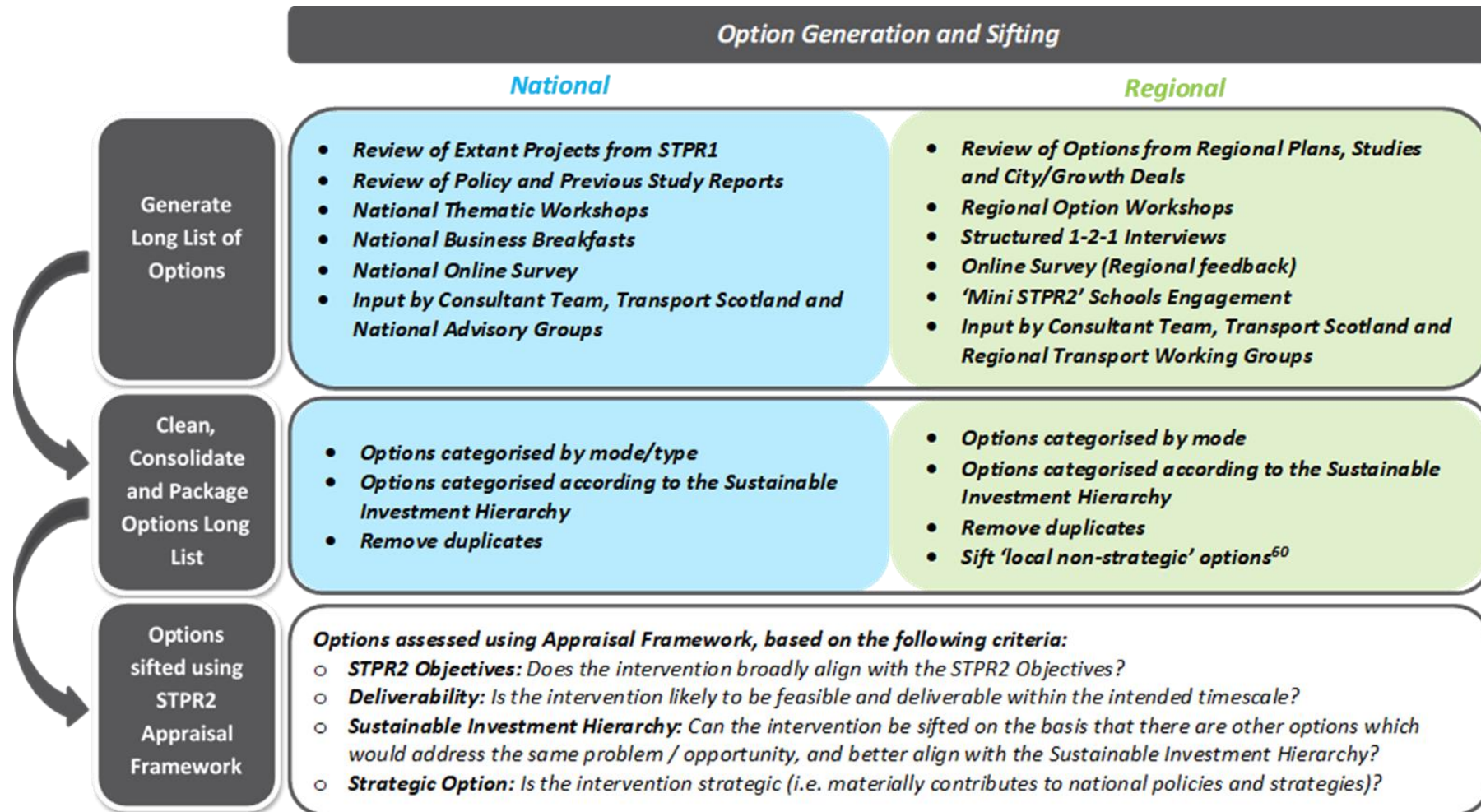


Figure 40: Approach to Option Generation and Sifting

⁶⁰ Local options which could become strategic as part of a national programme of interventions, or could be packaged to become strategic would be taken forward. Other, local options specific to an issue in a region would be sifted from STPR2 and the evidence shared with the respective regional/local transport organisation for further consideration.



Figure 41: Sustainable Investment Hierarchy

As noted, a long list of options for consideration through STPR2 have been generated from a range of national and regional option generation exercises. At the Forth Valley level, work has included the option generation workshop held in Stirling in November 2019, as well as a review of interventions identified from recent previous studies completed in the region.

The process of option generation for STPR2 is being informed and structured around the sustainable investment hierarchy which was outlined within the NTS2, shown in Figure 41.

5.3. Next Steps

Going forward, the long list of options will be developed and sifted in line with the approach set out in Section 5.2, with the resulting short list of interventions appraised in line with the STAG-based Appraisal Framework developed for STPR2.

Commenting on this Report

As part of ongoing engagement, comments on this draft Case for Change Report can be submitted using a comments form that can be accessed [here](#). The closing date for comments is midnight on Wednesday 8th April 2020.



APPENDICES



Appendix A: Figures

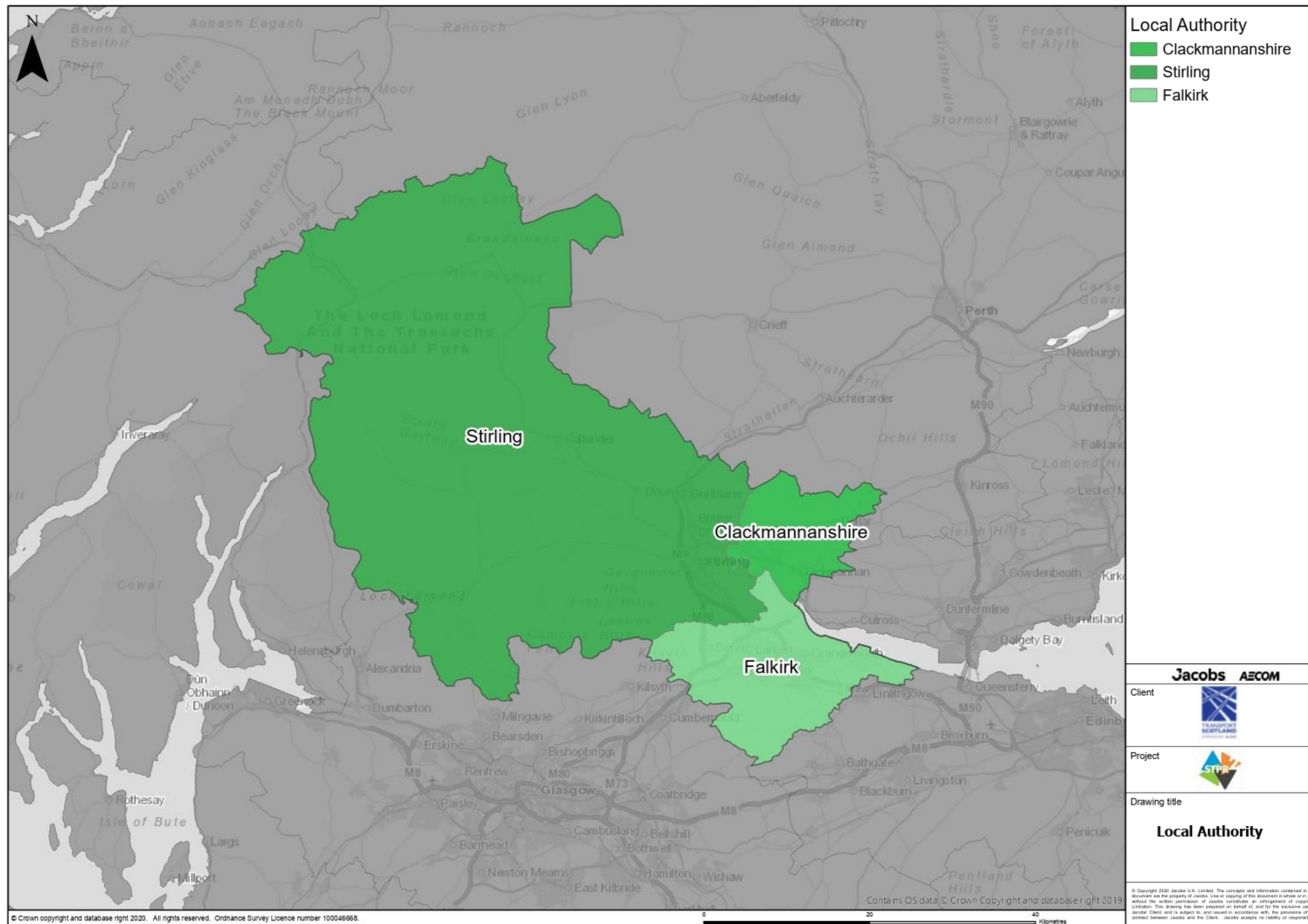


Figure A 1: Forth Valley Study Area (click image to go back to main report)

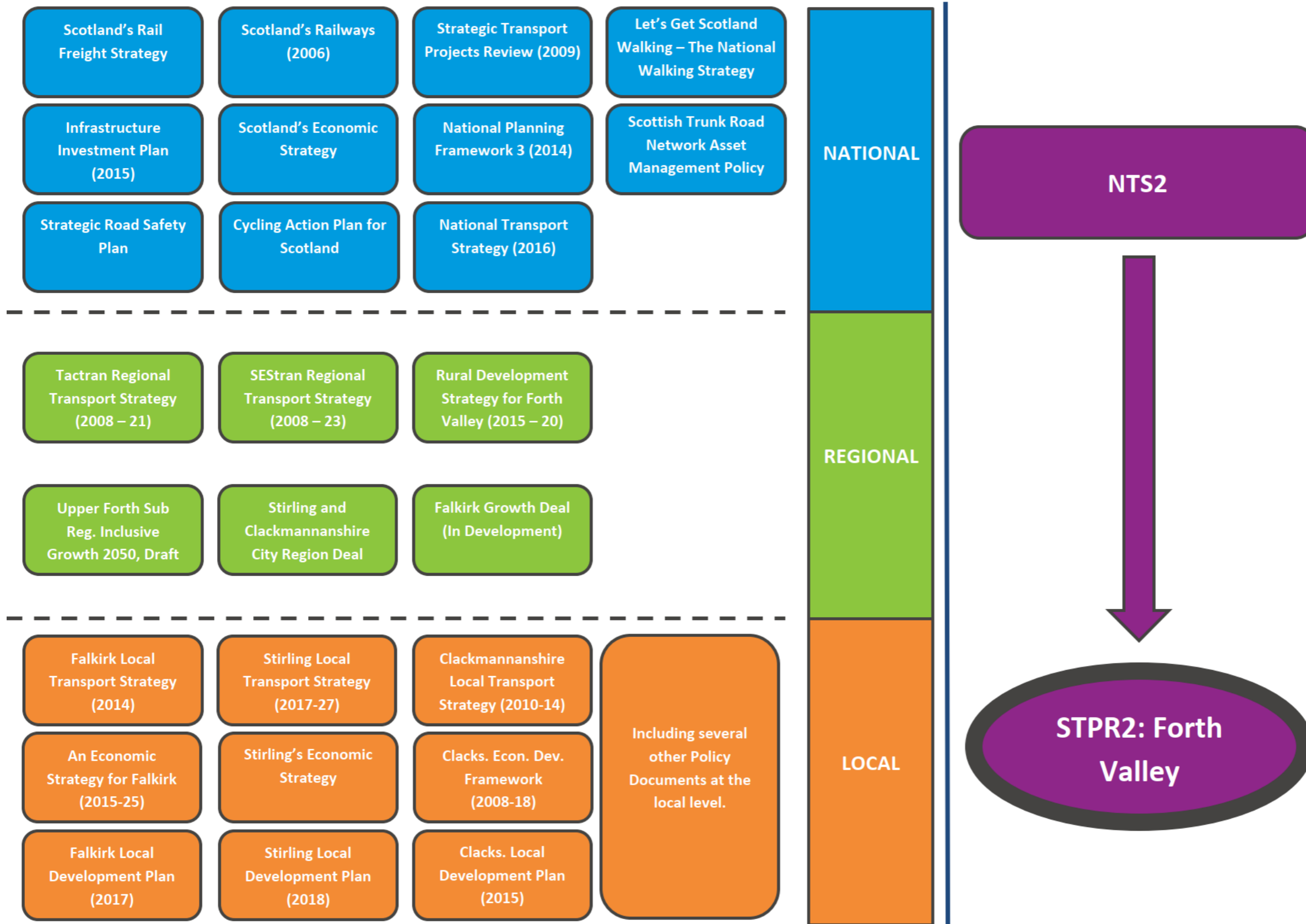


Figure A 2: Policy Review (click image to go back to main report)

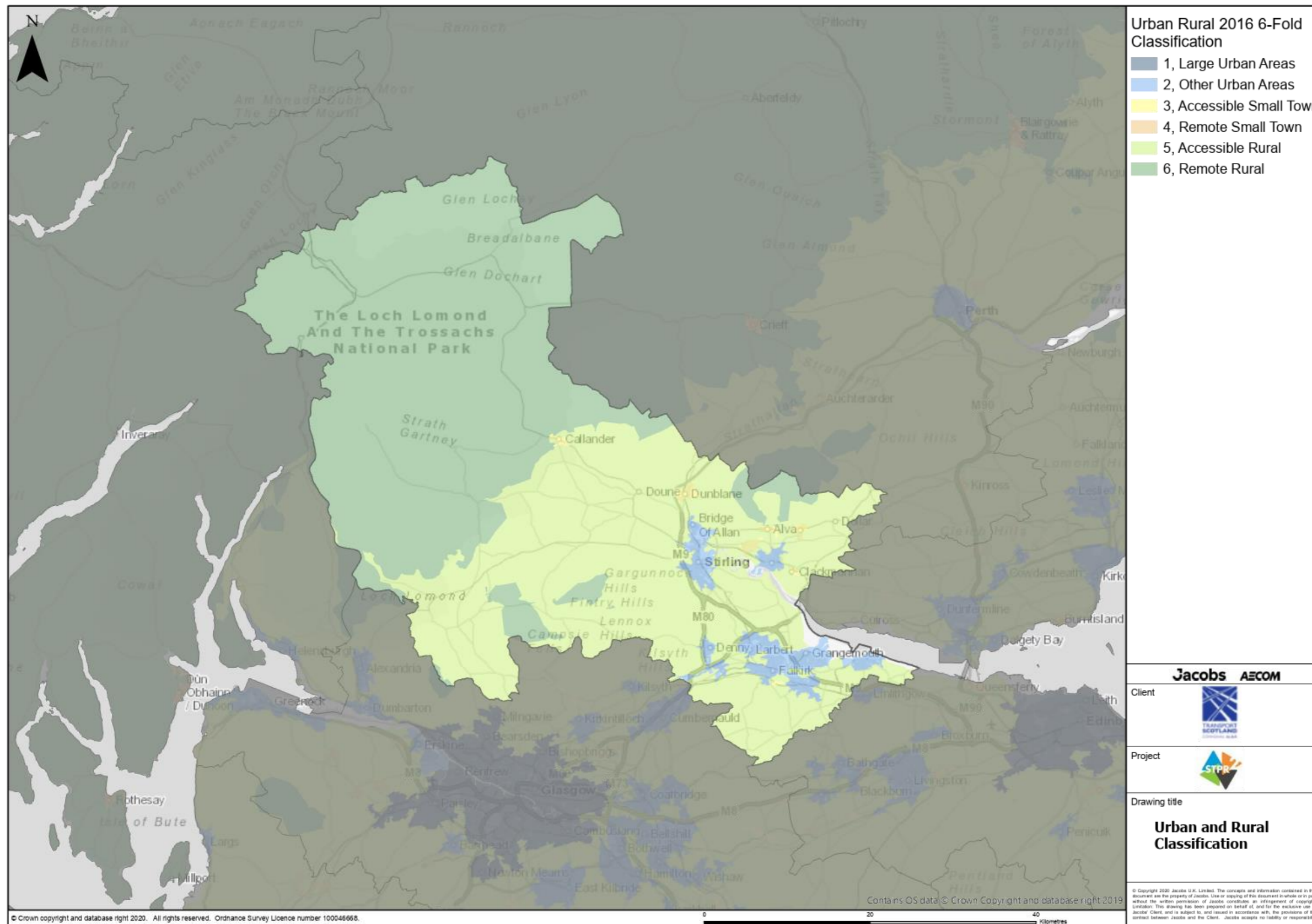


Figure A 3: Urban Rural Six-Fold Classification (click image to go back to main report)

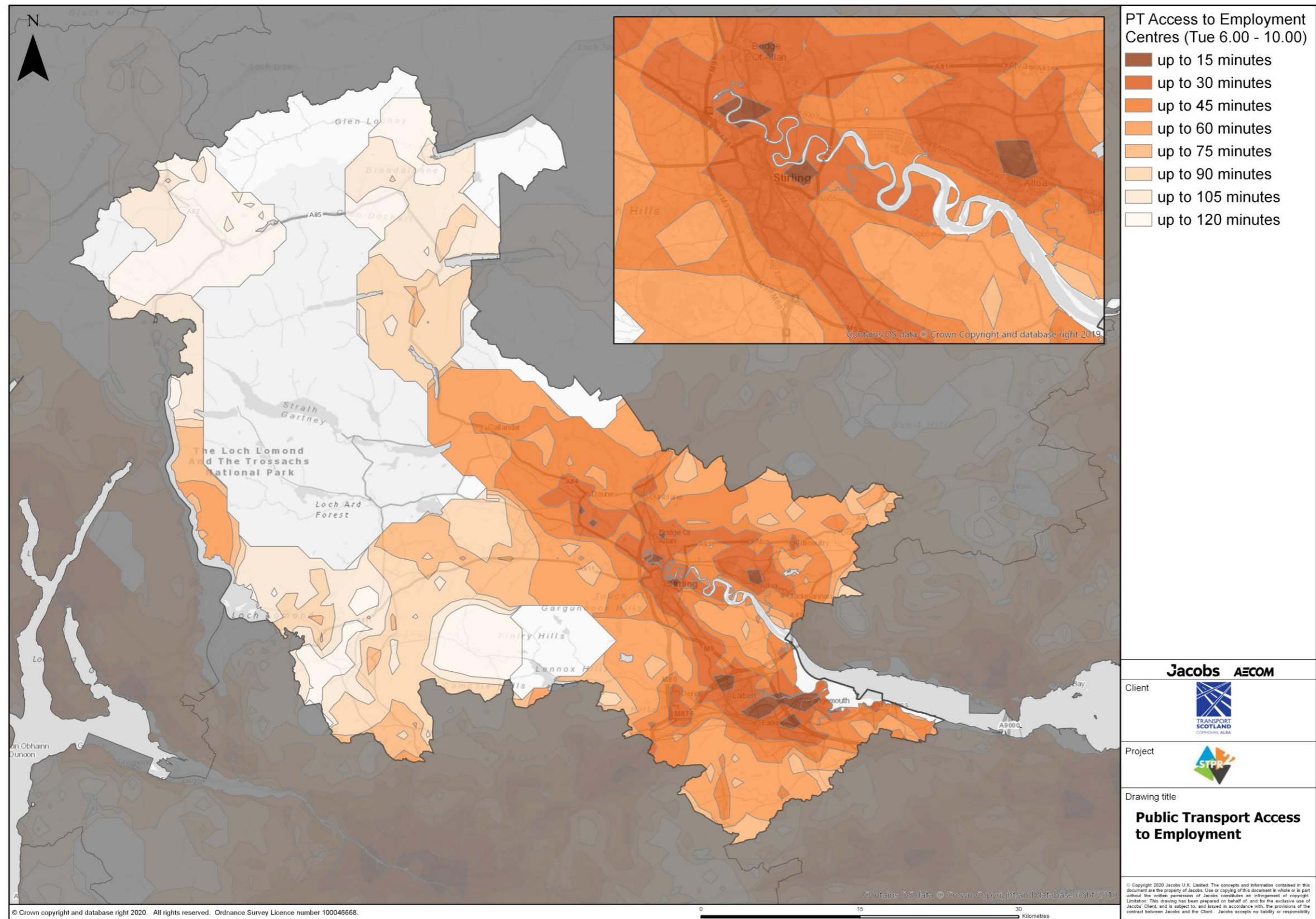


Figure A 4: Public Transport Access to Employment (click image to go back to main report)

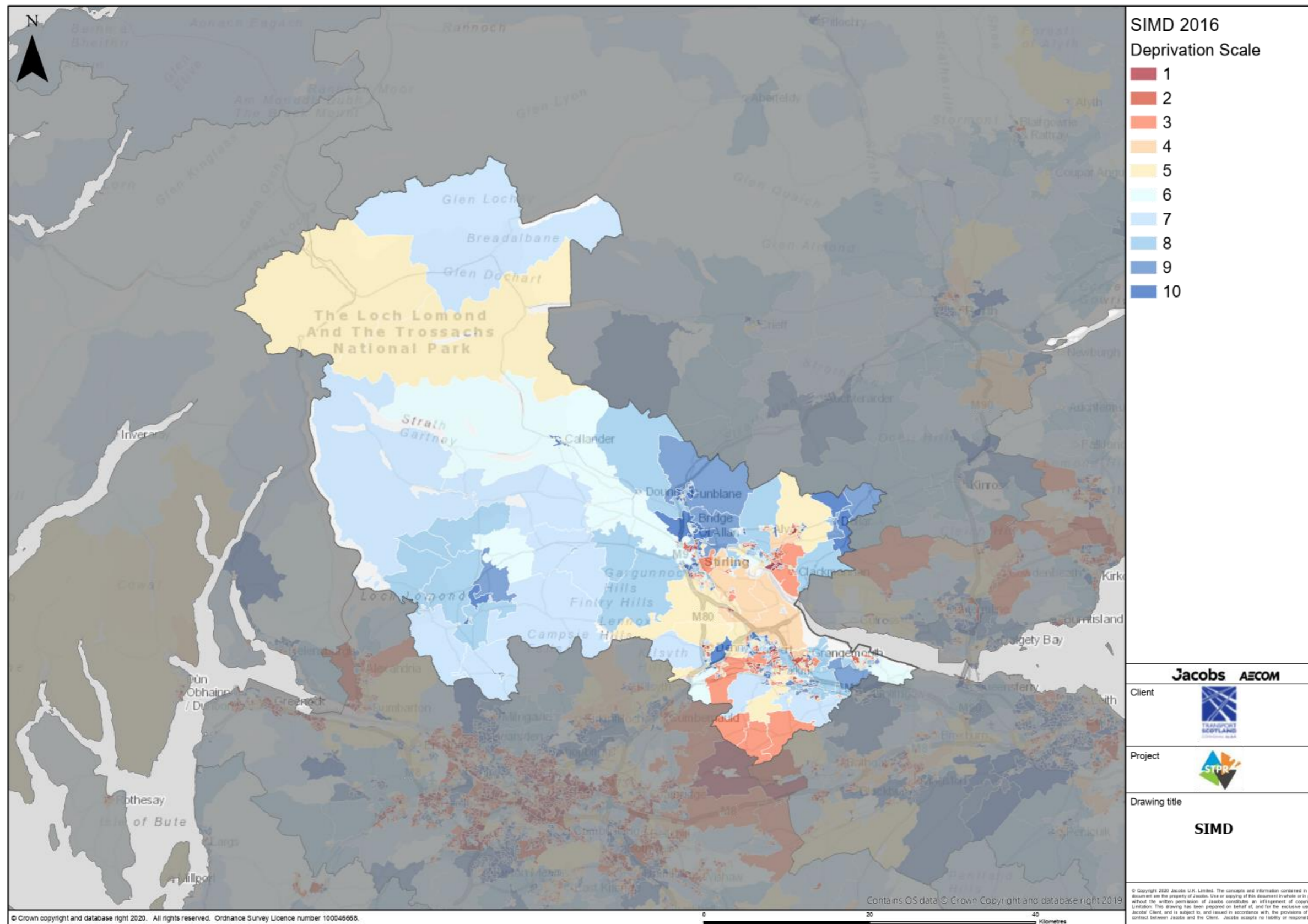


Figure A 5: Scottish Index of Multiple Deprivation 2016 (click image to go back to main report)

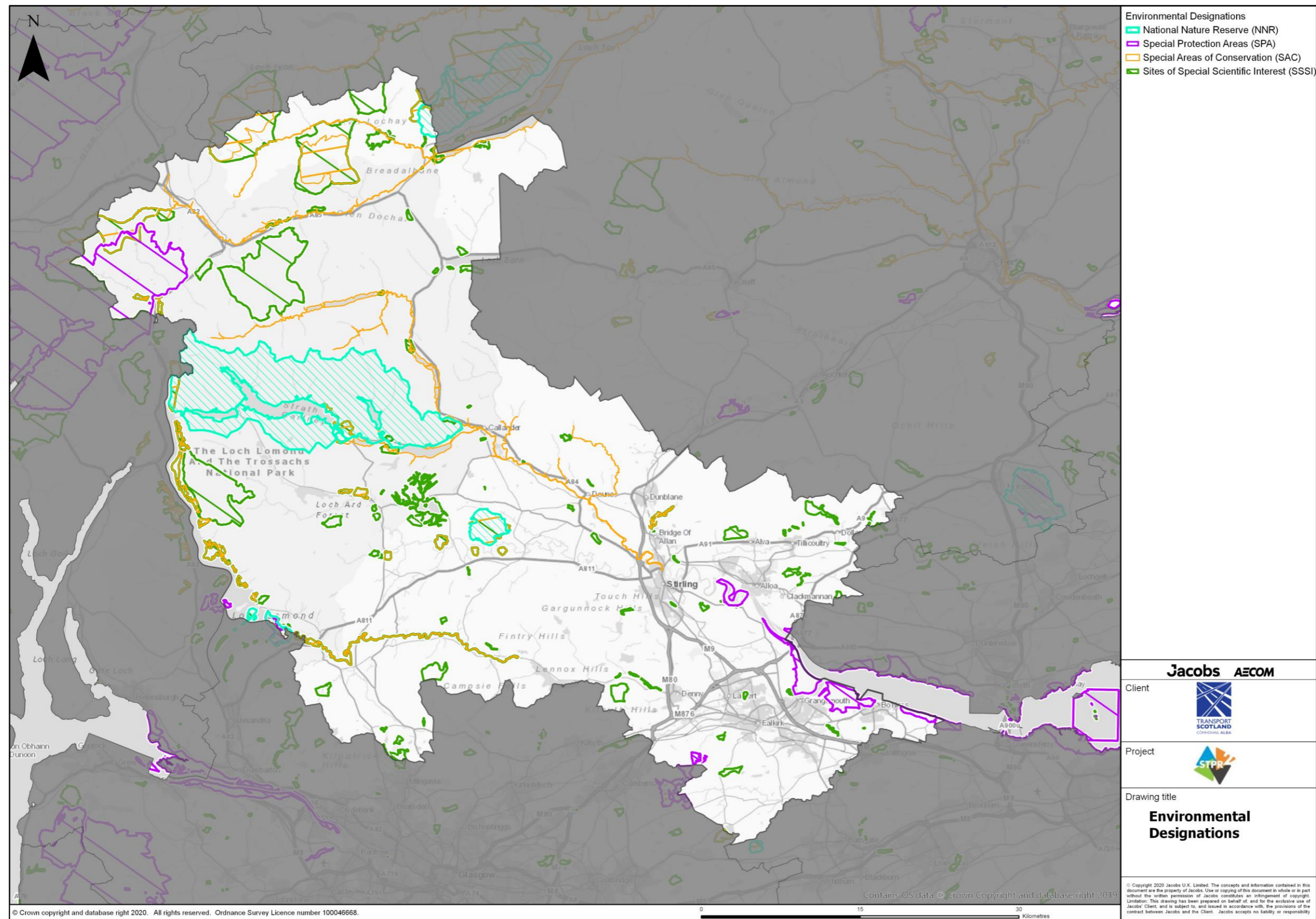


Figure A 6: Environmental Designations (click image to go back to main report)

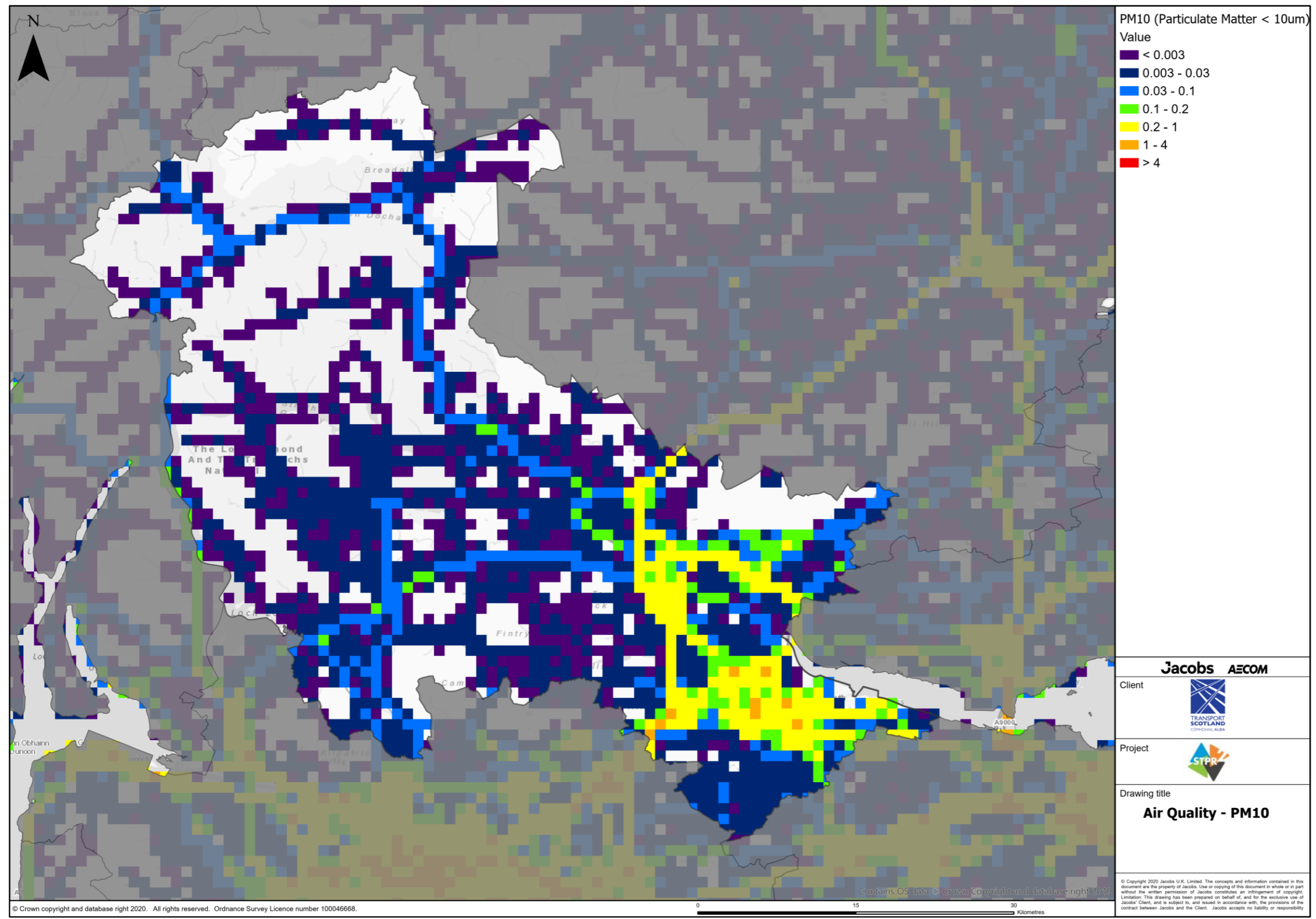


Figure A 7: Air Quality - PM10 Concentrations (click image to go back to main report)

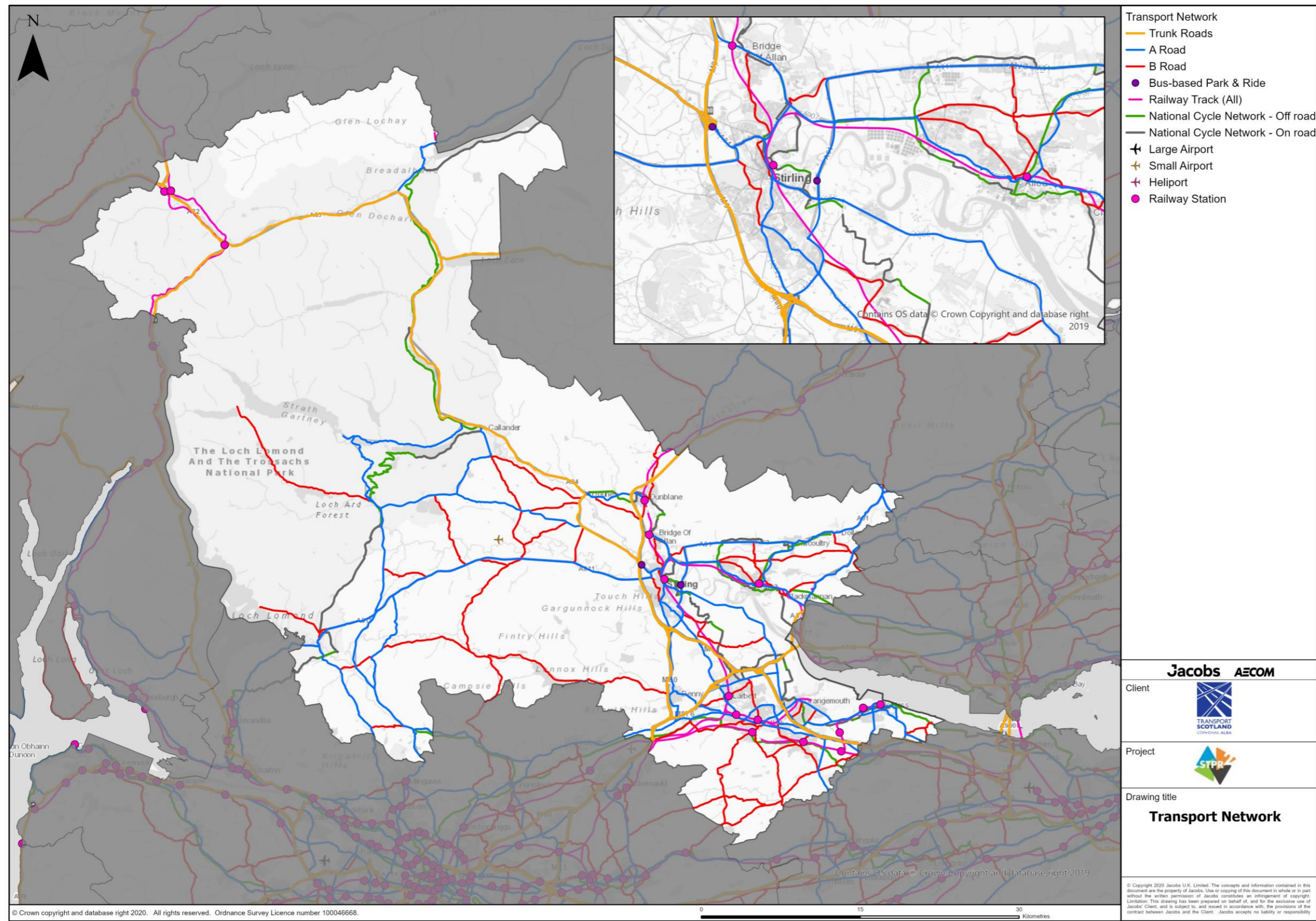


Figure A 8: Transport Network (click image to go back to main report)

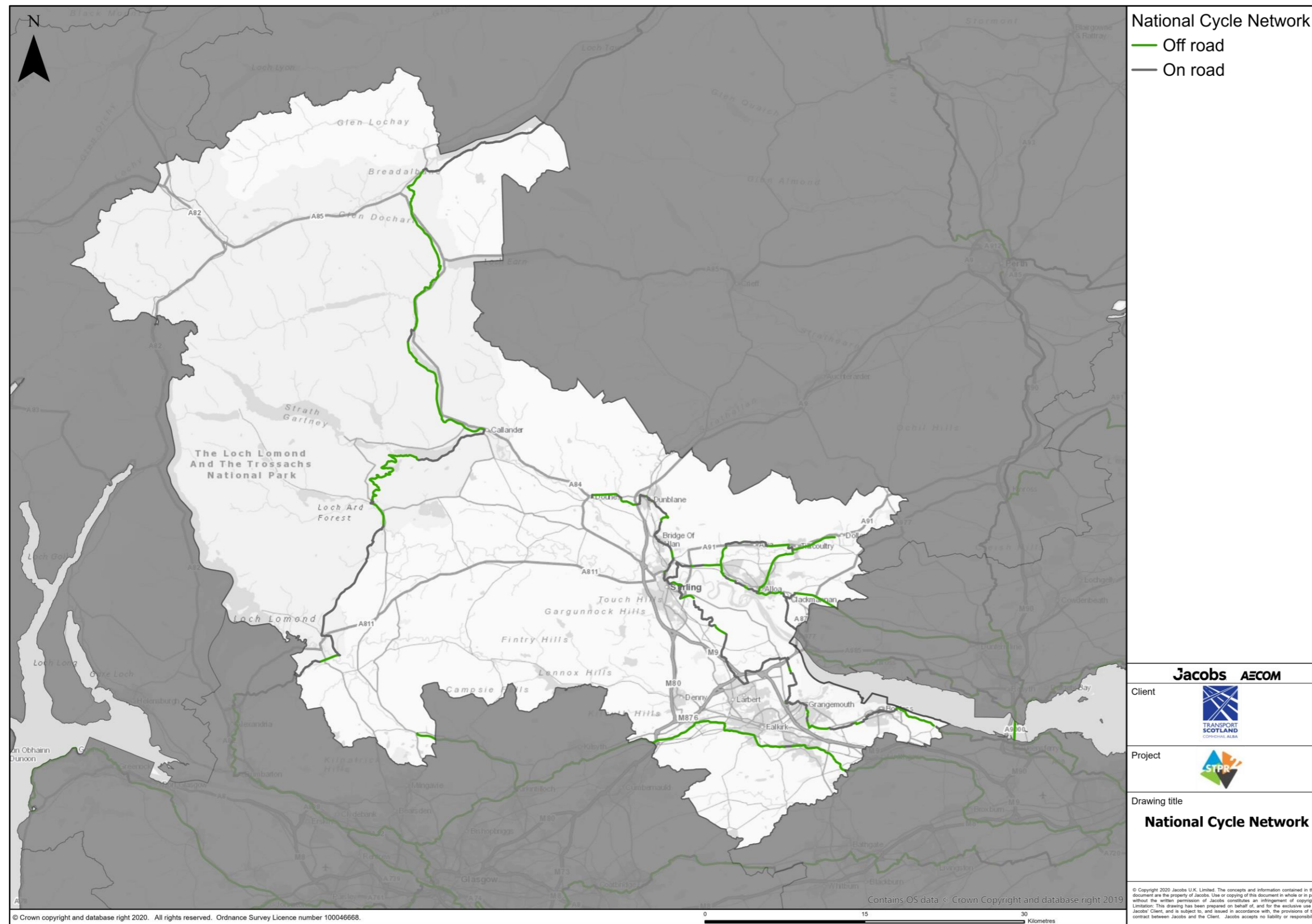


Figure A 9: National Cycle Network (click image to go back to main report)

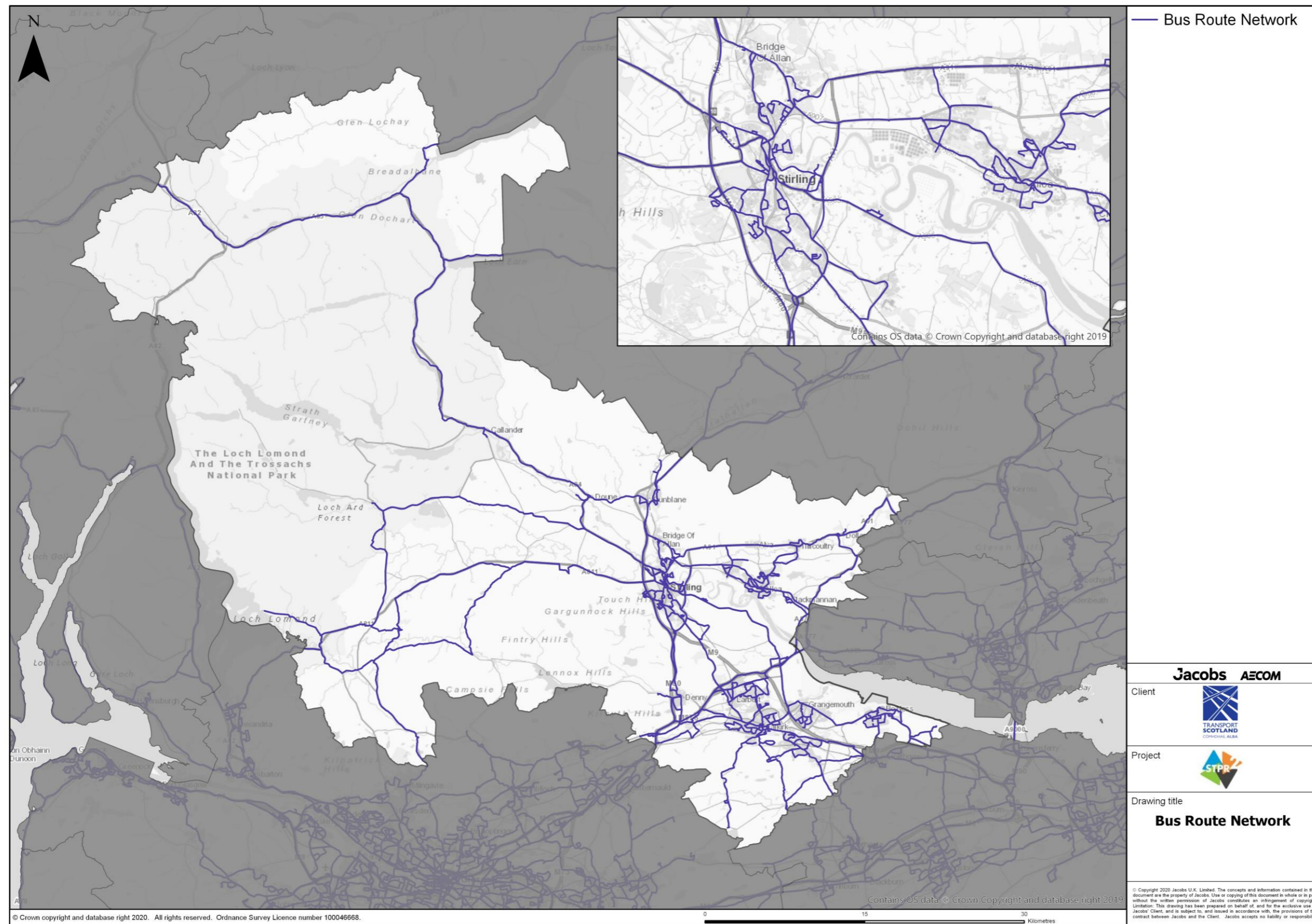


Figure A 10: Forth Valley Bus Routes (click image to go back to main report)

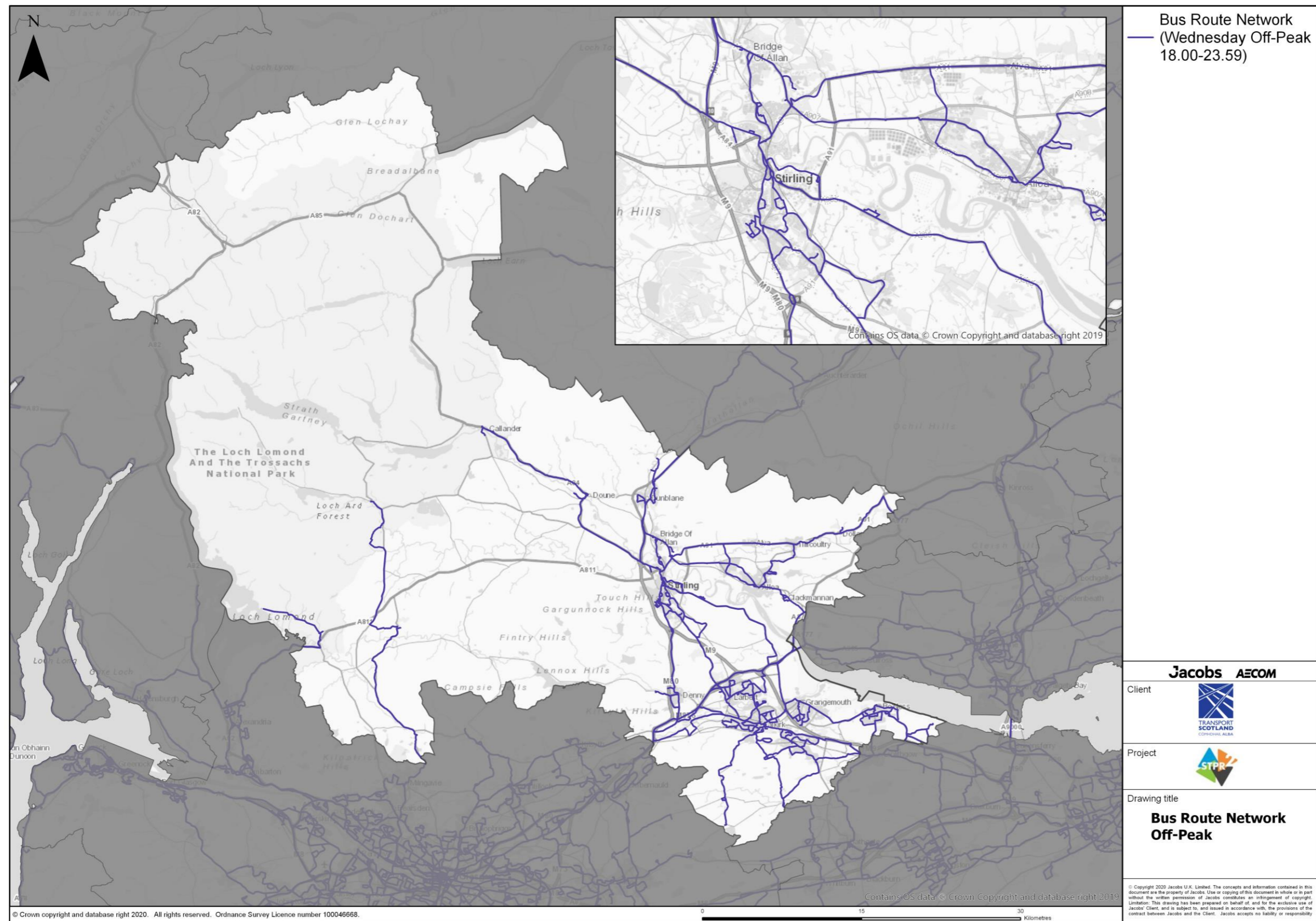


Figure A 11: Wednesday Offpeak (18:00-23:59) Bus Routes (click image to go back to main report)

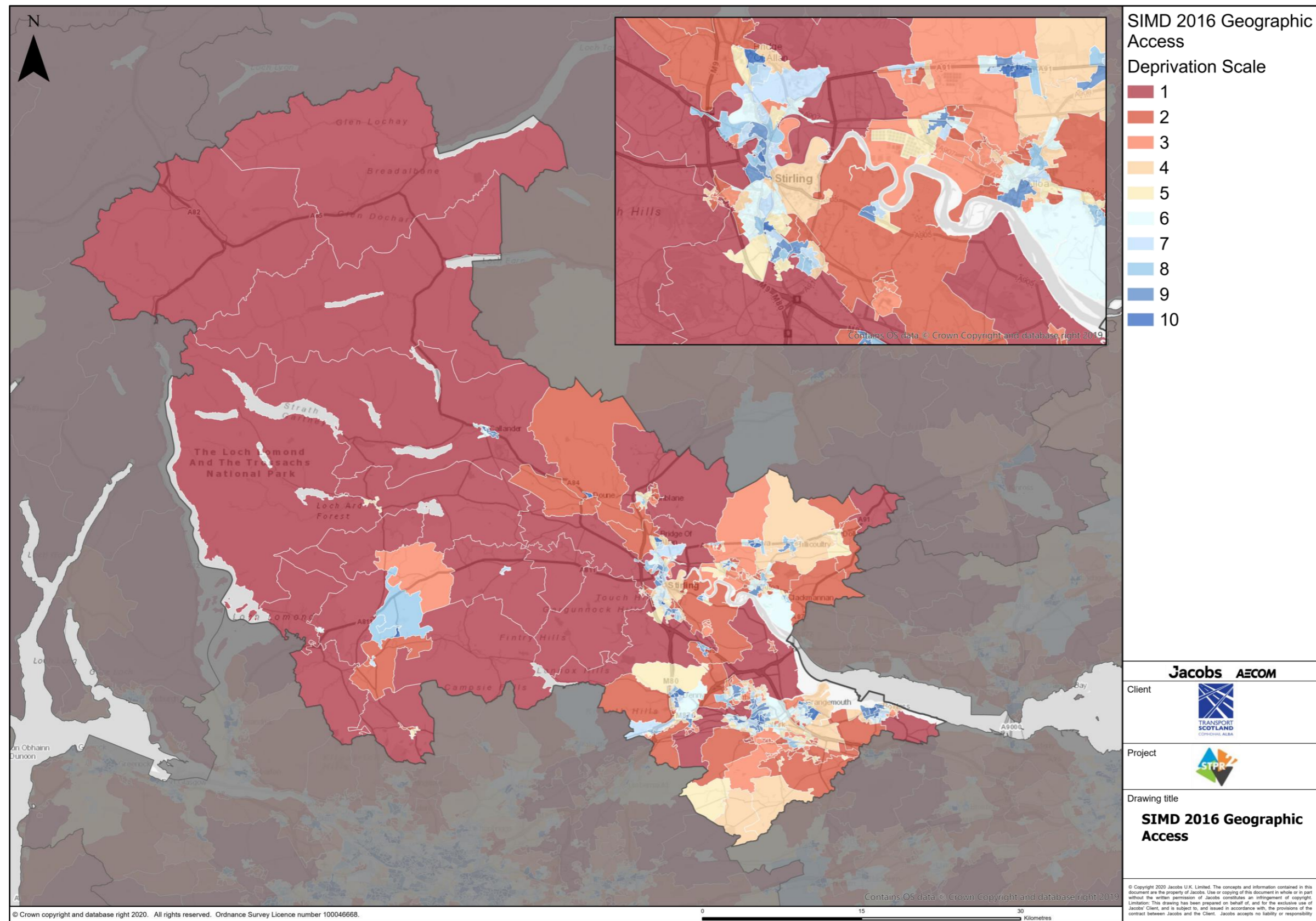


Figure A 12: SIMD 2016 Geographic Access (click image to go back to main report)

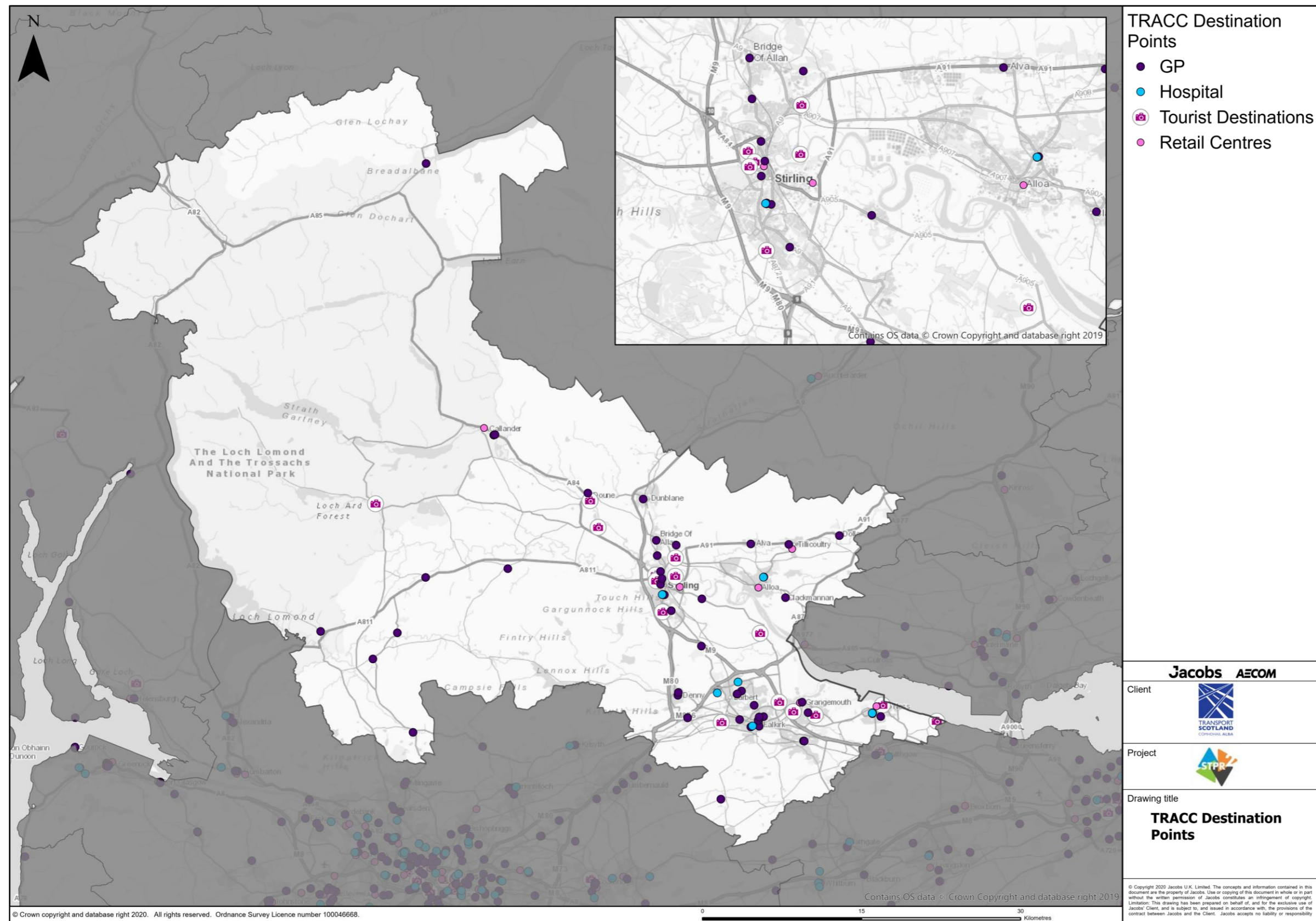


Figure A 13: TRACC Healthcare, Retail and Tourist Destinations (click image to go back to main report)

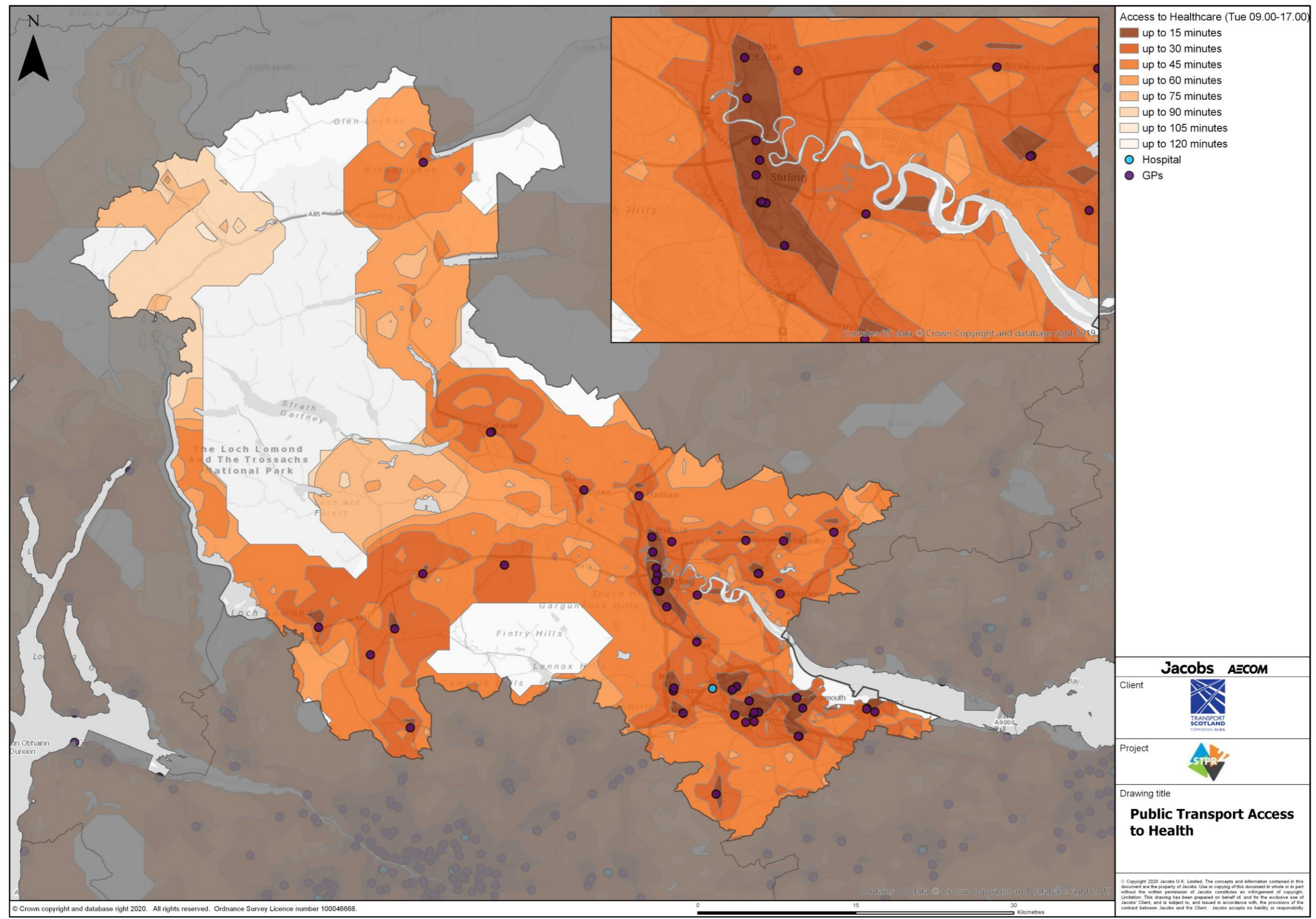


Figure A 14: Public Transport Access to Healthcare (click image to go back to main report)

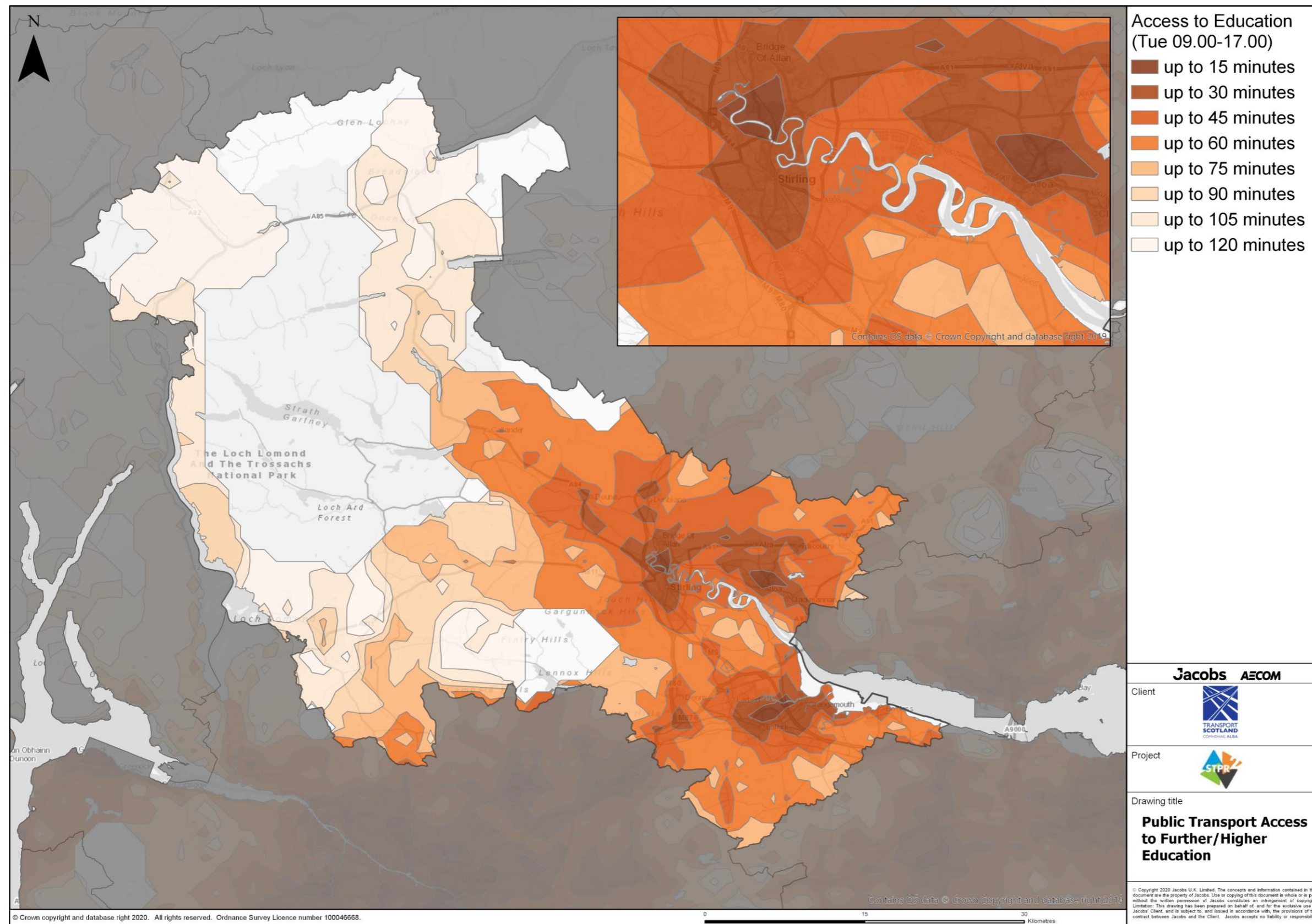


Figure A 15: Public Transport Access to Further / Higher Education (click image to go back to main report)

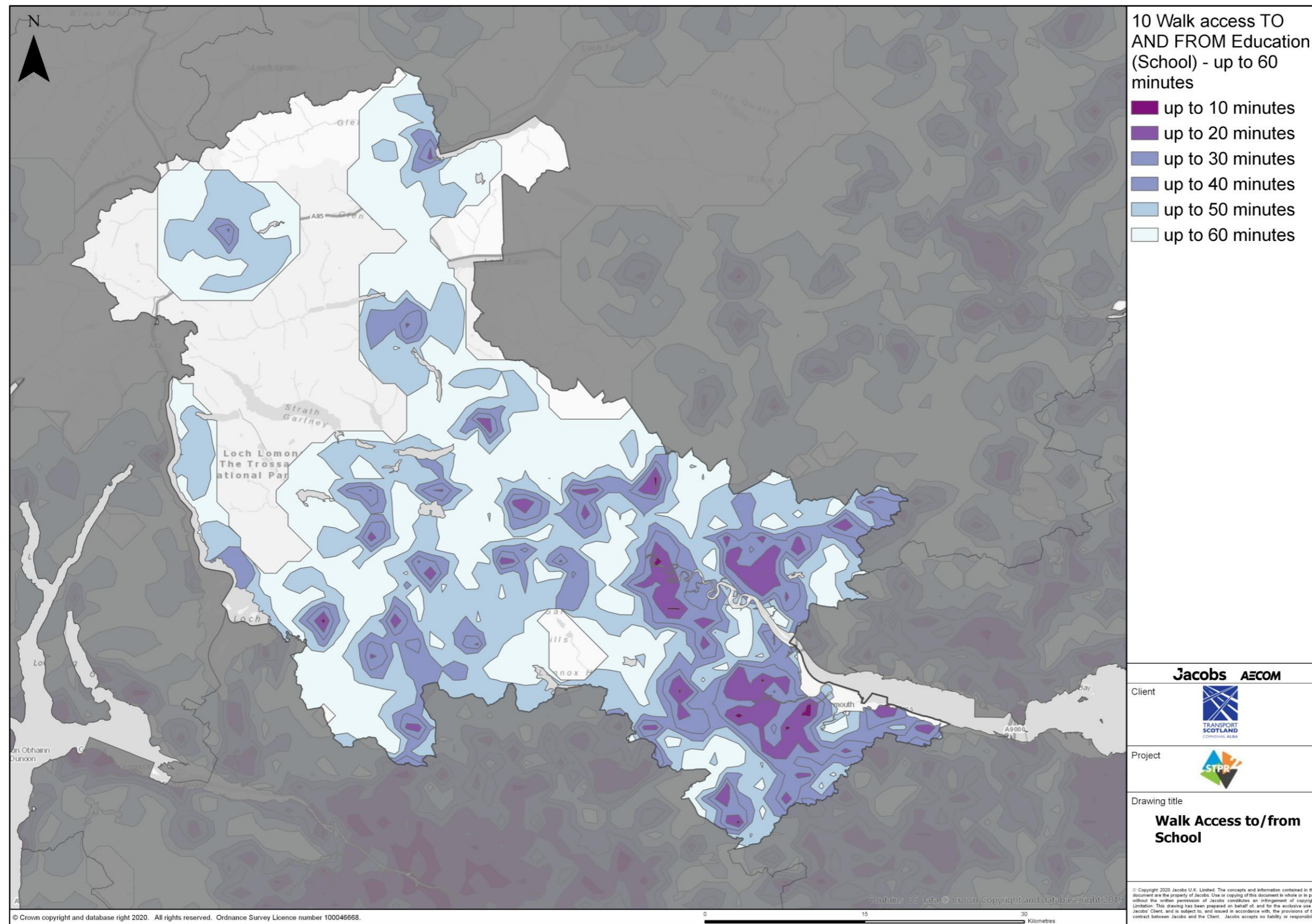


Figure A 16: Walk Access to/from School (click image to go back to main report)

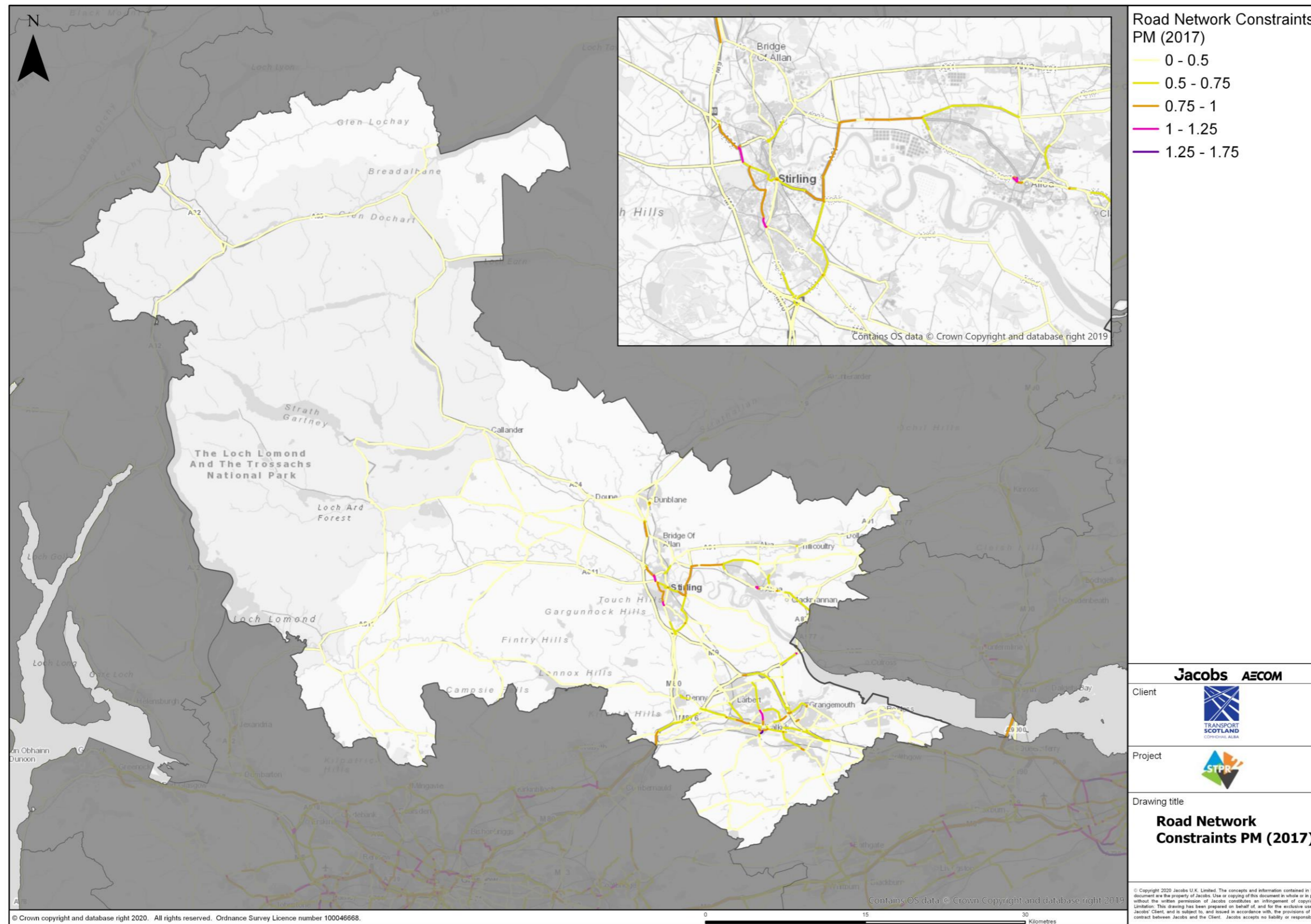


Figure A 17: Road Network Constraints PM 2017 (click image to go back to main report)

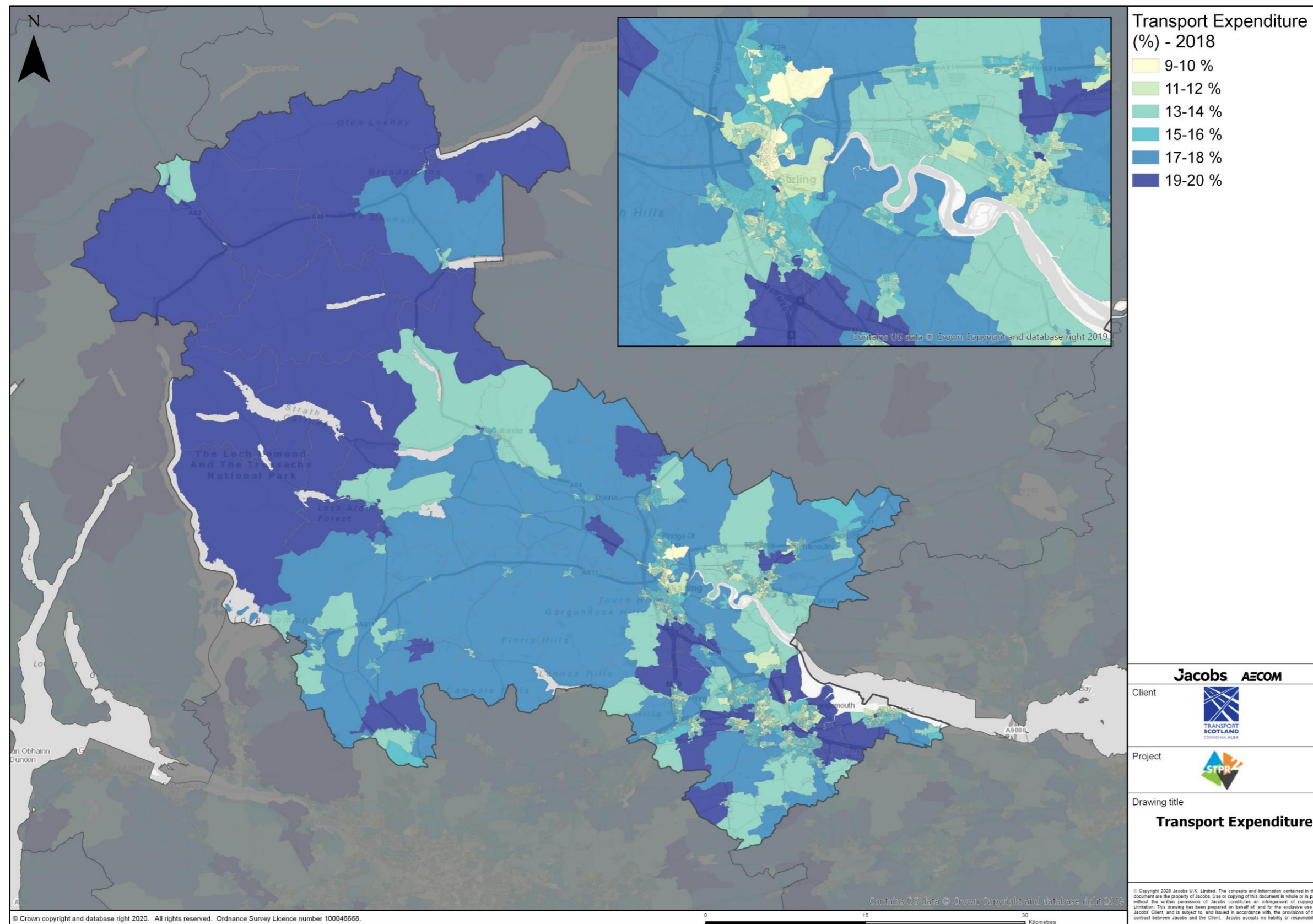


Figure A 18: Transport Expenditure as Percentage of Household Expenditure (click image to go back to main report)

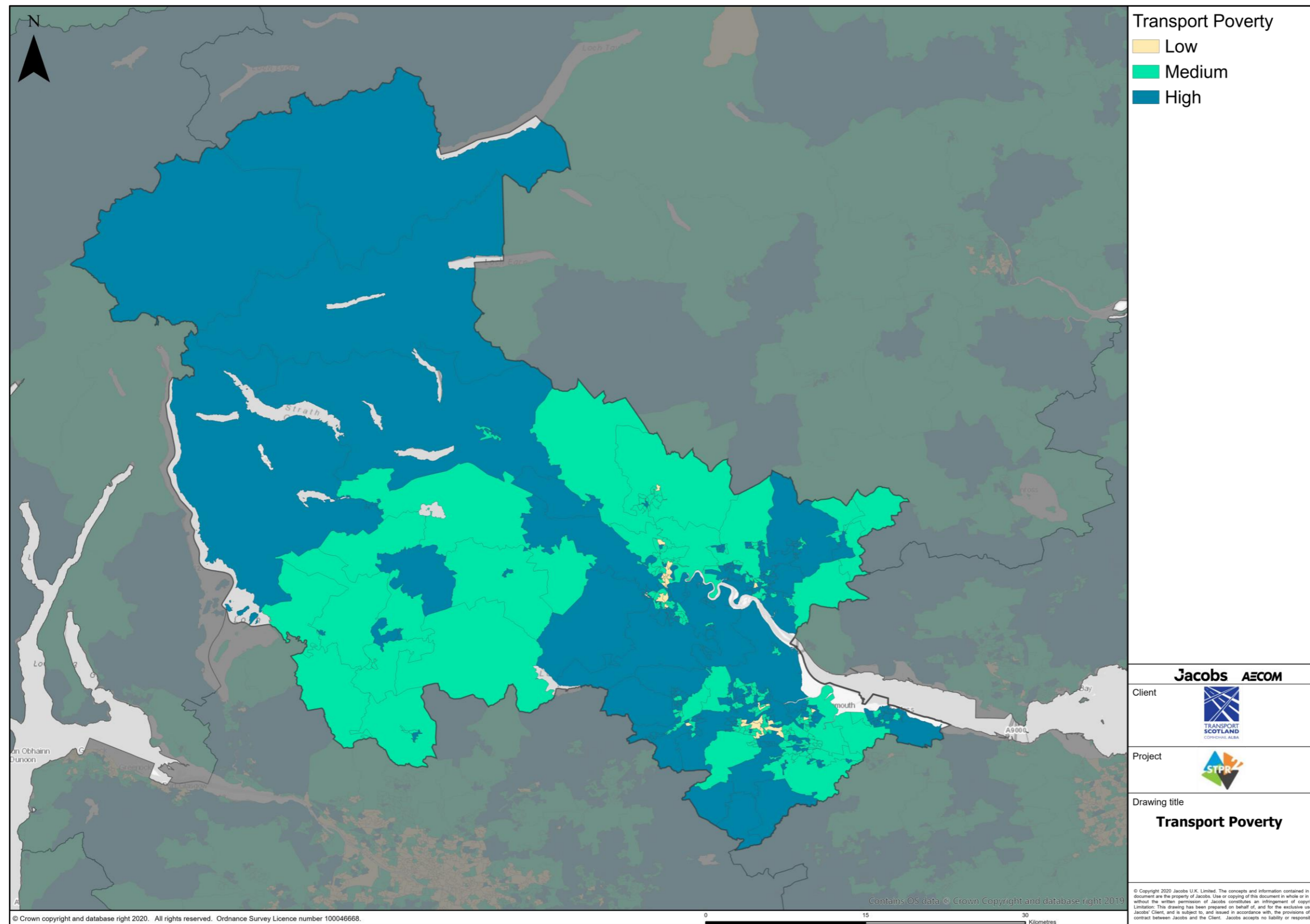


Figure A 19: Transport Poverty 2016 by Datazone (click image to go back to main report)

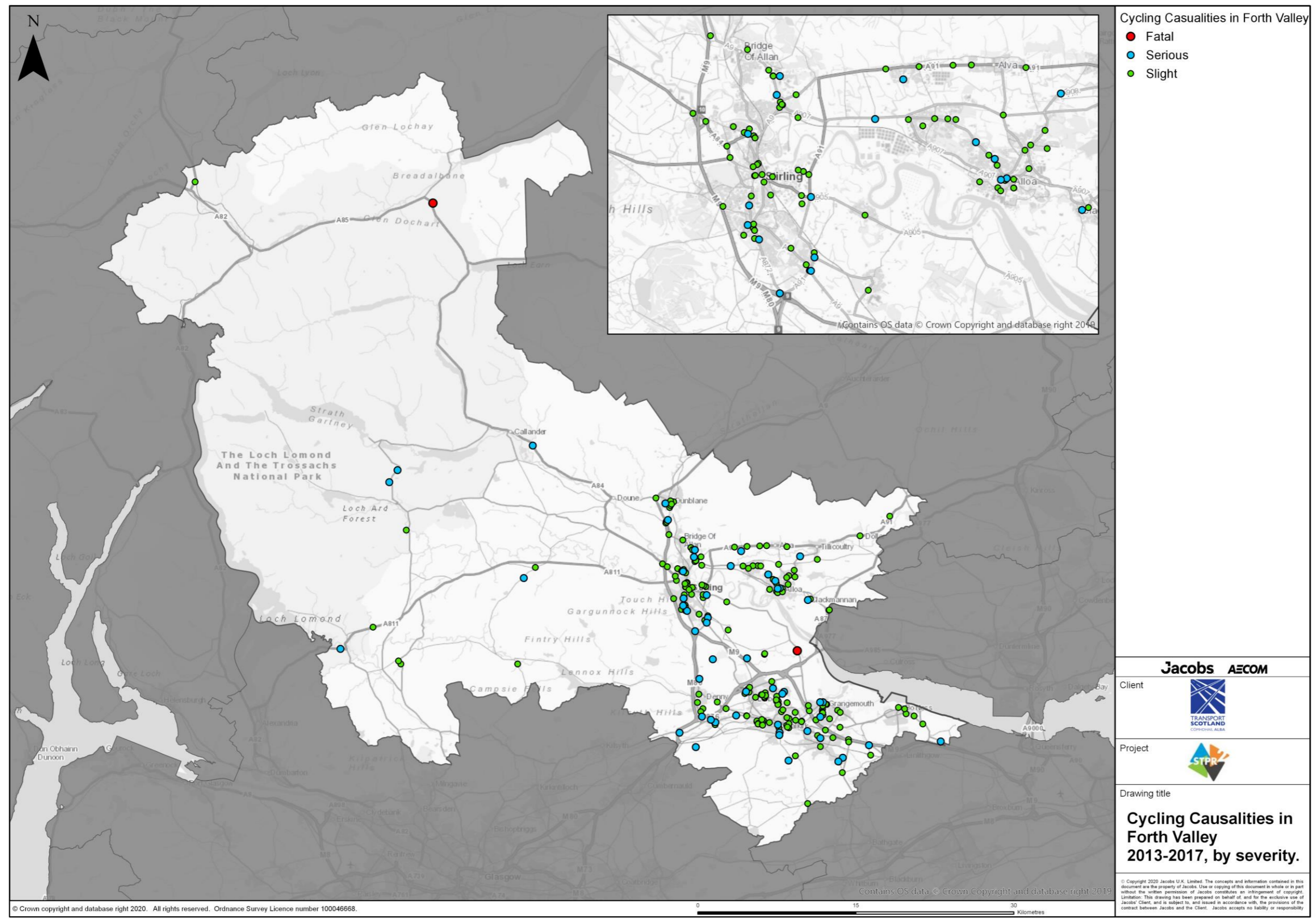


Figure A 20: Cycling Casualties 2013-2017, by Severity (click image to go back to main report)

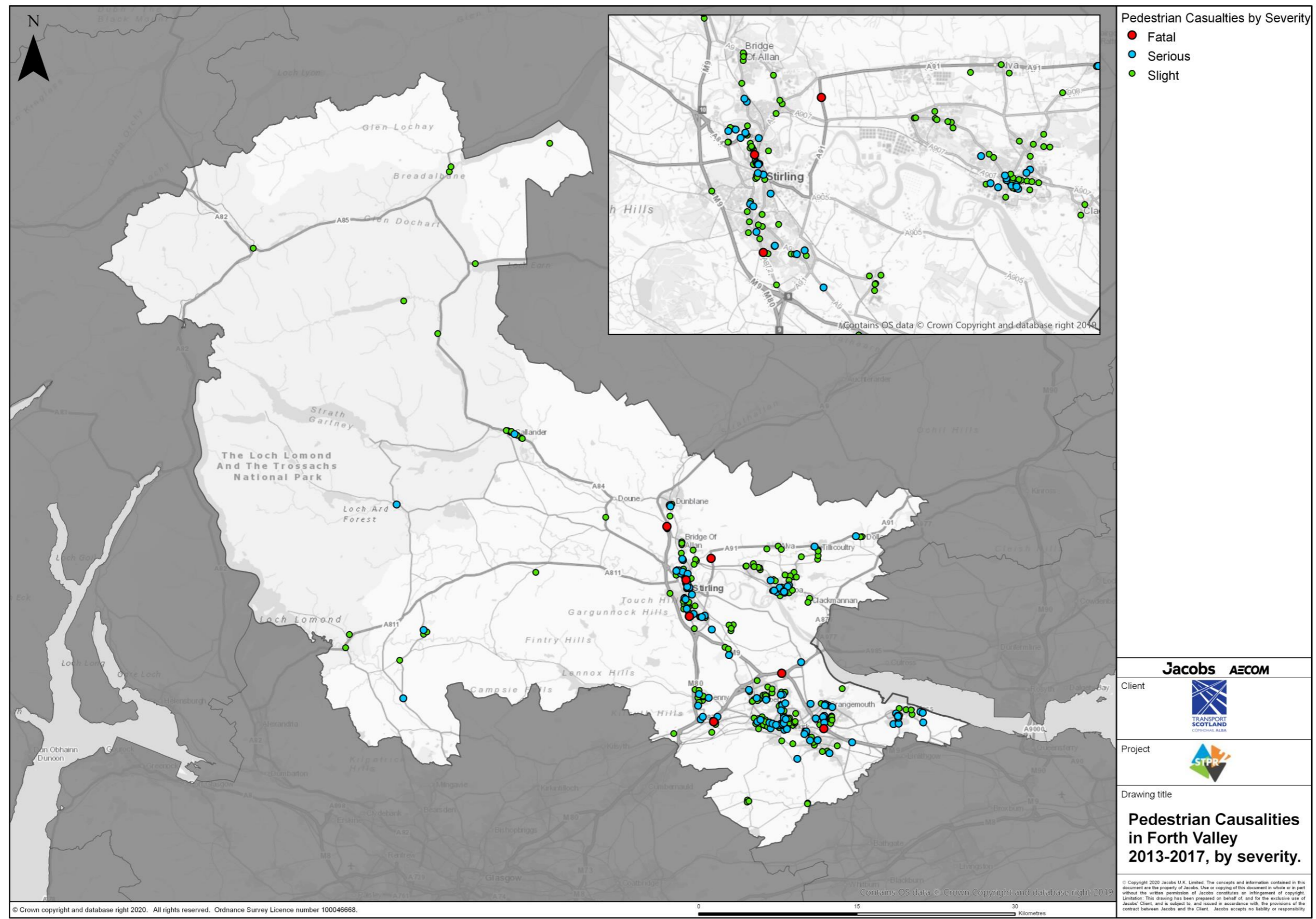


Figure A 21 – Pedestrian Casualties 2013-2017, by severity (click image to go back to main report)

Appendix B: List of Policy Documents

THEME	TITLE	AUTHOR	YEAR
Development	A Rural Development Strategy for the Forth Valley and Lomond LEADER area	Forth Valley & Lomond LEADER	2015
Development	Clackmannanshire Council Local Development Plan	Clackmannanshire Council	2015
Development	Falkirk Council Local Development Plan	Falkirk Council	2015
Development	Falkirk Council Local Development Plan	Falkirk Council	2018
Development	Infrastructure Investment Plan	The Scottish Government	2015
Development	Kelvin Valley and Falkirk LEADER Local Development Strategy 2014-2020	ekos	2014
Development	Loch Lomond and the Trossachs Local Development Plan	Loch Lomond and the Trossachs National Park	2017
Development	Low Carbon Economic Strategy	The Scottish Government	2010
Development	Stirling Council Local Development Plan	Stirling Council	2016
Economy	An Economic Strategy for Falkirk	Falkirk Council	2015
Economy	Building Clackmannanshire Economic Development Framework	Clackmannanshire Alliance	2008
Economy	Scotland's Economic Strategy	The Scottish Government	2015
Economy	Stirling City Region Deal	Clackmannanshire Council, Stirling Council, University of Stirling, Scottish Government, UK Government	2016
Economy	Stirling's Economic Strategy	Stirling Council	no date
Energy	Clackmannanshire Sustainability & Climate Change Strategy	Clackmannanshire Council	2010
Energy	Going Carbon Neutral Stirling	Keep Scotland Beautiful	2012
Energy	Sustainable Development and Climate Change Strategy for Falkirk Council	Falkirk Council	2012
Energy	Sustainable Stirling: Stirling Council's Public Bodies' Climate Change Duties & Sustainability Report	Stirling Council	2017
Energy	The Future of Energy in Scotland: Scottish Energy Strategy	The Scottish Government	2017
Health	A Fairer Healthier Scotland A strategic framework for action	NHS Scotland	2017
Health	A physical Activity & Wellbeing Plan for Falkirk	Falkirk Community Trust	no date
Health	Clackmannanshire Sport and Active Living Framework	Clackmannanshire Alliance	2018
Other	Clackmannanshire Local Outcomes Improvement Plan 2017 – 2027	Clackmannanshire Alliance	no date
Other	Falkirk Strategic Outcomes and Local Delivery Plan	Falkirk Community Planning Partnership	2016
Other	Stirling Single Outcome Agreement	Stirling Community Planning Partnership	2013
Other	The Stirling Plan Local Outcomes Improvement Plan 2017 – 2027	Stirling Community Planning Partnership	no date
Other	The Upper Forth Sub Regional Inclusive Growth 2050 Draft Prospectus	Scottish Government	2018
Transport	Bridge of Allan Station Relocation	Steer Davies Gleave	2014
Transport	City Area Transport Plan	Stirling Council	2017
Transport	Clackmannanshire Council Local Transport Strategy	Clackmannanshire Council	2014
Transport	Connected Communities	Stirling Council	2017



THEME	TITLE	AUTHOR	YEAR
Transport	Cycling Action Plan for Scotland	Transport Scotland	2017
Transport	Falkirk Council Local Transport Strategy	Falkirk Council	2014
Transport	Let's Get Scotland Walking	Scottish Government	2014
Transport	Longannet Strategic Transport Pre Appraisal - Commercial in Confidence		2017
Transport	National Transport Strategy	Transport Scotland	2016
Transport	Network Rail Scotland Route Study	Network Rail	2016
Transport	Park and Ride Strategy and Action Plan	Tactran	2016
Transport	Parking Strategy	Stirling Council	2017
Transport	Road Asset Management Plan	Stirling Council	2017
Transport	Road Safety Plan	Stirling Council	2017
Transport	Scotland's Rail Freight Strategy	Transport Scotland	2016
Transport	Scottish Ferry Services Ferries Plan (2013 - 2022)	Transport Scotland	2013
Transport	SEStran Regional Transport Strategy	SEStran	2015
Transport	Stirling Strategic Park and Ride Study – Case for Change	Tactran	2020

Appendix C: Stakeholder Engagement

Engagement Type	Date	Venue	Purpose and Details	No. of Attendees
Problems & Opportunities Workshop	Friday 7 th June 2019	Falkirk Stadium, Falkirk	Workshop with stakeholders including representatives from transportation, education, health and environmental sectors, in addition to local authority officers, to identify transport-related problems and opportunities in the region.	11
	Tuesday 28 th May 2019	Albert Halls, Stirling		12
Structured Interviews	June – September 2019		Structured interviews with key stakeholders, including Senior representatives from Scottish Enterprise and Stirling Council, to identify problems and opportunities and potential options.	5
Interventions Workshop	Thursday 7 th November 2019	Hotel Colessio, Stirling	Workshop with stakeholders including representatives from transportation, education, health and environmental sectors, in addition to local authority officers, to identify potential interventions to address problems and opportunities previously identified.	20
Elected Members Briefing / Workshop	Wednesday 29 th January 2020	Theatre Bar, Alloa Town Hall, Mars Hill, Alloa	Elected Members from across the region attended a briefing session on emerging findings from STPR2 and to provide feedback on potential interventions that should be considered as the study moves forward.	13
Online Survey	Monday 2 nd December 2019 – Friday 10 th January 2020	Online	Online survey promoted to members of the public and organisations to validate emerging problems from the STPR2 process and to provide feedback on potential interventions to improve the strategic transport network, across all modes, in the future.	n/a
Schools Engagement	Thursday 14 th November 2019	Balfron High School	Pupils were introduced to the role of a Transport Planner and why it is necessary to gather evidence on the positives and negatives of the transport system as a way of informing future improvements. Pupils worked in groups to identify things they like, things they don't like and what they want improved with all modes of transport.	65
	Thursday 8 th January 2020	Wallacestone Primary School		

