A947 Multi-Modal Study - STAG-Based Appraisal

Final Report

Aberdeen City Council

Project number: 60667436

September 2022

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
Jamie Graham	Andrew Diansangu	Emma Gilmour	Andrew Robb
Consultant	Senior Consultant	Regional Director	Principal Consultant

Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	19-08-2022	Working Draft for Client Comment	AR	Andrew Robb	Project Manager
1	26-08-2022	Full Draft following Client Comments	AR	Andrew Robb	Project Manager
2	07-09-2022	Final Report following Client Comments	AR	Andrew Robb	Project Manager

Prepared for:

Aberdeen City Council
Marischal College
Broad Street
Aberdeen
AB10 1AB

Prepared by:

AECOM
120 Bothwell Street
Aurora Building
Glasgow, United Kingdom
T +44 (0)141 202 0500
aecom.com

Table of Contents

Figures

Tables

1. Introduction

1.1 Introduction

AECOM has been commissioned by Aberdeen City Council (ACC) to develop a Scottish Transport Appraisal Guidance (STAG)-based appraisal of options for improving transport connections (particularly public transport and active travel connections) along the A947 corridor between the Aberdeen Western Peripheral Route (AWPR) Parkhill Junction and the A96/A947 Junction.

The study is being guided by a Project Steering Group led by ACC and supported by Aberdeenshire Council, Nestrans and Sustrans.

1.2 Study Area

The study area is the north-south corridor between the AWPR Parkhill Junction and the A96/A947 Junction to the south of Dyce. The study corridor is four miles (6km) long and includes Stoneywood Road, Victoria Street and Riverview Drive. The study area is shown in **Figure 1.1**.

Figure 1.1: Study Area

1.3 Structure of Report

Following this introduction, the remainder of the report is structured as follows:

- Chapter 2 – Context Setting;
- Chapter 3 – Public and Stakeholder Engagement;
- Chapter 4 – Problems and Opportunities;
- Chapter 5 – Transport Planning Objectives;
- Chapter 6 – Option Generation, Sifting and Development;
- Chapter 7 – Option Appraisal Approach;
- Chapter 8 – Option Appraisal; and
- Chapter 9 – Summary and Next Steps.

A separate appendices document has been provided to complement this report. It includes:

- Appendix A – Problems, Issues, Constraints and Opportunities Technical Note;
- Appendix B – Transport Planning Objectives Technical Note;
- Appendix C – Option Generation, Sifting and Development Technical Note;
- Appendix D – Individual Option Appraisal; and
- Appendix E – Part 2 Consultation Outcomes.

2. Context Setting

2.1 Introduction

This chapter sets out the background context of the study, including the policy, geographic, socio-economic, transport, development, and environmental context for the work. It should be noted that full detail is provided in the *Problems, Issues, Constraints and Opportunities Technical Note* included in **Appendix A**.

2.2 Policy Context

This section provides an overview of national, regional and local strategies of relevance to this study.

2.2.1 National

At a national level, Scotland's second **National Transport Strategy (NTS2) (2020)**[1] provides the national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system which helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out four key priorities to support this vision: reducing inequalities; taking climate action; helping to deliver inclusive economic growth; and improving health and wellbeing. In addition to these priorities, 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. It also supports the adoption of 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.

Delivery of the NTS2 will be supported by accompanying NTS Delivery Plans, the **Climate Change Action Plan**[2] and the second **Strategic Transport Projects Review (STPR2)**[3]. In the NTS Delivery Plan and The Climate Change Plan 2018-2032 Update, the Scottish Government sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030. In January 2022, the Scottish Government published its route map[4] outlining steps needed to achieve this reduction. It sets out a range of sustainable travel behaviours grouped into the four categories of travel less, stay local, switch mode and combine a journey. STPR2 involves a whole-Scotland, evidence-based review of the performance of the strategic transport network across all transport modes and made draft recommendations in January 2022 for potential transport investments for Scottish Ministers to consider as national investment priorities in an updated 20-year (2022-2042) Infrastructure Investment Plan for Scotland. It is anticipated to conclude later in 2022. The work undertaken to develop Nestrans' Regional Transport Strategy 2040 (RTS2040) has fed into the development of STPR2, thus ensuring key issues for the North East are represented at a national level. The Scottish Government's **Programme for Scotland 2020-2021**[5] also outlines the commitment towards delivering on health, economic and environment goals by investing £500m over the next five years in active travel infrastructure, access to bikes and behaviour change schemes to promote walking, wheeling and cycling. It also outlines a reaffirmed commitment to a £500m Bus Partnership Fund (BPF) to support authorities' ambitions around tackling congestion so that bus journeys are quicker and more reliable, and more people make the choice to take the bus. The BPF was officially launched in November 2020, with funding awarded to eight partnerships in June 2021, including £12m for the North East Bus Alliance. The **Programme for Scotland 2021-2022**[6] continues to support this focus under its action to 'Support a net zero nation'.

In addition to the above, the UK Government announced in March 2021 that the phase out date for the sale of new petrol and diesel cars and vans will be brought forward to 2030 and from 2035, all new cars and vans must be fully zero emission at the tailpipe[7]. In November 2021, the UK Government subsequently announced that all heavy goods vehicles in the UK will be zero-emission by 2040[8].

A wider range of national policy and guidance, covering active travel and bus, provide direction on national aspirations for increasing the share of healthier, cleaner travel choices. This includes the **Cycling Action Plan for Scotland**[9] and the national Walking Strategy: **Let's Get Scotland Walking**[10], which aim to increase the levels of walking and cycling as part of everyday journeys and promote the development of well-designed places and

[1] https://www.transport.gov.scot/media/47052/national-transport-strategy.pdf
[2] https://sp-bpr-en-prod-cdnep.azureedge.net/published/2021/1/12/afbd2373-a14f-4a78-af9c-4fc5c775b23d/SB%2021-01.pdf
[3] https://www.transport.gov.scot/our-approach/strategy/strategic-transport-projects-review-2/
[4] https://www.transport.gov.scot/publication/a-route-map-to-achieve-a-20-per-cent-reduction-in-car-kilometres-by-2030/
[5] https://www.gov.scot/publications/protecting-scotland-renewing-scotland-governments-programme-scotland-2020-2021/
[6] https://www.gov.scot/publications/fairer-greener-scotland-programme-government-2021-22/documents/
[7] https://www.gov.uk/government/consultations/consulting-on-ending-the-sale-of-new-petrol-diesel-and-hybrid-cars-and-vans
[8] https://www.gov.uk/government/news/uk-confirms-pledge-for-zero-emission-hgvs-by-2040-and-unveils-new-chargepoint-design
[9] https://www.transport.gov.scot/media/10311/transport-scotland-policy-cycling-action-plan-for-scotland-january-2017.pdf
[10] https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2014/06/lets-scotland-walking-national-walking-strategy/documents/00452622-pdf/00452622-pdf/govscot%3Adocument/00452622.pdf

infrastructure to encourage walking and cycling. The passing of the **Transport Scotland Act (2019)**[11] also signals the intent at a national level to promote sustainable transport. The Act enables local authorities to introduce Workplace Parking Levies and supports authorities with options to influence and improve bus services in their area.

2.2.2 Regional

At a regional level, the Nestrans **Regional Transport Strategy (RTS) 2040**[12] sets the long-term vision and direction for transport in the North East for the next 20 years. The key transport priorities within the RTS are linked to the priorities in the NTS2 and include improving journey efficiencies to enhance connectivity; reducing carbon emissions to support net zero targets; and creating a step change in public transport and active travel allowing for a 50:50 mode spilt. The RTS identifies a range of associated polices and actions including increasing the number of people travelling actively for health and the environment; improving the region's bus network; reducing emissions from transport; and planning and designing places for people, all of which are relevant in the context of this corridor study.

The **Regional Economic Strategy (2018-2023)**[13] includes objectives associated with the promotion of modal shift and helping to maximise the benefits of improved transport infrastructure. Both the **Aberdeenshire Proposed Local Development Plan (LDP) (2020)**[14] and the **Aberdeen City Proposed LDP (2020)**[15] identify opportunities for significant development within the study area. Within Aberdeen City, there are allocations for up to 1,000 new homes within the study area, with an additional 8,500 homes, business and employment land allocations on land adjacent to the study corridor. The Aberdeenshire LDP indicates up to 2,000 homes are planned on the A947 corridor as well as business and employment land. The **Nestrans Active Travel Action Plan (2014-2035)**[16] identifies the Formartine and Buchan Way (F&B Way) as an already established active travel corridor in the study area, noting the presence of National Cycle Network Route 1 (NCN1). The Plan refers to aspirations for further development of this route including improved surfacing and signage.

Recently, there has also been renewed impetus given to the improvement of bus services in the region following the establishment of a new **North East Scotland Bus Alliance**[17] (building on work of the former Local Authority Bus Operators Forum). The Bus Alliance was formed in 2018 as a voluntary partnership of Nestrans, ACC, Aberdeenshire Council, First Bus Aberdeen, Stagecoach, and Bain's Coaches. The overarching objectives of the Alliance are to:

- Arrest the decline in bus patronage in the North East of Scotland by 2022; and
- Achieve year on year growth in bus patronage to 2025.

Sub-objectives exist around increasing modal share of bus patronage, improving operational performance and customer satisfaction, reducing bus emissions, and improving service accessibility. In April 2020, the Bus Alliance published a new **Bus Action Plan**[18] setting out the priority actions of the partners over the next five years. The A947 corridor is identified to be one of four corridors to be completed following conclusion of the initial priority corridors.

2.2.3 Local

Locally, both the **Aberdeenshire Local Transport Strategy (LTS) (2012)**[19] and **Aberdeen City LTS (2016-2021)**[20] aim to reduce non-sustainable journeys, increase the modal share of public transport and active travel, and make travel more effective. ACC is currently going through the process of updating its LTS. The 'Main Issues Consultation' took place in October and November 2021 and the analysis of problems and opportunities has now been undertaken which will inform the strategy. A draft LTS is anticipated to be published in 2023, and, following consultation on this, a final version will be developed. The **Sustainable Urban Mobility Plan (SUMP) (2019)**[21] identifies the need to improve connectivity both within and to the city of Aberdeen, as well as improving the public transport experience, particularly in terms of improving journey times and reliability for passengers. These objectives are aimed at locking in the benefits of the AWPR and preventing the erosion of these benefits, as would be anticipated should traffic be allowed to continue to grow to fill the additional road capacity that has been created.

[11] https://www.legislation.gov.uk/asp/2019/17/enacted
[12] https://www.nestrans.org.uk/wp-content/uploads/2021/03/Nestrans-RTS-Final-Submitted.pdf
[13] https://investaberdeen.co.uk/images/uploads/RES%20Action%20Plan%202018-2023%20FINAL.pdf
[14] https://www.arcgis.com/apps/MapJournal/index.html?appid=0b6df3fd06024c798c89138dce7a6a7e
[15] https://www.aberdeencity.gov.uk/sites/default/files/2020-05/Proposed%20Aberdeen%20Local%20Development%20Plan%202020.pdf
[16] https://www.nestrans.org.uk/wp-content/uploads/2017/02/AcTrAP_FINAL.pdf
[17] https://www.nestrans.org.uk/wp-content/uploads/2017/09/5b_App-A-Region-Wide-QP-Agreement.pdf
[18] https://www.nestrans.org.uk/wp-content/uploads/2020/04/Bus-Action-Plan-Published_April-2020.pdf
[19] https://www.aberdeenshire.gov.uk/media/2374/2012finallts.pdf
[20] https://www.aberdeencity.gov.uk/sites/default/files/Local%20Transport%20Strategy%20%282016-2021%29.pdf
[21] https://consultation.aberdeencity.gov.uk/planning/sump/supporting_documents/Draft%20Sustainable%20Urban%20Mobility%20Plan.pdf

The **Aberdeen City Centre Masterplan (CCMP) (2015)**[22] aims to create a vibrant city centre, identifying 49 development and infrastructure projects to support this. A new **Roads Hierarchy for the North East**[23] was agreed in 2019 following a study to develop options to provide a system that reflects the new role of the city centre (as a destination) and makes the most effective use of the AWPR for distributing traffic around the city to the most appropriate radial route to reduce the extent of cross-city traffic movements. In April 2020, ACC set out its net zero vision for Aberdeen in **A Climate-Positive City at the Heart of the Global Energy Transition**[24] and in March 2021, ACC published its **Climate Change Plan 2021-2025**[25] to outline its ambitions and support progress with public sector climate duties. Additionally, ACC introduced a **Low Emission Zone**[26] (LEZ) in May 2022, where only certain vehicles can enter based on their emissions standard. It has been introduced with a two year 'grace' period meaning that between 2022 and May 2024, drivers will not be fined for entering the LEZ with a non-compliant vehicle. The LEZ area is shown in the diagram below[27]. An updated **Active Travel Action Plan** for 2021-2026[28] was approved at ACC's City Growth and Resources Committee in February 2021.

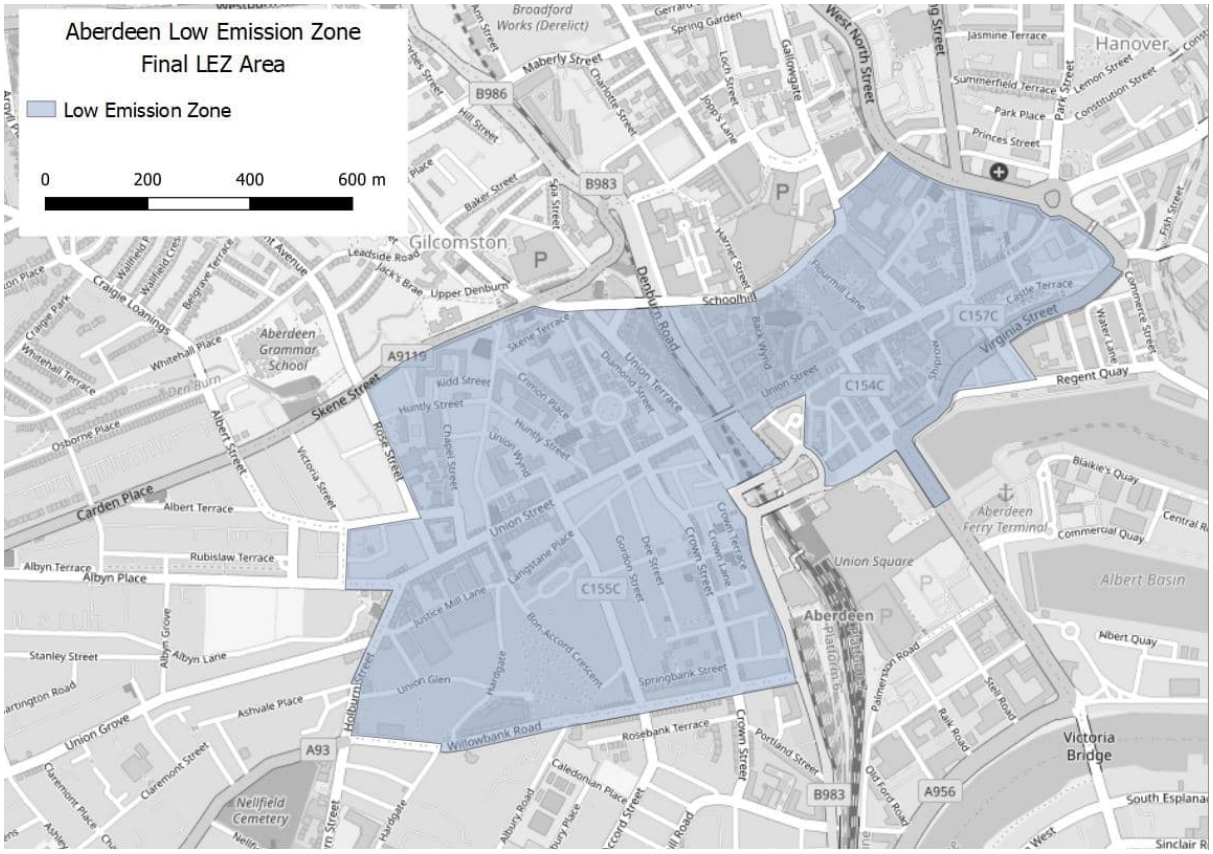


Figure 2.1: Aberdeen's LEZ Area

The policy review presented above enables several themes to be identified, including support for more trips to be undertaken using sustainable modes of travel and the requirement to meet net zero commitments being outlined at national, regional, and local policy levels. As such, the key focus of this study on developing options for improving public transport and active travel connections along the A947 corridor strongly aligns with the national, regional and local policy context.

2.3 Geographic Context

The study area encompasses the north-south corridor between the AWPR Parkhill Junction and the A96/A947 Junction to the south of Dyce. Whilst the study corridor only covers a distance of approximately four miles (6km) from north to south, it has varied characteristics including urban sections along Victoria Street and more rural sections to the north of the River Don.

[22] https://www.aberdeencity.gov.uk/sites/default/files/2018-06/Aberdeen%20City%20Centre%20Masterplan%20and%20Delivery%20Programme.pdf
[23] https://www.nestrans.org.uk/wp-content/uploads/2019/06/North-East-Scotland-Roads-Hierarchy-Study-2019.pdf
[24] https://committees.aberdeencity.gov.uk/documents/s109162/Appendix%201%20-%20Aberdeen%20Energy%20Transition%20Vision.pdf
[25] https://data.climateemergency.uk/media/data/plans/aberdeen-city-council-23971ac.pdf
[26] https://www.aberdeencity.gov.uk/sites/default/files/2021-06/Proposal%20to%20make%20a%20LEZ%20Scheme.pdf
[27] https://www.aberdeencity.gov.uk/services/roads-transport-and-parking/low-emission-zone
[28] https://consultation.aberdeencity.gov.uk/place/draft-active-travel-action-plan-consultation/

The study area encompasses the settlement of Dyce, which has a population of 6,190[29] and is located in the north-west of Aberdeen City, approximately five miles (8km) from the city centre[30]. The area consists of a diverse selection of land uses, including residential, industry, business, transport and education. The residential areas are generally located in the east of Dyce, between Victoria Street and Riverview Drive. Aberdeen International Airport is located in the west of Dyce. Industrial and business land is mostly congregated around Aberdeen International Airport, including many industrial estates and business parks. Dyce Primary School (~379 pupils[31]) and Dyce Academy (~538 pupils) provide education within Dyce. There are additionally two schools within close proximity of the study area to the south of the A96 – Brimmond Primary School (~457 pupils) and Bucksburn Academy (~803 pupils).

The A947 is the primary road link through Dyce, providing a connection between Aberdeenshire and the A96. Dyce Drive forms a key route to the west of the area, forming part of a loop around Aberdeen International Airport and connecting to various industrial estates and business parks. Wellheads Drive provides a connection from the centre of Dyce to Dyce Drive and performs a key role in connecting Dyce to nearby industrial estates and business parks.

Dyce is served by Dyce Rail Station, which is located on Station Road, to the west of the centre of Dyce. The station is located on the Aberdeen to Inverness line which is currently undergoing a programme of improvements to shorten journey times between the two cities. The station is located between Aberdeen and Inverurie which formed Phase 1 of this work, involving redoubling of the track. This was completed in 2019[32]. Aberdeen International Airport is a key regional transport hub for the North East. It serves destinations throughout the UK and Europe and also serves as the main heliport for the North Sea oil and gas industry. Although the primary route to the airport is via the A96, the A947 provides a key access route to the eastern helicopter terminal buildings.

The study area has been defined based on data zones from Dyce, Bucksburn North and Bucksburn South. The data zones making up these areas are illustrated in **Figure 2.2**, along with key transport hubs within the study area.

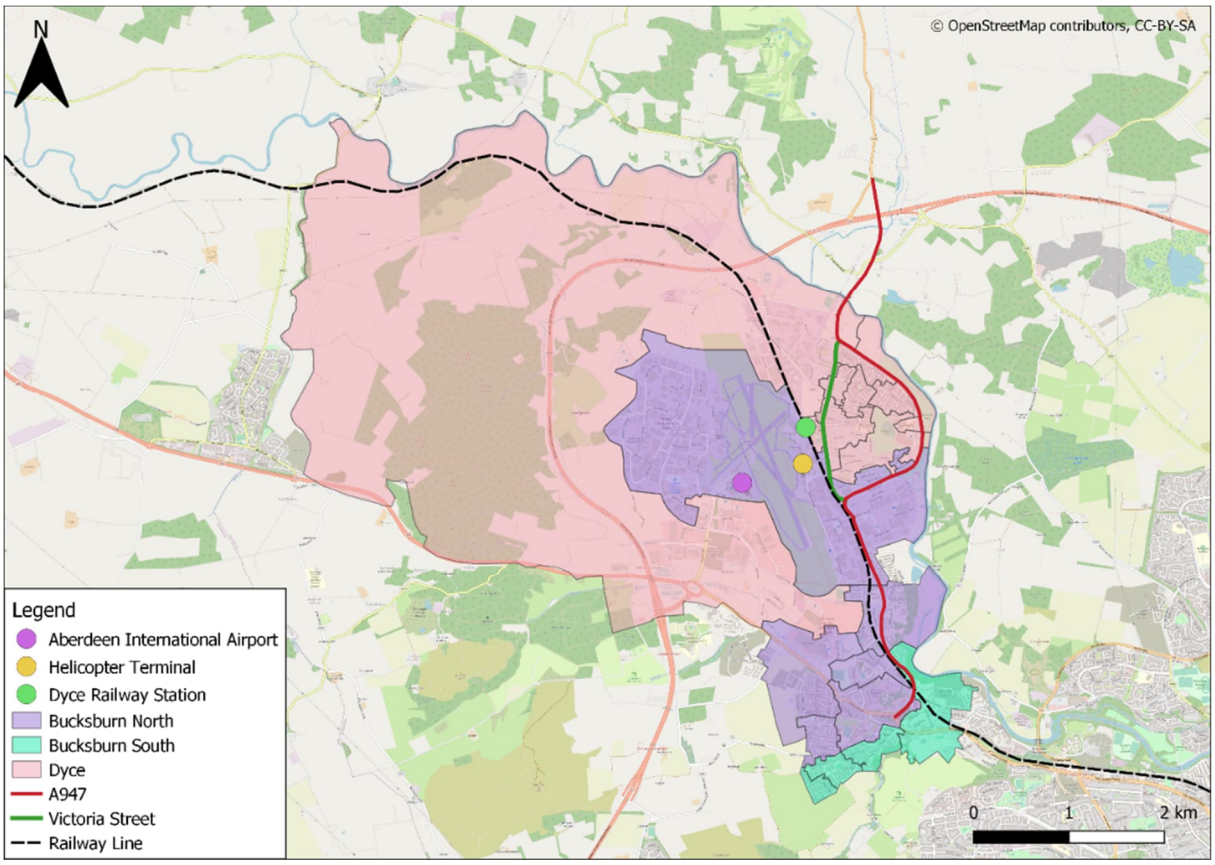


Figure 2.2: Geographic Context of Study Corridor

[29] https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/small-area-population-estimates-2011-data-zone-based/mid-2020
[30] Measured from the Victoria Street/Farburn Terrace Junction to Union Street.
[31] School rolls are based on ACC 2022 forecasts: https://www.aberdeencity.gov.uk/services/education-and-childcare/schools-and-education/schools-pupil-roll-forecasts
[32] https://www.transport.gov.scot/projects/aberdeen-to-inverness-rail-improvements/aberdeen-to-inverness-rail-improvements/

2.4 Socio-Economic Context

The key findings from a detailed review of the socio-economic context for the study are presented below.

Table 2.1: Socio-Economic Context Summary

	Key Findings
Population	• There has been a 9% increase in the population of the study area between 2001 and 2020, which is broadly in line with the population growth across Aberdeen City (8%). • Population growth in Aberdeen City has been in line with the national average (8%), whilst the rate of growth in Aberdeenshire has been significantly above the national average (15%).
Age Profile	• There is an older population in the study area relative to the Aberdeen City, Aberdeenshire and Scotland averages for those aged 65 and over, with 22% of people in the study area within this category compared to 16% for Aberdeen City, 20% for Aberdeenshire and 19% for Scotland. • The percentage of the population in the '15 and under' age group is in line with Aberdeen City as a whole (16%) but is lower than the averages for Aberdeenshire (19%) and Scotland (17%). • In terms of the working age population, the study area (62%) is broadly in line with the averages for Aberdeenshire (61%) and Scotland (64%). The proportion of those of working age in the study area, however, is notably less than the average for Aberdeen City (68%).
Employment	• The unemployment rate is low within the study area (3%) and is in line with the unemployment rates of Aberdeen City (4%) and Aberdeenshire (3%). • The unemployment rate across the region as well as in the study area is significantly lower than the national average of 7%.
Car/Van Availability	• There is a high car/van availability within the study area. The data shows that 79% of adults within the study area have access to a car or van, which is higher than the averages for Aberdeen City (69%) and Scotland (69%).
Distance Travelled to Work	• The most common travel to work destination is within the A947 study area itself (33%), with an additional 8% who work from home. • A total of 41% travel to work elsewhere in Aberdeen, including Aberdeen North (13%), the city centre (12%), Aberdeen West (9%) and Aberdeen South (7%). • 8% of people travelling to work from the A947 study area travel to somewhere in Aberdeenshire.
Transport Poverty	• 65% of the data zones in the study area are identified to be at medium risk of transport poverty. • 24% of the data zones in the study area are identified to be at high risk of transport poverty. These data zones are located in the north-west of the study area and around the northern section of Riverview Drive. • 12% of the data zones in the study area are identified to be at low risk of transport poverty. These data zones are located in the south-east of the study area in proximity to the A947/A96 roundabout.
SIMD	• There are no data zones in the study area within the 20% most deprived in Scotland according to the 2020 SIMD figures. The most deprived areas within the study area are located in the south-west and are within the 40% most deprived areas in Scotland. • The SIMD 2020 figures note that 77% of the data zones within the study area are located in the top 50% least deprived areas in Scotland.
Health & Physical Activity	• General health is shown to be good in the study area, with 83% reporting very good or good health. This is slightly lower than the average for Aberdeen City (85%) and the average for Aberdeenshire (86%), however it is higher than the average for Scotland (82%).

2.5 Transport Context

The key findings from a detailed review of the transport context for the study are presented below.

2.5.1 Active Travel

National Cycle Network

As shown in **Figure 2.3** below, the NCN1 features prominently in the area. NCN1 joins the study corridor in the south at Mugiemoss Road, routeing along Stoneywood Road, Riverview Drive and joining the F&B Way in the north of the study area. The route is mostly formed of traffic-free sections throughout the study area, with small sections of on-road provision.

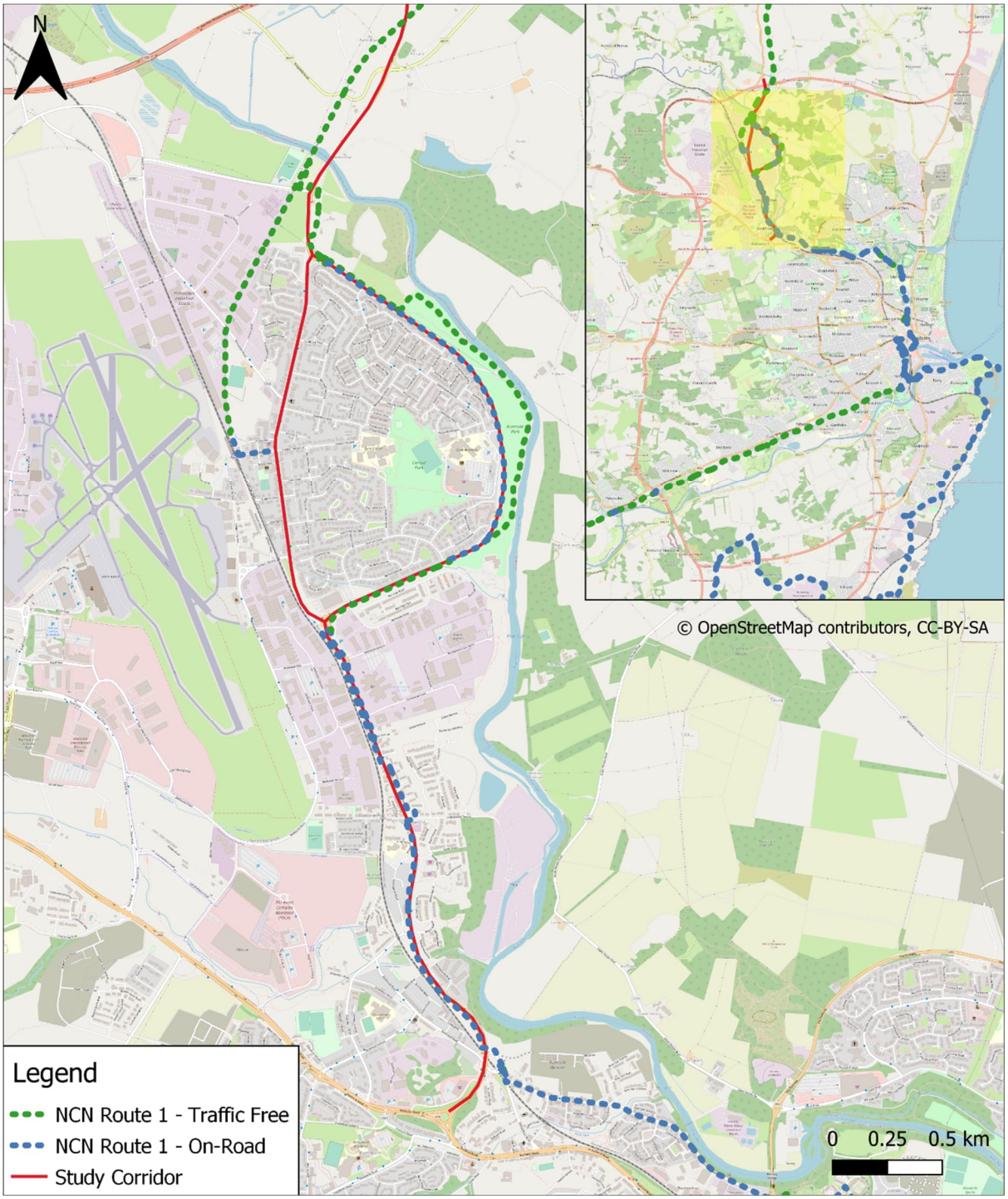


Figure 2.3: National Cycle Network

Active Travel Infrastructure

The existing active travel infrastructure within the study area is shown below.

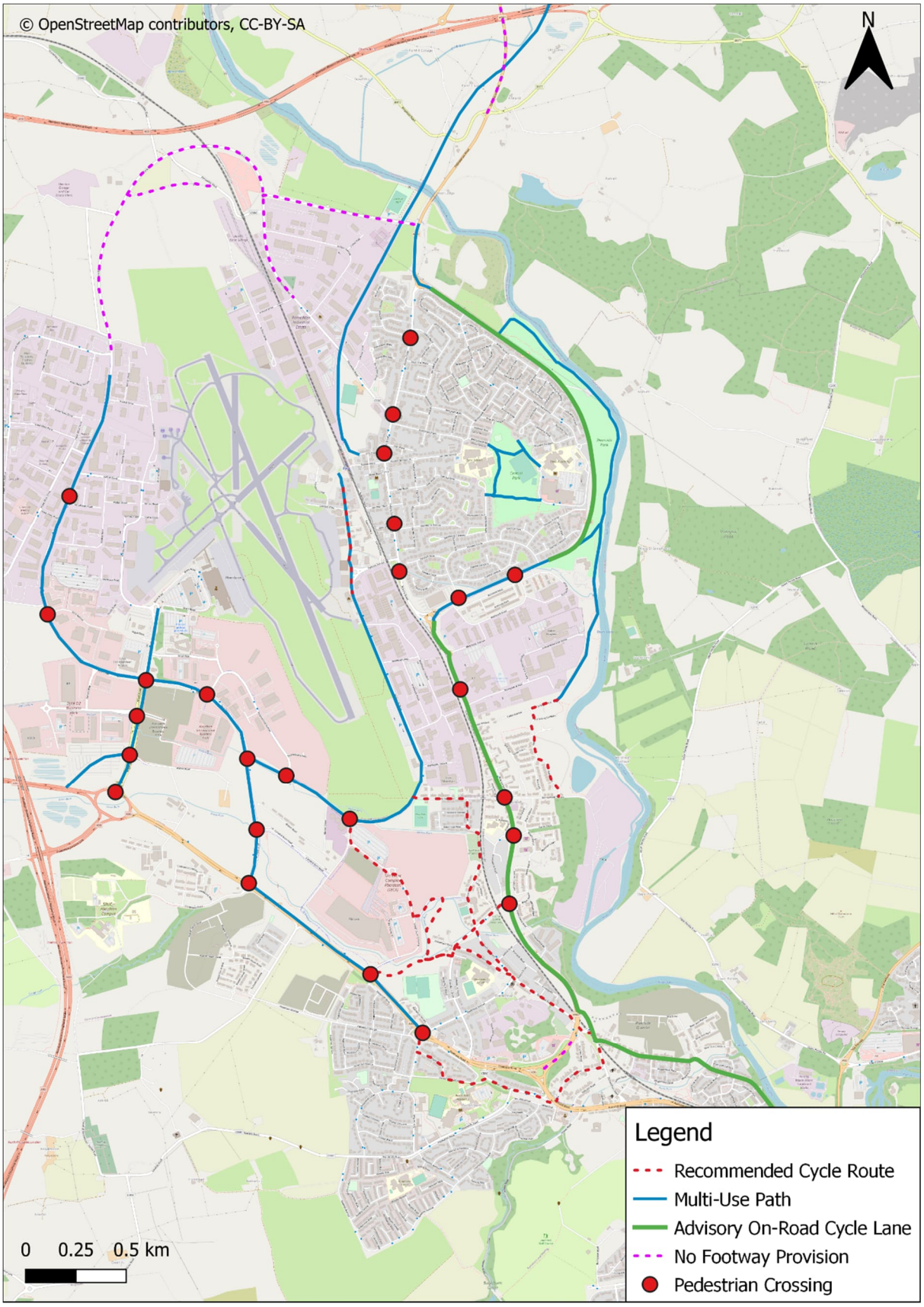


Figure 2.4: Active Travel Infrastructure within the Study Area

As shown, there are a number of active travel routes within the study area, including both on-road and off-road routes. The F&B Way and Riverside Path provide key links for pedestrians and cyclists in the north-west and east

of the study area respectively. On-road advisory cycle lanes connect Mugiemoss Road in the south-east of the study corridor to the north of the study corridor via Stoneywood Road and Riverview Drive. As shown, there are few pedestrian crossing points on Stoneywood Road or Riverview Drive to facilitate active travel movements.

Active Travel Counts

There are five active travel counters located in close proximity to the study corridor as shown in **Figure 2.5**. Analysis of the active travel counters has been undertaken, with key results presented below. There is a degree of variability across some of the counters, reflecting issues with the count technology in some instances. Average daily pedestrian and cycle counts have been used for the analysis, with a snapshot of average daily counts from 2019 illustrated in the diagram below.

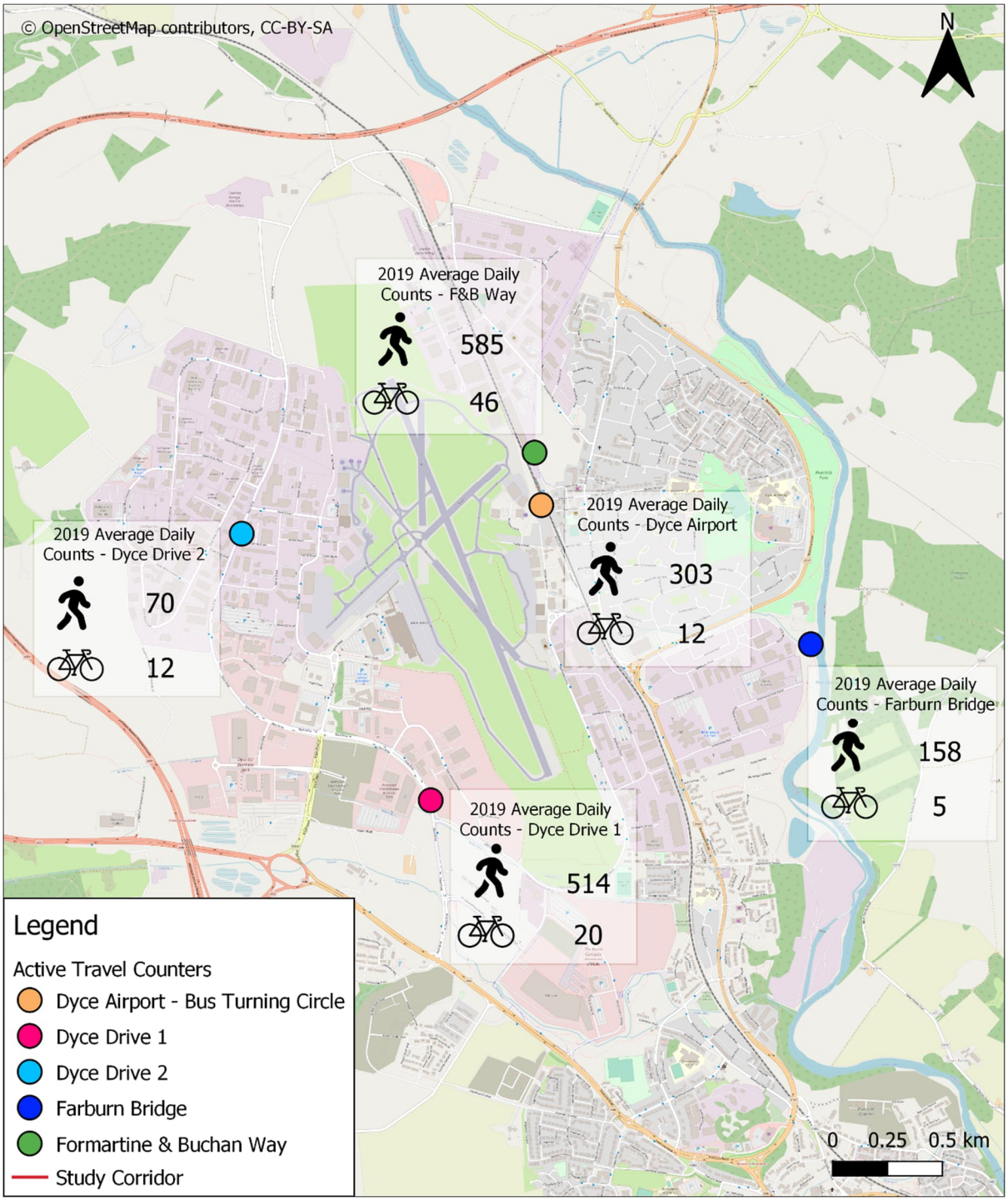


Figure 2.5: Active Travel Counters

2.5.3 Public Transport

Bus Priority Infrastructure

There is no bus priority infrastructure on the A947 corridor within the study area. Buses utilise Stoneywood Road, Victoria Street and Riverview Drive but are not given priority over general traffic on any of these routes.

Bus Patronage

In recent years, there has been a trend of ongoing decline in bus use in Scotland, a trend also evident in the North East, albeit not to the same extent as in some other parts of the country. To provide a baseline of bus patronage along the corridor that can be monitored in future years to assess the impact of any interventions that are implemented, data was provided by the two main bus operators that service the A947 corridor. Given commercial sensitivities, numbers have been presented as an index. FY2019/20 has been taken as the base year, as shown in **Table 2.2**.

Table 2.2: Index of Year Patronage on A947 Corridor (19/20-21/22)

Financial Year	Index of Year Patronage on A947 Corridor	
	First Bus	Stagecoach
2019/20 (Base Year)	100	100
2020/21	38.4	35.7
2021/22	70.3	66.8

The significant decline in patronage in 2020/21 on the 2019/20 base year is attributed to the COVID-19 pandemic which placed significant restrictions on movement and discouraged use of public transport; consequently, contributing to a large decline in bus use. As shown in the table, bus use has recovered to an extent during 2021/22 although it remains significantly below that recorded during the 2019/20 base year.

Bus Journey Time Variability

A high-level analysis of bus stop reliability (delay and dwell times) has been conducted across ten stops serving First Bus services along the A947 corridor. **Figure 2.6** illustrates the location of these stops with the average recorded delay at each. **Table 2.3** shows a summary of the average length of delay as well as the dwell times at each stop.

It should be noted that:

- All times are in seconds;
- The data is for March to June 2019 (inclusive) and the data presents both delay and dwell times as day averages, therefore the average delay/dwell figures have been calculated subsequent to this across all months;
- There are eight bus services recorded as serving the stops (Service 17, 17A, 17B, N17, 18, 18A, 117 and 172) – the analysis has not been split by service number;
- A negative delay value at a stop is assumed to indicate that previously delayed services are generally (i.e. on average) able to recoup time at that stop;
- Victoria Street at McIntosh Crescent (ATCO639004751) is associated only with service #N17, a night only service and Stoneywood Road at Riverview Drive (ATCO639004702) is associated only with service #117, an airport service; and
- Services 17B, N17, 18A and 117 were subsequently cancelled or suspended as a result of COVID-19.

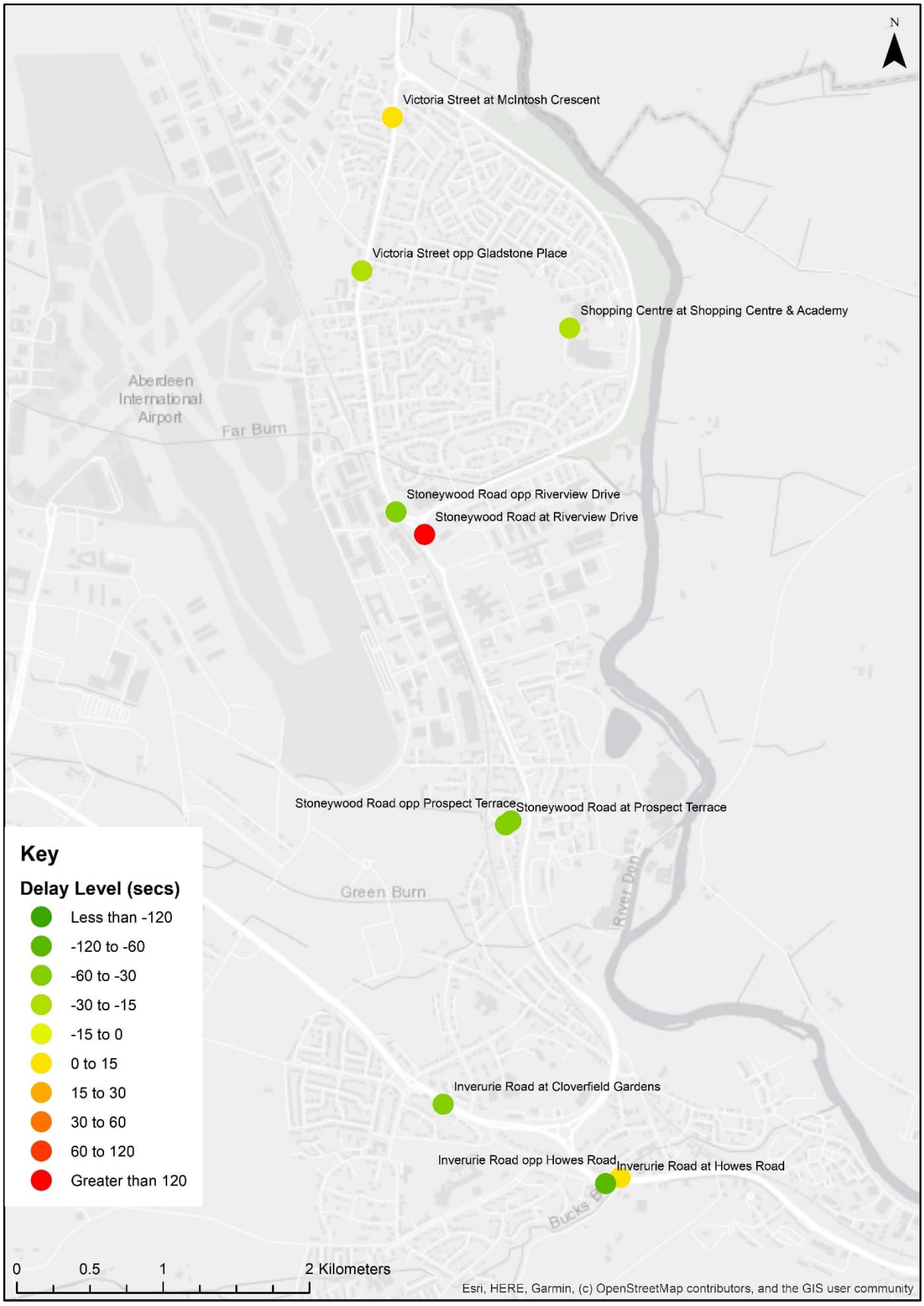


Figure 2.6: Average Delay at Bus Stops on A947 Corridor

Table 2.3: Average Length of Delay and Dwell Time at Bus Stops on A947 Corridor

Stop Name / Location	Delay		Dwell	
	Direction(s)	Average Delay (seconds)	Direction(s)	Average Dwell (seconds)
Inverurie Road opp Howes Road	Inbound	6	Inbound	16
Inverurie Road at Howes Road	Both	-83	Both	32
Inverurie Road at Cloverfield Gardens	Outbound	-46	Outbound	0
Stoneywood Road at Prospect Terrace	Outbound	-41	Outbound	27
Stoneywood Road opp Prospect Terrace	Inbound	-56	Inbound	26
Stoneywood Road opp Riverview Drive	Inbound	-57	Both	20
Stoneywood Road at Riverview Drive[33]	Inbound	170	Inbound	21
Victoria Street opp Gladstone Place	Outbound	-29	Outbound	29
Victoria Street at McIntosh Crescent[34]	Inbound	1	Both	17
Shopping Centre & Academy	Inbound	-22	Inbound	102

Stoneywood Road at Riverview Drive (located on the southbound carriageway of Stoneywood Road) is recorded as having the most significant delays on average across the bus stops. This stop serves only Service 117, routeing from the airport via Wellheads Drive – Farburn Terrace – A947 Victoria Street. The level of delay at this location could therefore be an indicator of frequent congested traffic southbound along Victoria Street or it might be indicative of a more general pattern of delays coming from the airport. The dwell time at this location is broadly average across the stops.

Inverurie Road at Howes Road (located on the westbound carriageway of the A96) is recorded as having the least delays across the stops. This could be an indicator that time is generally able to be recouped at this location due to the relatively higher traffic flows along the dualled A96 westbound. The dwell time at this location is very slightly higher than the average across the stops. There is no correlation between the length of delay at each stop and the dwell time at that stop.

The variance in delay times between the months ranges from five seconds at the Shopping Centre & Academy to 42 seconds at Stoneywood Road opposite Riverview Drive. The variance in dwell times ranges from two seconds at Inverurie Road opposite Howes Road to 10 seconds at Victoria Street at McIntosh Crescent.

Rail Services

Within the study area, Dyce Rail Station is located on the Aberdeen to Inverness line. Dyce is a stop on the Aberdeen to Inverness service, Montrose to Inverurie service and services further south can be accessed via Aberdeen. The table below shows the approximate frequency of each of these services.

Table 2.4: Frequency of Services from Dyce Rail Station (Source: National Rail)

Destination	Frequency
Aberdeen	Approximately 40 services daily
Inverness	Approximately 10 services daily
Inverurie	Approximately 35 services daily
Montrose	Approximately 30 services daily

[33] Airport service #117 only – now withdrawn
[34] Night only service #N17 only – now withdrawn

2.5.4 Road Network

The A947 study corridor between the AWPR Parkhill Junction and the A96/A947 Junction is comprised of three key road links, as shown in **Figure 2.7** below.

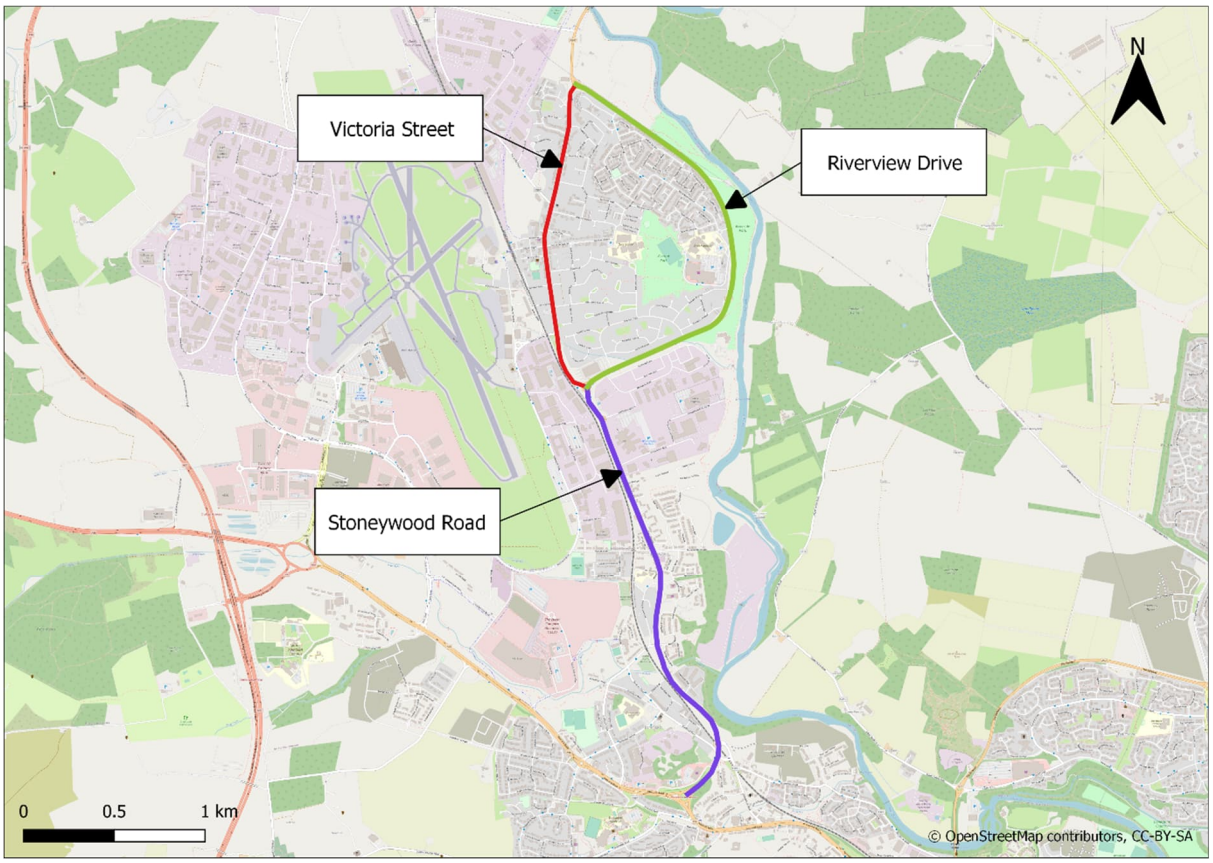


Figure 2.7: A947 Study Corridor Road Network

Stoneywood Road comprises the section of the corridor between the A96/A947 Junction and the Stoneywood Road/Riverview Drive roundabout. This section is approximately 2.5km long and is a two-lane single carriageway for the majority, with the exception of a short dual carriageway section at its southern end. This section has a speed limit of 40mph at its southern end which changes to 30mph approximately 500m north of the A96/A947 roundabout. This section provides access to the residential areas in the south of Dyce, as well as retail space and offices, including the Dyce headquarters of BP.

Riverview Drive is a two-lane single carriageway section of the study corridor which forms a loop around the east of Dyce, bypassing Victoria Street. It has a speed limit of 40mph and, as well as serving as a bypass of Dyce, provides access to Dyce Shopping Centre and to the residential areas in the east of Dyce. Riverside Park, a popular area for leisure activities, is also accessed from Riverview Drive. The road was redesignated as the A947 in the update to the ACC roads hierarchy in 2020.

Victoria Street forms the main thoroughfare through Dyce, containing a mix of retail units, restaurants and residential properties fronting onto the street. It is a two-lane single carriageway with a speed limit of 30mph and provides access to a number of key destinations in the area including Dyce Rail Station, the F&B Way and Aberdeen Heliport. Additionally, this section connects to Pitmedden Road and Wellheads Drive both of which facilitate movements to the business parks and industrial estates to the west of Dyce. Victoria Street was declassified from an A-class route (i.e. the A947) in the update to the ACC roads hierarchy and is now a tertiary route.

Traffic Volumes

There is an automatic traffic counter (ATC) located on Stoneywood Road. The table below provides a monthly summary from the counter for 2019, 2020 and 2021. The effects of the COVID-19 pandemic on traffic movements are evident, particularly throughout 2020.

Table 2.5: Traffic Count Data from Stoneywood Road (Source: ACC)

Month	Average Daily Traffic Flows in Both Directions				
	2019	2020	2021	% Change (2020-2021)	% Change (2019-2021)
January	14,707	14,068	8,977	**-36%**	**-39%**
February	15,434	14,578	10,026	**-31%**	**-35%**
March	15,081	11,709	11,345	**-3%**	**-25%**
April	14,894	6,153	12,045	**96%**	**-19%**
May	15,001	7,596	12,489	**64%**	**-17%**
June	15,001 (est.)	9,983	12,883	**29%**	**-14%**
July	15,001 (est.)	11,112	12,198	**10%**	**-19%**
August	14,886	10,814	12,652	**17%**	**-15%**
September	14,825	11,941	12,750 (est.)	**7%**	**-14%**
October	14,484	12,039	12,167 (est.)	**1%**	**-16%**
November	15,079	12,172	12,968 (est.)	**7%**	**-14%**
December	13,934	11,768	12,123 (est.)	**3%**	**-13%**

Road Safety

The table below shows the number of slight, serious and fatal road incidents involving pedestrians, pedal cycles, and buses as well as all vehicles between 2016 and 2020 along the study corridor.

Table 2.6: Road Safety Incidents along Study Corridor (2016-2020)[35]

	Pedestrians			Pedal Cycles			Buses			All Vehicles		
	Slight	Serious	Fatal	Slight	Serious	Fatal	Slight	Serious	Fatal	Slight	Serious	Fatal
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	1	0	1	0	0	0	0	0	0	2	0	1
2018	0	0	0	1	1	0	0	0	0	1	1	0
2019	0	0	0	0	1	0	0	0	0	2	1	0
2020	0	2	0	0	0	0	0	0	0	0	2	0

One fatal incident occurred during the 2016-2020 time period which involved a pedestrian in 2017. The incident occurred just north of the A96/A947 Junction. Seven incidents were recorded and marked as “slight” in nature and four were marked as “serious” in nature over the five-year period.

[35] Created using information from CrashMap - https://www.crashmap.co.uk/

2.5.6 Freight

Freight Routes

The diagram below provides an overview of the freight routes on the study corridor. There are multiple industrial estates which are a key origin and destination for freight including Kirkhill Industrial Estate to the north-west and Wellheads Industrial Estate to the west of the study corridor. There are restrictions in place on Victoria Street, banning vehicles over 7.5 tonnes in weight. There are height restrictions on Farburn Terrace caused by a low bridge, which prevents vehicles over 4.7m high from using the route.

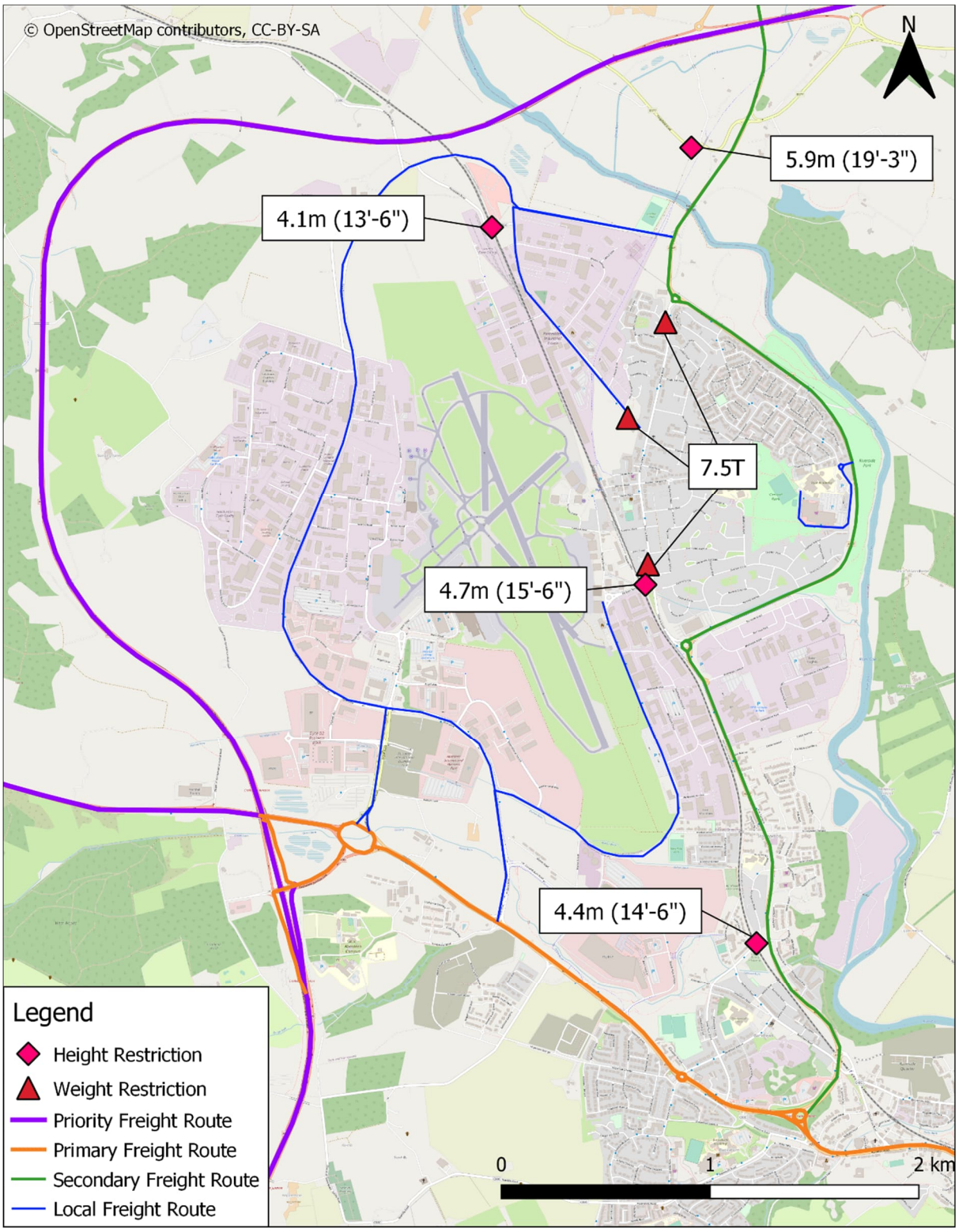


Figure 2.8: Freight Routes

Freight Counts

Data has been obtained from ACC on two-way HGV movements from the automatic traffic counter on Stoneywood Road between March 2020 and September 2021. **Figure 2.9** below shows freight movement trends through this period.

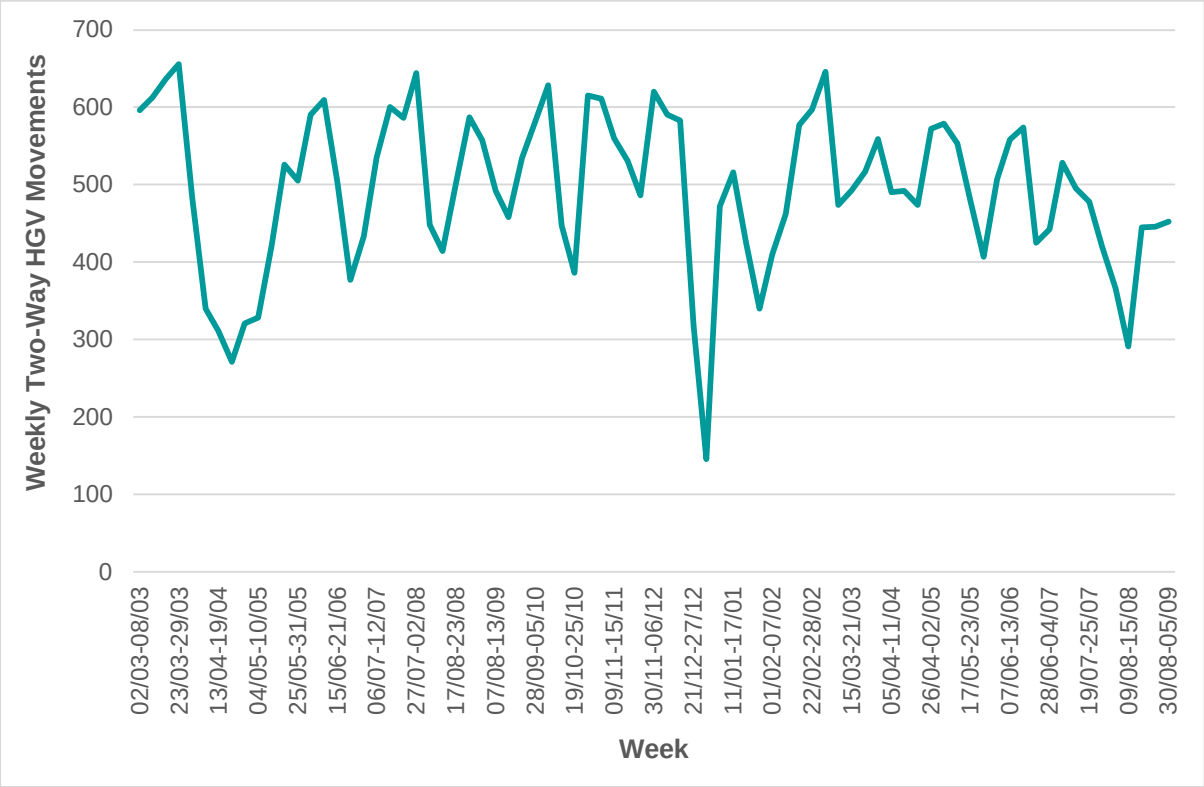


Figure 2.9: Freight Counts

The data is slightly limited given it is only available between 2020 and 2021 meaning that the majority of the data is from during the COVID-19 pandemic. It can be seen that there was a significant decline in HGV traffic immediately after COVID-19 restrictions were introduced in March 2020, however this recovered relatively quickly.

Other than the period immediately following the introduction of COVID-19 restrictions, the HGV numbers follow a pattern of relatively consistent peaks and troughs throughout the year other than a large decrease during the week of Christmas.

2.5.7 Electric Vehicles

The diagram below shows the location of EV charging infrastructure in relation to the study corridor and ACC area based on ChargePlace Scotland data.

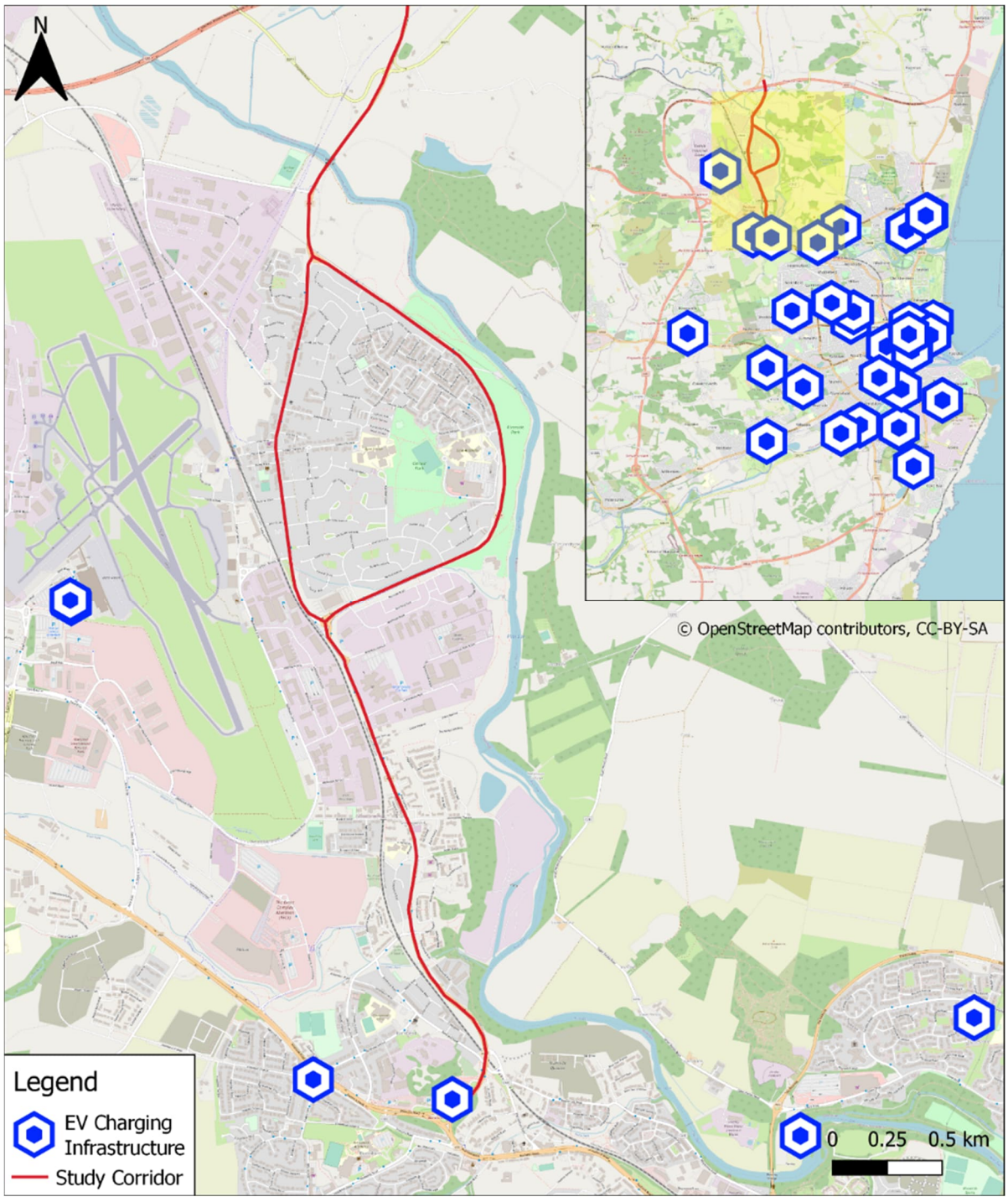


Figure 2.10: EV Charging Infrastructure

As shown, there is limited EV charging infrastructure on the study corridor. There are EV charging points in the south of the study corridor, close to its junction with the A96 and at Aberdeen International Airport. It is noted that in January 2022, the Scottish Government published a new draft vision statement for public electric vehicle charging in Scotland. This notes a *"new public electric vehicle charging fund will be launched in Scotland which seeks to attract investment from the private sector. This fund will provide up to £60 million to local authorities over the next four years with approximately half of this funding anticipated to be invested from the private sector. This step has the potential to double the size of the public charging network in Scotland."*[36]

[36] A new vision for electric vehicle charging infrastructure in Scotland | Transport Scotland

2.6 Planning Context

The review of the planning context included a review of the Proposed Local Development Plans (LDPs) of ACC and Aberdeenshire Council and a review of relevant planning applications along the corridor. This section provides a summary of the key findings from this review, with full details provided as part of **Appendix A**.

2.6.1 Development in Aberdeenshire

The Proposed LDP includes housing allocations for a number of settlements to the north of the study area within Aberdeenshire, including in Newmachar (505 homes), Oldmeldrum (413 homes), Turriff (784 homes), Banff (600 homes) and Macduff (22 homes). There are two relevant planning applications within the vicinity of the study corridor in Aberdeenshire as follows:

- APP/2012/3943 – This application refers to the OP1 allocation in Newmachar within the Proposed LDP 2020. It is for a residential development, primary education provision and associated infrastructure. The application was approved in 2015 for 140 houses; however, there has been no build out at the site to date.
- APP/2021/2089 – This application refers to the erection of 34 houses and associated infrastructure on the land of Meldrum House, Oldmeldrum. The application was submitted in September 2021 and approved in July 2022.

2.6.2 Development in Aberdeen City

Within the ACC local authority area, there are 13 allocations within the Proposed LDP 2020 which are of relevance to the A947 Multi-Modal Corridor Study. The most significant allocation for housing in the area is OP9 at Grandhome, with plans for 4,700 homes. Overall, the Proposed LDP 2020 includes allocations for 9,345 homes and 101ha employment land within the vicinity of the A947 corridor.

There are two relevant planning applications within the Aberdeen City section of the study corridor as follows:

- 181050/DPP – This application refers to a residential development comprising 283 flats over five storeys, associated infrastructure, access roads and landscaping to the east of Stoneywood Road south of Riverview Drive.
- 210665/DPP – This application refers to the erection of an energy storage facility with associated works to the west of Victoria Street north of Farburn Terrace. The application was approved in September 2021.

2.7 Environmental Context

The *Problems, Issues, Constraints and Opportunities Technical Note* included in **Appendix A** includes a detailed overview of the environmental considerations which are present along and in the vicinity of the A947 corridor and is supported by Environmental Constraints Mapping. The review provides consideration of the following:

- Ecology and Biodiversity – identifying designated ecological interests within the study area;
- Landscape Character – describing the landscape character within the study area;
- Land Use – providing an overview of the existing use of the land within the study area;
- Cultural Heritage and Archaeology – identifying designated heritage and archaeological interests within the study area;
- Water Resources and Flood Risk – identifying key waterbodies/quality and the risk of flooding within the study area;
- Outdoor Access and Recreation – identifying outdoor recreational resources within the study area; and
- Air Quality – identifying any Air Quality Management Areas (AQMAs) within the study area.

The key points emerging from the review of the environmental context include:

- There are segments of the A947 with a high likelihood of river flooding where they cross the River Don and its tributaries, and along the course of the river which runs adjacent to the study corridor;
- There are no environmental or landscape designations within the study area;
- There are listed buildings within the study area but no other designations for cultural heritage or archaeology; and
- There are several core paths which intersect or share the A947.

3. Public and Stakeholder Engagement

3.1 Introduction

This chapter provides an overview of the public and stakeholder engagement exercises that were undertaken as part of this study. Further detail on the first phase of engagement is provided in the *Problems, Issues, Constraints and Opportunities Technical Note* included in **Appendix A** and further detail on the second phase of engagement is provided in the *Part 2 Consultation Outcomes* included in **Appendix E**.

3.2 Part 1 (Autumn 2021)

The purpose of the initial stage of engagement, undertaken in Autumn 2021, was to determine the problems, issues, constraints and opportunities along the study corridor. A number of steps were involved in delivering the first stage of the engagement process, as outlined below.

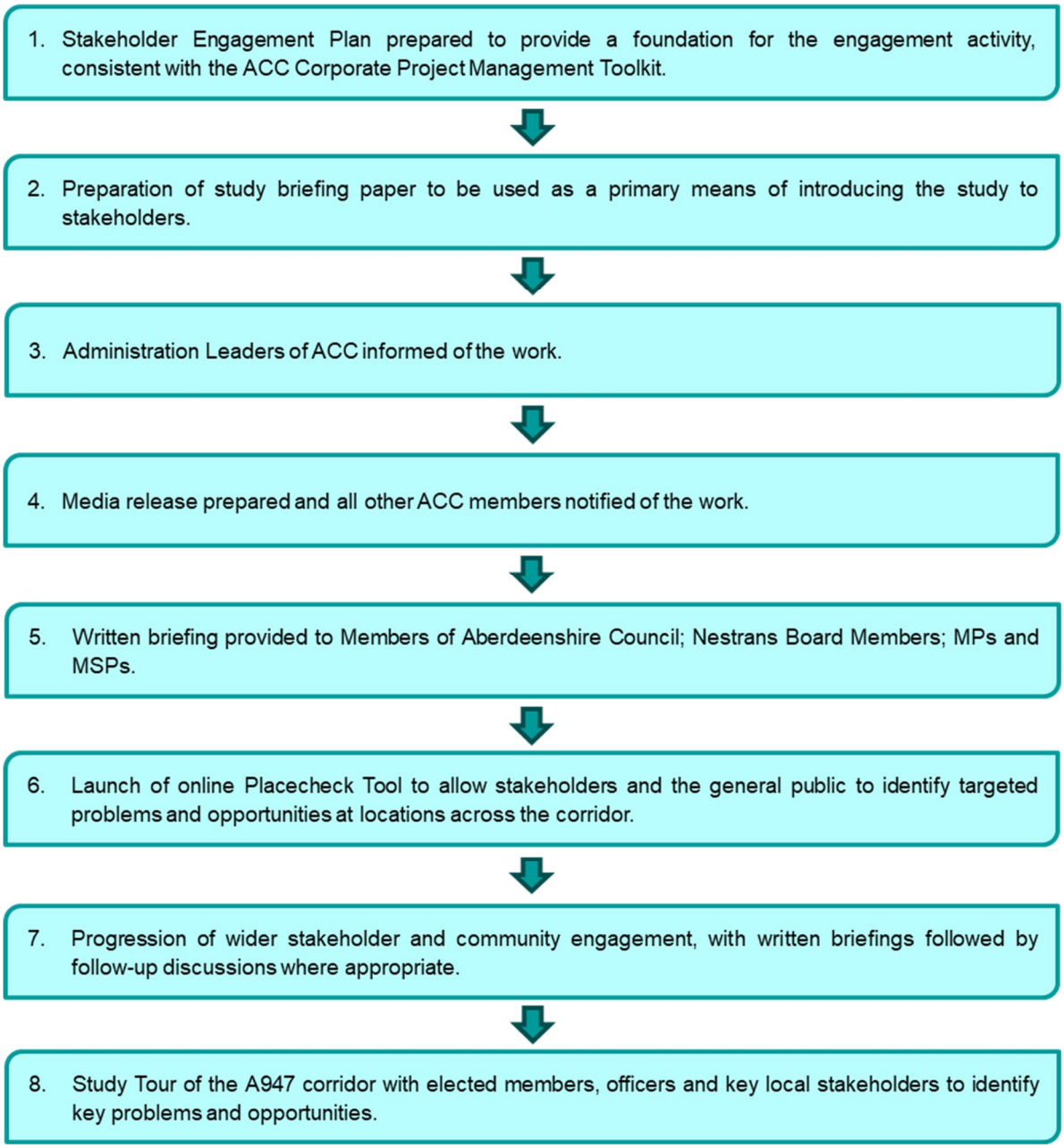


Figure 3.1: Part 1 Engagement Activities

3.2.1 Stakeholder Discussions

The table below presents the key findings from this phase of stakeholder engagement.

Table 3.1: Key Outcomes from Part 1 Stakeholder Engagement

Stakeholder	Key Findings
Aberdeen Cycle Forum	• There is a general lack of wayfinding signage for cyclists on the study corridor. • It was noted that access controls are not suitable for all bike types e.g. adapted bikes, cargo bikes, bikes with trailers etc. • There is a lack of cycle lane lead-ins ahead of advanced stop lines at box junctions.
ACC, AC and Nestrans Officers	• Options on the Riverside Path are constrained by ownership and wildlife habitats. • There is an opportunity to influence drivers to use Riverview Drive rather than Victoria Street. • There is variable quality of infrastructure for active travel on Victoria Street. • There are limited crossing opportunities on Victoria Street, and few dropped kerbs for those with mobility issues. • The rail service is good but access to the station is difficult for all users, particularly active travel users. • Issues noted with overspill at the Dyce Rail Station car park. • It was noted that congestion issues affecting car users and public transport on the corridor have been alleviated through the opening of the AWPR and the majority of issues on the corridor are now relating to active travel. • There are opportunities to improve east to west connectivity on the study corridor.
Aberdeen International Airport	• It was noted that car travel is the dominant mode of travel to the airport, despite staff often living in close proximity. • There are issues for accessing the airport sustainably as shift times are often outwith the operation times of public transport and weather and darkness creates the perception of being unsafe for active travel. • There is an opportunity for a direct bus service between Dyce Rail Station and the airport, which could also integrate with TECA. • It was noted that there is potential for improved active travel links between the study corridor and the airport.
First Aberdeen	• The COVID-19 pandemic has had a particularly significant impact on bus service use within the study area, partly due to much lower demand for travel to Aberdeen International Airport. • The width of Victoria Street was noted as a constraint on the route. • Increased use of Riverview Drive for private car journeys would better facilitate bus movements on Victoria Street. • On-street parking on Mugiemoss Road can cause delays for buses.
Newmachar Community Council	• Introducing lighting between the AWPR Parkhill junction and the Victoria Street/ Riverview Drive Roundabout could improve safety and pedestrian comfort and improve consistency of lighting for drivers.
Scottish Enterprise	• Scottish Enterprise support a focus on sustainable options which contribute to the transition to a net zero economy in the North East. They are actively engaged with regional partners to deliver transformational economic projects in the North East and sustainable transport could have a positive impact on promoting these projects.

3.2.2 Study Tours

To aid identification of problems and opportunities along the study corridor, AECOM led a Study Tour which representatives from ACC, Nestrans and other key stakeholders attended. An additional Study Tour was held with elected members. A summary of the key findings is presented in the table below.

Table 3.2: Key Findings from A947 Study Tours

Location	Problems/Opportunities
Dyce Rail Station	**Problems**
	• Lack of wayfinding signage for active travel users.

Location	Problems/Opportunities
	• Route to access the F&B Way from the rail station is through the car park. • Station access is poor for active travel.
	Opportunities
	• Potential to create active travel route through car park. • Potential to formalise link between Dyce Rail Station and Union Row.
A947/Dyce Drive Junction	**Problems**
	• No direct cycling provision (alternative route via underpass is convoluted – underpass to connect to F&B Way requires cyclists to dismount and there are perceived personal security issues due to a lack of lighting). • Lack of wayfinding signage for equestrian users. • Overgrown vegetation on approach to F&B Way.
	Opportunities
	• Opportunity to improve wayfinding signage. • Potential to create a direct active travel link between Dyce Drive and Riverview Drive.
Victoria Street/Pitmedden Road Junction	**Problems**
	• Width of junction encourages increased vehicle speeds. • Guardrails present safety issues for cyclists and affect placemaking opportunities.
	Opportunities
	• Wide junction has potential to be reduced in footprint. • Opportunity to reconnect Dyce Parish Church and Dyce Church Hall via improved crossings.
Victoria Street	**Problems**
	• Bus laybys cause difficulties for buses rejoining carriageway. • Footway surfacing is poor. • History of issues at the zebra crossing near Tesco including conflicts relating to parking and cash machine use.
	Opportunities
	• Opportunity to improve placemaking on the route. • Opportunity to widen footways. • Potential to introduce restrictions on traffic movement. • Potential to introduce segregated cycle lanes. • Potential to reduce access widths to improve facilities for pedestrians. • Opportunity to prevent through traffic movements on Victoria Street.
Victoria Street/Station Road/Gordon Terrace	**Problems**
	• Lack of cohesion at junction and space is severed by the main road. • Lack of crossing facilities. • Lack of infrastructure to connect the station to community facilities and green space near Dyce Primary and Central Park.
	Opportunities
	• Opportunity to create quieter streets through traffic management and enhance placemaking. • Opportunity for greater placemaking around the war memorial which currently acts as a mini roundabout.
Riverview Drive	**Problems**
	• Discontinuous footway provision and lack of crossing points. • Variable surfacing on Riverside Path as well as narrowing of the path. • Limited linkages between the Riverside Path and housing developments.
	Opportunities
	• Opportunity to provide segregated cycle facilities as part of NCN1. • Potential to narrow some junctions to reduce vehicle speeds.

Location	Problems/Opportunities
	• Further enhancements could be made to the Riverside Path. • Potential for a formalised crossing point at the northern end of Riverview Drive.
Stoneywood Road	**Problems**
	• Inconsistent advisory cycle lanes. • Pinch point at Stoneywood Terrace/Stoneywood Road junction resulting in a break in footway provision.
	Opportunities
	• Potential for segregated cycle facilities on Stoneywood Road. • Opportunity to review movements on Stoneywood Road and reduce junction radii where possible to reallocate space for active travel. • Opportunity to increase footway provision to match pedestrian desire lines.
General	**Problems**
	• Limited provision for horse riders. • Bus routes are limited by width of some roads. • Long bus journey times to the city centre. • Speed of general traffic off-putting to cyclists. • Some issues with drainage meaning paths can be flooded. • Instances of rat-running through areas of Dyce such as the Dandara Scheme in Stoneywood.
	Opportunities
	• Provide wayfinding signage for the F&B Way. • Provide more consistent bus stop provision. • Potential to reconfigure existing bus routes to include the new housing development on Mugiemoss Road. • Potential to adopt the 20-minute neighbourhood concept in Dyce.

3.2.3 Placecheck

To allow stakeholders and the general public to identify targeted problems and opportunities at locations throughout the corridor, an online 'Placecheck' was available from Wednesday 17th November 2021 until Tuesday 11th January 2022. Placecheck is an online map-based exercise that allows the user to highlight the location of specific issues/problems by placing a point at the location and adding the detail of the problem. Placecheck asks three questions: what do we like about a place; what do we dislike about a place; and what do we need to work on?

A total of 121 comments were received from 28 different participants, with the split across response categories shown below.

Table 3.3: Split of Responses to the Online Placecheck

Category	Number	Percentage
Things I like	13	11%
Things I don't like	60	50%
Things to work on	48	40%

An initial cleaning of responses was undertaken to identify any comments that did not require further analysis. 24 comments were identified as not requiring further analysis. Common reasons included positive statements about the study corridor (8), issues being considered as part of other ongoing studies (6), comments relating to areas outwith the study area (5), repeated comments from the same user (3), and lack of clarity regarding the content of the comment (2).

The remaining 97 comments were categorised into themes to determine the key problems and opportunities emerging from this element of the consultation exercise. The table below provides a summary of the themes raised. It should be noted that comments could cover a number of themes and therefore numbers do not total 97.

Table 3.4: Description of Themes Emerging from Placecheck Exercise

Theme	Description	No. of Times Raised
Cycling Infrastructure	Comments relating to lacking infrastructure (21) particularly dropped kerbs, opportunities for new cycling infrastructure (8), poor quality of existing advisory lanes (4), opportunities for new cycling infrastructure along the River Don (5), opportunities for upgrades to existing cycling infrastructure (3) and opportunities for realignment of NCN1 route along the River Don (3).	44
Pedestrian Infrastructure	Comments relating to lacking pedestrian infrastructure (7), upgrades to existing paths to enhance pedestrian connectivity (6) and opportunities for new footpaths along the River Don (6).	19
Maintenance	Comments relating to maintenance of overgrown trees (6), maintenance of cycle infrastructure on Riverview Drive (2), maintenance of footways along Victoria Street (1), maintenance of road surface on Stoneywood Road (1) and maintenance of the underpass at Millhill Brae (1).	11
Driver Behaviour	Comments relating to vehicles travelling in excess of the speed limit (3), vehicles ignoring cycle provision (3), vehicles flouting 'no entry' signs (2), vehicles ignoring double yellow line restrictions (1) and vehicles failing to stop at informal crossing points (1).	10
General Traffic	Comments relating to volume of traffic (4), safety concerns when vehicles reverse onto Victoria Street (2), congestion at car parks (2) and high volume of through-traffic on Victoria Street (1). One comment proposed opening barriers on Market Street during times when Farburn Terrace is temporarily closed.	10
Active Travel Priority	Comments relating to priority for active travel modes at junctions (3), traffic light sensitivity to oncoming cyclists (2), early release for cyclists at traffic lights (1), enhanced priority for sustainable modes on Victoria Street (1) and access for cyclists through barriers on Market Street (1).	8
Surfacing	Comments relating to poor quality of surface for cycling (4), poor quality of footways (2) and poor quality of surface along the F&B Way (2).	8
Accessibility	Comments relating to issues with accessing the F&B Way (3), barriers blocking access for recumbent cycles and cargo bikes (2) and steps preventing access by cycle (1).	6
Crossing Facilities	Comments include locations that are considered dangerous for crossing (2), locations where new active travel crossing facilities would be beneficial (1), issues with existing crossing facilities (1) and the potential for upgrade of existing crossing facilities (1).	5
Junction Layout	Junction locations along the corridor that are problematic and would benefit from review include the B977 slip road (1), Skene Place (1), Netherview Avenue (1), Bankhead Avenue (1) and the access road to McDonald's (1).	5
Signage and Information	Comments relating to lack of consistent wayfinding signage for active travel users to path facilities along River Don (2) and Stoneywood Drive (1), lack of information signage regarding other users (1) and lack of directional signage at key junctions for vehicle drivers (1).	5
Lighting	Comments relating to the lack of lighting provision increasing security concerns (2), lighting being obstructed by overgrown trees and vegetation due to its location (1) and opportunity to increase the use of the F&B Way through an increase in lighting provision (1).	4
Width	Comments relating to narrow path on the F&B Way (1), at the access to Dyce Rail Station (1) and on the footway along Stoneywood Road (1). Further comment relating to the narrow width of Mugiemoss Road for larger vehicles and buses (1).	4

Theme	Description	No. of Times Raised
Parking	Comment relating to on-street parking on Victoria Street creating a dangerous environment for pedestrians and a comment regarding parked cars impeding visibility for pedestrians when crossing the road.	2
Conflict Between Users	Problem relating to conflict between users on footway designated as shared use.	1
Environment	Problem relating to sections of footways prone to flooding.	1

3.2.4 A947 Corridor – School Engagement

A workshop session was carried out on 20th May 2022 with one Primary 7 class at Stoneywood School. Pupils were given a presentation on the role of a Transport Planner and then were asked to think about what they like and don't like with the transport network in their local area using large maps and sticky notes. Approximately 25 pupils took part in the workshop, allowing them to consider how the transport network in Dyce could be improved.

The table below provides a summary of the key points of feedback from the workshop with pupils.

Table 3.5: Key Findings from School Engagement Workshop

Things I like	Things I don't like	Things to work on
• Riverside Path • The underpass of the A96 providing access to TECA • The paths around TECA provide good access to this facility	• Pot holes that make it hard to cycle • Vehicles travelling too fast • Vehicles parking on double yellow lines at the school • Noise concerns due to the volume of traffic • Not enough safe crossing facilities	• Provision of additional crossing facilities • Addition of scooter facilities on the corridor

3.3 Part 2 (Summer 2022)

The second stage of consultation was undertaken in Summer 2022 and focused on gaining public and stakeholder feedback on the six devised option packages for the corridor as outlined in **Section 6.8.2**. The feedback received will help to inform the appraisal of each option package in terms of public acceptability. The consultation period lasted four weeks between 22nd July 2022 and 19th August 2022.

3.3.1 Virtual Consultation Room

Consultees accessed study information through the AECOM-hosted Virtual Consultation Room which was linked through the ACC website. This interactive platform, as shown in **Figure 3.2**, displayed materials related to the study Transport Planning Objectives (TPOs), problems, issues, constraints and opportunities and option packages showing indicative layouts, benefits, design considerations and precedent images. The online feedback form was also linked through this platform.

Figure 3.2: Virtual Consultation Room

3.3.2 Feedback Form

A feedback form was developed to collate responses to inform the appraisal. It sought views on:

- Current use of the A947 corridor;
- Option concepts, including anticipated future behaviour;
- Prioritisation of option packages, in form of a ranking; and
- The accessibility of the consultation process, to inform the planning of future consultations.

Respondents were additionally asked a series of 'About You' questions to assess the representativeness of the sample.

Two versions of the questionnaire were available depending if the respondent was a member of the public or responding on behalf of an organisation. The questionnaire structure and topics were consistent but while the public version asked about potential changes to mode choice as a result of the implementation of option packages, the organisation version asked about potential impacts on the operation of the organisation.

The questionnaire was hosted on the Microsoft Forms platform and directly linked to the online consultation room. Printed versions of the questionnaire were available for those attending the in-person drop-in events to submit their responses.

3.3.3 Public Drop-In Events

The second phase of consultation also included both an in-person drop-in event and online live Q&A sessions (hosted through the Virtual Consultation Room). The drop-in event took place in Dyce Church Hall on Wednesday 27th July between 16:00-20:00 and the online live Q&A sessions took place on Wednesday 10th August and Wednesday 17th August, both from 19:00-20:00.

Figure 3.3: Public Drop-In Event at Dyce Church Hall

During the in-person event, attendees were provided with the opportunity to look at hard copies of the consultation materials available online and discuss the study in greater depth with members of the project team. The overall feedback for the option packages was positive, with a summary of the key points of feedback as follows:

- A member of a cycling group supported the plans to introduce segregated cycling facilities throughout Dyce, especially along Victoria Street due to their past experiences cycling along this route.
- Local residents welcomed the proposed placemaking improvements along Gordon Terrace at the existing war memorial as this would improve the aesthetics of their local area.
- Current vehicle speeds throughout large parts of Dyce were thought to be currently too high and not observed by the majority of road users. One member of the public raised Riverview Drive as a specific section where vehicle speeds are a problem.

3.3.4 Consultation Promotion

In order to inform people about the consultation, several methods were used to promote the Virtual Consultation Room, public drop-in event and online Q&A including:

- Social media posts from ACC and Nestrans;
- Emails direct to key stakeholders; and
- Emails direct to Community Councils.

Local Elected Members, MSPs and MPs were also contacted to raise awareness of the consultation and support its promotion.

3.3.5 Responses

Table 3.6 below provides a summary of the responses received at this stage of the consultation.

Table 3.6: Type of Respondent by Response Mechanism

	Online Questionnaire	Online Q&A	Direct Email	Total	%
General Public	17	1	0	18	95%
Organisations	0	0	0	0	0%
Elected Members	0	0	1	1	5%
Total	17	1	1	19	100%

Detailed findings from the consultation are presented in *Part 2 Consultation Outcomes* (**Appendix E**) and relevant feedback has been incorporated within the Public Acceptability section of the Deliverability Appraisal of each option package in **Chapter 8**.

4. Problems and Opportunities

4.1 Introduction

This chapter identifies actual and perceived PICOs within the study area. Within STAG, PICOs are described as follows:

- **Problem:** existing and future problems within the transport and land use system;
- **Issues:** uncertainty that the study may not be in a position to resolve, but must work within the context of;
- **Constraints:** representing the bounds within which a study is being undertaken;
- **Opportunity:** changes to improve the transport and land use system to realise opportunities.

Throughout this chapter, localised PICOs are presented along various sections of the corridor before consideration is given to non-location specific issues and wider issues that should be borne in mind as the study progresses. The key below is used across the PICO diagrams in the following sections.

Problem
Issue
Constraint
Opportunity
Other

4.2 Localised Corridor Review

4.2.1 AWPR to Dyce Drive (North)

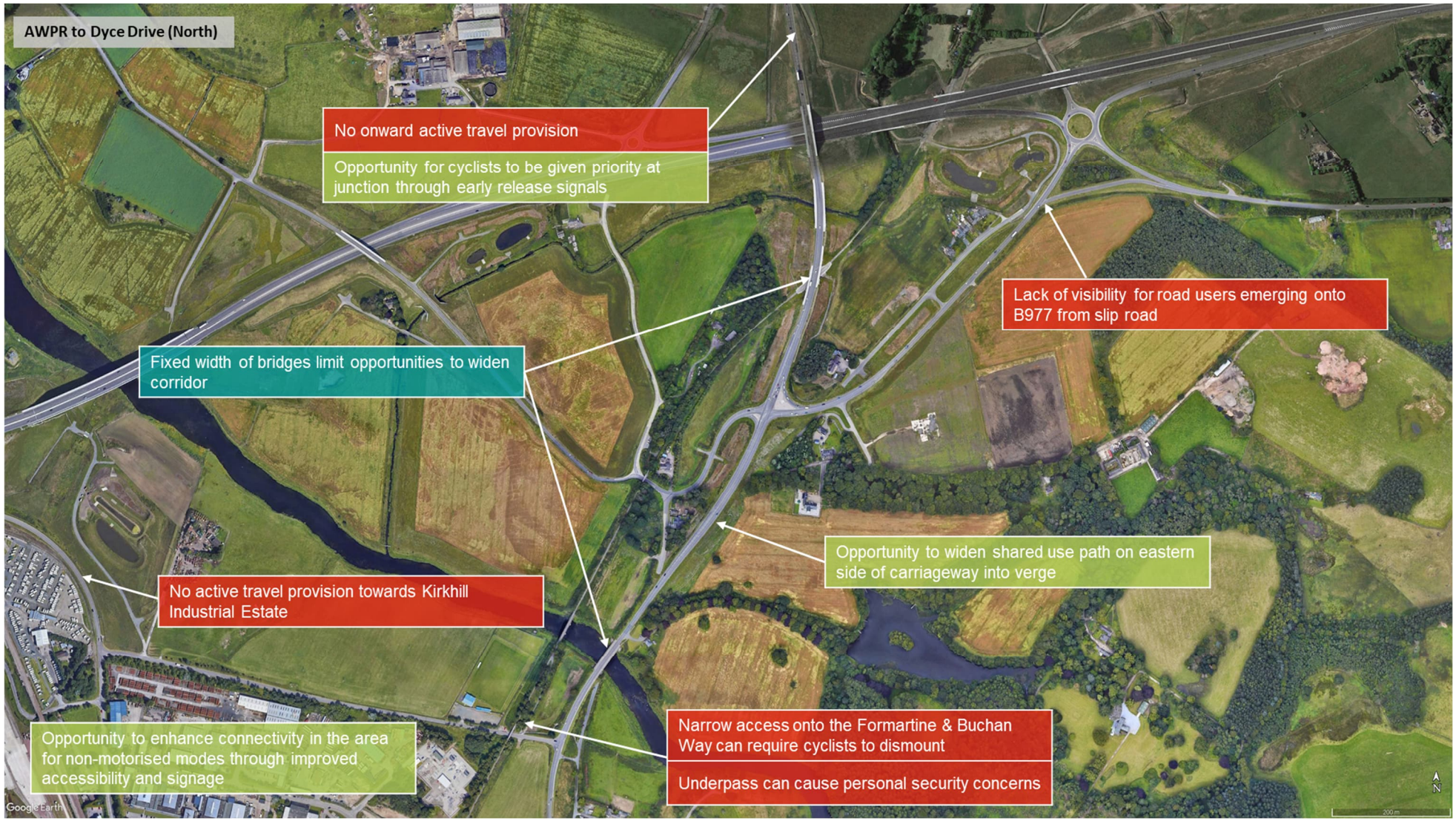


Figure 4.1: Location-Specific Issues between the AWPR and Dyce Drive (North) (Image Source: Google Earth)

4.2.2 Riverview Roundabout (North)

Figure 4.2: Location-Specific Issues at Riverview Roundabout (North) (Image Source: Google Earth)

4.2.3 Riverview Drive (North)

Figure 4.3: Location-Specific Issues on Riverview Drive (North) (Image Source: Google Earth)

4.2.4 Riverview Drive (South)

Figure 4.4: Location-Specific Issues on Riverview Drive (South) (Image Source: Google Earth)

4.2.5 Victoria Street (North)

Figure 4.5: Location-Specific Issues on Victoria Street (North) (Image Source: Google Earth)

4.2.6 Pitmedden Road Junction

Figure 4.6: Location-Specific Issues at the Pitmedden Road Junction (Image Source: Google Earth)

4.2.7 Victoria Street (South)

Figure 4.7: Location-Specific Issues on Victoria Street (South) (Image Source: Google Earth)

4.2.8 Riverview Roundabout (South)

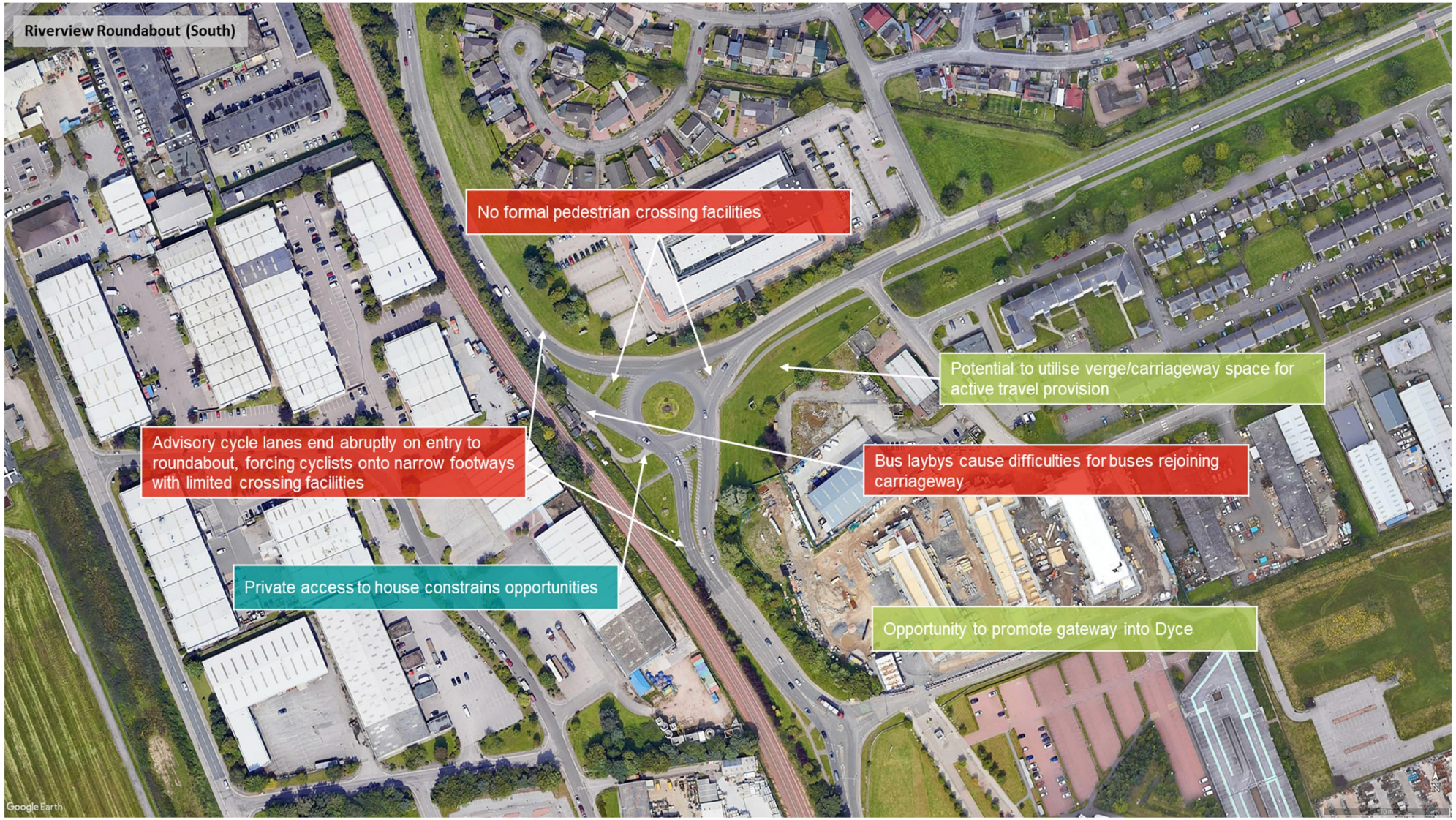


Figure 4.8: Location-Specific Issues at Riverview Roundabout (South) (Image Source: Google Earth)

4.2.9 Stoneywood Road (North)

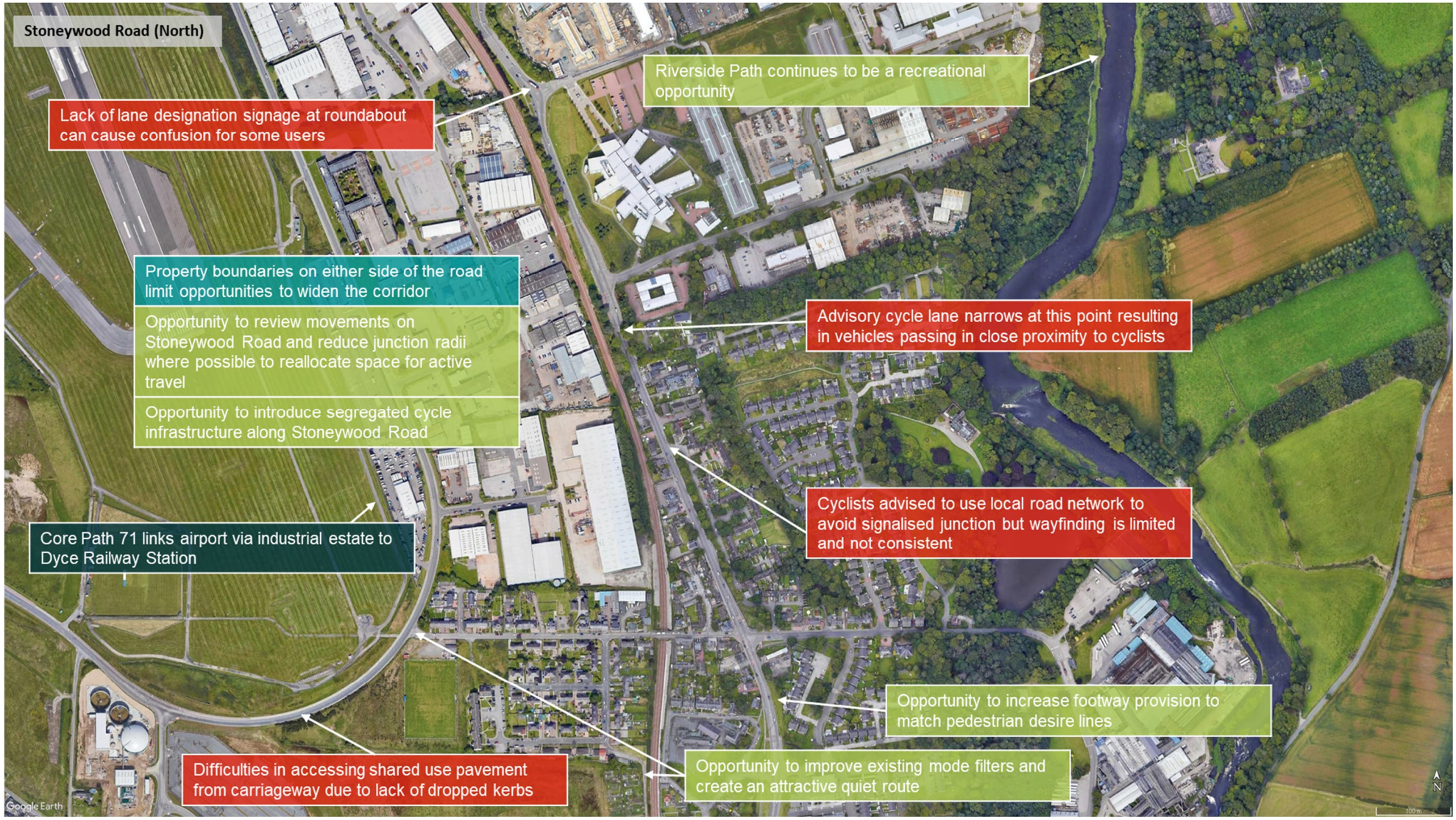


Figure 4.9: Location-Specific Issues on Stoneywood Road (North) (Image Source: Google Earth)

4.2.10 Stoneywood Road (South)

Figure 4.10: Location-Specific Issues on Stoneywood Road (South) (Image Source: Google Earth)

4.3 Strategic Corridor Review

In addition to the localised PICOs set out in the preceding sections, consideration has been given to strategic issues that will be important to consider as the study progresses.

4.3.1 Problems

The strategic problems identified along the study corridor include:

- **F&B Way:** the PICOs work has identified a number of problems along this route:
  - **Maintenance** – there is a lack of maintenance, evidenced by encroaching vegetation.
  - **Signage** – there is generally a lack of signage associated with the route.
  - **Accessibility** – many access points along the F&B Way are not accessible due to gates and barriers.
- **Declining Bus Patronage:** Declining bus patronage in the region in recent years has been exacerbated by the COVID-19 pandemic. The consultation exercise highlighted a number of barriers to increased bus usage for people living along the study corridor:
  - **Journey times** – the consultation exercise highlighted that bus users feel journey times are long given the distance to the city centre from Dyce.
  - **Frequency/Timetabling** – difficulties accessing the airport by bus as shift patterns are outwith bus operation times.
- **Active Travel Infrastructure:** Whilst there is generally good provision of pedestrian infrastructure within the study area, the PICOs work has identified a number of areas where there is a lack of footway provision to match pedestrian desire lines. Further problems identified included advisory cycle lanes being narrow and inconsistent and a limited number of appropriate crossings for pedestrians and cyclists throughout the study area.
- **Driver behaviour:** Outcomes of the consultation highlighted anecdotal evidence of driver behaviour issues including vehicles travelling in excess of speed limits, ignoring cycling provision, flouting 'no entry' signs and parking on double yellow lines. This can impact on the safety and perceptions of safety for other road users, particularly cyclists.
- **Maintenance of Active Travel Infrastructure:** As highlighted from Placecheck feedback, there is a lack of maintenance of active travel infrastructure including the surfaces of advisory cycle lanes, footways and the underpass at Millhill Brae. The Riverside Path was highlighted as a particular problem area in terms of maintenance.
- **Signage:** There is generally a lack of active travel signage along the corridor.
- **Monitoring:** There appears to be issues with the active travel counters in the study area. Counter validation may support further understanding of active travel movements on the corridor. It is understood that this is under consideration by ACC as part of a separate workstream.

4.3.2 Opportunities

The strategic opportunities identified along the study corridor include:

- **Locking in the Benefits of the AWPR:** The opening of the AWPR has significantly changed travel patterns and journey times, reducing delays in many areas throughout the network. There is therefore an opportunity to incentivise public transport use along the corridor, locking in the benefits of reduced congestion and journey time savings.
- **Policy Context:** The study aims strongly align with the national, regional and local policy context, including support for more trips to be undertaken using sustainable modes of travel.
- **Bus Service Partnerships:** The Transport (Scotland) Act 2019 has provided new powers for Councils to enable greater control and operation of local bus services as well as enhanced partnership working arrangements under Bus Service Improvement Partnerships (BSIPs). A Quality Partnership Agreement was signed by parties in the region in 2018 to form the North East Bus Alliance, providing renewed impetus to the identification of measures that can enhance the attractiveness of bus services in the region.
- **Funding:** In 2020, The Scottish Government announced funding for active travel and bus priority. The 2020/21 Programme for Government outlines a commitment towards delivering on health, economic and environment goals by investing £500m over the next five years in active travel infrastructure, access to bikes and behaviour

change schemes to promote walking, wheeling and cycling. It also outlines a reaffirmed commitment to a £500m BPF to support authorities' ambitions around tackling congestion so that bus journeys are quicker and more reliable, and more people make the choice to take the bus. The BPF was officially launched in November 2020, with funding awarded to eight partnerships in June 2021, including £12m for the North East Bus Alliance.

- **Distances to Work:** The vast majority of those living within the study area travel less than 10km for work. This presents opportunities to encourage active travel use for journeys to work from these settlements.
- **20-minute Neighbourhood:** potential to adopt the 20-minute neighbourhood concept in Dyce, capitalising on its walkability.

4.3.3 Issues

The strategic issues identified along the study corridor include:

- **Future Attitudes to Travel and Travel Behaviour:** There are significant uncertainties regarding future attitudes to travel and travel behaviour given the unprecedented times brought about by the COVID-19 pandemic. Significant changes were observed in the short-term, with a shift to working from home and flexible working, a reduction in overall travel demand and an increased uptake of active travel. While it has been shown that there is evidence of travel demand returning to pre-2020 patterns, it is unclear whether some of the observed changes will be short-term or result in a structural change in how society operates.
- **Climate Change:** In May 2019, the Scottish Government declared a 'Climate Emergency'. The Climate Change (Scotland) Act 2019 sets a legally binding net zero target for all greenhouse gases by 2045. It is likely that climate change will have an increasing impact on the region in future years, bringing rising sea levels and a potential increase in extreme weather events.
- **Technology:** There is uncertainty about the impact that advances in EV technology and autonomous vehicle technology will have on travel behaviour and vehicle ownership. There is a risk that advances in EV technology and improved affordability/availability of EVs could result in an increase in single occupancy car use. Advances in autonomous vehicle technology could result in an increase in travel demand, due to more usable travel time. However, it could encourage other changes in travel behaviour such as increased car sharing or reduced car ownership/increased use of Mobility as a Service (MaaS).
- **Policy:** Demand management measures in the city centre could result in a shift away from private car to public transport and active travel for journeys to the city centre. This could also have longer term implications for land use, shifting to a denser population in the city centre and around major public transport nodes.
- **High Car Usage:** Car mode share for travel to work along the corridor is high, with the study area recording rates of driving to work above the national average. This has implications in terms of national, regional and local objectives to reduce carbon emissions, meet air quality objectives and deliver reliable bus services.

4.3.4 Constraints

The strategic constraints identified along the study corridor include:

- **Political Will:** Due to the historic prevalence of private car travel in much of the study area, measures focused on enhancing walking, wheeling, cycling and public transport use may not be supported by the public, which could reduce political support for such measures.
- **Funding:** While the availability of increased funding at a national level provides an opportunity for investment in sustainable modes, funding streams will be competitive. Furthermore, a 2019 report by Audit Scotland found that Scottish Government revenue funding to local authorities has been increasingly constrained in recent years, with national policy initiatives making up an increasing proportion of Council budgets, which limits flexibility for local authorities to plan how to allocate funds.
- **Environment:** There are a number of environmental constraints that will require consideration as the study develops. There are segments of the A947 with a high likelihood of river flooding where they cross the River Don and its tributaries, and along the course of the river which runs adjacent to the study corridor. Options along the River Don are also constrained by wildlife habitats.
- **Trunk Road Contracts (AWPR/B-T):** The AWPR operator Aberdeen Roads Limited have a design, build and operate contract for the AWPR. Therefore, any design changes at AWPR junctions may be more complex to bring forward than at other locations on the corridor and any alteration to infrastructure may require consideration of contractual arrangement at these locations, in consultation with Aberdeen Roads Limited, Transport Scotland and the Local Roads Authorities.

5. Transport Planning Objectives

5.1 Introduction

This chapter presents the TPOs that have been developed for the A947 Multi-Modal Corridor Study. Central to the appraisal of options using STAG is that the process should be objective-led rather than solution-led. A number of TPOs have been developed to reflect the identified problems, issues, constraints, and opportunities within the study area. The TPOs reflect the outcomes sought from the study and will play an integral role in the appraisal process when assessing the performance of each option.

5.2 Approach

As outlined in the recently published STAG Managers Guide[37], the analysis of problems and opportunities is crucial in supporting the setting of robust TPOs. The objective must express the change sought in the study area without indicating potential solutions. A bottom-up, top-down approach has been taken to the development of TPOs for the A947 Multi-Modal Corridor Study, using the 'Theory of Change' concept to demonstrate how problems and opportunities inform the TPOs and how the TPOs developed align with the national, regional and local policy and strategy framework.

The objectives included within relevant policy and strategy documents were collated and those of direct relevance to the study were themed. The draft TPOs that were developed were mapped against the finalised list of problems and opportunities for each section of the study corridor. The results of these reviews are presented in the *Transport Planning Objectives Technical Note* included in **Appendix B**.

5.3 Final Transport Planning Objectives

The TPOs developed for the A947 Multi-Modal Corridor Study are presented in the table below. For each TPO, an accompanying design-focused objective has been developed to assist a focused option development approach as recommended by design guidance, such as Cycling by Design.

Table 5.1: A947 Multi-Modal Corridor Study TPOs

Ref	Transport Planning Objective	Design-Focused Objective
TPO1	Increase the modal share of walking on the A947 corridor for all journey types	Improve the level of service for walking and wheeling on the A947 corridor to complement and enhance the existing strategic active travel network
TPO2	Increase the modal share of cycling on the A947 corridor for all journey types	Improve the level of service for cycling on the A947 corridor to complement and enhance the existing strategic active travel network
TPO3	Increase the modal share of public transport on the A947 corridor for all journey types	Improve the attractiveness of bus services along the A947 corridor
TPO4	Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	Improve active travel network access to local facilities in Dyce, with enhanced opportunities to access and cross the A947 corridor by walking, wheeling and cycling with an improved level of service
TPO5	Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	Improve the level of service for non-motorised users to the key transport hubs and key destinations in Dyce
TPO6	Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	Improve the distribution of movements by all modes to routes appropriate to their Roads Hierarchy classification, including motorised vehicles travelling through or outwith Dyce.

[37] https://www.transport.gov.scot/media/50895/scottish-transport-appraisal-guidance-managers-guide.pdf

5.4 SMART Objectives

STAG notes that TPOs should be developed with 'SMART' principles in mind, which will enable the TPOs to be sharpened and refined as the study progresses and more information becomes available. A SMART objective is:

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

The table below highlights how the developed TPOs relate to the SMART principles.

Table 5.2: A947 Multi-Modal Corridor Study SMART Objectives

TPO	Specific	Measurable	Attainable	Relevant	Timed
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	TPO identifies the need to facilitate improvements for pedestrians along the study corridor.	Surveys (such as Census or Scottish Household Survey) to measure proportion of walking trips for journeys to work and education and for leisure journeys. Citizens Panel surveys to assess changing perceptions. Pedestrian counts along the corridor can monitor changes in those travelling actively.	Delivery of TPO will require further feasibility work to assess locations and implementability of potential options for improving infrastructure.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. Consultation highlighted a lack of consistent footway provision in the study area. Study tour identified sections of study area with substandard footways, limited crossing points and lack of provision to meet desire lines. The study area has a higher mode share for private car for travel to work than the national average.	Within the next 5 years.

TPO	Specific	Measurable	Attainable	Relevant	Timed
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	TPO identifies the need to facilities improvements for cyclists along the study corridor.	Surveys (such as Census or Scottish Household Survey) to measure proportion of cycling trips for journeys to work and education and for leisure journeys. Citizens Panel surveys to assess changing perceptions. Cycle counts along the corridor can monitor changes in those travelling actively.	Delivery of TPO will require further feasibility work to assess locations and implementability of potential options for improving infrastructure.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. Consultation raised issues such as narrow and poorly maintained cycle lanes. The study area has a higher mode share for private car for travel to work than the national average.	Within the next 5 years.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	TPO identifies the need to make public transport more attractive through service and infrastructure improvements.	Surveys (such as Census or Scottish Household Survey) to measure proportion of public transport trips for journeys to work and education and for leisure journeys. Citizens Panel surveys to assess changing perceptions. Satisfaction of bus passengers. Scottish Access to Bus Index (SABI) can be monitored to assess changes in accessibility to bus services. TRACC accessibility tool can be used to measure changes in connectivity. Fares can be monitored in line with rates of inflation and real cost of living and can be benchmarked against other areas and the costs of city centre parking.	Delivery of TPO may require collaboration between ACC, partners and bus operators.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. Consultation highlighted perceived issues with bus service journey times and bus stop infrastructure which reduces the attractiveness of public transport as mode choice along the corridor. The study area has a higher mode share for private car for travel to work than the national average.	Within the next 5 years.

TPO	Specific	Measurable	Attainable	Relevant	Timed
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	TPO identifies the need to provide placemaking interventions on Victoria Street and build on opportunities of 20 minute neighbourhoods to enhance the walkability of Dyce.	Surveys (such as Census or Scottish Household Survey) to measure proportion of active travel trips for short journeys. Citizens Panel surveys and targeted community engagement (e.g. community councils) to assess changing perceptions.	Delivery of TPO will require further feasibility work to assess locations and implementability of potential options for improving infrastructure.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. Problems and opportunities analysis highlighted issues associated with on-street parking and narrow footways. Victoria Street has been identified as having the potential for placemaking interventions.	Within the next 5 years.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	TPO identifies the need to facilitate improvements to connections to transport interchanges and key destinations in the study area by sustainable travel.	Surveys (such as Census or Scottish Household Survey) to measure proportion of active travel trips and public transport for journeys to work and education and for leisure journeys. Citizens Panel surveys to assess changing perceptions. Accessibility improvements can be gauged by user feedback e.g. via local community groups, Grampian Cycle Partnership and Aberdeen Cycle Forum. Scottish Access to Bus Index (SABI) can be monitored to assess changes in accessibility to bus services.	Delivery of TPO will require further feasibility work to assess locations and implementability of potential options for improving infrastructure.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. Problems and opportunities analysis highlighted the potential to enhance access to transport hubs and key destinations in the vicinity of the study corridor by active travel and public transport. Key issues have been identified regarding lack of infrastructure around Dyce rail station to support active travel access.	Within the next 5 years.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	TPO identifies the need to distribute trips by all modes to their most appropriate route within the revised Roads Hierarchy.	Pedestrian counts along the corridor can monitor changes in those travelling actively. Cycle counts along the corridor can monitor changes in those travelling actively. Junction turning counts and/or models or Automatic Number Plate Recognition (ANPR) counts and traffic counters along the corridor can monitor changes in travel patterns for vehicles.	Delivery of TPO will require further feasibility work to assess potential interventions that can assist in the distribution of journeys to appropriate routes more effectively.	TPO is consistent with the overall aim of the A947 Multi-Modal Corridor Study. TPO is consistent with local and regional transport policy objectives.	Within the next 5 years.

6. Option Generation, Sifting and Development

6.1 Introduction

This chapter presents an overview of the option generation, sifting and development process that has been undertaken to arrive at a set of options for appraisal for the A947 Multi-Modal Corridor Study. The aim is to identify a set of options that could potentially deliver the TPOs and in turn, help to address the problems, issues and constraints identified while helping to realise the opportunities on the corridor. Further detail is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**.

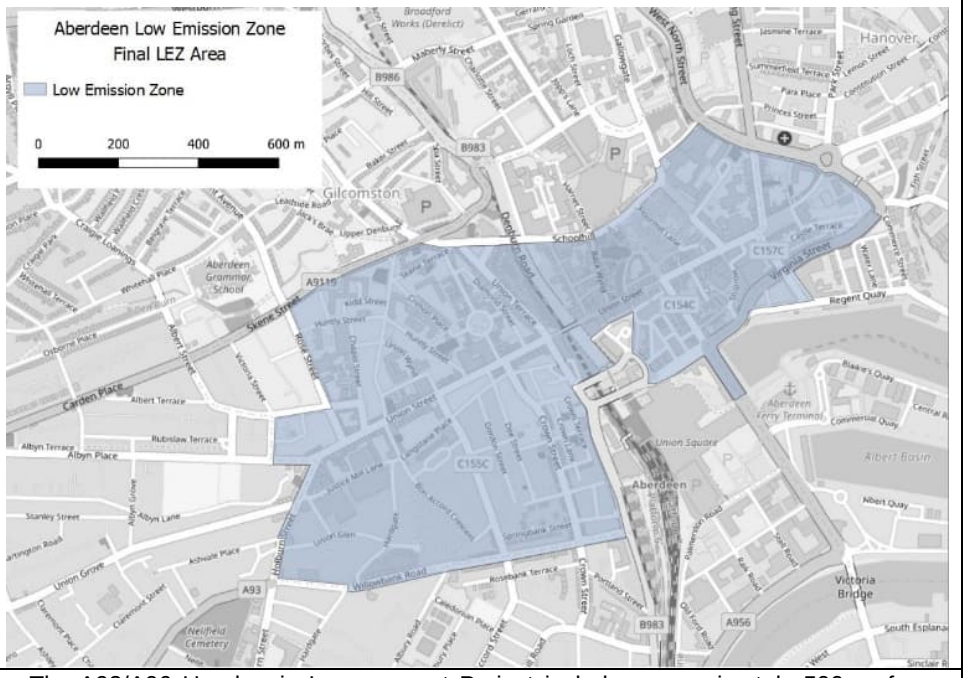
6.2 Do-Minimum Scenario

In line with Scottish Transport Appraisal Guidance (STAG), all generated options must be appraised against a Do-Minimum scenario. Transport Scotland define the Do-Minimum in STAG as:

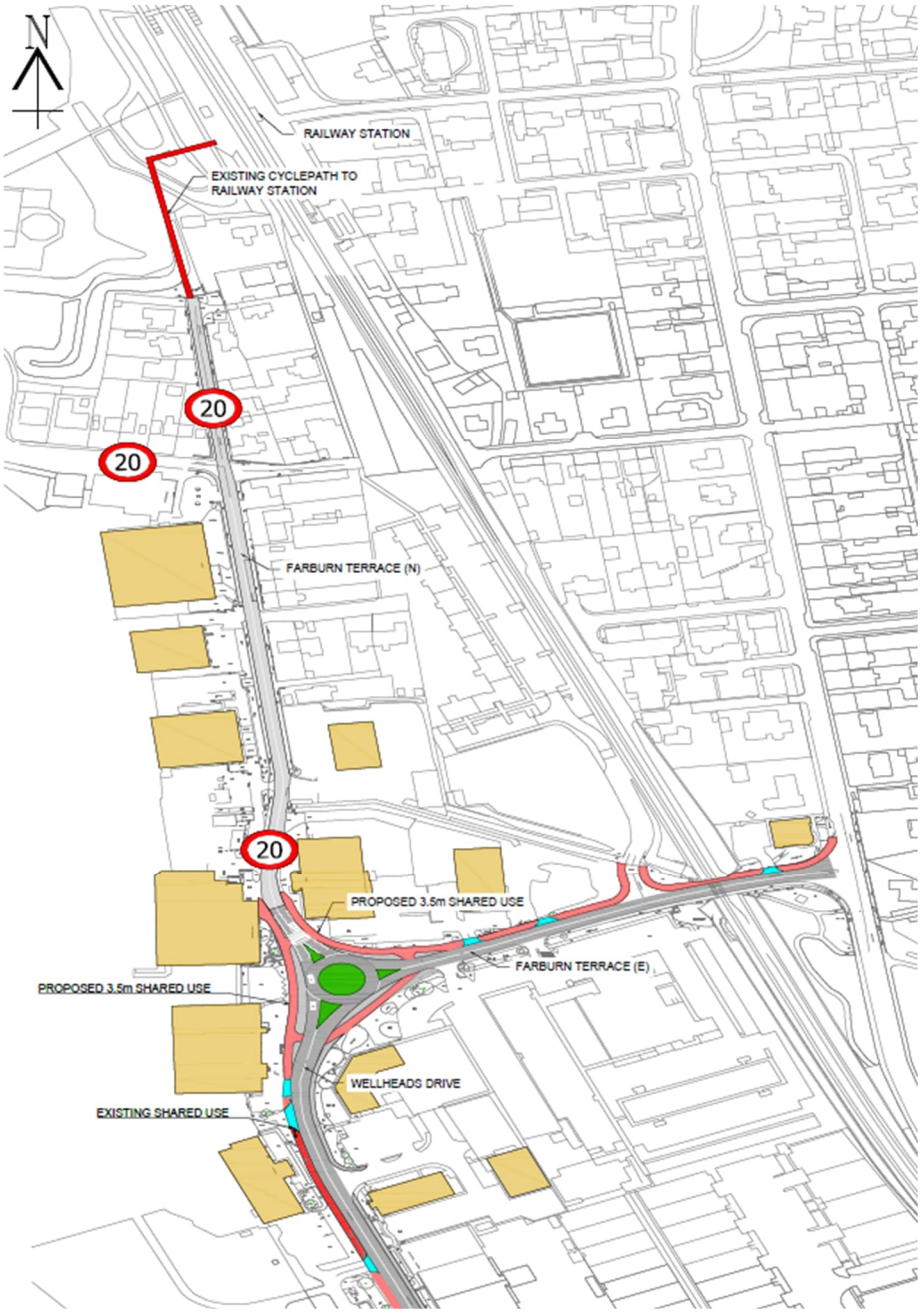
'the most likely transport situation over the course of the appraisal period if no intervention were to occur…The do-minimum should also include minor changes which can be expected to be carried out as conditions deteriorate, should the proposed interventions not go ahead. These improvements should not be significant, with any significant changes considered as an option in their own right as part of Option Generation, Sifting and Development.'[38]

The Do-Minimum for the A947 Multi-Modal Corridor Study assumes the interventions presented in the table below are in place.

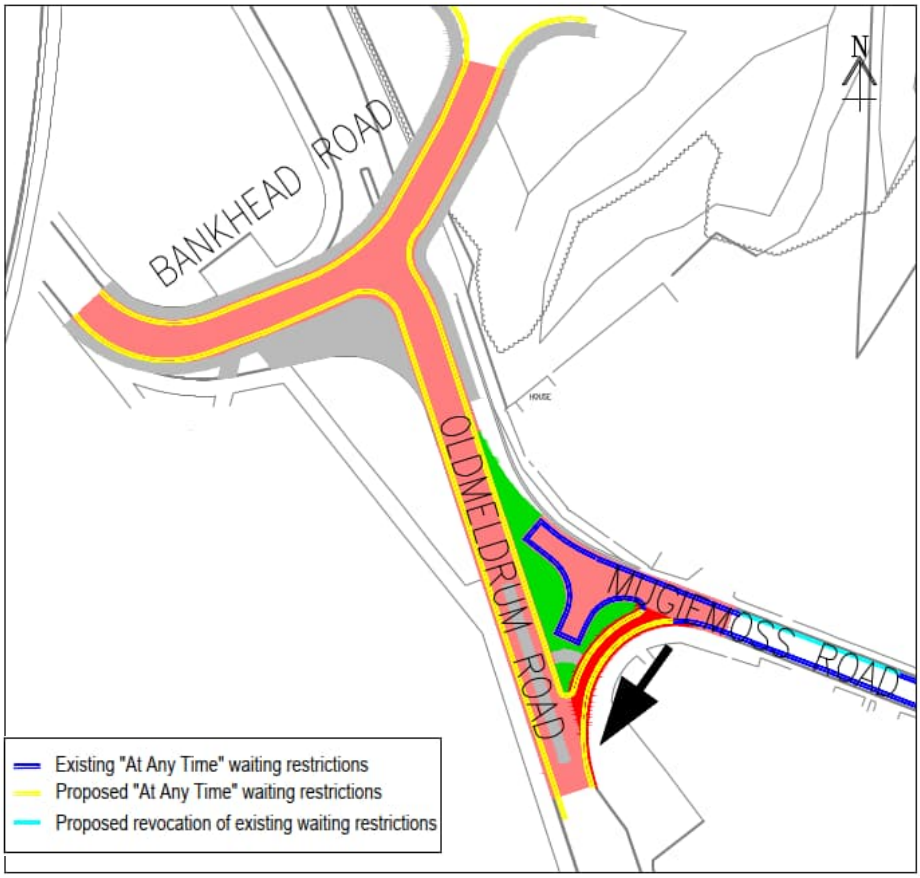
Table 6.1: Committed Transport Projects included within the A947 Multi-Modal Corridor Study

Scheme	Description
Low Emission Zone (LEZ)	• ACC introduced an LEZ in May 2022, where only certain vehicles can enter based on their emissions standards. It has been introduced with a two year 'grace' period meaning that between 2022 and May 2024, drivers will not be fined for entering the LEZ with a non-compliant vehicle. The LEZ will then come into full effect in June 2024. • The LEZ area[39] is shown in the diagram below. 
A92/A96 Haudagain Improvement	• The A92/A96 Haudagain Improvement Project includes approximately 500m of new dual carriageway connecting the A92 North Anderson Drive and the A96 Auchmill Road to assist in reducing traffic congestion and improving journey time reliability. • The Haudagain Junction is located approximately 2km east of the southern extent of the A947 corridor and therefore may affect travel patterns within the study area. • The Haudagain Improvement Project was formally opened by the Transport Minister in May 2022.

[38] https://www.transport.gov.scot/publication/stag-technical-database/section-2/#s23
[39] https://www.aberdeencity.gov.uk/services/roads-transport-and-parking/low-emission-zone

Scheme	Description
Farburn Terrace Cycle and Pedestrian Improvements	• As part of ACC's Active Travel Action Plan, ACC is progressing improvements in accessibility for pedestrians and cyclists to and from Dyce Rail Station, Aberdeen International Airport and the surrounding business and residential areas of Dyce. • Farburn Terrace and in particular its roundabout with Wellheads Drive, have been identified as a missing link for active travel between the existing cycleway on Wellheads Drive and Dyce Rail Station. • ACC has secured funding from Sustrans and Nestrans to develop a detailed design for shared use cycleways along Wellheads Drive, around the existing roundabout and along Farburn Terrace to Victoria Street. • It is understood that land acquisition is now underway and due to be concluded within 2022. Construction is anticipated to start in 2023, subject to appropriate funding. • An overview plan of the scheme is shown below[40]. 
Oldmeldrum Road/Mugiemoss Road Junction	• A planning application (110786) for 900 residences, business and community facilities and associated infrastructure to the north of Mugiemoss Road was approved in December 2011. • One of the conditions of the development stated that, subsequent to the completion of the 375th residential property, no subsequently completed residential property shall be occupied unless restricted movements at the Mugiemoss Road/Oldmeldrum Road

[40] Farburn Terrace Proposed Cyclist & Pedestrian Improvements - Aberdeen City Council - Citizen Space

Scheme	Description
	junction or the A947 junction and associated spine road are implemented. A modification to this condition was applied for in 2018 and approved conditionally in March 2021 to increase this threshold to 470 units. • The intervention will make the western end of Mugiemoss Road one-way westbound and prohibit right-turning movements from Mugiemoss Road to Oldmeldrum Road. It will also revoke the ban on right-turning movements from Bankhead Road to Oldmeldrum Road. This is shown in the diagram below. 

6.3 City Centre Masterplan

The Aberdeen City Centre Masterplan (CCMP) is a regeneration blueprint that is transforming the city centre whilst conserving its proud heritage. The goal is greater prosperity and a better quality of life for all. The Masterplan was shaped following extensive public consultation and unanimously approved by ACC in June 2015.

Eight objectives feed through the Masterplan as follows:

- Changing perceptions;
- Growing the city centre employment base;
- A metropolitan outlook;
- A living city for everyone;
- Made in Aberdeen;
- Revealing waterfronts;
- Technologically advanced and environmentally responsible; and
- Culturally distinctive.

A review of the CCMP was undertaken during 2021, with a number of changes for the city centre agreed at ACC's City Growth and Resources Committee in August 2021. Further changes were agreed at ACC's City Growth and Resources Committee in November 2021 for the city centre, former market and beach front area. The Draft

Beachfront Development Framework was approved at Full Council on 29th June 2022, with a key focus on improving active travel provision within the central beach area and active travel linkage through to the city centre.

6.4 Formartine and Buchan Way

It has been agreed with the Client Group that the A947 Multi-Modal Study will not generate options for the F&B Way due to other studies being progressed on the route – the F&B Way Health Check and the Core Path Network Survey. Whilst options for the route itself will not be developed as part of this study, options focused on connections to the F&B Way and access onto the route will be included.

The F&B Way Health Check was undertaken to survey the sections of the F&B Way within the Aberdeenshire Council boundary and to identify recommendations for future maintenance and improvement. The survey was undertaken on foot and by cycling in December 2021. The recommendations emerging from the study focus on addressing health and safety issues, drainage, barrier removal, signage and waymarking, surfacing, vegetation control, information and interpretation and improvements to the southern terminus of the route.

The Core Path Network Survey was undertaken to carry out condition surveys of ACC's core paths network, identify options for improvements and develop and apply a prioritisation framework for these options. It is understood that this will include options for the F&B Way within Aberdeen City.

6.5 Other Ongoing Studies

6.5.1 A96 Multi-Modal Study

ACC is currently undertaking a STAG-based appraisal of options for improving transport connections (particularly active travel and public transport) on the A96 between Inverurie and Aberdeen. The study area for this study overlaps with the A947 study area at the A947/A96 roundabout at Bucksburn. The A96 study has recently completed initial option appraisal – and as the A947 study progresses, close liaison with the ACC client teams will ensure options developed in the study are complementary of those being promoted for the A96.

6.5.2 Cross-City Connections

ACC is currently undertaking a review of the STAG Part 2 appraisal for Cross-City Connections. The study aims to identify priority schemes for development along with a programme of delivery that considers development build out, connections with the internal links of development sites as well as the general feasibility and affordability of each option.

There were three routes developed as part of the Cross-City Connections Study that are of relevance for the A947 corridor and the review recommended that all are progressed to the concept design stage:

- Route 7:
  - Provide a new connection between Grandhome and Stoneywood, including a new bridge crossing over the River Don; and
  - Provide a new connection between new bridge of the River Don and Stoneywood Terrace.
- Route 8:
  - Upgrade and extend CP101 to meet new bridge (Route 7) and Stoneywood development.
- Route 9
  - Stop up Millhill Brae on western side of A947 before the underpass and prior to the residential property and allow residential access only;
  - Upgrade section of CP4 through park; and
  - Upgrade on-road section of CP4 on Waterton Road.

Due to the ongoing work on the Cross-City Connections Study, such options have not been included within the remit of the A947 Multi-Modal Study. However, given the interaction with the A947 corridor, options developed as part of the Cross-City Connections Study will be kept under review and referenced appropriately as the study progresses.

6.5.3 A96 Corridor Review

In August 2021, the Scottish Government and Scottish Green Party Parliamentary Group agreed a Cooperation Agreement and a shared policy programme. As part of this shared policy programme, various agreed principles regarding investment in the transport network were set out. In relation to the A96, the Scottish Government committed to take forward a transport enhancements programme on the A96 corridor that will improve connectivity between surrounding towns, tackle congestion and address safety and environmental issues. This includes reviewing the A96 corridor with a view to implementing appropriate bus priority measures.

The A96 Corridor Review covers the transport corridor from Raigmore Interchange at Inverness to Craibstone Junction at Aberdeen. The review findings will be used to test current plans for dualling outwith the Inverness to Nairn scheme. The review is considering transport problems and opportunities, the changing policy context and other key considerations, such as development and growth aims for the corridor and surrounding area. This review is being carried out in line with STAG and is considering all relevant transport modes within the A96 corridor, including road, rail, public transport and active travel.

6.6 Option Generation

6.6.1 Approach

A long list of options has been developed based on a number of sources including:

- Consultation with ACC, Aberdeenshire Council and Nestrans officers, stakeholders, Community Council groups and members of the public;
- A review of previous studies to identify historical proposals that remain viable options;
- A review of statutory planning and policy documents; and
- Outputs from the evidence-led process followed by the team undertaking the appraisal.

6.6.2 Active Travel Options

The active travel options that have been generated are presented in the table below.

Table 6.2: Active Travel Options

Ref	Title	Source
AT1	Provide protected junction for active travel users at the A947/A90 slip road junction	Study Team
AT2	Improve visibility for cyclists at the B977/A90 slip road roundabout	Study Team
AT3	Review layout of Victoria Street/Pitmedden Road junction for pedestrians	Consultation, Study Team
AT4	Implement measures to give active travel users priority over Burnside Drive when using the shared use path on Riverview Drive	Consultation
AT5	Increase pedestrian phasing at the Market Street/Stoneywood Terrace Junction	Consultation
AT6	Implement early release signals for cyclists at the Market Street/Stoneywood Terrace Junction	Consultation
AT7	Review signals at Forrit Burn Road bus gate to allow cyclists access	Consultation
AT8	Reconfigure the Auchmill Road/Oldmeldrum Road junction to improve connections for pedestrians and cyclists	Consultation
AT9	Conduct a maintenance review of existing cycling infrastructure within the study area	Consultation
AT10	Widen on-road advisory cycle lane on Riverview Drive	Consultation
AT11	Implement missing sections of on-road advisory cycle lane on Riverview Drive	Consultation
AT12	Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction	Consultation
AT13	Provide a formal pedestrian crossing point to the north of the A947/Riverview Drive Roundabout to facilitate movements to the F&B Way	Study Team
AT14	Provide a formal pedestrian crossing point to the east of the A947/Riverview Drive Roundabout	Study Team
AT15	Remove one of the two signalised pedestrian crossing points in the south of Riverview Drive	Study Team
AT16	Implement formal pedestrian crossing facilities on the arms of the Riverview Drive/Stoneywood Road Roundabout	Study Team
AT17	Implement signalised crossing facility on Victoria Street adjacent to Tesco	Consultation

Ref	Title	Source
AT18	Implement a pedestrian crossing facility on Dyce Avenue	Previous Work
AT19	Implement pedestrian crossing facilities at the Oldmeldrum Road/Mugiemoss Road Junction	Study Team
AT20	Conduct a footway review throughout the study area, identifying gaps in provision and considering the width and surfacing of existing footways	Consultation
AT21	Implement cycle parking at key trip attractors in the study area	Consultation
AT22	Promote Craibstone Park & Ride as a Park & Pedal facility	Previous Work
AT23	Implement a bike hire scheme within Dyce	Previous Work
AT24	Improve active travel connectivity between the A947 study area and Aberdeen Airport/Heliport	Consultation, Study Team
AT25	Improve active travel connectivity between the A947 study area and Craibstone Park & Ride	Consultation, Study Team
AT26	Improve active travel connectivity between the A947 study area and TECA	Consultation, Study Team
AT27	Improve active travel connectivity between the A947 study area and Kirkhill Industrial Estate	Consultation, Study Team
AT28	Implement dropped kerbs for cyclists to transfer between the carriageway and pavement at the northbound bus stop on the A947, north of the River Don	Consultation
AT29	Improve the underpass between the shared use path to the east of the A947 and the F&B Way access	Consultation, Study Team
AT30	Provide direct active travel link between Dyce Drive and Riverview Drive	Study Team
AT31	Improve active travel links between the Riverside Path and housing within Dyce	Study Team
AT32	Implement footways on the south side of the carriageway on Pitmedden Road	Consultation
AT33	Provide improved active travel links between Dyce Rail Station and the A947 and the eastern section of Dyce, particularly along Station Road	Consultation, Study Team
AT34	Implement an active travel bridge over the railway line	Consultation, Study Team
AT35	Implement quiet route measures on the local road network to the west of the A947 via Bankhead Road, Wellheads Drive and Farburn Terrace to Dyce Rail Station	Consultation, Study Team
AT36	Improve active travel connections between Wellheads Drive and the A947	Previous Work
AT37	Implement dropped kerbs between Wellheads Drive shared use path and the carriageway	Consultation
AT38	Review access restrictions on Market Street to allow for cargo bikes and recumbent cycles	Consultation
AT39	Remove access controls on off-road path between Waterton Road and Ruthriehill Road	Consultation
AT40	Improve drainage at underpass between Millhill Brae and Stoneywood Brae	Consultation
AT41	Improve active travel access to the retail park at the Bucksburn Roundabout	Consultation
AT42	Review access to the F&B Way from within Dyce	Consultation, Study Team
AT43	Implement active travel connection between the A947 and the B977, utilising a section of the old A947 (pre-AWPR)	Consultation
AT44	Develop path connections from Dyce to east of the River Don towards Seaton Park and Donmouth, through implementation of aspirational Core Path AP6	Consultation, Previous work
AT45	Upgrade the Riverside Path to a high quality active travel route, including improvements to the surfacing of the route	Consultation, Study Team
AT46	Implement lighting on the Riverside Path	Consultation

Ref	Title	Source
AT47	Implement with-flow segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction	Consultation, Study Team
AT48	Implement two-way segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction	Consultation, Study Team
AT49	Implement with-flow segregated cycleway on Victoria Street	Consultation, Study Team
AT50	Implement two-way segregated cycleway on Victoria Street	Consultation, Study Team
AT51	Implement with-flow segregated cycleway on Oldmeldrum Road	Consultation
AT52	Implement two-way segregated cycleway on Oldmeldrum Road	Consultation
AT53	Implement with-flow segregated cycleway on Mugiemoss Road	Consultation
AT54	Implement two-way segregated cycleway on Mugiemoss Road	Consultation
AT55	Implement with-flow segregated cycleway on Gilbert Road	Consultation
AT56	Implement two-way segregated cycleway on Gilbert Road	Consultation
AT57	Implement shared use path on the A947 between AWPR Junction and A947/A96 Junction	Consultation, Study Team
AT58	Implement shared use path on Dyce Drive between the A947 and Kirkhill Industrial Estate to the north of Aberdeen International Airport	Consultation
AT59	Widen the shared use path on the east side of the A947 to the north of Riverview Drive	Study Team
AT60	Provide continuous footways on Riverview Drive for the duration of the route	Study Team
AT61	Implement shared use path on Victoria Street	Consultation, Study Team
AT62	Widen the shared use path on the east side of the A947 between the A96 and Beech Manor	Consultation
AT63	Review alignment of the A947 shared use path to the north of the Oldmeldrum Road Junction where the safety barrier constrains the width of the path	Consultation
AT64	Implement shared use path on Oldmeldrum Road	Consultation
AT65	Implement shared use path on Mugiemoss Road	Consultation
AT66	Implement shared use path on Gilbert Road	Consultation
AT67	Widen the shared use path on the west side of Howe Moss Drive	Previous Work
AT68	Conduct a review of wayfinding signage throughout the study area	Consultation

6.6.3 Public Transport Options

The public transport options that have been generated are presented in the table below.

Table 6.3: Public Transport Options

Ref	Title	Source
PT1	Implement Aberdeen Rapid Transit along the study corridor	Consultation
PT2	Conduct a traffic signal review to consider bus priority at all traffic signals along the A947 corridor	Study Team

Ref	Title	Source
PT3	Introduce bus priority on the southbound approach to the A96 between Stoneywood Brae and the Bucksburn Roundabout	Consultation
PT4	Conduct a route wide review of bus stop provision and infrastructure	Study Team
PT5	Implement real time passenger information at key bus stops along the study corridor	Previous Work
PT6	Implement bus lay by at northbound stop on Victoria Street outside Aberdein Considine	Consultation
PT7	Undertake a review of fares on public transport	Consultation
PT8	Conduct a marketing campaign with the aim of increasing public transport awareness and use	Consultation
PT9	Improve public transport connectivity between the A947 study area and Aberdeen Airport/Heliport	Consultation, Study Team
PT10	Improve public transport connectivity between the A947 study area and Craibstone Park & Ride	Consultation, Study Team
PT11	Improve public transport connectivity between the A947 study area and TECA	Consultation, Study Team
PT12	Improve public transport connectivity between the A947 study area and Kirkhill Industrial Estate	Consultation, Study Team
PT13	Provide integrated ticketing between bus and rail	Consultation
PT14	Review the layout of the Oldmeldrum Road/Mugiemoss Road Junction for bus manoeuvrability	Consultation

6.6.4 Other

The other options that have been generated are presented in the table below.

Table 6.4: Other Options

Ref	Title	Source
O1	Increase enforcement of stopping restrictions on Victoria Street, specifically adjacent to Tesco	Consultation, Study Team
O2	Review the layout of the Victoria Street/Skene Place Junction	Consultation
O3	Review the layout of the Riverview Drive/Balloch Way Junction	Study Team
O4	Review the layout of the Riverview Drive/Todlaw Walk Junction	Study Team
O5	Review the layout of the Riverview Drive/Netherview Avenue Junction	Consultation
O6	Improve clarity of lane designation at the Stoneywood Road/Wellheads Avenue Junction	Consultation
O7	Review the layout of the A947/Stoneywood Junction at Co-Op/M&S	Consultation
O8	Review the layout of the A947/Stoneywood Brae Junction	Consultation
O9	Review the layout of the Bankhead Road/Oldmeldrum Road Junction	Consultation
O10	Review layout of the A947/McDonalds access road junction	Consultation
O11	Undertake a review of parking arrangements on Victoria Street	Consultation
O12	Implement signage to encourage reverse parking at the shops on Victoria Street	Consultation

Ref	Title	Source
O13	Reassess the feasibility of expanding car parking provision at Dyce Rail Station to provide additional opportunities for multi-modal journeys involving rail on the A947 corridor	Consultation, Previous Work
O14	Review parking arrangements on Mugiemoss Road	Consultation
O15	Introduce placemaking and gateway features on Victoria Street	Study Team
O16	Implement package of measures to support implementation of a 20-minute neighbourhood in Dyce	Study Team
O17	Reduce the speed limit along the A947 to support active travel improvements	Consultation
O18	Consider options to reduce vehicle speeds on Bankhead Road	Consultation
O19	Upgrade Riverview Drive to a dual carriageway	Consultation
O20	Review the layout of the access road into Asda car park	Consultation
O21	Reopen Market Street to vehicles	Consultation
O22	Widen carriageway at the western extent of Mugiemoss Road where narrow carriageway causes delay for buses	Consultation
O23	Promote car sharing schemes within Dyce	Previous Work
O24	Implement electric vehicle charging points at key locations within Dyce	Previous Work
O25	Implement access only restrictions for general traffic on Victoria Street	Study Team
O26	Implement one-way restrictions for general traffic on Victoria Street	Study Team
O27	Restrict access on Mugiemoss Road to resident access only	Consultation

6.7 Option Sifting

STAG states that: *"The Option Sifting process should be undertaken when an unmanageably large number of options have been generated or where there is general consensus that a particular option or options generated will clearly not achieve the intended objectives or meet the identified problems and/or opportunities."* The guidance also highlights that: *"There are a number of ways in which options can be sifted and practitioners should agree the approach with stakeholders (and, where appropriate, decision makers)."*

A multi-criteria approach has been adopted in agreement with the Client Group which sifts options based on their high-level performance against TPOs, Deliverability Criteria, Position in the Sustainable Investment Hierarchy and Identified Problems and Opportunities in the study area. Based on the high-level performance of options against these criteria, it is recommended that the options presented in the table below are sifted from further consideration at this stage.

Table 6.5: Options to be Sifted from Further Consideration

Ref	Title	Rationale
AT5	Increase pedestrian phasing at the Market Street/Stoneywood Terrace Junction	The Market Street/Stoneywood Terrace Junction is being considered through the ongoing Cross City Connections work and measures have been recommended for progression. Therefore, whilst this option does not require further consideration as part of the A947 Multi-Modal Study, it will continue to be referenced as appropriate throughout the study.

Ref	Title	Rationale
AT6	Implement early release signals for cyclists at the Market Street/Stoneywood Terrace Junction	The Market Street/Stoneywood Terrace Junction is being considered through the ongoing Cross City Connections work and measures have been recommended for progression. Therefore, whilst this option does not require further consideration as part of the A947 Multi-Modal Study, it will continue to be referenced as appropriate throughout the study.
AT9	Conduct a maintenance review of existing cycling infrastructure within the study area	Option is unlikely to have any significant impact on the study TPOs and could be considered "business as usual" for ACC.
AT15	Remove one of the two signalised pedestrian crossing points in the south of Riverview Drive	Option should not be progressed on the basis that this would have negative impacts on pedestrians and walkability within Dyce. However, it would allow Riverview Drive to function as per role in the revised Roads Hierarchy. Crossing rationalisation will be considered by ACC Committee in Autumn 2022.
AT18	Implement a pedestrian crossing facility on Dyce Avenue	Option is not required as there is an existing crossing at the junction with Dyce Drive.
AT19	Implement pedestrian crossing facilities at the Oldmeldrum Road/Mugiemoss Road Junction	There is a temporary crossing facility located just to the north of the Oldmeldrum Road/Mugiemoss Road Junction which has been on-site since 2018. It is understood that a permanent facility is due to be provided at this location as part of the works associated with the adjacent housing development on the Davidsons Mill site.
AT29	Improve the underpass between the shared use path to the east of the A947 and the F&B Way access	Option should not be progressed due to significant deliverability risks. Option AT13 may provide an alternative and more deliverable solution to address a similar problem. It is also understood that ACC have funding committed to improve the lighting in the underpass.
AT34	Implement an active travel bridge over the railway line	Option should not be progressed due to significant deliverability risks.
AT36	Improve active travel connections between Wellheads Drive and the A947	Option is covered by AT24, AT35 and AT38.
AT40	Improve drainage at underpass between Millhill Brae and Stoneywood Brae	Option is unlikely to have any significant impact on the study TPOs and could be considered "business as usual" for ACC.
AT44	Develop path connections from Dyce to east of the River Don towards Seaton Park and Donmouth, through implementation of aspirational core path AP6	While contributing to TPO1 and TPO2, this option is outwith the scope / sphere of influence of the A947 corridor study. However, it should be reserved for ACC to consider within other workstreams.
AT49	Implement with-flow segregated cycleway on Victoria Street	Option should not be progressed due to significant deliverability risks. Other solutions are available using the hierarchy of provision which looks at removing or calming traffic to permit people to use the carriageway with people driving. In addition, this could be combined with placemaking solutions.
AT50	Implement two-way segregated cycleway on Victoria Street	Option should not be progressed due to significant deliverability risks. Other solutions are available using the hierarchy of provision which looks at removing or calming traffic to permit people to use the carriageway with people driving. In addition, this could be combined with placemaking solutions.
AT53	Implement with-flow segregated cycleway on Mugiemoss Road	Option is not achievable without land take due to the narrow width of Mugiemoss Road.
AT54	Implement two-way segregated cycleway on Mugiemoss Road	Option is not achievable without land take due to the narrow width of Mugiemoss Road.

Ref	Title	Rationale
PT1	Implement Aberdeen Rapid Transit along the study corridor	While contributing to TPO3 and TPO5, this option is outwith the scope of the A947 corridor study. However, as ART is developed (including on the A96 corridor), cognisance should be given to how the A947 corridor can directly benefit from associated interventions.
PT3	Introduce bus priority on the southbound approach to the A96 between Stoneywood Brae and the Bucksburn Roundabout	Option should not be progressed on the basis that it would not address identified problems and opportunities on the A947 corridor.
PT4	Conduct a route wide review of bus stop provision and infrastructure	Option is unlikely to have any significant impact on the study TPOs and could be considered "business as usual" for ACC.
PT6	Implement bus lay by at northbound stop on Victoria Street outside Aberdein Considine	Option has the potential to have a (minor) negative impact on the flow of buses along Victoria Street, therefore, on this basis, it should be sifted out from further consideration.
PT7	Undertake a review of fares on public transport	Option is unlikely to have any significant impact on the study TPOs. However, fares reviews could be considered as part of strategic discussions relating to bus service delivery in the North East, which is within the remit of the North East Bus Alliance.
PT8	Conduct a marketing campaign with the aim of increasing public transport awareness and use	Option has limited impacts on the TPOs developed for this study. Option should be considered on a region-wide basis through initiatives such as Smarter Choices Smarter Places and Getabout - which has a forthcoming new campaign.
PT13	Provide integrated ticketing between bus and rail	Option is unlikely to have any significant impact on the study TPOs. However, integrated ticketing could be considered as part of strategic discussions relating to transport integration in the North East, which could be facilitated by Nestrans and ACC. PlusBus ticketing is also available and it is understood that integrated ticketing is being considered nationally.
PT14	Review the layout of the Oldmeldrum Road/Mugiemoss Road Junction for bus manoeuvrability.	Option is superseded by planned changes at the Oldmeldrum Road/Mugiemoss Road Junction associated with the development to the north of Mugiemoss Road.
O6	Improve clarity of lane designation at the Stoneywood Road/Wellheads Avenue Junction	Option is unlikely to have any significant impact on the study TPOs and could be considered "business as usual" for ACC.
O9	Review the layout of the Bankhead Road/Oldmeldrum Road Junction.	Option is superseded by planned changes at the Oldmeldrum Road/Mugiemoss Road Junction associated with the development to the north of Mugiemoss Road.
O13	Reassess the feasibility of expanding car parking provision at Dyce Rail Station to provide additional opportunities for multi-modal journeys involving rail on the A947 corridor	Option is likely to have negative impacts across the majority of the TPOs given the key focus of the study on active travel and bus travel. However, it is recognised that providing further opportunities to access Dyce Rail Station by car will enable an increase in (rail) modal share along the corridor. On this basis, this option should be considered by Nestrans/ACC outwith the scope of the A947 Multi-Modal Study.
O19	Upgrade Riverview Drive to a dual carriageway	Option is likely to have negative impacts across the majority of the TPOs. Therefore, on this basis, it should be sifted out from further consideration.
O20	Review the layout of the access road into Asda car park	Option is unlikely to have any significant impact on the study TPOs. Therefore, on this basis, it should be sifted out from further consideration.
O21	Reopen Market Street to vehicles	Option is likely to have negative impacts across the majority of the TPOs. Therefore, on this basis, it should be sifted out from further consideration.
O22	Widen carriageway at the western extent of Mugiemoss Road where narrow carriageway causes delay for buses	Option should not be progressed due to significant deliverability risks.
O27	Restrict access on Mugiemoss Road to resident access only.	Option is superseded by planned changes at the Oldmeldrum Road/Mugiemoss Road Junction associated with the development to the north of Mugiemoss Road.

6.8 Option Development and Packaging

6.8.1 Option Development

For the purposes of Option Development, the remaining options were grouped into categories as outlined in the table below.

Table 6.6: Grouping of Remaining Options

Active Travel Groupings
Active Travel Provision at Junctions
Advisory Cycling Infrastructure
Crossing Facilities (outwith junctions)
Dyce Permeability
Other Connections
Segregated Cycling Infrastructure
Shared Use Path Infrastructure
Signage
Public Transport Groupings
Bus Priority Infrastructure
Bus Stop Review
Public Transport Connectivity
Junction Reviews
Other Groupings
Enforcement
Junction Reviews
Parking Reviews
Placemaking
Reduced Speeds
Sustainable Transport Initiatives
Vehicle Restrictions

An extensive Option Development process was undertaken, with full detail provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**.

6.8.2 Option Packaging

Following the option development process, options were grouped into six packages for the purposes of appraisal as follows:

- Active Travel – Strategic Routes;
- Active Travel – Leisure Route;
- Active Travel – Quiet Route Measures;
- Public Transport – Priority Interventions;
- Placemaking – Living Streets; and
- Placemaking – Complementary Measures.

The options included within each package are detailed in the following sections.

Active Travel – Strategic Routes

Table 6.7: Active Travel – Strategic Routes Options

Ref	Description
AT1	Provide protected junction for active travel users at the A947/A90 slip road junction
AT2	Improve visibility for cyclists at the B977/A90 slip road roundabout
AT4	Implement measures to give active travel users priority over Burnside Drive when using the shared use path on Riverview Drive
AT8	Reconfigure the Auchmill Road/Oldmeldrum Road junction to improve connections for pedestrians and cyclists
AT10	Widen on-road advisory cycle lane on Riverview Drive
AT11	Implement missing sections of on-road advisory cycle lane on Riverview Drive
AT12	Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction
AT13	Provide a formal pedestrian crossing point to the north of the A947/Riverview Drive Roundabout to facilitate movements to the F&B Way
AT14	Provide a formal pedestrian crossing point to the east of the A947/Riverview Drive Roundabout
AT16	Implement formal pedestrian crossing facilities on the arms of the Riverview Drive/Stoneywood Road Roundabout
AT20	Conduct a footway review throughout the study area, identifying gaps in provision and considering the width and surfacing of existing footways
AT28	Implement dropped kerbs for cyclists to transfer between the carriageway and pavement at the northbound bus stop on the A947, north of the River Don
AT30	Provide direct active travel link between Dyce Drive and Riverview Drive
AT47	Implement with-flow segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction
AT48	Implement two-way segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction
AT51	Implement with-flow segregated cycleway on Oldmeldrum Road
AT52	Implement two-way segregated cycleway on Oldmeldrum Road
AT55	Implement with-flow segregated cycleway on Gilbert Road
AT56	Implement two-way segregated cycleway on Gilbert Road
AT57	Implement shared use path on the A947 between AWPR Junction and A947/A96 Junction
AT58	Implement shared use path on Dyce Drive between the A947 and Kirkhill Industrial Estate to the north of Aberdeen International Airport
AT59	Widen the shared use path on the east side of the A947 to the north of Riverview Drive
AT60	Provide continuous footways on Riverview Drive for the duration of the route
AT62	Widen the shared use path on the east side of the A947 between the A96 and Beech Manor
AT63	Review alignment of the A947 shared use path to the north of the Oldmeldrum Road Junction where the safety barrier constrains the width of the path
AT64	Implement shared use path on Oldmeldrum Road
AT66	Implement shared use path on Gilbert Road
O3	Review the layout of the Riverview Drive/Balloch Way Junction
O4	Review the layout of the Riverview Drive/Todlaw Walk Junction
O5	Review the layout of the Riverview Drive/Netherview Avenue Junction
O7	Review the layout of the A947/Stoneywood Junction at Co-Op/M&S
O8	Review the layout of the A947/Stoneywood Brae Junction
O10	Review layout of the A947/McDonalds access road junction
O17	Reduce the speed limit along the A947 to support active travel improvements

Active Travel – Leisure Route

Table 6.8: Active Travel – Leisure Route Options

Ref	Description
AT31	Improve active travel links between the Riverside Path and housing within Dyce
AT45	Upgrade the Riverside Path to a high quality active travel route, including improvements to the surfacing of the route
AT46	Implement lighting on the Riverside Path

Active Travel – Quiet Route Measures

Table 6.9: Active Travel – Quiet Route Measures Options

Ref	Description
AT7	Review signals at Forrit Burn Road bus gate to allow cyclists access
AT24	Improve active travel connectivity between the A947 study area and Aberdeen Airport/Heliport
AT25	Improve active travel connectivity between the A947 study area and Craibstone Park & Ride
AT26	Improve active travel connectivity between the A947 study area and TECA
AT27	Improve active travel connectivity between the A947 study area and Kirkhill Industrial Estate
AT32	Implement footways on the south side of the carriageway on Pitmedden Road
AT35	Implement quiet route measures on the local road network to the west of the A947 via Bankhead Road, Wellheads Drive and Farburn Terrace to Dyce Rail Station
AT37	Implement dropped kerbs between Wellheads Drive shared use path and the carriageway
AT38	Review access restrictions on Market Street to allow for cargo bikes and recumbent cycles
AT39	Remove access controls on off-road path between Waterton Road and Ruthriehill Road
AT41	Improve active travel access to the retail park at the Bucksburn Roundabout
AT43	Implement active travel connection between the A947 and the B977, utilising a section of the old A947 (pre-AWPR)
AT65	Implement streetscape improvements and widened pavements along Mugiemoss Road
AT67	Widen the shared use path on the west side of Howe Moss Drive
O14	Review parking arrangements on Mugiemoss Road
O18	Consider options to reduce vehicle speeds on Bankhead Road

Public Transport – Priority Interventions

Table 6.10: Public Transport – Priority Interventions Options

Ref	Description
PT2	Conduct a traffic signal review to consider bus priority at all traffic signals along the A947 corridor
PT5	Implement real time passenger information at key bus stops along the study corridor
PT9	Improve public transport connectivity between the A947 study area and Aberdeen Airport/Heliport
PT10	Improve public transport connectivity between the A947 study area and Craibstone Park & Ride
PT11	Improve public transport connectivity between the A947 study area and TECA
PT12	Improve public transport connectivity between the A947 study area and Kirkhill Industrial Estate
AT22	Promote Craibstone Park & Ride as a Park & Pedal facility

Placemaking – Living Streets

Table 6.11: Placemaking – Living Streets Options

Ref	Description
AT3	Review layout of Victoria Street/Pitmedden Road junction for pedestrians
AT17	Implement signalised crossing facility on Victoria Street adjacent to Tesco
AT33	Provide improved active travel links between Dyce Rail Station and the A947 and the eastern section of Dyce, particularly along Station Road
AT61	Implement shared use path on Victoria Street
O1	Increase enforcement of stopping restrictions on Victoria Street, specifically adjacent to Tesco
O2	Review the layout of the Victoria Street/Skene Place Junction
O11	Undertake a review of parking arrangements on Victoria Street
O12	Implement signage to encourage reverse parking at the shops on Victoria Street
O15	Introduce placemaking and gateway features on Victoria Street
O16	Implement package of measures to support implementation of a 20-minute neighbourhood in Dyce
O25	Implement access only restrictions for general traffic on Victoria Street
O26	Implement one-way restrictions for general traffic on Victoria Street

Placemaking – Complementary Measures

Table 6.12: Placemaking – Complementary Measures Options

Ref	Description
AT21	Implement cycle parking at key trip attractors in the study area
AT23	Implement a bike hire scheme within Dyce
AT42	Review access to the F&B Way from within Dyce
AT68	Conduct a review of wayfinding signage throughout the study area
O24	Implement electric vehicle charging points at key locations within Dyce

7. Option Appraisal Approach

7.1 Scale of Impacts

In line with STAG, a seven-point scale assessment has been undertaken for each option against the TPOs and STAG Criteria. This considers the relative size and scale of the likely impacts, in qualitative terms.

Table 7.1: STAG Seven-Point Scale

Impact	Description
Major positive impact (+3)	These are positive impacts which, depending on the severity of impact, should be a principal consideration when assessing an option.
Moderate positive impact (+2)	The option is anticipated to have a moderate positive impact which, when taken in isolation may not determine the appraisal of an option but would form a key consideration when considered alongside other factors.
Minor beneficial impact (+1)	The option is anticipated to have a minor positive impact. Minor positive impacts are those which are worth noting but are not likely to contribute materially to determining whether an option is taken forward.
Neutral impact (0)	The option is anticipated to have a neutral impact.
Minor negative impact (-1)	The option is anticipated to have a small negative impact. Small impacts are those which are worth noting but are not likely to contribute materially to determining whether an option is taken forward.
Moderate negative impact (-2)	The option is anticipated to have a moderate negative impact which, when taken in isolation may not determine the appraisal of an option but would form a key consideration when considered alongside other factors.
Major negative impact (-3)	There are negative impacts which, depending on the severity of impact, should be a principal consideration when assessing an option.

7.2 Transport Planning Objectives

Each option will be subject to a qualitative appraisal against each of the TPOs.

Table 7.2: TPOs

TPO	Description
TPO1	Increase the modal share of walking on the A947 corridor for all journey types
TPO2	Increase the modal share of cycling on the A947 corridor for all journey types
TPO3	Increase the modal share of public transport on the A947 corridor for all journey types
TPO4	Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements
TPO5	Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes
TPO6	Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy.

7.3 STAG Criteria

Each option will be subject to a qualitative appraisal against each of the STAG Criteria.

Table 7.3: STAG Criteria

STAG Criteria	Description
Environment	The Environment Criterion includes eight sub-criteria, although some may not be relevant to the study area or the options proposed. The Environment sub-criteria are biodiversity and habitats; geology and soils; land use (including agriculture and forestry); water, drainage and flooding; air quality; historic environment; landscape; and noise and vibration.
Climate Change	The Climate Change Criterion comprises three sub criteria: greenhouse gas emissions; vulnerability to the effects of climate change; and potential to adapt to the effects of climate change.
Health, Safety & Wellbeing	The Health, Safety and Wellbeing Criterion comprises five sub-criteria: accidents; security; health outcomes; access to health and wellbeing infrastructure; and visual amenity.

STAG Criteria	Description
Economy	The Economy Criterion comprises two sub-criteria: Transport Economic Efficiency (TEE) and Wider Economic Impacts (WEIs). TEE covers the benefits ordinarily captured by standard cost-benefit analysis including traffic volumes, journey times, driver frustration, travel time reliability etc. WEIs refer to any economic impacts which are additional to transport user benefits.
Equality & Accessibility	The Equality and Accessibility Criterion comprises five sub-criteria: public transport network coverage; active travel network coverage; comparative access by people group; comparative access by geographic location; and affordability.

7.4 Implementability Criteria

Options will also be assessed in terms of their implementability, covering Feasibility, Affordability and Public Acceptability. The Implementability Criteria have been assessed based on the extent of risk (low, medium and high). Affordability takes account of the anticipated cost of the option; whilst high-level cost estimates have been provided as part of the option appraisal, further work will be required to develop costs during further stages of option development.

STAG Criteria	Description
Feasibility	The feasibility of construction or implementation and operation of an option and the status of its technology (e.g. proven, prototype, in development, etc.) as well as any cost, timescale or deliverability risks associated with the construction or operation of the option, including consideration of the need for any departure from design standards that may be required.
Affordability	The scale of the financing burden on the promoting authority and other possible funding organisations and the risks associated with these. The level of risk associated with an option's ongoing operating or maintenance costs and its likely operating revenues (if applicable).
Public Acceptability	An assessment of the likely public response to an option, including consideration of the outcomes of consultation.

8. Option Appraisal

8.1 Introduction

This chapter outlines the findings of the appraisal of option packages. A high-level appraisal of individual options has also been carried out and the findings of this exercise are presented in *Individual Option Appraisal* included in **Appendix D**.

As set out in **Section 6.8.2**, six option packages were developed for the purposes of appraisal as follows:

- Active Travel – Strategic Routes;
- Active Travel – Leisure Route;
- Active Travel – Quiet Route Measures;
- Public Transport – Priority Interventions;
- Placemaking – Living Streets; and
- Placemaking – Complementary Measures.

The options included within each package are detailed within the tables in the following sections.

8.2 Active Travel – Strategic Routes

8.2.1 Overview

Table 8.1: Active Travel – Strategic Routes Overview

Active Travel – Strategic Routes Package	
Package Description	Segregated cycling infrastructure along the A947 between the AWPR Junction and Bucksburn Roundabout (A947/A96 Junction). This would provide a safer cycling environment on the main route through Dyce to help encourage cycling for everyday journeys.
Package Components	The Active Travel – Strategic Routes package comprises a series of potential improvements, as set out below: • AT1: Provide protected junction for active travel users at the A947/A90 slip road junction • AT2: Improve visibility for cyclists at the B977/A90 slip road roundabout • AT4: Implement measures to give active travel users priority over Burnside Drive when using the shared use path on Riverview Drive • AT8: Reconfigure the Auchmill Road/Oldmeldrum Road junction to improve connections for pedestrians and cyclists • AT10: Widen on-road advisory cycle lane on Riverview Drive • AT11: Implement missing sections of on-road advisory cycle lane on Riverview Drive • AT12: Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction • AT13: Provide a formal pedestrian crossing point to the north of the A947/Riverview Drive Roundabout to facilitate movements to the F&B Way • AT14: Provide a formal pedestrian crossing point to the east of the A947/Riverview Drive Roundabout • AT16: Implement formal pedestrian crossing facilities on the arms of the Riverview Drive/Stoneywood Road Roundabout • AT20: Conduct a footway review throughout the study area, identifying gaps in provision and considering the width and surfacing of existing footways • AT28: Implement dropped kerbs for cyclists to transfer between the carriageway and pavement at the northbound bus stop on the A947, north of the River Don • AT30: Provide direct active travel link between Dyce Drive and Riverview Drive • AT47: Implement with-flow segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction • AT48: Implement two-way segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction • AT51: Implement with-flow segregated cycleway on Oldmeldrum Road • AT52: Implement two-way segregated cycleway on Oldmeldrum Road • AT55: Implement with-flow segregated cycleway on Gilbert Road

Active Travel – Strategic Routes Package	
	• AT56: Implement two-way segregated cycleway on Gilbert Road • AT57: Implement shared use path on the A947 between AWPR Junction and A947/A96 Junction • AT58: Implement shared use path on Dyce Drive between the A947 and Kirkhill Industrial Estate to the north of Aberdeen International Airport • AT59: Widen the shared use path on the east side of the A947 to the north of Riverview Drive • AT60: Provide continuous footways on Riverview Drive for the duration of the route • AT62: Widen the shared use path on the east side of the A947 between the A96 and Beech Manor • AT63: Review alignment of the A947 shared use path to the north of the Oldmeldrum Road Junction where the safety barrier constrains the width of the path • AT64: Implement shared use path on Oldmeldrum Road • AT66: Implement shared use path on Gilbert Road • O3: Review the layout of the Riverview Drive/Balloch Way Junction • O4: Review the layout of the Riverview Drive/Todlaw Walk Junction • O5: Review the layout of the Riverview Drive/Netherview Avenue Junction • O7: Review the layout of the A947/Stoneywood Junction at Co-Op/M&S • O8: Review the layout of the A947/Stoneywood Brae Junction • O10: Review layout of the A947/McDonalds access road junction • O17: Reduce the speed limit along the A947 to support active travel improvements
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. The cost of delivering each of the individual options within the Active Travel – Strategic Routes package ranges between the three cost bands outlined above due to the variety of different options which have been included.

8.2.2 Context

Table 8.2: Active Travel – Strategic Routes Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Active Travel Infrastructure** – Sections where footway provision is lacking and cycle infrastructure consists of advisory cycle lanes that are narrow and inconsistent. There is also a lack of pedestrian crossings in the study area. • **Maintenance of Active Travel Infrastructure** – There is a lack of maintenance of active travel infrastructure including the surfaces of advisory cycle lanes, footways, the underpass at Millhill Brae and the Riverside Path. • **Distances to Work** – The vast majority of those living within the study area travel less than 10km for work, presenting opportunities to encourage active travel use for journeys to work. • **Policy Context** – Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel. • **Funding** – Opportunity to take advantage of Scottish Government funding for active travel infrastructure.
Interdependencies	This package has potential overlap with other option packages being considered through this study, most notably the 'Active Travel – Leisure Route' and 'Active Travel – Quiet Route Measures' packages which both contain measures to support a significantly improved environment for active travel users on the corridor.

8.2.3 Transport Planning Objectives

Table 8.3: Active Travel – Strategic Routes TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	+1	It would be anticipated that this option package would provide a minor positive impact in terms of TPO1, by providing measures supporting an increase in the modal share of walking. Some of the options contained within the package segregate cyclists from pedestrians as well as vehicular traffic, improving their safety and minimising conflict between modes, potentially increasing the mode share of walking as a result.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	+3	It is considered that this package would provide a major positive impact in terms of TPO2, as dedicated infrastructure would overcome a key barrier to the uptake of cycling – the lack of infrastructure and safety concerns of having to share road space with vehicles. The package of measures largely includes on-line provision and would therefore be anticipated to increase the modal share of cycling for commuting purposes in particular.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	0	It would not be anticipated that this package would impact the mode share of public transport in the study area and therefore this package has been assessed to have a neutral impact on TPO3.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	+1	It would be expected that this package would have a minor positive impact against TPO4. The package promotes accessibility improvements across the study area. This improved accessibility would be expected to enhance the ability of residents to undertake local movements more sustainably.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	+1	Whilst this package does not include any options to directly provide access to key transport hubs, it contains options which will improve interchange for cyclists between the A947 and A96, therefore improving access to TECA and Aberdeen Airport relative to existing provision and connections.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	+1	This package will support a revision in the function of the main routes in the study area in accordance with the revised Roads Hierarchy by providing segregated cycling infrastructure on the main A947 priority route, with the reallocation of Victoria Street as a tertiary route opening up opportunities to provide space for active travel.

8.2.4 STAG Criteria

Table 8.4: Active Travel – Strategic Routes STAG Criteria Appraisal

STAG Criteria:		
Environment	-1	Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the Active Travel – Strategic Routes package will have both positive and negative impacts on the Environment Criterion. The creation of a bound shared use path in existing grass verge space on the east side of the A947 to the north of Riverview Drive for example may negatively impact biodiversity and habitats. Drainage and water run-off may also negatively impact the existing environment, with the area currently prone to high likelihood of flooding (10%). In addition to a detailed environmental assessment at any subsequent appraisal stage, careful design considerations that are sensitive to the natural environment will be required to mitigate any potential negative impacts.

STAG Criteria:		
Climate Change	0	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, would generate significant modal shift towards active travel and, as a result, would lead to a reduction in greenhouse gas emissions. On this basis, the Active Travel – Strategic Routes package has been assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – There is high likelihood of flooding (10% chance of flooding) along a number of the River Don's tributaries which intersect with the A947 namely Goval Burn, Far Burn and Green Burn, which measures in this package lie in the vicinity of. The proposed options also cross the point of the River Don (Parkhill Bridge) which is susceptible to flood risk. Elements of the proposals within the Active Travel – Strategic Routes package are therefore vulnerable to the effects of climate change in respect of increased flood risk. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Active Travel – Strategic Routes package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.
Health, Safety and Wellbeing	+2	**Accidents** – It would be anticipated that the options included within the Active Travel – Strategic Routes package would result in reduced accident risk, particularly for non-motorised users. This is due to the package including active travel infrastructure enhancements such as segregated facilities, reduced crossing widths / tightened corner radii, formal crossing facilities, and shared use facilities and speed limit reductions. By encouraging and facilitating more active travel trips to be undertaken, safety benefits would also be anticipated due to the 'safety in numbers' effect. This principle suggests an inverse relationship between the number of active travel trips and rate of accidents i.e. more pedestrians and cyclists results in safer walking and cycling. **Security** – By encouraging and facilitating more active travel trips to be undertaken, natural surveillance will increase; this would have a minor positive impact on personal security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023. The measures contained within the Active Travel – Strategic Routes package which have a focus on enabling and facilitating active travel are anticipated to contribute significantly to the above Physical Health aims for the Aberdeen North area. Therefore, it is anticipated that this package will result in a moderate positive impact on Health Outcomes. **Access to Health and Wellbeing Infrastructure** – It would be anticipated that the options included within the Active Travel – Strategic Routes package would result in improved access to health and wellbeing infrastructure. This would be enabled through enhancements to direct access such as to the Riverside Park area and adjacent Dyce Health Centre.

STAG Criteria:		
		Visual Amenity – By encouraging and facilitating mode shift from motorised modes of transport, the number of private car trips would be anticipated to reduce and so too would the negative impact on visual amenity, although this would not be to any significant extent.
Economy	+2	**Transport Economic Efficiency** – Active travel schemes which provide enhanced infrastructure have the potential to yield high economic benefits and return good value for money. Serving multiple trip and destination types including local retail and services, local key employment at Kirkhill and Wellheads Industrial Estates, and linking to A947 north and the A96, the measures contained in the Active Travel – Strategic Routes package would be anticipated to generate economic benefits including, but not limited to improved journey ambience; reduced greenhouse gas emissions; reduced risk of premature death; and reduced work absenteeism. Therefore, this package is anticipated to have a major positive impact on the TEE sub-criterion. **Wider Economic Impacts** – Research shows that people who walk, wheel or cycle to shops spend more money. Connecting to Dyce Shopping Centre and Co-op / M&S, the measures contained in the Active Travel – Strategic Routes package would be anticipated to enable and facilitate active travel journeys to local shops and services. The measures also include improved access to the long-distance F&B Way route which would be anticipated to result in increased recreational use and in turn increased spending at local retailers / services from recreational users. Therefore, it is anticipated that this package would have a minor positive impact on the WEI sub-criterion.
Equality and Accessibility	+2	**Public Transport Network Coverage** – The measures proposed in the Active Travel – Strategic Routes package do not directly impact public transport network coverage. On this basis, this package is anticipated to have a neutral impact on this sub-criterion. **Active Travel Network Coverage** – The measures included in the Active Travel – Strategic Routes package including the implementation of shared use facilities between the A947 and Kirkhill Industrial Estate and segregated cycleway on the A947 between the AWPR junction and A947/A96 junction, are anticipated to provide a major positive impact in terms of Active Travel Network Coverage. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%) compared to Aberdeen City (64%), and a higher proportion of people aged 65 and over (22% and 16% respectively). For the working age majority of the local population, the measures contained within the Active Travel – Strategic Routes package will enable improved active travel accessibility to major local employment opportunities within locations such as Kirkhill and Wellheads Industrial Estates. For the over 65 population, measures will enhance accessibility of key local services including Dyce Shopping Centre. School aged children will also benefit from the measures including continuous footways on Riverview Drive and shared use path on the A947 between A947 junction and A947/A96 junction which will result in improved access to Dyce Academy, Stoneywood Primary and Bucksburn Academy. It is anticipated therefore that this package would provide a major positive impact in terms of Comparative Access by People Group. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. The measures contained in the Active Travel - Strategic Routes package which have a focus on enabling and facilitating active travel would be anticipated to provide suitable

STAG Criteria:		
		active travel options for predominantly short to middle distance trips, as an alternative to motorised transport. It is anticipated therefore that this package would provide a moderate positive impact in terms of Comparative Access by Geographic Location. **Affordability** – With no cost payable by the individual, walking and wheeling are the most equitable forms of transport. The cost barrier to cycling is also significantly lower than for private motor vehicles. The measures contained within the Active Travel – Strategic Routes package which have a focus on enabling and facilitating active travel are therefore anticipated to result in a moderate positive impact in terms of Affordability.

8.2.5 Established Policy Objectives

Table 8.5: Active Travel – Strategic Routes Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of active travel and make travel more effective. • **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and zero fatalities on the road network. • **National Transport Strategy –** supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030.

8.2.6 Deliverability

Table 8.6: Active Travel – Strategic Routes Deliverability Criteria Appraisal

Deliverability		
Feasibility	Medium risk	The feasibility of the improvements outlined in the Active Travel – Strategic Routes package has been assessed to identify any potential risks to deliverability. The majority of options within this package have been appraised to have low deliverability risk and are considered to be achievable as part of the study, assisting in the improvement of active travel links throughout the study area. Options considered to have high risk in terms of the Implementability Criteria were some of the corridor-wide active travel improvements within the Active Travel – Strategic Routes package. Assessment of these options highlighted that any improvements over the full length would not be achievable due to physical constraints at various points throughout the route. Further work will be needed to determine the scope of interventions at specific pinch-points. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.

Deliverability		
Affordability	Medium risk	The affordability of the options within this package were also assessed on the extent of their affordability risk. With the large number of options included in this package, the extent of risk varied between low, medium, and high. Options were assessed to have a higher risk in terms of affordability due to factors such as acquisition of third-party land, major earthworks and large infrastructure works. Options which were evaluated as low risk involved minimal works such as updating road markings, vegetation management and new kerbing layouts. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further
Public Acceptability	Low risk	Overall, consultation comments were generally supportive of this option concept with many welcoming the proposals to segregate cyclists and vehicles and make it easier for cyclists to navigate existing bottlenecks such as roundabouts and Victoria Street. Emphasis was placed on 'hard' segregation measures with many noting that advisory cycle lanes would not make them feel any safer or encourage modal change. Negative comments received were generally in relation to the cost of implementing the infrastructure.

8.2.7 Appraisal Summary and Recommendations

Table 8.7: Active Travel – Strategic Routes Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• This package would provide positive impacts across the majority of the TPOs, particularly in terms of increasing the modal share of cycling on the A947 corridor for all journey types and ensuring the main routes through the study area function in accordance with their role in the revised Roads Hierarchy. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • The majority of options within this package have been appraised to have low deliverability risk and are considered to be achievable as part of the study, assisting in the improvement of active travel links throughout the study area. The options classified to create a high risk to the Implementability Criteria were some of the corridor-wide active travel improvements within the package. Assessment of these options highlighted that any improvements over the full length would not be achievable due to physical constraints at various points throughout the route. • Options were assessed to have a higher risk in terms of affordability due to factors such as acquisition of third-party land, major earthworks and large infrastructure works. Options which were evaluated as low risk involved minimal works such as updating road markings, vegetation management and new kerbing layouts. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken.

Appraisal Summary and Recommendations:	
	• Overall, consultation comments were generally supportive of this option concept with many welcoming the proposals to segregate cyclists and vehicles and make it easier for cyclists to navigate existing bottlenecks such as roundabouts and Victoria Street. Emphasis was placed on 'hard' segregation measures with many noting that advisory cycle lanes would not make them feel any safer or encourage modal change. Negative comments received were generally in relation to the cost of implementing the infrastructure.
Recommendations:	A full breakdown of the options under consideration as part of this package, including the rationale for any specific options recommended to be removed from consideration at this stage of the appraisal is presented below: Select for further consideration • AT1: Provide protected junction for active travel users at the A947/A90 slip road junction • AT2: Improve visibility for cyclists at the B977/A90 slip road roundabout • AT4: Implement measures to give active travel users priority over Burnside Drive when using the shared use path on Riverview Drive • AT8: Reconfigure the Auchmill Road/Oldmeldrum Road junction to improve connections for pedestrians and cyclists • AT13: Provide a formal pedestrian crossing point to the north of the A947/Riverview Drive Roundabout to facilitate movements to the F&B Way • AT14: Provide a formal pedestrian crossing point to the east of the A947/Riverview Drive Roundabout • AT16: Implement formal pedestrian crossing facilities on the arms of the Riverview Drive/Stoneywood Road Roundabout • AT20: Conduct a footway review throughout the study area, identifying gaps in provision and considering the width and surfacing of existing footways • AT28: Implement dropped kerbs for cyclists to transfer between the carriageway and pavement at the northbound bus stop on the A947, north of the River Don • AT30: Provide direct active travel link between Dyce Drive and Riverview Drive • AT47: Implement with-flow segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction • AT48: Implement two-way segregated cycleway on the A947 between AWPR Junction and A947/A96 Junction • AT51: Implement with-flow segregated cycleway on Oldmeldrum Road • AT52: Implement two-way segregated cycleway on Oldmeldrum Road • AT55: Implement with-flow segregated cycleway on Gilbert Road • AT56: Implement two-way segregated cycleway on Gilbert Road • AT58: Implement shared use path on Dyce Drive between the A947 and Kirkhill Industrial Estate to the north of Aberdeen International Airport • AT59: Widen the shared use path on the east side of the A947 to the north of Riverview Drive • AT60: Provide continuous footways on Riverview Drive for the duration of the route • AT64: Implement shared use path on Oldmeldrum Road • AT66: Implement shared use path on Gilbert Road • O3: Review the layout of the Riverview Drive/Balloch Way Junction • O4: Review the layout of the Riverview Drive/Todlaw Walk Junction • O5: Review the layout of the Riverview Drive/Netherview Avenue Junction • O7: Review the layout of the A947/Stoneywood Junction at Co-Op/M&S • O8: Review the layout of the A947/Stoneywood Brae Junction • O10: Review layout of the A947/McDonalds access road junction Remove from consideration • AT10: Widen on-road advisory cycle lane on Riverview Drive – see Section 8.8. • AT11: Implement missing sections of on-road advisory cycle lane on Riverview Drive – see Section 8.8. • AT12: Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction – see Section 8.8.

Appraisal Summary and Recommendations:	
	• AT57: Implement shared use path on the A947 between AWPR Junction and A947/A96 Junction – it is considered that segregated cycling infrastructure should be promoted as part of this study. • AT62: Widen the shared use path on the east side of the A947 between the A96 and Beech Manor – it is considered that segregated cycling infrastructure should be promoted as part of this study. • AT63: Review alignment of the A947 shared use path to the north of the Oldmeldrum Road Junction where the safety barrier constrains the width of the path – it is considered that segregated cycling infrastructure should be promoted as part of this study. • O17: Reduce the speed limit along the A947 to support active travel improvements – it is not considered appropriate to reduce the speed limit on a priority route in accordance with the Roads Hierarchy.

8.3 Active Travel – Leisure Route Appraisal

8.3.1 Overview

Table 8.8: Active Travel – Leisure Route Overview

Active Travel – Leisure Route Package	
Package Description	The Active Travel – Leisure Route Package is formed of three active travel options with the aim of creating a quality active travel route along the existing Riverside Path which runs close to the River Don.
Package Components	The Active Travel – Leisure Route package comprises a series of potential improvements, as set out below: • AT31: Improve active travel links between the Riverside Path and housing within Dyce • AT45: Upgrade the Riverside Path to a high quality active travel route, including improvements to the surfacing of the route • AT46: Implement lighting on the Riverside Path
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. The three active travel improvement options which form the Active Travel – Leisure Route package have been initially categorised between the low and medium cost bands outlined above. The large-scale improvements to the Riverside Path and its links to the local area will require substantial work to be carried out. Further design and costing work during a later stage of the study may result in the classification being moved to the high-cost band.

8.3.2 Context

Table 8.9: Active Travel – Leisure Route Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Active Travel Infrastructure** – Providing missing links between the Riverside Path and potentially crossing facilities will address gaps identified by the study. • **Maintenance of Active Travel Infrastructure** – There is a lack of maintenance of active travel infrastructure including the surfaces of advisory cycle lanes, footways, the underpass at Millhill Brae and the Riverside Path. • **Policy Context** – Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel.

Context:	
	• **Funding** – Opportunity to take advantage of Scottish Government funding for active travel infrastructure.
Interdependencies	This package has potential overlap with other option packages being considered through this study, most notably the 'Active Travel – Strategic Routes' and 'Active Travel – Quiet Route Measures' packages which both contain measures to support a significantly improved environment for active travel users on the corridor.

8.3.3 Transport Planning Objectives

Table 8.10: Active Travel – Leisure Route TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	+1	It would be anticipated that this option package would provide a minor positive impact in terms of TPO1. Given the location of the route and the options proposed, this route would likely see increased use as a leisure route. The path also provides onward connections to Seaton Park and Aberdeen City Centre via NCN1 and therefore could see an uptake in walking.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	+1	It would be anticipated that this option package would provide a minor positive impact in terms of TPO2. Given the location of the route and the options proposed, this route would likely see increased use as a leisure route. The path also provides onward connections to Seaton Park and Aberdeen City Centre via NCN1 and therefore could see an uptake in cycling.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	0	It would not be anticipated that this package would impact the mode share of public transport in the study area and therefore this package has been assessed to have a neutral impact on TPO3.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	+1	This option package is considered to have a minor positive impact against TPO4. Although the package largely concerns the north to south route of the Riverside Path, Option AT31 within the package connects the path to housing areas in Dyce which would enhance east to west connectivity and potentially connect these housing areas to active travel infrastructure.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	0	It would not be anticipated that this package would directly improve accessibility to key transport hubs and key destinations by non-car modes and therefore this package has been assessed to have a neutral impact on TPO5.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	0	This option package consists of largely off-road active travel routes and therefore there will be a neutral impact on route function in the context of the revised Roads Hierarchy.

8.3.4 STAG Criteria

Table 8.11: Active Travel – Leisure Route STAG Criteria Appraisal

STAG Criteria:		
Environment	-1	Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the Active Travel – Leisure Route package will have both positive and negative impacts on the Environment Criterion. The creation of a bound surface route may negatively impact biodiversity and

STAG Criteria:		
		habitats, as may the implementation of lighting. Drainage and water run-off may also negatively impact the existing environment, with the area currently prone to high likelihood of flooding (10%). In addition to a subsequent detailed environmental assessment at any subsequent appraisal stage, careful design considerations that are sensitive to the natural environment will be required to mitigate any potential negative impacts.
Climate Change	0	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, would generate significant modal shift towards active travel and as a result, would lead to a reduction in greenhouse gas emissions. On this basis, the Active Travel – Leisure Route package has been assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – There is high likelihood of flooding (10% chance of flooding) along a number of the River Don's tributaries which intersect with the A947 namely Goval Burn, Far Burn and Green Burn, which measures in this package lie in the vicinity of. The measures would also lie adjacent to the banks of the River Don, some points of which are susceptible to flood risk. Elements of the proposals within the Active Travel – Leisure Route package are therefore highly vulnerable to the effects of climate change in respect of increased flood risk. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Active Travel – Leisure Route package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.
Health, Safety and Wellbeing	+2	**Accidents** – It would be anticipated that the options included within the Active Travel – Leisure Route package would result in reduced accident risk, particularly for non-motorised users. This is due to the implementation of a continuous, lit, 4m width, bound surface path, which would reduce trip hazards and risks of cyclists coming off their bikes. By encouraging and facilitating more active travel trips to be undertaken, safety benefits would also be anticipated due to the 'safety in numbers' effect. This principle suggests an inverse relationship between the number of active travel trips and rate of accidents i.e. more pedestrians and cyclists results in safer walking and cycling. **Security** – It would be anticipated that the options included within the Active Travel – Leisure Route package would result in a positive impact on security due to the implementation of lighting along the route. Additionally, by encouraging and facilitating more active travel trips to be undertaken, natural surveillance will increase; this would have a minor positive impact on personal security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023. The measures contained within the Active Travel – Leisure Route package which have a focus on enabling and facilitating active travel are anticipated to contribute significantly to the above Physical Health aims

STAG Criteria:		
		for the Aberdeen North area. Therefore, it is anticipated that this package will result in a moderate positive impact on Health Outcomes. **Access to Health and Wellbeing Infrastructure** – It would be anticipated that the options included within the Active Travel – Leisure Route package would result in improved access to health and wellbeing infrastructure. This would be enabled through enhancements to the Riverside Park area, River Don path network and adjacent Dyce Health Centre. **Visual Amenity** – It would be anticipated that the options included within the Active Travel – Leisure Route package would result in improved visual amenity. This would be enabled through sensitive design and choice of materials to ensure Riverside Path infrastructure is in keeping with the natural environment, enhancing it where possible. Users would also be anticipated to consider a continuous path of consistent width and material to be more visually appealing than a path of visibly mixed standard, material and width. By encouraging and facilitating mode shift from motorised modes of transport, the number of private car trips would be anticipated to reduce and so too would the negative impact on visual amenity, although not to any significant extent.
Economy	0	**Transport Economic Efficiency** – In isolation, the relatively short-distance Active Travel – Leisure route package, with a focus on leisure trips, would be anticipated to have a neutral impact on the TEE sub-criterion. **Wider Economic Impacts** – Tourism is a vital part of the Scottish economy. Within this, 'cycle tourism' is a growing sector. The measures contained in the Active Travel – Leisure Route package which centre on improved access to and along the Riverside Path would be anticipated to result in increased recreational use and, in turn, potentially increased spending at local retailers / services from recreational users. However, these WEIs would not be expected to be significant.
Equality and Accessibility	+2	**Public Transport Network Coverage** – The measures proposed in the Active Travel – Leisure Route package do not directly impact public transport network coverage. On this basis, this package is anticipated to have a neutral impact on this sub-criterion. **Active Travel Network Coverage** – The measures included in the Active Travel – Leisure Route package are designed to improve access to and along the Riverside Path. Therefore this package is anticipated to result in a moderate positive impact on Active Travel Network Coverage. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%) compared to Aberdeen City (64%), and a higher proportion of people aged 65 and over (22% and 16% respectively). The primary purpose of the Active Travel – Leisure Route package is to improve access to and along the Riverside Path leisure route. All people groups would be anticipated to benefit equally at the individual level, with the package anticipated to provide a moderate positive impact in terms of Comparative Access by People Group. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. This package would support access to onward connections to Seaton Park and Aberdeen City Centre via NCN1, and, on this basis, would provide a minor positive impact in terms of Comparative Access by Geographic Location.

STAG Criteria:		
		Affordability – With no cost payable by the individual, walking and wheeling are the most equitable forms of transport. The cost barrier to cycling is also significantly lower than for private motor vehicles. The measures contained within the Active Travel – Leisure Route package which have a focus on enabling and facilitating active travel for recreation are therefore anticipated to result in a minor positive impact in terms of Affordability.

8.3.5 Established Policy Objectives

Table 8.12: Active Travel – Leisure Route Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of active travel and make travel more effective. • **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and zero fatalities on the road network. • **National Transport Strategy** – supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030.

8.3.6 Deliverability

Table 8.13: Active Travel – Leisure Route Deliverability Criteria Appraisal

Deliverability		
Feasibility	Medium risk	The three active travel improvements included in this package have been assessed in terms of their feasibility to identify what impact this would have on implementability. Creating an active travel link between the leisure route and nearby housing within Dyce is considered a medium feasibility risk. This is due to the work required and environmental impact caused by formalising existing trails or creating new links along the Riverside Path. The other options within this package focus on upgrades to the surface and lighting of the existing Riverside Path – both are considered feasible. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.
Affordability	Medium – High risk	The extent of affordability risk was also considered for the three options within the Active Travel – Leisure Route package. The active travel improvements were evaluated to have medium to high risk in terms of affordability. The potential volume and complexity of the work involved to deliver the options within this package resulted in this evaluation. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further

Deliverability		
Public Acceptability	Low risk	Overall, there was strong support for this option concept during consultation, with widespread support for improved surfacing of the Riverside Path and support for better leisure routes in the wider area. Improving connections from Dyce to the Riverside Path were also welcomed through new crossings on Riverview Drive. However, some environmental concerns were raised regarding lighting provision on the Riverside Path.

8.3.7 Appraisal Summary and Recommendations

Table 8.14: Active Travel – Leisure Route Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• This package would provide positive impacts across some of the TPOs, with minor positive impacts in terms of increasing the modal share of walking and cycling, and on promoting improved accessibility for local movements. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • Creating an active travel link between the leisure route and nearby housing within Dyce is considered a medium feasibility risk. This is due to the work required and environmental impact caused by formalising existing trails or creating new links along the Riverside Path. The other options within this package focus on upgrades to the surface and lighting of the existing Riverside Path – both are considered feasible. • The active travel improvements were evaluated to have medium to high risk in terms of affordability. The potential volume and complexity of the work involved to deliver the options within this package resulted in this evaluation. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, there was strong support for this option concept during consultation, with widespread support for improved surfacing of the Riverside Path and support for better leisure routes in the wider area. Some environmental concerns were raised regarding lighting provision on the Riverside Path.
Recommendations:	It is recommended that all options under consideration as part of this package are progressed for further assessment.

8.4 Active Travel – Quiet Route Measures Appraisal

8.4.1 Overview

Table 8.15: Active Travel – Quiet Route Measures Overview

Active Travel – Quiet Route Measures Package	
Package Description	The Quiet Route Measures Package is a package of options aimed at active travel improvements on routes away from the main A947 and Victoria Street routes around Dyce. The focus of this package is to improve active travel provision on routes away from large volumes of traffic and provide quiet routes which may be more suitable for leisure walking and cycling or cyclists who are less confident to travel adjacent to vehicular traffic.
Package Components	The Active Travel – Quiet Route Measures package comprises a series of potential improvements, as set out below: • AT7: Review signals at Forrit Burn Road bus gate to allow cyclists access • AT24: Improve active travel connectivity between the A947 study area and Aberdeen Airport/Heliport • AT25: Improve active travel connectivity between the A947 study area and Craibstone Park & Ride • AT26: Improve active travel connectivity between the A947 study area and TECA • AT27: Improve active travel connectivity between the A947 study area and Kirkhill Industrial Estate • AT32: Implement footways on the south side of the carriageway on Pitmedden Road • AT35: Implement quiet route measures on the local road network to the west of the A947 via Bankhead Road, Wellheads Drive and Farburn Terrace to Dyce Rail Station • AT37: Implement dropped kerbs between Wellheads Drive shared use path and the carriageway • AT38: Review access restrictions on Market Street to allow for cargo bikes and recumbent cycles • AT39: Remove access controls on off-road path between Waterton Road and Ruthriehill Road • AT41: Improve active travel access to the retail park at the Bucksburn Roundabout • AT43: Implement active travel connection between the A947 and the B977, utilising a section of the old A947 (pre-AWPR) • AT65: Implement streetscape improvements and widened pavements along Mugiemoss Road • AT67: Widen the shared use path on the west side of Howe Moss Drive • O14: Review parking arrangements on Mugiemoss Road • O18: Consider options to reduce vehicle speeds on Bankhead Road
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. Following an initial assessment of the active travel improvements within this package, the individual options included would vary between the low and medium cost bands to deliver.

8.4.2 Context

Table 8.16: Active Travel – Quiet Route Measures Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Active Travel Infrastructure** – Whilst there is generally good provision of pedestrian infrastructure within the study area, the PICOs work identified a number of areas

Context:	
	where there is a lack of footway provision to match pedestrian desire lines. The PICOs work additionally identified a limited number of appropriate crossings for pedestrians and cyclists throughout the study area. • **Driver Behaviour** – anecdotal evidence of driver behaviour issues including vehicles travelling in excess of speed limits, ignoring cycling provision, flouting 'no entry' signs and parking on double yellow lines. • **Policy Context** – Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel. • **Funding** – Opportunity to take advantage of Scottish Government funding for active travel infrastructure.
Interdependencies	This package has potential overlap with other option packages being considered through this study, most notably the 'Active Travel – Strategic Routes' and 'Active Travel – Leisure Route' packages which both contain measures to support a significantly improved environment for active travel users on the corridor.

8.4.3 Transport Planning Objectives

Table 8.17: Active Travel – Quiet Route Measures TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	+2	Measures included within this package would be anticipated to increase trips made by walking. The package would improve access by walking to key destinations including Aberdeen Airport, Craibstone Park and Ride, TECA, Kirkhill Industrial Estate and the retail park. Measures such as widening of pavements and increased crossing facilities are also designed to improve the experience for pedestrians and provide ease of access.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	+2	Measures included within this package would be anticipated to increase trips made by cycling. By improving connectivity by active travel to key destinations including Aberdeen Airport, Craibstone Park and Ride, TECA, Kirkhill Industrial Estate and the retail park, the modal share of cycling could increase by connecting residential areas to places of employment and leisure.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	0	It would not be anticipated that this package would impact the mode share of public transport in the study area and therefore this package has been assessed to have a neutral impact on TPO3.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	+1	This option package is considered to have a minor positive impact against TPO4. Although the package largely concerns Quiet Route measures north to south, some options promote improved east-west connectivity, with the package overall promoting improved accessibility for local movements.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	+1	It is anticipated that this package would have a minor positive impact against TPO5 as measures are included within the package to improve access to Dyce Rail Station via Bankhead Road, Wellheads Drive and Farburn Terrace by active travel. Additionally, improvements on these routes are likely to improve the accessibility of Aberdeen International Airport by active travel modes.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	0	The routes considered in this package are located away from the main A947 and Victoria Street routes and therefore would have little impact on their revised role in the new Roads Hierarchy.

8.4.4 STAG Criteria

Table 8.18: Active Travel – Quiet Route Measures STAG Criteria Appraisal

STAG Criteria:		
Environment	-1	Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the Active Travel – Quiet Route Measures package will have both positive and negative impacts on the Environment Criterion. The creation of a bound footway in existing grass verge space on the south side of the carriageway on Pitmedden Road for example may negatively impact biodiversity and habitats. Drainage and water run-off may also negatively impact the existing environment. Other measures in this package also lie in the vicinity of areas of high likelihood of flooding (10%). In addition to a subsequent detailed environmental assessment at any subsequent appraisal stage, careful design considerations that are sensitive to the natural environment will be required to mitigate any potential negative impacts.
Climate Change	0	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, would generate significant modal shift towards active travel and, as a result, would lead to a reduction in greenhouse gas emissions. On this basis, the Active Travel – Quiet Route Measures package has been assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – There is high likelihood of flooding (10% chance of flooding) along a number of the River Don's tributaries which intersect with the A947 namely Goval Burn, Far Burn and Green Burn, which measures in this package lie in the vicinity of. The measures also lie in the vicinity of the point of the River Don (Parkhill Bridge) which is susceptible to flood risk. Elements of the proposals within the Active Travel – Quiet Route Measures package are therefore highly vulnerable to the effects of climate change in respect of increased flood risk. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Active Travel – Quiet Route Measures package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.
Health, Safety and Wellbeing	+2	**Accidents** – It would be anticipated that the options included within the Active Travel – Quiet Route Measures package would result in reduced accident risk, particularly for non-motorised users. By encouraging and facilitating more active travel trips to be undertaken, safety benefits would also be anticipated due to the 'safety in numbers' effect. This principle suggests an inverse relationship between the number of active travel trips and rate of accidents i.e. more pedestrians and cyclists results in safer walking and cycling. **Security** – By encouraging and facilitating more active travel trips to be undertaken, natural surveillance will increase; this would have a minor positive impact on personal security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023.

STAG Criteria:		
		The measures contained within the Active Travel – Quiet Route Measures package which have a focus on enabling and facilitating active travel are anticipated to contribute significantly to the above Physical Health aims for the Aberdeen North area. Therefore, it is anticipated that this package will result in a moderate positive impact on Health Outcomes. **Access to Health and Wellbeing Infrastructure** – It would be anticipated that the options included within the Active Travel – Quiet Route Measures package would result in improved access to health and wellbeing infrastructure. This would be enabled through enhancements to direct access to locations such as the Stoneywood Dyce Cricket Club, Dyce Scout Hut and Dyce Boys Club football pitches and indirect access to facilities further afield via Craibstone Park & Ride and Aberdeen International Airport. **Visual Amenity** – It would be anticipated that the options included within the Active Travel – Quiet Route Measures package would result in improved visual amenity. This would be enabled through streetscape improvements along Mugiemoss Road. By encouraging and facilitating mode shift from motorised modes of transport, the number of private car trips would be anticipated to reduce and so too would the negative impact on visual amenity, although not to any significant extent.
Economy	+2	**Transport Economic Efficiency** – Active travel schemes which provide enhanced infrastructure have the potential to yield high economic benefits and return good value for money. Serving multiple trip and destination types including local retail and services, local key employment at Kirkhill and Wellheads Industrial Estates, and linking to A947 north and the A96, the measures contained in the Active Travel – Quiet Route Measures package would be anticipated to generate economic benefits including, but not limited to: improved journey ambience; reduced greenhouse gas emissions; reduced risk of premature death; and reduced work absenteeism. Therefore, this package is anticipated to have a major positive impact on the TEE sub-criterion. **Wider Economic Impacts** – Research shows that people who walk, wheel or cycle to shops spend more money. Connecting to the Bucksburn Roundabout retail park, the measures contained in the Active Travel – Quiet Route Measures package would be anticipated to enable and facilitate active travel journeys to local shops and services. The package also includes measures to improve active travel connectivity to the wider area through improved links to Craibstone Park & Ride and Aberdeen International Airport, thus also providing economic benefit to these connected areas. Therefore, it is anticipated that this package would have a minor positive impact on the WEI sub-criterion.
Equality and Accessibility	+2	**Public Transport Network Coverage** – Whilst the measures proposed in the Active Travel – Quiet Route Measures package include enhanced accessibility to Aberdeen International Airport and Craibstone Park & Ride, they do not directly impact network coverage. On this basis, this package is anticipated to have a neutral impact on Public Transport Network Coverage. **Active Travel Network Coverage** – The measures included in the Active Travel – Quiet Route Measures package are designed to remove existing active travel access barriers and improve facilities at various locations. Therefore, this package is anticipated to provide a moderate positive impact in terms of Active Travel Network Coverage. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%)

STAG Criteria:		
		compared to Aberdeen City (64%), and a higher proportion of people aged 65 and over (22% and 16% respectively). For the working age majority of the local population, the measures contained within the Active Travel – Quiet Route Measures package will enable improved active travel accessibility to major local employment opportunities within locations such as Kirkhill and Wellheads Industrial Estates and Aberdeen International Airport. For the over 65 population, measures will enhance accessibility of key local services including Bucksburn Roundabout retail park. Younger people will also benefit from improved access to Dyce Scout Hut and Dyce Boys Club football pitches. It is anticipated therefore that this package will provide a moderate positive impact on Comparative Access by People Group. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. The measures contained in the Active Travel – Quiet Route Measures package which have a focus on enabling and facilitating active travel would be anticipated to provide suitable active travel options for predominantly short to middle distance trips, as an alternative to motorised transport. This package is therefore anticipated to have a minor positive impact on Comparative Access by Geographic Location. **Affordability** – With no cost payable by the individual, walking and wheeling are the most equitable forms of transport. The cost barrier to cycling is also significantly lower than for private motor vehicles. The measures contained within the Active Travel – Quiet Route Measures package which have a focus on enabling and facilitating active travel are therefore anticipated to result in a moderate positive impact in terms of Affordability.

8.4.5 Established Policy Objectives

Table 8.19: Active Travel – Quiet Route Measures Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of active travel and make travel more effective. • **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and zero fatalities on the road network. • **National Transport Strategy** – supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030.

8.4.6 Deliverability

Table 8.20: Active Travel – Quiet Route Measures Deliverability Criteria Appraisal

Deliverability		
Feasibility	Low risk	Within this package it is anticipated that the majority of the options included would have a low feasibility risk in terms of their overall implementability. The active travel improvements within the package which present a higher risk are achievable, however, they would require substantial infrastructure interventions. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.
Affordability	Medium risk	The extent of affordability risk for the options in the Active Travel – Quiet Route Measures package ranges between low, medium, and high risk. Many of the active travel improvements which are proposed have a low risk in terms of affordability as they require little financial burden to implement across the study area. However, some of the broader options would require larger scale improvements across the study area and represent potential financial risk as a result. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of affordability to be undertaken.
Public Acceptability	Low risk	Overall, this option concept received strong public support during consultation, with many considering it to be a good alternative to Stoneywood Road for cyclists of all abilities and providing a safer route for children. There was general support for making use of existing infrastructure and this was noted to be more cost effective than installing new infrastructure. Concerns were raised around the impact traffic calming measures could have on commercial vehicles, particularly delivery vehicles.

8.4.7 Appraisal Summary and Recommendations

Table 8.21: Active Travel – Quiet Route Measures Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• This package would provide positive impacts across most of the TPOs, particularly in terms of increasing the modal share of walking and cycling. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • Within this package it is anticipated that the majority of the options included would have a low feasibility risk in terms of their overall implementability. The active travel improvements within the package which present a higher risk are achievable, however, they would require substantial infrastructure interventions.

Appraisal Summary and Recommendations:	
	• Many of the active travel improvements which are proposed have a low risk in terms of affordability as they require little financial burden to implement across the study area. However, some of the broader options would require larger scale improvements across the study area and represent potential financial risk as a result. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, this option concept received strong public support during consultation, with many considering it to be a good alternative to Stoneywood Road for cyclists of all abilities and providing a safer route for children. There was general support for making use of existing infrastructure and this was noted to be more cost effective than installing new infrastructure. Concerns were raised around the impact traffic calming measures could have on commercial vehicles, particularly delivery vehicles.
Recommendations:	A full breakdown of the options under consideration as part of this package, including the rationale for any specific options recommended to be removed from consideration at this stage of the appraisal is presented below: Select for further consideration • AT7: Review signals at Forrit Burn Road bus gate to allow cyclists access • AT24: Improve active travel connectivity between the A947 study area and Aberdeen Airport/Heliport • AT25: Improve active travel connectivity between the A947 study area and Craibstone Park & Ride • AT26: Improve active travel connectivity between the A947 study area and TECA • AT27: Improve active travel connectivity between the A947 study area and Kirkhill Industrial Estate • AT32: Implement footways on the south side of the carriageway on Pitmedden Road • AT35: Implement quiet route measures on the local road network to the west of the A947 via Bankhead Road, Wellheads Drive and Farburn Terrace to Dyce Rail Station • AT37: Implement dropped kerbs between Wellheads Drive shared use path and the carriageway • AT38: Review access restrictions on Market Street to allow for cargo bikes and recumbent cycles • AT39: Remove access controls on off-road path between Waterton Road and Ruthriehill Road • AT41: Improve active travel access to the retail park at the Bucksburn Roundabout • AT43: Implement active travel connection between the A947 and the B977, utilising a section of the old A947 (pre-AWPR) • AT65: Implement streetscape improvements and widened pavements along Mugiemoss Road • O18: Consider options to reduce vehicle speeds on Bankhead Road Remove from consideration • AT67: Widen the shared use path on the west side of Howe Moss Drive – option has limited impact against the TPOs and STAG Criteria. • O14: Review parking arrangements on Mugiemoss Road – option will be incorporated as part of Option AT65.

8.5 Public Transport – Priority Interventions Appraisal

8.5.1 Overview

Table 8.22: Public Transport – Priority Interventions Overview

Public Transport – Priority Interventions Package	
Package Description	The Public Transport – Priority Interventions Package contains seven options specifically aimed to increase public transport use within the study area. The package contains options to increase connectivity between the study area and transport hubs and key destinations as well as some options to provide bus priority.
Package Components	The Public Transport – Priority Interventions package comprises a series of potential improvements, as set out below: • PT2: Conduct a traffic signal review to consider bus priority at all traffic signals along the A947 corridor • PT5: Implement real time passenger information at key bus stops along the study corridor • PT9: Improve public transport connectivity between the A947 study area and Aberdeen Airport/Heliport • PT10: Improve public transport connectivity between the A947 study area and Craibstone Park & Ride • PT11: Improve public transport connectivity between the A947 study area and TECA • PT12: Improve public transport connectivity between the A947 study area and Kirkhill Industrial Estate • AT22: Promote Craibstone Park & Ride as a Park & Pedal facility
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. Each of the public transport improvements would be classified in the medium cost band, prior to any design work being conducted to understand the feasibility of delivering the options.

8.5.2 Context

Table 8.23: Public Transport – Priority Interventions Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Declining Bus Patronage** – The package seeks to address the root causes of declining bus patronage by improving journey times and the difficulty in accessing destinations such as Aberdeen International Airport. • **Policy Context** – Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel. • **Funding** – Opportunity to take advantage of Scottish Government funding for bus priority infrastructure including the £500m Bus Partnership Fund. • **Bus Service Partnerships** – Take advantage of new powers for Councils to enable greater control on the operation of bus services and enhanced partnership working arrangements under BSIPs.
Interdependencies	It is possible that options in the Public Transport – Priority interventions package cannot be implemented in combination with certain active travel or placemaking options due to physical constraints on the A947 corridor and on Victoria Street.

8.5.3 Transport Planning Objectives

Table 8.24: Public Transport – Priority Interventions TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	0	The interventions which form this package would be expected to have a neutral impact on increasing the modal share of walking.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	0	The interventions which form this package would be expected to have a neutral impact on increasing the modal share of cycling.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	+2	It would be expected that this option package would provide a moderate positive impact in terms of TPO3 as it contains a series of measures to connect public transport to key destinations. This would encourage more people to travel by public transport and consequently would support an increase in public transport mode share.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	0	This package would be expected to have a neutral impact on improving east-west connectivity within Dyce.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	+3	This package is considered to have a major positive impact against TPO5. This is due to the measures contained within the package which seek to directly implement public transport connectivity improvements between the study area and the key destinations which surround it. This will provide an alternative to private car use and thus would provide significant support for this objective.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	0	This package is considered to have a neutral impact against TPO6 overall, although may provide some minor positive impact where public transport opportunities are introduced on the tertiary route of Victoria Street, for example.

8.5.4 STAG Criteria

Table 8.25: Public Transport – Priority Interventions STAG Criteria Appraisal

STAG Criteria:		
Environment	0	Overall, it is not anticipated that the options contained within this package would have a significant impact against the Environment Criterion.
Climate Change	+1	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, would generate significant modal shift towards public transport and, as a result, would lead to a reduction in greenhouse gas emissions. On this basis, the Public Transport – Priority Interventions package has been assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – Bus-based public transport is considered to be highly resilient to the effects of climate change, therefore this package is anticipated to have a minor positive impact on the Vulnerability to the Effects of Climate Change sub-criterion. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Public Transport – Priority Interventions package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.

STAG Criteria:		
Health, Safety and Wellbeing	+1	**Accidents** – It would be anticipated that the options included within the Public Transport – Priority Interventions package would result in a minor reduction in accident risk. This is due to the anticipation that measures would encourage and facilitate more public transport trips to be undertaken. Evidence suggests that public transport trips are inherently safer than private car trips. **Security** – It would be anticipated that the options included within the Public Transport – Priority Interventions package would result in a neutral impact on security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023. Whilst the main focus of the measures contained within the Public Transport – Priority Interventions package is on promoting increased public transport use, there may be associated health benefits associated, with, for example, increased walking or cycling to access bus services. This package is therefore anticipated to have a minor positive impact on Health Outcomes. **Access to Health and Wellbeing Infrastructure** – Improved links to key transport hubs will enable improved access to health and wellbeing infrastructure outwith the study area. **Visual Amenity** – There would be no significant impacts on visual amenity associated with the interventions within the Public Transport – Priority Interventions package.
Economy	+1	**Transport Economic Efficiency** – The measures contained within the Public Transport – Priority Interventions package are anticipated to result in journey time savings for public transport users. These measures may also be anticipated to result in minor delays for private motorised trips, although further work would be needed to gauge the extent of this. Therefore, this package is anticipated to have a minor positive impact on the TEE sub-criterion overall. **Wider Economic Impacts** – The measures contained within the Public Transport – Priority Interventions package which include improved connectivity to TECA and transport hubs at Craibstone Park & Ride and Aberdeen International Airport are anticipated to encourage and enable public transport journeys for a range of trip purposes. Therefore this package is anticipated to have a minor positive impact on the WEI sub-criterion.
Equality and Accessibility	+1	**Public Transport Network Coverage** – With a focus on improving public transport connectivity between the A947 study area and key destinations, this package would have a major positive impact on Public Transport Network Coverage. **Active Travel Network Coverage** – This package is anticipated to provide a neutral impact on Active Travel Network Coverage overall, though some measures, such as real time passenger information at key bus stops, could support increased walking or cycling to access bus services but network coverage will not be enhanced to any significant degree. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%) compared to Aberdeen City (64%), and a higher proportion of people

STAG Criteria:		
		aged 65 and over (22% and 16% respectively). For the working age majority of the local population, the measures contained within the Public Transport – Priority Interventions package will enable improved public transport accessibility to major local employment opportunities within locations such as Kirkhill and Wellheads Industrial Estates. For the over 65 population, measures will directly enhance accessibility of key facilities such as TECA. It is anticipated therefore that this package would have a moderate positive impact in terms of Comparative Access by People Group. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. Improving public transport connectivity to and from the A947 study area would therefore be anticipated to provide a moderate positive impact in terms of Comparative Access by Geographic Location. **Affordability** – This package would have no direct impact on affordability for users – however, there may be examples of cost savings for individuals who switch from private motorised transport to public transport as a result of the interventions.

8.5.5 Established Policy Objectives

Table 8.26: Public Transport – Priority Interventions Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of public transport and make travel more effective. • **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and improved journey efficiencies to enhance connectivity. • **North East Bus Alliance** – the North East Bus Alliance was formed in 2018 as a voluntary partnership of Nestrans, ACC, Aberdeenshire Council, First Bus Aberdeen, Stagecoach, and Bains Coaches. The overarching aims of the Alliance are to arrest the decline in bus patronage in the North East of Scotland by 2022 and to achieve year on year growth in bus patronage to 2025. Sub-objectives also exist around increasing modal share of bus patronage, improving operational performance and customer satisfaction, reducing bus emissions, and improving service accessibility. • **National Transport Strategy** – supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030.

8.5.6 Deliverability

Table 8.27: Public Transport – Priority Interventions Deliverability Criteria Appraisal

Deliverability		
Feasibility	High risk	The feasibility of the options within this package have been assessed to understand any potential risks which may impact their deliverability. The feasibility of five of the package components have been assessed as high risk, creating concerns about their implementability. These are considered as high risk due to the requirement for wider stakeholder consultation to be carried out and potentially having to be delivered in partnership with public transport operators. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further
Affordability	Medium risk	All of the improvements included in this package have been identified as a medium risk in terms of affordability as part of the implementability criteria. The options outlined involve extensive reviews and improvements of existing public transport throughout various sections of the study area and may present a financial burden in order to deliver each of the options. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.
Public Acceptability	Low risk	Consultation highlighted existing poor public transport connections between Dyce and Aberdeen International Airport, TECA and Danestone and some respondents stated they would welcome and directly benefit from better public transport links between Dyce, the airport and TECA. Some respondents felt active travel measures should be prioritised over public transport.

8.5.7 Appraisal Summary and Recommendations

Table 8.28: Public Transport - Priority Interventions Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• With regards the TPOs, this package would provide positive impacts in terms of increasing public transport modal share and improving accessibility to key transport hubs and key destinations. • In terms of the STAG criteria, this package would promote minor positive impacts across the majority of the criteria. Within the Equality and Accessibility Criterion, this package would have a major positive impact on Public Transport Network Coverage. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the overarching aims of the North East Bus Alliance. • The feasibility of five of the package components have been assessed as high risk, creating concerns about their implementability. These are considered as high risk due to the requirement for wider stakeholder consultation to be carried out and potentially having to be delivered in partnership with public transport operators. • All of the improvements included in this package have been identified as a medium risk in terms of affordability as part of the implementability criteria. The options outlined involve extensive reviews and improvements of existing public transport throughout various sections of the study area and may present a financial burden in order to deliver each of the options.

Appraisal Summary and Recommendations:	
	• More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Consultation highlighted existing poor public transport connections between Dyce and Aberdeen International Airport, TECA and Danestone and some respondents stated they would welcome and directly benefit from better public transport links between Dyce, the airport and TECA. Some respondents felt active travel measures should be prioritised over public transport.
Recommendations:	It is recommended that all options under consideration as part of this package are progressed for further assessment.

8.6 Placemaking – Living Streets Appraisal

8.6.1 Overview

Table 8.29: Placemaking – Living Streets Overview

Placemaking – Living Streets Package	
Package Description	The Placemaking – Living Streets package is formed of 12 options from the active travel and other categories. The focus of this package is to enhance the sense of place within the study area by providing a better environment for active travel, providing better access to key locations by non-car modes and reducing the prominence of private cars in certain places within the study area. This package has a particular focus on Victoria Street given its revised position within the new Roads Hierarchy.
Package Components	The Placemaking – Living Streets package comprises a series of potential improvements, as set out below: • AT3: Review layout of Victoria Street/Pitmedden Road junction for pedestrians • AT17: Implement signalised crossing facility on Victoria Street adjacent to Tesco • AT33: Provide improved active travel links between Dyce Rail Station and the A947 and the eastern section of Dyce, particularly along Station Road • AT61: Implement shared use path on Victoria Street • O1: Increase enforcement of stopping restrictions on Victoria Street, specifically adjacent to Tesco • O2: Review the layout of the Victoria Street/Skene Place Junction • O11: Undertake a review of parking arrangements on Victoria Street • O12: Implement signage to encourage reverse parking at the shops on Victoria Street • O15: Introduce placemaking and gateway features on Victoria Street • O16: Implement package of measures to support implementation of a 20-minute neighbourhood in Dyce • O25: Implement access only restrictions for general traffic on Victoria Street • O26: Implement one-way restrictions for general traffic on Victoria Street
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. The options within this package range between the low, medium, and high cost bands. The cost of implementing a shared use path along the full length of Victoria Street is considered in the high cost band due to the number of practical challenges which are recognised in delivering this option.

8.6.2 Context

Table 8.30: Placemaking – Living Streets Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Active Travel Infrastructure –** Options contained within this package address the inconsistent pedestrian infrastructure in parts of the study area and add crossing facilities. They also seek to address the lack of quality cycling infrastructure. • **Policy Context –** Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel. • **Funding –** Opportunity to take advantage of Scottish Government funding for active travel infrastructure. • **20-minute Neighbourhood –** Package would apply placemaking principles associated with '20-minute Neighbourhoods' to capitalise on the walkability of Dyce.
Interdependencies	This package has potential overlap with other option packages being considered through this study, most notably the 'Placemaking – Complementary Measures' package. There is also significant crossover between this package and the three Active Travel packages as all packages aim to improve active travel provision and facilitate modal shift to active travel.

8.6.3 Transport Planning Objectives

Table 8.31: Placemaking – Living Streets TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	+2	This package would be anticipated to provide a moderate positive impact against TPO1 as it proposes infrastructure upgrades to the walking infrastructure around Victoria Street including shared use paths and improved crossing facilities. Furthermore, the options to reduce the dominance of vehicles on Victoria Street would create a more pleasant environment for encouraging walking trips.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	+2	This package would be anticipated to provide a moderate positive impact against TPO2. The package provides improved infrastructure for active travel including improved paths and crossing facilities and restrictions on vehicle movements would create a more pleasant environment for active travel. Connections to Dyce Rail Station would help to facilitate multi-modal trips, including those involving cycling.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	0	It would not be anticipated that this package would impact the mode share of public transport in the study area and therefore this package has been assessed to have a neutral impact on TPO3.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	+2	This package would be anticipated to provide a moderate positive impact against TPO4. Options included within the package such as improved crossing points on Victoria Street, connections between Dyce Rail Station and the A947 and the implementation of 20-neighbourhoods all enhance east to west connectivity within the area and promote improved accessibility within Dyce.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	+1	This package would be anticipated to provide a minor positive impact against TPO5 due to the improvement in links between the rest of Dyce and Dyce Rail Station by non-car modes. As the placemaking interventions are largely focused around Dyce itself, particularly around Victoria Street, the package would not be anticipated to bring significant enhancements in access to other key transport hubs and key destinations.
TPO6: Ensure the main routes through the Study Area function in accordance	+3	This package is considered to provide a major positive impact against TPO6. Victoria Street has a revised role in the new Roads Hierarchy and placemaking interventions on Victoria Street would promote greater active travel use in the area, with the package components typically

Transport Planning Objectives:		
with their role in the revised Roads Hierarchy		reflective of interventions that may be expected on a tertiary route in the revised hierarchy.

8.6.4 STAG Criteria

Table 8.32: Placemaking – Living Streets STAG Criteria Appraisal

STAG Criteria:		
Environment	0	Overall, it is not anticipated that the options contained within this package would have a significant impact against the Environment Criterion, though there may be some local air quality benefits associated with the removal of vehicular traffic from the Victoria Street area.
Climate Change	0	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, would generate significant modal shift towards active travel and as a result, lead to a reduction in greenhouse gas emissions. On this basis, the Placemaking – Living Streets package has been assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – There is high likelihood of flooding (10% chance of flooding) along a number of the River Don's tributaries which intersect with the A947 namely Far Burn, which is centrally located and runs west-east crossing Victoria Street. Elements of the proposals within the Placemaking – Living Streets package are therefore vulnerable to the effects of climate change in respect of increased flood risk. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Placemaking – Living Streets package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.
Health, Safety and Wellbeing	+2	**Accidents** – It would be anticipated that the options included within the Placemaking – Living Streets package would result in reduced accident risk, particularly for non-motorised users. This is due to the package including active travel infrastructure enhancements such as reduced crossing widths / tightened corner radii, formal crossing facilities and shared use facilities. Traffic management elements such as access restrictions and signage to encourage reverse parking on Victoria Street would further be anticipated to reduce accident risk. By encouraging and facilitating more active travel trips to be undertaken, safety benefits would also be anticipated due to the 'safety in numbers' effect. This principle suggests an inverse relationship between the number of active travel trips and rate of accidents i.e. more pedestrians and cyclists results in safer walking and cycling. **Security** – By encouraging and facilitating more active travel trips to be undertaken, natural surveillance will increase; this would have a minor positive impact on personal security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023. The measures contained within the Placemaking – Living Streets package which have a focus on enabling and facilitating active travel are anticipated to contribute significantly to the above Physical Health aims for the Aberdeen North area. Therefore, it is anticipated that this package will result in a moderate positive impact on Health Outcomes.

STAG Criteria:		
		Access to Health and Wellbeing Infrastructure – It would be anticipated that the options included within the Placemaking – Living Streets package would result in improved access to health and wellbeing infrastructure. Improved links to Dyce Rail Station would enable access to health and wellbeing infrastructure outwith the study area, as well as enabling access to assets such as the F&B Way for users travelling from outwith the study area. **Visual Amenity** – It would be anticipated that the options included within the Placemaking – Living Streets package would have a moderate positive impact on visual amenity, specifically through introduction of placemaking and gateway features on Victoria Street. In addition, by encouraging and facilitating mode shift from motorised modes of transport, the number of private car trips would be anticipated to reduce and so too would the negative impact on visual amenity, although not to any significant extent.
Economy	+2	**Transport Economic Efficiency** – Active travel schemes which provide enhanced infrastructure have the potential to yield high economic benefits and return good value for money. The measures contained in the Placemaking – Living Streets package would be anticipated to generate economic benefits including, but not limited to, improved journey ambience, reduced greenhouse gas emissions, reduced risk of premature death and reduced work absenteeism. Therefore, this package is anticipated to have a moderate positive impact on the TEE sub-criterion. **Wider Economic Impacts** – Research shows that people who walk, wheel or cycle to shops spend more money. Centred around Victoria Street which represents the high street in Dyce, the measures contained in the Placemaking – Living Streets package would be anticipated to enable and facilitate active travel journeys to local shops and services. Therefore, it is anticipated that this package would have a minor positive impact on the WEI sub-criterion.
Equality and Accessibility	+2	**Public Transport Network Coverage** – Whilst the measures proposed in the Placemaking – Living Streets package include enhanced accessibility of Dyce Rail Station, they do not directly impact on network coverage. On this basis, this package is anticipated to have a neutral impact on Public Transport Network Coverage. **Active Travel Network Coverage** – The 20-minute neighbourhood concept allows people to meet most of their everyday needs by a short, convenient, and pleasant 20-minute return walk or cycle from their home. The aim is to reduce the volume and speed of traffic and improve accessibility for local people to walk, wheel and spend time outdoors in their community. This is to be achieved within a 20-minute walk (approximately 800m). In combination with the new and enhanced active travel infrastructure proposed as part of the Placemaking – Living Streets package, this package is anticipated to result in a major positive impact on Active Travel Network Coverage. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%) compared to Aberdeen City (64%), and a higher proportion of people aged 65 and over (22% and 16% respectively). For the working age majority of the local population, the measures contained within the Placemaking – Living Streets package will enable improved active travel accessibility to both local employment opportunities within Dyce and those further afield via improved links to Dyce Rail Station. For the over 65 population, the measures will enhance accessibility of key local services and those further afield via rail. Primary school aged children

STAG Criteria:		
		will also benefit from the measures including improved active travel links between Dyce Rail Station and the eastern section of Dyce which will result in improved access to Dyce Primary School. It is anticipated therefore that this package will result in a moderate positive impact on Comparative Access by People Group. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. The measures contained in the Placemaking – Living Streets package which have a focus on enabling and facilitating active travel would be anticipated to provide suitable active travel options for predominantly local trips, as an alternative to motorised transport. This package is therefore anticipated to have a minor positive impact on Comparative Access by Geographic Location. **Affordability** – With no cost payable by the individual, walking and wheeling are the most equitable forms of transport. The cost barrier to cycling is also significantly lower than for private motor vehicles. The measures contained within the Placemaking – Living Streets package which have a focus on enabling and facilitating active travel are therefore anticipated to result in a moderate positive impact in terms of Affordability.

8.6.5 Established Policy Objectives

Table 8.33: Placemaking – Living Streets Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of active travel and make travel more effective. • **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and zero fatalities on the road network. • **National Transport Strategy** – supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030. • **National Planning Framework** – strongly aligns with the draft NPF4, which promotes the concept of 20-minute neighbourhoods and the adoption of the Place Principle.

8.6.6 Deliverability

Table 8.34: Placemaking – Living Streets Deliverability Criteria Appraisal

Deliverability		
Feasibility	Medium risk	The extent of feasibility risk for options in the Placemaking – Living Streets package ranges between low and medium. Options have been classified as a medium risk for a number of factors such as cross-sectional width constraints and impacts they would have for different road users. Options classified as having a low risk to overall implementability have minor impacts such as upgrading existing features within the study area. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.
Affordability	Medium risk	The affordability risks associated with the options within this package vary between low, medium, and high. The highest risk has been identified as the proposal to implement a shared use path along Victoria Street. Despite being assessed as feasible, the variability of the existing road corridor along Victoria Street presents a number of constraints which may present a financial burden. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of affordability to be undertaken.
Public Acceptability	Low risk	Overall, this option concept received a mixed response with some welcoming improvements in the centre of Dyce, which could make it more attractive, helping encourage active travel and fostering greater community spirit. However, there were concerns raised about access to properties, impact on cross-Dyce journeys and a lack of clarity on what the option concept would entail.

8.6.7 Appraisal Summary and Recommendations

Table 8.35: Placemaking – Living Streets Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• This package would provide positive impacts across the majority of the TPOs. In particular, it would provide a major positive impact in terms of ensuring the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy. • In terms of the STAG criteria, this package would promote moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the draft NPF4. • The extent of feasibility risk for options in the Placemaking – Living Streets package range between low and medium. Options have been classified as a medium risk for a number of factors such as cross-sectional width constraints and impacts they would have for different road users. Options classified as having a low risk to overall implementability have minor impacts such as upgrading existing features within the study area. • The affordability risks associated with the options within this package vary between low, medium, and high. The highest risk has been identified as the proposal to implement a shared use path along Victoria Street. Despite being assessed as feasible, the variability of the existing road corridor along Victoria Street presents a number of constraints which may present a financial burden.

Appraisal Summary and Recommendations:	
	• More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, this option concept received a mixed response with some welcoming improvements in the centre of Dyce, which could make it more attractive, helping encourage active travel and fostering greater community spirit. However, there were concerns raised about access to properties, impact on cross-Dyce journeys and a lack of clarity on what the option concept would entail.
Recommendations:	It is recommended that all options under consideration as part of this package are progressed for further assessment.

8.7 Placemaking – Complementary Measures Appraisal

8.7.1 Overview

Table 8.36: Placemaking – Complementary Measures Overview

Placemaking – Complementary Measures Package	
Package Description	A series of supporting placemaking measures such as village greens, landmarks and gateway signage within Dyce could help to recognise the area as a community by encouraging a reduction of vehicle speeds, providing areas for residents to socialise and highlighting local areas of significance.
Package Components	The Placemaking – Complementary Measures package comprises a series of potential improvements, as set out below: • AT21: Implement cycle parking at key trip attractors in the study area • AT23: Implement a bike hire scheme within Dyce • AT42: Review access to the F&B Way from within Dyce • AT68: Conduct a review of wayfinding signage throughout the study area • O24: Implement electric vehicle charging points at key locations within Dyce
Cost Band	Cost estimates for each of the individual options included in this package have not been carried out at the current stage of the study. As a result, cost bands have been created to offer a preliminary range for the options within the package. Further costing work on each of the individual options will be carried out during a later stage of the study which will then provide an overall costing for the package. The cost bands are as follows: • **Low cost =** <£250,000; • **Medium cost =** £250,000 - £2,000,000; and • **High cost =** £2,000,000+. The cost of delivering the options in this package ranges between the low and medium cost bands. The highest costing option is the proposal to introduce electric vehicle charging points at key locations throughout Dyce. Further stakeholder engagement will identify the quantity of charging points to be installed, allowing a more precise cost estimate to be obtained at a later stage.

8.7.2 Context

Table 8.37: Placemaking – Complementary Measures Context

Context:	
Problems & Opportunities	This package could help to address the following problem and opportunity themes identified at the Case for Change stage of the study (see **Chapter 4**): • **Active Travel Infrastructure –** Options contained within this package include those to address the lack of quality supporting cycling infrastructure. • **Policy Context –** Aligns with national, regional and local transport policy to support more trips to be undertaken by sustainable modes of travel. • **Funding –** Opportunity to take advantage of Scottish Government funding for active travel infrastructure.

Context:	
	• **20-minute Neighbourhood** – Package would apply placemaking principle associated with '20-minute Neighbourhoods' to capitalise on the walkability of Dyce.
Interdependencies	This package has potential overlap with other option packages being considered through this study, most notably the 'Placemaking – Living Streets' package. There is also significant crossover between this package and the three Active Travel package as all packages aim to improve active travel provision and facilitate modal shift to active travel.

8.7.3 Transport Planning Objectives

Table 8.38: Placemaking – Complementary Measures TPO Appraisal

Transport Planning Objectives:		
TPO1: Increase the modal share of walking on the A947 corridor for all journey types	+1	It would be anticipated that this package would have a minor positive impact against TPO1. Improving access to the F&B Way has the potential to increase walking trips for a variety of journey types.
TPO2: Increase the modal share of cycling on the A947 corridor for all journey types	+2	It would be anticipated that this package would have a moderate positive impact against TPO2. The package proposes measures to increase accessibility of cycling such as cycle parking and a bike hire scheme as well as reviewing access to the F&B Way and wayfinding signage in the study area.
TPO3: Increase the modal share of public transport on the A947 corridor for all journey types	0	It would not be anticipated that this package would impact the mode share of public transport in the study area and therefore this package has been assessed to have a neutral impact on TPO3.
TPO4: Improve east-west connectivity within Dyce to enhance walkability within the local area and promote improved accessibility for local movements	+1	This package would be anticipated to have a minor positive impact against TPO4. The implementation of wayfinding signage would promote improved accessibility for local movements. The implementation of cycle parking and a bike hire scheme would also provide greater incentives for those who live in Dyce to access local facilities by cycling.
TPO5: Improve accessibility to the key transport hubs of Dyce Rail Station, Aberdeen Airport and Craibstone Park and Ride and key destinations including TECA by non-car modes	+2	This package would be anticipated to have a moderate positive impact against TPO5. It would provide cycle parking at key trip attractors, improving the accessibility of the sites for cyclists. Wayfinding signage will also aid accessibility to key destinations close to the study area. Electric vehicle charging points will also encourage more sustainable vehicular access to these sites.
TPO6: Ensure the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy	0	The options proposed in this package would have a limited impact on this TPO overall but may complement aspects of the Placemaking – Living Streets package, which performs strongly against this objective.

8.7.4 STAG Criteria

Table 8.39: Placemaking – Complementary Measures STAG Criteria Appraisal

STAG Criteria:		
Environment	0	Overall, it is not anticipated that the options contained within this package would have a significant impact against the Environment Criterion.
Climate Change	0	**Greenhouse Gas Emissions** – It is considered that the options contained within this package, if implemented in combination, could generate modal shift towards active travel and, as a result, would lead to a minor reduction in greenhouse gas emissions. EV charging facilities at key locations within Dyce would also enable journeys to be shifted from fossil fuel powered private cars, to battery powered electric. On this basis, the Placemaking – Complementary Measures package has been

STAG Criteria:		
		assessed as providing a minor positive impact against the Greenhouse Gas Emissions sub-criterion. **Vulnerability to the Effects of Climate Change** – There is high likelihood of flooding (10% chance of flooding) along a number of the River Don's tributaries which intersect with the A947 namely Far Burn, which is centrally located and runs west-east crossing Victoria Street. Elements of the proposals within the Placemaking – Complementary Measures package are therefore vulnerable to the effects of climate change in respect of increased flood risk. **Potential to Adapt to the Effects of Climate Change** – The measures proposed within the Placemaking – Complementary Measures package are anticipated to have a neutral impact on the Potential to Adapt to the Effects of Climate Change sub-criterion.
Health, Safety and Wellbeing	+2	**Accidents** – By encouraging and facilitating more active travel trips to be undertaken, safety benefits would be anticipated due to the 'safety in numbers' effect. This principle suggests an inverse relationship between the number of active travel trips and rate of accidents i.e. more pedestrians and cyclists results in safer walking and cycling. **Security** – It would be anticipated that the options included within the Placemaking – Complementary Measures package would result in a minor positive impact on security, due to the implementation of cycle parking facilities at key trip attractors. Additionally, by encouraging and facilitating more active travel trips to be undertaken, natural surveillance will increase; this would have a minor positive impact on personal security. **Health Outcomes** – The Aberdeen City – North: Locality Plan 2021-26 includes the priority to improve the physical health and wellbeing of people. Within this priority are the aims to: • Increase % of people who walk as one mode of travel by 10% by 2023; and • Increase % of people who cycle as one mode of travel by 2% by 2023. The measures contained within the Placemaking – Complementary Measures package which have a focus on enabling and facilitating active travel are anticipated to contribute significantly to the above Physical Health aims for the Aberdeen North area. Therefore, it is anticipated that this package will result in a moderate positive impact on Health Outcomes. **Access to Health and Wellbeing Infrastructure** – It would be anticipated that the options included within the Placemaking – Complementary Measures package would result in improved access to health and wellbeing infrastructure. This would be enabled through reviewing access to assets such as the long-distance F&B Way. **Visual Amenity** – By encouraging and facilitating mode shift from motorised modes of transport, the number of private car trips would be anticipated to reduce and so too would the negative impact on visual amenity, although not to any significant extent.
Economy	+1	**Transport Economic Efficiency** – Active travel schemes which provide enhanced infrastructure have the potential to yield high economic benefits and return good value for money. The measures contained in the Placemaking – Complementary Measures package would be anticipated to generate economic benefits including, but not limited to, improved journey ambience, potentially reduced greenhouse gas emissions, reduced risk of premature death and reduced work absenteeism.

STAG Criteria:		
		Therefore, this package is anticipated to have a minor positive impact on the TEE sub-criterion. **Wider Economic Impacts** – Tourism is a vital part of the Scottish economy. Within this, 'cycle tourism' is a growing sector. The measures contained in the Placemaking – Complementary Measures package, which include reviewing access to the long-distance F&B Way, would be anticipated to result in increased recreational use and in turn increased spending at local retailers / services from recreational users. Therefore, this package is anticipated to have a minor positive impact on the WEI sub-criterion.
Equality and Accessibility	+2	**Public Transport Network Coverage** – The measures proposed in the Placemaking – Complementary Measures package do not directly impact public transport network coverage. On this basis, this package is anticipated to have a neutral impact on this sub-criterion. **Active Travel Network Coverage** – The measures included in the Placemaking – Complementary Measures package including the implementation of cycle parking facilities at key trip attractors in the study area and a bike hire scheme within Dyce are anticipated to result in a moderate positive impact on Active Travel Network Coverage. **Comparative Access by People Group** – The population profile of the study area has a lower proportion of working age people (62%) compared to Aberdeen City (64%), and a higher proportion of people aged 65 and over (22% and 16% respectively). For the working age majority of the local population, the measures contained within the Placemaking – Complementary Measures package will enable improved active travel accessibility to local employment opportunities within Dyce. For the over 65 population, the measures will enhance accessibility of key local services. It is anticipated therefore that this package would provide a moderate positive impact in terms of Comparative Access by Geographic Location. **Comparative Access by Geographic Location** – A combined 89% of data zones in the study area are identified to be at medium risk (65%) or high risk (24%) of transport poverty. The measures contained in the Placemaking – Complementary Measures package which have a focus on enabling and facilitating active travel would be anticipated to provide suitable active travel options for predominantly local trips, as an alternative to motorised transport. This package is therefore anticipated to have a minor positive impact on Comparative Access by Geographic Location. **Affordability** – With no cost payable by the individual, walking and wheeling are the most equitable forms of transport. The cost barrier to cycling is also significantly lower than for private motor vehicles. The measures contained within the Placemaking – Complementary Measures package which have a focus on enabling and facilitating active travel are therefore anticipated to result in a minor positive impact in terms of Affordability.

8.7.5 Established Policy Objectives

Table 8.40: Placemaking – Complementary Measures Established Policy Objectives

Established Policy Objectives
This package aligns with the following areas of local, regional and national policy: • **Local Transport Strategies** – the Aberdeenshire Local Transport Strategy (2012) and Aberdeen City Local Transport Strategy (2016-2021) aim to reduce non-sustainable journeys, increase the modal share of active travel and make travel more effective.

Established Policy Objectives
• **Nestrans Regional Transport Strategy 2040** – supports a number of the key priorities contained in the RTS 2040 including reduced carbon emissions to support net zero; a step change in public transport and active travel enabling a 50:50 mode split; air quality that is cleaner than World Health Organisation standards for emissions from transport; and zero fatalities on the road network. • **National Transport Strategy** – supports the vision of the NTS2 of a sustainable, inclusive, safe and accessible transport system which helps to deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The NTS2 also 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. Furthermore, the NTS Delivery Plan sets out a commitment to develop and implement a coordinated package of policy interventions to support the reduction of car kilometres by 20% by 2030. • **National Planning Framework** – strongly aligns with the draft NPF4, which promotes the concept of 20-minute neighbourhoods and the adoption of the Place Principle.

8.7.6 Deliverability

Table 8.41: Placemaking – Complementary Measures Deliverability Criteria Appraisal

Deliverability		
Feasibility	Medium risk	The extent of feasibility risk for the options in the Placemaking – Complementary Measures package is low to medium. The low-risk options involve improvements to existing features within the study area which are considered achievable. The medium-risk options focus on the implementation of new schemes and infrastructure throughout the A947 study area. The risk to delivering these options is higher due to the wider stakeholder engagement required to deliver them. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of feasibility to be undertaken.
Affordability	Medium risk	The extent of affordability risk in this package varies from low to medium. Similar to feasibility, the options with a low affordability risk involve upgrades to existing locations/features within Dyce. Classification of the medium-risk options is due to the introduction of new infrastructure or schemes. Further detail on individual options is provided in the *Option Generation, Sifting & Development Technical Note* included in **Appendix C**. In addition, more detailed appraisal will enable further assessment of affordability to be undertaken.
Public Acceptability	Low risk	There was support for better cycle parking at key trip attractors during consultation. As noted in the Placemaking – Living Streets package appraisal, there was generally strong support for making the centre of Dyce more attractive and easier to access by active travel, which the measures in this package would support.

8.7.7 Appraisal Summary and Recommendations

Table 8.42: Placemaking – Complementary Measures Appraisal Summary and Recommendations

Appraisal Summary and Recommendations:	
Summary:	• This package would provide positive impacts across the majority of the TPOs. In particular, it would provide a moderate positive impact on increasing the modal share of cycling and improving accessibility to key transport hubs and key destinations by non-car modes.

Appraisal Summary and Recommendations:	
	• In terms of the STAG criteria, this package would promote moderate positive impacts in terms of Health, Safety and Wellbeing and Equality and Accessibility. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the draft NPF4. • The extent of feasibility risk for the options in the Placemaking – Complementary Measures package is low to medium. The low-risk options involve improvements to existing features within the study area which are considered achievable. The medium-risk options focus on the implementation of new schemes and infrastructure throughout the A947 study area. The risk to delivering these options is higher due to the wider stakeholder engagement required to deliver them. • The extent of affordability risk in this package varies from low to medium. Similar to feasibility, the options with a low affordability risk involve upgrades to existing locations/features within Dyce. Classification of the medium-risk options is due to the introduction of new infrastructure or schemes. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • There was support for better cycle parking at key trip attractors during consultation. As noted in the Placemaking – Living Streets package appraisal, there was generally strong support for making the centre of Dyce more attractive and easier to access by active travel.
Recommendations:	It is recommended that all options under consideration as part of this package are progressed for further assessment.

8.8 Identification of 'Quick Wins'

As study options have been developed, and packages assembled, it has become clear that there are several options which, if brought forward for early implementation, could offer ACC 'quick win' opportunities on the corridor that complement the overall aims and objectives of the study. These options are shown in the table below.

Table 8.43: 'Quick Win' Opportunities on the Corridor

Active Travel – Strategic Routes	
AT1	Provide protected junction for active travel users at the A947/A90 slip road junction
AT2	Improve visibility for cyclists at the B977/A90 slip road roundabout
AT10	Widen on-road advisory cycle lane on Riverview Drive
AT11	Implement missing sections of on-road advisory cycle lane on Riverview Drive
AT12	Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction
AT28	Implement dropped kerbs for cyclists to transfer between the carriageway and pavement at the northbound bus stop on the A947, north of the River Don
Active Travel – Quiet Route Measures	
AT7	Review signals at Forrit Burn Road bus gate to allow cyclists access
AT37	Implement dropped kerbs between Wellheads Drive shared use path and the carriageway
AT38	Review access restrictions on Market Street to allow for cargo bikes and recumbent cycles
AT39	Remove access controls on off-road path between Waterton Road and Ruthriehill Road
Public Transport – Priority Interventions	
AT22	Promote Craibstone Park & Ride as a Park & Pedal facility
Placemaking – Living Streets	
O1	Increase enforcement of stopping restrictions on Victoria Street, specifically adjacent to Tesco
O12	Implement signage to encourage reverse parking at the shops on Victoria Street
Placemaking – Complementary Measures	
AT21	Implement cycle parking at key trip attractors in the study area

While Options AT10, AT11 and AT12 could be delivered as 'quick wins', on-road cycling infrastructure is not shown to influence modal shift and therefore it is considered that segregated cycling infrastructure should be promoted as

part of this study. However, these options may provide interim opportunities to improve on-road cycling infrastructure in advance of further consideration of segregation in the study area.

A full assessment of the remaining ‘quick win’ options has not been undertaken in the context of the appraisal criteria. However, each of these options would provide support for the TPOs, and, taking into consideration the scope of each of these options, it is considered that there are early opportunities for ACC to progress these measures to delivery. These measures can be progressed in isolation of any more detailed option development beyond this appraisal. However, in due course, these measures would themselves complement any packages or options ultimately delivered following more detailed work.

9. Summary and Next Steps

9.1 Introduction

This study has set out a Scottish Transport Appraisal Guidance (STAG)-based appraisal of options for improving transport connections (particularly public transport and active travel connections) along the A947 corridor between the Aberdeen Western Peripheral Route (AWPR) Parkhill Junction and the A96/A947 Junction. This report has:

- Set out the background context of the study, including the policy, geographic, socio-economic, transport, development, and environmental context for the work;
- Provided an overview of the public and stakeholder engagement exercises that were undertaken as part of this study in Autumn 2021 and Summer 2022;
- Confirmed the problems, issues, constraints and opportunities providing focus for the study;
- Established the TPOs directing the appraisal;
- Set out the process of option generation, sifting, and development; and
- Appraised the developed packages of options in accordance with the TPOs, established policy objectives and STAG and deliverability criteria.

9.2 Appraisal Outcomes: Active Travel – Strategic Routes

The Active Travel – Strategic Routes package includes segregated cycling infrastructure along the A947 between the AWPR Junction and Bucksburn Roundabout (A947/A96 Junction). This would provide a safer cycling environment on the main route through Dyce to help encourage cycling for everyday journeys.

The Active Travel – Strategic Routes appraisal outcomes are as follows:

Table 9.1: Active Travel – Strategic Routes Appraisal Summary

Appraisal Summary: Active Travel – Strategic Routes	
Summary:	• This package would provide positive impacts across the majority of the TPOs, particularly in terms of increasing the modal share of cycling on the A947 corridor for all journey types and ensuring the main routes through the study area function in accordance with their role in the revised Roads Hierarchy. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • The majority of options within this package have been appraised to have low deliverability risk and are considered to be achievable as part of the study, assisting in the improvement of active travel links throughout the study area. The options classified to create a high risk to the Implementability Criteria were some of the corridor-wide active travel improvements within the package. Assessment of these options highlighted that any improvements over the full length would not be achievable due to physical constraints at various points throughout the route. • Options were assessed to have a higher risk in terms of affordability due to factors such as acquisition of third-party land, major earthworks and large infrastructure works. Options which were evaluated as low risk involved minimal works such as updating road markings, vegetation management and new kerbing layouts. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken.

Appraisal Summary: Active Travel – Strategic Routes	
	• Overall, consultation comments were generally supportive of this option concept with many welcoming the proposals to segregate cyclists and vehicles and make it easier for cyclists to navigate existing bottlenecks such as roundabouts and Victoria Street. Emphasis was placed on 'hard' segregation measures with many noting that advisory cycle lanes would not make them feel any safer or encourage modal change. Negative comments received were generally in relation to the cost of implementing the infrastructure.

9.3 Appraisal Outcomes: Active Travel – Leisure Route

The Active Travel – Leisure Route Package is formed of three active travel options with the aim of creating a quality active travel route along the existing Riverside Path which runs close to the River Don.

The Active Travel – Leisure Route appraisal outcomes are as follows:

Table 9.2: Active Travel – Leisure Route Appraisal Summary

Appraisal Summary: Active Travel – Leisure Route	
Summary:	• This package would provide positive impacts across some of the TPOs, with minor positive impacts in terms of increasing the modal share of walking and cycling, and on promoting improved accessibility for local movements. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • Creating an active travel link between the leisure route and nearby housing within Dyce is considered a medium feasibility risk. This is due to the work required and environmental impact caused by formalising existing trails or creating new links along the Riverside Path. The other options within this package focus on upgrades to the surface and lighting of the existing Riverside Path – both are considered feasible. • The active travel improvements were evaluated to have medium to high risk in terms of affordability. The potential volume and complexity of the work involved to deliver the options within this package resulted in this evaluation. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, there was strong support for this option concept during consultation, with widespread support for improved surfacing of the Riverside Path and support for better leisure routes in the wider area. Some environmental concerns were raised regarding lighting provision on the Riverside Path.

It is recommended that all options under consideration as part of this package are progressed for further assessment.

9.4 Appraisal Outcomes: Active Travel – Quiet Route Measures

The Quiet Route Measures Package is a package of options aimed at active travel improvements on routes away from the main A947 and Victoria Street routes around Dyce. The focus of this package is to improve active travel provision on routes away from large volumes of traffic and provide quiet routes which may be more suitable for leisure walking and cycling or cyclists who are less confident to travel adjacent to vehicular traffic.

The Active Travel – Quiet Route Measures appraisal outcomes are as follows:

Table 9.3: Active Travel – Quiet Route Measures Appraisal Summary

Appraisal Summary: Active Travel – Quiet Route Measures	
Summary:	• This package would provide positive impacts across most of the TPOs, particularly in terms of increasing the modal share of walking and cycling. • In terms of the STAG criteria, this package would promote overall moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. Whilst a detailed environmental assessment – forming part of a subsequent detailed STAG-based appraisal of options – would be necessary to gauge the extent of environmental impacts, it is considered that elements of the package will have both positive and negative impacts on the Environment Criterion. The package would have a minor positive impact in terms of supporting greenhouse gas emissions reductions, but elements of the proposals within the package would be vulnerable to the effects of climate change in respect of increased flood risk. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040 and NTS2. • Within this package it is anticipated that the majority of the options included would have a low feasibility risk in terms of their overall implementability. The active travel improvements within the package which present a higher risk are achievable, however, they would require substantial infrastructure interventions. • Many of the active travel improvements which are proposed have a low risk in terms of affordability as they require little financial burden to implement across the study area. However, some of the broader options would require larger scale improvements across the study area and represent potential financial risk as a result. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, this option concept received strong public support during consultation, with many considering it to be a good alternative to Stoneywood Road for cyclists of all abilities and providing a safer route for children. There was general support for making use of existing infrastructure and this was noted to be more cost effective than installing new infrastructure. Concerns were raised around the impact traffic calming measures could have on commercial vehicles, particularly delivery vehicles.

9.5 Appraisal Outcomes: Public Transport – Priority Interventions

The Public Transport – Priority Interventions package contains seven options specifically aimed to increase public transport use within the study area. The package contains options to increase connectivity between the study area and transport hubs and key destinations as well as some options to provide bus priority.

The Active Travel – Public Transport – Priority Interventions appraisal outcomes are as follows:

Table 9.4: Public Transport – Priority Interventions Appraisal Summary

Appraisal Summary: Public Transport – Priority Interventions	
Summary:	• With regards the TPOs, this package would provide positive impacts in terms of increasing public transport modal share and improving accessibility to key transport hubs and key destinations. • In terms of the STAG criteria, this package would promote minor positive impacts across the majority of the criteria. Within the Equality and Accessibility Criterion, this package would have a major positive impact on Public Transport Network Coverage. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the overarching aims of the North East Bus Alliance. • The feasibility of five of the package components have been assessed as high risk, creating concerns about their implementability. These are considered as high risk due to the requirement for wider stakeholder consultation to be carried out and potentially having to be delivered in partnership with public transport operators.

Appraisal Summary: Public Transport – Priority Interventions	
	• All of the improvements included in this package have been identified as a medium risk in terms of affordability as part of the implementability criteria. The options outlined involve extensive reviews and improvements of existing public transport throughout various sections of the study area and may present a financial burden in order to deliver each of the options. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Consultation highlighted existing poor public transport connections between Dyce and Aberdeen International Airport, TECA and Danestone and some respondents stated they would welcome and directly benefit from better public transport links between Dyce, the airport and TECA. Some respondents felt active travel measures should be prioritised over public transport.

It is recommended that all options under consideration as part of this package are progressed for further assessment.

9.6 Appraisal Outcomes: Placemaking – Living Streets

The Placemaking – Living Streets package is formed of 12 options from the active travel and other categories. The focus of this package is to enhance the sense of place within the study area by providing a better environment for active travel, providing better access to key locations by non-car modes and reducing the prominence of private cars in certain places within the study area. This package has a particular focus on Victoria Street given its revised position within the new Roads Hierarchy.

The Placemaking – Living Streets appraisal outcomes are as follows:

Table 9.5: Placemaking – Living Streets Appraisal Summary

Appraisal Summary: Placemaking – Living Streets	
Summary:	• This package would provide positive impacts across the majority of the TPOs. In particular, it would provide a major positive impact in terms of ensuring the main routes through the Study Area function in accordance with their role in the revised Roads Hierarchy. • In terms of the STAG criteria, this package would promote moderate positive impacts in terms of Health, Safety and Wellbeing, Economy and Equality and Accessibility. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the draft NPF4. • The extent of feasibility risk for options in the Placemaking – Living Streets package range between low and medium. Options have been classified as a medium risk for a number of factors such as cross-sectional width constraints and impacts they would have for different road users. Options classified as having a low risk to overall implementability have minor impacts such as upgrading existing features within the study area. • The affordability risks associated with the options within this package vary between low, medium, and high. The highest risk has been identified as the proposal to implement a shared use path along Victoria Street. Despite being assessed as feasible, the variability of the existing road corridor along Victoria Street presents a number of constraints which may present a financial burden. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • Overall, this option concept received a mixed response with some welcoming improvements in the centre of Dyce, which could make it more attractive, helping encourage active travel and fostering greater community spirit. However, there were concerns raised about access to properties, impact on cross-Dyce journeys and a lack of clarity on what the option concept would entail.

It is recommended that all options under consideration as part of this package are progressed for further assessment.

9.7 Appraisal Outcomes: Placemaking – Complementary Measures

The Placemaking – Complementary Measures package contains a series of supporting placemaking measures such as village greens, landmarks and gateway signage within Dyce that could help to recognise the area as a community by encouraging a reduction of vehicle speeds, providing areas for residents to socialise and highlighting local areas of significance.

The Placemaking – Complementary Measures appraisal outcomes are as follows:

Table 9.6: Placemaking – Complementary Measures Appraisal Summary

Appraisal Summary: Placemaking – Complementary Measures	
Summary:	• This package would provide positive impacts across the majority of the TPOs. In particular, it would provide a moderate positive impact on increasing the modal share of cycling and improving accessibility to key transport hubs and key destinations by non-car modes. • In terms of the STAG criteria, this package would promote moderate positive impacts in terms of Health, Safety and Wellbeing and Equality and Accessibility. • The package aligns with the aims of the Aberdeenshire and Aberdeen City Local Transport Strategies, the Nestrans RTS 2040, NTS2 and the draft NPF4. • The extent of feasibility risk for the options in the Placemaking – Complementary Measures package is low to medium. The low-risk options involve improvements to existing features within the study area which are considered achievable. The medium-risk options focus on the implementation of new schemes and infrastructure throughout the A947 study area. The risk to delivering these options is higher due to the wider stakeholder engagement required to deliver them. • The extent of affordability risk in this package varies from low to medium. Similar to feasibility, the options with a low affordability risk involve upgrades to existing locations/features within Dyce. Classification of the medium-risk options is due to the introduction of new infrastructure or schemes. • More detailed appraisal will enable further assessment of feasibility and affordability to be undertaken. • There was support for better cycle parking at key trip attractors during consultation. As noted in the Placemaking – Living Streets package appraisal, there was generally strong support for making the centre of Dyce more attractive and easier to access by active travel.

It is recommended that all options under consideration as part of this package are progressed for further assessment.

9.8 Options Sifted from Further Consideration

Following the appraisal, there are a number of options which are not recommended to progress to more detailed appraisal. The rationale for sifting these options at this stage are as follows:

Active Travel – Strategic Routes Package:

- AT10: Widen on-road advisory cycle lane on Riverview Drive – could form part of a 'quick win' opportunity for ACC. Further detail on this option is set out in **Section 8.8**.
- AT11: Implement missing sections of on-road advisory cycle lane on Riverview Drive – could form part of a 'quick win' opportunity for ACC. Further detail on this option is set out in **Section 8.8**.
- AT12: Widen on-road advisory cycle lane on Stoneywood Road at Stoneywood Park junction – could form part of a 'quick win' opportunity for ACC. Further detail on this option is set out in **Section 8.8**.
- AT57: Implement shared use path on the A947 between AWPR Junction and A947/A96 Junction – it is considered that segregated cycling infrastructure should be promoted as part of this study.
- AT62: Widen the shared use path on the east side of the A947 between the A96 and Beech Manor – it is considered that segregated cycling infrastructure should be promoted as part of this study.
- AT63: Review alignment of the A947 shared use path to the north of the Oldmeldrum Road Junction where the safety barrier constrains the width of the path – it is considered that segregated cycling infrastructure should be promoted as part of this study.

- O17: Reduce the speed limit along the A947 to support active travel improvements – it is not considered appropriate to reduce the speed limit on a priority route in accordance with the Roads Hierarchy.

Active Travel – Quiet Route Measures Package:

- AT67: Widen the shared use path on the west side of Howe Moss Drive – option has limited impact against the TPOs and STAG Criteria.
- O14: Review parking arrangements on Mugiemoss Road – option will be incorporated as part of Option AT65 (Implement streetscape improvements and widened pavements along Mugiemoss Road).

9.9 Next Steps

Going forward, it is noted that the 'quick wins' identified in **Section 8.8** provide early opportunities for ACC to progress these measures to delivery. These measures can be progressed in isolation of any more detailed option development beyond this appraisal. However, in due course, these measures would themselves complement any packages or options ultimately delivered following more detailed work.

In this regard, in order to fully determine those packages (and options within packages) which have the potential for delivery along the corridor, detailed STAG-based appraisal is required, including more detailed design work, to confirm the package(s) that would move forward into an Outline Business Case (OBC) for delivery.

The work undertaken to date provides the foundation for ACC to take the outcomes of this study forward to further level of study. This will ensure a continued consistency in terms of route corridor appraisal in the city, with the Ellon P&R-Garthdee study now moving to OBC stage, with the A96 corridor to follow. In the case of the latter, there will be a need to ensure a consistent approach is taken to OBC preparation in the context of the A947 corridor, mindful of the interrelationship between these two corridors.

aecom.com