
# Ellon P&R to Garthdee Transport Corridor Study: STAG-Based Appraisal

Final Report

Aberdeen City Council

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## Quality information

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# 1. Introduction

## 1.1 Overview

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) from the Park and Ride (P&R) in Ellon, Aberdeenshire to the Garthdee Road corridor in Aberdeen City, and on related public transport routes.

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

## 1.2 Study Area

The study area is the north-south corridor between Ellon in Aberdeenshire and Garthdee in Aberdeen City. The corridor provides access to a range of communities and key destinations. The section marked in red along Union Street and the south of King Street is excluded from consideration as part of this study. This falls within the boundary of the City Centre Masterplan and within the remit of the A944/A9119 transport corridor study.


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 – Operation Generation, Sifting and Development;
- Chapter 7 – Option Appraisal; and
- Chapter 8 – Summary and Next Steps.

The following appendices support the report:

- Appendix A – Problems, Issues, Opportunities and Constraints Technical Note;
- Appendix B – Transport Planning Objectives Technical Note;
- Appendix C – Option Generation, Sifting and Development Technical Note;
- Appendix D – Option Development Drawings;
- Appendix E – Option Schematic Diagrams;
- Appendix F – Bus Priority Review Technical Note; and
- Appendix G – Sustrans Feedback.

# 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, Opportunities and Constraints Technical Note* included in **Appendix A**.

## 2.2 Policy Context

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

### 2.2.1 National

At a national level, Scotland's new **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 an accompanying NTS Delivery Plan, 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. It is noted that the Scottish Government is committed to exploring options around encouraging remote working in order to support this reduction and is committed to developing a Work Local Programme which will work to drive the establishment of 20 minute neighbourhoods. STPR2 involves a whole-Scotland, evidence-based review of the performance of the strategic transport network across all transport modes and will make recommendations 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. The work undertaken to develop Nestrans' Draft 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**[4] 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 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 Bus Partnership Fund was officially launched in November 2020, with funding awarded to eight partnerships in June 2021, including £12m for the North East Bus Alliance.

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**[5] and the national Walking Strategy: **Let's Get Scotland Walking**[6], which aim to increase the levels of walking and cycling as part of everyday journeys and promote the development of well-designed places and infrastructure to encourage walking and cycling. The passing of the **Transport Scotland Act (2019)**[7] 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.

[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] file:///C:/Users/charlie.fuller/Downloads/protecting-scotland-renewing-scotland.pdf
[5] https://www.transport.gov.scot/media/10311/transport-scotland-policy-cycling-action-plan-for-scotland-january-2017.pdf
[6] 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
[7] https://www.legislation.gov.uk/asp/2019/17/enacted

### 2.2.2 Regional

At a regional level, the Nestrans **Regional Transport Strategy (RTS) 2040**[8] sets the long-term vision and direction for transport in the North East for the next 20 years. The key transport priorities within the draft 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; Aberdeen Rapid Transit; and improving the region's bus network, all of which are relevant in the context of this corridor study.

The **Regional Economic Strategy (2018-2023)**[9] supports the RTS and includes objectives associated with the promotion of modal shift and helping to maximise the benefits of improved transport infrastructure. The **Strategic Development Plan (2020)**[10] identifies the Aberdeen to Peterhead corridor and Aberdeen City as two of the region's four Strategic Growth Areas (SGAs), with around 2,000 houses proposed for Ellon to Blackdog over the next 20 years and nearly 14,000 houses proposed within Aberdeen City over the same time period. A determining factor in identifying SGAs is their good communication links, including road connections, and other public transport. These areas are the main focus for development, with 75% of all homes built and employment land developed to take place within them. Both the **Aberdeenshire Proposed Local Development Plan (2020)**[11] and the **Aberdeen City Proposed Local Development Plan (2020)**[12] identify opportunities for significant development within the study area. The **Nestrans Active Travel Action Plan (2014-2035)**[13] identifies the Aberdeen to Peterhead and Fraserburgh corridor as one of several strategic active travel corridors in the region, with the section between Aberdeen and Ellon identified as a priority area.

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**[14] (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 Bains 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**[15] setting out the priority actions of the partners over the next five years. The Ellon to Garthdee corridor is identified as a priority corridor for the Bus Alliance and First Bus recently commissioned a study to consider problems for buses along the Aberdeen City section of this corridor.

### 2.2.3 Local

Locally, both the **Aberdeenshire Local Transport Strategy (2012)**[16] and **Aberdeen City Local Transport Strategy (2016-2021)**[17] aim to reduce non-sustainable journeys, increase the modal share of public transport and active travel and make travel more effective. The **Sustainable Urban Mobility Plan (2019)**[18] 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 Aberdeen Western Peripheral Route (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. The **Aberdeen City Centre Masterplan (2015)**[19] (CCMP) aims to create a vibrant city centre, identifying 49 development and infrastructure projects to support this. A new **Roads Hierarchy for the North East**[20] (as shown in **Figure 2.1**) 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

[8] https://www.nestrans.org.uk/wp-content/uploads/2021/03/Nestrans-RTS-Final-Submitted.pdf
[9] https://investaberdeen.co.uk/images/uploads/RES%20Action%20Plan%202018-2023%20FINAL.pdf
[10] http://publications.aberdeenshire.gov.uk/dataset/b5991364-41ff-4827-b5d4-06aa48c0616a/resource/27bcc9ff-8b5f-4dc3-b322-519f9800ac2c/download/abdnandshirestrategicdevplanfinal2020.pdf
[11] https://www.arcgis.com/apps/MapJournal/index.html?appid=0b6df3fd06024c798c89138dce7a6a7e
[12] https://www.aberdeencity.gov.uk/sites/default/files/2020-05/Proposed%20Aberdeen%20Local%20Development%20Plan%202020.pdf
[13] https://www.nestrans.org.uk/wp-content/uploads/2017/02/AcTrAP_FINAL.pdf
[14] https://www.nestrans.org.uk/wp-content/uploads/2017/09/5b_App-A-Region-Wide-QP-Agreement.pdf
[15] https://www.nestrans.org.uk/wp-content/uploads/2020/04/Bus-Action-Plan-Published_April-2020.pdf
[16] https://www.aberdeenshire.gov.uk/media/2374/2012finallts.pdf
[17] https://www.aberdeencity.gov.uk/sites/default/files/Local%20Transport%20Strategy%20%282016-2021%29.pdf
[18] https://consultation.aberdeencity.gov.uk/planning/sump/supporting_documents/Draft%20Sustainable%20Urban%20Mobility%20Plan.pdf
[19] https://www.aberdeencity.gov.uk/sites/default/files/2018-06/Aberdeen%20City%20Centre%20Masterplan%20and%20Delivery%20Programme.pdf
[20] https://www.nestrans.org.uk/wp-content/uploads/2019/06/North-East-Scotland-Roads-Hierarchy-Study-2019.pdf

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**[21] and in March 2021, ACC published its **Climate Change Plan 2021-2025**[22] to outline its ambitions and support progress with public sector climate duties. Additionally, ACC has recently consulted on draft options for a **Low Emission Zone**[23] in Aberdeen and an updated **Active Travel Action Plan** for 2021-2026[24]. A preferred option for Aberdeen's LEZ has been identified, which includes a section of King Street to the south of the junction with West North Street; East North Street, Commerce Street and Virginia Street immediately to the east of the study corridor; Union Street, which provides a connection between two sections of the study corridor; and a section of Holburn Street to the north of the A93.

The policy review presented above enables a number of themes to be identified, including support for more trips to be undertaken using sustainable modes of travel and the requirement for infrastructure to keep pace with development. The key focus of this study, on developing options for improving public transport and active travel connections along the Ellon to Garthdee corridor, strongly aligns with the local, regional, and national policy context.

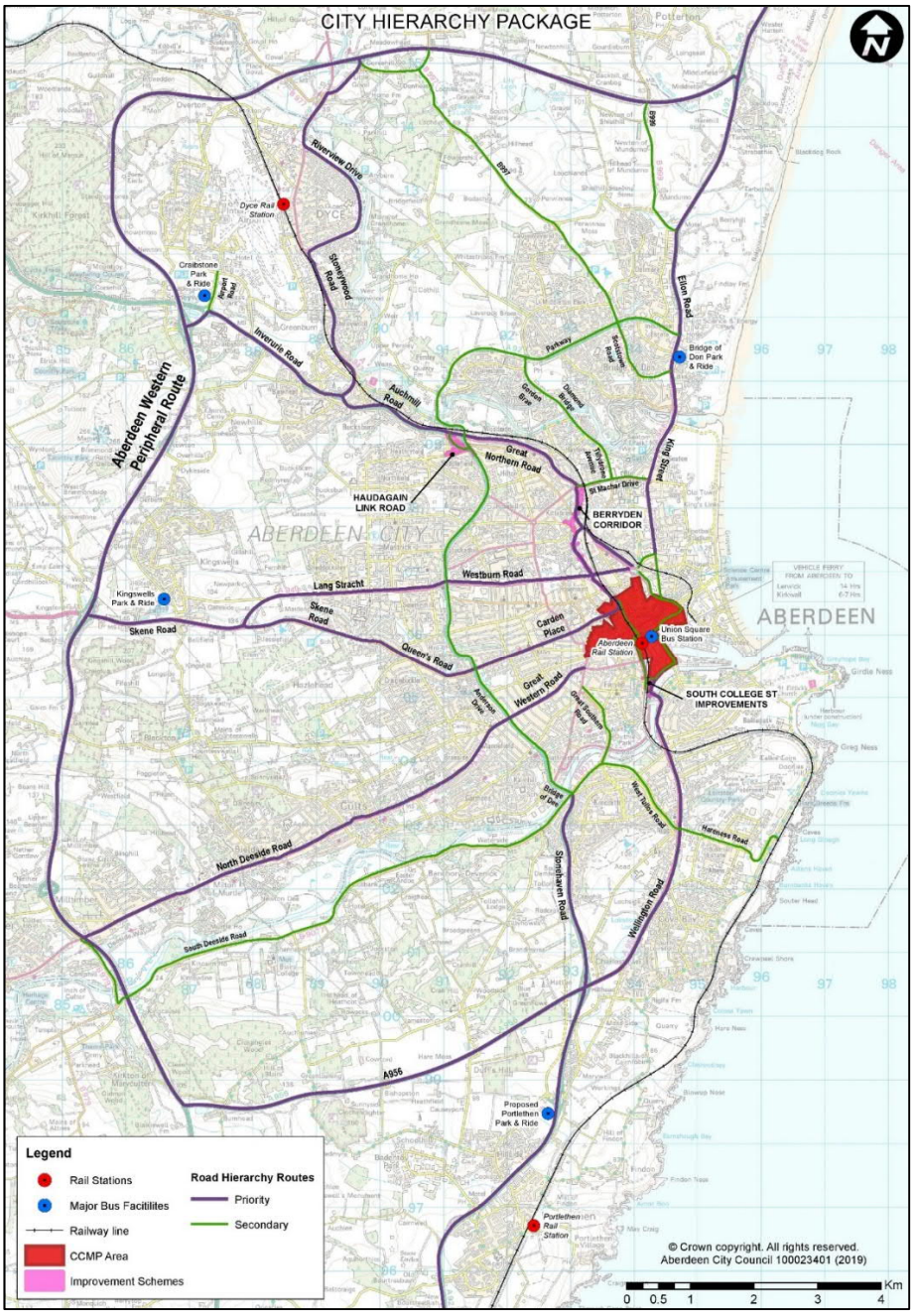


**Figure 2.1: ACC Adopted Roads Hierarchy (June 2020)**

[21] https://committees.aberdeencity.gov.uk/documents/s109162/Appendix%201%20-%20Aberdeen%20Energy%20Transition%20Vision.pdf
[22] https://data.climateemergency.uk/media/data/plans/aberdeen-city-council-23971ac.pdf
[23] https://www.aberdeencity.gov.uk/sites/default/files/2021-06/Proposal%20to%20make%20a%20LEZ%20Scheme.pdf
[24] https://consultation.aberdeencity.gov.uk/place/draft-active-travel-action-plan-consultation/

## 2.3 Geographic Context

The study area encompasses the north-south corridor between Ellon in Aberdeenshire and Garthdee in Aberdeen City. This is a long corridor that is varied in terms of its characteristics, ranging from accessible rural areas within Aberdeenshire to dense urban areas within the city. Within Aberdeen City, there are a number of key destinations that the corridor provides access to including the Beach Esplanade, University of Aberdeen, the city centre and Robert Gordon University (RGU).

An overview of the key settlements located along the corridor are summarised as follows, with population figures based on the National Records of Scotland[25]:

- **Ellon** is situated approximately 16 miles to the north of Aberdeen and is the service centre for Aberdeenshire Council's Formartine administrative area. It had an estimated population of 10,107 in 2019. The town is located to the west of the A90 trunk road, which is the principal road link to the town from Aberdeen. Following the opening of the AWPR/B-T, the route is now comprised of dual carriageway between Aberdeen and Ellon. Other principal road links in the area include the A948 and A920, providing connections to New Deer and Oldmeldrum/Inverurie. Ellon is not served by the rail network but is a strategically important centre for bus routes, with a bus interchange point at Market Street and a P&R site located in the east of the town, adjacent to the A90. There are three primary schools in Ellon and one secondary school – Ellon Academy.
- **Newburgh** is situated approximately 13 miles to the north of Aberdeen, and it had an estimated population of 1,645 in 2019. The village is located to the east of the A90 trunk road, which is the principal road link to the settlement from Aberdeen. Other principal road links in the area include the B9000 and A975, providing connections to Pitmedden and Cruden Bay. There is one primary school located within the village, with the village being within the catchment area of Ellon Academy.
- **Foveran** is situated approximately 12 miles to the north of Aberdeen, and it had an estimated population of 716 in 2019. The village is located immediately to the west of the A90 trunk road, which is the principal road link to the settlement from Aberdeen. Prior to the opening of the AWPR/B-T, access to the settlement was taken directly from the A90 trunk road; access is now provided via a link road. There is one primary school located within the village, with the village being within the catchment area of Ellon Academy.
- **Balmedie** is situated approximately 8 miles to the north of Aberdeen, and it had an estimated population of 2,528 in 2019. The village is located immediately to the east of the A90 trunk road, which is the principal road link to the village from Aberdeen. The improved connection between Balmedie and Tipperty (delivered as part of the AWPR scheme) opened to traffic in August 2018 and includes a new grade separated junction serving Balmedie at the south end of the village. There is one primary school located within Balmedie, with the settlement located within the catchment area of Bridge of Don Academy (in the Aberdeen City boundary).
- **Bridge of Don** is situated approximately 4 miles to the north of the city centre, within the Aberdeen City boundary, and it had an estimated population of 19,341 in 2019. It lies adjacent to the A92; the former trunk road route through the city and Ellon Road, which is the principal road link to the city centre. There is a bus-based P&R site located to the east of Ellon Road, however, limited services operate via this interchange. Whilst the bridge over the River Don has historically been a pinch-point in the transport network, congestion at this crossing has been alleviated in recent years through the opening of the Diamond Bridge and the AWPR. The bridge connects the north of Aberdeen to the city centre along King Street, bypassing the community of Seaton; which is close to the University of Aberdeen. There are several schools within Bridge of Don, including two secondary schools – Oldmachar Academy and Bridge of Don Academy. There are 8 primary schools that form part of the Associated School Group for these secondary schools.
- **Garthdee** is situated approximately 4 miles to the south of the city centre, within the Aberdeen City boundary, and it had an estimated population of 5,581 in 2019. The community lies to the north of the River Dee and to the west of the A92; the former trunk road route through the city. The bridge over the River Dee has historically been a pinch-point in the transport network, although the opening of the AWPR has alleviated congestion issues to an extent at this location. There is one primary school within Garthdee, with pupils at Kaimhill Primary associated with Harlaw Academy for secondary education. Garthdee is additionally the location of RGU, with the campus located to the south of Garthdee Road. Garthdee is an important retail centre, with a number of large stores situated along Garthdee Road, including Asda, Sainsbury's, B&Q, Boots and Currys PC World.

[25] National Records of Scotland Small Area Population Estimates

## 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: Key Findings from Socio-Economic Review**

| | Key Findings |
|---|---|
| **Population** | • There has been an increase in the population of the majority of the key settlements between 2001 and 2019. Population increase was particularly notable in Balmedie (53% increase).<br>• Bridge of Don was the only settlement along the corridor that saw a population decline between 2001 and 2019 (-2%), though it remains the most populous area along the corridor and has experienced population growth since 2011.<br>• 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** | • Balmedie has a relatively young population with only 13% aged 65 and older (Aberdeenshire average of 20%) and with 23% aged 15 and under (Aberdeenshire average of 19%).<br>• Bridge of Don has a relatively small proportion of working age population and high retired population relative to the averages for Aberdeen City, with 63% of working age (compared to 69% for Aberdeen City) and 20% aged 65 and over (compared to 16% for Aberdeen City). |
| **Employment** | • Economic activity is high within the study area. With the exception of Garthdee (which is in line with the national average), all settlements within the study area have a higher rate of economic activity than the averages for Aberdeen City (73%), Aberdeenshire (75%) and Scotland (69%).<br>• Unemployment rates are low within the study area. Unemployment rates in Ellon, Newburgh and Foveran are in line with the Aberdeenshire average of 3%, whilst Balmedie is slightly lower at 2%. Unemployment rates in Bridge of Don (2%) are below the Aberdeen City average of 4%, whilst Garthdee is above the Aberdeen City average. The unemployment rate in Garthdee remains below the national average of 7%. |
| **Car/Van Availability** | • There is very high car/van availability in each of the key settlements within the Aberdeenshire section of the corridor relative to the national average of 69%. It is particularly high in Foveran (97%), Newburgh (93%) and Balmedie (93%); car/van availability in Ellon is 86%, which is in line with the average for Aberdeenshire.<br>• Car/van availability in Aberdeen City is in line with the national average of 69%. Car/van availability in Bridge of Don is significantly higher than this, with 86% of households in the area with access to at least one vehicle. Car/van availability in Garthdee is lower than the average for Aberdeen City, with 62% of households in the area with access to at least one vehicle. |
| **Distance Travelled to Work** | • The Aberdeenshire settlements within the study corridor have relatively small proportions of residents making trips to work under 10km (between 20% and 34%). This is lower than the Aberdeenshire average of 43%.<br>• The majority of those living in Bridge of Don (82%) and Garthdee (83%) travel less than 10km for work, significantly above the national average of 62% and in line with the average for Aberdeen City (82%). This reflects the proximity of the communities to the city centre and the employment opportunities available within the respective communities themselves. |
| **SIMD** | • There are three data zones ranked amongst the 20% most deprived in Scotland according to the 2020 SIMD figures. These are concentrated to the east of King Street within Seaton.<br>• There is a notable split between SIMD deciles in Garthdee and the area to the north of Broomhill Road, whereby the majority of data zones to the north are within the 20% least deprived in Scotland compared to no data zones within this category in Garthdee. |
| **Transport Poverty** | • Between Ellon and Aberdeen, communities are generally identified to be at medium risk of transport poverty. This is with the exception of some of the western part of Ellon, the Tipperty area between Ellon and Foveran and the eastern side of Balmedie, which are all identified to be at high risk of transport poverty.<br>• Within Aberdeen City, the majority of data zones within Bridge of Don are identified to be at medium risk of transport poverty, though some of the data zones closest to the study corridor are identified as low risk and two are identified as high risk. There is low risk of transport poverty along King Street and along the northern section of Holburn Street. Within Garthdee, there is varied risk of transport poverty. |
| **Health & Physical Activity** | • General health is shown to be relatively good in the study area, with between 88% and 91% reporting very good or good health across Ellon, Newburgh, Foveran, Balmedie and Bridge of Don. This is higher than both the average for Aberdeen City (85%) and Aberdeenshire (86%).<br>• General health in Garthdee is shown to be in line with the average for Scotland, with a smaller proportion indicating very good or good health (81%). |

## 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

**Existing Active Travel Infrastructure**

There is no dedicated, continuous cycle infrastructure within the Aberdeenshire section of the study corridor between Ellon and Balmedie. Aberdeenshire Council has aspirations to develop a strategic cycle route between Ellon and Balmedie, with initial feasibility work having been undertaken. Within the Aberdeen City section of the corridor, there is a range of existing cycle infrastructure, as shown below.


Figure 2.2: Existing Active Travel Infrastructure

### Active Travel Counts

There are a number of active travel counters located on or in close proximity to the study corridor – four within Aberdeen City and two in Ellon. Analysis of the active travel counters has been undertaken, with the total counts presented in Table 2.2. The significant increase in numbers walking and cycling is highly likely to be attributed to the effects of the COVID-19 pandemic and the way in which people travelled throughout 2020.

**Table 2.2: Active Travel Counts (2017-2020)**

| | Active Travel Counts | | | | |
|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | % Change |
| Pedestrians | 295,113 | 284,487 | 343,589 | 544,073 | +84% |
| Cyclists | 80,349 | 95,462 | 92,183 | 167,028 | +108% |

## 2.5.2 Bus Services

### Existing Bus Priority Infrastructure

There is no bus priority infrastructure within the Aberdeenshire section of the study corridor between Ellon and Blackdog, and no bus priority infrastructure to the north of The Parkway Roundabout within Aberdeen City. To the north of The Parkway Roundabout, there is a dedicated lane for those accessing Bridge of Don P&R for approximately 1.1km on approach to the junction, which buses can use. To the south of The Parkway Roundabout, there are various sections of bus priority infrastructure, as demonstrated in the diagram below.

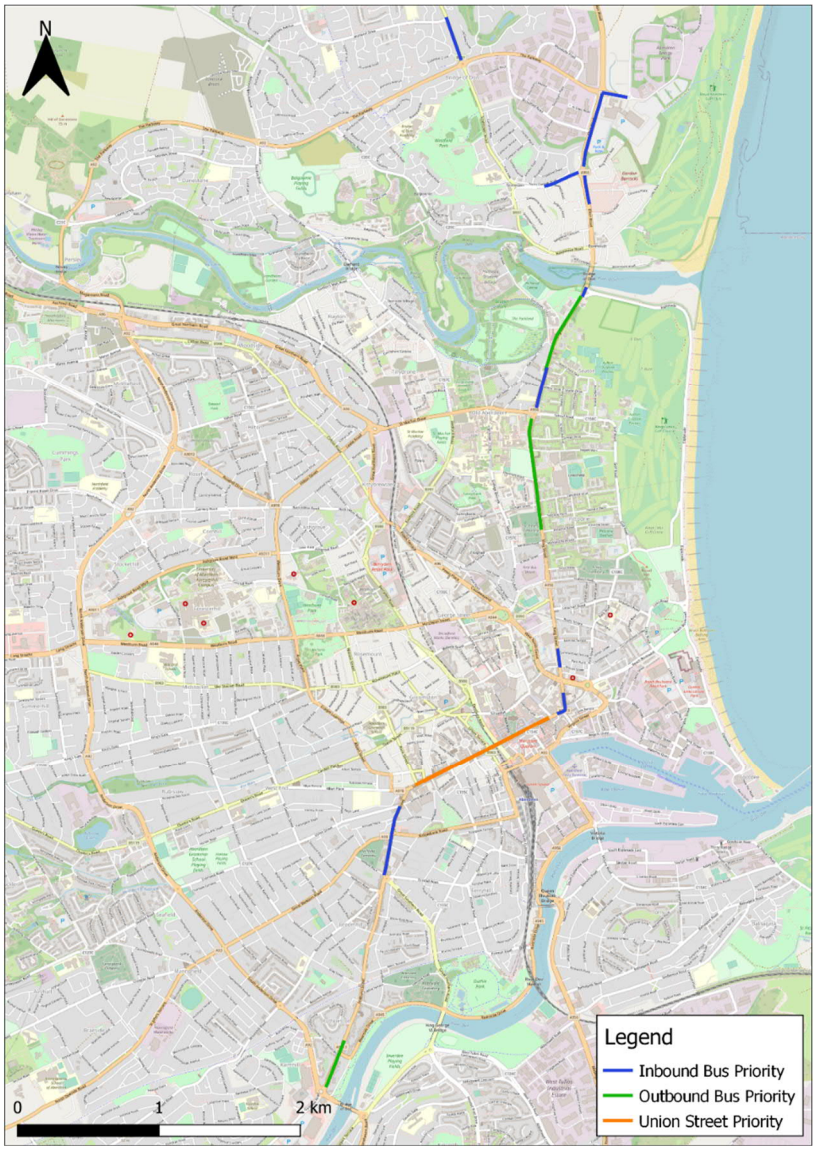


**Figure 2.3: Existing Bus Priority**

### 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. 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 Ellon to Garthdee corridor. Given commercial sensitivities, numbers have been presented as an index. FY2019/20 has been taken as the base year, as shown in **Table 2.3**.

**Table 2.3: Index of Year Patronage on Ellon to Garthdee Corridor (19/20-20/21)**

| Financial Year | Index of Year Patronage on Ellon to Garthdee Corridor | |
|---|---|---|
| | First Bus | Stagecoach |
| 2019/20 (Base Year) | 100 | 100 |
| 2020/21 | 36.9 | 25.4 |

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.

### Bus Journey Time Variability

First Bus commissioned a study to identify corridors on the network most impacted by delay. To quantify traffic delays, vehicle link timings were estimated for each individual hour in a day and then data for the best performing hour was compared against the worst performing hour for each link. The study also considered bus occupancy to identify routes on which the delays were affecting the highest number of passengers. The data was analysed for weekdays only and considered 4th March to 31st March 2019 and 29th May to 26th June 2019. A number of road segments identified in the worst 20 passenger weighted delays are within the study area, as outlined below.

**Table 2.4: Worst Passenger Weighted Delays within the Study Area (March and June 2019)**

| Month | Rank | Road Segment | Time | Passenger Delay (Passenger seconds/metre) | Total Passengers During Hour (Average) |
|---|---|---|---|---|---|
| March | 2 | Castle St. to Constitution St. | 16:00-17:00 | 93.68 | 503.5 |
| March | 3 | Seamount Steps to St Andrew's Cathedral | 08:00-09:00 | 89.21 | 556.6 |
| March | 5 | Mealmarket St. to Castle St. | 08:00-09:00 | 88.69 | 540.9 |
| March | 6 | Castle St. to Mealmarket St. | 16:00-17:00 | 77.65 | 321.8 |
| March | 7 | Constitution St. to St Andrew's Cathedral | 08:00-09:00 | 73.73 | 423.5 |
| March | 11 | Mealmarket St. to Adelphi | 08:00-09:00 | 70.52 | 715.2 |
| March | 13 | Mealmarket St. to St Andrew's Cathedral | 08:00-09:00 | 67.84 | 355.8 |
| June | 8 | Seamount Steps to Adelphi | 14:00-15:00 | 63.87 | 373.3 |
| June | 9 | Castle St. to Constitution St. | 16:00-17:00 | 59.58 | 427.2 |
| June | 10 | Mealmarket St. to Adelphi | 14:00-15:00 | 54.12 | 302.6 |
| June | 11 | Seamount Steps to St Andrew's Cathedral | 11:00-12:00 | 50.09 | 308.7 |
| June | 12 | Castle St. to Mealmarket St. | 16:00-17:00 | 46.41 | 264.1 |
| June | 15 | Nellfield Cemetery to Holburn Junction | 08:00-09:00 | 44.84 | 415.2 |

Based on the data collected during March 2019, the Holburn Street corridor represents 9% of the entire Aberdeen First Bus network delay, King Street represents 13% and Union Street (which connects these two sections of the study corridor) represents 26% of the entire delay. The diagrams that follow show congestion along these corridors based on weighted passenger delay. The worst 20% of congested road segments are shown in red, the next 40% in amber and the least congested 40% in green.


Figure 2.4: Holburn Street Passenger Weighted Delays (March 2019)


Figure 2.5: King Street Passenger Weighted Delays (March 2019)

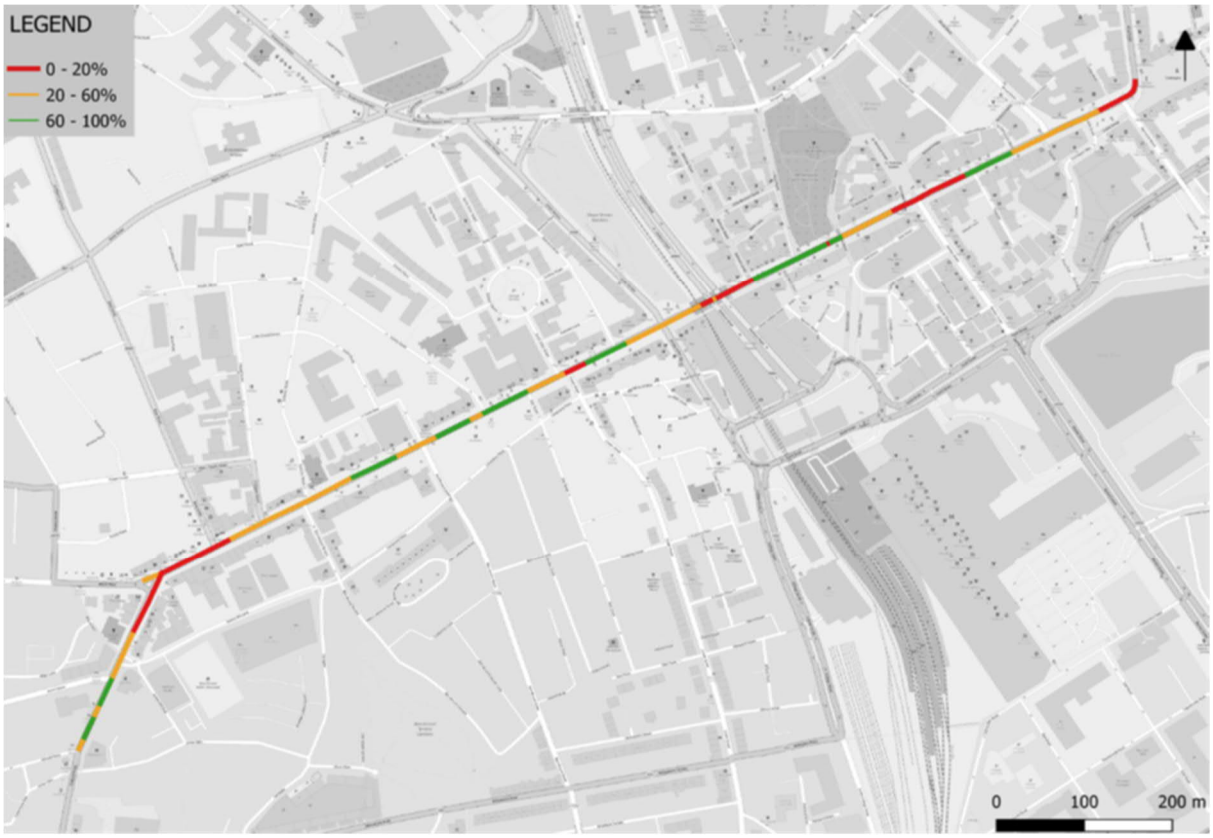


**Figure 2.6: Union Street Passenger Weighted Delays (March 2019)**

For the purposes of the study, average journey time data was provided by Stagecoach for February 2020, which was chosen as a neutral month prior to the impacts on the transport network associated with the COVID-19 pandemic. The data provided by Stagecoach included average journey times by route segment, hour and service for inbound and outbound weekday journeys. To determine delay on the Stagecoach network within the study area, the difference between the fastest pace value and the slowest pace value for each road segment was calculated. Those road segments with the greatest variation are therefore assumed to be the most congested parts of the network.

Based on the analysis undertaken, Table 2.5 below presents the most congested road segments.

**Table 2.5: Worst Vehicle Delays within the Study Area (February 2020)**

| Rank | Road Segment | Time | Vehicle Delay (seconds/metre) |
|---|---|---|---|
| **1** | Music Hall - Langstane Kirk | 18:00-19:00 | 0.206241 |
| **2** | School Drive - Regent Walk | 08:00-09:00 | 0.200166 |
| **3** | Market Street - Riverside Road | 06:00-07:00 | 0.182161 |
| **4** | University Road - Orchard Street | 08:00-09:00 | 0.173689 |
| **5** | Regent Walk - University Road | 08:00-09:00 | 0.16137 |
| **6** | Riverside Road - Craighall Crescent | 06:00-07:00 | 0.160734 |
| **7** | Mary Elmslie Court - Errol Street | 08:00-09:00 | 0.145276 |
| **8** | Linksfield Road - University Road | 07:00-08:00 | 0.144445 |
| **9** | Adelphi - Mealmarket Street | 16:00-17:00 | 0.138805 |
| **10** | Craighall Crescent - Riverside Road | 16:00-17:00 | 0.127616 |
| **11** | St Peter Street - Errol Street | 08:00-09:00 | 0.123819 |
| **12** | Jasmine Terrace - Mary Elmslie Court | 22:00-23:00 | 0.122944 |
| **13** | Errol Street - Urquhart Road | 08:00-09:00 | 0.121812 |
| **14** | St Nicholas Kirk - Union Square Bus Station | 13:00-14:00 | 0.119201 |
| **15** | Langstane Kirk - Music Hall | 09:00-10:00 | 0.115437 |
| **16** | Seaton Place - School Drive | 08:00-09:00 | 0.114962 |

| Rank | Road Segment | Time | Vehicle Delay (seconds/metre) |
|---|---|---|---|
| **17** | Balgownie Road - Donmouth Road | 08:00-09:00 | 0.10736 |
| **18** | Market Street - Deer Park | 10:00-11:00 | 0.10393 |
| **19** | The Meadows Sports - Broomiesburn Road | 12:00-13:00 | 0.095955 |
| **20** | School Drive - St Machar Drive | 15:00-16:00 | 0.092633 |

The diagram below classifies each route segment whereby the worst 20% of congested road segments are shown in red, the next 40% in yellow and the least congested 40% in green.

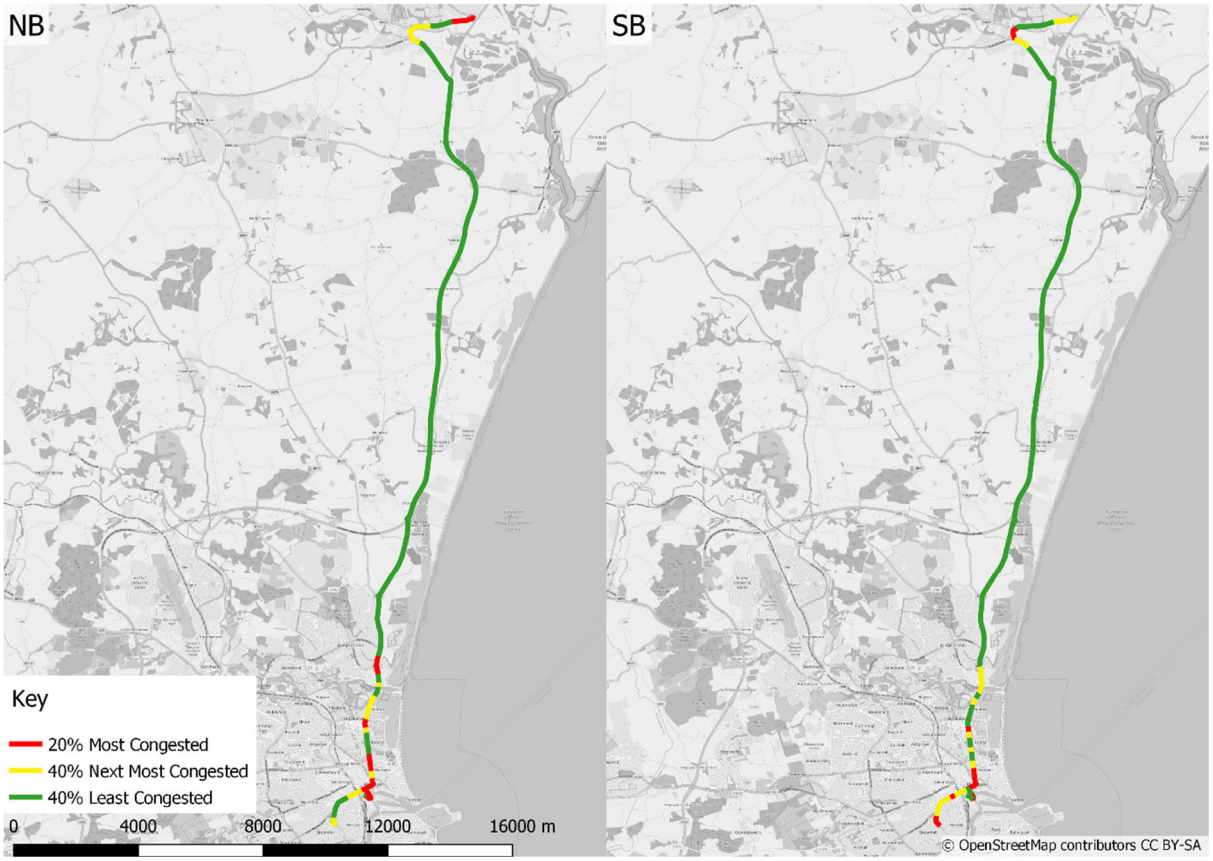


**Figure 2.7: Ellon P&R to Garthdee Study Corridor Delays**

### 2.5.3 Road Network

#### Overview

The study corridor is made up of several road links, including:

- **A90(T)** – connects Edinburgh and Fraserburgh via Perth, Dundee, Stonehaven, the AWPR, Blackdog and Ellon. Following the opening of the AWPR/B-T, the route is dual carriageway between Aberdeen and Ellon and the speed limit is 70mph. BEAR Scotland is responsible for the operation and maintenance of this route.
- **A92** – connects Bridge of Don to Stonehaven via The Parkway, Anderson Drive, Bridge of Dee, Portlethen and Newtonhill. Following the opening of the AWPR/B-T, large sections of this route were detrunked (including the section between The Parkway and Blackdog along the study corridor). ACC is therefore responsible for the operation and maintenance of this section of the corridor. It is a dual carriageway, with a speed limit of 70mph generally, slowing to 40mph on approach to The Parkway junction.
- **A956 (Ellon Road/King Street)** – a local road connecting The Parkway and West North Street. It is more constrained compared to the road network to the north and includes a road bridge over the River Don. The speed limit is 30mph from the approach to North Donside Roundabout to the junction with West North Street. ACC is responsible for the operation and maintenance of this route.
- **Holburn Street** – a local road connecting Union Street to the Bridge of Dee. Within ACC's revised roads hierarchy, Holburn Street has been redesignated from an A-class road to a tertiary route, indicating that it is a local access road that is unsuitable for large volumes of traffic. Holburn Street generally has a 30mph speed

limit, reducing to 20mph on the section between Great Western Road and Union Street. ACC is responsible for the operation and maintenance of this route.

- **Garthdee Road** – local road that connects to the A92 and Holburn Street. It is generally a single carriageway route, widening on approach to some junctions. This route provides access to RGU and has a 30mph speed limit along its length. ACC is responsible for the operation and maintenance of this route.

### Traffic Volumes

Network flow diagrams showing the number of vehicles making specific movements at a number of junctions along the study corridor were produced using information from classified junction turning counts (JTCs) undertaken in May and October 2019. These are shown in Section 5.8.2 of the *Problems, Issues, Opportunities and Constraints Technical Note* included in **Appendix A**.

Additional traffic count information was provided based on Automatic Number Plate Recognition (ANPR) Surveys that were undertaken to support the update of the city centre traffic model. The information provided compared counts from 2017 and 2019 in order to determine the impact that the opening of the AWPR has had on traffic volumes. A summary of the total number of vehicles is shown in the table below.

**Table 2.6: King Street and Holburn Street ANPR Counts (Two-Way AADF)**

| Section | Total | | |
|---|---|---|---|
| | 2017 | 2019 | % Change |
| **King Street** | | | |
| Ellon Road to Parkway | 31287 | 31696 | 1% |
| Parkway to North Donside Road | 31373 | 28433 | -9% |
| North Donside Road to Esplanade | 23360 | 20006 | -14% |
| Esplanade to St Machar Drive | 23360 | 20006 | -14% |
| St Machar Drive to Regent Walk | 20875 | 19347 | -7% |
| Regent Walk to Linksfield Road | 18330 | 18548 | 1% |
| Linksfield Road to Pittodrie Place | 17700 | 17762 | 0% |
| Pittodrie Place to Mounthooly Way | 19230 | 18055 | -6% |
| Mounthooly Way to Roslin Terrace | 13279 | 13140 | -1% |
| Roslin Terrace to West North Street | 11406 | 13139 | 15% |
| West North Street to Castle Street | 15181 | 13876 | -9% |
| **Holburn Street** | | | |
| Holburn Junction | 18558 | 17004 | -8% |
| Holburn Junction to Union Grove | 18818 | 20183 | 7% |
| Union Grove to Ashvale Place | 19962 | 18595 | -7% |
| Ashvale Place to Great Western Road | 19655 | 18200 | -7% |
| Great Western Road to Howburn Place | 16833 | 15276 | -9% |
| Howburn Place to Great Southern Road | 18325 | 16529 | -10% |
| Great Southern Road to Broomhill Road | 21574 | 19197 | -11% |
| Broomhill Road to Abergeldie Terrace | 21574 | 19197 | -11% |
| Abergeldie Terrace to Abergeldie Road | 21574 | 19197 | -11% |
| Abergeldie Road to Bridge of Dee | 21574 | 19197 | -11% |

### Road Safety

Analysis of recent road safety incident information along the study corridor using CrashMap found that three fatal incidents occurred between 2015 and 2019, including one pedestrian on King Street in 2018. The highest number of incidents involving vulnerable users were recorded along King Street and Holburn Street, which reflects the proximity of these areas to the city centre and the resultant higher levels of pedestrian movement. Overall, there were 45 slight incidents and 34 serious incidents recorded along the study corridor between 2015 and 2019.

### 2.5.4 Freight

#### Freight Routes

The diagram below provides an overview of the freight routes along the study corridor.

- The A90(T) between Ellon and Blackdog is a **priority** freight route, which are routes with major freight flows used particularly for accessing and bypassing Aberdeen.
- There is a **primary** freight route between Blackdog and St Machar Drive, which are key freight routes that are suitable for accessing parts of Aberdeen and Aberdeenshire.
- There is a small section of **secondary** freight route at the south of Holburn Street. This forms part of the freight diversion route associated with the width restrictions over the Bridge of Dee. Secondary freight routes should not be used for through freight traffic.
- There are a number of **local** freight routes in close proximity to the study corridor and between St Machar Drive and West North Street on King Street. There is also a small section of local freight route on Garthdee Road to provide access to the retail park in this area. These routes should not be used for through freight traffic.

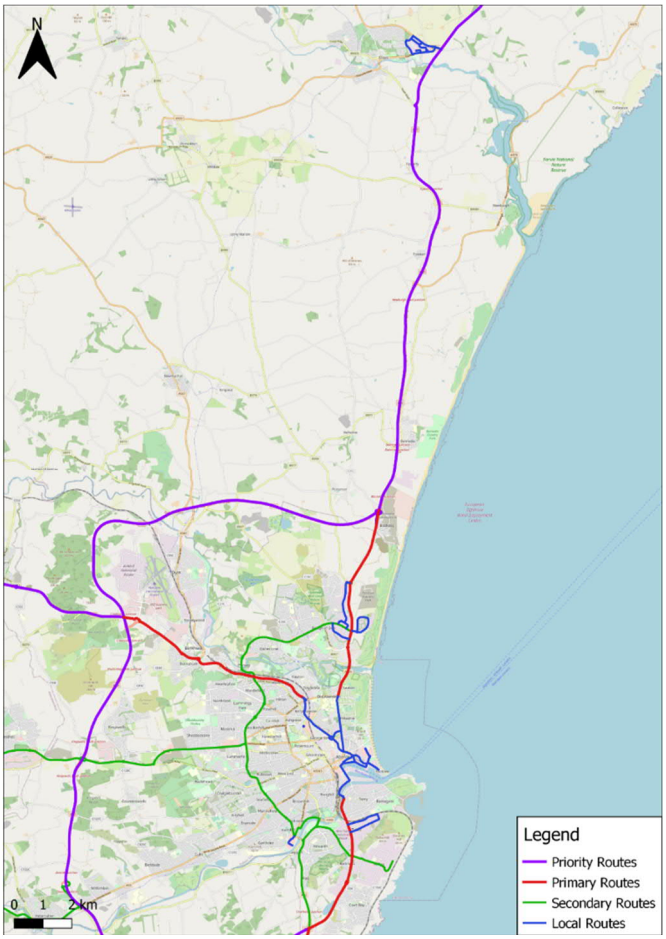


Figure 2.8: Freight Routes

#### Freight Counts

The table below illustrates average daily two-way HGV flows at key points of the road network between 2017 and 2020. It should be noted that counts are based on the last week of January each year and therefore figures for 2020 should be representative of flows prior to the COVID-19 pandemic. It should also be noted that A90 at Tipperty includes flows on the old A90 at Tipperty for 2017-18 and flows on the Balmedie to Tipperty dualling for 2019-20.

Table 2.7: Average Daily Two-Way HGV Flows (Source: Transport Scotland & ACC)

| Location | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|
| A90 at Tipperty | 2,431 | 2,431 | 5,697 | 6,485 |
| A90 Balmedie to Bridge of Don | 1,844 | 1,844 | 4,834 | 5,228 |
| King Street | 2,361 | 2,361 | 2,442 | 1,782 |

As shown, there has been a significant increase in HGV traffic on the A90 between Balmedie and Tipperty (167% increase) and between Balmedie and Bridge of Don (184% increase) over the survey period. This increase reflects the full opening of the AWPR in 2019, including full dualling of the A90 between Aberdeen and Ellon. There has been a 25% decrease in HGV traffic on King Street between 2017 and 2020. Whilst still reflecting a decrease following the opening of the AWPR, the relatively small percentage decrease (compared to Anderson Drive where there has been a 60% decrease) emphasises the continued importance of King Street as a key freight route, for example for access to Aberdeen Harbour.

## 2.6 Planning Context

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

### 2.6.1 Strategic Development Plan

The Aberdeen City and Shire Strategic Development Plan published in 2014 identified four Strategic Growth Areas to be the main focus for development in the area up to 2035. The Strategic Growth Areas included the Aberdeen to Peterhead corridor and Aberdeen City, and these were carried through to the Strategic Development Plan approved in 2020.

Within Aberdeen City, it is noted that tackling road congestion will be a key consideration along with reducing the effect of transport on the environment (including improving air quality), providing safe active travel opportunities and promoting the connectivity of green networks are also noted as key parts of tackling the road congestion.

The Aberdeen to Peterhead Strategic Growth Area includes the Energetica Corridor. The Plan notes that the focus for this area is on developing and diversifying the economy and it emphasises that upgrading the A90 to reduce safety concerns and improve journey times will be key to unlocking the area's potential.

### 2.6.2 Development in Aberdeenshire

Within Aberdeenshire, allocations within the Local Development Plan include proposals for over 3,000 new homes in key settlements along the study corridor (Ellon, Newburgh, Foveran, Balmedie, Potterton and Blackdog). Throughout 2019, an assessment was undertaken in line with Transport Scotland's Development Planning and Management Transport Appraisal Guidance (DPMTAG) to support the preparation of Aberdeenshire Council's Proposed Local Development Plan 2021. Key findings included:

- Completion of the AWPR/B-T has had an unanticipated effect of displacing congestion along the A90 between Balmedie and Tipperty to the two roundabouts that provide access into the south and north of **Ellon**. A southern bypass/distributor road is proposed to mitigate the effect of the OP1 Cromleybank development and it is noted that a number of other mitigation measures are also likely to be required.
- Delivery of development allocations at **Newburgh, Foveran, Balmedie, Potterton** and **Blackdog** are not anticipated to have a notable impact on the strategic transport network, particularly given the additional capacity that now exists on the A90 since the opening of the AWPR.

### 2.6.3 Development in Aberdeen City

Within Aberdeen City, allocations within the Local Development Plan include proposals for over 1,200 new homes along the study corridor as well as proposals for a number of mixed-use developments. One of the most significant developments for the study corridor is the OP2 Cloverhill development to the east of the A92 south of Murcar Roundabout. Planning Permission in Principle has been granted for 550 homes, local retail/community uses and sports facilities.

It proposes a number of changes to the local road network of relevance to this study, including:

- New vehicle junctions providing access to the site along the A92 Ellon Road. The primary access is proposed to be a centrally located signalised junction incorporating toucan crossing facilities at a core path/pedestrian crossing point of the A92 Ellon Road. A secondary access is proposed to the south of the site via a left-in/left-out arrangement.
- An additional toucan crossing to the south of Murcar Roundabout.
- Reduction of the speed limit on A92 Ellon Road from 70mph to 40mph to replicate the character of the A956 Ellon Road to the south of the site.
- Temporary 20mph speed limit on the A92 Ellon Road via the provision of 20mph flashing signs during times that children are travelling to and from school.

In addition, it is understood that various development sites are required to contribute to upgrades at The Parkway Roundabout and Murcar Roundabout. While there was previously a condition on the Berryhill development to deliver improvements at North Donside Road Roundabout, this has been removed following updated traffic analysis that indicated that the existing junction can operate within capacity.

## 2.7 Environmental Context

This section provides an overview of the environmental context of the study area. The numbers presented are based on identified environmental constraints within a 500m buffer zone of the main study corridor.

**Table 2.8: Overview of Environmental Constraints**

| | Listed Buildings | Scheduled Monuments | Local Nature Reserve (LNR) | Ancient Woodland Inventory | Special Area of Conservation | Conservation Areas |
|---|---|---|---|---|---|---|
| **Ellon to Murcar** | 12 | 1 | None | None | None | None |
| **Murcar to Bridge of Don** | 34 | None | Donmouth Local Nature Reserve | 3 | None | 1 Conservation Area: Old Aberdeen/Balgownie |
| **King Street** | 433 | 1 | Donmouth Local Nature Reserve | 2 | None | 2 Conservation Areas: Union Street; Old Aberdeen/Balgownie |
| **Holburn Street** | 422 | None | None | None | River Dee | 7 Conservation Areas: Albyn Place/Rubislaw; Bon Accord Crescent/Crown Street; Ferryhill; Marine Terrace; Great Western Road; Union Street; Rosemount & Westburn |
| **Bridge of Dee to Garthdee** | 18 | 1 | None | 4 | River Dee | 1 Conservation Area: Pitfodels |
| **Total within 500m buffer** | **919** | **3** | **1** | **9** | **1** | **9** |

# 3. Public and Stakeholder Engagement

## 3.1 Introduction

This chapter provides an overview of the public and stakeholder engagement exercise that was undertaken as part of this study. Further detail is provided in the *Problems, Issues, Opportunities and Constraints Technical Note* included in **Appendix A**.

## 3.2 Part 1

To support the identification of problems, issues, constraints and opportunities on the study corridor, a series of targeted consultations with a number of stakeholders were undertaken. The diagram below provides an overview of those providing feedback as part of the study.


**Figure 3.1: Stakeholders Providing Feedback as part of the Study**

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

**Table 3.1: Key Findings from Part 1 Stakeholder Consultation**

| Stakeholder | Key Findings |
|---|---|
| **Aberdeen Cycle Forum** | • The lack of continuous, segregated cycle lanes in Aberdeen City is a barrier to uptake in cycling. The existing short sections of cycle lane need to be joined up in order to provide a coherent cycle network.<br>• Segregated cycle lanes must be incorporated onto main routes that provide a direct route to principal destinations. Directing cyclists onto parallel routes increases journey times and reduces the appeal of cycling.<br>• There are economic benefits to be gained from locating cycling infrastructure near to local services, enabling quick, safe and efficient access by bike.<br>• There are concerns about Golf Road as an active travel corridor due to the lack of direct access to the University of Aberdeen, which could impede use of the route.<br>• Aberdeen Cycle Forum have developed a cycle concept between Summerfield Terrace and south of the West North Street junction. The concept assumes that King Street is retained for two-way traffic and that existing traffic movements remain possible at the West North Street junction. The concept involves the provision of a one-way stepped cycle track (2m) on each side of the carriageway. To support the concept, it is proposed that the speed limit is reduced to 20mph and the centre line markings are removed. The concept additionally includes a wide kerb between the carriageway and cycle track to provide a visual buffer between the two areas and includes a gently sloping 'forgiving' kerb between the cycle track and the footway. It is suggested that use is made of 'boarder' bus stops whereby the cycle track becomes shared over a short distance so that people can board and alight from buses.<br>• The concept developed by Aberdeen Cycle Forum provides for fully protected cycling through the West North Street junction. The concept maintains the use of one-way cycle tracks around the junction which means that people turning left can avoid the signals, people cycling ahead use a crossing which runs in parallel to the pedestrian crossings and right turns would be undertaken in two stages. Pedestrians would cross via 'floating' crossing points. This junction design would reduce the crossing distance and subsequently reduce the overall crossing time for cyclists whilst enhancing safety. |
| **ACC LDP** | • The most significant allocations on the study corridor within Aberdeen City are in the area between Murcar and Bridge of Don.<br>• Development in the area has been relatively slow to progress, due in part to the economic downturn and contraction of the oil and gas industry in recent years.<br>• The lack of direct access to the large housing allocation at Cloverhill had been a constraining factor prior to the detrunking of Ellon Road. It is understood that following the detrunking of this section, direct access to the site can be provided.<br>• It is considered that the slow build out rates for employment land were due to a combination of bad timing and unsuccessful marketing, with marketing previously focussed on the high-end office market and this market preferring to take up allocations at Kingswells and within Dyce. |
| **Aberdeenshire Council Economic Development** | • There has been significant interest from developers for business space near the AWPR, particularly at Blackdog.<br>• Some junctions along the corridor are a limiting factor to economic development.<br>• The relocation of the AECC to Dyce has not helped the uptake of P&R at Bridge of Don, however demand for P&R in the area may still exist.<br>• Changes in working patterns as a result of COVID-19 may have a longer term impact on demand for P&R, with 60% of workers in the North East having a job that can be done from home. |
| **Aberdeenshire Council LDP** | • The consultation on the emerging plan has concluded and representations are currently being reviewed.<br>• Allocations at Potterton have generated significant feedback from the community. The reporter will decide if the allocations are to remain and whether alternative locations for housing development will be required if they are removed from the Plan. It is anticipated that development will progress relatively quickly on the sites if they are approved. |
| **Belhelvie Community Council** | • The majority of buses bypass the bus stops that serve Blackdog and the surrounding area, particularly on a Sunday. |

| Stakeholder | Key Findings |
|---|---|
| | • The service to Balmedie is reasonable for a settlement of its size.<br>• Bus stops in Potterton appear to have up-to-date timetable information.<br>• Improved public transport services along the corridor will be useful for students attending RGU and in the opposite direction for students attending Ellon Learning Centre from Aberdeen. |
| **Bridge of Dee West Study Consultation** | • 36% of respondents indicated that they do not feel able to easily walk in the Bridge of Dee area, with reasons given including the volume of traffic, the poor condition of pavements and path surfaces, the width of pavements and the lack of suitable crossing points.<br>• 67% of respondents indicated that they do not feel able to easily cycle in the Bridge of Dee area, with reasons given including the poor condition of off-road paths, safety concerns cycling on the local road network, not owning a bike, the topography of the area, the lack of suitable lighting and the distances to their common destinations.<br>• Respondents indicated that active travel infrastructure that separated pedestrians, cyclists and motor vehicles would be the most effective measure to encourage increased active travel use in the area. Secure cycle parking was also noted as being important to support active travel uptake.<br>• The preferred option amongst respondents was the implementation of a shared-use path from the Bridge of Dee to RGU via the north bank of the River Dee. 54% of respondents indicated strong agreement and a further 29% indicated agreement with this option.<br>• 72% of respondents supported ('strongly agree' or 'agree') the implementation of a segregated active travel route between the Bridge of Dee and the Deeside Way along Garthdee Road with separate lanes for pedestrians and cyclists. Some respondents expressed safety concerns when using shared use paths.<br>• Respondents supported options that do not require cyclists to cycle on the carriageway itself, particularly along steep sections of Garthdee Road.<br>• A number of respondents indicated that implementation of a new shared-use pedestrian and cycle bridge that links to Duthie Park would be a beneficial addition to the area.<br>• 86% of respondents indicated they used the Deeside Way for active travel, but it was considered that improvements including increased lighting and improved signage would result in greater uptake of active travel use on the route.<br>• 69% highlighted that improvements to the Riverside Path would promote active travel use, including improving the quality of the surface, improving the upkeep of surrounding vegetation and implementing additional seating. |
| **Bridge of Don Community Council** | • The P&R site at Bridge of Don has become a less attractive choice due to infrequent services, convoluted routes taken by services and because of the cost, particularly as charges at the site are now by passenger rather than by car. There are also concerns regarding the reduction of bus services in the Bridge of Don area in recent years.<br>• It was agreed that the implementation of a footpath between the parking area and the bus stops on Ellon Road would be beneficial, particularly if there were specific fares and ticketing for P&R services.<br>• There are concerns about proposals to reduce the speed limit to 20mph along a section of Ellon Road associated with the Cloverhill development, particularly in terms of potential impacts on other routes in the area.<br>• A separate active travel bridge over the River Don may be appropriate if it was easily accessible from the existing network.<br>• Concerns were raised regarding any reduction of space for general traffic between the Bridge of Don and the existing shared use path near Balgownie Crescent in terms of congestion and delays.<br>• It is considered that previous investment in active travel infrastructure in the area has not generated new uptake in walking and cycling and the Community Council would like investment to be focussed on upgrading the condition of existing streets and pedestrian paths.<br>• There are a number of estates within Bridge of Don with ageing/elderly residents, many of whom rely on cars to interact fully with society and therefore those with mobility constraints must be considered within future active travel developments. |

| Stakeholder | Key Findings |
|---|---|
| **Danestone Community Council** | • Cycling to work has become more popular in recent years and cycle lanes are needed to ensure the safety of these users.<br>• Barriers to bus use amongst members of the community include the lack of direct services to where people want to go and therefore the requirement to interchange; inappropriate service times meaning that people would arrive too early or too late for work; and the cost. Residents want regular bus services with quick journey times and competitive prices.<br>• To be effective, P&R should be located close to where the population lives as driving to work is seen as the most efficient otherwise. |
| **First Bus** | • There may be the potential to increase services at Bridge of Don P&R in the future if development planned for the area is realised. It was agreed that the current access to the site is circuitous which does not facilitate operations.<br>• Services operating along the study corridor are student-led and there would be no anticipated need to cut service frequencies if students return.<br>• While traffic levels are down at present as a result of the COVID-19 pandemic, previously there were issues from Blackdog into the city centre wherever the road narrows and bus priority is not provided.<br>• Bus priority through junctions is especially important, particularly at the King Street junction with West North Street where there are currently two lanes provided for general traffic on the southbound approach to the traffic signals.<br>• First Bus would be able to do more in order to encourage modal shift in terms of improved fares and marketing or increased frequency of services if investment was made in order to improve journey times. |
| **Formartine Area Bus Forum** | • Additional journeys and faster journey times requested between Balmedie and Ellon.<br>• Daytime journeys requested between Newburgh and Ellon on Sundays.<br>• Additional journeys operating via Eigie Road in Balmedie.<br>• Requested re-routeing of evening peak journeys from Aberdeen to serve Ellon town centre as not all passengers have a car to drive to the P&R site. |
| **Garthdee Community Council** | • The provision of bus lay-bys would improve traffic flows along Garthdee Road. The existing arrangement causes delays at the junction with Craigievar Road, which often becomes blocked by traffic due to long boarding and alighting times at the nearby bus stop.<br>• There can be overcrowding issues on the First Bus services due to use by students and this discourages members of the public from using the services.<br>• There were mixed views about the provision of active travel infrastructure in the area, with options along Garthdee Road and along the riverside, via RGU and connecting to the Deeside Way.<br>• Whilst the topography of Garthdee Road is challenging when travelling westbound, one member of the community indicated that this would not be a deterrent to some active travel users. It was suggested that bench provision for those travelling on foot could be provided. It was also noted that a link could be provided to the Deeside Way at the slip alongside Pitfodels Station Road.<br>• The carriageway along Garthdee Road is constrained and there is a 2.2m brick pipe under the road that would have to be protected during any works, which could constrain the construction depth.<br>• Given that parking in the area is limited with fees for non-residents, it is considered that a cycle option would be beneficial for these users.<br>• Towards the west of Garthdee Road, the road is wider and therefore, it may be possible to implement a wide cycle/bus lane.<br>• There is no viable cycle option on Bridge of Dee. A diversion via Riverside Drive and across King George VI Bridge or via Goals back to Bridge of Dee for South Deeside Road could be considered. 'Cyclists Dismount' signing could be implemented on the bridge itself for those not wishing to detour.<br>• There are concerns over the proposed link road between North Deeside Road and Inchgarth Road that is linked to a development site.<br>• Lighting along the Deeside Way could be improved and may encourage increased usage.<br>• Enhanced zebra crossing provision would be beneficial.<br>• There are concerns regarding any additional development in the area in terms of impacts on traffic levels. It was noted that the Leggart development will have an impact on the Garthdee community and there is opposition to a link road |

| Stakeholder | Key Findings |
|---|---|
| | between the communities. The implementation of an active travel bridge would be supported.<br>• Garthdee CC is opposed to the implementation of an additional road bridge over the Bridge of Dee through the Garthdee community.<br>• There is currently no safe crossing point of Garthdee Road at Gray's School of Art and The Treehouse Nursery and it is a difficult location to cross due to the volume and speed of traffic, particularly during peak times. Consideration should be given to the installation of a pedestrian or zebra crossing, or signalisation of the Auchinyell Road junction with pedestrian phasing, which could benefit active travel users and buses.<br>• There are safety concerns for road users making a right turn into Garthdee Farm Gardens from Garthdee Road as traffic is often travelling fast and there is poor visibility at this junction. Consideration should be given to improving safety at this location, including the potential for traffic calming measures and improved visibility. |
| **Grampian Cycle Partnership** | • Currently there is no easy cycling route out of Ellon south other than using the Formartine & Buchan railway line, which is poorly surfaced, directly into Dyce.<br>• A safe active travel corridor out of Aberdeen is vital to attract cycle tourism and a safe route out of Aberdeen from the railway station is vital for that.<br>• It is important to link to other corridors into the city and to link to work that is already ongoing in the region.<br>• There are a number of signs urging cyclists to dismount on the Murcar to Balgownie Road shared use path when it is not necessarily required.<br>• The pavement over the Bridge of Don is a core path which is a shared path that cyclists can use but there is no signing to indicate this.<br>• The Great Western Road and Great Southern Road junctions with Holburn Street are safety concerns for cyclists.<br>• There is a narrow section of Holburn Street on approach to the mini-roundabout with Broomhill Road that is too narrow for two lanes of traffic and buses often get stuck on this section.<br>• The Bridge of Dee Roundabout is a safety concern for cyclists.<br>• The climb up Garthdee Road is quite steep and cyclists tend to be under pressure from traffic. The pavement on the south side is too narrow to walk on and cyclists end up passing pedestrians very closely. |
| **North East Freight Forum** | • The Ellon Road/King Street corridor to the harbour remains a significant freight route.<br>• There is evidence of inappropriate routeing by freight via School Road, Golf Road and Park Road in order to avoid King Street. ACC has placed a ban on large vehicles using this route (buses exempt), which could lead to an increase of freight traffic on King Street as it is now the only direct route for freight going to Aberdeen from the north. |
| **Officer Workshop** | • Circuitous access to Bridge of Don P&R for all users.<br>• Poor frequency of service at Bridge of Don P&R and no express services.<br>• Changes to junctions along Ellon Road anticipated, including an enlarged signalised roundabout at A92/B999, an enlarged signalised roundabout at A92/A956 and an enlarged signalised junction at A956/North Donside Road.<br>• It is important to maintain and improve the green space along the Ellon Road section of the corridor.<br>• An alternative bridge to the east of the existing Bridge of Don should form part of the long-list of options and additional land take will require consideration.<br>• The Donmouth area is a Local Nature Reserve and a breeding and feeding ground for birds and therefore environmental surveys would need to be undertaken if options for the area were to progress.<br>• Work is progressing on signalisation of the St Machar Drive Roundabout.<br>• There are a high number of bus stops on King Street and removal of certain stops could be considered as an option.<br>• On-street parking is a challenge along Holburn Street and a robust case would need to be made in terms of journey time savings for public transport for removal to be considered. |

| Stakeholder | Key Findings |
|---|---|
| | • The Strategic Development Plan 2020 shows an active travel and green corridor running from Ellon to Aberdeen City and also identifies the need to improve active travel connectivity between Aberdeenshire and Aberdeen City. |
| **Old Aberdeen Community Council** | • P&R buses stopping at limited bus stops should be considered.<br>• Boarding and alighting of buses can often be slow. It is considered that the coach-style buses used for the Buchan Xpress services are difficult to board due to small doors and steep staircases with limited alternative options for those with limited mobility. It was also suggested that simplification of the fare structure would reduce boarding times.<br>• The number of road markings and junctions are confusing – consideration should be given to the banning of some right-turns to improve traffic flows.<br>• Old Aberdeen Community Council is supportive of the Nestrans' 50:50 mode split target and suggests it could be even more ambitious (60:40).<br>• The surface of on-road cycle lanes is often poor – the 1m nearest the footpath often contains potholes and irregularities and the cycle route also contains rail gullies which are often lower than the adjacent road level. This forces the cyclist to take avoiding action by moving out into the flow of cars, thus increasing risk.<br>• Wherever an existing on-road cycle route reaches a pinch-point, the cycle route tends to disappear, and cars maintain priority. Safety would be enhanced if it was the driver's responsibility to give way. Additionally, recently drain gullies have often been blocked which creates large puddles when it rains.<br>• It is considered that the removal of the ticket buying process from the bus would help to reduce boarding times.<br>• The prioritisation of buses and cyclists on primary routes into the city centre will encourage rat-running through residential areas – an issue that must be rigorously addressed in parallel. |
| **Robert Gordon University** | • 7.3% of respondents to the most recent RGU travel survey travel from postcodes in Aberdeenshire that may use the study corridor. Of these respondents, 61% indicated that they travel to RGU by car (as a lone driver), 22% car share and 17% travel by bus. 55% of drivers indicated that this was because there was no convenient bus route or the timetable was unsuitable.<br>• It is considered that plans included as part of the Bridge of Dee West Study would be beneficial, including better connections to the Deeside Way. However, issues remain with connecting the Deeside Way and Duthie Park to some student accommodations located in the city centre.<br>• Improving the access point to the Deeside Way on Holburn Street could increase the number of people opting for active travel modes when travelling to the campus.<br>• Congestion on Garthdee Road near the RGU campus is exacerbated by cars being unable to pass stationary buses during boarding and alighting times.<br>• There are issues with adherence to parking restrictions on roads near the university and in local shopping centre car parks due to the limited availability of parking on campus. Encouraging the use of active travel and public transport would ease existing parking issues.<br>• To promote sustainable travel, RGU is looking to improve active travel infrastructure within the campus and surrounding area. RGU is also looking to organise cycling confidence sessions on campus to promote cycling amongst staff and students.<br>• Prior to lockdown, RGU was encouraging the use of the Co-Wheels car club but uptake has been low in recent months due to the majority of meetings being held virtually. RGU is also a member of Liftshare and offers car sharing permits at a reduced cost to single occupancy car users, though car sharing is not currently being promoted due to social distancing requirements.<br>• Narrow paths and the topography of Garthdee Road is a barrier to active travel. |
| **Scottish Ambulance Service** | • The AWPR has improved the efficiency of ambulances travelling to and from the northern sections of the route, though congestion is still having an impact in some locations.<br>• Ambulances have permission to use bus lanes when transporting patients and therefore the introduction of additional priority for buses could benefit ambulance vehicles in these instances. However, this would be offset against the potential congestion that could arise from reduced space for general traffic, which ambulance vehicles would be required to sit in when a patient is not on board. |

| Stakeholder | Key Findings |
|---|---|
| **Stagecoach** | • Operational issues are experienced in Ellon, including access to and egress from the A90, and between the two roundabouts with the A90. This is particularly an issue during the PM peak.<br>• It was noted that the opening of the AWPR has resulted in a reduced provision of service in some communities, particularly Foveran and Balmedie. Whilst Foveran previously benefitted from a high frequency of service due to its location relative to the old alignment of the road, it is now bypassed and determining the right level of service has been challenging, particularly as development in Foveran has been slower to come on stream than had previously been anticipated.<br>• It was noted that a simple way to enhance provision at the Bridge of Don P&R site would be through the introduction of a footpath between the parking area and stops on Ellon Road.<br>• The bridge over the River Don is a constrained point on the network, though the bus priority traffic signals in place to the south of the bridge are effective.<br>• While conditions at the St Machar Drive Roundabout improved slightly following the opening of the Third Don Crossing, the junction remains problematic due to instances of indiscriminate parking on approach and the close proximity of stops on either side.<br>• Operational problems experienced along King Street from Mounthooly Way into the city centre, with the West North Street junction identified as a significant source of delay.<br>• While the AWPR has generated journey time improvements for public transport services, this is disproportionate to the gains in drive times for private cars.<br>• Issues are experienced along Holburn Street and there is a desire to provide a link to RGU from the south. |
| **University of Aberdeen** | • Previous travel surveys undertaken indicated a trend of decreasing single occupancy car use and increasing cycling, with low public transport use.<br>• There is a perception that public transport use is poor in Aberdeen and that it is cheaper and easier to use in other cities. Additionally, frequently changing routes have caused a lack of consistency in the services.<br>• It is possible that looking ahead to the future, there may be a higher proportion of staff who choose to work from home on a regular basis and there may be an increased number who choose to drive or cycle due to discouragement of public transport during the pandemic.<br>• In terms of public transport provision, there is a tension between passengers in Ellon and passengers from the other communities along the route. Whereas those in Ellon desire quick and direct services from Ellon into Aberdeen, this comes at the expense of the other communities on the route which are bypassed.<br>• In terms of active travel, it was noted that there are missing links between Ellon and Tipperty and between Blackdog and Murcar.<br>• There are difficulties for active travel users between Murcar and Bridge of Don, as southbound travel required crossing of the carriageway to the south of Murcar Roundabout or remaining on the carriageway with traffic.<br>• There are a number of barriers to cycling along King Street, including narrowing of the carriageway which impacts on on-road cycle lanes; a high number of bus stops; and poor road surfaces.<br>• The Golf Road/Park Road route may be a suitable alternative. Given that this route would be less direct than King Street, it would need to offer a significant perceived safety benefit and would require effective signposting to encourage its use.<br>• There is an aspiration for a city-wide cycle hire scheme, which would have the potential to be well-used on this corridor given the large student population.<br>• There are opportunities to improve the P&R site at Bridge of Don as a transport interchange. A path connection from the parking area to the bus stop on Ellon Road would enable users access to a far greater frequency of service. There are also opportunities to enhance multi-modal provision at the site through the provision of additional cycle lockers. |

## 3.3 Part 2

An online consultation was hosted by ACC during July/August 2021 to provide opportunity for members of the public and stakeholders to provide feedback on the options developed for the corridor. A Story Map was available online through the ACC website which outlined proposed options under consideration to improve transport between Ellon P&R and Garthdee. This was complemented by a questionnaire to enable members of the public to provide feedback on the options.

There were 51 responses to the questionnaire, including 45 from individuals and 6 responses from organisations. The table below presents the key findings from the second phase of consultation.

**Table 3.2: Key Findings from Part 2 Consultation**

| | Key Findings |
|---|---|
| **Travel Patterns** | • Driving was identified as the most regular transport mode amongst respondents.<br>• Walking uptake is half of driving for 5 or more journeys a week.<br>• Cycling uptake is half of journeys made by driving 3-4 days a week. |
| **Journey Mode** | • In general, across journey types driving is the most common mode.<br>• 47.1% of respondents drive or are a passenger when commuting to and from work, indicating the car is the most common transport mode for daily commutes along the corridor.<br>• The questionnaire results suggest a greater variation in transport modes used for visiting friends and family with 21.1% of respondents travelling on foot, 15.5% cycling and a further 14.1% of journeys being made by public transport.<br>• Shopping journeys are most commonly made by car with 50.6% of respondents driving or travelling as a passenger in a car. |
| **TPOs** | • The majority of respondents felt the TPOs met the needs of the corridor.<br>• TPO2 showed a divided opinion from respondents on whether the objective met the needs of the corridor with a smaller majority relative to other TPOs feeling it meets the needs of the corridor. |
| **Bus Measures** | • Bus Quality Improvements (56%) and Improved Service provision (63.8%) were the key measures identified that would encourage people to travel by bus more often.<br>• Support was also shown for Bus Rapid Transit (33.3%) and Bus Lane (26.2%) measures.<br>• High Occupancy Vehicle lanes showed lower support with 21.3% of respondents indicating that these measures would encourage greater bus use. |
| **Active Travel Measures** | • Long Distance Active Travel Routes (52.5%), Two-Way Segregated Cycleways (51.1%) and Improved Access to Key Locations (53.2%) were identified as measures by respondents that would encourage active travel uptake.<br>• Lower support was shown for with-flow segregated cycleways (36.2%) and with-flow light segregated cycleways (8.5%) in comparison to two-way segregated cycleways (51.1%).<br>• Improvements of both Pedestrian Crossings (36.2%) and Footway Provision (36.2%) received support from respondents. |
| **Enabling Measures** | • Generally positive responses towards the enabling measures.<br>• Measures to integrate public transport and active travel were raised as key areas to improve to encourage uptake of both.<br>• Some concerns indicated to how the enabling measures will support public transport uptake. |

# 4. Problems and Opportunities

## 4.1 Introduction

This chapter identifies actual and perceived problems, issues, constraints and opportunities (PICOs) within the study area. Within STAG, PICOs are described as follows:

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

Throughout this chapter, localised PICOs are presented at key junctions along the study corridor before consideration is given to wider strategic issues that should be borne in mind as the study progresses. Key junctions are presented across the following study sections as per the table below and the diagram in **Figure 4.1**.

**Table 4.1: Junctions included within Localised Corridor Review**

| Study Section | Key Junctions |
|---|---|
| **Ellon to Murcar** | 1. A90/A948 Roundabout<br>2. A90/B9000 Roundabout<br>3. Balmedie Junction<br>4. Blackdog Junction |
| **Murcar to Bridge of Don** | 5. A92/B999 Roundabout (Murcar)<br>6. A92/A956 Roundabout (The Parkway)<br>7. A956/North Donside Road Roundabout<br>8. Balgownie Road Junction |
| **Bridge of Don** | 9. Bridge of Don |
| **King Street** | 10. St Machar Drive Roundabout<br>11. Mounthooly Way Junction<br>12. West North Street Junction |
| **Holburn Street** | 13. Holburn Junction<br>14. Great Western Road Junction<br>15. Great Southern Road Junction |
| **Bridge of Dee to Garthdee** | 16. Garthdee Roundabout<br>17. Garthdee Road |

The key below is used across the PICO diagrams in the following sections.

| | |
|---|---|
| | Non mode specific problem |
| | Non mode specific opportunity |
| | Bus problem |
| | Bus opportunity |
| | Active travel problem |
| | Active travel opportunity |
| | Freight problem |
| | Issues |
| | Constraints |
| | Potential Low Traffic Neighbourhood |

As indicated within the key, the localised corridor review diagrams include consideration of potential boundaries for Low Traffic Neighbourhoods (LTNs). LTNs are implemented to prevent people using motorised vehicles when travelling short distances. The proposed boundaries have been determined by the roads which will remain appropriate for through traffic based on ACC's revised roads hierarchy. Within an LTN, non-resident vehicles are not permitted to travel and must transfer onto established boundary roads. It is important to establish that prior to the implementation of LTNs, boundary roads are capable to withstand the increased volumes of traffic they will

inevitably experience. The size of the LTN is critical to its success. If the LTN is too small it is unlikely that short car journeys will be transferred to active travel modes, minimising the potential for traffic evaporation. However, if the LTN is too big, people will be encouraged to drive a portion of their trip within the LTN by vehicle.

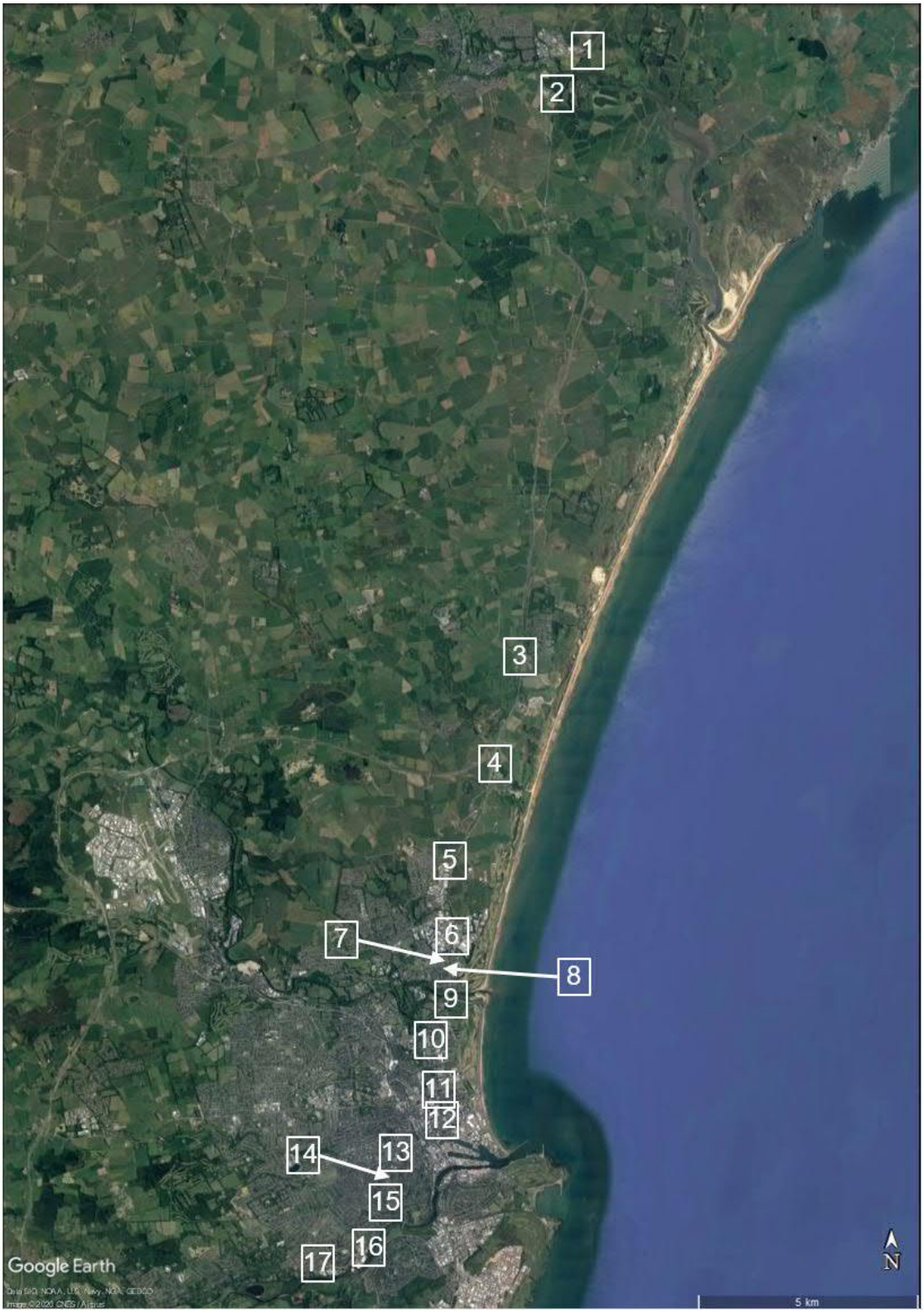


**Figure 4.1: Junctions included within Localised Corridor Review**

## 4.2 Localised Corridor Review

### 4.2.1 Ellon to Murcar

**Ellon**


**Figure 4.2: Identified Ellon PICOs**

**Balmedie**


**Figure 4.3: Identified Balmedie PICOs**

**Blackdog**


**Figure 4.4: Identified Blackdog PICOs**

**Ellon to Murcar Summary**

**Table 4.2: Identified Ellon to Murcar PICOs**

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| **General** | B9005 (South Road) between A90(T) Ellon South Roundabout and Riverside Road/South Road traffic lights identified as a pinch point for traffic during the PM peak.<br><br>A90(T) between Ellon South Roundabout and Ellon North Roundabout identified as a pinch point for traffic during the PM peak.<br><br>A90 North: Ellon corridor sees a sharp rise in congestion as development is built out in the 2032 and 2037 scenarios.<br><br>The Balmedie-Tipperty dualling encourages additional travel to and from the south. | Proposed future developments could create trip attractors for the uptake in active travel or bus services.<br><br>No major land constraints evident between Ellon and Murcar.<br><br>No major green corridor constraints evident between Ellon and Blackdog. | Potential stakeholder resistance to carriageway redistribution.<br><br>Important freight corridor – priority freight route to the north of Blackdog Roundabout and primary freight route to the south of Blackdog Roundabout. | Bridge over the River Ythan is fixed width.<br><br>Residential access to the south of the River Ythan needs to be maintained.<br><br>Dual carriageway makes for greater difficulty in creating safe crossing points at Tipperty.<br><br>Distance from Aberdeen prevents commuting by active travel being an attractive option. |
| **Bus** | Decreased patronage numbers at Ellon P&R in recent years (2014/15-2017/18).<br><br>Delays at the A920/B9005 in forecast year scenarios would impact bus services and passenger journey times.<br><br>B9005 (South Road) between A90(T) Ellon South Roundabout and Riverside Road/South Road traffic lights identified as a pinch point for traffic during the PM peak.<br><br>Reduced service provision via communities located along the study corridor following the opening of the AWPR. | The reserve capacity at the Ellon P&R site can be viewed as an opportunity for future mode share capture by services operating at this site and potentially reduce the impact of development.<br><br>Potential upgrades to crossing facilities at Tipperty to enhance public transport access.<br><br>Potential to provide left-turn filter lane for buses at A90/B9005 Roundabout.<br><br>Potential bus turning facility at Blackdog.<br><br>Potential for terminus loop for bus services in Balmedie. | | |
| **Active Travel** | Lack of dedicated cycling infrastructure along this section, including a lack of onward cycling links from Ellon to other towns and towards Aberdeen. | Potential to alter radii at a number of junctions to make more amenable to active travel. | | |

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| | Broken active travel links between Blackdog and Murcar. | Dualling proposals for Ellon Bypass could provide potential to unlock space for active travel infrastructure.<br><br>Potential to link active travel to new development within Ellon and to Tipperty School.<br><br>Potential to improve Formartine and Buchan Way to enable long-distance active travel route.<br><br>Active travel opportunities along the old A90.<br><br>Proposed footpath to allow users to access the bus stop at Blackdog.<br><br>Aberdeenshire Council progressing active travel route design from Ellon to Newburgh.<br><br>Proposed footpath to allow users access to bus stop at Blackdog.<br><br>Work ongoing to extend active travel route between Murcar and Blackdog.<br><br>Number of recognised tourist attractions can act as cycle attractors. | | |

### 4.2.2 Murcar to Bridge of Don

**Murcar Roundabout**

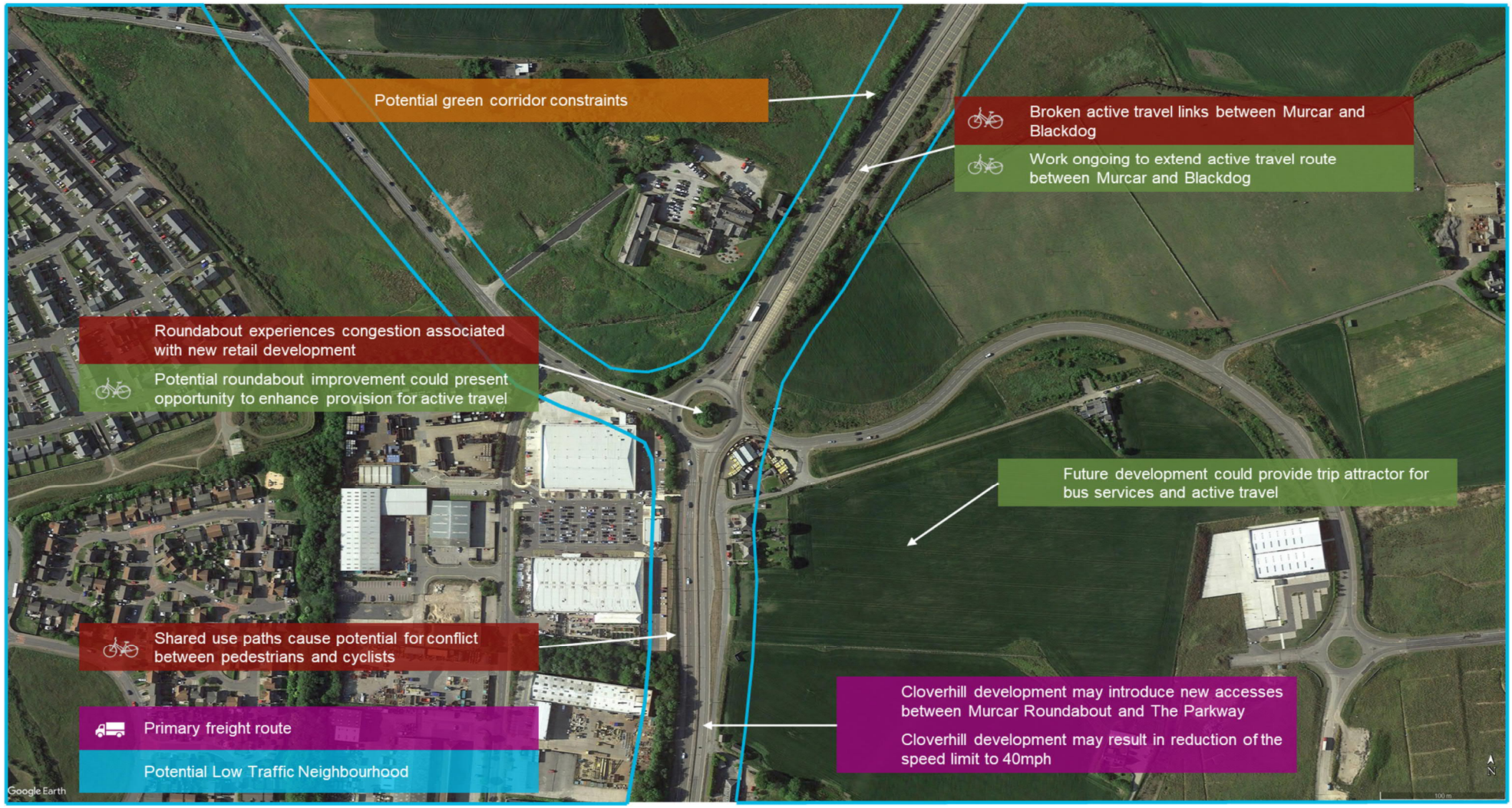


**Figure 4.5: Identified Murcar PICOs**

### The Parkway and North Donside Road Roundabout


Figure 4.6: Identified Ellon Road PICOs

## Balgownie Road


Figure 4.7: Identified Balgownie Road PICOs

**Murcar to Bridge of Don Summary**

**Table 4.3: Identified Murcar to Bridge of Don PICOs**

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| **General** | Murcar Roundabout highlighted as a congestion point upon completion of retail development near the junction.<br><br>The Parkway Roundabout identified as a pinch point for traffic.<br><br>Circuitous access to Bridge of Don P&R for all modes.<br><br>The close proximity of pedestrian crossings to Balgownie Road junction causes confusion for motorists.<br><br>Anecdotal evidence of congestion between Balgownie Crescent and Bridge of Don. | Future development could provide trip attractor for bus services and active travel.<br><br>Opportunity to maintain and improve green space on Ellon Road. | Slow build-out rates of development at Murcar.<br><br>Potential new access junction from detrunked A92 with associated speed limit reduction connected to the Cloverhill development to the south of Murcar Roundabout.<br><br>Levels of general traffic on Ellon Road could increase once proposed development at Murcar is built out.<br><br>Potential stakeholder resistance to carriageway redistribution.<br><br>Important freight corridor – primary freight route along this section of the corridor.<br><br>Any reduction of carriageway space for general traffic near Balgownie Road would be likely to cause delays at the junction. | Potential green corridor constraints along several sections, including to the north of Murcar Roundabout, to the south of The Parkway Roundabout and to the south of North Donside Road Roundabout.<br><br>Existing utilities and signage to west of Ellon Road.<br><br>Challenging topography along some sections (e.g. to the north of the Bridge of Don).<br><br>Land constraints from north of Balgownie Road to the Bridge of Don.<br><br>Retaining wall on the west of the carriageway north of the Bridge of Don constrains the ability to extend shared use link to the south or introduce segregated facilities. |
| **Bus** | Lack of frequent and direct bus services from Bridge of Don P&R.<br><br>Decreasing patronage at Bridge of Don P&R in recent years.<br><br>Relocation of AECC has been detrimental to uptake at Bridge of Don P&R. | The reserve capacity at the Bridge of Don P&R site can be viewed as an opportunity for future mode share capture by services operating at this site and potentially reduce the impact of development.<br><br>Opportunity to implement footway connecting Bridge of Don P&R to Ellon Road to enable P&R users access to frequent bus services.<br><br>Potential opportunity to increase bus services at Bridge of Don P&R if planned development is realised.<br><br>Opportunity to add North Donside Road junction to the SCOOT network. | | |

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| **Active Travel** | Requirement to cross the road for active travellers as shared use path is on the west side of the carriageway only.<br><br>Discontinuous path provision and missing links for active travel.<br><br>Shared use paths cause potential for conflict between pedestrians and cyclists.<br><br>Poor pedestrian permeability due to absence of controlled crossing points on Ellon Road. | Potential upgrade to Murcar Roundabout and The Parkway Roundabout could present opportunity to enhance provision for active travel.<br><br>Bridge of Don P&R is a potential location for a cycle hire scheme.<br><br>Opportunity to provide protected return to carriageway for cyclists at North Donside Road Roundabout.<br><br>Extension of the Murcar to Balgownie shared use path to the south along the west side of the road.<br><br>The reduction of traffic levels post-COVID-19 could create opportunities for improved active travel facilities.<br><br>Active travel movements at Balgownie Road could be supported through the introduction of crossing facilities and the implementation of protected junctions through the reallocation of road space.<br><br>Island crossing on Balgownie Road could be removed, freeing up space to reduce corner radii. | | |

### 4.2.3 Bridge of Don

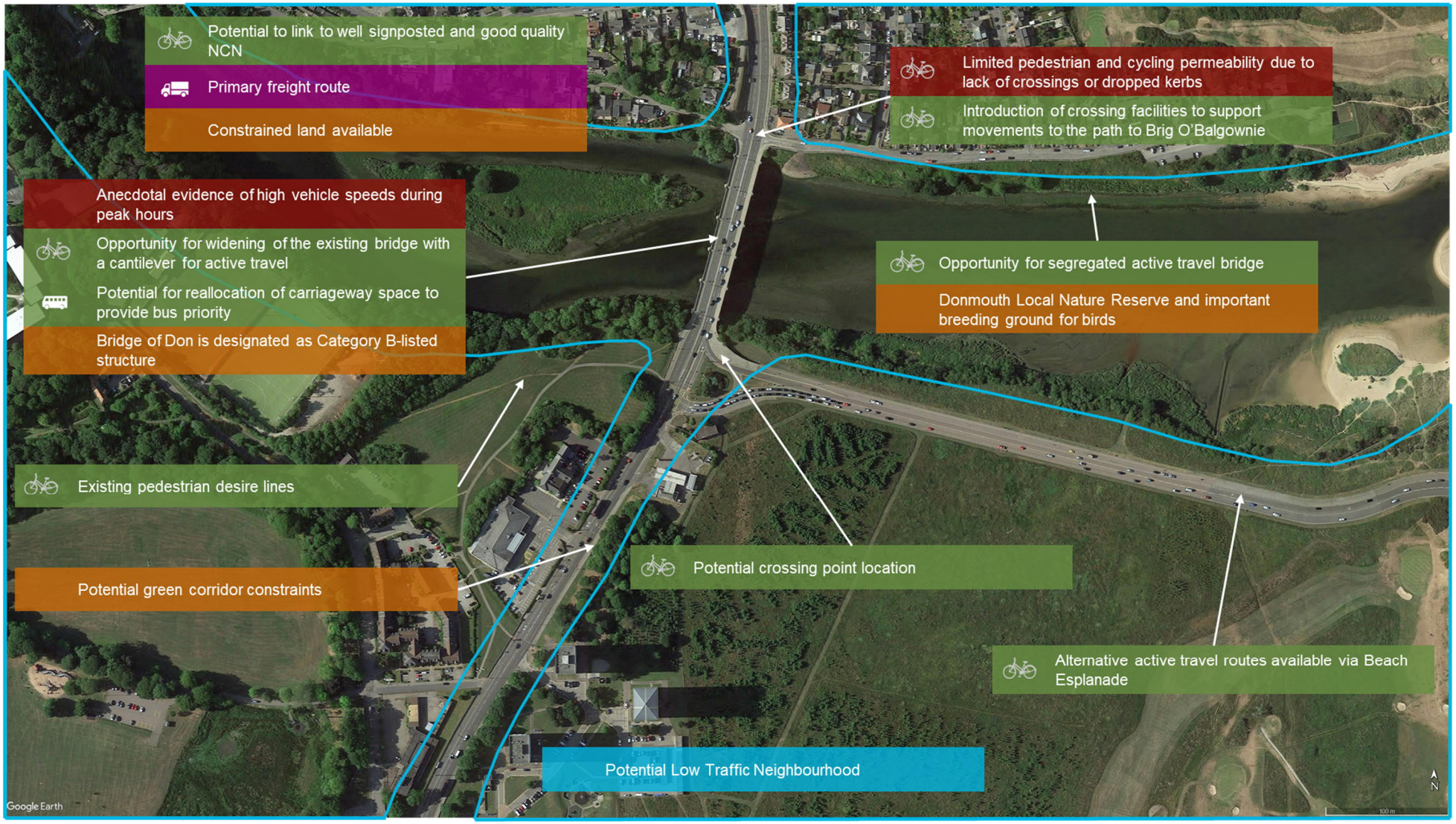


**Figure 4.8: Identified Bridge of Don PICOs**

**Bridge of Don Summary**

Table 4.4: Bridge of Don Identified PICOs

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | Problems | Opportunities | Issues | Constraints |
| General | Anecdotal evidence of large vehicles travelling at high speeds during peak hours. | | Traffic levels could increase at the Bridge of Don once proposed development at Murcar is built out.<br><br>Risk that cyclists may continue to use the existing carriageway if a new active travel bridge did not provide a direct enough connection over the River Don.<br><br>Potential stakeholder resistance to carriageway redistribution.<br><br>Important freight corridor – primary freight route along this section of the corridor.<br><br>Any reduction of carriageway space for general traffic on the bridge could cause delays on the network. | Multiple traffic movements at the Esplanade junction.<br><br>Bridge of Don is designated as Category B-listed structure.<br><br>Donmouth area is Local Nature Reserve and important breeding ground for birds which may constrain options around the bridge.<br><br>Potential green corridor constraints to the south of the bridge.<br><br>Land constraints to the north and south of the bridge. |
| Bus | Bridge of Don identified as a congestion point for buses. | Potential for reallocation of carriageway space to provide bus priority. | | |
| Active Travel | Bridge of Don is a barrier to north-south movement due to limited safe pedestrian crossing opportunities.<br><br>Reducing carriageway space for general traffic to accommodate active travel infrastructure would cause a significant pinch point.<br><br>Limited permeability for pedestrians and cyclists due to restricted pavement widths, limited crossing points and lack of dropped kerbs.<br><br>Lack of lighting and unclear signage exacerbates problems for cyclists. | Introduction of crossing facilities to support movements to path to Brig O'Balgownie.<br><br>Potential for crossing point at Esplanade arm of junction with King Street.<br><br>Existing pedestrian desire lines to west of the Esplanade junction present opportunity to provide formal footways.<br><br>Opportunity to implement segregated active travel bridge across River Don.<br><br>Scope to improve pedestrian access via wider footpaths and increased provision of pedestrian crossings.<br><br>Opportunity for widening of the existing bridge with a cantilever for active travel.<br><br>Potential to link to NCN1 which is good quality and well signposted.<br><br>Alternative active travel routes available south of the bridge. | | |

### 4.2.4 King Street

**St Machar Drive**


**Figure 4.9: Identified St Machar Drive PICOs**

## Mounthooly Way

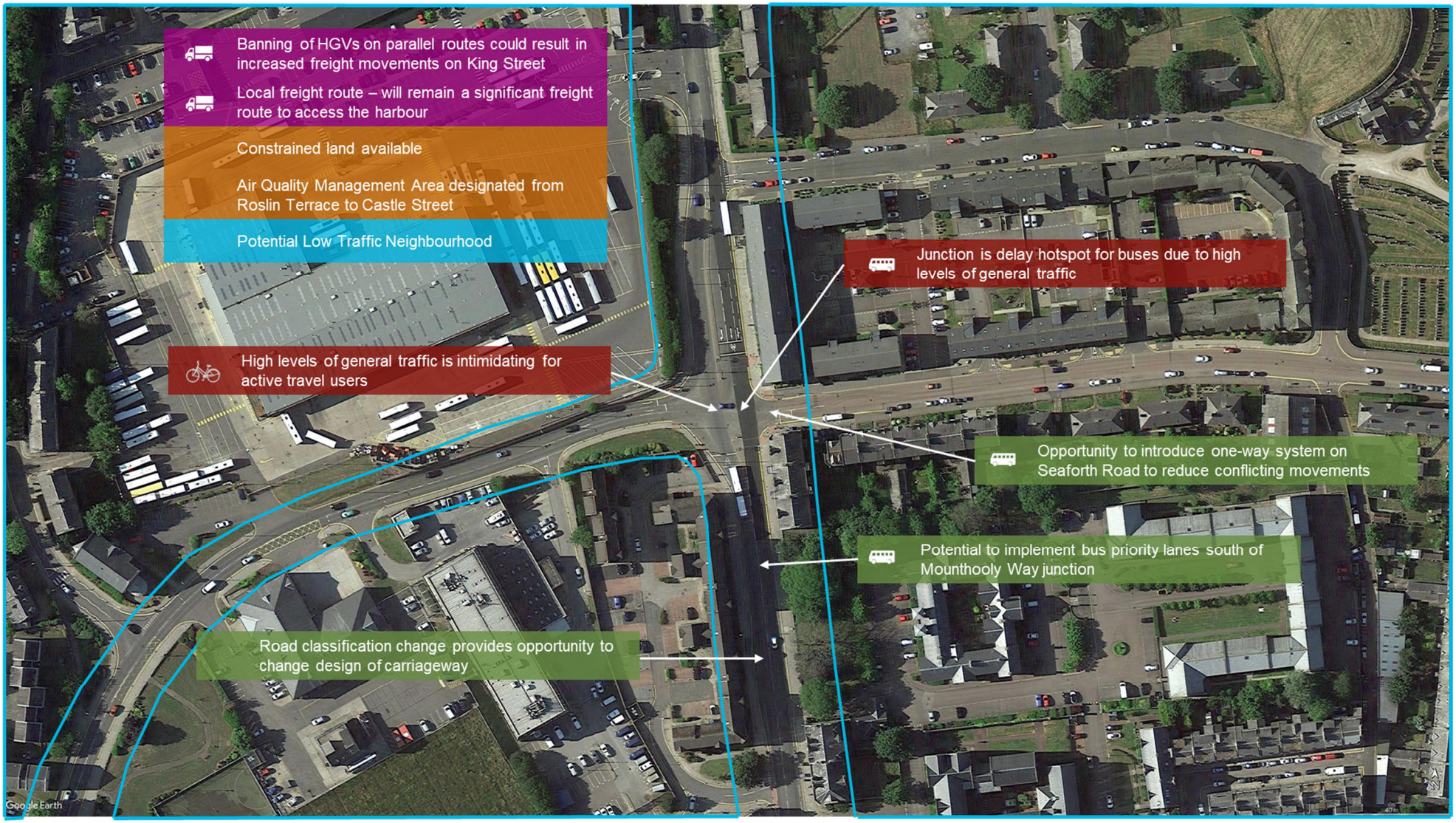


**Figure 4.10: Identified Mounthooly Way PICOs**

## West North Street

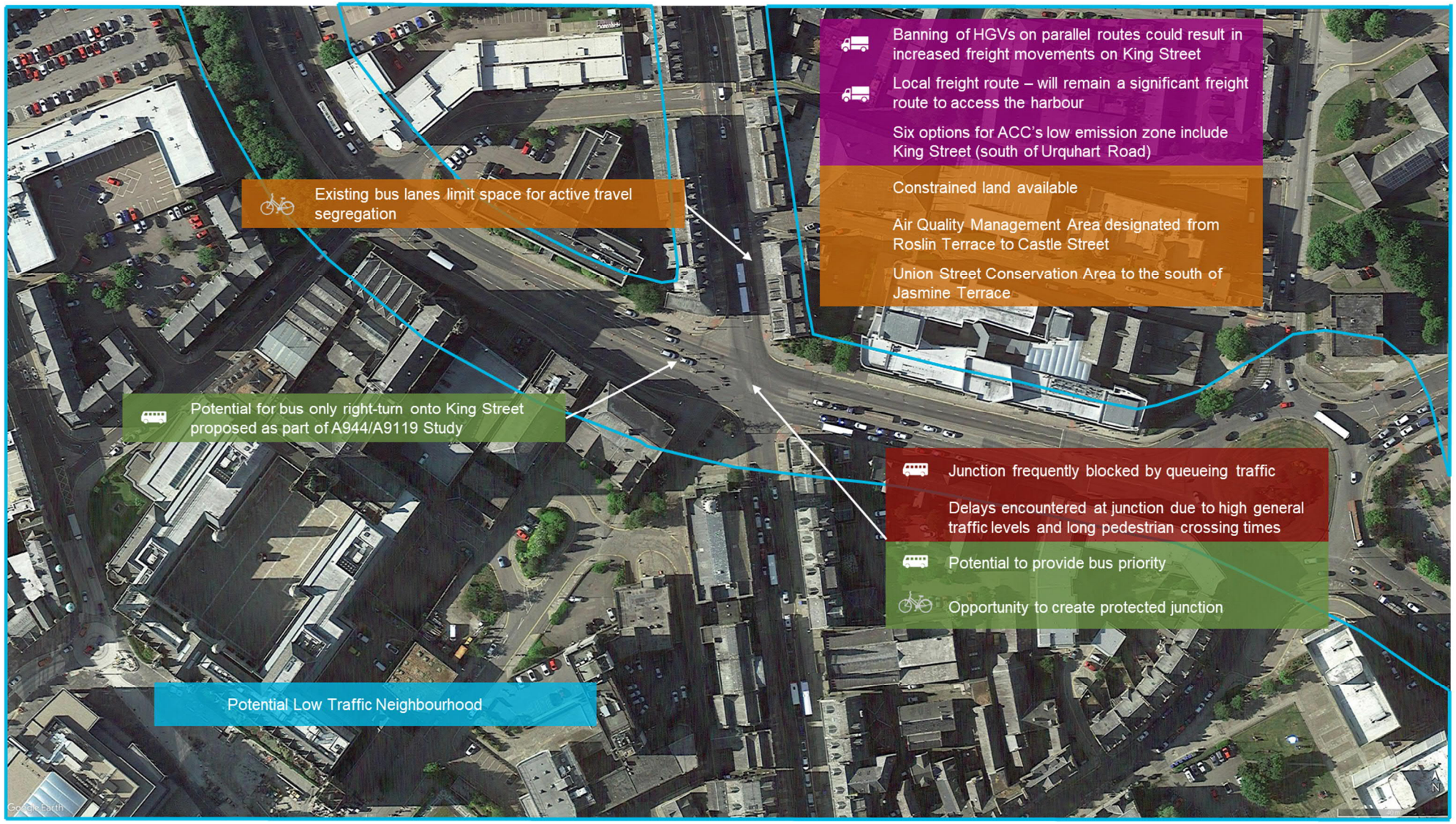


**Figure 4.11: Identified West North Street PICOs**

**King Street Summary**

**Table 4.5: Identified King Street PICOs**

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| **General** | Anecdotal evidence of large vehicles travelling at relatively high speeds during peak hours.<br><br>Inappropriate routeing of freight via School Road/Golf Road/Park Road.<br><br>King Street/West North Street junction can become blocked by queueing traffic. | Potential to reduce hatched markings near St Peter's Cemetery to increase space.<br><br>Road classification change to the south of Mounthooly Way provides opportunity to change design of the carriageway. | Bus services along this corridor are student-led, meaning they are at risk if students do not return as normal post-COVID-19.<br><br>Potential stakeholder resistance to carriageway redistribution.<br><br>Important freight corridor – primary freight route to the north of St Machar Drive and local freight route to the south of St Machar Drive. King Street will remain a significant freight route for accessing the Harbour from the north.<br><br>Banning of heavy goods vehicles on parallel routes could result in increased freight movements on King Street.<br><br>Six options for ACC's low emission zone include the southern section of King Street (south of Urquhart Road). | Multiple vehicle movements to accommodate at various junctions, including Mounthooly Way and West North Street.<br><br>Narrow effective carriageway width due to parked vehicles.<br><br>Existing bus lanes limit space for active travel segregation.<br><br>Land constraints along the King Street corridor.<br><br>Air Quality Management Area designated between Roslin Terrace and Castle Street.<br><br>Union Street Conservation Area on southern section of King Street. |
| **Bus** | Road segments along King Street are identified in the worst 20 bus passenger weighted delays.<br><br>Bus services expected to be impacted by congestion along King Street in future years where bus priority is not provided.<br><br>Trees and shelters along King Street can cause issues with proximity to bus lanes/nearside kerbs, particularly with leaves on the road.<br><br>Excessive number of bus stops on King Street.<br><br>Delays are encountered between St Peter's Cemetery and Seaton Drive as a result of congestion caused by high general traffic levels.<br><br>Bus lane widths are constrained to the north of St Machar Roundabout.<br><br>Congestion as a result of high levels of general traffic at St Machar Drive Roundabout causes delays for buses.<br><br>Delays at Regent Walk due to the long pedestrian green time. The yellow box junction results in reduced capacity for the northbound lane. | Opportunity to implement increased bus priority, particularly inbound.<br><br>Opportunity to remove bus stops/implement floating bus stops on King Street.<br><br>Potential to raise kerbs to aid accessibility for buses.<br><br>Opportunity to introduce one-way system on Seaforth Road to reduce conflicting movements.<br><br>Potential to provide bus priority through the West North Street Junction.<br><br>Potential for bus only right-turn onto King Street from West North Street. | | |

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| | Signals at Linksfield Road junction can cause delay for buses due to long phases.<br><br>Delays at Mounthooly Way and West North Street junctions due to high traffic levels, competing movements and long, straight pedestrian crossings. Long pedestrian crossings require long green-time phases and intergreen periods.<br><br>Narrow southbound bus lane between St Andrew's Cathedral and Castlegate. | | | |
| **Active Travel** | On-road cycling is unattractive due to prevalence of potholes; poor road surfaces; high traffic volumes (including HGVs); limited allocation of road space; cars driving within hatched lines resulting in cyclists being blocked; and narrow bus lanes meaning that buses drive close to cyclists.<br><br>Limited off-road cycling routes available.<br><br>Pedestrian crossings located close to the give way lines at St Machar Drive Roundabout generate conflicting messages for car drivers at green signals, with consequent safety issues. | Opportunity for continuous footways on King Street.<br><br>Potential to narrow junction radii along section to reduce vehicle speeds and improve safety.<br><br>Opportunity to connect to NCN1.<br><br>Topography of King Street is conducive to walking and cycling.<br><br>Potential to convert existing advisory lanes into mandatory with Spaces for People type segregation.<br><br>Signalisation of St Machar Drive Roundabout provides opportunity to implement CYCLOPS or similar junction design for active travel.<br><br>Banning of HGVs on streets parallel to King Street could providing an opportunity to cater for active travel along these routes.<br><br>Potential to create a protected junction at Regent Walk to support cycle movements into university. | | |

### 4.2.5 Holburn Street

**Holburn Junction**

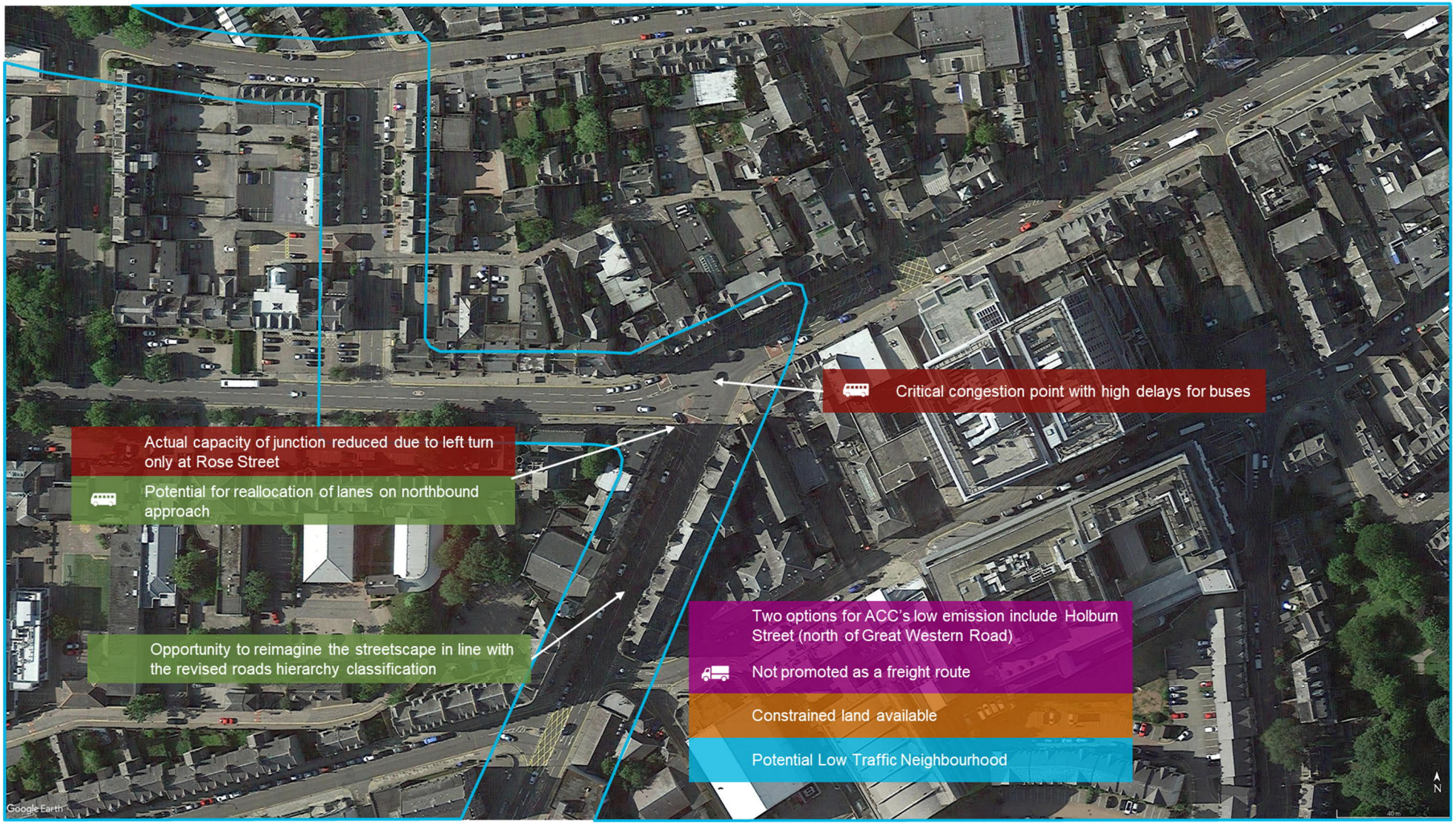


Figure 4.12: Identified Holburn Junction PICOs

**Great Western Road**


**Figure 4.13: Identified Great Western Road PICOs**

## Great Southern Road

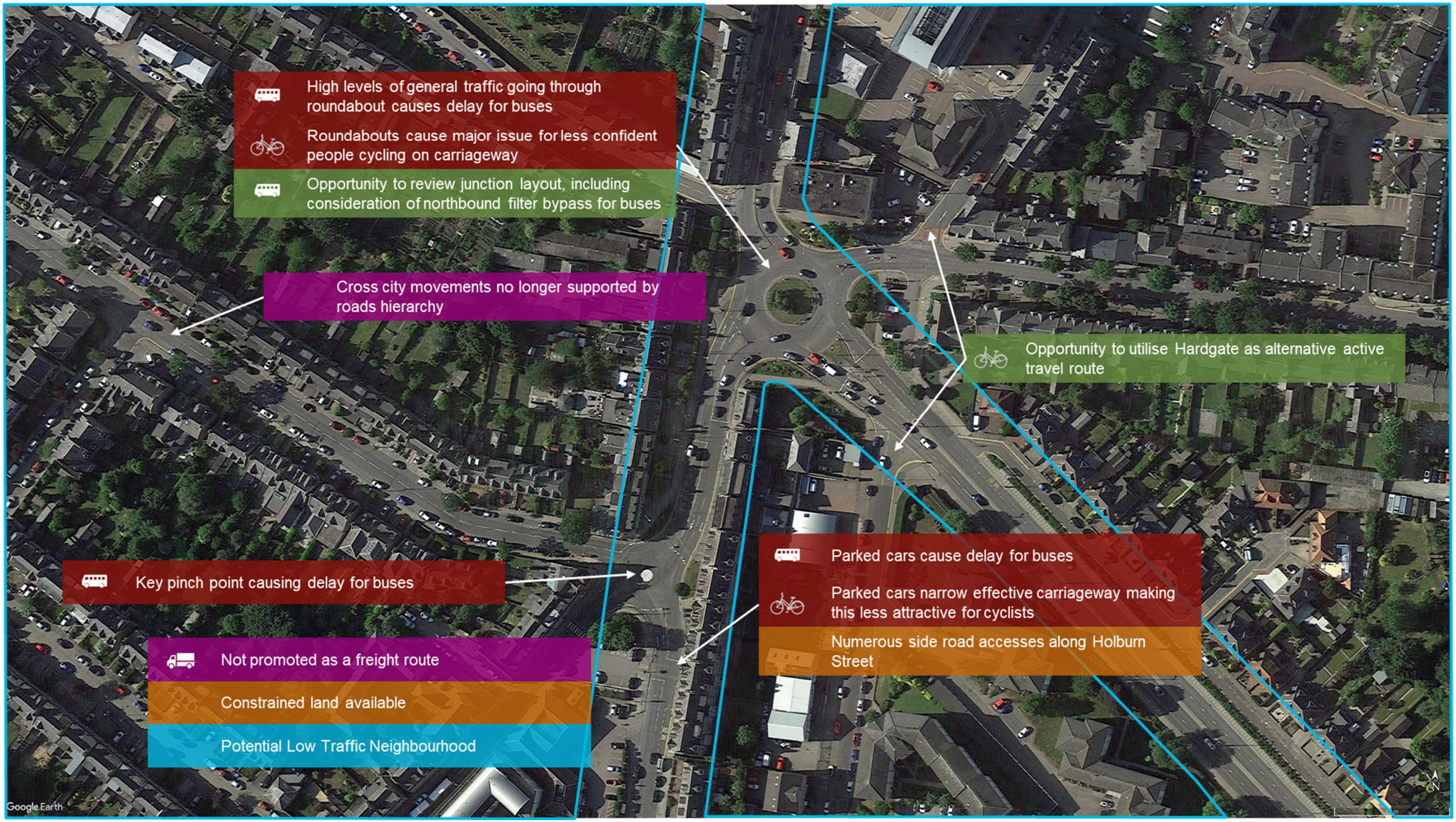


Figure 4.14: Identified Great Southern Road PICOs

**Holburn Street Summary**

**Table 4.6: Identified Holburn Street PICOs**

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| **General** | Issues raised regarding parking in the bus lane on Holburn Street.<br><br>The actual capacity for the ahead movement from Holburn Street consists of one lane only due to the dedicated left turn lane into Rose Street when travelling northbound. | Opportunity to reimagine the streetscape of the northern section of Holburn Street between Great Western Road at Union Street in line with the revised roads hierarchy classification. | Potential stakeholder resistance to carriageway redistribution.<br><br>Two options for ACC's low emission zone include the northern section of Holburn Street (north of Great Western Road).<br><br>The majority of Holburn Street is not promoted as a freight route. The section to the south of Riverside Drive is a secondary freight route associated with the need for diversion at the width-restricted Bridge of Dee.<br><br>Anecdotal evidence of cross city movements occurring from Great Southern Road to Holburn Road which are no longer supported by the roads hierarchy. | Land constraints along the Holburn Street corridor.<br><br>Fixed width bridge over Union Glen.<br><br>Numerous side roads and on-street parking along Holburn Street.<br><br>Historic wall on Holburn Street near Gray Street. |
| **Bus** | Holburn Junction identified as a critical congestion point with long queues on all arms and significant delays for buses.<br><br>The northbound bus lane on Holburn Street ends south of the Union Grove junction, where a long yellow box is located.<br><br>Long and oblique pedestrian crossings at Great Western Road result in long pedestrian signal phases and intergreens.<br><br>Holburn Junction to Broomhill Road identified as a key area of delay affecting bus passengers.<br><br>Difficulties for southbound vehicles exiting the Nellfield Place bus stop due to parked vehicles.<br><br>Delays along Holburn Street at the roundabout junction with Fonthill Road and Great Southern Road due to high traffic levels.<br><br>Delays for buses on Broomhill Road due to parked vehicles on approach to Holburn Street.<br><br>The numerous side road accesses and on-street parking along Holburn Street causes delay, particularly where the carriageway is narrow to the south of the junction with Broomhill Road. | Opportunity to reallocate lanes on the northbound approach to Holburn Junction in order to improve priority for buses at the junction.<br><br>Opportunity to review layout of the Holburn Street/Great Southern Road junction, including consideration of a northbound filter bypass for buses. | | |

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | Problems | Opportunities | Issues | Constraints |
| Active Travel | Roundabouts cause major issue for less confident people cycling on carriageway.<br><br>Parked cars narrow effective carriageway making this less attractive for cyclists. | Potential to improve crossing points along section to aid pedestrian movements, including for a protected junction layout by reducing radii at Great Western Road Junction.<br><br>Opportunity to link to existing path on Deeside Way.<br><br>Opportunity to utilise Hardgate as active travel route. | | |

### 4.2.6 Bridge of Dee to Garthdee

**Garthdee Roundabout**

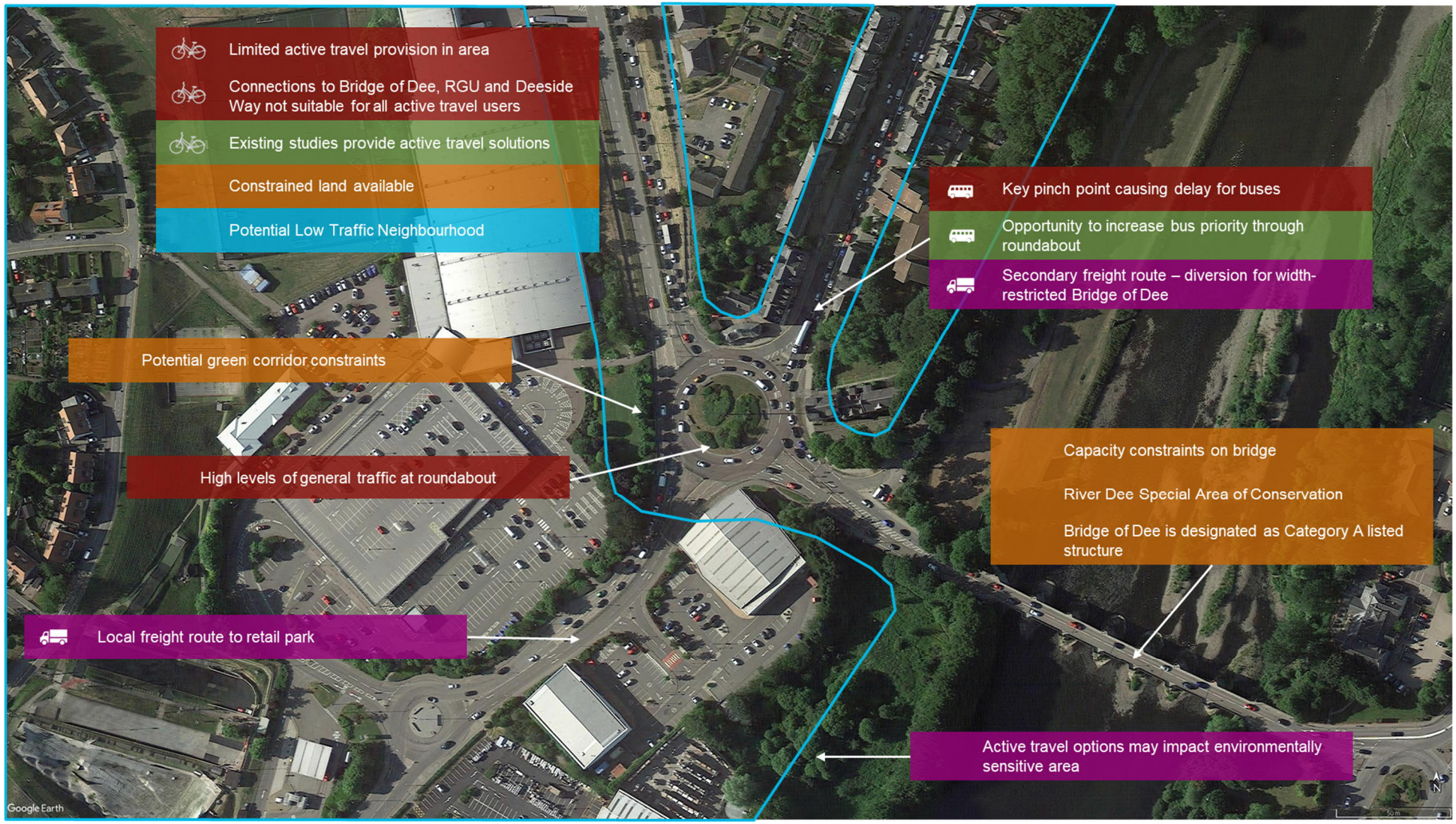


**Figure 4.15: Identified Garthdee Roundabout PICOs**

## Garthdee Road


**Figure 4.16: Identified Garthdee Road PICOs**

**Bridge of Dee to Garthdee Summary**

Table 4.7: Identified Bridge of Dee to Garthdee PICOs

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | Problems | Opportunities | Issues | Constraints |
| General | Impacts of traffic making diversionary movements to avoid congestion and HGVs making diversionary movements due to Bridge of Dee restrictions.<br><br>High levels of general traffic at Garthdee Roundabout.<br><br>Safety concerns regarding the right-hand turn from Garthdee Road to Garthdee Farm Gardens. | | Proposed link roads from Stonehaven Road to Garthdee Road and from North Deeside Road to Garthdee Road could exacerbate traffic flow issues in the area.<br><br>The eastern section of Garthdee Road is a local freight route to retail parks; the western section is not promoted as a freight route.<br><br>Potential stakeholder resistance to carriageway redistribution.<br><br>Implementing active travel options on Garthdee Road could impact on bus journey times.<br><br>Active travel options may impact on environmentally sensitive areas, such as the River Dee | Capacity constraints on Bridge of Dee due to narrow carriageway.<br><br>River Dee Special Area of Conservation.<br><br>Bridge of Dee is designated as a Category A listed structure.<br><br>Constrained land available on southern section of Holburn Street and eastern section of Garthdee Road.<br><br>Potential green corridor constraints at Garthdee Roundabout.<br><br>The topography of Garthdee Road presents challenges to people moving on foot, wheel or by cycle.<br><br>Public utilities could constrain construction depth. |
| Bus | Garthdee Roundabout identified as a pinch point for traffic; noted as a potential priority area due to issues.<br><br>Gaitside Drive at RGU Campus is a busy junction with buses often experiencing delay turning right onto Auchinyell Road.<br><br>Long alighting and boarding times at the bus stops in proximity to the University result in long queues and delays along Garthdee Road, particularly at the junction with Craigievar Road.<br><br>Anecdotal evidence of overcrowding on buses due to students in the area, which discourages the public from using the services. | Opportunity to increase bus priority through Garthdee Roundabout.<br><br>Opportunity to enhance passenger waiting facilities at bus stops in proximity to RGU on Garthdee Road.<br><br>Opportunity to provide priority for buses turning right at Auchinyell Road.<br><br>Opportunity to implement bus lay-bys on Garthdee Road to ease congestion. | | |
| Active Travel | Limited provision for active travel in the Bridge of Dee area.<br><br>Existing connections between Bridge of Dee, RGU Campus and Deeside Way are not suitable for all pedestrians and cyclists.<br><br>The Garthdee Road corridor has no segregated infrastructure for cyclists, creating an unsafe environment and conflicts between motorised vehicles and vulnerable road users at crossing points. | There are areas where active travel route options could be used to enhance the existing conditions for biodiversity.<br><br>Alternatives to infrastructure solutions could support an increase in cycling within the study area, including roll-out of affordable electric bike hire/purchase for local residents and/or RGU students.<br><br>Space to expand into grass verge to the north of Garthdee Road. | | |

| Mode | Problems, Opportunities, Issues and Constraints | | | |
|---|---|---|---|---|
| | **Problems** | **Opportunities** | **Issues** | **Constraints** |
| | Substandard footway construction on the south side of Garthdee Road.<br><br>Existing personal safety issues, real or perceived, when using a remote foot/cycle path.<br><br>No dropped kerb provision or tactile paving at the island crossing to the west of the roundabout at Sainsbury's.<br><br>Substandard footway construction along the riverside path – narrow, uneven, wet and overgrown in summer and wet, muddy and slippery in winter.<br><br>Lack of safe crossing point of Garthdee Road for active travel users at Auchinyell Road. | Opportunity to widen pedestrian facilities on southern side of carriageway on Garthdee Road.<br><br>Potential to link active travel facilities to Deeside Way.<br><br>Improving active travel connections within and through the study area could help to address existing social isolation. | corridor and Deeside Way. | Deeside Way Local Nature Conservation Site.<br><br>Pitfodels Conservation Area. |

## 4.3 Strategic Corridor Review

In addition to the localised PICOs set out in the preceding sections, consideration has been given to strategic issues for the corridor.

### 4.3.1 Problems

The key strategic problems identified within the study area are as follows:

- **High Car Usage in Key Settlements:** The car mode share for travel to work along the corridor is high, with the majority of settlements along the corridor recording rates of driving to work significantly above the national average (with the exception of Garthdee). This has implications in terms of national, regional and local objectives to reduce carbon emissions, meeting air quality objectives and delivering reliable bus services.
- **Active Travel Provision:** While there are sections of active travel provision along the corridor, there is a lack of direct, coherent and segregated cycling infrastructure. With the exception of shared use infrastructure between Murcar and Balgownie, the majority of cycling infrastructure is on-road, which is unattractive to cyclists due to safety concerns and poor road surfaces. There is no dedicated, continuous cycle infrastructure within the Aberdeenshire section of the study corridor between Ellon and Blackdog, though initial feasibility work has been undertaken for a strategic route between Ellon and Balmedie.
- **Bus Service Provision:** Following the opening of the AWPR, there has been reduced bus service provision in some of the Aberdeenshire settlements along the corridor, with a requirement to balance the need to ensure communities remain connected whilst maximising the benefits that the AWPR brings for passengers from Ellon and communities further north.

- **Bus Service Competitiveness:** Journey times are often significantly longer by bus than by car to key destinations from key settlements along the study corridor. This is particularly notable for access to key destinations that are not on or in close proximity to the study corridor and require an interchange due to a lack of direct services. Congestion has additionally been highlighted as a problem for buses, particularly prior to the COVID-19 pandemic, with the King Street corridor representing 13% of the entire First Bus network delay and the Union Street to Garthdee corridor representing 9% of the overall delay[26].
- **Electric Vehicle Infrastructure:** There is limited provision of electric vehicle charging infrastructure along the corridor, particularly between Ellon and Aberdeen.
- **Impact of Development:** The study corridor is identified as a Strategic Growth Area within the Strategic Development Plan and there are therefore proposals for significant development over the next 20 years. Findings from a Cumulative Transport Appraisal that was undertaken to support the development of the Strategic Development Plan indicate that while delivery of committed transport schemes provides congestion relief and improves network operations at locations along the corridor, time savings are likely to be eroded as development is built out through to 2032 and 2037, with network operations deteriorating to that evidenced prior to the opening of the AWPR.

### 4.3.2 Opportunities

The key strategic opportunities identified within the study area are as follows:

- **Policy Context:** The study aims strongly align with the local, regional and national policy context, including support for more trips to be undertaken using sustainable modes of travel. This includes the reclassification of certain sections of the corridor in the roads hierarchy, which provides the opportunity to provide enhanced priority to sustainable modes. There are regional aspirations outlined within the draft RTS 2040 to implement an Aberdeen Rapid Transit system, providing a fresh approach to public transport through the development of a high quality, high frequency mass transit network across the city. Initial corridors under consideration for this includes Kingswells to Bridge of Don via Union Street and King Street.
- **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:** The Scottish Government has recently 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 Bus Partnership fund 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 Bus Partnership Fund was officially launched in November 2020.
- **Distances to Work for Aberdeen City Settlements:** The majority of those living in Bridge of Don and Garthdee travel less than 10km for work. This presents opportunities to encourage active travel use for journeys to work from these settlements.
- **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 along the corridor, locking in the benefits of reduced congestion and journey time savings.
- **Increased Active Travel Use during COVID-19 Pandemic:** There has been a significant increase in active travel since the COVID-19 restrictions were introduced in March 2020. There is opportunity to maintain and build on this trend looking ahead to the future.

### 4.3.3 Issues

The key strategic issues identified within the study area are as follows:

- **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.

[26] Cities Study Aberdeen, First Bus (2020)

Significant changes have been 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 there is evidence that travel demand is returning following the easing of lockdown restrictions, it is unclear whether some of the observed changes will be short-term or result in a structural change in how society operates.

- **Growing / Ageing Population:** Population growth in the region between 2001 and 2019 outstripped the average for Scotland, with an average increase across Aberdeen City and Aberdeenshire of 11.5% compared to the national average of 8%. This trend was also evident in the majority of key settlements along the study corridor. Population projections from the National Records of Scotland[27] indicate that this trend is expected to continue into the future and it is anticipated that the biggest increases will be amongst those of pensionable age and over. There will therefore be a need to ensure that the transport system can support the needs of an ageing population.
- **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 and it will therefore be important to build resilience into the transport network looking ahead to the future.

### 4.3.4 Constraints

The key strategic constraints identified within the study area are as follows:

- **Political Will:** Due to the historic prevalence of private car travel in much of the study area, measures focussed on enhancing walking, cycling and public transport use may not be supported by the public, which could reduce political support for such measures. This has been evidenced recently with the Spaces for People scheme, where plans for measures along Ellon Road and King Street were refused and the decision was made to remove the bi-directional cycleway that was implemented along the Beach Esplanade.
- **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[28] 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.
- **Competing Demands along Corridor:** The study corridor is an important movement corridor for all modes of travel and therefore it will be a challenge to cater for all modes of travel, particularly within Aberdeen City where the road space is more constrained.

[27] Population Projections for Scottish Areas (2018-based)
[28] https://www.audit-scotland.gov.uk/uploads/docs/report/2019/nr_190321_local_government_performance.pdf

# 5. Transport Planning Objectives

## 5.1 Introduction

This chapter presents the TPOs that have been developed for the Ellon P&R to Garthdee 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

A top-down, bottom-up approach has been considered in developing the TPOs for the study. On the one hand, it has been important to consider how the objectives align with the national, regional and local policy and strategy framework; drawing on the significant work undertaken by ACC and partners in relation to active travel and public transport, but, in line with a robust STAG approach, emphasis has been placed on linking the identified problems, issues, constraints and opportunities to the derived objectives.

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 study are:

- **TPO1** – Improve walking and cycling infrastructure on the corridor to provide safer and more attractive routes, enabling and encouraging trips to be undertaken actively and increasing the modal share of walking and cycling for all journey types.
- **TPO2** – Increase the competitiveness of walking and cycling options for short trips by reducing the convenience of using private cars for such trips.
- **TPO3** – Implement public transport measures between Ellon P&R and Garthdee which support year-on-year recovery and growth in bus patronage on the study corridor and which promote innovation and emerging technologies that reflect the ambition of providing a step-change in public transport provision along the corridor.
- **TPO4** – Improve public transport reliability and journey times between Ellon P&R and Garthdee and between the study corridor, Bridge of Don P&R and villages in Aberdeenshire; to achieve a step-change in the competitiveness of public transport compared with private car travel.
- **TPO5** – Lock-in journey time benefits delivered by the AWPR to ensure efficient access to the city from the north to reflect the corridor's priority status within the roads hierarchy and to discourage use of adjacent secondary and tertiary routes for through trips.

## 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 5.1: SMART Objectives**

| TPO | Specific | Measurable | Attainable | Relevant | Timed |
|---|---|---|---|---|---|
| **TPO1: Improve walking and cycling infrastructure on the corridor to provide safer and more attractive routes, enabling, and encouraging trips to be undertaken actively and increasing the modal share of walking and cycling for all journey types** | TPO identifies the need to facilitate active travel improvements in the study area. | Surveys (such as Census or Scottish Household Survey) to measure proportion of active travel trips for journeys to work and education and for leisure journeys.<br>Citizens Panel surveys to assess changing perceptions.<br>Pedestrian and 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 Ellon P&R to Garthdee Study.<br>Consultation highlighted missing links in the strategic active travel network between Ellon and Aberdeen.<br>Consultation highlighted lack of off-road cycling links from the Bridge of Don to Garthdee. | Within next 5-10 years. |
| **TPO2: Increase the competitiveness of walking and cycling options for short trips by reducing the convenience of using private cars for such trips** | TPO identifies the need to increase the competitiveness of active travel in comparison to private car travel for short trips. | Surveys (such as Census or Scottish Household Survey) to measure proportion of active travel trips.<br>Citizens Panel surveys to assess changing perceptions.<br>Pedestrian and cycle counts along the corridor can monitor changes in those travelling actively. | Delivery of TPO will require modal shift from car to active travel (walking and cycling) in some sections of the corridor, which may require demand management measures. | TPO is consistent with the overall aim of the Ellon P&R to Garthdee Study.<br>Problems and opportunities analysis highlighted high car mode share in several of the key settlements along the corridor. | Within next 5-10 years. |
| **TPO3: Implement public transport measures between Ellon P&R and Garthdee which support year-on-year recovery and growth in bus patronage on the study corridor and which promote innovation and emerging technologies that reflect the ambition of providing** | TPO identifies the need to grow bus patronage in the study area. | 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.<br>Citizens Panel surveys to assess changing perceptions. | Delivery of TPO may require collaboration between ACC, partners and bus operators. | TPO is consistent with the overall aim of the Ellon P&R to Garthdee Study.<br>Problems and opportunities analysis highlighted that bus patronage in the region has been in decline in recent years. | Within next 5-6 years. |

| TPO | Specific | Measurable | Attainable | Relevant | Timed |
|---|---|---|---|---|---|
| **a step-change in public transport provision along the corridor** | | Satisfaction of bus passengers.<br>Scottish Access to Bus Index (SABI) can be monitored to assess changes in accessibility to bus services.<br>TRACC accessibility tool can be used to measure changes in connectivity.<br>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.<br>Future proofing for Bus Rapid Transit (checks on different types of bus vehicle movements such as Belfast Glider). | | Consultation highlighted that bus is currently not an attractive option for some trips along the study corridor. | |
| **TPO4: Improve public transport reliability and journey times between Ellon P&R and Garthdee and between the study corridor, Bridge of Don P&R and villages in Aberdeenshire; to achieve a step-change in the competitiveness of public transport compared with private car travel** | TPO identifies the need to facilitate public transport reliability and journey time improvements in the study area. | Bus journey times between key origins and destinations.<br>Proportion of buses delivering services in line with the timetable.<br>Satisfaction of bus passengers. | Delivery of TPO may require collaboration between ACC, partners and bus operators. | TPO is consistent with the overall aim of the Ellon P&R to Garthdee Study.<br>Problems and opportunities analysis highlighted that bus journey times were often significantly longer than those by car. | Within next 5-6 years. |
| **TPO5: Lock-in journey time benefits delivered by the AWPR to ensure efficient access to the city from the north to reflect** | TPO identifies the need to ensure there is no net detriment to journey times associated with planned | Journey times between key origins and destinations.<br>Proportion of sustainable trips for journeys to work | Delivery of TPO will require modal shift from car to sustainable modes in some sections of the corridor, | Problems and opportunities analysis highlighted that time savings generated by the AWPR are likely to be eroded as development is | Within next 5-10 years. |

| TPO | Specific | Measurable | Attainable | Relevant | Timed |
|---|---|---|---|---|---|
| **the corridor's priority status within the roads hierarchy and to discourage use of adjacent secondary and tertiary routes for through trips** | development on the study corridor. | and education and for leisure journeys.<br><br>Development travel plan monitoring (where applicable). | which may require demand management measures. | built out, with network operations deteriorating to that evidenced prior to AWPR opening. | |

# 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 Ellon P&R to Garthdee Study. The aim is to identify a set of options that could potentially deliver the Transport Planning Objectives (TPOs) and in turn, help to address the problems, issues and constraints identified while helping to realise the opportunities. 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.'*[29]

The Do-Minimum for the Ellon P&R to Garthdee study assumes the interventions presented in the table below are in place.

**Table 6.1: Committed Transport Projects included within the Ellon P&R to Garthdee Study**

| Scheme | Description |
|---|---|
| **Ellon P&R Expansion** | • Ellon P&R currently consists of 290 car parking spaces, bus passenger waiting facilities and a bus turning circle. The expansion project includes an additional 91 spaces and a new access road to a new set of bus stances.<br>• Expansion anticipated to be completed in 2021, which introduces further opportunity to travel by public transport on the Ellon P&R to Garthdee corridor. |
| **Haudagain Roundabout Improvement** | • Improvement scheme includes approximately 500m of new dual carriageway connecting the A92 North Anderson Drive and A96 Auchmill Road to assist in reducing traffic congestion and improving journey time reliability.<br>• Improvement scheme anticipated to be completed during 2021.<br>• Provides wider context for access beyond the Ellon P&R to Garthdee corridor. |
| **SCOOT Network Updates** | • Regent Walk junction to be added to the SCOOT network during FY2020/21. |
| **Berryden Corridor Improvement** | • Road improvement scheme to improve traffic flow between Skene Square and St Machar Drive.<br>• The scheme will provide substantial benefits across the north of Aberdeen and beyond (including on the Ellon P&R to Garthdee corridor), improving journey times and connections, reducing congestion and improving pedestrian and cycle provision.<br>• It is anticipated that the CPO process will be concluded in 2021. |
| **Rail Revolution** | • Various rail proposals, including Aberdeen to Inverness rail improvements, which aims to provide incremental benefits throughout the life of the scheme, with the whole project being delivered by 2030.<br>• Aberdeen to Central Belt enhancements, with a funding commitment to improve rail connectivity between Aberdeen and the Central Belt by reducing inter-city express journey times.<br>• Rail improvements may provide city centre traffic reduction from the northwest (and south), potentially affecting future travel patterns on the Ellon P&R to Garthdee corridor. |

In addition to those schemes included in the table above, it has also been assumed that transport schemes associated with the CCMP are in place for the purposes of the Ellon P&R to Garthdee Study.

[29] https://www.transport.gov.scot/publication/stag-technical-database/section-2/#s23

## 6.3 Transport Projects in Development

In addition to the schemes outlined above, there are a number of transport projects in development in the study area, as shown in the table below.

**Table 6.2: Transport Projects in Development in the Study Area**

| Scheme | Description |
|---|---|
| **Ellon to Balmedie Strategic Cycle Route** | • Initial feasibility work undertaken outlining an active travel route between Ellon and Balmedie.<br>• Aberdeenshire Council looking to commission further work on the Ellon – Foveran – Newburgh link. |
| **Murcar to Blackdog Shared Use Path** | • ACC is progressing the detailed design of a shared use path between Murcar and Blackdog with the aim to tender works soon after designs are finalised. |
| **Bridge of Don to City Centre Active Travel Options** | • Active travel routes via Golf Road/Park Road, King Street and the Beach Esplanade agreed to provide the most benefit in terms of creating a cohesive network of active travel routes across the north of the city to the city centre.<br>• Preliminary design to be taken forward of the active travel route via the Beach Esplanade following monitoring and evaluation of the temporary works that were in place through Spaces for People interventions. |
| **St Machar Drive Junction** | • ACC is progressing detailed design of signalisation of the roundabout. |
| **City Centre Low Emission Zone** | • The Scottish Government has committed to the introduction of LEZs in Aberdeen, Dundee, Edinburgh and Glasgow, with anticipated implementation by May 2022. A grace period will follow for enforcement of the restrictions to allow people and businesses to change vehicles or journey patterns following implementation.<br>• A preferred option for Aberdeen's LEZ has been identified, which includes a section of King Street to the south of the junction with West North Street; East North Street, Commerce Street and Virginia Street immediately to the east of the study corridor; Union Street, which provides a connection between two sections of the study corridor; and a section of Holburn Street to the north of the A93. |
| **Rose Street Junction** | • Work is ongoing to look at converting the eastbound left-turn dedicated lane from Union Street into Rose Street to left and ahead for buses, taxis and cyclists, to support ACC's Bus Partnership Fund works. |
| **Bridge of Dee West Active Travel Options** | • ACC looking to progress preliminary and detailed design of Phase 1 – connecting RGU to Deeside Way. |

For the purpose of this study, it has not been assumed that these interventions are in place. Where appropriate, the above options are therefore included within the long list of options to be assessed in their own right.

## 6.4 Option Generation

### 6.4.1 Approach

A long list of options has been developed based on a number of sources, including consultation with officers, stakeholders and Community Council groups; a review of previous studies to identify historical proposals that remain viable options; a review of statutory planning and policy documents; and professional judgement.

### 6.4.2 Active Travel Options

The active travel options that have been generated are presented in the table below. The following definitions are used throughout:

- **With-flow kerb segregated cycleway** – cycleway that travels with the flow of traffic and is separated from the carriageway by a segregation island;
- **With-flow light segregated cycleway** – cycleway that travels with the flow of traffic and is separated from the carriageway by dividing features such as low level humps or thin bollards;
- **Two-way segregated cycleway** – cycleway that travels in both directions on one side of the road and is separated from the carriageway.

**Table 6.3: Active Travel Options**

| Ref | Title | Description | Source |
|---|---|---|---|
| **Whole Corridor Measures** | | | |
| **AT1** | Creation of a city-wide cycle hire scheme | Implementation of a city-wide cycle hire scheme in Aberdeen, with particular focus on the two universities. | Consultation |
| **AT2** | Improve signage for active travel | Improved signage for active travel to fully utilise active travel infrastructure throughout the city. | Consultation |
| **Ellon to Murcar** | | | |
| **AT3** | Implement long distance active travel route between Ellon and Murcar alongside carriageway | Creation of a long distance active travel route in both directions between Ellon and Murcar in the form of a shared use path alongside the existing carriageway, including the proposed extension of the current scheme between Murcar and Blackdog. | Planning and policy; Consultation |
| **AT4** | Implement long distance active travel route between Ellon and Blackdog using the old A90 | Creation of a long distance active travel route in both directions between Ellon and Blackdog making use of detrunked sections of the old A90 to provide formalised active travel provision. | Planning and policy; Previous study |
| **AT5** | Improve the surface of the long distance active travel route between Ellon and Aberdeen via the Formartine & Buchan Way | Improving the surface of the Formartine & Buchan Way active travel corridor between Aberdeen and Ellon to make it more attractive for cycling to encourage use for utility trips and local tourism. | Planning and policy |
| **AT6** | Implement active travel route between Ellon and Newburgh using B9005, west of A90 and B9000 | Creation of an active travel route in both directions between Ellon and Newburgh via the B9005, a two-way shared cycle path to the west of the A90 to the grade separated junction at Newburgh and then via the B9000. | Previous study; Consultation |
| **AT7** | Implement active travel bridge over the A90 Ellon Bypass | Implementation of an active travel bridge over the A90 Ellon Bypass to link between Ellon Academy and the rural road network to the east of the A90 Ellon Bypass. | Consultation |

| Ref | Title | Description | Source |
|---|---|---|---|
| **Murcar to Bridge of Don** | | | |
| AT8 | Implement with-flow kerb segregated cycleway between Murcar and Bridge of Don | Implementation of a with-flow kerb segregated cycleway in both directions between Murcar and Bridge of Don. | Professional judgement |
| AT9 | Implement with-flow light segregated cycleway between Murcar and Bridge of Don | Implementation of a with-flow light segregated cycleway in both directions between Murcar and Bridge of Don. | Professional judgement |
| AT10 | Implement two-way segregated cycleway between Murcar and Bridge of Don | Implementation of a two-way segregated cycleway between Murcar and Bridge of Don. | Professional judgement |
| AT11 | Implement active travel route via local residential network to the west of the study corridor | Implementation of active travel infrastructure in both directions between Murcar and Bridge of Don via the local residential network to the west of the study corridor including Denmore Road, Woodside Road, Silverburn Place, Cloverhill Road, Gordon Road, North Donside Road, Simpson Road and Balgownie Crescent. | Professional judgement |
| AT12 | Extend the Ellon Road shared use path on the west side of the Bridge of Don | Extension of the Ellon Road shared use path along the west side of the Bridge of Don. | Consultation |
| AT13 | Implement active travel links to support the development of a local active travel network | Implement active travel link in both directions between Ellon Road and Dubford via Greenbrae Drive and off-road parallel to Dubford Road. Implement active travel link in both directions between Grandhome and Dubford via Whitestripes Avenue, Jesmond Avenue North, Whitestripes Avenue, Jesmond Drive, Scotstown Road and Dubford Road. | Previous study |
| AT14 | Implement a crossing point for active travel users on Ellon Road south of Murcar Roundabout | Implementation of a toucan crossing on Ellon Road to the south of Murcar Roundabout to aid active travel movements in the area. | Planning and policy |
| AT15 | Implement upgrades to the Ellon Road/Parkway junction to improve active travel provision | Implementation of improvements at the Parkway Roundabout to enhance opportunities for active travel. | Professional judgement |
| AT16 | Implement a crossing point for active travel users on Ellon Road south of Parkway Roundabout | Implementation of a pedestrian crossing on Ellon Road to the south of The Parkway Roundabout to aid pedestrian movements in the area. | Previous study |
| AT17 | Implement crossing facilities for active travel users on Ellon Road at the junction with Balgownie Road | Creation of a pedestrian crossing at the Ellon Road/Balgownie Road junction to allow for safe pedestrian crossing. | Professional judgement |
| AT18 | Implement protected junction with reduced corner radii at Ellon Road/Balgownie Road junction | Creation of a protected junction for cyclists at the Ellon Road/Balgownie Road junction by reallocating carriageway space and reducing corner radii. | Professional judgement |
| AT19 | Implement a community cycle hub in the Bridge of Don area | Support Sport Aberdeen in the implementation of a community cycle hub in the Bridge of Don area, building on feasibility work undertaken in recent years to identify suitable locations. | Planning and policy |
| AT20 | Maintain and improve cycle parking provision at Bridge of Don Park and Ride | Maintain and improve the provision of cycle parking at the Bridge of Don Park and Ride site to encourage its use as a multi-modal interchange point. | Planning and policy |
| AT21 | Implement improvements to cycle and pedestrian access at Bridge of Don Park and Ride from King Robert's Way to Exhibition Avenue | Access improvements to Bridge of Don Park and Ride by walking and cycling on the east side of Ellon Road. | Professional judgement |
| AT22 | Implement an active travel link between Bridge of Don Park and Ride and Ellon Road | Implementation of a footpath link between Bridge of Don Park and Ride and the bus stops on Ellon Road to enable Park and Ride users access to more frequent bus services. | Consultation |
| **Bridge of Don** | | | |
| AT23 | Implement with-flow kerb segregated cycleway on the Bridge of Don | Implementation of a with-flow kerb segregated cycleway in both directions on the Bridge of Don. | Professional judgement |

| Ref | Title | Description | Source |
|---|---|---|---|
| AT24 | Implement with-flow light segregated cycleway on the Bridge of Don | Implementation of a with-flow light segregated cycleway in both directions on the Bridge of Don. | Professional judgement |
| AT25 | Implement two-way segregated cycleway on the Bridge of Don | Implementation of a two-way segregated cycleway on the Bridge of Don. | Professional judgement |
| AT26 | Implement active travel route via a fully segregated active travel bridge across the River Don | Creation of an active travel route across the River Don via a fully segregated active travel bridge to the east of the existing Bridge of Don. | Previous study |
| AT27 | Implement active travel route on the Bridge of Don through widening of the existing structure | Implementation of an active travel route on the Bridge of Don through widening of the existing structure via a cantilever. | Consultation; Professional judgement |
| AT28 | Implement a crossing point for active travel users to the north of the Bridge of Don | Introduction of crossing facilities to north of Bridge of Don to support movements to the Brig O'Balgownie. | Professional judgement |
| AT29 | Implement a crossing point for active travel users to the south of Bridge of Don on the Esplanade arm of the King Street/Esplanade junction | Provide a crossing point on the Esplanade arm of the King Street/Esplanade junction. | Professional judgement |
| **King Street** | | | |
| AT30 | Implement with-flow kerb segregated cycleway on King Street | Implementation of a with-flow kerb segregated cycleway in both directions on King Street between Bridge of Don and West North Street. | Consultation; Previous study; Professional judgement |
| AT31 | Implement with-flow light segregated cycleway on King Street | Implementation of a with-flow light segregated cycleway in both directions on King Street between Bridge of Don and West North Street. | Consultation; Previous study; Professional judgement |
| AT32 | Implement two-way segregated cycleway on King Street | Implementation of a two-way segregated cycleway on King Street between Bridge of Don and West North Street. | Professional judgement |
| AT33 | Implement active travel route via Beach Esplanade | Creation of an active travel route in both directions via the Beach Esplanade, using existing alignments with increased segregation, shared use paths and footway improvements. | Previous study |
| AT34 | Implement active travel route via Golf Road and Park Road | Creation of an active travel route in both directions east of King Street via Golf Road and Park Road using a mix of existing carriageway and new segregated routes. | Previous study |
| AT35 | Implement floating bus stops on King Street | Implementation of floating bus stops along King Street, which involves a cycleway running behind the passenger boarding area at a stop. | Professional judgement |
| AT36 | Signalisation of the St Machar Drive junction | Implement traffic signals at the St Machar Drive junction with King Street, including consideration of a CYCLOPS design in order to fully segregate active travel users from general traffic. | Consultation; Professional judgement |
| AT37 | Restrict the right turn from West North Street to King Street to buses, taxis and cyclists only. | Introduce a right turn restriction from West North Street to King Street for general traffic, allowing priority for buses, taxis and cyclists. | Previous Study |
| AT38 | Create protected junction at King Street/West North Street junction for cyclists | Creation of protected junction at King Street/West North Street for cyclists, improving safety and efficiency of movement for cyclists through the junction, including cycle crossing points parallel to pedestrian crossings. | Consultation |
| AT39 | Tighten junction radii and reduce side road width along the full length of King Street | Tighten junction radii and reduce side road width along the full length of King Street to reduce conflict with cycle traffic and improve crossing facilities for pedestrians. | Professional judgement |
| AT40 | Review requirement for standalone pedestrian crossings along the full length of King Street | Review requirement for standalone pedestrian crossings along the full length of King Street, with potential rationalisation to improve link capacity. | Professional judgement |

| Ref | Title | Description | Source |
|---|---|---|---|
| **Holburn Street** | | | |
| AT41 | Implement with-flow kerb segregated cycleway on Holburn Street | Implementation of a with-flow kerb segregated cycleway in both directions on Holburn Street between Union Street and Garthdee Roundabout. | Planning and policy; Previous study; Professional judgement |
| AT42 | Implement with-flow light segregated cycleway on Holburn Street | Implementation of a with-flow light segregated cycleway in both directions on Holburn Street between Union Street and Garthdee Roundabout. | Planning and policy; Previous study; Professional judgement |
| AT43 | Implement two-way segregated cycleway on Holburn Street | Implementation of a two-way segregated cycleway on Holburn Street between Union Street and Garthdee Roundabout. | Planning and policy; Previous study; Professional judgement |
| AT44 | Implement active travel route via Bon Accord Terrace and Hardgate | Creation of an active travel route in both directions via Bon Accord Terrace and Hardgate between Union Street and Riverside Terrace. | Consultation; Professional judgement |
| AT45 | Create protected junction at Holburn Street/Great Western Road junction for cyclists | Creation of protected junction at Holburn Street/Great Western Road for cyclists, improving safety and efficiency of movement for cyclists through the junction, including cycle crossing points parallel to pedestrian crossings. | Professional judgement |
| AT46 | Upgrade the Holburn Street/Broomhill Road Roundabout to support active travel | Upgrade the Holburn Street/Broomhill Road Roundabout to support active travel and Improve pedestrian and cycle access through the junction. | Professional judgement |
| AT47 | Improvements to access point to the Deeside Way on Holburn Street | Improve access to the Deeside Way from Holburn Street by creating a more direct and efficient access for active travel users. | Consultation |
| **Bridge of Dee to Garthdee** | | | |
| AT48 | Implement with-flow kerb segregated cycleway on Garthdee Road | Implementation of a with-flow kerb segregated cycleway in both directions on Garthdee Road between Garthdee Roundabout and Auchinyell Road. | Previous study; Professional judgement |
| AT49 | Implement with-flow light segregated cycleway on Garthdee Road | Implementation of a with-flow light segregated cycleway in both directions on Garthdee Road between Garthdee Roundabout and Auchinyell Road. | Previous study; Professional judgement |
| AT50 | Implement two-way segregated cycleway on Garthdee Road | Implementation of a two-way segregated cycleway on Garthdee Road between Garthdee Roundabout and Auchinyell Road. | Previous study; Professional judgement |
| AT51 | Implement shared use facility on Garthdee Road | Implementation of a shared use facility on the south side of Garthdee Road between Robert Gordon University Campus and Garthdee Farm Gardens utilising the existing 3m wide footway. | Previous study |
| AT52 | Implement new active travel connections to the Deeside Way | Implementation of active travel connections from Robert Gordon University to the Deeside Way to provide safer and more attractive routes for people connecting between the Garthdee area and the city centre. | Previous study |
| AT53 | Implement traffic calming measures on Garthdee Road | Trialling of temporary on-street traffic calming measures on Garthdee Road between Robert Gordon University Campus and Garthdee Farm Gardens to affect a reduction in motor vehicle speeds to an average speed which is considered suitable for on-carriageway cycling (20-25mph). | Consultation; Previous study |
| AT54 | Widen narrow footways on Garthdee Road | Widening of the narrow footways on the south side of Garthdee Road to aid pedestrian movements. | Professional judgement |
| AT55 | Provide crossing facility on Garthdee Road at Gray's School of Art | Provide a pedestrian crossing facility on Garthdee Road to the west of Auchinyell Road to allow safe access to and from the Robert Gordon University Campus. | Consultation |

| Ref | Title | Description | Source |
|---|---|---|---|
| AT56 | New non-motorised user crossing adjacent to Bridge of Dee | Implementation of a new non-motorised user crossing adjacent to the existing Bridge of Dee to aid active travel movements over the River Dee. | Previous study |
| AT57 | Reconfiguration of the Bridge of Dee for non-motorised user use only | Reconfiguration of the existing Bridge of Dee for use by non-motorised users only. | Previous study |
| AT58 | Upgrade the junction at Asda/Garthdee Road to improve cycle provision | Upgrade the junction at Asda/Garthdee Road to improve cycle provision and support active travel movements along this section of the study corridor. | Professional judgement |
| AT59 | Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision | Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision and support active travel movements along this section of the study corridor. | Professional judgement |

### 6.4.3 Bus Options

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

**Table 6.4: Bus Options**

| Ref | Title | Description | Source |
|---|---|---|---|
| **Whole Corridor Measures** | | | |
| BU1 | Review ticketing structure | Review the ticketing structure for services on the Ellon P&R to Garthdee corridor to identify any potential gaps in ticket types and to consider expansion of fares capping technology. | Previous study |
| BU2 | Review bus stop infrastructure on the corridor | Review bus stop infrastructure on the Ellon P&R to Garthdee corridor to consider the need for enhanced shelter provision, improved timetabling information and improved Real Time Passenger Information provision. | Previous study |
| BU3 | Review of bus stop provision on the corridor | Review of bus stop provision on the Ellon P&R to Garthdee corridor to identify the potential for rationalisation. | Consultation |
| BU4 | Review how accessibility is being provided on vehicles operating on the corridor | Review the accessibility of vehicles operating on the Ellon P&R to Garthdee corridor, working with local communities and bus users to ensure the needs of those with restricted mobility or other disabilities are met. | Previous study |
| BU5 | Fare improvements delivered through a BSIP | Implement fare improvements on the Ellon P&R to Garthdee corridor through a Bus Service Improvement Partnership. | Professional judgement |
| BU6 | Frequency improvements delivered through a BSIP | Implement frequency improvements on the Ellon P&R to Garthdee corridor through a Bus Service Improvement Partnership. | Professional judgement |
| BU7 | Quality improvements delivered through a BSIP | Implement quality improvements on the Ellon P&R to Garthdee corridor through a Bus Service Improvement Partnership. | Professional judgement |
| BU8 | Decarbonise the bus fleet operating on the corridor | Work with bus operators to fully decarbonise the bus fleet operating on the Ellon P&R to Garthdee corridor. | Previous study |
| BU9 | Enhance bus monitoring capability | Enhance monitoring capability on the Ellon P&R to Garthdee corridor to collect real-time user information across all modes, to input to journey planning tools and real-time network management. | Previous study |
| BU10 | Extend bus lane hours of operation on the corridor | Extend the hours of existing bus lanes in operation on the Ellon P&R to Garthdee corridor and ensure consistency of operational hours. | Previous study |

| Ref | Title | Description | Source |
|---|---|---|---|
| BU11 | Improve bus lane enforcement on the corridor | Enhanced enforcement of bus lanes on the Ellon P&R to Garthdee corridor, to discourage inappropriate use of the lanes by general traffic and for parking. | Previous study |
| BU12 | Implement Aberdeen Rapid Transit connecting Kingswells to Bridge of Don | Implementation of a bus rapid transit scheme connecting Kingswells to Bridge of Don via Union Street and King Street. | Planning and policy |
| BU13 | Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor | Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor at traffic signal-controlled junctions. | Professional judgement |
| BU14 | Develop a Quality Bus Corridor Design Toolkit | Develop a Quality Bus Corridor Design Toolkit to identify a suite of bus priority measures that when applied appropriately to hotspots along the study corridor will provide a whole route improvement. | Professional judgement |
| **Ellon to Murcar** | | | |
| BU15 | Implement bus or bus/trial high occupancy vehicle lane between Balmedie and Murcar Roundabout | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority between Balmedie and Murcar Roundabout. | Previous study |
| BU16 | Implement left-turn filter for buses at A90/B9005 Roundabout | Implementation of a left-turn filter lane for use by buses at the A90/B9005 Roundabout to the south of Ellon. | Professional judgement |
| BU17 | Improve service provision in the settlements between Ellon and Aberdeen | Improve service provision in the settlements between Ellon and Aberdeen including Foveran and Balmedie. | Consultation |
| **Murcar to Bridge of Don** | | | |
| BU18 | Implement bus or bus/trial high occupancy vehicle lane between Murcar Roundabout and the Bridge of Don | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority between Murcar Roundabout and the Bridge of Don. | Previous study |
| BU19 | Implement new circular bus route via Murcar – Dubford – Grandhome – Stoneywood – Craibstone P&R – Dyce Rail Station – Newhills – Kingswells P&R – Countesswells – Friarsfield – City Centre – Murcar | Implementation of a new circular bus route via Murcar – Dubford – Grandhome – Stoneywood – Craibstone P&R – Dyce Rail Station – Newhills – Kingswells P&R – Countesswells – Friarsfield – City Centre – Murcar to connect new areas of development and key transport interchanges. | Previous study |
| BU20 | Implement upgrades to the Ellon Road/Parkway junction to improve northbound bus priority | Implementation of improvements at the Parkway Roundabout to enhance priority for buses travelling north into Aberdeenshire. | Professional judgement |
| BU21 | Implement a footpath between Bridge of Don Park and Ride and Ellon Road | Implementation of a footpath link between Bridge of Don Park and Ride and the bus stops on Ellon Road to enable Park and Ride users access to more frequent bus services, with consideration of improved waiting facilities on Ellon Road. | Consultation |
| BU22 | Reconfigure access/egress from Bridge of Don Park and Ride to Ellon Road | Reconfiguring access/egress from the site addressing current convoluted routeing and minimising journey times for all vehicles utilising the site. | Professional judgement |
| BU23 | Implement junction upgrades at the Ellon Road/North Donside Road junction to improve bus priority from North Donside Road | Implementation of junction upgrades to improve bus priority from North Donside Road. | Professional judgement |
| **Bridge of Don** | | | |
| BU24 | Implement bus or bus/trial high occupancy vehicle lane on the Bridge of Don | Implementation of a bus/trial high occupancy vehicle lane in both directions on the Bridge of Don. | Previous study |

| Ref | Title | Description | Source |
|---|---|---|---|
| **King Street** | | | |
| BU25 | Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of King Street between Bridge of Don and Castle Street. | Previous study; Professional judgement |
| BU26 | Implement bus or bus/trial high occupancy vehicle lane between Bridge of Don and St Machar Drive | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority between Bridge of Don and St Machar Drive. | Previous study |
| BU27 | Implement southbound bus lane between Seaton Drive and St Peter's Cemetery | Implementation of a southbound bus lane on King Street between Seaton Drive and St Peter's Cemetery, including traffic signal priority through junctions in order to mitigate against bus delays along this section. | Previous study |
| BU28 | Implement northbound bus lane between Roslin Terrace and Mounthooly Way | Implementation of a northbound bus lane on King Street between Roslin Terrace and Mounthooly Way in order to reduce bus delays at the Mounthooly Way junction. | Previous study |
| BU29 | Signalisation of the St Machar Drive junction | Implement traffic signals at the St Machar Drive junction with King Street, with consideration of specialised bus priority through the junction. | Previous study |
| BU30 | Review the layout of the Regent Walk junction | Review the layout of the Regent Walk junction with King Street. | Previous study |
| BU31 | Review the layout of the Orchard Street/Linksfield Road junction, including consideration of signal timings | Review the layout of the Orchard Street/Linksfield Road junction with King Street, including consideration of converting Linksfield Road into a one-way eastbound link and optimising signal timings to prioritise bus-heavy northbound and southbound movements. | Previous study |
| BU32 | Review the layout of the Mounthooly Way junction | Review the layout of the Mounthooly Way junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing. | Previous study |
| BU33 | Review the layout of the West North Street junction, including consideration of signal timings | Review the layout of the West North Street junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing. Consideration to be given to restricting the right turn movement from West North Street to King Street and implementing Traffic Signal Priority technology to grant priority to buses approaching the junction. | Previous study |
| BU34 | Review of on-street parking along King Street to identify possible relocation to adjacent streets | Review on-street parking along King Street to identify spaces that could be relocated to adjacent streets. | Previous study |
| BU35 | Review of bus stop provision on King Street | Review of bus stop provision on King Street to identify the potential for rationalisation. | Consultation |
| **Holburn Street** | | | |
| BU36 | Implement bus or bus/trial high occupancy vehicle lane for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout. | Previous study; Professional judgement |
| BU37 | Review the layout of Holburn Junction | Review the layout of Holburn Junction to increase capacity for all arms and provide bus priority measures, including consideration of reallocating lanes on the northbound approach to the junction to prioritise bus movements. Consideration to be given to improved synchronisation of Holburn Junction, Rose Street and Chapel Street signalisation junctions. | Previous study; Professional judgement |
| BU38 | Review the layout of the Union Grove junction | Review the layout of the Union Grove junction with Holburn Street, including consideration of reducing the yellow box markings to improve saturation flows at Holburn Junction. | Previous study |
| BU39 | Review the layout of the Great Western Road junction, including consideration of signal timings | Review the layout of the Great Western Road junction with Holburn Street, including consideration of the junction alignment and length of pedestrian crossings. Review signal | Previous study |

| Ref | Title | Description | Source |
|---|---|---|---|
| | | timings to reduce the inter-green times and consider northbound and southbound bus signal priorities. | |
| BU40 | Review the layout of the Great Southern Road Roundabout | Review the layout of the Great Southern Road Roundabout, including consideration of a southbound bus lane on approach to the roundabout (through the removal of parking bays) and a northbound filter bypass for buses. | Previous study |
| BU41 | Review Holburn Street/Broomhill Road Junction | Review Holburn Street/Broomhill Road junction to minimise delay for buses. | Previous study |
| BU42 | Enforcement of parking restrictions along Broomhill Road | Enforcement of parking restrictions to reduce incidence of vehicles creating blockages along Broomhill Road. | Previous study |
| BU43 | Implement bus gate(s) at the Holburn Street/Broomhill Road junction | Implement bus gate(s) at the Holburn Street/Broomhill Road junction to improve bus priority and junction capacity. | Professional judgement |
| BU44 | Review of on-street parking spaces along Holburn Street to the south of the Broomhill Road junction | Review of on-street parking spaces along Holburn Street to determine the potential for relocation to adjacent streets to reduce congestion and pinch points close to bus stops. | Previous study |
| **Bridge of Dee to Garthdee** | | | |
| BU45 | Bus laybys on Garthdee Road | Implementation of laybys on Garthdee Road at bus stops in close proximity to Robert Gordon University in order to ease congestion. | Previous study |
| BU46 | Signalisation of the Auchinyell Road junction | Implement traffic signals at the Auchinyell Road junction with Garthdee Road, including consideration of pedestrian crossing facilities. | Previous study; Consultation |
| BU47 | Review priorities at the Auchinyell Road junction | Review traffic priorities at the Auchinyell Road junction with Garthdee Road, including consideration of providing priority to buses turning right from Garthdee Road to Auchinyell Road. | Previous study; Professional judgement |

### 6.4.4 Other Options

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

**Table 6.5: Other Options**

| Ref | Title | Description | Source |
|---|---|---|---|
| **Whole Corridor Measures** | | | |
| O1 | Review road signage along the corridor | Review road signage along the corridor to ensure it reflects the adopted roads hierarchy. | Professional judgement |
| O2 | Review and revalidation of the SCOOT system | Review current junctions under SCOOT system and consider junctions to add to the SCOOT network to ensure optimal flow. | Professional judgement |
| O3 | Increase green space throughout corridor | Increase green space throughout the corridor, improving the attractiveness of the route and enhancing the environmental conditions along the corridor. | Consultation |
| **Ellon to Murcar** | | | |
| O4 | Upgrade A90(T)/B9005 Roundabout (1) | Upgrade the A90/B9005 Roundabout to the south of Ellon by increasing the size to 60m diameter with increase to two lanes on northbound exit to the A90(T) Ellon bypass. | Previous study |

| Ref | Title | Description | Source |
|---|---|---|---|
| O5 | Upgrade A90(T)/B9005 Roundabout (2) | Upgrade the A90/B9005 Roundabout to the south of Ellon by increasing the size to 60m diameter with increase to two lanes on all entry and exit arms. | Previous study |
| O6 | Upgrade A90(T)/B9005 Roundabout (3) | Upgrade the A90/B9005 Roundabout to the south of Ellon by increasing the size to 60m diameter with increase to two lanes on all entry and exit arms plus additional left turn filter lane for northbound traffic to Ellon. | Previous study |
| O7 | Implement dual carriageway on A90(T) Ellon Bypass – B9005 to River Ythan Bridge | Implement dual carriageway on A90(T) Ellon Bypass to the south of the River Ythan Bridge, with north of the bridge remaining single carriageway. | Previous study |
| O8 | Implement dual carriageway on A90(T) Ellon Bypass – B9005 to River Ythan Bridge and A948 to River Ythan Bridge | Implement dual carriageway on A90(T) Ellon Bypass to the north and south of the River Ythan Bridge, with the bridge remaining single carriageway. | Previous study |
| O9 | Implement dual carriageway on A90(T) Ellon Bypass – full length | Implement dual carriageway on A90(T) Ellon Bypass for the full length, including the River Ythan Bridge. | Previous study |
| O10 | Implement southern east-west link road between A920 and B9005 South Road | Construction of a new link road to the south of Ellon, connecting the A920 and B9005, bypassing the traffic signals at the B9005/Riverside Road junction. | Previous study |
| **Murcar to Bridge of Don** | | | |
| O11 | Review the Ellon Road/Parkway Junction | Review the Ellon Road/Parkway Junction in line with the adopted roads hierarchy, with a view to improving general capacity and interchange between Ellon Road and the Parkway, with possible consideration of junction signalisation. | Previous study; Professional judgement |
| O12 | Review the Ellon Road/North Donside Road Junction | Review the Ellon Road/North Donside Road Junction in line with the adopted roads hierarchy, with a view to improving general capacity. | Previous study; Professional judgement |
| O13 | Review the Ellon Road/Balgownie Road Junction | Review the Ellon Road/Balgownie Road Junction in line with the adopted roads hierarchy. | Previous study |
| **King Street** | | | |
| O14 | Application of red route clearway restrictions along the full length of King Street | Application of red route clearway restrictions along the full length of King Street to improve link and junction capacity for all traffic (specifically buses). | Professional judgement |
| O15 | Widen the carriageway on King Street between the Esplanade and St Machar Drive to provide four standard width lanes | Widen the carriageway on King Street between the Esplanade and St Machar Drive to provide four standard width lanes to improve link capacity for freight and bus travel. | Professional judgement |
| O16 | Widen the carriageway on King Street between St Machar Drive and Mounthooly Way to provide four standard width lanes | Widen the carriageway on King Street between St Machar Drive and Mounthooly Way to provide four standard width lanes to improve link capacity for freight and bus travel. | Professional judgement |
| O17 | Review the routeing of freight at the Mounthooly Way junction | Review the routeing of freight at the Mounthooly Way junction, including consideration of diverting freight away from King Street and onto Mounthooly Way and West North Street, for example through the introduction of width restrictions to limit HGV routeing along King Street. | Professional judgement |
| O18 | Implement traffic calming measures on King Street to the south of Mounthooly Way | Implementation of traffic calming measures on King Street to the south of Mounthooly Way (in line with its reduced priority in the adopted roads hierarchy), including consideration of a 20mph speed restriction and removal of the centre line. | Consultation; Professional judgement |
| O19 | Review of on-street parking spaces along King Street between St Clair Street and West North Street | Review of on-street parking spaces along King Street between St Clair Street and West North Street to determine the potential for relocation to adjacent streets. | Previous study |

| Ref | Title | Description | Source |
|---|---|---|---|
| O20 | Close or restrict movements into side roads along the full length of King Street | Close or restrict movements into side roads along the full length of King Street to improve link capacity for freight and bus travel and reduce conflict with cycle traffic. | Professional judgement |
| O21 | Remove parking and loading opportunities along the full length of King Street | Remove parking and loading opportunities along the full length of King Street, systematically creating short-term parking and loading opportunities on appropriate side roads. | Professional judgement |
| **Holburn Street** | | | |
| O22 | Implement 20mph speed restriction on Holburn Street | Implementation of a 20mph speed restriction on Holburn Street in line with its reduced priority in the adopted roads hierarchy. | Professional judgement |
| O23 | Reimagining of Holburn Street streetscape between Great Western Road and Holburn Junction | Reimagining of the Holburn Street streetscape between Great Western Road and Holburn Junction to provide priority for sustainable travel modes in line with adopted position in the roads hierarchy. | Previous study; Professional judgement |
| O24 | Implement left-turn ban at Holburn Street onto Alford Place | Implement left-turn ban at Holburn Street onto Alford Place, improving junction capacity. | Professional judgement |
| O25 | Implement right-turn ban at Holburn Street onto Justice Mill Lane | Implement right-turn ban at Holburn Street onto Justice Mill Lane, improving link capacity. | Professional judgement |
| O26 | Widen the carriageway on Holburn Street between Holburn Junction and Nellfield Place to provide four standard width lanes | Widen the carriageway on Holburn Street between Holburn Junction and Nellfield Place to provide four standard width lanes to improve link capacity for bus travel. | Professional judgement |
| O27 | Close or restrict access to Holburn Road | Close or restrict access to Holburn Road to remove ability for general traffic to use “inner ring road”, reinforcing the adopted roads hierarchy and improving junction capacity. | Professional judgement |
| O28 | Implement width restriction on Holburn Street at Riverside Drive | Implement width restriction on Holburn Street at Riverside Drive to restrict HGV access and encourage use of the HGV diversion route. | Professional judgement |
| **Bridge of Dee to Garthdee** | | | |
| O29 | Review the layout of Garthdee Roundabout | Review the layout of Garthdee Roundabout, including consideration of conversion to signalised junction, allowing bus priority measures and enhanced pedestrian and cycle provision to be introduced. | Previous study; Professional judgement |
| O30 | Implement 20mph speed restriction on Garthdee Road | Implementation of a 20mph speed restriction on Garthdee Road in line with its tertiary route status in the adopted roads hierarchy. | Professional judgement |
| O31 | Implement traffic calming measures on Garthdee Road to the west of Auchinyell Road | Implementation of traffic calming measures on Garthdee Road to the west of Auchinyell Road to enhance safety for those accessing and exiting Garthdee Farm Gardens. | Consultation |

## 6.5 Option Sifting

Based on the high level performance of options against TPOs, Deliverability Criteria, Position in the Sustainable Investment Hierarchy and Identified Problems and Opportunities in the study area, it is recommended that the options presented in the table below are sifted from further consideration at this stage.

It should be noted that options proposed for sifting include those relating to the implementation of with-flow light segregated cycleways (i.e. Options AT9, AT24, AT31, AT42 and AT49). It is understood that light segregation is not a preferred permanent solution for Sustrans and would likely not compete against other projects proposing permanent solutions with a longer design life. However, in any instances where full construction was prohibitive, they would be considered. It is also understood that temporary trials of light segregation could be regarded as fairly competitive proposals, if, for example, they were rolled out as an initial pilot/long term trial to test ambitious active travel infrastructure, and then monitoring, evaluation and engagement was focussed around this. At this time however, the specific options referred to above in this study are not recommended for further consideration, but cognisance should be taken of Sustrans' position on light segregation.

Figure 6.1: With-flow light segregated cycleway example

Table 6.6: Options to be Sifted from Further Consideration

| Ref | Title | Rationale |
|---|---|---|
| AT1 | Creation of a city-wide cycle hire scheme | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| AT5 | Improve the surface of the long distance active travel route between Ellon and Aberdeen via the Formartine & Buchan Way | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| AT6 | Implement active travel route between Ellon and Newburgh using B9005, west of A90 and B9000 | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| AT7 | Implement active travel bridge over the A90 Ellon Bypass | Option has limited impacts on the TPOs developed for this study and is considered to be high risk in terms of feasibility and affordability. |
| AT9 | Implement with-flow light segregated cycleway between Murcar and Bridge of Don | Option is considered inappropriate due to the traffic volumes on the route. Sustrans advice on light segregation is detailed above. |
| AT13 | Implement active travel links to support the development of a local active travel network | Whilst option has the potential to support delivery of TPOs developed for this study; it does not address an identified problem or opportunity from the previous work package. |
| AT19 | Implement a community cycle hub in the Bridge of Don area | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| AT24 | Implement with-flow light segregated cycleway on the Bridge of Don | Option is considered inappropriate due to the traffic volumes on the route. Sustrans advice on light segregation is detailed above. |
| AT27 | Implement active travel route on the Bridge of Don through widening of the existing structure | Does not constitute an option in its own right - will be considered as an enabler for delivery of AT23 or AT25. |
| AT29 | Implement a crossing point for active travel users to the south of Bridge of Don on the Esplanade arm of the King Street/Esplanade junction | Option has limited impacts on the TPOs developed for this study. |
| AT31 | Implement with-flow light segregated cycleway on King Street | Option is considered inappropriate due to the traffic volumes on the route. Sustrans advice on light segregation is detailed above. |
| AT35 | Implement floating bus stops on King Street | Option has limited impacts on the TPOs developed for this study. Option may be incorporated through further option development. |

| Ref | Title | Rationale |
|---|---|---|
| AT36 | Signalisation of the St Machar Drive junction | ACC is progressing a design for the signalisation of this junction and therefore appraisal of this option is not required as part of the study. |
| AT40 | Review requirement for standalone pedestrian crossings along the full length of King Street | Option conflicts with delivery of a number of the TPOs developed for this study. Further consideration to be given to pedestrian crossing rationalisation as part of the option development stage. |
| AT42 | Implement with-flow light segregated cycleway on Holburn Street | Option is considered inappropriate due to the traffic volumes on the route. Sustrans advice on light segregation is detailed above. |
| AT49 | Implement with-flow light segregated cycleway on Garthdee Road | Option is considered inappropriate due to the traffic volumes on the route. Sustrans advice on light segregation is detailed above. |
| AT52 | Implement new active travel connections to the Deeside Way | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| AT56 | New non-motorised user crossing adjacent to Bridge of Dee | Option has limited impacts on the TPOs developed for this study and there are considered to be potential deliverability risks, particularly in terms of affordability and public acceptability. It is recommended that this option is progressed via other means. |
| AT57 | Reconfiguration of the Bridge of Dee for non-motorised user use only | While option supports delivery of a number of the TPOs developed for this study, it is considered that there are significant deliverability risks as all motorised traffic would be required to use King George VI Bridge, which is likely to generate significant public acceptability issues. |
| BU8 | Decarbonise the bus fleet operating on the corridor | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |
| BU14 | Develop a Quality Bus Corridor Design Toolkit | A Quality Bus Corridor Design Toolkit has been developed as part of this study and has been supplied to the Client separately. |
| BU15 | Implement bus or bus/trial high occupancy vehicle lane between Balmedie and Murcar Roundabout | Whilst option has the potential to support delivery of TPOs developed for this study; it does not address an identified problem or opportunity from the previous work package. |
| BU19 | Implement new circular bus route via Murcar – Dubford – Grandhome – Stoneywood – Craibstone P&R – Dyce Rail Station – Newhills – Kingswells P&R – Countesswells – Friarsfield – City Centre – Murcar | Option has limited impacts on the TPOs developed for this study. |
| BU29 | Signalisation of the St Machar Drive junction | ACC is progressing a design for the signalisation of this junction and therefore appraisal of this option is not required as part of the study. |
| BU34 | Review of on-street parking along King Street to identify possible relocation to adjacent streets | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| BU42 | Enforcement of parking restrictions along Broomhill Road | Option is considered to be outwith the scope of this study. |
| BU44 | Review of on-street parking spaces along Holburn Street to the south of the Broomhill Road junction | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| BU45 | Bus laybys on Garthdee Road | Option has limited impacts on the TPOs developed for this study and could have a negative impact on bus journey times. |
| BU46 | Signalisation of the Auchinyell Road junction | Whilst option has the potential to support delivery of TPOs developed for this study; it does not address an identified problem or opportunity from the previous work package. |
| O3 | Increase green space throughout corridor | Option has limited impacts on the TPOs developed for this study. |
| O10 | Implement southern east-west link road between A920 and B9005 South Road | Option has limited impacts on the TPOs developed for this study. |

| Ref | Title | Rationale |
|---|---|---|
| O12 | Review Ellon Road/North Donside Road Junction | Covered by BU23 |
| O15 | Widen the carriageway on King Street between the Esplanade and St Machar Drive to provide four standard width lanes | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| O16 | Widen the carriageway on King Street between St Machar Drive and Mounthooly Way to provide four standard width lanes | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| O19 | Review of on-street parking spaces along King Street between St Clair Street and West North Street | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| O26 | Widen the carriageway on Holburn Street between Holburn Junction and Nellfield Place to provide four standard width lanes | Does not constitute an option in its own right - will be considered as an enabler for active travel measures or bus/high occupancy vehicle lanes. |
| O31 | Implement traffic calming measures on Garthdee Road to the west of Auchinyell Road | Option has limited impacts on the TPOs developed for this study. It is recommended that this option is progressed via other means. |

## 6.6 Option Development

The remaining options have been consolidated where appropriate for the purposes of appraisal. Where options have been consolidated, the change is summarised in the table below.

**Table 6.7: Consolidation of Remaining Options**

| Ref | Original Option Title | Revised Option Title | Original Option Description | Revised Option Description | Incorporated Options |
|---|---|---|---|---|---|
| AT3 | Implement long distance active travel route between Ellon and Murcar alongside carriageway | Implement active travel route between Ellon and Murcar | Creation of a long distance active travel route in both directions between Ellon and Murcar in the form of a shared use path alongside the existing carriageway, including the proposed extension of the current scheme between Murcar and Blackdog. | Creation of a long distance active travel route in both directions between Ellon and Murcar, including the proposed extension of the current shared use path scheme between Murcar and Blackdog. | Option AT4 |
| AT8 | Implement with-flow kerb segregated cycleway between Murcar and Bridge of Don | Implement segregated cycleway between Murcar and Bridge of Don | Implementation of a with-flow kerb segregated cycleway in both directions between Murcar and Bridge of Don. | Implementation of a segregated cycleway in both directions between Murcar and Bridge of Don. | Option AT10 |
| AT12 | Extend the Ellon Road shared use path on the west side of the Bridge of Don | Extend the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don | Extension of the Ellon Road shared use path along the west side of the Bridge of Don. | Extension of the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don. | No changes |
| AT15 | Implement upgrades to the Ellon Road/Parkway Junction to improve active travel provision | Improve active travel provision at the Ellon Road/Parkway junction | Implementation of improvements at the Parkway Roundabout to enhance opportunities for active travel. | Improve active travel provision at the Ellon Road/Parkway junction, including consideration of junction signalisation and implementation of a crossing point to the south of the roundabout. | Option AT16; Option O11 |

| Ref | Original Option Title | Revised Option Title | Original Option Description | Revised Option Description | Incorporated Options |
|---|---|---|---|---|---|
| AT17 | Implement crossing facilities for active travel users on Ellon Road at the junction with Balgownie Road | Improve active travel facilities at the Ellon Road/Balgownie Road junction | Creation of a pedestrian crossing at the Ellon Road/Balgownie Road junction to allow for safe pedestrian crossing. | Improve active travel facilities at the Ellon Road/Balgownie Road junction, including implementation of crossing facilities and consideration of a protected junction for cyclists by reallocating carriageway space and reducing corner radii. Signal timings to be reviewed in line with the revised roads hierarchy. | Option AT18; Option O13 |
| AT21 | Implement improvements to cycle and pedestrian access at Bridge of Don Park and Ride from King Robert's Way to Exhibition Avenue | Improve active travel access to Bridge of Don Park and Ride | Access improvements to Bridge of Don Park and Ride by walking and cycling on the east side of Ellon Road. | Improve active travel access to Bridge of Don Park and Ride, including consideration of improved access from King Robert's Way to Exhibition Avenue and implementation of a footpath link between the site and the bus stops on Ellon Road. | Option AT22; Option BU21 |
| AT23 | Implement with-flow kerb segregated cycleway on the Bridge of Don | Implement segregated cycleway on the Bridge of Don | Implementation of a with-flow kerb segregated cycleway in both directions on the Bridge of Don. | Implementation of a segregated cycleway in both directions on the Bridge of Don. | Option AT25 |
| AT30 | Implement with-flow kerb segregated cycleway on King Street | Implement segregated cycleway on King Street | Implementation of a with-flow kerb segregated cycleway in both directions on King Street between Bridge of Don and West North Street. | Implementation of a segregated cycleway in both directions on King Street. | Option AT32 |
| AT41 | Implement with-flow kerb segregated cycleway on Holburn Street | Implement segregated cycleway on Holburn Street | Implementation of a with-flow kerb segregated cycleway in both directions on Holburn Street between Union Street and Garthdee Roundabout. | Implementation of a segregated cycleway in both directions on Holburn Street. | Option AT43 |
| AT48 | Implement with-flow kerb segregated cycleway on Garthdee Road | Implement segregated cycleway on Garthdee Road | Implementation of a with-flow kerb segregated cycleway in both directions on Garthdee Road between Garthdee Roundabout and Auchinyell Road. | Implementation of a segregated cycleway in both directions on Garthdee Road. | Option AT50; Option AT51 |
| AT53 | Implement traffic calming measures on Garthdee Road | Reduce traffic speeds on Garthdee Road | Trialling of temporary on-street traffic calming measures on Garthdee Road between Robert Gordon University Campus and Garthdee Farm Gardens to affect a reduction in motor vehicle speeds to an average speed which is considered suitable for on-carriageway cycling (20-25mph). | Reduce traffic speeds on Garthdee Road between RGU and Garthdee Farm Gardens through trialling of temporary on-street traffic calming measures or reducing the speed limit to 20mph. | Option O30 |
| BU3 | Review of bus stop provision on the corridor | Review of bus stop provision on the corridor | Review of bus stop provision on the Ellon P&R to Garthdee corridor to identify the potential for rationalisation. | Review of bus stop provision on the Ellon P&R to Garthdee corridor to identify the potential for rationalisation. | Option BU35 |

| Ref | Original Option Title | Revised Option Title | Original Option Description | Revised Option Description | Incorporated Options |
|---|---|---|---|---|---|
| BU25 | Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street | Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of King Street between Bridge of Don and Castle Street. | Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of King Street between Bridge of Don and Castle Street, with specific focus on a southbound lane between Seaton Drive and St Peter's Cemetery and a northbound lane between Roslin Terrace and Mounthooly Way. | Option BU26; Option BU27; Option BU28 |
| BU33 | Review the layout of the West North Street junction, including consideration of signal timings | Review the layout of the West North Street junction | Review the layout of the West North Street junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing. Consideration to be given to restricting the right turn movement from West North Street to King Street and implementing Traffic Signal Priority technology to grant priority to buses approaching the junction. | Review the layout of the West North Street junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing, restricting the right turn movement from West North Street to King Street for general traffic and implementing Traffic Signal Priority technology to grant priority to buses approaching the junction. | Option AT37 |
| BU37 | Review the layout of Holburn Junction | Review the layout of Holburn Junction | Review the layout of Holburn Junction to increase capacity for all arms and provide bus priority measures, including consideration of reallocating lanes on the northbound approach to the junction to prioritise bus movements. Consideration to be given to improved synchronisation of Holburn Junction, Rose Street and Chapel Street signalised junctions. | Review the layout of Holburn Junction to increase capacity for all arms and provide bus priority measures, including consideration of reallocating lanes on the northbound approach to the junction to prioritise bus movements, improved synchronisation of Holburn Junction, Rose Street and Chapel Street signalised junctions and implementation of a left-turn ban onto Alford Place. | Option O24 |
| BU41 | Review Holburn Street/Broomhill Road Junction | Review Holburn Street/Broomhill Road Junction | Review Holburn Street/Broomhill Road junction to minimise delay for buses. | Review Holburn Street/Broomhill Road junction to minimise delay for buses, including consideration of bus gate(s) and restricted access to Holburn Road. | Option AT46; Option BU43; Option O27 |
| O4 | Upgrade A90(T)/B9005 Roundabout (1) | Upgrade A90(T)/B9005 Roundabout | Upgrade the A90/B9005 Roundabout to the south of Ellon by increasing the size to 60m diameter with increase to two lanes on northbound exit to the A90(T) Ellon bypass | Upgrade the A90/B9005 Roundabout to the south of Ellon by increasing the size to 60m diameter with a) increase to two lanes on northbound exit, b) increase to two lanes on all arms or c) increase to two lanes on all arms + left turn filter lane for northbound traffic to Ellon. | Option BU16; Option O5; Option O6 |

| Ref | Original Option Title | Revised Option Title | Original Option Description | Revised Option Description | Incorporated Options |
|---|---|---|---|---|---|
| O7 | Implement dual carriageway on A90(T) Ellon Bypass – B9005 to River Ythan Bridge | Implement dual carriageway on A90(T) Ellon Bypass | Implement dual carriageway on A90(T) Ellon Bypass to the south of the River Ythan Bridge, with north of the bridge remaining single carriageway. | Implement dual carriageway on A90(T) Ellon Bypass south of the River Ythan Bridge, north and south of the River Ythan Bridge or for the full length. | Option O8; Option O9 |
| O14 | Application of red route clearway restrictions along the full length of King Street | Application of red route clearway restrictions along the full length of King Street | Application of red route clearway restrictions along the full length of King Street to improve link and junction capacity for all traffic (specifically buses). | Application of red route clearway restrictions along the full length of King Street to improve link and junction capacity for all traffic (specifically buses), including parking and loading opportunities. Systematic creation of short-term parking and loading opportunities on appropriate side roads would be required. | Option O21 |

### 6.6.1 Finalised Option List for Appraisal

The finalised option list for appraisal is shown in the table below.

**Table 6.8: Finalised Option List for Appraisal**

| Ref | Option Title |
|---|---|
| AT2 | Improve signage for active travel |
| AT3 | Implement long distance active travel route between Ellon and Murcar |
| AT8 | Implement segregated cycleway between Murcar and Bridge of Don |
| AT11 | Implement active travel route via local residential network to the west of the study corridor |
| AT12 | Extend the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don |
| AT14 | Implement a crossing point for active travel users on Ellon Road south of Murcar Roundabout. |
| AT15 | Improve active travel provision at the Ellon Road/Parkway junction |
| AT17 | Improve active travel facilities at the Ellon Road/Balgownie Road junction |
| AT20 | Maintain and improve cycle parking provision at Bridge of Don Park and Ride |
| AT21 | Improve active travel access to Bridge of Don Park and Ride |
| AT23 | Implement segregated cycleway on the Bridge of Don |
| AT26 | Implement active travel route via a fully segregated active travel bridge across the River Don |
| AT28 | Implement a crossing point for active travel users to the north of the Bridge of Don |
| AT30 | Implement segregated cycleway on King Street |
| AT33 | Implement active travel route via Beach Esplanade |
| AT34 | Implement active travel route via Golf Road and Park Road |
| AT38 | Create protected junction at King Street/West North Street junction for cyclists |
| AT39 | Tighten junction radii and reduce side road width along the full length of King Street |
| AT41 | Implement segregated cycleway on Holburn Street |
| AT44 | Implement active travel route via Bon Accord Terrace and Hardgate |
| AT45 | Create protected junction at Holburn Street/Great Western Road junction for cyclists |
| AT47 | Improvements to access point to the Deeside Way on Holburn Street. |
| AT48 | Implement segregated cycleway on Garthdee Road |
| AT53 | Reduce traffic speeds on Garthdee Road |
| AT54 | Widen narrow footways on Garthdee Road |
| AT55 | Provide crossing facility on Garthdee Road at Gray's School of Art. |
| AT58 | Upgrade the junction at Asda/Garthdee Road to improve cycle provision |
| AT59 | Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision |
| BU1 | Review ticketing structure |
| BU2 | Review bus stop infrastructure on the corridor |
| BU3 | Review of bus stop provision on the corridor |
| BU4 | Review how accessibility is being provided on vehicles operating on the corridor |
| BU5 | Fare improvements delivered through a BSIP |
| BU6 | Frequency improvements delivered through a BSIP |
| BU7 | Quality improvements delivered through a BSIP |
| BU9 | Enhance bus monitoring capability |
| BU10 | Extend bus lane hours of operation on the corridor |

| Ref | Option Title |
|---|---|
| BU11 | Improve bus lane enforcement on the corridor |
| BU12 | Implement Aberdeen Rapid Transit connecting Kingswells to Bridge of Don |
| BU13 | Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor |
| BU17 | Improve service provision in the settlements between Ellon and Aberdeen |
| BU18 | Implement bus or bus/trial high occupancy vehicle lane between Murcar Roundabout and the Bridge of Don |
| BU20 | Implement upgrades to the Ellon Road/Parkway junction to improve northbound bus priority |
| BU22 | Reconfigure access/egress from Bridge of Don Park and Ride to Ellon Road |
| BU23 | Implement junction upgrades at the Ellon Road/North Donside Road junction to improve bus priority from North Donside Road |
| BU24 | Implement bus or bus/trial high occupancy vehicle lane on the Bridge of Don |
| BU25 | Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street |
| BU30 | Review the layout of the Regent Walk junction |
| BU31 | Review the layout of the Orchard Street/Linksfield Road junction, including consideration of signal timings |
| BU32 | Review the layout of the Mounthooly Way junction |
| BU33 | Review the layout of the West North Street junction |
| BU36 | Implement bus or bus/trial high occupancy vehicle lane for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout |
| BU37 | Review the layout of Holburn Junction |
| BU38 | Review the layout of the Union Grove junction |
| BU39 | Review the layout of the Great Western Road junction, including consideration of signal timings |
| BU40 | Review the layout of the Great Southern Road Roundabout |
| BU41 | Review Holburn Street/Broomhill Road Junction |
| BU47 | Review priorities at the Auchinyell Road junction |
| O1 | Review road signage along the corridor |
| O2 | Review and revalidation of the SCOOT system |
| O4 | Upgrade A90(T)/B9005 Roundabout |
| O7 | Implement dual carriageway on A90(T) Ellon Bypass |
| O14 | Application of red route clearway restrictions along the full length of King Street |
| O17 | Review the routeing of freight at the Mounthooly Way junction |
| O18 | Implement traffic calming measures on King Street to the south of Mounthooly Way |
| O20 | Close or restrict movements into side roads along the full length of King Street |
| O22 | Implement 20mph speed restriction on Holburn Street |
| O23 | Reimagining of Holburn Street streetscape between Great Western Road and Holburn Junction |
| O25 | Implement right-turn ban at Holburn Street onto Justice Mill Lane |
| O28 | Implement width restriction on Holburn Street at Riverside Drive |
| O29 | Review the layout of Garthdee Roundabout |

# 7. Option Appraisal

## 7.1 Introduction

This chapter presents a high-level appraisal of the options against the TPOs, STAG Criteria (Environment, Safety, Economy, Integration and Accessibility & Social Inclusion) and Implementability Criteria (Feasibility, Affordability and Public Acceptability).

## 7.2 Approach

### 7.2.1 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 Guidance Seven-Point Scale**

| Impact | Description |
|---|---|
| **Major beneficial impact (✓✓✓)** | These are benefits or positive impacts which, depending on the scale of benefit or severity of impact, should be a principal consideration when assessing an option. |
| **Moderate beneficial impact (✓✓)** | The option is anticipated to have a moderate benefit or 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 (✓)** | The option is anticipated to have a small benefit or positive impact. Small benefits or impacts are those which are worth noting but are not likely to contribute materially to determining whether an option is taken forward. |
| **No benefit or impact (-)** | The option is anticipated to have no or negligible benefit or negative impact. |
| **Minor negative impact (×)** | 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 (××)** | 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 (×××)** | There are negative impacts which, depending on the severity of impact, should be a principal consideration when assessing an option. |

### 7.2.2 Transport Planning Objectives

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

**Table 7.2: TPOs**

| TPO | Description |
|---|---|
| **TPO1** | Improve walking and cycling infrastructure on the corridor to provide safer and more attractive routes, enabling, and encouraging trips to be undertaken actively and increasing the modal share of walking and cycling for all journey types. |
| **TPO2** | Increase the competitiveness of walking and cycling options for short trips by reducing the convenience of using private cars for such trips. |
| **TPO3** | Implement public transport measures between Ellon P&R and Garthdee which support year-on-year recovery and growth in bus patronage on the study corridor and which promote innovation and emerging technologies that reflect the ambition of providing a step-change in public transport provision along the corridor. |
| **TPO4** | Improve public transport reliability and journey times between Ellon P&R and Garthdee and between the study corridor, Bridge of Don P&R and villages in Aberdeenshire; to achieve a step-change in the competitiveness of public transport compared with private car travel. |
| **TPO5** | Lock-in journey time benefits delivered by the AWPR to ensure efficient access to the city from the north to reflect the corridor's priority status within the roads hierarchy and to discourage use of adjacent secondary and tertiary routes for through trips. |

### 7.2.3 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** | Indicates the environmental impact of an option against a number of environment sub-criteria including: Noise and Vibration; Global Air Quality (CO2); Local Air Quality particulates (PM10) and nitrogen dioxide (NO2); Water Quality, Drainage and Flood Defence; Geology; Biodiversity and Habitats; Landscape; Visual Amenity; Agriculture and Soils; Cultural Heritage; and Physical Fitness. |
| **Safety** | Comprises two sub-criteria of Accidents and Security. |
| **Economy** | Comprises two sub-criteria of Transport Economic Efficiency and Wider Economic Impacts. |
| **Integration** | Comprises three sub-criteria of Transport Integration, Transport and Land Use-Integration and Policy Integration. |
| **Accessibility & Social Inclusion** | Comprises two sub-criteria of Community Accessibility and Comparative Accessibility. |

### 7.2.4 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.

**Table 7.4: Implementability Criteria**

| STAG Criteria | Description |
|---|---|
| **Feasibility** | Initial assessment of the feasibility of construction or implementation of an option as well as any associated cost, timescale or deliverability risks. |
| **Affordability** | An assessment of the scale of financial burden on the promoting authority and other possible funding organisations, as well as associated risks. |
| **Public Acceptability** | An assessment of the likely public response to an option, including consideration of the outcomes of consultation thus far. |

In terms of affordability, it should be noted that sources of funding are available to apply to in order to support the delivery of active travel and public transport interventions.

The main funding source for active travel projects in Scotland is 'Places for Everyone[30]', which is managed by Sustrans on behalf of Transport Scotland. The minimum criteria for a successful Places for Everyone bid is outlined below.

**Design Principles**

1. Develop ideas collaboratively and in partnership with communities.
2. Facilitate independent walking, cycling, and wheeling for everyone, including an unaccompanied 12-year old.
3. Design places that provide enjoyment, comfort and protection.
4. Ensure access for all and equality of opportunity in public space.
5. Ensure all proposals are developed in a way that is context-specific and evidence-led.
6. Reallocate road space, and restrict motor traffic permeability to prioritise people walking, cycling and wheeling over private motor vehicles.

All designs will be assessed against how well they achieve the design principles.

**Figure 7.1: Sustrans Design Principles**

[30] https://www.sustrans.org.uk/media/5769/places_for_everyone_application_guide_v20.pdf

Sustrans outline seven project stages for the design and construction of active travel projects (as shown below). Currently, Sustrans are not accepting new projects until 2022/2023 and advise that projects should only look to achieve two stages within a year. Therefore, design and construction of the proposed linear routes under consideration as part of this study would take a minimum of 3 to 4 years to deliver.


**Figure 7.2: Sustrans Project Stages**

Currently, the main funding source for bus priority interventions in Scotland is the Bus Partnership Fund, with the Scottish Government committed to providing a long-term investment of over £500m to deliver targeted bus priority measures on local and trunk roads. The initial tranche of funding was awarded in June 2021, including £12m for the North East Bus Alliance to develop the business cases and designs for city centre and radial corridor bus priority measures, the Aberdeen Rapid Transit system and planned improvements at South College Street.

The Bus Partnership Fund application criteria[31] notes that the infrastructure projects will be owned by local roads authorities, and therefore Transport Scotland will not mandate design requirements but will expect local authorities to follow good practice guidance, such as the National Roads Development Guide. It further notes that applications which demonstrate innovation and ambition to address the negative impacts of congestion on bus services and address the decline in bus patronage, will be particularly welcomed.

### 7.2.5 Other Criteria

In addition to the criteria discussed above, the option appraisal tables that follow include consideration of:

- Conflicting options – outlines which options would not be possible or required in combination with each other.
- Cost – estimates the cost of options within the categories of 'less than £250k', '£250k - £2m', and 'over £2m'.
- Programme – estimates the timescale for delivery of options within the categories of 'less than 2 years', '2-5 years' and 'more than 5 years'.

### 7.2.6 Spatial Analysis

To assist the development of the option appraisal, a comprehensive review of the corridor was undertaken to understand spatial constraints along the route. An initial review established the pinch-points along the corridor, which permitted an understanding of the widths available to better understand the deliverability of options.

**Table 7.5: Pinch Point Widths by Corridor Section**

| Corridor Section | Pinch Point Width (Rear of Footway to Rear of Footway) |
|---|---|
| **1 – Ellon to Murcar** | 20.4m |
| **2 – Murcar to Bridge of Don** | 20.4m |
| **3 – Bridge of Don** | 19.8m |
| **4 – King Street** | 17.0m |
| **5 – Holburn Street** | 13.2m |
| **6 – Garthdee Road** | 9.0m |

Within the initial review, typical cross sections were established which highlighted the users/facilities required to be included within the corridor. These permitted an understanding of the constraints along the corridor in respect of the requirement for carriageway redistribution to permit the future delivery of the proposed options.

This was further explored with drawings produced to show the key considerations along the corridor for the installation of bus/trial high occupancy vehicle lanes and bus priority[32]. The segregated cycle route requirements were included at key locations along Ellon Road and Holburn Street to understand the additional width required to deliver bus and active travel in tandem.

The drawings produced highlight (at pinch points only) where additional land/redistribution of the carriageway would be required to deliver the promoted bus and active travel infrastructure. The requirement for land and carriageway redistribution varies throughout the corridor depending on the existing infrastructure that is present. For instance,

[31] https://www.transport.gov.scot/public-transport/buses/bus-partnership-fund/criteria/
[32] https://storymaps.arcgis.com/stories/accf3d87746e4d2abfe1a5fda75ed85f).

central reservations along Ellon Road and Bridge of Don, on-street parking along King Street and Holburn Street and existing verges in Garthdee.

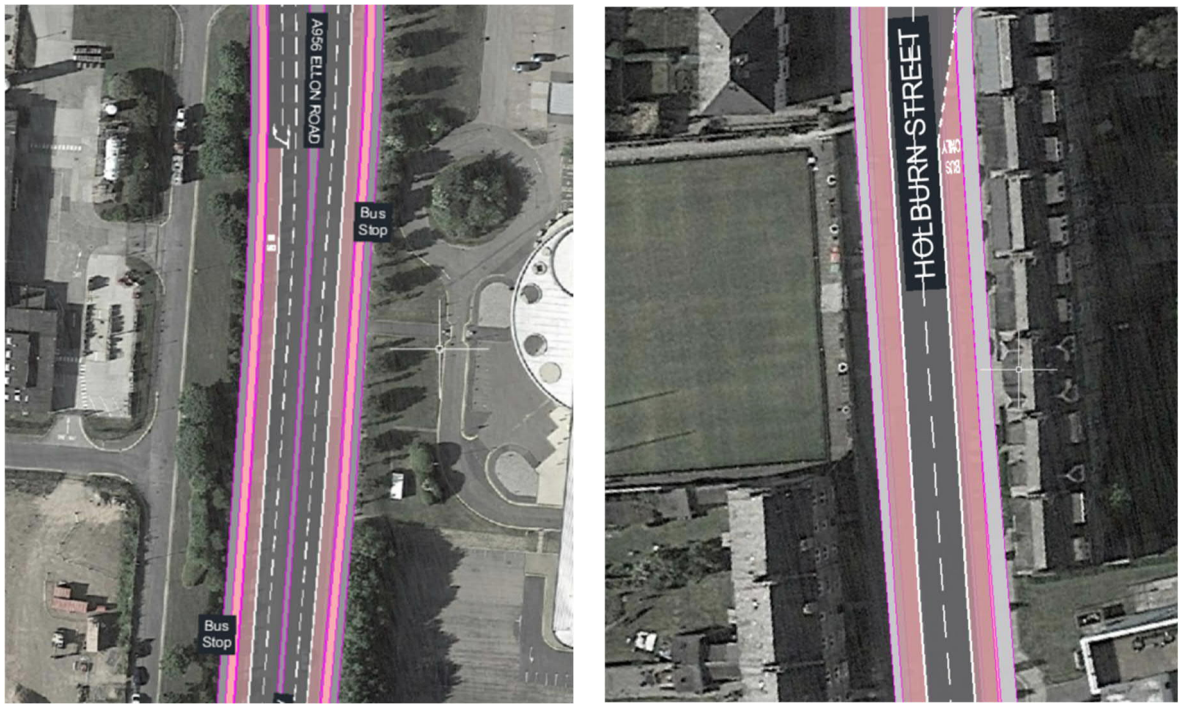


**Figure 7.3: Example Option Development Drawings**

At the next design stage of the routes, it is therefore proposed that the primary function of the carriageway is established and further spatial analysis is undertaken to finalise carriageway redistribution and potential land take. An example of this is shown below at the existing pinch points along King Street and Holburn Street, highlighting the widths required to deliver segregated cycling facilities at the narrowest sections of the corridor, whilst retaining the existing carriageway lanes. The cross section for Holburn Street highlights that compromises will be required as space is not available to deliver verge treatments between cyclists and the main carriageway.

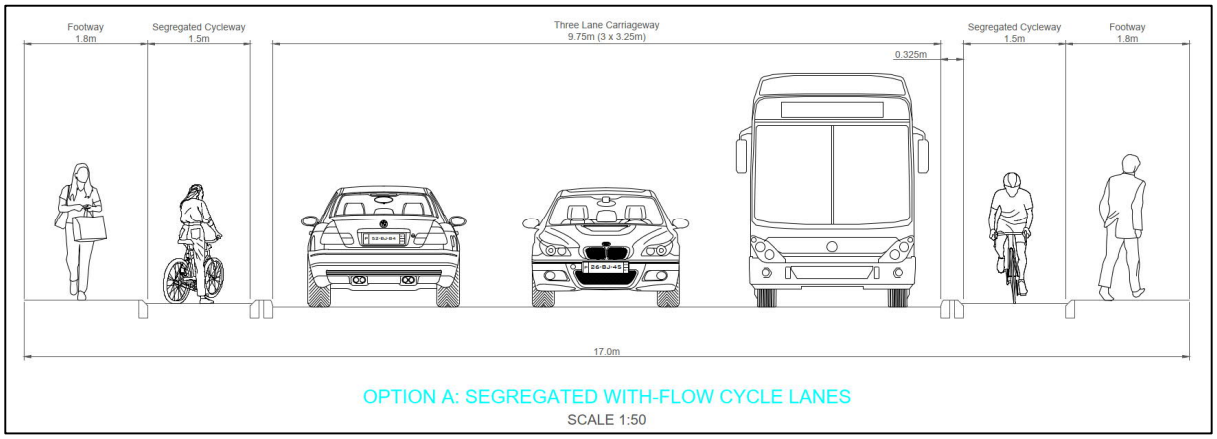


**Figure 7.4: King Street - With-Flow Cycleway Cross Section**

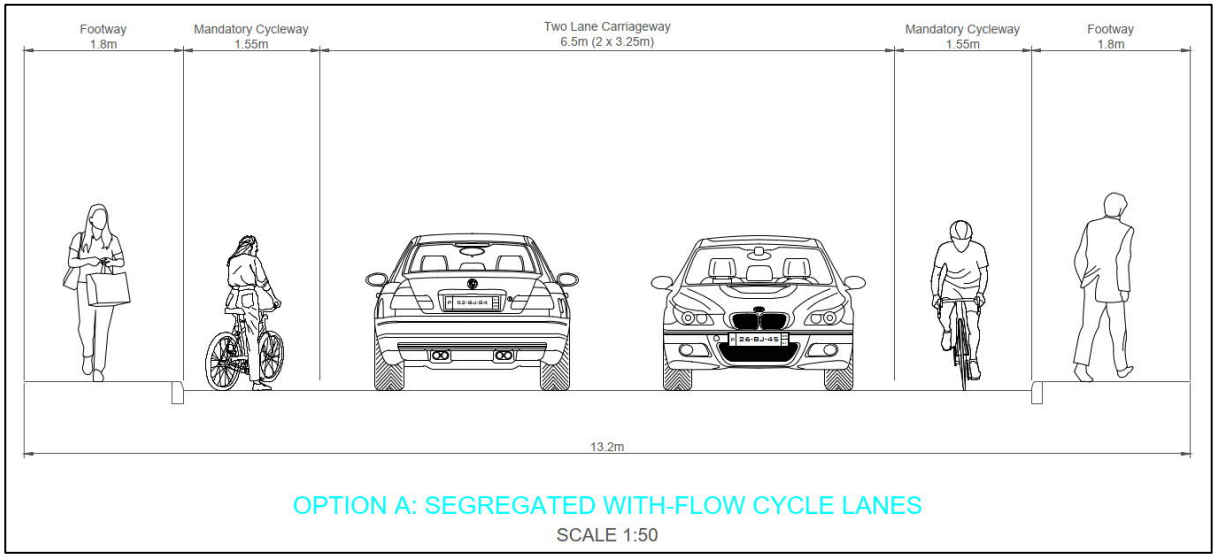


**Figure 7.5: Holburn Street - With-Flow Cycleway Cross Section**

In addition to the linear review, junctions along the corridor were reviewed for the inclusion of bus priority, highlighting key considerations required to be addressed to permit delivery of the linear route. Key challenges are faced at junctions when delivering bus and active travel routes along a key corridor, however, junctions are a vital component of the delivery of coherent networks of bus and active travel interventions.

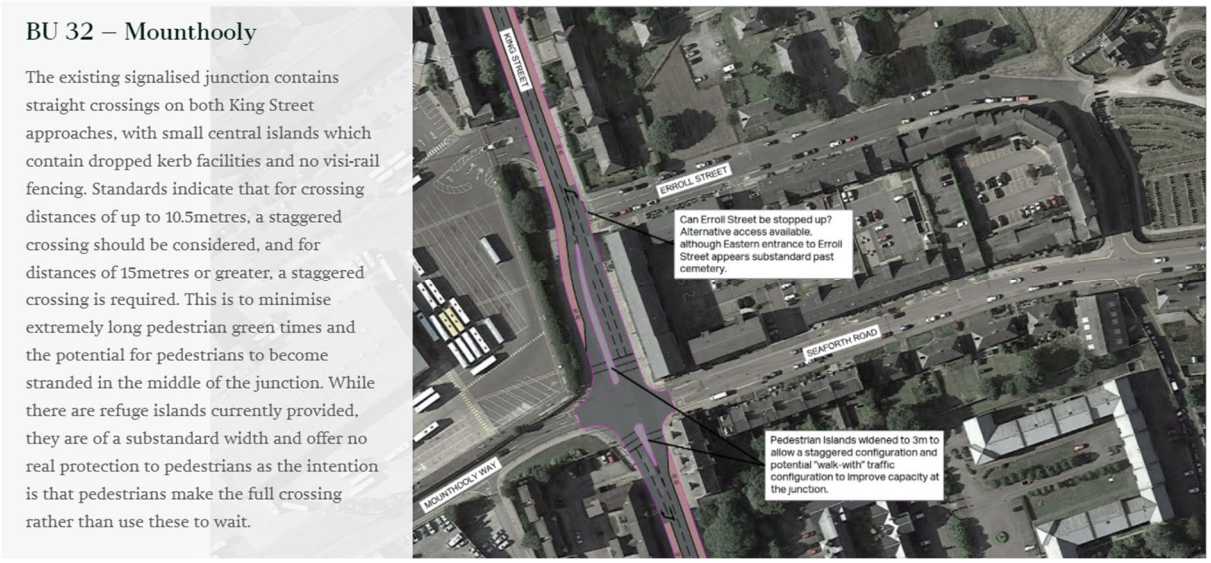


**Figure 7.6: Junction Review Diagram for Mounthooly Way**

Overall, the corridor has a variety of constraints. The next stage of the design process will be to establish the preferred design solution and thereafter establish the carriageway distribution and land take required to deliver preferred solutions along the corridor.

## 7.3 Option Appraisal

This section outlines the appraisal of options.

### 7.3.1 Active Travel Options

**Table 7.6: Option AT2 Appraisal**

<table>
<tr><th colspan="2">AT2: Improve signage for active travel</th></tr>
<tr><td>Description</td><td>
Improved signage for active travel to fully utilise active travel infrastructure throughout the city.
Walking, wheeling and cycling signage along the corridor can assist people to make informed decisions on the route and journey they will take.
It can be used to provide information on local connections and inform users of the distance and time journeys along the route will take, as is currently provided within the city centre of Aberdeen.
Signage could additionally display estimated journey times for all modes and outline how the active travel and public transport network link e.g. outlining cycle routes, pedestrian routes, bus routes and journey times as well as information about cycle parking and accessibility information.


</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improved wayfinding signage may increase the attractiveness of active travel routes, which could provide minor benefits in terms of enabling and encouraging more trips to be undertaken actively.</li>
<li>TPO3 – Improved wayfinding signage may support bus patronage growth if it was to provide information about bus routes and estimated journey times by bus.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Improved wayfinding signage would not be anticipated to generate significant environmental, safety or economic impacts.</li>
<li>Improved wayfinding signage would improve the integration of the active travel network. It would also increase integration between the pedestrian realm and public transport provision through the inclusion of information regarding bus routes and estimated bus journey times.</li>
<li>Improved wayfinding signage would contribute to improved local accessibility for active travel users.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT2: Improve signage for active travel</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with the provision of improved wayfinding signage.</li><li>Improved wayfinding signage is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with the provision of improved wayfinding signage.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Improved wayfinding signage may improve the attractiveness of active travel routes and support integration and local accessibility. It is considered to be low risk in terms of feasibility, affordability and public acceptability and it could be implemented within the next 2 years as a standalone option to improve active travel facilities on the study corridor.</td></tr>
</table>

**Table 7.7: Option AT3 Appraisal**

<table>
<tr><th colspan="2">AT3: Implement long distance active travel route between Ellon and Murcar</th></tr>
<tr><td>Description</td><td>Creation of a long distance active travel route in both directions between Ellon and Murcar, including the proposed extension of the shared use path scheme between Murcar and Blackdog.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – A long distance active travel route between Ellon and Murcar would improve the safety and attractiveness of walking and cycling for longer distance trips and for shorter distance trips between communities on the route, both for leisure and commuting purposes.</li>
<li>TPO5 – A long distance active travel route between Ellon and Murcar could encourage some modal shift to walking and cycling for trips along the corridor and between communities, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a long distance active travel route between Ellon and Murcar could encourage a degree of modal shift which would have environmental benefits in terms of physical fitness and improved air quality.</li>
<li>A long distance active travel route between Ellon and Murcar may lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a long distance active travel route between Ellon and Murcar could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a long distance active travel route between Ellon and Murcar would not be anticipated to generate significant integration impacts.</li>
<li>Provision of a long distance active travel route between Ellon and Murcar would provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are two main options for delivery of a long distance active travel route between Ellon and Murcar – a shared use path alongside the A90(T) carriageway and using the old A90.</li>
</ul>
</td></tr>
</table>

| AT3: Implement long distance active travel route between Ellon and Murcar | |
|---|---|
| | • Delivery of a long distance route alongside the carriageway would be a significant multidisciplinary undertaking. Multiple pinch points are present at private dwellings with frontages onto the main road and there are a number of locations where alternatives or re-routeing would be required including the River Ythan Bridge, AWPR Roundabout and the B977 Roundabout. Significant land take would be required to provide sufficient offset from the carriageway. The A90(T) is under the control of Transport Scotland and therefore a Minute of Agreement would be required for any changes to the road. Engagement with Transport Scotland should be undertaken early in the option development process should this option progress.<br>• Delivery of a long distance route using the old A90 would require reduction of the speed limit from 60mph to (at least) 40mph and this would require a Traffic Regulation Order (TRO). In addition, signage would be required to highlight to users that the route should be treated as an active travel route. It is not considered that dedicated active travel infrastructure (e.g. segregated cycleways) would be required along this section of the corridor due to its rural nature and anticipated low traffic flows.<br>• Provision of a long distance active travel route between Ellon and Murcar is considered to present a low-medium risk in terms of affordability. Delivery of a route using the old A90 would be low risk in terms of affordability as the main cost would be for new signage along the route, which would be low cost. Delivery of a long distance route alongside the carriageway is considered to be medium risk in terms of affordability. Whilst funding streams would be available, they are competitive and Sustrans are placing priority on schemes within urban areas.<br>• There are no significant public acceptability concerns associated with the implementation of a long distance active travel route between Ellon and Murcar. Public consultation highlighted that long distance active travel routes would encourage 52.5% of respondents to travel actively. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed, likely using a combination of the old A90 and a new shared use route alongside the carriageway. A long distance active travel route between Ellon and Murcar would improve the safety and attractiveness of active travel along the corridor and is considered to perform well against the STAG Criteria. |

**Table 7.8: Option AT8 Appraisal**

<table>
<tr><th colspan="2">AT8: Implement segregated cycleway between Murcar and Bridge of Don</th></tr>
<tr><td>Description</td><td>Implementation of a segregated cycleway in both directions between Murcar and Bridge of Don.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated cycleway between Murcar and Bridge of Don would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated cycleway between Murcar and Bridge of Don could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>✓✓✓</td><td>✓</td><td>✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a segregated active travel route between Murcar and Bridge of Don could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality.</li>
<li>Segregated active travel infrastructure between Murcar and Bridge of Don would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a segregated active travel route between Murcar and Bridge of Don could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a segregated active travel route between Murcar and Bridge of Don could support integration if cycling provision is linked to Bridge of Don P&R. This would encourage use of people parking and then cycling south or cycling and then taking the bus into the city centre.</li>
<li>Provision of a segregated active travel route between Murcar and Bridge of Don would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
</td></tr>
</table>

| AT8: Implement segregated cycleway between Murcar and Bridge of Don | |
|---|---|
| | **Key Points**<br>• It is anticipated that this option would be deliverable if bus lanes (BU18) are provided through reallocation of existing carriageway space to public transport (i.e. four traffic lanes are provided in total, with two allocated for public transport use during peak times). It is anticipated that this option could be delivered through use of verge space in the north of this section. Thereafter, redistribution of the carriageway and removal of the central reserve would be required at Balgownie Road. To the south of Balgownie Road, there is not adequate space for delivery of a segregated route without reallocation of carriageway space or additional land take.<br>• It should be noted that this option would not be deliverable if bus lanes were provided in both directions in addition to the existing lanes for general traffic (i.e. 6 traffic lanes in total).<br>• Delivery of a segregated cycleway between Murcar and Bridge of Don is considered to be low risk in terms of affordability. Funding the provision of segregated infrastructure in an urban environment is the highest priority for Sustrans and therefore it would be anticipated that ACC could be successful in obtaining funding for such an intervention.<br>• There are no significant public acceptability concerns associated with the implementation of a segregated cycleway between Murcar and Bridge of Don. |
| **Conflicting Options** | Further consideration of the relationship with Option BU18 is required. |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further consideration is required to understand the deliverability of this option in combination with BU18. |

**Table 7.9: Option AT11 Appraisal**

<table>
<tr><th colspan="2">AT11: Implement active travel route via local residential network to the west of the study corridor</th></tr>
<tr><td>Description</td><td>Implementation of active travel infrastructure in both directions between Murcar and Bridge of Don via the local residential network to the west of the study corridor including Denmore Road, Woodside Road, Silverburn Place, Cloverhill Road, Gordon Road, North Donside Road, Simpson Road and Balgownie Crescent. This could either be in the form of on-road advisory cycle lanes or widening one of the footways and redetermining as a shared use path.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Implementation of an active travel route to the west of the study corridor between Murcar and Bridge of Don could provide minor benefits against TPO1 by enhancing the safety of walking and cycling through the local residential network.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Provision of an active travel route via the local residential network west of the study corridor would not be anticipated to generate significant impacts in terms of environment, economy or integration.</li><li>Provision of an active travel route via the local residential network west of the study corridor would provide minor safety benefits by providing an alternative for cyclists off the main carriageway.</li><li>Provision of an active travel route via the local residential network west of the study corridor would provide more travel options for people without a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points<ul><li>Delivery of this option could either be through on-road advisory cycle lanes or through widening of one of the footways and redetermining as a shared use path. In both options, it would be appropriate to reduce the speed limit on these roads to 20mph, which would require a TRO. A topographical survey would be required to confirm the existing available widths for the shared use path option and it should be noted that the existing carriageway lane widths are at the 3.25m desirable minimum. This local network passes through an industrial area and therefore swept path analysis would be required to understand the design options for both alternatives.</li><li>Delivery of this option is considered to present a low-medium affordability risk to ACC. On-road advisory cycle lanes are considered to be low risk due to the low cost of delivering this option. Provision of a shared use path through widening of</li></ul></td></tr>
</table>

| AT11: Implement active travel route via local residential network to the west of the study corridor | |
|---|---|
| | one of the footways is considered to present a medium affordability risk because segregated cycle infrastructure is the priority for Sustrans within urban areas and therefore, funding may not be granted for shared use infrastructure.<br>• Delivery of this option is considered to be medium risk in terms of public acceptability due to the potential reduction of the speed limit. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst it generally has a limited impact on the TPOs and STAG Criteria, it has the potential to generate minor safety and accessibility and social inclusion benefits. With delivery alongside AT8, this would support the creation of a cohesive active travel network to the north of the Bridge of Don. |

**Table 7.10: Option AT12 Appraisal**

<table>
<tr><th colspan="2">AT12: Extend the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don</th></tr>
<tr><td>Description</td><td>Extension of the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don. It should be noted that the footways on either side of the Bridge of Don itself form part of the Aberdeen core path network[33].</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Extension of the shared use path along the west side of the carriageway to the Bridge of Don could provide minor benefits against TPO1 by enhancing the safety of walking and cycling over the bridge.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Extension of the shared use path would not be anticipated to generate significant impacts in terms of environment, economy or integration.</li><li>Extension of the shared use path would provide minor safety benefits by providing an alternative for cyclists off the main carriageway.</li><li>Extension of the shared use path would provide more travel options for people without a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Delivery of this option would require redistribution of the carriageway, including narrowing or removal of the separating strip between the northbound and southbound carriageway. Redesignation of the footway as a shared use path would require a TRO.</li><li>Delivery of this option is considered to present a medium affordability risk to ACC. Redistribution of the carriageway would involve significant cost. Whilst funding for this may be available through Sustrans, it would be lower priority than fully segregated schemes.</li><li>There are no significant public acceptability concerns associated with this option.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
</table>

[33] https://www.aberdeencity.gov.uk/services/environment/access-outdoors/core-paths-plan *'Aberdeen's network of core paths benefits both local people and visitors to Aberdeen by providing a framework of routes for recreation and for travel. Core paths also help to manage access in environmentally sensitive areas and assist land management. The core paths network caters for all user types and abilities (e.g. walkers, cyclists, horse-riders, canoeists) but not every core path has to be suitable for use by all. The core paths are made up of many types of path, ranging from natural ground to high specification constructed paths.'*

| AT12: Extend the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don | |
|---|---|
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Reject |
| **Rationale** | It is not recommended that this option is progressed. Whilst it has the potential to deliver minor benefits against TPO1 and minor safety and accessibility and social inclusion benefits, shared use infrastructure is less likely to generate modal shift than segregated infrastructure. Furthermore, delivery of this option would require redistribution of the carriageway, incurring significant cost and being a lower priority for funding from Sustrans as it is focussed on shared use rather than segregated facilities. |

**Table 7.11: Option AT14 Appraisal**

<table>
<tr><th colspan="2">AT14: Implement a crossing point for active travel users on Ellon Road south of Murcar Roundabout</th></tr>
<tr><td>Description</td><td>Implementation of a toucan crossing on Ellon Road to the south of Murcar Roundabout to aid active travel movements in the area.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Implementation of a toucan crossing point to the south of Murcar Roundabout would improve safety for movements across the study corridor and for those connecting between the existing shared use path and the proposed extension to this path on the east side of the carriageway.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a crossing point on Ellon Road to the south of Murcar Roundabout would not be anticipated to generate significant environmental or economic impacts.</li>
<li>Implementation of a crossing point on Ellon Road to the south of Murcar Roundabout would generate safety benefits by reducing the risk of collisions between different types of road user.</li>
<li>Implementation of a crossing point on Ellon Road to the south of Murcar Roundabout would improve integration of the active travel network and support policy integration by encouraging more trips to be undertaken actively. It would also generate benefits in terms of transport and land use integration by improving access to the Cloverhill Development on the east side of the A92.</li>
<li>Implementation of a crossing point on Ellon Road to the south of Murcar Roundabout would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with the implementation of a crossing point to the south of Murcar Roundabout, however cognisance should be taken of the planned Cloverhill Development on the east side of the A92 to ensure the best desire lines for users.</li>
<li>Implementation of a crossing point to the south of Murcar Roundabout is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
</ul>
</td></tr>
</table>

| AT14: Implement a crossing point for active travel users on Ellon Road south of Murcar Roundabout | |
|---|---|
| | • There are no significant public acceptability concerns associated with the implementation of a crossing point to the south of Murcar Roundabout. The delay to general traffic would be minimal and it would improve accessibility and safety for people crossing the A92. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Implementation of a toucan crossing point to the south of Murcar Roundabout would improve the safety and attractiveness of active travel movements in the area and would provide safety, integration and accessibility and social inclusion benefits. Furthermore, the option is considered to be low risk in terms of deliverability. |

**Table 7.12: Option AT15 Appraisal**

<table>
<tr><th colspan="2">AT15: Improve active travel provision at the Ellon Road/Parkway Junction</th></tr>
<tr><td>Description</td><td>Improve active travel provision at the Ellon Road/Parkway Junction, which could be through a series of options depending on linkages with the wider network:<ul><li>Signalised junction with crossings on pedestrian/cyclist desire lines;</li><li>Protected signalised junction; or</li><li>Dutch-style roundabout.</li></ul></td></tr>
<tr><td>TPO Appraisal</td><td>Summary<table><tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr><tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr></table>Key Points<ul><li>TPO1 – Improving active travel provision at the Ellon Road/Parkway Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits to active travel users that junction signalisation or implementation of a crossing point would bring.</li><li>TPO5 – Improving active travel provision through a key junction on the network such as the Ellon Road/Parkway Junction may encourage more people to travel actively due to the improved accessibility it provides, thereby providing minor benefits to the aims of locking in the benefits of the AWPR.</li><li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary<table><tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr><tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr></table>Key Points<ul><li>Dedicated active travel infrastructure through the Ellon Road/Parkway Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. At this stage, it has been assessed as providing no benefit or impact against the environment criteria.</li><li>Dedicated active travel infrastructure through the Ellon Road/Parkway Junction would improve perceptions of safety and would reduce the risk between different types of road user, particularly given the uncontrolled nature of the existing roundabout.</li><li>Dedicated active travel infrastructure through the Ellon Road/Parkway Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li><li>Dedicated active travel infrastructure through the Ellon Road/Parkway Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li><li>Dedicated active travel infrastructure through the Ellon Road/Parkway Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li></ul></td></tr>
</table>

<table>
<tr><th colspan="2">AT15: Improve active travel provision at the Ellon Road/Parkway Junction</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>There is adequate space to deliver public transport and active travel interventions at this junction. However, there is a requirement for traffic modelling to understand what the impact would be on general traffic.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Over £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction. This option should not be implemented in isolation; it should be implemented alongside AT8 to ensure delivery of a cohesive network. AT8 is recommended to progress, though further consideration is required regarding its relationship with BU18.</td></tr>
</table>

**Table 7.13: Option AT17 Appraisal**

<table>
<tr><th colspan="2">AT17: Improve active travel facilities at the Ellon Road/Balgownie Road Junction</th></tr>
<tr><td>Description</td><td>Improve active travel facilities at the Ellon Road/Balgownie Road junction, including implementation of crossing facilities and consideration of a protected junction for cyclists by reallocating carriageway space and reducing corner radii. Signal timings should be reviewed in line with the revised roads hierarchy.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the Ellon Road/Balgownie Road Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits to active travel users that implementation of crossing facilities or a protected junction would bring.</li>
<li>TPO5 – Whilst improved active travel facilities at the Ellon Road/Balgownie Road Junction may encourage more people to walk and cycle, the reallocation of carriageway space (as required for delivery of a protected junction) on this priority route could have negative impacts on the efficiency of traffic movement, which could encourage greater use of inappropriate adjacent routes for through trips.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Dedicated active travel infrastructure through the Ellon Road/Balgownie Road Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through the Ellon Road/Balgownie Road Junction would improve perceptions of safety and would reduce the risk between different types of road user, particularly given the lack of existing crossings at the junction.</li>
<li>Dedicated active travel infrastructure through the Ellon Road/Balgownie Road Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through the Ellon Road/Balgownie Road Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Dedicated active travel infrastructure through the Ellon Road/Balgownie Road Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT17: Improve active travel facilities at the Ellon Road/Balgownie Road Junction</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of a protected junction would require tie-in with segregated routes (AT8) and therefore should not be progressed in isolation. There is adequate space to deliver improved active travel facilities at this junction. However, there is a requirement for traffic modelling to understand what the impact would be on general traffic and consideration should be given to the existing crossing point to the north as part of the review.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses. Whilst funding for this may be available through Sustrans, it would be lower priority if it was for the purposes of connecting shared use facilities rather than fully segregated schemes.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction. Mapping of pedestrian desire lines should be undertaken to ensure crossing facilities are provided in the most appropriate location.</td></tr>
</table>

**Table 7.14: Option AT20 Appraisal**

<table>
<tr><th colspan="2">AT20: Maintain and improve cycle parking provision at Bridge of Don Park and Ride</th></tr>
<tr><td>Description</td><td>Maintain and improve the provision of cycle parking at the Bridge of Don P&R site to encourage its use as a multi-modal interchange point.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – The availability of secure cycle parking may encourage more people to complete integrated journeys. For example, driving to Bridge of Don P&R and cycling for the remainder of the journey or cycling to Bridge of Don P&R and taking the bus for the remainder of the journey.</li>
<li>TPO3 – The availability of secure cycle parking may encourage greater use of Bridge of Don P&R as a multi-modal interchange, and there may be minor benefits in terms of bus patronage as a result.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>-</td><td>✓✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Improved cycle parking facilities at Bridge of Don P&R may contribute to physical fitness improvements and support mode shift.</li>
<li>Improved cycle parking facilities at Bridge of Don P&R would reduce the risk of theft.</li>
<li>No significant impacts are anticipated in terms of economy, although there could be some very minor economic benefits associated with the potential for modal shift.</li>
<li>Improved cycle parking facilities at Bridge of Don P&R would improve transport integration between active travel and bus and would support policy integration by encouraging people to undertake integrated journeys.</li>
<li>Improved cycle parking facilities improves existing travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with improved cycle parking provision at Bridge of Don P&R.</li>
<li>Improved cycle parking at Bridge of Don P&R is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
</ul>
</td></tr>
</table>

| AT20: Maintain and improve cycle parking provision at Bridge of Don Park and Ride | |
|---|---|
| | • There are no significant public acceptability concerns associated with the provision of improved cycle parking at Bridge of Don P&R. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and it is considered to be low risk in terms of deliverability. |

**Table 7.15: Option AT21 Appraisal**

<table>
<tr><th colspan="2">AT21: Improve active travel access to Bridge of Don Park and Ride</th></tr>
<tr><td>Description</td><td>Improve active travel access to Bridge of Don P&R, including consideration of improved access from King Robert's Way to Exhibition Avenue and implementation of a footpath link between the site and bus stops on Ellon Road.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improved active travel access to Bridge of Don P&R may encourage increased walking and cycling as part of an integrated journey.</li>
<li>TPO3 – Improved active travel access to Bridge of Don P&R (including consideration of a footpath link between the site and the bus stops on Ellon Road) would be anticipated to generate minor benefits for bus patronage recovery and growth by providing passengers with access to an increased number of services (i.e. those operating via Ellon Road).</li>
<li>No significant impacts are anticipated with regards TPO2, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>✓✓✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>Improved active travel access to Bridge of Don P&R may provide minor benefits in terms of physical fitness and could encourage modal shift by potentially providing access to a greater range of bus services to users.</li>
<li>Improved active travel access to Bridge of Don P&R would not be anticipated to generate significant safety, economic or accessibility and social inclusion impacts.</li>
<li>Improved active travel access to Bridge of Don P&R would improve transport integration between active travel and bus and would support policy integration by encouraging people to undertake integrated journeys.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with improving active travel access to Bridge of Don P&R.</li>
<li>Improved active travel access to Bridge of Don P&R is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with improved active travel access to Bridge of Don P&R.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
</table>

| AT21: Improve active travel access to Bridge of Don Park and Ride | |
|---|---|
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and it is considered to be low risk in terms of deliverability. It is important to ensure links with AT8 as links with cycling infrastructure would encourage use of people parking and then cycling south or cycling and then taking the bus into the city centre. |

**Table 7.16: Option AT23 Appraisal**

<table>
<tr><th colspan="2">AT23: Implement segregated cycleway on the Bridge of Don</th></tr>
<tr><td>Description</td><td>Implementation of a segregated cycleway in both directions on the Bridge of Don.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated cycleway on the Bridge of Don would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated cycleway on the Bridge of Don could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR. It should be noted that this option will only provide benefits against TPO5 if additional capacity is provided (i.e. through bridge widening – see Implementability notes). Provision of a segregated cycleway on the Bridge of Don through reallocation of road space to active travel would be anticipated to generate negative impacts against TPO5 due to the delays that would be expected on this priority route as a result of reduced capacity for general traffic.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a segregated active travel route on the Bridge of Don could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift). However, this option would require widening of the existing Category B listed structure, which would generate some environmental concerns.</li>
<li>Segregated active travel infrastructure on the Bridge of Don would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a segregated active travel route on the Bridge of Don could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a segregated active travel route on the Bridge of Don could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of a segregated active travel route on the Bridge of Don would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT23: Implement segregated cycleway on the Bridge of Don</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a segregated cycleway on the Bridge of Don would require widening of the existing bridge structure (based on the assumption that existing carriageway space would be maintained for vehicles). This would require multi-disciplinary input including from geology, ecology, landscape and visual, archaeology and cultural heritage, bridges, water and engineering. The Bridge of Don is a Category B listed structure and consultation with a qualified archaeologist and cultural heritage consultant would be required to establish if this is a feasible option due to legislation and requirements surrounding development/alteration of listed structures.</li>
<li>Implementation of a segregated cycleway on the Bridge of Don would be anticipated to present a high risk to ACC in terms of affordability due to the requirement to widen the existing bridge. Funding for this may be available through Sustrans if it was part of the implementation of a wider segregated route (i.e. if implemented in combination with AT8, AT30 or AT33), but this would require further investigation.</li>
<li>Implementation of a segregated cycleway on the Bridge of Don would require widening of the existing bridge structure, which is likely to generate some public acceptability concerns from a cultural heritage perspective.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Over £2m</td></tr>
<tr><td>Programme</td><td>More than 5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed, with Option AT27 (widening of the existing bridge) required as an enabling measure. It has the potential to perform well against a number of the TPOs and STAG Criteria but opportunity should be taken to fully assess the anticipated high risks associated with the implementability of this option at the next stage of the study. It is recommended that AT23 is progressed as an alternative to AT26 due to the reduced impact against the environmental criteria.</td></tr>
</table>

**Table 7.17: Option AT26 Appraisal**

<table>
<tr><th colspan="2">AT26: Implement active travel route via a fully segregated active travel bridge across the River Don</th></tr>
<tr><td>Description</td><td>Creation of an active travel route across the River Don via a fully segregated active travel bridge to the east of the existing Bridge of Don.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated active travel bridge across the River Don would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated active travel bridge across the River Don could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>xxx</td><td>✓✓✓</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a fully segregated active travel bridge across the River Don could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality, however, provision of a new bridge is likely to have detrimental environmental impacts, including in terms of biodiversity and habitats, landscape, visual amenity and cultural heritage.</li>
<li>Provision of a fully segregated active travel bridge across the River Don would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a fully segregated active travel bridge across the River Don could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a fully segregated active travel bridge across the River Don could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of a fully segregated active travel bridge across the River Don would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| AT26: Implement active travel route via a fully segregated active travel bridge across the River Don | |
|---|---|
| | **Key Points**<br>• The construction of a new bridge would result in the need for development on undeveloped land. A review of relevant planning policies and the adopted Local Development Plan would be required to establish land allocations for the proposed site. In addition, the introduction of a new structure has the potential to result in adverse effects on a number of environmental topics. Multi-disciplinary input would therefore be required from geology and ground conditions, terrestrial and aquatic ecology, ornithology, flood risk, water quality, landscape and visual and archaeology and cultural heritage to establish likely effects, if effects are likely to be significant, and the need for any impact assessments. Infrastructure projects where the works area exceed 1ha fall under Schedule 2 (10) of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, as amended. Screening with the Local Authority may be necessary to determine if an Environmental Impact Assessment Report may be required to be produced to support a planning application. A review would also be required to establish the need for a Controlled Activity Licence (CAR) from Scottish Environment Protection Agency (SEPA), and the level of authorisation required.<br>• Implementation of an active travel route via a fully segregated active travel bridge would be anticipated to present a high risk to ACC in terms of affordability. Funding for this may be available through Sustrans if it was part of the implementation of a wider segregated route (i.e. if implemented in combination with AT8 and AT33). The case for funding support for a new bridge may be enhanced as it could be branded as an iconic bridge providing a step-change in active travel provision in the area, however, it should be emphasised that Sustrans would not provide funding support for a new active travel bridge as a standalone project; connections to wider infrastructure provision would be required.<br>• Implementation of an active travel bridge across the River Don would be anticipated to generate public acceptability concerns regarding the landscape and visual amenity impacts that would likely be caused by an additional bridge. The active travel bridge would be located to the east of the existing bridge and therefore there would be impacts on the view of the Donmouth. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Reject |
| **Rationale** | It is recommended that Option AT26 is rejected from further appraisal at this time. Option AT23 may afford a similar level of enhancement for active travel across the Bridge of Don but at a lower carbon footprint due to re-use of existing infrastructure. |

**Table 7.18: Option AT28 Appraisal**

<table>
<tr><th colspan="2">AT28: Implement a crossing point for active travel users to the north of the Bridge of Don</th></tr>
<tr><td>Description</td><td>Introduction of crossing facilities to the north of the Bridge of Don to support movements to the Brig O'Balgownie.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Implementation of a crossing point to the north of the Bridge of Don would improve safety for movements across the study corridor.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓✓</td></tr>
</table>
Key Points<ul><li>Implementation of a crossing point to the north of the Bridge of Don would not be anticipated to generate significant environmental or economic impacts.</li><li>Implementation of a crossing point to the north of the Bridge of Don would generate safety benefits by reducing the risk of collisions between different types of road user.</li><li>Implementation of a crossing point to the north of the Bridge of Don would improve integration of the active travel network and support policy integration by encouraging more trips to be undertaken actively.</li><li>Implementation of a crossing point to the north of the Bridge of Don would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with the implementation of a crossing point to the north of the Bridge of Don.</li><li>Implementation of a crossing point to the north of the Bridge of Don is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with the implementation of a crossing point to the north of the Bridge of Don. The delay to general traffic would be minimal and it would improve accessibility and safety for people crossing Ellon Road.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
</table>

| AT28: Implement a crossing point for active travel users to the north of the Bridge of Don | |
|---|---|
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Reject |
| **Rationale** | It is not recommended that this option is progressed. Whilst implementation of a crossing point to the north of the Bridge of Don performs well in terms of the appraisal, it is not considered that an additional crossing point would be required if crossing facilities are provided at Balgownie Road as part of AT17. Mapping of pedestrian desire lines should be undertaken through progression of AT17 to ensure crossing facilities are provided in the most appropriate location. |

**Table 7.19: Option AT30 Appraisal**

<table>
<tr><th colspan="2">AT30: Implement segregated cycleway on King Street</th></tr>
<tr><td>Description</td><td>Implementation of a segregated cycleway in both directions on King Street.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated cycleway on King Street would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated cycleway on King Street could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>✓✓✓</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a segregated active travel route on King Street could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>Segregated active travel infrastructure on King Street would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a segregated active travel route on King Street could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a segregated active travel route on King Street could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of a segregated active travel route on King Street would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of a segregated cycleway on King Street could not be implemented alongside the provision of bus lanes. Whilst this option would not generally reduce the capacity for general traffic, existing bus priority along King Street would be</li>
</ul>
</td></tr>
</table>

| AT30: Implement segregated cycleway on King Street | |
|---|---|
| | reduced. If this option is to progress, a design process (e.g. Sustrans' Places for Everyone) and statutory orders would be required.<br>• Delivery of a segregated cycleway on King Street is considered to be low risk in terms of affordability. Funding the provision of segregated infrastructure in an urban environment is the highest priority for Sustrans and therefore it would be anticipated that ACC could be successful in obtaining funding for such an intervention.<br>• Delivery of a segregated cycleway is anticipated to be medium risk in terms of public acceptability due to the requirement for carriageway redistribution, including removal of existing bus priority infrastructure. |
| **Conflicting Options** | Potential conflict with BU25 subject to additional land take review. |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. However, **this is subject to the requirement to review the extent of additional land take required to deliver this option** on the corridor in conjunction with the provision of bus lanes. It is also to be highlighted that AT33 and AT34 provide an alternative option for cyclists and AT39 provides an alternative option for pedestrians. Options BU34/O19 (review of on-street parking along King Street) and Options O15/O16 (widen carriageway on King Street) are possible enabling measures that would support delivery of a segregated cycleway on King Street. |

**Table 7.20: Option AT33 Appraisal**

<table>
<tr><th colspan="2">AT33: Implement active travel route via Beach Esplanade</th></tr>
<tr><td>Description</td><td>Creation of an active travel route in both directions via the Beach Esplanade, using existing alignments with increased segregation, shared use paths and footway improvements.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Implementation of an active travel route via the Beach Esplanade could provide minor benefits against TPO1 by enhancing the safety of walking and cycling through increased segregation and footway improvements.</li>
<li>TPO5 – Improved provision of active travel facilities may encourage more people to walk and cycle for trips, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>✓</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of an active travel route via the Beach Esplanade could encourage a degree of modal shift which would have environmental benefits in terms of physical fitness and improved air quality.</li>
<li>Provision of an active travel route via the Beach Esplanade would provide safety benefits through increased segregation and footway improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of an active travel route via the Beach Esplanade could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of an active travel route via the Beach Esplanade could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of an active travel route via the Beach Esplanade would provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with the implementation of an active travel route via the Beach Esplanade. This could be achieved through narrowing of the carriageway width without reducing the capacity for traffic.</li>
</ul>
</td></tr>
</table>

| AT33: Implement active travel route via Beach Esplanade | |
|---|---|
| | • Delivery of this option is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There are no significant public acceptability concerns associated with the implementation of an active travel route via the Beach Esplanade. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and it is considered to be low risk in terms of deliverability. |

**Table 7.21: Option AT34 Appraisal**

<table>
<tr><th colspan="2">AT34: Implement active travel route via Golf Road and Park Road</th></tr>
<tr><td>Description</td><td>Creation of an active travel route in both directions east of King Street via Golf Road and Park Road using a mix of existing carriageway and new segregated routes.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Implementation of an active travel route via Golf Road and Park Road could provide moderate benefits against TPO1 by enhancing the safety of walking and cycling through dedicated provision, including segregated routes.</li>
<li>TPO5 – Improved provision of active travel facilities may encourage more people to walk and cycle for trips, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of an active travel route via Golf Road and Park Road could encourage a degree of modal shift which would have environmental benefits in terms of physical fitness and improved air quality.</li>
<li>Provision of an active travel route via Golf Road and Park Road would provide safety benefits through the introduction of some sections of segregated route. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of an active travel route via Golf Road and Park Road would not be anticipated to generate significant impacts in terms of economy or integration.</li>
<li>Provision of an active travel route via Golf Road and Park Road would provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of this option would be through a combination of on-road advisory cycle lanes and sections of segregation. For both options, it would be appropriate to reduce the speed limit on these roads to 20mph, which would require a TRO. A topographical survey would be required to confirm the existing available widths and implementation of appropriate signage would be required. If this option is to progress, a design process (e.g. Sustrans' Places for Everyone) would be required.</li>
<li>Delivery of this option is considered to present a low-medium affordability risk to ACC. On-road advisory cycle lanes are considered to be low risk due to the low</li>
</ul>
</td></tr>
</table>

| AT34: Implement active travel route via Golf Road and Park Road | |
|---|---|
| | cost of delivering this option. Sections of segregated infrastructure are considered to be medium risk in terms of affordability as this would be lower priority for Sustrans funding due to the mix with on-road cycle facilities.<br>• Delivery of this option is considered to be medium risk in terms of public acceptability due to the potential reduction of the speed limit. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and it is considered to present lower deliverability risk compared with the provision of active travel infrastructure via King Street. |

**Table 7.22: Option AT38 Appraisal**

<table>
<tr><th colspan="2">AT38: Create protected junction at King Street/West North Street junction for cyclists</th></tr>
<tr><td>Description</td><td>Creation of protected junction at King Street/West North Street for cyclists, improving safety and efficiency of movement for cyclists through the junction, including cycle crossing points parallel to pedestrian crossings.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the King Street/West North Street Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits that a protected junction would bring to active travel users.</li>
<li>TPO5 – Improving active travel provision through a key junction on the network such as the King Street/West North Street Junction may encourage more people to travel actively due to the improved accessibility it provides, thereby providing minor benefits to the aims of locking in the benefits of the AWPR. It should be noted that this part of the network is not part of the priority route and therefore, there are more opportunities to reallocate road space to sustainable travel modes.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Dedicated active travel infrastructure through West North Street Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. At this stage, it has been assessed as providing no benefit or impact against the environment criteria.</li>
<li>Dedicated active travel infrastructure through West North Street Junction would improve perceptions of safety and would reduce the risk between different types of road user.</li>
<li>Dedicated active travel infrastructure through West North Street Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through West North Street Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Dedicated active travel infrastructure through West North Street Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT38: Create protected junction at King Street/West North Street junction for cyclists</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of a protected junction would require tie-in with segregated routes (AT30) or reduced traffic speeds on King Street (O18) and therefore should not be progressed in isolation. There is adequate space to deliver improved active travel facilities at this junction. However, there is a requirement for traffic modelling to understand what the impact would be on general traffic. If this option is to progress, a design process (e.g. Sustrans' Places for Everyone) would be required.</li>
<li>Delivery of active travel infrastructure at West North Street Junction is considered to present a high affordability risk to ACC. Whilst funding could be applied to via Sustrans, funding would not be provided for this as a standalone project; it would require delivery of AT30 (at the least) or O18 (reduced traffic speeds on King Street) to permit the delivery of a cohesive network.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>BU33</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. However, whilst it has the potential to perform well against a number of the TPOs and STAG Criteria, there are significant deliverability risks. This option should not be implemented in isolation; it should be implemented alongside AT30 or O18 to ensure delivery of a cohesive network. AT30 is recommended to progress subject to the requirement to review the extent of additional land take required to deliver this option [AT30] on the corridor in conjunction with the provision of bus lanes. O18 is also recommended to progress.</td></tr>
</table>

**Table 7.23: Option AT39 Appraisal**

<table>
<tr><th colspan="2">AT39: Tighten junction radii and reduce side road width along the full length of King Street</th></tr>
<tr><td>Description</td><td>Tighten junction radii and reduce side road width along the full length of King Street to reduce conflict with cycle traffic and improve crossing facilities for pedestrians. This option could also include continuous footways across side road junctions and other improvements for pedestrians and wheelchair users such as tactile paving, dropped kerbs, removal of street clutter and improvement of pavement surface.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Tightening junction radii and reducing side road width along the full length of King Street would improve safety for pedestrians and cyclists as those entering or exiting the junction would have to do so at reduced speeds.</li><li>TPO3 – Tightening junction radii and improving facilities for pedestrians and wheelchair users would help to improve the accessibility of bus stops on King Street, which could support growth in bus patronage on the corridor.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points<ul><li>Tightening of junction radii and reducing side road width along King Street would not be anticipated to generate significant impacts in terms of environment or economy.</li><li>Tightening of junction radii and reducing side road width along King Street would improve safety for pedestrians and cyclists as those entering or exiting the junction would have to do so at reduced speeds.</li><li>Tightening junction radii and improving facilities for pedestrians and wheelchair users would help to improve the accessibility of bus stops on King Street and therefore support integration between the active travel network and public transport.</li><li>Tightening junction radii and improving facilities for pedestrians and wheelchair users would help to improve the accessibility of bus stops on King Street.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Delivery of this option would require traffic surveys to be undertaken to firstly understand the traffic volumes entering and exiting the side road junctions, which would help to inform the appropriate intervention at each side road junction e.g. continuous footway, raised table or no intervention. Thereafter, a design process would be required.</li></ul></td></tr>
</table>

| AT39: Tighten junction radii and reduce side road width along the full length of King Street | |
|---|---|
| | • Delivery of this option is considered to present a low-medium affordability risk to ACC. The cost of this option would depend on the number of junctions requiring intervention. It is understood that Sustrans has provided funding support in other cities for similar schemes on the basis of providing a series of pedestrian improvements throughout the area.<br>• There are no significant public acceptability concerns associated with this option. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst this option generally has a limited impact against many of the TPOs and STAG Criteria, it could be progressed as a 'quick-win' to improve the safety of this section of the corridor for pedestrians. |

**Table 7.24: Option AT41 Appraisal**

<table>
<tr><th colspan="2">AT41: Implement segregated cycleway on Holburn Street</th></tr>
<tr><td>Description</td><td>Implementation of a segregated cycleway in both directions on Holburn Street.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated cycleway on Holburn Street would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated cycleway on Holburn Street could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>✓✓✓</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a segregated active travel route on Holburn Street could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>Segregated active travel infrastructure on Holburn Street would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a segregated active travel route on Holburn Street could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a segregated active travel route on Holburn Street could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of a segregated active travel route between on Holburn Street would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Low Risk</td><td>High Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of a segregated cycleway on Holburn Street would involve removal of a traffic lane (i.e. the existing bus lane to the north of Great Southern Road) and on-</li>
</ul>
</td></tr>
</table>

| AT41: Implement segregated cycleway on Holburn Street | |
|---|---|
| | street parking (i.e. to the south of Broomhill Road). There would be small sections along the corridor where a segregated lane could be provided without a loss of capacity for general traffic, however, active travel routes require consistency of provision to be effective. If this option was to be progressed, traffic modelling, a topographical survey, parking surveys and statutory consultation would be required.<br>• Delivery of a segregated cycleway on Holburn Street is considered to be low risk in terms of affordability. Funding the provision of segregated infrastructure in an urban environment is the highest priority for Sustrans and therefore it would be anticipated that ACC could be successful in obtaining funding for such an intervention.<br>• Delivery of a segregated cycleway is anticipated to be high risk in terms of public acceptability due to the requirement for carriageway redistribution, including removal of existing bus priority infrastructure and on-street parking. |
| **Conflicting Options** | Potential conflict with BU36 subject to additional land take review. |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. However, **this is subject to the requirement to review the extent of additional land take required to deliver this option** on the corridor in conjunction with the provision of bus lanes. It is also to be highlighted that AT44 provides an alternative option. Option BU44 (review of on-street parking along Holburn Street) and Options O26 (widen carriageway on Holburn Street) are possible enabling measures that would support delivery of a segregated cycle route on Holburn Street. |

**Table 7.25: Option AT44 Appraisal**

<table>
<tr><th colspan="2">AT44: Implement active travel route via Bon Accord Terrace and Hardgate</th></tr>
<tr><td>Description</td><td>Creation of an active travel route in both directions via Bon Accord Terrace, Hardgate, Riverside Terrace and Riverside Drive between Union Street and the Bridge of Dee.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Implementation of an active travel route via Bon Accord Terrace and Hardgate could provide minor benefits against TPO1 by enhancing the safety of walking and cycling through on-road cycling with a combination of contraflow cycle lanes.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Provision of an active travel route via Bon Accord Terrace and Hardgate would not be anticipated to generate significant impacts in terms of environment, economy or integration.</li><li>Provision of an active travel route via Bon Accord Terrace and Hardgate would provide minor safety benefits by providing an alternative for cyclists off the main carriageway.</li><li>Provision of an active travel route via Bon Accord Terrace and Hardgate would provide more travel options for people without a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Delivery of this option would be through on-road cycling with a combination of contraflow cycle lanes. Long sections of this corridor are in 20mph zones and/or are one-way with on-street parking and limited road widths. Delivery of this option would require a topographical survey to confirm the existing available widths, parking occupancy surveys, implementation of appropriate signage and additional horizontal traffic calming measures. If this option is to progress, a design process (e.g. Sustrans' Places for Everyone) would be required.</li><li>Delivery of this option would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability issues associated with this option at this stage.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
</table>

| AT44: Implement active travel route via Bon Accord Terrace and Hardgate | |
|---|---|
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst this option generally has a limited impact against many of the TPOs and STAG Criteria, it is considered to be more deliverable than the provision of segregated infrastructure via Holburn Street and would still provide a direct route along this section of the corridor. |

**Table 7.26: Option AT45 Appraisal**

<table>
<tr><th colspan="2">AT45: Create protected junction at Holburn Street/Great Western Road junction for cyclists</th></tr>
<tr><td>Description</td><td>Creation of protected junction at Holburn Street/Great Western Road for cyclists, improving safety and efficiency of movement for cyclists through the junction, including cycle crossing points parallel to pedestrian crossings.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the Holburn Street/Great Western Road Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits that a protected junction would bring to active travel users.</li>
<li>TPO5 – Improving active travel provision through a key junction on the network such as the Holburn Street/Great Western Road Junction may encourage more people to travel actively due to the improved accessibility it provides, thereby providing minor benefits to the aims of locking in the benefits of the AWPR. It should be noted that this part of the network is not part of the priority route and therefore, there are more opportunities to reallocate road space to sustainable travel modes.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Dedicated active travel infrastructure through the Holburn Street/Great Western Road Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. At this stage, it has been assessed as providing no benefit or impact against the environment criteria.</li>
<li>Dedicated active travel infrastructure through the Holburn Street/Great Western Road Junction would improve perceptions of safety and would reduce the risk between different types of road user.</li>
<li>Dedicated active travel infrastructure through the Holburn Street/Great Western Road Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through the Holburn Street/Great Western Road Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Dedicated active travel infrastructure through the Holburn Street/Great Western Road Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT45: Create protected junction at Holburn Street/Great Western Road junction for cyclists</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of a protected junction would require tie-in with segregated routes (AT41) and therefore should not be progressed in isolation. There is adequate space to deliver improved active travel facilities at this junction. However, there is a requirement for traffic modelling to understand what the impact would be on general traffic.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Whilst funding could be applied to via Sustrans, funding would not be provided for this as a standalone project; it would require delivery of AT41 (at the least) to permit the delivery of a cohesive network.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>BU39</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. However, whilst it has the potential to perform well against a number of the TPOs and STAG Criteria, there are significant deliverability risks. This option should not be implemented in isolation; it should be implemented alongside AT41 to ensure delivery of a cohesive network. AT41 is recommended to progress subject to the requirement to review the extent of additional land take required to deliver this option [AT41] on the corridor in conjunction with the provision of bus lanes.</td></tr>
</table>

**Table 7.27: Option AT47 Appraisal**

<table>
<tr><th colspan="2">AT47: Improvements to access point to the Deeside Way on Holburn Street</th></tr>
<tr><td>Description</td><td>Improve access to the Deeside Way from Holburn Street by creating a more direct and efficient access for active travel users.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – An improved access for active travel users onto the Deeside Way would provide minor benefits in terms of increasing the attractiveness of this route.</li><li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points<ul><li>Improved access onto the Deeside Way would not be anticipated to generate significant impacts in terms of environment, safety or economy.</li><li>Improved access onto the Deeside Way would improve the integration of the active travel network.</li><li>Improved access onto the Deeside Way would improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with improving the access onto the Deeside Way from Holburn Street. A consultation exercise would be required to better understand the requirements of users and landowners.</li><li>Improving the access onto the Deeside Way from Holburn Street is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with improving the access onto the Deeside Way from Holburn Street.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst this option generally has a limited impact against many of the TPOs and STAG Criteria, it could be progressed as a ‘quick-win’ to improve the integration of the active travel network and improve accessibility for pedestrians and cyclists.</td></tr>
</table>

**Table 7.28: Option AT48 Appraisal**

<table>
<tr><th colspan="2">AT48: Implement segregated cycleway on Garthdee Road</th></tr>
<tr><td>Description</td><td>Implementation of a segregated cycleway in both directions on Garthdee Road.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓✓</td><td>-</td><td>-</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Provision of a segregated cycleway on Garthdee Road would significantly improve the safety and attractiveness of active travel by reducing conflicts between different users. It would be anticipated to encourage more people to walk and cycle for trips along this section (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>TPO5 – Provision of a segregated cycleway on Garthdee Road could encourage some modal shift to walking and cycling for trips along the corridor, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>✓✓✓</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a segregated active travel route on Garthdee Road could encourage modal shift which would have environmental benefits in terms of physical fitness and improved air quality (although it should be noted that consistency of provision along the corridor is key to encouraging modal shift).</li>
<li>Segregated active travel infrastructure on Garthdee Road would reduce the risk of collisions between pedestrians and cyclists and between active travel users and general traffic. It would also provide benefits in terms of perceived safety improvements. It could lead to modal shift to active travel, which could generate knock-on benefits in terms of safety in numbers.</li>
<li>Provision of a segregated active travel route on Garthdee Road could lead to increased active travel trips, with associated economic benefits for society.</li>
<li>Provision of a segregated active travel route on Garthdee Road could generate minor benefits in terms of policy integration, however, no significant impact is anticipated overall in terms of integration.</li>
<li>Provision of a segregated active travel route on Garthdee Road would improve local accessibility and provide more travel options for people without a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of this option would require a review of land ownership, loss of a general vehicle lane between Garthdee Roundabout and the roundabout at Asda and a retaining structure would be required where there are height differences along the</li>
</ul>
</td></tr>
</table>

| AT48: Implement segregated cycleway on Garthdee Road | |
|---|---|
| | corridor. Further west, delivery of this option could be achievable through redistribution of the carriageway space (i.e. use of existing width and narrowing of the carriageway where appropriate). Shared use facilities would be more deliverable due to the requirement for less width. Traffic modelling would be required to determine the impact on general traffic and a topographical survey would be required to determine existing available widths.<br>• Delivery of a segregated cycleway on Garthdee Road is considered to be low risk in terms of affordability. Funding the provision of segregated infrastructure in an urban environment is the highest priority for Sustrans and therefore it would be anticipated that ACC could be successful in obtaining funding for such an intervention.<br>• Delivery of a segregated cycleway is anticipated to be medium risk in terms of public acceptability due to the requirement for carriageway redistribution, including potential removal of a travelling lane for general traffic for a short section of the corridor. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It performs well against a number of the TPOs and STAG Criteria. Further consideration of deliverability risks will be required as the study progresses. |

**Table 7.29: Option AT53 Appraisal**

<table>
<tr><th colspan="2">AT53: Reduce traffic speeds on Garthdee Road</th></tr>
<tr><td>Description</td><td>Reduce traffic speeds on Garthdee Road between RGU and Garthdee Farm Gardens through trialling of temporary on-street traffic calming measures or reducing the speed limit to 20mph.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>✓✓</td><td>-</td><td>×</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Reducing traffic speeds on Garthdee Road would improve the safety and feelings of safety for people walking and cycling, which may encourage increased travel by these modes for all journey types.</li>
<li>TPO2 – Reducing traffic speeds would improve the competitiveness of walking and cycling by reducing the convenience of travelling by car, either through traffic calming measures or reducing the speed limit to 20mph.</li>
<li>TPO4 – Reducing traffic speeds would be anticipated to have a negative impact on bus journey times and reliability along this section of the corridor.</li>
<li>TPO5 – Reducing traffic speeds may encourage traffic to use less appropriate, adjacent routes.</li>
<li>No significant impact is anticipated with regards TPO3.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>×</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Reduced traffic speeds could result in less efficient vehicle running, but it would increase the attractiveness of active travel and reduce the attractiveness of the private car, whilst also generating potential benefits in terms of noise reduction.</li>
<li>Reduced traffic speeds would reduce the risk and severity of accidents. It may also encourage greater active travel use and could have knock-on benefits in terms of safety in numbers.</li>
<li>Reduced traffic speeds would increase car and bus journey times, thereby generating negative economic impacts. There may be some economic benefits associated with a modal shift towards active travel. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Assessed as a minor negative at this stage.</li>
<li>Reduced traffic speeds would not be anticipated to generate significant impacts in terms of integration.</li>
<li>Reduced traffic speeds may improve local accessibility by making active travel more attractive.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| AT53: Reduce traffic speeds on Garthdee Road | |
|---|---|
| | **Key Points**<br>• Traffic calming measures are not particularly compatible with bus and HGV movements, particularly any physical measures. Raised tables and speed humps are likely to cause carriageway damage and noise pollution. A reduction to 20mph would require associated TROs, updated signage and some cooperation with Police Scotland on monitoring for enforcement.<br>• Implementation of traffic calming measures or a 20mph speed restriction is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• Implementation of traffic calming measures or a 20mph speed restriction may generate some public acceptability concerns associated with increased journey times for traffic. It would be anticipated that traffic calming measures would generate more significant concerns than reduction of the speed limit to 20mph. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Reduced traffic speeds would generate positive impacts against a number of the TPOs and STAG Criteria and could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.30: Option AT54 Appraisal**

<table>
<tr><th colspan="2">AT54: Widen narrow footways on Garthdee Road</th></tr>
<tr><td>Description</td><td>Widening of the narrow footways on the south side of Garthdee Road to aid pedestrian movements.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO1 – Widening narrow footways on Garthdee Road would improve the safety of this route for pedestrians and cyclists by allowing increased separation between different user types.</li><li>No significant impacts would be anticipated with regards TPO2, TPO3, TPO4 or TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Footpath widening on Garthdee Road would not be anticipated to generate significant impacts in terms of environment, economy or integration.</li><li>Footpath widening may lead to improved feelings of safety due to increased separation from vehicles and additionally more space for active travel users to pass each other.</li><li>Footpath widening may provide minor benefits in terms of local accessibility, particularly for wheelchair users and those with prams/buggies.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Delivery of this option would require a review of land ownership and movement of the carriageway to the north utilising the verge space. Where there are height differences, a retaining structure would be required.</li><li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li><li>There are no significant public acceptability concerns associated with this option.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed as a minimum. The existing footway on the south side of the carriageway is very narrow and currently presents a safety risk to pedestrians and cyclists due to their proximity to vehicles on the main carriageway.</td></tr>
</table>

**Table 7.31: Option AT55 Appraisal**

<table>
<tr><th colspan="2">AT55: Provide crossing facility on Garthdee Road at Gray's School of Art</th></tr>
<tr><td>Description</td><td>Provide a crossing facility on Garthdee Road to the west of Auchinyell Road to allow safe access to and from the RGU Campus.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Implementation of a crossing point on Garthdee Road at Gray's School of Art would introduce a formal crossing opportunity across the corridor at this location (bringing a minor improvement in safety) and may encourage more people to walk to and from the RGU Campus.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a crossing facility on Garthdee Road at Gray's School of Art would not be anticipated to generate significant environmental or economic impacts.</li>
<li>Implementation of a crossing facility on Garthdee Road at Gray's School of Art would generate safety benefits by introducing a formal crossing opportunity across the corridor at this location.</li>
<li>Implementation of a crossing facility on Garthdee Road at Gray's School of Art would improve integration of the active travel network and support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Implementation of a crossing facility on Garthdee Road at Gray's School of Art would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with the implementation of a crossing point on Garthdee Road at Gray's School of Art. Surveys may be required to better understand desire lines to determine the most appropriate location for the crossing.</li>
<li>Implementation of a crossing point on Garthdee Road at Gray's School of Art is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with the implementation of a crossing point on Garthdee Road at Gray's School of Art. The</li>
</ul>
</td></tr>
</table>

| AT55: Provide crossing facility on Garthdee Road at Gray's School of Art | |
|---|---|
| | delay to general traffic would be minimal and it would improve accessibility and safety for people crossing Garthdee Road. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is understood that this option has previously been subject to review by ACC. It is recommended that it is progressed for further consideration as a crossing point at Gray's School of Art would improve the attractiveness of active travel movements in the area, including improved connectivity between residential areas and the school/nursery. It would also provide integration and accessibility and social inclusion benefits. Furthermore, the option is considered to be low risk in terms of deliverability. |

**Table 7.32: Option AT58 Appraisal**

<table>
<tr><th colspan="2">AT58: Upgrade the junction at Asda/Garthdee Road to improve cycle provision</th></tr>
<tr><td>Description</td><td>Upgrade the junction at Asda/Garthdee Road to improve cycle provision and support active travel movements along this section of the study corridor.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the Asda/Garthdee Road Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits to active travel users that improved pedestrian and cycle access through the junction would bring.</li>
<li>TPO2 – Improving active travel provision at the Asda/Garthdee Road Junction would likely be through signalisation and could involve the loss of general traffic lanes. This would likely lead to delays for general traffic that could increase the competitiveness of walking and cycling for short journeys.</li>
<li>TPO5 – Improved provision of active travel facilities may encourage more people to walk and cycle for trips, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Dedicated active travel infrastructure through the Asda/Garthdee Road Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. At this stage, it has been assessed as providing no benefit or impact overall against the environment criteria.</li>
<li>Dedicated active travel infrastructure through the Asda/Garthdee Road Junction would improve perceptions of safety and would reduce the risk between different types of road user, particularly given the uncontrolled nature of the existing roundabout.</li>
<li>Dedicated active travel infrastructure through the Asda/Garthdee Road Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through the Asda/Garthdee Road Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Dedicated active travel infrastructure through the Asda/Garthdee Road Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT58: Upgrade the junction at Asda/Garthdee Road to improve cycle provision</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>There is adequate space to deliver active travel interventions at this junction, although there may be a requirement to lose general traffic lanes. Traffic modelling would need to be undertaken to understand what the impact would be on general traffic.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction.</td></tr>
</table>

**Table 7.33: Option AT59 Appraisal**

<table>
<tr><th colspan="2">AT59: Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision</th></tr>
<tr><td>Description</td><td>Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision and support active travel movements along this section of the study corridor.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>✓</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the Sainsbury's/Garthdee Road Junction would be anticipated to provide moderate benefits against TPO1 due to the safety benefits to active travel users that improved pedestrian and cycle access through the junction would bring.</li>
<li>TPO2 – Improving active travel provision at the Sainsbury's/Garthdee Road Junction would likely be through signalisation and could involve the loss of general traffic lanes. This would likely lead to delays for general traffic that could increase the competitiveness of walking and cycling for short journeys.</li>
<li>TPO5 – Improved provision of active travel facilities may encourage more people to walk and cycle for trips, which would support aims to lock in the benefits of the AWPR.</li>
<li>No significant impacts are anticipated with regards TPO3 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓✓</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Dedicated active travel infrastructure through the Sainsbury's/Garthdee Road Junction may encourage modal shift, with associated environmental benefits. However, it could also lead to delays for vehicular traffic, with associated detrimental impacts on air quality. At this stage, it has been assessed as providing no benefit or impact overall against the environment criteria.</li>
<li>Dedicated active travel infrastructure through the Sainsbury's/Garthdee Road Junction would improve perceptions of safety and would reduce the risk between different types of road user, particularly given the uncontrolled nature of the existing roundabout.</li>
<li>Dedicated active travel infrastructure through the Sainsbury's/Garthdee Road Junction could lead to delays for vehicular traffic, with associated detrimental economic impacts. There may be some economic benefits associated with a modal shift towards active travel if implemented as part of a cohesive network. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed to be neutral at this stage.</li>
<li>Dedicated active travel infrastructure through the Sainsbury's/Garthdee Road Junction would improve integration of the active travel network and would support policy integration by encouraging more trips to be undertaken actively.</li>
<li>Dedicated active travel infrastructure through the Sainsbury's/Garthdee Road Junction would reduce severance, improve local accessibility for those walking and cycling and improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">AT59: Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>There is adequate space to deliver active travel interventions at this junction, although there may be a requirement to lose general traffic lanes. Traffic modelling would need to be undertaken to understand what the impact would be on general traffic.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction.</td></tr>
</table>

### 7.3.2 Bus Options

**Table 7.34: Option BU1 Appraisal**

<table>
<tr><th colspan="2">BU1: Review ticketing structure</th></tr>
<tr><td>Description</td><td>Review the ticketing structure for services on the Ellon P&R to Garthdee corridor to identify any potential gaps in ticket types and to consider expansion of fares capping technology.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO3 – The introduction of additional ticketing types and expansion of fares capping technology would contribute to an improved quality of service that could provide minor benefits in terms of increasing bus patronage.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Reviewing the ticketing structure for services on the study corridor would not be anticipated to generate significant impacts in terms of environment, safety, economy or integration.</li><li>Ticketing improvements could improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Review of the ticketing structure for bus services would require bus operator involvement. Initial feedback from bus operators has indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li><li>There are no significant affordability risks associated to ACC.</li><li>There are no significant public acceptability concerns associated with reviewing the ticketing structure for bus services. Any improvements to the range of ticketing types is likely to improve the overall quality of service and therefore it is anticipated that this would be well-received by the public. Around 64% of respondents to the public consultation indicated that improved service provision would encourage the uptake of bus travel.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
</table>

| BU1: Review ticketing structure | |
|---|---|
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst it is considered to have limited impacts on the TPOs and STAG Criteria, and bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package. |

**Table 7.35: Option BU2 Appraisal**

<table>
<tr><th colspan="2">BU2: Review bus stop infrastructure on the corridor</th></tr>
<tr><td>Description</td><td>Review bus stop infrastructure on the Ellon P&R to Garthdee corridor to consider the need for enhanced shelter provision, improved timetabling information and improved Real Time Passenger Information provision.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving the quality of bus stop infrastructure on the corridor is considered to provide minor benefits in terms of improving the attractiveness of active travel. Real Time Passenger Information provision can remove the uncertainty of waiting at a bus stop for pedestrians and can help them to decide whether to walk to a different stop.</li>
<li>TPO3 – Improving the quality of bus stop infrastructure on the corridor would contribute to an improved quality of service that could provide minor benefits in terms of increasing bus patronage.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO4 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Improving the quality of bus stop infrastructure on the corridor would contribute to an improved quality of service that could encourage growth in bus patronage, with modal shift providing associated environmental benefits.</li>
<li>Improving the quality of bus stop infrastructure on the corridor is not anticipated to generate significant impacts in terms of safety or economy.</li>
<li>Real Time Passenger Information provision can remove the uncertainty of waiting at a bus stop for pedestrians and can help them to decide whether to walk to a different stop, improving integration between the active travel network and public transport. Integration of the active travel network and public transport could be further enhanced through the inclusion of cycle racks at bus stops (particularly to the north of Bridge of Don P&R).</li>
<li>Improving the quality of bus stop infrastructure on the corridor would enhance existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Initial feedback from bus operators would be required, for example to understand priority stops for intervention along the corridor. Further study should be undertaken to consider bus stops on a location by location basis. A TRO may be required to prevent parking at bus stops in some locations.</li>
</ul>
</td></tr>
</table>

| BU2: Review bus stop infrastructure on the corridor | |
|---|---|
| | • Review of bus stop infrastructure is anticipated to present medium affordability risks to ACC as it is understood that this would be funded through the revenue budget of ACC. Further discussion with ACC is required to understand whether a revenue stream is available through a bus shelter contract e.g. through advertising on shelter infrastructure.<br>• There are no significant public acceptability concerns associated with this option. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst bus operators have indicated that priority infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package. |

**Table 7.36: Option BU3 Appraisal**

<table>
<tr><th colspan="2">BU3: Review of bus stop provision on the corridor</th></tr>
<tr><td>Description</td><td>Review of bus stop provision to identify the potential for rationalisation.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>×</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Bus stop rationalisation could discourage some people from using bus services, for example those with restricted mobility.</li>
<li>TPO4 – Bus stop rationalisation would reduce the number of instances that buses are required to stop along the route, which could provide minor benefits to bus journey times and reliability.</li>
<li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>×</td><td>-</td><td>-</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>Bus stop rationalisation would be not anticipated to generate significant impacts in terms of environment, economy or integration.</li>
<li>Bus stop rationalisation could create some perceived security concerns if people have to walk further to access a bus service, particularly at night.</li>
<li>Bus stop rationalisation could generate negative impacts for people with restricted mobility.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with bus stop rationalisation. Statutory processes would need to be followed.</li>
<li>Bus stop rationalisation is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There may be some public acceptability concerns associated with increased distances for people to walk to the bus stop.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Reject</td></tr>
<tr><td>Rationale</td><td>It is not recommended that this option is progressed. It is not considered to perform well against the TPOs or STAG Criteria and it would be anticipated to generate public acceptability concerns. Furthermore, feedback from bus operators indicated that the number of bus stops (e.g. on King Street) has been a benefit to operations overall.</td></tr>
</table>

**Table 7.37: Option BU4 Appraisal**

<table>
<tr><th colspan="2">BU4: Review how accessibility is being provided on vehicles operating on the corridor</th></tr>
<tr><td>Description</td><td>Review the accessibility of vehicles operating on the corridor, working with local communities and bus users to ensure the needs of those with restricted mobility or other disabilities are met.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO3 – Improving the accessibility of buses would contribute to an improved quality of service that could provide minor bus patronage benefits.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓✓✓</td></tr>
</table>
Key Points<ul><li>Improved vehicle accessibility would not be anticipated to generate significant impacts in terms of environment, safety, economy or integration.</li><li>Improved vehicle accessibility would generate positive impacts for those with restricted mobility and people with prams/buggies.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Review of the accessibility of vehicles would require bus operator involvement. Initial feedback from bus operators has indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li><li>Review of the accessibility of vehicles would not be expected to incur significant capital or revenue costs and therefore, there is low affordability risk to ACC.</li><li>There are no significant public acceptability concerns associated with reviewing the accessibility of vehicles, as vehicle accessibility was raised as a concern during initial engagement on the study.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst it is considered to have limited impacts on the TPOs and STAG Criteria, and bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package.</td></tr>
</table>

**Table 7.38: Option BU5 Appraisal**

<table>
<tr><th colspan="2">BU5: Fare improvements delivered through a BSIP</th></tr>
<tr><td>Description</td><td>Implement fare improvements through a Bus Service Improvement Partnership.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Fare improvements would improve the affordability of public transport, which could provide moderate bus patronage benefits.</li>
<li>TPO5 – Modal shift towards public transport would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>✓✓✓</td></tr>
</table>
Key Points
<ul>
<li>Reduced fares could generate minor environmental benefits associated with modal shift to bus.</li>
<li>Reduced fares would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Reduced fares improves the affordability of public transport and may improve travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Fare improvements would require bus operator involvement. Initial feedback from bus operators has indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li>
<li>Fare improvements would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with fare improvements as it is anticipated that reduced fares would be well-received.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package.</td></tr>
</table>

**Table 7.39: Option BU6 Appraisal**

<table>
<tr><th colspan="2">BU6: Frequency improvements delivered through a BSIP</th></tr>
<tr><td>Description</td><td>Implement frequency improvements through a Bus Service Improvement Partnership.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – The provision of more frequent bus services could encourage more people to travel by bus regularly.</li>
<li>TPO5 – Modal shift towards public transport would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Increased frequency of bus services could generate minor environmental benefits associated with modal shift to bus.</li>
<li>Increased frequency of bus services would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Increased frequency of bus services improves travel options for people without access to a car and could open up access to employment and services.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Frequency improvements would require bus operator involvement. Initial feedback from bus operators has indicated that infrastructure measures should be the priority.</li>
<li>Frequency improvements would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with frequency improvements.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package.</td></tr>
</table>

**Table 7.40: Option BU7 Appraisal**

<table>
<tr><th colspan="2">BU7: Quality improvements delivered through a BSIP</th></tr>
<tr><td>Description</td><td>Implement quality improvements through a Bus Service Improvement Partnership.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO3 – An improved overall quality of service could provide minor benefits in terms of increasing bus patronage.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>An improved overall quality of service could encourage modal shift and provide associated environmental benefits.</li><li>An improved overall quality of service would not be anticipated to generate significant impacts in terms of safety, economy or integration.</li><li>An improved overall quality of service would enhance existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Quality improvements would require bus operator involvement. Initial feedback from bus operators indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li><li>Quality improvements would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with bus quality improvements. From the public consultation, 56% of respondents indicated that bus quality improvements would encourage the uptake of bus journeys.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package.</td></tr>
</table>

**Table 7.41: Option BU9 Appraisal**

<table>
<tr><th colspan="2">BU9: Enhance bus monitoring capability</th></tr>
<tr><td>Description</td><td>Enhance monitoring capability to collect real-time user information across all modes, to input to journey planning tools and real-time network management.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Improved monitoring capability could encourage growth in bus patronage associated with enhanced reliability of services.</li>
<li>TPO4 – Improved monitoring capability which can input to journey planning tools and provide real-time network management would be anticipated to provide support for subsequent improvements to bus journey times and reliability.</li>
<li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus monitoring would not be anticipated to generate significant impacts in terms of environment, safety, economy or accessibility and social inclusion.</li>
<li>Bus monitoring could provide minor benefits in terms of integration by providing valuable information to feed into journey planning tools.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus monitoring would require bus operator involvement. Initial feedback from bus operators indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li>
<li>Enhanced bus monitoring would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with enhanced bus monitoring as it could be used to provide an improved quality of overall service.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package.</td></tr>
</table>

**Table 7.42: Option BU10 Appraisal**

<table>
<tr><th colspan="2">BU10: Extend bus lane hours of operation on the corridor</th></tr>
<tr><td>Description</td><td>Extend the hours of existing bus lanes in operation on the Ellon P&R to Garthdee corridor and ensure consistency of operational hours. This could include consideration of extending bus lane hours of operation to a 12-hour (7am-7pm) or 24-hour operation.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>✓</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – Extended bus lane hours of operation would reduce the convenience of using private cars more frequently during the day, which could encourage more people to walk and cycle for short trips.</li>
<li>TPO3 – Extended bus lane hours of operation would be anticipated to reduce bus journey times and improve reliability, which may encourage growth in bus patronage.</li>
<li>TPO4 – Extended bus lane hours of operation would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Extended bus lane hours of operation would lock-in journey time benefits for public transport and could increase its use, however, there could be some inappropriate use of adjacent secondary and tertiary routes as a result of bus lane operation, which would need to be protected against.</li>
<li>No significant impacts are anticipated with regards TPO1.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Extended bus lane hours of operation would not be anticipated to generate significant impacts in terms of environment, safety or integration.</li>
<li>Extended bus lane hours of operation would be anticipated to reduce bus journey times, which could generate economic benefits, however, there could be congestion associated with reducing the capacity for general traffic along the route which could generate negative economic impacts. Overall, it has been assessed as neutral at this stage.</li>
<li>Extended bus lane hours of operation would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without a car. If extended bus lane hours of operation led to congestion due to the reduced capacity for general traffic, there could be negative impacts for people with restricted mobility. Overall, it has been assessed as positive at this stage.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| BU10: Extend bus lane hours of operation on the corridor | |
|---|---|
| | **Key Points**<br>• Extending bus lane hours of operation would require an amended TRO and updated signage to inform road users of the change.<br>• Extending bus lane hours of operation would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There may be some public acceptability concerns regarding extended bus lane hours of operation as this would reduce capacity for general traffic for longer periods throughout the day. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs developed for the study and STAG Criteria. Furthermore, it could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.43: Option BU11 Appraisal**

<table>
<tr><th colspan="2">BU11: Improve bus lane enforcement on the corridor</th></tr>
<tr><td>Description</td><td>Enhanced enforcement of bus lanes on the Ellon P&R to Garthdee corridor, to discourage inappropriate use of the lanes by general traffic and for parking.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO4 – Enforcement of bus lanes would reduce delays for buses along the corridor, contributing to improved bus journey times and reliability.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO3 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>Improved enforcement of bus lanes would not be anticipated to generate significant impacts in terms of environment, safety, integration or accessibility and social inclusion.</li><li>Improved enforcement of bus lanes could generate minor economic benefits by reducing bus journey times.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with improved enforcement of bus lanes. It would likely require implementation of a camera for enforcement and a review of appropriate locations for this would be required in discussion with bus operators.</li><li>Improved bus lane enforcement on the corridor is anticipated to present medium affordability risks to ACC due to the requirement to provide monitoring infrastructure (i.e. cameras and associated staff costs). However, whilst there is an initial affordability risk for infrastructure, it is likely that it would become self-funding through penalties to road users.</li><li>There may be some public acceptability concerns associated with improved bus lane enforcement.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst it generally has a limited impact against the TPOs and STAG Criteria, it could be implemented as a ‘quick-win’ to provide minor improvements to bus journey times.</td></tr>
</table>

**Table 7.44: Option BU12 Appraisal**

<table>
<tr><th colspan="2">BU12: Implement Aberdeen Rapid Transit connecting Kingswells to Bridge of Don</th></tr>
<tr><td>Description</td><td>Implementation of a bus rapid transit scheme connecting Kingswells to Bridge of Don via Union Street and King Street.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>✓✓✓</td><td>✓✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – The road capacity that would be required for Aberdeen Rapid Transit would reduce the capacity for general traffic, which may increase the attractiveness of walking and cycling for short trips.</li>
<li>TPO3 – Aberdeen Rapid Transit would provide a step-change in public transport provision that would be anticipated to promote growth in bus patronage.</li>
<li>TPO4 – Aberdeen Rapid Transit would allow for significant priority for buses such that there would be notable improvements to public transport reliability and journey times.</li>
<li>TPO5 – Aberdeen Rapid Transit would be anticipated to generate modal shift to bus and would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓✓</td><td>-</td><td>✓</td><td>✓✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Aberdeen Rapid Transit would provide a step-change in public transport provision and would be anticipated to generate modal shift. The reduced capacity for cars may generate some congestion impacts, however this could encourage greater use of the Rapid Transit system in the long term.</li>
<li>Aberdeen Rapid Transit would not be anticipated to generate significant impacts in terms of safety.</li>
<li>Aberdeen Rapid Transit would provide a step-change in bus journey times but it could also lead to increased journey times for cars. The potential for modal shift associated with the step-change in provision would be anticipated to mitigate against congestion impacts to an extent.</li>
<li>Aberdeen Rapid Transit would provide significant benefits in terms of enabling integration with other modes of transport and the rest of the bus network. It will provide opportunities to develop key interchange points.</li>
<li>Aberdeen Rapid Transit would provide a step-change in public transport provision for people without a car. However, it is not currently known how easily those in more rural areas would be able to take advantage of the infrastructure.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU12: Implement Aberdeen Rapid Transit connecting Kingswells to Bridge of Don</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Option would be dependent on a number of sub-options which are currently being explored and reviewed, some as part of this study. Further studies are required to consider the extent and form of the Aberdeen Rapid Transit network, the vehicle specification and the form of delivery/procurement. It is understood that Nestrans are commissioning a study to explore some of these considerations further.</li>
<li>Due to the anticipated high cost of an Aberdeen Rapid Transit system, this option is considered to present a high risk to ACC in terms of affordability. There may be funding through the Scottish Government’s Bus Partnership Fund for the infrastructure elements of the project. The Bus Alliance has been successful in its bid for £12 million from the fund.</li>
<li>It is anticipated that this option could generate significant public acceptability concerns associated with the capacity that would be required for delivery, which could impact on general traffic travelling lanes, on-street parking and refuse storage amongst other considerations. However, Aberdeen Rapid Transit provides an opportunity to generate public interest in an ambitious project which aims to deliver a step change in service quality improvements and this is likely to receive public support.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Over £2m</td></tr>
<tr><td>Programme</td><td>More than 5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to provide significant benefits against the TPOs developed for this study and against the STAG Criteria. There are significant deliverability risks associated with this option, some of which will be further considered through the forthcoming Nestrans commission. Delivery of Aberdeen Rapid Transit is also dependent on the provision of significant bus priority and thus this option has dependencies with a number of other options in this study. Options BU34/O19 (review of on-street parking along King Street) and Options O15/O16 (widen carriageway on King Street) are possible enabling measures that would support delivery of an Aberdeen Rapid Transit system.</td></tr>
</table>

**Table 7.45: Option BU13 Appraisal**

<table>
<tr><th colspan="2">BU13: Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor</th></tr>
<tr><td>Description</td><td>Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor at traffic signal-controlled junctions.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points<ul><li>TPO3 – Enhanced efficiency of movements through key junctions would be anticipated to improve bus journey times and reliability, which could encourage growth in bus patronage on the corridor.</li><li>TPO4 – Signalling enhancements through key junctions would be anticipated to reduce bus journey times.</li><li>TPO5 – If modal shift towards bus can be achieved, this would contribute towards locking in the journey time benefits of the AWPR for public transport.</li><li>No significant impacts are anticipated with regards TPO1 and TPO2.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Signal improvements for buses would not be anticipated to generate significant impacts in terms of environment, safety or integration.</li><li>Signal improvements for buses could reduce bus journey times with associated minor economic benefits.</li><li>Signal improvements for buses could improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Initial feedback from bus operators would be required. ITS systems will be split into those that bus operators are key to implementing such as smart ticketing, which can reduce boarding times, and those which are within the remit of the local authority such as linking bus priority to the SCOOT network.</li><li>Utilisation of ITS would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with utilisation of ITS anticipated.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
</table>

| BU13: Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor | |
|---|---|
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It performs well against a number of the TPOs developed for the study and STAG Criteria. Furthermore, it could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.46: Option BU17 Appraisal**

<table>
<tr><th colspan="2">BU17: Improve service provision in the settlements between Ellon and Aberdeen</th></tr>
<tr><td>Description</td><td>Improve service provision in the settlements between Ellon and Aberdeen including Foveran and Balmedie.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓✓✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – The provision of more frequent bus services in areas that are poorly served could encourage more people to travel by bus regularly.</li>
<li>TPO5 – Modal shift towards public transport would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO4.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>The provision of more frequent bus services in areas that are poorly served could generate minor environmental benefits associated with modal shift to bus.</li>
<li>The provision of more frequent bus services in areas that are poorly served would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>The provision of more frequent bus services in areas that are poorly served could generate minor economic benefits by enhancing access to employment opportunities.</li>
<li>The provision of more frequent bus services in areas that are poorly served would improve travel options for people without a car and could open up access to employment opportunities and services for those in lower income households.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Improved service provision would require bus operator involvement. Initial feedback from bus operators has indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place.</li>
<li>Improved service provision would not be expected to incur significant capital or revenue costs and therefore, there is low risk in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with improved service provision. Around 64% of respondents to the public consultation indicated that improved service provision would encourage the uptake of bus travel.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
</table>

| BU17: Improve service provision in the settlements between Ellon and Aberdeen | |
|---|---|
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst bus operators have indicated that infrastructure measures should be the initial priority, it is recommended that this is retained for further consideration as the study progresses, potentially as part of a supporting bus quality package. |

**Table 7.47: Option BU18 Appraisal**

<table>
<tr><th colspan="2">BU18: Implement bus or bus/trial high occupancy vehicle lane between Murcar Roundabout and Bridge of Don</th></tr>
<tr><td>Description</td><td>Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority between Murcar Roundabout and Bridge of Don.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>✓</td><td>✓✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – The provision of a bus lane between Murcar Roundabout and Bridge of Don may reduce the convenience of using private cars due to increased delays, which would increase the competitiveness of walking and cycling for short trips.</li>
<li>TPO3 – Reduced bus journey times would encourage growth in bus patronage on the corridor.</li>
<li>TPO4 – The provision of a bus lane between Murcar Roundabout and Bridge of Don would be anticipated to improve bus reliability and journey times along this section of the corridor.</li>
<li>TPO5 – The provision of a bus lane between Murcar Roundabout and Bridge of Don would contribute towards locking in the journey time benefits of the AWPR for public transport. There could, however, be some inappropriate use of adjacent local roads as a result of bus lanes, which would need to be protected against.</li>
<li>No significant impacts are anticipated with regards TPO1.</li>
<li>Overall, it is considered that a high occupancy vehicle lane would perform less strongly against the study objectives as there would be a more limited impact on reducing bus journey times and improving reliability compared with dedicated bus lanes.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a bus lane between Murcar Roundabout and Bridge of Don would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, provision of bus lanes may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Provision of a bus lane between Murcar Roundabout and Bridge of Don would not be anticipated to generate significant impacts in terms of safety.</li>
<li>Provision of a bus lane between Murcar Roundabout and Bridge of Don would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reducing the capacity for general traffic along the route, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU18: Implement bus or bus/trial high occupancy vehicle lane between Murcar Roundabout and Bridge of Don</th></tr>
<tr><td></td><td>
<ul>
<li>Provision of a bus lane between Murcar Roundabout and Bridge of Don would improve bus punctuality and reliability and will therefore have a positive impact on integration through improved and more reliable interchange opportunities.</li>
<li>Provision of a bus lane between Murcar Roundabout and Bridge of Don would be anticipated to reduce bus journey times, which would enhance accessibility for bus users and improve existing travel options for people without access to a car. If the provision of bus lanes led to congestion due to the reduced capacity for general traffic, there could be negative impacts for people with restricted mobility. Overall, assessed to be positive at this stage.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>High Risk</td></tr>
</table>
Key Points
<ul>
<li>Whilst there is limited evidence of the requirement for a bus lane to the north of The Parkway under existing circumstances, it is important to consider Committed Development Application 191171-PPP between Murcar Roundabout and The Parkway. This strengthens the argument for a bus lane in this location by safeguarding space to avoid future congestion and encouraging people living in new developments to choose public transport from day one because appropriate infrastructure exists.</li>
<li>There are two new junctions necessitated by the committed development that would likely be at capacity with the development and therefore modelling should be undertaken to understand the impact of providing bus lanes in this location. It is assumed that a southbound bus lane would be discontinued to allow for a turning manoeuvre into the development. A northbound bus lane could be continued through the junction but would require removal of a northbound traffic lane unless the junction was widened.</li>
<li>To the south of The Parkway, delivery of this option would either be through the conversion of existing vehicle lanes to bus or bus/trial high occupancy vehicle lanes (meaning four lanes of traffic overall south of North Donside Road) or through the implementation of two lanes in addition to the existing provision (meaning six lanes of traffic overall). To the south of North Donside Road, land ownership discussions would be required (if six lanes were to be achieved) and the separating strip would require reduction to 1.2m, which would allow for signage and signal heads to be provided.</li>
<li>Between Corunna Road and the Bridge of Don, there is not adequate space to deliver this option, unless capacity is reduced for general traffic. As outlined for BU24, it is estimated that around 2,000 vehicles travel over the Bridge of Don one-way during peak periods. According to the DMRB and based on the lane widths, the link capacity is 1,600-1,800 vehicles. Thus, the bridge would be severely over capacity if general traffic was to be limited to one lane (and this applies on approach to the bridge also).</li>
<li>It should be noted that a segregated cycleway (AT8) could only be provided in combination with this option (if six lanes of traffic were provided) subject to a review of additional land take or through reduction of capacity for general traffic.</li>
<li>Implementation of a bus lane between Murcar Roundabout and Bridge of Don is anticipated to present high affordability risks to ACC due to the potential requirement for land purchase. Further consideration of affordability would be required as the study progresses.</li>
</ul>
</td></tr>
</table>

| BU18: Implement bus or bus/trial high occupancy vehicle lane between Murcar Roundabout and Bridge of Don | |
|---|---|
| | • It is anticipated that this option could generate significant public acceptability concerns if capacity is removed from general traffic in order to deliver it. If bus lanes were provided as extra vehicle lanes in addition to the existing provision, it would also be anticipated to generate some concerns amongst active travel users as it would introduce the requirement to cross six lanes of traffic along this section of the corridor.<br>• Based on the findings from stakeholder engagement, there is limited support for the implementation of a bus/trial high occupancy vehicle lane. |
| **Conflicting Options** | Further consideration of the relationship with AT8 and AT15 is required. |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that the bus lane element of this option is progressed between Murcar and Corunna Road. Whilst there are a number of deliverability risks that require further consideration, it would be anticipated to perform well against a number of the TPOs and STAG Criteria. It is recommended that the bus/trial high occupancy vehicle lane element of this option is rejected from further consideration based on the findings from stakeholder consultation. The Scottish Government commitment to supporting dedicated bus priority infrastructure also provides added support for considering specific bus priority interventions on corridors such as Ellon to Garthdee. |

**Table 7.48: Option BU20 Appraisal**

<table>
<tr><th colspan="2">BU20: Implement upgrades to the Ellon Road/Parkway Roundabout to improve northbound bus priority</th></tr>
<tr><td>Description</td><td>Implementation of improvements at the Parkway Roundabout to enhance priority for buses travelling north into Aberdeenshire.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as the Ellon Road/Parkway Roundabout would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the Ellon Road/Parkway Roundabout would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the Ellon Road/Parkway Roundabout would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through a key junction such as the Ellon Road/Parkway Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Ellon Road/Parkway Junction would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through a key junction such as the Ellon Road/Parkway Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through a key junction such as the Ellon Road/Parkway Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| BU20: Implement upgrades to the Ellon Road/Parkway Roundabout to improve northbound bus priority | |
|---|---|
| | **Key Points**<br>• Enhanced bus priority through the Ellon Road/Parkway Junction is achievable. A new northbound dedicated bus lane could be added along Ellon Road, as well as a new southbound lane north of the roundabout. Roundabout reprofiling and traffic modelling would be required.<br>• Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.<br>• Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction. |

**Table 7.49: Option BU22 Appraisal**

<table>
<tr><th colspan="2">BU22: Reconfigure access/egress from Bridge of Don Park and Ride to Ellon Road</th></tr>
<tr><td>Description</td><td>Reconfiguring access/egress from the site addressing current convoluted routeing and minimising journey times for all vehicles utilising the site.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Reconfiguring the access/egress from Bridge of Don P&R would be anticipated to improve the efficiency of bus movements in and out of the site, which may encourage bus operators to route more services via the site, with potential benefits resulting in terms of bus patronage growth.</li>
<li>TPO4 – Reconfiguring the access/egress from Bridge of Don P&R would be anticipated to improve the efficiency of bus movements in and out of the site, which would have a beneficial impact on bus journey times and reliability.</li>
<li>TPO5 – Improved efficiency of access to Bridge of Don P&R would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>-</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Reconfiguring the access/egress from Bridge of Don P&R would be anticipated to improve the efficiency of bus movements in and out of the site, which may encourage bus operators to route more services via the site, with potential environmental benefits in terms of modal shift.</li>
<li>Reconfiguring the access/egress from Bridge of Don P&R would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Reconfiguring the access/egress from Bridge of Don P&R would be anticipated to improve the efficiency of bus movements in and out of the site, which could generate economic benefits.</li>
<li>Reconfiguring the access/egress from Bridge of Don P&R would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Reconfiguration of the access/egress from Bridge of Don P&R has included consideration of a bus left-out egress onto Ellon Road. However, such an intervention would only benefit southbound buses and not northbound buses. Multiple trees might be affected and a topographical survey would be required to confirm the existing available widths. A northbound access into the P&R could be</li>
</ul>
</td></tr>
</table>

| BU22: Reconfigure access/egress from Bridge of Don Park and Ride to Ellon Road | |
|---|---|
| | created, however, it would require its own right-turn stage or filter to allow buses across the busy southbound carriageway. This is likely to cause some delay and congestion at this location – traffic modelling would be required to determine the impacts of this.<br>• Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.<br>• There are no significant public acceptability concerns associated with this option. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic should a northbound access into the P&R be created. |

**Table 7.50: Option BU23 Appraisal**

<table>
<tr><th colspan="2">BU23: Implement junction upgrades at the Ellon Road/North Donside Road junction to improve bus priority from North Donside Road</th></tr>
<tr><td>Description</td><td>Implementation of junction upgrades to improve bus priority from North Donside Road.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as the Ellon Road/North Donside Road Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the Ellon Road/North Donside Road Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the Ellon Road/North Donside Road Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through the Ellon Road/North Donside Road Roundabout would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Ellon Road/North Donside Road Roundabout would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through the Ellon Road/North Donside Road Roundabout would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Ellon Road/North Donside Road Roundabout would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| BU23: Implement junction upgrades at the Ellon Road/North Donside Road junction to improve bus priority from North Donside Road | |
|---|---|
| | **Key Points**<br>• This option has included consideration of a signalised junction, however, a traffic modelling exercise would be required to confirm what is achievable at this location.<br>• Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.<br>• Delivery of this option is considered to be medium risk in terms of public acceptability due to increased delays through the junction that may be caused for general traffic by any intervention. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic at the junction. |

**Table 7.51: Option BU24 Appraisal**

<table>
<tr><th colspan="2">BU24: Implement bus or bus/trial high occupancy vehicle lane on the Bridge of Don</th></tr>
<tr><td>Description</td><td>Implementation of a bus/trial high occupancy vehicle lane in both directions on the Bridge of Don.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>✓✓</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – The provision of a bus lane on the Bridge of Don may reduce the convenience of using private cars due to increased delays, which would increase the competitiveness of walking and cycling for short trips.</li>
<li>TPO4 – The provision of a bus lane on the Bridge of Don would be anticipated to improve bus reliability and journey times along this section of the corridor.</li>
<li>TPO5 – The provision of a bus lane on the Bridge of Don would be anticipated to generate significant delays for general traffic, which could encourage use of inappropriate adjacent residential routes on approach to the bridge.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO3.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>×</td><td>-</td><td>×</td><td>-</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>Provision of a bus lane on the Bridge of Don would be likely to cause delays and congestion amongst general traffic, with detrimental impacts on air quality. Given the estimated high link volumes on this section of the network, it has been assessed as generating a negative impact in terms of environment at this stage.</li>
<li>Provision of a bus lane on the Bridge of Don would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Provision of a bus lane on the Bridge of Don would be likely to cause delays and congestion amongst general traffic (with potential knock-on impacts for buses), generating negative economic impacts.</li>
<li>Provision of a bus lane on the Bridge of Don would be likely to cause delays and congestion amongst general traffic, which could generate negative impacts for people who require accessibility by car, for example those with restricted mobility.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Low Risk</td><td>High Risk</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a bus lane on the Bridge of Don would require removal of a general traffic lane in both directions.</li>
<li>There are no significant affordability risks associated to ACC.</li>
</ul>
</td></tr>
</table>

| BU24: Implement bus or bus/trial high occupancy vehicle lane on the Bridge of Don | |
|---|---|
| | • Removal of a general traffic lane in both directions to accommodate a bus lane in both directions would be anticipated to generate significant public acceptability concerns. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Reject |
| **Rationale** | It is not recommended that this option is progressed. It is estimated that around 2,000 vehicles travel over the Bridge of Don one-way during peak periods. According to the DMRB and based on the lane widths, the link capacity is 1,600-1,800 vehicles. Thus, the bridge would be severely over capacity if general traffic was to be limited to one lane. |

**Table 7.52: Option BU25 Appraisal**

<table>
<tr><th colspan="2">BU25: Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street</th></tr>
<tr><td>Description</td><td>Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of King Street between Bridge of Don and Castle Street, with specific focus on a southbound lane between Seaton Drive and St Peter's Cemetery and a northbound lane between Roslin Terrace and Mounthooly Way.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>✓</td><td>✓✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – The provision of a bus lane on King Street may reduce the convenience of using private cars due to increased delays, which would increase the competitiveness of walking and cycling for short trips.</li>
<li>TPO3 – Reduced bus journey times would encourage growth in bus patronage on the corridor.</li>
<li>TPO4 – The provision of a bus lane on King Street would be anticipated to improve bus reliability and journey times along this section of the corridor.</li>
<li>TPO5 – The provision of a bus lane on King Street would contribute towards locking in the journey time benefits of the AWPR for public transport. There could, however, be some inappropriate use of adjacent local roads as a result of bus lanes, which would need to be protected against.</li>
<li>No significant impacts are anticipated with regards TPO1.</li>
<li>Overall, it is considered that a high occupancy vehicle lane would perform less strongly against the study objectives as there would be a more limited impact on reducing bus journey times and improving reliability compared with dedicated bus lanes.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a bus lane on King Street would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, provision of bus lanes may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Provision of a bus lane on King Street would not be anticipated to generate significant impacts in terms of safety.</li>
<li>Provision of a bus lane on King Street would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reducing the capacity for general traffic along the route, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU25: Implement bus or bus/trial high occupancy vehicle lane for the full length of King Street between Bridge of Don and Castle Street</th></tr>
<tr><td></td><td><ul><li>Provision of a bus lane on King Street would improve bus punctuality and reliability and will therefore have a positive impact on integration through improved and more reliable interchange opportunities.</li><li>Provision of a bus lane on King Street would be anticipated to reduce bus journey times, which would enhance accessibility for bus users and improve existing travel options for people without access to a car. If the provision of bus lanes led to congestion due to the reduced capacity for general traffic, there could be negative impacts for people with restricted mobility. Overall, assessed to be positive at this stage.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary<table><tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr><tr><td>Medium Risk</td><td>Low Risk</td><td>High Risk</td></tr></table>Key Points<ul><li>Four lanes are generally achievable (by extending 3m into the eastern verge) but only three lanes can be achieved between Seaton Place and St Machar Drive due to limited footway widths and private dwelling frontages. A topographical survey would be required to confirm existing available widths. Existing lanes have substandard widths for HGV/bus movements. There is likely to be space to provide three lanes in total, and therefore priority could be given to either northbound or southbound bus movements. Existing advisory cycle lanes would be lost as a result of this option.</li><li>Discussions with bus operators indicated that the priority locations for bus lane implementation on King Street is a southbound lane between Seaton Drive and St Peter’s Cemetery and a northbound lane between Roslin Terrace and Mounthooly Way. It is considered that both of these options are deliverable.</li><li>Implementation of a bus lane along King Street would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are likely to be some significant public acceptability concerns associated with the potential removal of car parking, the impact on refuse storage and the reduced capacity for general traffic in some locations along the corridor.</li><li>Based on the findings from stakeholder engagement, there is limited support for the implementation of a bus/trial high occupancy vehicle lane.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>Potential conflict with AT25 subject to additional land take review.</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that the bus lane element of this option is progressed. It has the potential to perform well against a number of the TPOs developed for the study and the STAG Criteria. Options BU34/O19 (review of on-street parking along King Street) and Options O15/O16 (widen carriageway on King Street) are possible enabling measures that would support delivery of a bus lane along King Street. It is recommended that the bus/trial high occupancy vehicle lane element of this option is rejected from further consideration based on the findings from stakeholder consultation. The Scottish Government commitment to supporting dedicated bus priority infrastructure also provides added support for considering specific bus priority interventions on corridors such as Ellon to Garthdee.</td></tr>
</table>

**Table 7.53: Option BU30 Appraisal**

<table>
<tr><th colspan="2">BU30: Review the layout of the Regent Walk junction</th></tr>
<tr><td>Description</td><td>Review the layout of the Regent Walk junction with King Street to minimise junction radii and reduce the length of the yellow box junction.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Reducing the junction radii would reduce the distances required for pedestrians to cross.</li>
<li>TPO4 – Revising the layout of the Regent Walk junction with King Street may provide minor improvements to bus journey times.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Revising the layout of the Regent Walk junction with King Street would not be anticipated to generate significant impacts in terms of environment, safety, economy or integration.</li>
<li>Revising the layout of the Regent Walk junction with King Street may provide minor accessibility and social inclusion benefits associated with slight improvements to bus journey times and reduced crossing times for pedestrians.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>There are no significant feasibility concerns associated with revising the layout of the Regent Walk junction.</li>
<li>Revising the layout of the Regent Walk Junction would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with this option.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Whilst it is generally anticipated to have a limited impact on the TPOs and STAG Criteria, it could be implemented as a ‘quick-win’ for a relatively low cost.</td></tr>
</table>

**Table 7.54: Option BU31 Appraisal**

<table>
<tr><th colspan="2">BU31: Review the layout of the Orchard Street/Linksfield Road junction, including consideration of signal timings</th></tr>
<tr><td>Description</td><td>Review the layout of the Orchard Street/Linksfield Road junction with King Street, including consideration of converting Linksfield Road into a one-way eastbound link and optimising signal timings to prioritise bus-heavy northbound and southbound movements.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as the Orchard Street/Linksfield Road Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the Orchard Street/Linksfield Road Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the Orchard Street/Linksfield Road Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through the Orchard Street/Linksfield Road Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Orchard Street/Linksfield Road Junction would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through the Orchard Street/Linksfield Road Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Orchard Street/Linksfield Road Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table></td></tr>
</table>

| BU31: Review the layout of the Orchard Street/Linksfield Road junction, including consideration of signal timings | |
|---|---|
| | **Key Points**<br>• Linksfield Road could be converted to a one-way road or stopped up to prevent right turns blocking and interfering with adjacent staggered junctions on King Street. A TRO would be required and traffic modelling to understand the impact on general traffic.<br>• Delivery of this option would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There may be some public acceptability concerns associated with reduced accessibility to Linksfield Road. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic at the junction. |

**Table 7.55: Option BU32 Appraisal**

<table>
<tr><th colspan="2">BU32: Review the layout of the Mounthooly Way junction</th></tr>
<tr><td>Description</td><td>Review the layout of the Mounthooly Way junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>×</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Implementation of staggered crossings for pedestrians would introduce more complex and time consuming crossing arrangements for pedestrians, which would not support increasing the attractiveness of active travel routes.</li>
<li>TPO3 – Enhanced bus priority through a key junction such as the Mounthooly Way Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the Mounthooly Way Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the Mounthooly Way Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through the Mounthooly Way Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Mounthooly Way Junction would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through the Mounthooly Way Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Mounthooly Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| BU32: Review the layout of the Mounthooly Way junction | |
|---|---|
| | **Key Points**<br>• Pedestrian islands could be widened to 3m to allow a staggered configuration and potential "walk-with" traffic configuration to improve capacity at the junction, which would be detrimental to active travel users as staggered crossings are generally not recommended on active travel routes. Bus lanes could be provided after the junction in both directions along King Street. A traffic modelling exercise would be required.<br>• Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.<br>• Delivery of this option is considered to be medium risk in terms of public acceptability due to the more complex crossing requirements that would be introduced for active travel users. |
| **Conflicting Options** | Further consideration of the relationship with AT30 is required as staggered crossings are generally not recommended on active travel routes. |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further consideration of the relationship with AT30 is required as staggered crossings are generally not recommended on active travel routes. |

**Table 7.56: Option BU33 Appraisal**

<table>
<tr><th colspan="2">BU33: Review the layout of the West North Street junction</th></tr>
<tr><td>Description</td><td>Review the layout of the West North Street junction with King Street, including consideration of staggered pedestrian crossings to reduce and optimise signal staging and phasing, restricting the right turn movement from West North Street to King Street for general traffic and implementing Traffic Signal Priority technology to grant priority to buses approaching the junction.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as the West North Street Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the West North Street Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the West North Street Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through the West North Street Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the West North Street Junction would not be anticipated to generate significant impacts in terms of safety or integration, though this option would support the wider objectives of the City Centre Masterplan to reduce traffic in the city centre.</li>
<li>Enhanced bus priority through the West North Street Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the West North Street Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU33: Review the layout of the West North Street junction</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>There is potential to consolidate the existing splitter islands into pedestrian islands on West North Street and East North Street. Traffic modelling would be required to understand the potential impact on traffic. Restriction of the right turn to general traffic would require a TRO and use of appropriate signage. Consideration of traffic signal priority is covered by Option BU13 and Option O2.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>Delivery of this option is considered to be medium risk in terms of public acceptability due to the right-turn ban on general traffic turning right from West North Street onto King Street.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>AT38</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and could be implemented as a ‘quick-win’ for a relatively low cost.</td></tr>
</table>

**Table 7.57: Option BU36 Appraisal**

<table>
<tr><th colspan="2">BU36: Implement bus or bus/trial high occupancy vehicle lane for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout</th></tr>
<tr><td>Description</td><td>Implementation of a bus/trial high occupancy vehicle lane in both directions with junction priority for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>✓</td><td>✓</td><td>✓✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO2 – The provision of a bus lane on Holburn Street may reduce the convenience of using private cars due to increased delays, which would increase the competitiveness of walking and cycling for short trips.</li>
<li>TPO3 – Reduced bus journey times would encourage growth in bus patronage on the corridor.</li>
<li>TPO4 – The provision of a bus lane on Holburn Street would be anticipated to improve bus reliability and journey times along this section of the corridor.</li>
<li>TPO5 – The provision of a bus lane on Holburn Street would contribute towards locking in the journey time benefits of the AWPR for public transport. There could, however, be some inappropriate use of adjacent local roads as a result of bus lanes, which would need to be protected against.</li>
<li>No significant impacts are anticipated with regards TPO1.</li>
<li>Overall, it is considered that a high occupancy vehicle lane would perform less strongly against the study objectives as there would be a more limited impact on reducing bus journey times and improving reliability compared with dedicated bus lanes.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Provision of a bus lane on Holburn Street would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, provision of bus lanes may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Provision of a bus lane on Holburn Street would not be anticipated to generate significant impacts in terms of safety.</li>
<li>Provision of a bus lane on Holburn Street would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reducing the capacity for general traffic along the route, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Provision of a bus lane on Holburn Street would improve bus punctuality and reliability and will therefore have a positive impact on integration through improved and more reliable interchange opportunities.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU36: Implement bus or bus/trial high occupancy vehicle lane for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout</th></tr>
<tr><td></td><td>• Provision of a bus lane on Holburn Street would be anticipated to reduce bus journey times, which would enhance accessibility for bus users and improve existing travel options for people without a car. If the provision of bus lanes led to congestion due to the reduced capacity for general traffic, there could be negative impacts for people with restricted mobility. Overall, assessed to be positive at this stage.</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary<br><table><tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr><tr><td>High Risk</td><td>Low Risk</td><td>High Risk</td></tr></table><br>Key Points<br>• There is not sufficient space available to achieve a northbound and southbound bus lane in combination. There is likely to be multiple locations on Holburn Street with insufficient space to allow a standard width bus lane. Three lanes are achievable with the removal of car parking. However, parking occupation surveys would be required and alternatives should be explored. Any removal of the existing central islands would be detrimental to active travel.<br>• Implementation of a bus lane along Holburn Street would not be expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There may be significant public acceptability concerns associated with the loss of car parking to accommodate bus priority infrastructure along this section of the corridor.<br>• Based on the findings from stakeholder engagement, there is limited support for the implementation of a bus/trial high occupancy vehicle lane.</td></tr>
<tr><td>Conflicting Options</td><td>Potential conflict with AT41 subject to additional land take review.</td></tr>
<tr><td>Cost</td><td>Over £2m</td></tr>
<tr><td>Programme</td><td>More than 5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that the bus lane element of this option is progressed, although it should be noted that there is not adequate space to deliver a bus lane in both directions (i.e. four lanes) without additional land take. Three lanes can be accommodated with the removal of car parking. It has the potential to perform well against a number of the TPOs developed for the study and the STAG Criteria. Option BU44 (review of on-street parking along Holburn Street) and Option O26 (widen carriageway on Holburn Street) are possible enabling measures that would support delivery of a bus lane along Holburn Street. It is recommended that the bus/trial high occupancy vehicle lane element of this option is rejected from further consideration based on the findings from stakeholder consultation. The Scottish Government commitment to supporting dedicated bus priority infrastructure also provides added support for considering specific bus priority interventions on corridors such as Ellon to Garthdee.</td></tr>
</table>

**Table 7.58: Option BU37 Appraisal**

<table>
<tr><th colspan="2">BU37: Review the layout of Holburn Junction</th></tr>
<tr><td>Description</td><td>Review the layout of Holburn Junction to increase capacity for all arms and provide bus priority measures, including consideration of reallocating lanes on the northbound approach to the junction to prioritise bus movements, improved synchronisation of Holburn Junction, Rose Street and Chapel Street signalised junctions and implementation of a left-turn ban onto Alford Place.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as Holburn Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as Holburn Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as Holburn Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through Holburn Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Holburn Junction would not be anticipated to generate significant impacts in terms of safety or integration. However, the implementation of a left-turn from Holburn Street onto Alford Place may result in more traffic travelling along Union Street from this area, which could conflict with emerging proposals for Union Street.</li>
<li>Enhanced bus priority through Holburn Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Holburn Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul></td></tr>
</table>

<table>
<tr><th colspan="2">BU37: Review the layout of Holburn Junction</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a left-turn ban from Holburn Street onto Alford Place could be achieved by extending the pedestrian island across the left-turn lane (although it should be ensured that cyclists can still make the left-turn manoeuvre at the junction). A TRO would be required for the left-turn ban. A modelling exercise would be required for consideration of improved synchronisation and a review should be undertaken of the existing SCOOT network to understand any loops that are not working.</li>
<li>It is understood that the LEZ for Aberdeen will commence at Great Western Road, however, no further information on diversion routes is available at the time of writing. It is recommended that the removal of the left-turn facility is modelled in combination with the LEZ proposals.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>There may be some public acceptability concerns associated with implementation of a left-turn ban from Holburn Street onto Alford Place.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs developed for the study and the STAG Criteria. Further work is required to understand the implications of implementation of a left-turn ban onto Alford Place, including impacts on Union Street and the relationship with LEZ proposals.</td></tr>
</table>

**Table 7.59: Option BU38 Appraisal**

<table>
<tr><th colspan="2">BU38: Review the layout of the Union Grove junction</th></tr>
<tr><td>Description</td><td>Review the layout of the Union Grove junction with Holburn Street, including consideration of reducing the yellow box markings to improve saturation flows at Holburn Junction.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO4 – Revising the layout of the Union Grove junction with Holburn Street may provide minor improvements to bus journey times.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO3 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Revising the layout of the Union Grove junction with Holburn Street would not be anticipated to generate significant impacts in terms of environment, safety, economy or integration.</li><li>Revising the layout of the Union Grove junction with Holburn Street may provide minor accessibility and social inclusion benefits associated with slight improvements to bus journey times.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
Key Points<ul><li>The yellow box junction is currently also being used to assist traffic emerging from Union Grove and therefore, its removal or reduction could have a detrimental impact on the junction capacity. A traffic modelling exercise should therefore be undertaken.</li><li>Changes to the layout at Union Grove is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There could be some public acceptability concerns if changes at the junction resulted in junction capacity issues for those exiting Union Grove.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Reject</td></tr>
<tr><td>Rationale</td><td>It is not recommended that this option is progressed. It would not be anticipated to generate a significant impact on the TPOs developed for the study or the STAG Criteria and there could be public acceptability concerns if the changes were to result in junction capacity issues at Union Grove.</td></tr>
</table>

**Table 7.60: Option BU39 Appraisal**

<table>
<tr><th colspan="2">BU39: Review the layout of the Great Western Road junction, including consideration of signal timings</th></tr>
<tr><td>Description</td><td>Review the layout of the Great Western Road junction with Holburn Street, including consideration of the junction alignment and length of pedestrian crossings. Review signal timings to reduce the inter-green times and consider northbound and southbound bus signal priorities.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as the Great Western Road/Holburn Street Junction would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as the Great Western Road/Holburn Street Junction would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as the Great Western Road/Holburn Street Junction would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through the Great Western Road/Holburn Street Junction would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Great Western Road/Holburn Street Junction would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through the Great Western Road/Holburn Street Junction would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through the Great Western Road/Holburn Street Junction would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul></td></tr>
</table>

<table>
<tr><th colspan="2">BU39: Review the layout of the Great Western Road junction, including consideration of signal timings</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with reviewing the layout of the Great Western Road/Holburn Street Junction.</li><li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li><li>There could be some public acceptability concerns associated with any delays that may be experienced at the junction as a result of enhanced priority for public transport.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>AT45</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and could be implemented as a ‘quick-win’ for a relatively low cost.</td></tr>
</table>

**Table 7.61: Option BU40 Appraisal**

<table>
<tr><th colspan="2">BU40: Review the layout of the Great Southern Road Roundabout</th></tr>
<tr><td>Description</td><td>Review the layout of the Great Southern Road Roundabout, including consideration of a southbound bus lane on approach to the roundabout (through the removal of parking bays) and a northbound filter bypass for buses.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO3 – Enhanced bus priority through a key junction such as Great Southern Road Roundabout would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as Great Southern Road Roundabout would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as Great Southern Road Roundabout would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO1 and TPO2.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through Great Southern Road Roundabout would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Great Southern Road Roundabout would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through Great Southern Road Roundabout would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Great Southern Road Roundabout would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| BU40: Review the layout of the Great Southern Road Roundabout | |
|---|---|
| | **Key Points**<br>• It would be possible to deliver a northbound filter lane at the roundabout, however, Nellfield Place would require to be closed off to accommodate this. Four lanes (two outer bus lanes) could be delivered on Holburn Street to the north of the roundabout but on-street parking would require removal. Local resident and business consultation would be required as well as a traffic modelling exercise and multiple TROs.<br>• Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.<br>• There could be some public acceptability concerns associated with the removal of on-street parking to the north of the roundabout and the closing off of Nellfield Place. |
| **Conflicting Options** | None |
| **Cost** | £250k - £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction. |

**Table 7.62: Option BU41 Appraisal**

<table>
<tr><th colspan="2">BU41: Review Holburn Street/Broomhill Road Roundabout</th></tr>
<tr><td>Description</td><td>Review Holburn Street/Broomhill Road junction to minimise delay for buses, including consideration of bus gate(s) and restricted access to Holburn Road.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>✓✓</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Review of the Holburn Street/Broomhill Road Roundabout, including implementation of a T-junction and restricting access to Holburn Road would provide improvements to the safety and attractiveness of active travel routes in the area, particularly between Holburn Street and Broomhill Road where a continuous footway could be provided.</li>
<li>TPO2 – The closure of Holburn Road would reduce the convenience of private car trips in the area, which may increase the attractiveness of walking and cycling for short trips.</li>
<li>TPO3 – Enhanced bus priority through a key junction such as Broomhill Road Roundabout would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as Broomhill Road Roundabout would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as Broomhill Road Roundabout would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus priority through Broomhill Road Roundabout would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Broomhill Road Roundabout would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>Enhanced bus priority through Broomhill Road Roundabout would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus priority through Broomhill Road Roundabout would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">BU41: Review Holburn Street/Broomhill Road Roundabout</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>High Risk</td></tr>
</table>
Key Points
<ul>
<li>Delivery of this option would require a TRO and traffic modelling to understand the impact on general traffic.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>There could be significant public acceptability concerns associated with the closure of Holburn Road.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>AT46</td></tr>
<tr><td>Cost</td><td>£250k-£2m</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction. The effect of the implementation of this option on Great Western Road (on the A93 corridor – which is the subject of a separate study) should also be considered at this stage.</td></tr>
</table>

**Table 7.63: Option BU47 Appraisal**

<table>
<tr><th colspan="2">BU47: Review priorities at the Auchinyell Road junction</th></tr>
<tr><td>Description</td><td>Review traffic priorities at the Auchinyell Road junction with Garthdee Road, including consideration of providing priority to buses turning right from Garthdee Road to Auchinyell Road.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO4 – Enhanced priority for buses turning right from Garthdee Road to Auchinyell Road may provide minor journey time benefits for buses along this section of the corridor.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO3 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>Enhanced bus priority for buses turning right from Garthdee Road to Auchinyell Road may generate some very minor journey time benefits for buses at this section of the corridor however, overall, it is not considered that this would have a notable impact against any of the STAG Criteria.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Priorities could be reassigned to make Auchinyell Road the major link and Garthdee Road (west) the minor link at the junction. A small area of land take would be needed to support sufficient bus radii.</li><li>The changing of priorities at the Auchinyell Road/Garthdee Road Junction is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with the changing of priorities at the Auchinyell Road/Garthdee Road Junction.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Reject</td></tr>
<tr><td>Rationale</td><td>It is not recommended that this option is progressed. Whilst it has the potential to provide minor journey time benefits for buses, it has a limited impact on the other TPOs and on the STAG Criteria.</td></tr>
</table>

### 7.3.3 Other Options

**Table 7.64: Option O1 Appraisal**

<table>
<tr><th colspan="2">O1: Review road signage along the corridor</th></tr>
<tr><td>Description</td><td>Review road signage to ensure it reflects the adopted roads hierarchy.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO3 and TPO4. There could be some very slight benefits for TPO5 associated with directing traffic via the most appropriate route, however this was largely completed as part of the AWPR City Sign Alterations project.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points<ul><li>Reviewing road signage along the corridor to ensure it reflects the adopted roads hierarchy would not be anticipated to generate significant impacts in terms of environment, safety, economy or accessibility and social inclusion.</li><li>There could be minor integration benefits associated with updating road signage in line with policy.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Low Risk</td><td>Low risk</td></tr>
</table>
Key Points<ul><li>There are no significant feasibility concerns associated with the review of road signage along the corridor.</li><li>A review of road signage is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with the review of road signage along the corridor.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Reject</td></tr>
<tr><td>Rationale</td><td>It is not recommended that this option is progressed (as part of this study). A review of road signage in line with the adopted roads hierarchy would not be expected to have a notable impact on any of the TPOs developed for this study and would be anticipated to have a limited impact against the STAG Criteria. It is recommended that this should be undertaken on a city-wide basis to ensure changes implemented through the AWPR City Sign Alterations project are in line with the adopted roads hierarchy.</td></tr>
</table>

**Table 7.65: Option O2 Appraisal**

<table>
<tr><th colspan="2">O2: Review and revalidation of the SCOOT system</th></tr>
<tr><td>Description</td><td>Review current junctions under SCOOT system and consider junctions to add to the SCOOT network to ensure optimal flow.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓✓</td><td>-</td></tr>
</table>
Key Points<ul><li>TPO4 – Signalling enhancements could reduce bus journey times.</li><li>No significant impacts are anticipated with regards TPO1, TPO2, TPO3 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>-</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Signalling enhancements through key junctions would not be anticipated to generate significant impacts in terms of environment, safety or integration.</li><li>Signalling enhancements through key junctions could generate minor economic benefits by reducing bus (and car) journey times.</li><li>Signalling enhancements could improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Review and revalidation of the SCOOT system would require a holistic approach, including whether other options would be implemented. ACC would be required to undertake a maintenance review of the SCOOT network to determine which junctions are still functioning and a budget would be required to repair the existing system. Confirmation would be required on the server controlling the SCOOT network and whether this is compatible with the First/Stagecoach ticketing machine technology. Waypoints would also need to be checked.</li><li>Review and revalidation of the SCOOT system is considered to present a medium affordability risk to ACC due to the number of parties that require to be involved. Further consideration of affordability would be required as the study progresses.</li><li>There are no significant public acceptability concerns associated with reviewing and revalidating the SCOOT system.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>£250k - £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria.</td></tr>
</table>

**Table 7.66: Option O4 Appraisal**

<table>
<tr><th colspan="2">O4: Upgrade A90(T)/B9005 Roundabout</th></tr>
<tr><td>Description</td><td>Upgrade the A90(T)/B9005 Roundabout to the south of Ellon with a) increase to two lanes on northbound exit, b) increase to two lanes on all arms or c) increase to two lanes on all arms + left turn filter lane for buses to Ellon.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>××</td><td>××</td><td>-</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Providing more capacity for vehicles through the A90(T)/B9005 Roundabout would reduce the attractiveness and safety of the junction for active travel users.</li>
<li>TPO2 – Providing more capacity for vehicles through the A90(T)/B9005 Roundabout would increase the convenience of using private cars.</li>
<li>TPO4 – Providing more capacity for vehicles through the A90(T)/B9005 Roundabout, including implementation of a left-turn filter lane for buses would allow buses to bypass any queueing on approach to Ellon, thereby reducing journey times and improving reliability.</li>
<li>TPO5 – Providing more capacity for vehicles through the A90(T)/B9005 Roundabout, including implementation of a left-turn filter lane for buses would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
<li>No significant impacts are anticipated with regards TPO3.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>×</td><td>-</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Increasing junction capacity at the A90(T)/B9005 Roundabout could contribute to increased traffic flows and therefore could generate negative air quality impacts. Increased capacity would also be anticipated to increase areas of hardstanding, which could have negative impacts on drainage.</li>
<li>Increasing junction capacity at the A90(T)/B9005 Roundabout would not be anticipated to generate significant impacts in terms of safety or integration.</li>
<li>There could be minor economic benefits associated with reduced bus (and car) journey times.</li>
<li>Increasing junction capacity at the A90(T)/B9005 Roundabout, including implementation of a left-turn filter lane for buses would be anticipated to reduce bus journey times which would enhance accessibility for bus users and would improve existing travel options for people without access to a car.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>High Risk</td><td>Low Risk</td></tr>
</table>
</td></tr>
</table>

| O4: Upgrade A90(T)/B9005 Roundabout | |
|---|---|
| | **Key Points**<br>• The existing roundabout diameter is big enough to support dual carriageway sections on all arms i.e. 2 lanes northbound and southbound. Any works on the roundabout would require Transport Scotland approval.<br>• Delivery of this option is considered to present a high affordability risk due to the anticipated high capital cost and uncertainty over appropriate funding streams for support. Further consideration of affordability would be required as the study progresses.<br>• It is anticipated that upgrades to the capacity of the A90(T)/B9005 junction would reduce delays at the junction and therefore it is assessed to be low risk in terms of public acceptability. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | 2-5 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that the left-turn filter lane for buses element of this option is progressed. As a whole, increasing the capacity of the junction does not perform well against the TPOs or STAG Criteria, however, it is considered that delivery of a left-turn filter lane for buses would generate benefits. |

**Table 7.67: Option O7 Appraisal**

<table>
<tr><th colspan="2">O7: Implement dual carriageway on A90(T) Ellon Bypass</th></tr>
<tr><td>Description</td><td>Implement dual carriageway on A90(T) Ellon Bypass south of the River Ythan Bridge, north and south of the River Ythan Bridge or for the full length.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>×××</td><td>×××</td><td>-</td><td>✓</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Increasing the carriageway capacity would have negative impacts on the safety and attractiveness of active travel routes.</li>
<li>TPO2 – Increasing the carriageway capacity would increase the convenience of using private cars.</li>
<li>TPO4 – Increasing the carriageway capacity could provide minor journey time benefits for buses.</li>
<li>TPO5 – Increasing the carriageway capacity for all vehicles does not support the aims of locking in the benefits of the AWPR as it could generate induced traffic.</li>
<li>No significant impacts are anticipated with regards TPO3.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>×××</td><td>×××</td><td>✓✓</td><td>-</td><td>×</td></tr>
</table>
Key Points
<ul>
<li>Increasing the carriageway capacity would increase traffic flows and therefore could generate negative air quality impacts. There could also be negative impacts on biodiversity and habitats, landscape, visual amenity and drainage.</li>
<li>Increasing the carriageway capacity would increase traffic flows and therefore increase the risk of accidents. There could also be negative safety impacts for active travel users due to the requirement to cross another lane of traffic.</li>
<li>Increasing the carriageway capacity would be anticipated to create economic benefits associated with reduced bus (and car) journey times.</li>
<li>Increasing the carriageway capacity would not be anticipated to generate significant impacts in terms of integration, although it would not support policy and sits at the bottom of the Sustainable Investment Hierarchy.</li>
<li>Increasing the carriageway capacity would create increased severance and reduce local accessibility for pedestrians and cyclists.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a dual carriageway on the A90(T) Ellon Bypass would require Transport Scotland approval. For a dual carriageway to be deliverable along the full length of the Ellon Bypass, a new bridge link would be required over the River Ythan. A multi-disciplinary study would be required including geology, ecology,</li>
</ul>
</td></tr>
</table>

| O7: Implement dual carriageway on A90(T) Ellon Bypass | |
|---|---|
| | bridges and water engineering. This option would also require Road Construction Consent (RCC).<br>• Delivery of this option is considered to present a high affordability risk due to the anticipated high capital cost and uncertainty over appropriate funding streams for support. Further consideration of affordability would be required as the study progresses.<br>• It is considered that public acceptability of a dual carriageway on the A90(T) Ellon Bypass would be low risk, however, there would be some concerns regarding additional road building given the climate emergency and the move towards more sustainable modes of travel. |
| **Conflicting Options** | None |
| **Cost** | Over £2m |
| **Programme** | More than 5 years |
| **Selection/Rejection** | Reject |
| **Rationale** | It is recommended that this option is rejected from further consideration as it is outwith the scope of the Ellon P&R to Garthdee Study and there is currently no clear delivery pathway for this scale of investment on the trunk road network. However, it is recommended that ACC works with partners to explore how this option may be progressed separately - there would be an opportunity in due course to ascertain how the benefits of any trunk road improvement at Ellon can complement the options moving forward in the Ellon P&R to Garthdee Study. |

**Table 7.68: Option O14 Appraisal**

<table>
<tr><th colspan="2">O14: Application of red route clearway restrictions along the full length of King Street</th></tr>
<tr><td>Description</td><td>Application of red route clearway restrictions along the full length of King Street to improve link and junction capacity for all traffic (specifically buses), including parking and loading opportunities. Systematic creation of short-term parking and loading opportunities on appropriate side roads would be required.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>
Key Points<ul><li>TPO4 – Red route interventions would enable buses to be more free-flowing along the corridor and therefore provide minor improvements to bus journey times.</li><li>TPO5 – Red route interventions would enable traffic to be more free-flowing along the corridor and therefore would encourage use of this route rather than less appropriate adjacent routes.</li><li>No significant impacts are anticipated with regards TPO1, TPO2 and TPO3.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓</td><td>✓</td><td>-</td><td>✓</td></tr>
</table>
Key Points<ul><li>Red route interventions would be anticipated to enable traffic to be more free-flowing, which could generate minor environmental benefits.</li><li>Red route interventions may generate minor safety improvements as it would enable traffic to be more free-flowing, reducing the risk of collisions.</li><li>Red route interventions would be anticipated to enable traffic to be more free-flowing, which could reduce journey times however, the relocation of parking and loading restrictions could increase journey times for freight vehicles.</li><li>Red route interventions would not be anticipated to generate significant impacts in terms of integration.</li><li>Red route interventions could improve existing travel options for people without access to a car.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Medium Risk</td><td>High Risk</td></tr>
</table>
Key Points<ul><li>The application of red route clearway restrictions could potentially have an impact on car parking, businesses, vehicle movements and refuse collection. Parking occupation surveys and stakeholder consultation exercises would be required, and alternatives should be explored. Refuse storage and alternatives should also be explored in terms of locations for storage and means of removal. A TRO would be required to implement this option and there is a possibility that residents and/or businesses would object to the Order which could have a detrimental impact on option implementation timescales.</li></ul></td></tr>
</table>

| O14: Application of red route clearway restrictions along the full length of King Street | |
|---|---|
| | • The application of red route clearway restrictions is anticipated to present medium affordability risks to ACC due to the requirement to relocate refuse storage.<br>• There are likely to be some significant public acceptability concerns associated with implementation of red route clearway restrictions in terms of potential removal of car parking, the impact on refuse storage and the potentially negative impact on businesses. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Whilst there are deliverability concerns associated with this option, it is considered to perform well against a number of the TPOs and STAG Criteria. Further consideration of deliverability risks will be required as the study progresses. |

**Table 7.69: Option O17 Appraisal**

<table>
<tr><th colspan="2">O17: Review the routeing of freight at the Mounthooly Way junction</th></tr>
<tr><td>Description</td><td>Review the routeing of freight at the Mounthooly Way junction, including consideration of diverting freight away from King Street and onto Mounthooly Way and West North Street, for example through the introduction of width restrictions to limit HGV routeing along King Street.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – The re-routeing of freight would lead to improved feelings of safety for active travel users on the southern section of King Street, thus improving the attractiveness of travelling actively.</li>
<li>TPO4 – The re-routeing of freight may result in minor benefits for public transport journey times and reliability by removing some vehicles from the southern section of King Street.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO5.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>The re-routeing of freight would increase the vehicle km travelled, which could have negative impacts on global air quality. There could be benefits in local air quality along the southern section of King Street (where people movement is higher). This may contribute to physical fitness improvements associated with mode shift if restricted sections are made more people friendly places. Overall, assessed as neutral at this stage.</li>
<li>The re-routeing of freight away from secondary and tertiary routes would lead to increased feelings of safety for active travel users.</li>
<li>The re-routeing of freight may increase freight journey times due to the increased vehicle km required. However, the re-routeing of freight could contribute to reduced and more reliable journey times for active travel and bus users, with associated beneficial economic impacts. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed as neutral at this stage.</li>
<li>The re-routeing of freight would not be anticipated to generate significant impacts in terms of integration or accessibility and social inclusion.</li>
</ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>The re-routeing of freight would require a freight movement study to be undertaken and consultation undertaken with key stakeholders at the early stages of further</li>
</ul></td></tr>
</table>

| O17: Review the routeing of freight at the Mounthooly Way junction | |
|---|---|
| | option development. A TRO would potentially be required if this option was to be delivered through implementation of a weight restriction on King Street.<br>• The re-routeing of freight is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There are no significant public acceptability concerns associated with the re-routeing of freight at the Mounthooly Way Junction. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria and could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.70: Option O18 Appraisal**

<table>
<tr><th colspan="2">O18: Implement traffic calming measures on King Street to the south of Mounthooly Way</th></tr>
<tr><td>Description</td><td>Implementation of traffic calming measures on King Street to the south of Mounthooly Way (in line with its reduced priority in the adopted roads hierarchy), including consideration of a 20mph speed restriction and removal of the centre line.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>✓✓</td><td>-</td><td>×</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Reduced traffic speeds would be anticipated to encourage greater active travel use associated with improved feelings of safety.</li>
<li>TPO2 – Reduced traffic speeds would reduce the convenience of private cars, thereby increasing the competitiveness of walking and cycling for short trips.</li>
<li>TPO4 – Traffic calming measures would be anticipated to increase bus journey times.</li>
<li>TPO5 – There could be minor benefits in terms of locking in the benefits of the AWPR if modal shift towards active travel could be achieved. In addition, at this point of the network, it is considered more appropriate that traffic uses the parallel West North Street route which has dual carriageway capacity.</li>
<li>No significant impacts are anticipated with regards TPO3.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>×</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Reduced traffic speeds would result in less efficient vehicle running, but it could make active travel more attractive and car less attractive, whilst also generating potential benefits in terms of noise reduction.</li>
<li>Reduced traffic speeds would reduce the risk and severity of accidents. It may also encourage greater active travel use and could have knock-on benefits in terms of safety in numbers.</li>
<li>Reduced traffic speeds would generate negative economic impacts associated with increased bus and car journey times. There may be some economic benefits associated with a modal shift towards active travel. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Assessed as a minor negative at this stage.</li>
<li>Reduced traffic speeds would not be anticipated to generate significant impacts in terms of integration.</li>
<li>Reduced traffic speeds may improve local accessibility by making active travel more attractive.</li>
</ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table></td></tr>
</table>

| O18: Implement traffic calming measures on King Street to the south of Mounthooly Way | |
|---|---|
| | **Key Points**<br>• Traffic calming measures are not particularly compatible with bus and HGV movements, particularly any physical measures. Raised tables and speed humps are likely to cause carriageway damage and noise pollution. A reduction to 20mph would require associated TROs, updated signage and some cooperation with Police Scotland on monitoring for enforcement.<br>• Implementation of traffic calming measures or a 20mph speed restriction is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• Implementation of traffic calming measures or a 20mph speed restriction may generate some public acceptability concerns associated with increased journey times for traffic. It would be anticipated that traffic calming measures would generate more significant concerns than reduction of the speed limit to 20mph. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Reduced traffic speeds would generate positive impacts against a number of the TPOs and STAG Criteria and could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.71: Option O20 Appraisal**

<table>
<tr><th colspan="2">O20: Close or restrict movements into side roads along the full length of King Street</th></tr>
<tr><td>Description</td><td>Close or restrict movements into side roads along the full length of King Street to improve link capacity for freight and bus travel and reduce conflict with cycle traffic.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>✓</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Side road access restrictions would enable safer movement across side road junctions for active travel users.</li>
<li>TPO2 – Side road access restrictions reduces the convenience of private cars, which could increase the competitiveness of walking and cycling for short trips.</li>
<li>TPO4 – Side road access restrictions would support improvements to bus reliability and journey times.</li>
<li>No significant impacts are anticipated with regards TPO3 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>Side road access restrictions would reduce traffic flow in the area and therefore could lead to improved local air quality, however this could be countered by increased traffic elsewhere on the network and therefore no significant impacts are anticipated overall.</li>
<li>Side road access restrictions would reduce traffic flow in the area and therefore reduce the interaction (and subsequent risk of accidents) between active travel users and general traffic.</li>
<li>Side road access restrictions could lead to increased car journey times, which could generate negative economic impacts. However, it could contribute to reduced and more reliable journey times for active travel and bus users, with associated beneficial economic impacts. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Overall, assessed as neutral at this stage.</li>
<li>Side road access restrictions would not be anticipated to generate significant impacts in terms of integration.</li>
<li>Side road access restrictions could lead to minor accessibility improvements for active travel users and for bus users if journey times were improved as a result, however, access restrictions could generate potential negative impacts for people with restricted mobility. Overall, assessed as neutral at this stage.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>Low Risk</td><td>High Risk</td></tr>
</table>
</td></tr>
</table>

| O20: Close or restrict movements into side roads along the full length of King Street | |
|---|---|
| | **Key Points**<br>• Some access restrictions have been identified as part of other option proposals, however, a full review would be required, including a wide-reaching consultation process. There is a possibility that residents would object to stopping-up roads or introducing one-way systems when going through the TRO process, which could have a detrimental impact on option implementation timescales. Access restrictions should only be implemented on streets where an alternative access is provided and therefore a further study would be required on origins and destinations within this section of the study corridor. The impacts of re-routeing would also need to be understood.<br>• Implementation of side road access restrictions is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• There may be significant public acceptability concerns associated with implementation of side road access restrictions along King Street. King Street provides access to a high number of residential properties and a number of key destinations including Pittodrie and Aberdeen Sports Village and reduced access to these would not be anticipated to be well-received by the public. |
| **Conflicting Options** | None |
| **Cost** | £50k-£70k per location (dependent on whether other off-site works are required to accommodate closure or restriction). |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed for further consideration. Whilst it has the potential to generate negative impacts in terms of economy and accessibility and social inclusion, it is considered that there would be benefit in exploring this option further to determine potential benefits (and costs). The impacts of re-routeing (and the impact of this in the context of the roads hierarchy) would also need to be understood. |

**Table 7.72: Option O22 Appraisal**

<table>
<tr><th colspan="2">O22: Implement 20mph speed restriction on Holburn Street</th></tr>
<tr><td>Description</td><td>Implementation of a 20mph speed restriction on Holburn Street in line with its reduced priority in the adopted roads hierarchy.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>✓✓</td><td>-</td><td>×</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Reduced traffic speeds would be anticipated to encourage greater active travel use associated with improved feelings of safety.</li>
<li>TPO2 – Reduced traffic speeds would reduce the convenience of private cars, thereby increasing the competitiveness of walking and cycling for short trips.</li>
<li>TPO4 – Traffic calming measures would be anticipated to increase bus journey times.</li>
<li>TPO5 – There could be minor benefits in terms of locking in the benefits of the AWPR if modal shift towards active travel could be achieved.</li>
<li>No significant impacts are anticipated with regards TPO3.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>×</td><td>-</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>Reduced traffic speeds would result in less efficient vehicle running, but it could make active travel more attractive and car less attractive, whilst also generating potential benefits in terms of noise reduction.</li>
<li>Reduced traffic speeds would reduce the risk and severity of accidents. It may also encourage greater active travel use and could have knock-on benefits in terms of safety in numbers.</li>
<li>Reduced traffic speeds would generate negative economic impacts associated with increased bus and car journey times. There may be some economic benefits associated with a modal shift towards active travel. Further work, including quantification, is required as the study progresses to determine the economic impacts fully. Assessed as a minor negative at this stage.</li>
<li>Reduced traffic speeds would not be anticipated to generate significant impacts in terms of integration.</li>
<li>Reduced traffic speeds may improve local accessibility by making active travel more attractive.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Medium Risk</td></tr>
</table>
</td></tr>
</table>

| O22: Implement 20mph speed restriction on Holburn Street | |
|---|---|
| | **Key Points**<br>• Implementation of a 20mph speed restriction on Holburn Street would require TROs, updated signage and some cooperation with Police Scotland on monitoring for enforcement.<br>• Implementation of a 20mph speed restriction on Holburn Street is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.<br>• Implementation of a 20mph speed restriction may generate some public acceptability concerns associated with increased journey times for traffic. |
| **Conflicting Options** | None |
| **Cost** | Less than £250k |
| **Programme** | Less than 2 years |
| **Selection/Rejection** | Select |
| **Rationale** | It is recommended that this option is progressed. Reduced traffic speeds would generate positive impacts against a number of the TPOs and STAG Criteria and could be implemented as a 'quick-win' for a relatively low cost. |

**Table 7.73: Option O23 Appraisal**

<table>
<tr><th colspan="2">O23: Reimagining of Holburn Street streetscape between Great Western Road and Holburn Junction</th></tr>
<tr><td>Description</td><td>Reimagining of the Holburn Street streetscape between Great Western Road and Holburn Junction to provide priority for sustainable travel modes in line with adopted position in the roads hierarchy. This could include tightening side road junction radii and creating continuous footways across side road junctions and access points.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>✓✓</td><td>✓</td><td>✓✓</td><td>✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Streetscape interventions would look to prioritise movements for active travel users and public transport, which would be expected to increase the attractiveness of walking and cycling options.</li>
<li>TPO2 – Streetscape interventions would look to prioritise movements for active travel users and public transport, reducing the convenience of private cars.</li>
<li>TPO3 – Streetscape interventions would look to prioritise movements for active travel users and public transport, enabling reduced bus journey times and achieving growth in bus patronage.</li>
<li>TPO4 – Enhanced bus priority would be anticipated to reduce bus journey times.</li>
<li>TPO5 – Modal shift to bus and active travel would reduce the number of cars on the road, supporting the aims of locking in the benefits of the AWPR.</li>
</ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>✓</td><td>✓✓</td><td>✓</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>Streetscape interventions that look to prioritise movements for active travel users and public transport could contribute towards modal shift, with associated environmental benefits.</li>
<li>Streetscape interventions would look to prioritise movements for active travel users and public transport and could lead to reduced traffic flows which would reduce the risk of accidents.</li>
<li>Streetscape interventions could result in more foot traffic as a result of placemaking enhancements that could encourage more spending in local businesses.</li>
<li>Improving the streetscape could help to improve the accessibility of bus stops on Holburn Street and therefore support integration between the active travel network and public transport.</li>
<li>Streetscape interventions could increase local accessibility, however there may be potential negative impacts on people with restricted mobility. Overall, assessed as neutral at this stage.</li>
</ul></td></tr>
</table>

<table>
<tr><th colspan="2">O23: Reimagining of Holburn Street streetscape between Great Western Road and Holburn Junction</th></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Low Risk</td><td>Medium Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Streetscape interventions that look to prioritise movements for active travel users and public transport would require a reduction in the number of general traffic lanes between Great Western Road and Holburn Junction. A traffic modelling exercise and topographical survey would be required to determine available widths.</li>
<li>Delivery of this option is considered to present a medium affordability risk to ACC. Further consideration of affordability would be required as the study progresses.</li>
<li>There may be public acceptability concerns associated with the implementation of streetscape interventions due to the reduction in the number of general traffic lanes that would be required. However, this section of the corridor is included within the City Centre Masterplan area, which was subject to extensive consultation and has a key focus on improving the city centre as a place for people rather than traffic.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. Reimagining of the streetscape would generate positive impacts against all of the TPOs and a number of the STAG Criteria. Further work is required to understand the impact on general traffic and the existing available widths for intervention.</td></tr>
</table>

**Table 7.74: Option O25 Appraisal**

<table>
<tr><th colspan="2">O25: Implement right-turn ban at Holburn Street onto Justice Mill Lane</th></tr>
<tr><td>Description</td><td>Implement right-turn ban at Holburn Street onto Justice Mill Lane.</td></tr>
<tr><td>TPO Appraisal</td><td>Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>No significant impacts are anticipated regarding TPO1, TPO2, TPO3, TPO4 and TPO5.</li></ul></td></tr>
<tr><td>STAG Criteria Appraisal</td><td>Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points<ul><li>Implementation of a right-turn ban from Holburn Street onto Justice Mill Lane would not be anticipated to generate significant impacts in terms of environment, economy, integration or accessibility and social inclusion.</li><li>Implementation of a right-turn ban from Holburn Street onto Justice Mill Lane could generate minor safety improvements due to the reduced risk of collision at the junction.</li></ul></td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points<ul><li>Implementation of a right-turn ban from Holburn Street onto Justice Mill Lane would require a TRO. A physical barrier could also be implemented to aid enforcement of the restriction (as was implemented as part of the Spaces for People interventions).</li><li>Implementation of a right-turn ban from Holburn Street onto Justice Mill Lane is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li><li>There are no significant public acceptability concerns associated with implementation of a right-turn ban from Holburn Street onto Justice Mill Lane. Access to Justice Mill Lane from Holburn Street has been closed throughout the COVID-19 pandemic as a result of Spaces for People interventions and therefore it is considered that road users have become accustomed to alternative routeing.</li></ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Reject</td></tr>
<tr><td>Rationale</td><td>It is not recommended that this option is progressed. It is not anticipated to generate any impacts against the TPOs developed for the study and is considered to have very limited impact on the STAG Criteria.</td></tr>
</table>

**Table 7.75: Option O28 Appraisal**

<table>
<tr><th colspan="2">O28: Implement width restriction on Holburn Street at Riverside Drive</th></tr>
<tr><td>Description</td><td>Implement width restriction on Holburn Street at Riverside Drive to restrict HGV access.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓</td><td>-</td><td>-</td><td>✓</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – The banning of HGVs on Holburn Street may improve the safety and attractiveness of active travel on the northern section of Holburn Street.</li>
<li>TPO4 – The banning of HGVs on Holburn Street (north of Riverside Drive) may result in minor benefits for public transport journey times and reliability by removing some vehicles from the northern section of Holburn Street.</li>
<li>No significant impacts are anticipated with regards TPO2, TPO3 and TPO5.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Key Points
<ul>
<li>The banning of HGVs on Holburn Street would not be anticipated to generate significant impacts in terms of environment, economy, integration or accessibility and social inclusion.</li>
<li>The banning of HGVs on Holburn Street (north of Riverside Drive) may lead to increased feelings of safety for active travel users on Holburn Street.</li>
</ul>
</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>Medium Risk</td><td>Low Risk</td><td>Low Risk</td></tr>
</table>
Key Points
<ul>
<li>Implementation of a width restriction on Holburn Street at Riverside Drive would require a TRO and a further study on freight movements would be recommended. Delivery of this option would also require implementation of associated signage.</li>
<li>Implementation of a width restriction on Holburn Street at Riverside Drive is not expected to incur significant capital or revenue costs and therefore, there is low risk to ACC in terms of affordability.</li>
<li>There are no significant public acceptability concerns associated with this option.</li>
</ul>
</td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Less than £250k</td></tr>
<tr><td>Programme</td><td>Less than 2 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed for further consideration. It would be anticipated to provide minor benefits against some of the TPOs and STAG Criteria. Further work is required to understand any unintended routeing consequences that could occur as a result of the restriction.</td></tr>
</table>

**Table 7.76: Option O29 Appraisal**

<table>
<tr><th colspan="2">O29: Review the layout of Garthdee Roundabout</th></tr>
<tr><td>Description</td><td>Review the layout of Garthdee Roundabout, including consideration of conversion to signalised junction, allowing bus priority measures and enhanced pedestrian and cycle provision to be introduced.</td></tr>
<tr><td>TPO Appraisal</td><td>
Summary
<table>
<tr><th>TPO1</th><th>TPO2</th><th>TPO3</th><th>TPO4</th><th>TPO5</th></tr>
<tr><td>✓✓</td><td>✓</td><td>✓</td><td>✓✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>TPO1 – Improving active travel provision at the Garthdee Roundabout would be anticipated to provide moderate benefits against TPO1 due to the safety benefits to active travel users that junction signalisation would bring.</li>
<li>TPO2 – Reviewing the layout of Garthdee Roundabout such that priority is enhanced for active travel and public transport is likely to cause delays to general traffic, which may reduce the attractiveness of the private car for short trips.</li>
<li>TPO3 – Enhanced bus priority through a key junction such as Garthdee Roundabout would be anticipated to reduce bus journey times such that more people could be encouraged to travel by bus.</li>
<li>TPO4 – Enhanced bus priority through a key junction such as Garthdee Roundabout would be anticipated to reduce bus journey times and improve reliability.</li>
<li>TPO5 – Enhanced bus priority through a key junction such as Garthdee Roundabout would contribute towards locking in the journey time benefits of the AWPR for public transport.</li>
</ul>
</td></tr>
<tr><td>STAG Criteria Appraisal</td><td>
Summary
<table>
<tr><th>Environment</th><th>Safety</th><th>Economy</th><th>Integration</th><th>Accessibility & Social Inclusion</th></tr>
<tr><td>-</td><td>✓✓</td><td>-</td><td>✓</td><td>✓✓</td></tr>
</table>
Key Points
<ul>
<li>Enhanced bus and active travel priority through Garthdee Roundabout would be anticipated to reduce bus journey times, which could lead to modal shift and associated environmental benefits in terms of air quality improvements. However, it may cause delays and congestion amongst general traffic, which could have detrimental impacts on air quality. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced active travel provision through Garthdee Roundabout would improve perceptions of safety and would reduce the risk between different types of road user, particularly given the uncontrolled nature of the existing roundabout.</li>
<li>Enhanced bus and active travel priority through Garthdee Roundabout would be anticipated to reduce bus journey times, which could generate economic benefits. However, there could be congestion associated with reduced priority for general traffic, which could generate negative economic impacts. Overall, assessed to be neutral at this stage.</li>
<li>Enhanced bus and active travel priority through Garthdee Roundabout would support integration of the active travel network and support policy integration by encouraging more trips to be undertaken sustainably.</li>
<li>Enhanced bus and active travel priority through Garthdee Roundabout would be anticipated to reduce bus journey times which would enhance accessibility for bus</li>
</ul>
</td></tr>
</table>

<table>
<tr><th colspan="2">O29: Review the layout of Garthdee Roundabout</th></tr>
<tr><td></td><td>users and would improve existing travel options for people without access to a car. Improved active travel provision would also reduce severance and increase local accessibility for those walking and cycling.</td></tr>
<tr><td>Implementability Criteria Appraisal</td><td>Summary
<table>
<tr><th>Feasibility</th><th>Affordability</th><th>Public Acceptability</th></tr>
<tr><td>High Risk</td><td>High Risk</td><td>Medium Risk</td></tr>
</table>
Key Points
<ul>
<li>Changes to the layout of Garthdee Roundabout would require a traffic modelling exercise to be undertaken and a complete redesign of the roundabout. In addition, a topographical survey should be undertaken to confirm the available widths. As the proposed intervention is on a major roundabout on a busy bus and HGV route, a freight study should also be undertaken.</li>
<li>Delivery of this option is considered to present a high affordability risk to ACC due to the anticipated high capital cost and uncertainty over appropriate funding streams for support. Further consideration of affordability would be required as the study progresses.</li>
<li>There may be some public acceptability concerns associated with changes to the layout of Garthdee Roundabout, particularly in terms of reduced priority for general traffic, which could cause delays at the junction.</li>
</ul></td></tr>
<tr><td>Conflicting Options</td><td>None</td></tr>
<tr><td>Cost</td><td>Over £2m</td></tr>
<tr><td>Programme</td><td>2-5 years</td></tr>
<tr><td>Selection/Rejection</td><td>Select</td></tr>
<tr><td>Rationale</td><td>It is recommended that this option is progressed. It has the potential to perform well against a number of the TPOs and STAG Criteria. Further work is required to understand the impact on general traffic through the junction.</td></tr>
</table>

# 8. Summary and Next Steps

## 8.1 Introduction

This study has set out a STAG-based appraisal of options for improving transport connections (particularly public transport and active travel connections) from the P&R in Ellon, Aberdeenshire to the Garthdee Road corridor in Aberdeen City, and on related public transport routes.

This summary section confirms the options proposed to be rejected from further assessment – and those recommended to progress to further (detailed) appraisal in line with STAG.

## 8.2 Rejected Options

It is recommended that the following options are rejected from further consideration based on the findings of the appraisal.

**Table 8.1: Options Rejected from Further Consideration**

| Ref | Option Title | Rationale for Rejection |
|---|---|---|
| AT12 | Extend the Ellon Road shared use path on the west side of the carriageway to the Bridge of Don | Whilst it has the potential to deliver minor benefits against TPO1 and minor safety and accessibility and social inclusion benefits, shared use infrastructure is less likely to generate modal shift than segregated infrastructure. Furthermore, delivery of this option would require redistribution of the carriageway, incurring significant cost and being a lower priority for funding from Sustrans as it is focussed on shared use rather than segregated facilities. |
| AT26 | Implement active travel route via a fully segregated active travel bridge across the River Don | It is recommended that Option AT26 is rejected from further appraisal at this time. Option AT23 may afford a similar level of enhancement for active travel across the Bridge of Don but at a lower carbon footprint due to re-use of existing infrastructure. |
| AT28 | Implement a crossing point for active travel users to the north of the Bridge of Don | It is not considered that an additional crossing point would be required if crossing facilities are provided at Balgownie Road as part of AT17. Mapping of pedestrian desire lines should be undertaken through progression of AT17 to ensure crossing facilities are provided in the most appropriate location. |
| BU3 | Review of bus stop provision on the corridor | It is not considered to perform well against the TPOs or STAG Criteria and it would be anticipated to generate public acceptability concerns. Furthermore, feedback from bus operators indicated that the number of bus stops (e.g. on King Street) has been a benefit to operations overall. |
| BU24 | Implement bus or bus/trial high occupancy vehicle lane on the Bridge of Don | It is estimated that around 2,000 vehicles travel over the Bridge of Don on-way during peak periods. According to the DMRB and based on the lane widths, the link capacity is 1,600-1,800 vehicles. Thus, the bridge would be severely over capacity if general traffic was to be limited to one lane. |
| BU38 | Review the layout of the Union Grove Junction | It would not be anticipated to generate a significant impact on the TPOs developed for the study or the STAG Criteria and there could be public acceptability concerns if the changes were to result in junction capacity issues at Union Grove. |
| BU47 | Review priorities at the Auchinyell Road junction | Whilst it has the potential to provide minor journey time benefits for buses, it has a limited impact on the other TPOs and on the STAG Criteria. |
| O1 | Review road signage on the corridor | A review of road signage in line with the adopted roads hierarchy would not be expected to have a notable impact on any of the TPOs developed for this study and would be anticipated to have a limited impact against the STAG Criteria. It is recommended that this should be undertaken on a city-wide basis to ensure changes implemented through the AWPR City Sign Alterations project are in line with the adopted roads hierarchy. |
| O7 | Implement dual carriageway on A90(T) Ellon Bypass | It is recommended that this option is rejected from further consideration as it is outwith the scope of the Ellon P&R to Garthdee Study and there is currently no clear delivery pathway for this scale of investment on the trunk road network. However, it |

| Ref | Option Title | Rationale for Rejection |
|---|---|---|
| | | is recommended that ACC works with partners to explore how this option may be progressed separately - there would be an opportunity in due course to ascertain how the benefits of any trunk road improvement at Ellon can complement the options moving forward in the Ellon P&R to Garthdee Study. |
| O25 | Implement right-turn ban at Holburn Street onto Justice Mill Lane | It is not anticipated to generate any impacts against the TPOs developed for the study and is considered to have very limited impact on the STAG Criteria. |

## 8.3 Selected Options

Based on the findings of the appraisal, the remaining options have been categorised into short, medium and long-term options in the table below. Timescales are based on the following assumptions:

- Short-term – less than 2 years;
- Medium-term – 2-5 years; and
- Long-term – more than 5 years.

The selected options are included in the schematic diagrams that are presented as part of **Appendix E**. It should be noted that the options presented in **Table 8.3** are not included within these diagrams as the timescale is considered to be dependent on the delivery of infrastructure measures.

**Table 8.2: Programme of Selected Options**

| Ref | Option Title | Timescale |
|---|---|---|
| AT2 | Improve signage for active travel | Short |
| AT14 | Implement a crossing point for active travel users on Ellon Road south of Murcar Roundabout. | Short |
| AT20 | Maintain and improve cycle parking provision at Bridge of Don Park and Ride | Short |
| AT21 | Improve active travel access to Bridge of Don Park and Ride | Short |
| AT39 | Tighten junction radii and reduce side road width along the full length of King Street | Short |
| AT47 | Improvements to access point to the Deeside Way on Holburn Street. | Short |
| AT53 | Reduce traffic speeds on Garthdee Road | Short |
| AT55 | Provide crossing facility on Garthdee Road at Gray's School of Art. | Short |
| BU10 | Extend bus lane hours of operation on the corridor | Short |
| BU11 | Improve bus lane enforcement on the corridor | Short |
| BU13 | Review opportunities to utilise Intelligent Transport Systems (ITS) to aid bus priority along the study corridor | Short |
| BU30 | Review the layout of the Regent Walk junction | Short |
| BU31 | Review the layout of the Orchard Street/Linksfield Road junction, including consideration of signal timings | Short |
| BU32 | Review the layout of the Mounthooly Way junction | Short |
| BU33 | Review the layout of the West North Street junction | Short |
| BU37 | Review the layout of Holburn Junction | Short |
| BU39 | Review the layout of the Great Western Road junction, including consideration of signal timings | Short |
| BU41 | Review Holburn Street/Broomhill Road Junction | Short |
| O14 | Application of red route clearway restrictions along the full length of King Street | Short |
| O17 | Review the routeing of freight at the Mounthooly Way junction | Short |
| O18 | Implement traffic calming measures on King Street to the south of Mounthooly Way | Short |
| O20 | Close or restrict movements into side roads along the full length of King Street | Short |

| Ref | Option Title | Timescale |
|---|---|---|
| O22 | Implement 20mph speed restriction on Holburn Street | Short |
| O23 | Reimagining of Holburn Street streetscape between Great Western Road and Holburn Junction | Short |
| O28 | Implement width restriction on Holburn Street at Riverside Drive | Short |
| AT11 | Implement active travel route via local residential network to the west of the study corridor | Medium |
| AT15 | Improve active travel provision at the Ellon Road/Parkway junction | Medium |
| AT17 | Improve active travel facilities at the Ellon Road/Balgownie Road junction | Medium |
| AT33 | Implement active travel route via Beach Esplanade | Medium |
| AT34 | Implement active travel route via Golf Road and Park Road | Medium |
| AT38 | Create protected junction at King Street/West North Street junction for cyclists ***(subject to implementation of Option AT30 to ensure cohesive network)*** | Medium |
| AT44 | Implement active travel route via Bon Accord Terrace and Hardgate | Medium |
| AT45 | Create protected junction at Holburn Street/Great Western Road junction for cyclists ***(subject to implementation of Option AT41 to ensure cohesive network)*** | Medium |
| AT54 | Widen narrow footways on Garthdee Road | Medium |
| AT58 | Upgrade the junction at Asda/Garthdee Road to improve cycle provision | Medium |
| AT59 | Upgrade the junction at Sainsbury's/Garthdee Road to improve cycle provision | Medium |
| BU20 | Implement upgrades to the Ellon Road/Parkway junction to improve northbound bus priority | Medium |
| BU22 | Reconfigure access/egress from Bridge of Don Park and Ride to Ellon Road | Medium |
| BU23 | Implement junction upgrades at the Ellon Road/North Donside Road junction to improve bus priority from North Donside Road | Medium |
| BU25 | Implement bus lane for the full length of King Street between Bridge of Don and Castle Street | Medium |
| BU40 | Review the layout of the Great Southern Road Roundabout | Medium |
| O2 | Review and revalidation of the SCOOT system | Medium |
| O4 | Upgrade A90(T)/B9005 Roundabout | Medium |
| O29 | Review the layout of Garthdee Roundabout | Medium |
| AT3 | Implement long distance active travel route between Ellon and Murcar | Long |
| AT8 | Implement segregated cycleway between Murcar and Bridge of Don | Long |
| AT23 | Implement segregated cycleway on the Bridge of Don | Long |
| AT30 | Implement segregated cycleway on King Street ***(subject to review of additional land take requirements)*** | Long |
| AT41 | Implement segregated cycleway on Holburn Street ***(subject to review of additional land take requirements)*** | Long |
| AT48 | Implement segregated cycleway on Garthdee Road | Long |
| BU12 | Implement Aberdeen Rapid Transit connecting Kingswells to Bridge of Don | Long |
| BU18 | Implement bus lane between Murcar Roundabout and the Bridge of Don | Long |
| BU36 | Implement bus lane for the full length of Holburn Street between Holburn Junction and Garthdee Roundabout | Long |

In addition to the above, there are a number of supporting bus options that could be implemented within relatively short timescales. However, feedback from bus operators indicated that infrastructure measures should be the priority and a view on supporting measures can be taken once infrastructure is in place. Therefore, it is recommended that the options outlined in the table below are long-term but could be implemented within a period of two years.

**Table 8.3: Supporting Bus Measures**

| Ref | Option Title |
|---|---|
| BU1 | Review ticketing structure |
| BU2 | Review bus stop infrastructure on the corridor |
| BU4 | Review how accessibility is being provided on vehicles operating on the corridor |
| BU5 | Fare improvements delivered through a BSIP |
| BU6 | Frequency improvements delivered through a BSIP |
| BU7 | Quality improvements delivered through a BSIP |
| BU9 | Enhance bus monitoring capability |
| BU17 | Improve service provision in the settlements between Ellon and Aberdeen |

## 8.4 Next Steps

It is recommended that ACC reviews the outcome of the option appraisal with a view to determining which of the 'quick wins' may be suitable for early implementation as a result of this study.

Thereafter, detailed appraisal of the remaining selected options should be undertaken to further understand the scale of impacts against the TPOs, STAG and Implementability criteria – and whether option packaging may further support their deliverability. The identification of short, medium and long-term actions in this study should assist in this regard.

Quantification of option impacts and further understanding of bus and active travel option compatibility across the corridor will allow ACC to determine a holistic approach for bringing forward interventions on the Ellon to Garthdee corridor.