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

Executive Summary

Aberdeen City Council

Project number: 60637770

October 2021

# Executive Summary

## Background

In June 2020, AECOM was 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 has been guided by a Project Steering Group led by ACC and supported by Nestrans, Aberdeenshire Council and Sustrans.

## 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: Study Area

## Context Setting

An extensive desktop exercise was undertaken to set the context for the study. Key tasks included:

- A review of relevant national, regional and local policy documents;
- A review of previous studies to gather information on problems and opportunities previously identified and options previously developed for sections of the study corridor;
- A review of the geographic context, setting out features of key settlements located along the study corridor;
- A review of the socio-economic context, considering key indicators such as population, employment, car availability, deprivation and health;
- A review of the transport context, supported by origin destination analysis; active travel infrastructure and usage counts; bus infrastructure, usage and journey time variability; journey time analysis to/from key settlements to/from principal destinations; overview of the road network and traffic volumes; overview of road safety incidents; electric vehicle charging infrastructure; and freight routes and counts;
- A review of the planning context, providing information on relevant development allocations along the corridor, including the Cloverhill Development for 550 homes and associated facilities to the east of the A92 south of Murcar Roundabout. It proposes a number of changes to the local road network including the introduction of two new vehicle junctions, an additional toucan crossing and speed limit changes; and
- A review of the environmental context, outlining the key environmental constraints along the study corridor.

## Problems and Opportunities

Within STAG, problems, issues, constraints and opportunities (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.

A localised corridor review was undertaken to determine PICOs along the study corridor and annotated satellite images were used to outline the results. The junctions included within the localised corridor review are shown in the table below.

**Table 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 localised corridor review was supported by a review of strategic issues for the corridor. The diagram below outlines the key strategic PICOs that were identified.

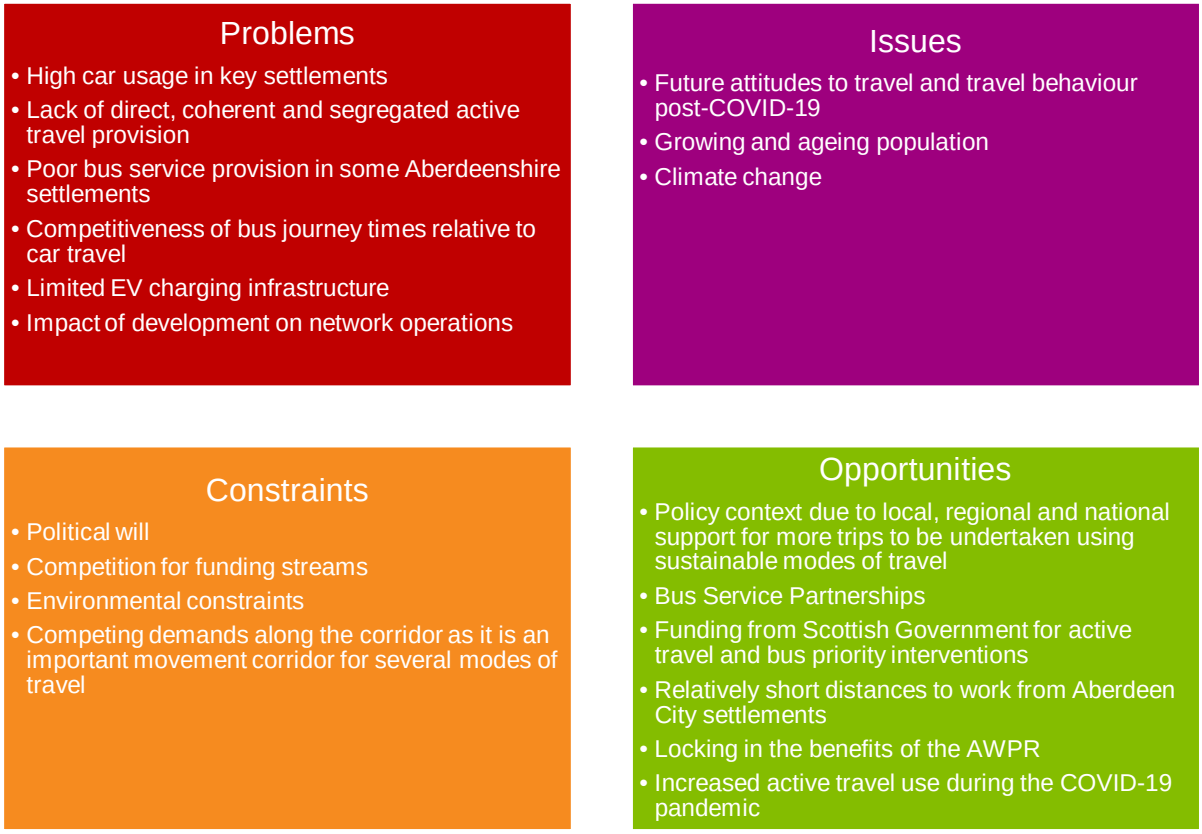


**Figure 2: Strategic Problems, Issues, Constraints and Opportunities**

## Public and Stakeholder Engagement

Public and stakeholder engagement was undertaken at two stages during the Ellon P&R to Garthdee Study – to support the identification of problems, issues, constraints and opportunities and to provide feedback on the options developed for the corridor.

During the first phase of engagement, a series of targeted consultations with a number of stakeholders were undertaken. Those providing feedback as part of the study are summarised in the diagram below.

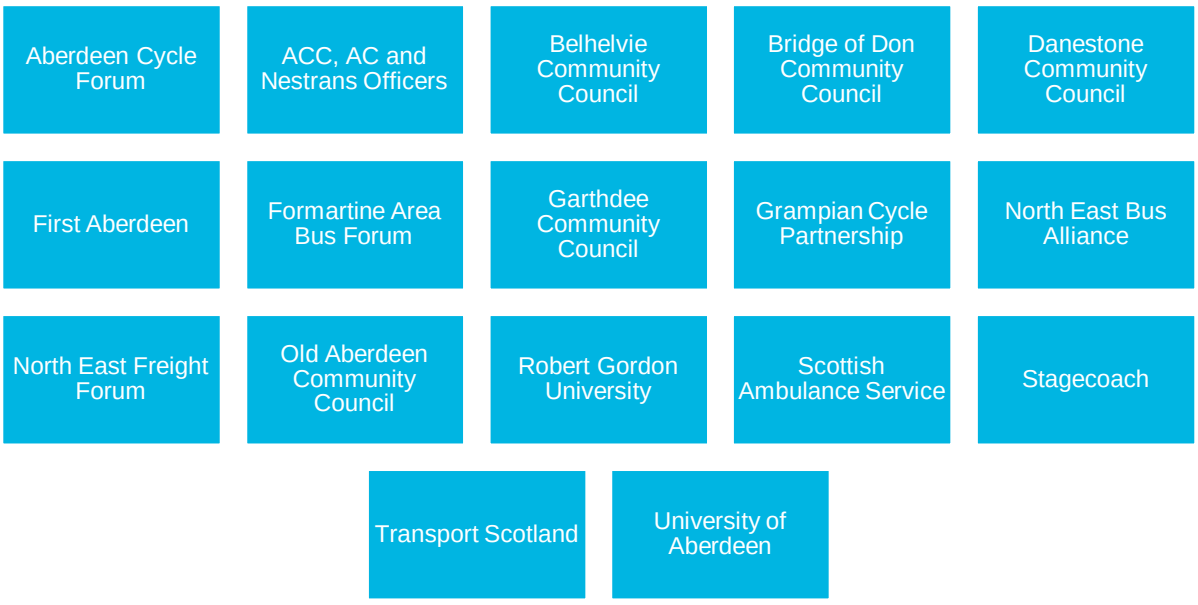


**Figure 3: Stakeholders Providing Feedback as part of the Study**

During the second stage of engagement, an online consultation was hosted by ACC during July and 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 that could be introduced to improve transport between Ellon and Garthdee. This was supported by a questionnaire to enable members of the public to provide feedback. There were 51 responses to the online questionnaire, including 45 from individuals and 6 responses from organisations.

## Transport Planning Objectives

In line with STAG, development of Transport Planning Objectives (TPOs) was driven by an understanding of the evidence-based problems and opportunities identified along the study corridor. The final TPOs 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.

## Do-Minimum

In line with STAG, all generated options must be appraised against a Do-Minimum scenario. The Do-Minimum for the Ellon P&R to Garthdee study assumes the interventions presented in the table below are in place. In addition to those schemes included in the table, it has also been assumed that transport schemes associated with the City Centre Masterplan are in place for the purposes of the Ellon P&R to Garthdee Study.

**Table 2: 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. |

| Scheme | Description |
|---|---|
| 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. |

## Option Generation

A long list of options was 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.

This resulted in the development of 59 active travel options, 47 bus options and 31 'other' options.

## Option Sifting

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

**Table 3: Options to be Sifted from Further Consideration**

| Ref | Title |
|---|---|
| AT1 | Creation of a city-wide cycle hire scheme |
| AT5 | Improve the surface of the long distance active travel route between Ellon and Aberdeen via the Formartine & Buchan Way |
| AT6 | Implement active travel route between Ellon and Newburgh using B9005, west of A90 and B9000 |
| AT7 | Implement active travel bridge over the A90 Ellon Bypass |
| AT9 | Implement with-flow light segregated cycleway between Murcar and Bridge of Don |
| AT13 | Implement active travel links to support the development of a local active travel network |
| AT19 | Implement a community cycle hub in the Bridge of Don area |
| AT24 | Implement with-flow light segregated cycleway on the Bridge of Don |
| AT27 | Implement active travel route on the Bridge of Don through widening of the existing structure |
| 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 |
| AT31 | Implement with-flow light segregated cycleway on King Street |
| AT35 | Implement floating bus stops on King Street |
| AT36 | Signalisation of the St Machar Drive junction |
| AT40 | Review requirement for standalone pedestrian crossings along the full length of King Street |
| AT42 | Implement with-flow light segregated cycleway on Holburn Street |
| AT49 | Implement with-flow light segregated cycleway on Garthdee Road |
| AT52 | Implement new active travel connections to the Deeside Way |
| AT56 | New non-motorised user crossing adjacent to Bridge of Dee |
| AT57 | Reconfiguration of the Bridge of Dee for non-motorised user use only |
| BU8 | Decarbonise the bus fleet operating on the corridor |
| BU14 | Develop a Quality Bus Corridor Design Toolkit |
| BU15 | Implement bus or bus/trial high occupancy vehicle lane between Balmedie and Murcar Roundabout |

| Ref | Title |
|---|---|
| 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 |
| BU29 | Signalisation of the St Machar Drive junction |
| BU34 | Review of on-street parking along King Street to identify possible relocation to adjacent streets |
| BU42 | Enforcement of parking restrictions along Broomhill Road |
| BU44 | Review of on-street parking spaces along Holburn Street to the south of the Broomhill Road junction |
| BU45 | Bus laybys on Garthdee Road |
| BU46 | Signalisation of the Auchinyell Road junction |
| O3 | Increase green space throughout corridor |
| O10 | Implement southern east-west link road between A920 and B9005 South Road |
| O12 | Review Ellon Road/North Donside Road Junction |
| O15 | Widen the carriageway on King Street between the Esplanade and St Machar Drive to provide four standard width lanes |
| O16 | Widen the carriageway on King Street between St Machar Drive and Mounthooly Way to provide four standard width lanes |
| O19 | Review of on-street parking spaces along King Street between St Clair Street and West North Street |
| O26 | Widen the carriageway on Holburn Street between Holburn Junction and Nellfield Place to provide four standard width lanes |
| O31 | Implement traffic calming measures on Garthdee Road to the west of Auchinyell Road |

## Option Consolidation

Following the option sifting process, the remaining options were consolidated where appropriate for the purposes of appraisal. The finalised option list for appraisal is shown in the table below.

**Table 4: 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 |

| Ref | Option Title |
|---|---|
| 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 |
| 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 |

| Ref | Option Title |
|---|---|
| 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 |

## Option Appraisal

In line with STAG, 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) was undertaken.

A seven-point scale assessment was 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 5: 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. |

The Implementability Criteria was 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 6: 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. |

| STAG Criteria | Description |
|---|---|
| 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[1]', which is managed by Sustrans on behalf of Transport Scotland. 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 4: Sustrans Project Stages**

The main funding source for bus priority 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.

## Rejected Options

Based on the findings of the appraisal, it is recommended that the options presented in the table below are removed from further consideration.

**Table 7: 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 |

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

| Ref | Option Title | Rationale for Rejection |
|---|---|---|
| | | 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 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. |

## Selected Options

Based on the findings of the appraisal, the remaining options were 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.

**Table 8: 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 |

| Ref | Option Title | Timescale |
|---|---|---|
| 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 |
| 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 9: 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 |

## 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.