

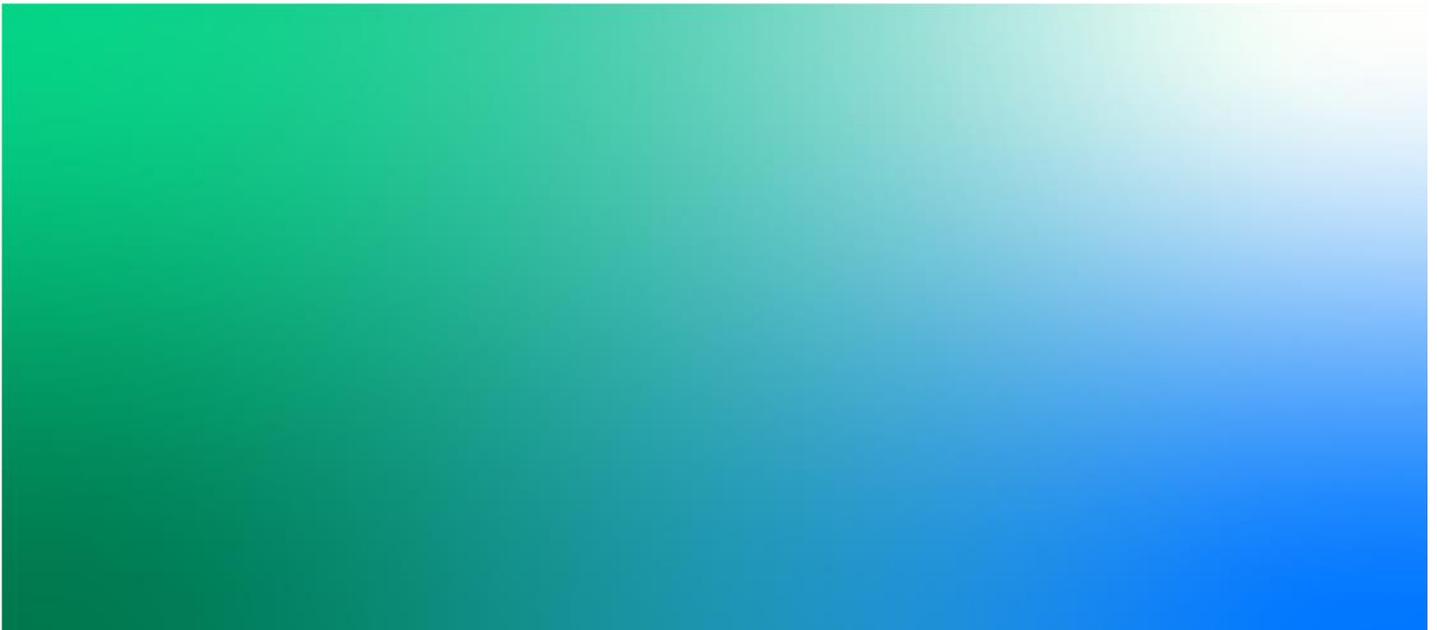


Aberdeen Cross City Transport Connections

Review of STAG Part 2 Appraisal

January 20, 2022

Aberdeen City Council



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Appendix A. Appraisal Matrices

1. Introduction

The study aims to identify priority schemes for development along with a programme of delivery that considers development build out, connections with the internal links of development sites, as well as the general feasibility and affordability of each option. Following a start-up meeting held in November 2021 and an inception meeting held in December 2021 the study methodology was agreed.

This report has been prepared to provide a summary of the review of STAG Part 2 appraisal task, that outlines the review undertaken, which has been supported by a supplementary mapping exercise.

1.1 Scoped-out / limitations

As agreed at the inception stage the tasks summarised in Table 1 have been scoped-out or have limited input to the study.

Table 1: Summary of prospective tasks scoped-out or with limited input

Tasks	Comments
Topographical surveys	It has been confirmed that topographical surveys will not be undertaken. Preliminary concept designs will therefore focus on horizontal alignment and be based on available OS mapping (to be provided by ACC).
Walking, cycle user and road traffic surveys	It is not proposed to undertake additional surveys to accompany the study. It is unlikely that surveys at this time of year would be representative. If data is available this can be considered.
Land ownership	Land ownership information will not be sought. A judgment will be based on information available from desktop and on-site studies. This information can be considered if supplied by ACC.
Strategic Environmental Assessment	A Strategic Environmental Assessment will not be undertaken as part of this study.
Equality Impact Assessment	While the preliminary concept designs will consider the needs of all users, an Equality Impact Assessment will not be undertaken. It will be necessary for this to be undertaken as a separate study to inform subsequent stages of the design process.
Flood Risk Assessment	No Flood Risk Assessments will be undertaken as part of this study.
Landscape design	The preliminary concept designs will not consider the incorporation of landscaping in detail. General recommendations may be outlined in the project deliverables.
Stakeholder engagement	At this stage, stakeholder engagement will be limited to ACC and NESTRANS.
Road user safety audits	No road user safety audits will be undertaken. Safety will be considered throughout and is one of the core design principles to be adopted in the development of the preliminary concept designs.
Developer contributions	This study will not consider potential developer contributions.
Internal development site layouts	The layouts of development sites will be considered and only based on information that is available from ACC.

Tasks	Comments
OBC	It is assumed that one OBC will be produced for a maximum of five schemes. The OBC will be qualitative and based on outputs from the STAG report.

2. STAG Part 2 appraisal – initial review

The first task undertaken was a review of the preferred options identified through the STAG Part 2 appraisal completed in 2019. Table 2 summarises the selected active travel routes options determined through the 2019 STAG process, between all development sites. These routes are formed in some instances as an option on their own or an option in combination with existing routes of suitable quality.

Table 2: Summary of STAG Part 2 appraisal active travel routes

Route Option Ref.	Route	Description
4	Orbital	<ul style="list-style-type: none"> ▪ Provide a crossing facility on the A90 to link Murcar site to AP (Aspirational Path) 1. ▪ Provide AP1 between the A90 and Denmore Road. ▪ Provide crossing on Denmore Road. ▪ Provide connection on Greenbrae Drive between Denmore Road and existing informal path. ▪ Formalise and upgrade existing path between Greenbrae Drive and Seaview Drive. ▪ Upgrade existing path between Seaview Drive and Provost Mitchell Circle
5	Orbital	<ul style="list-style-type: none"> ▪ Provide a connection between Option 4 and Jesmond Drive. ▪ Provide connection between the existing dual use path on Jesmond Drive and the start of the primary active travel route within the Grandhome development near Whitestripes Avenue.
7	Orbital	<ul style="list-style-type: none"> ▪ Provide a new connection between Grandhome and Stoneywood – provide a new bridge crossing over River Don. ▪ Provide a new connection between new bridge over the River Don and Stoneywood Terrace.
8	Orbital	<ul style="list-style-type: none"> ▪ Upgrade and extend CP (Core Path) 101 to meet new bridge (see Option 7) and Stoneywood development.
9	Orbital	<ul style="list-style-type: none"> ▪ Stop up Millhill Brae on western side of A944 before the underpass and prior to the residential property and allow residential access only. ▪ Upgrade section of CP4 through park. ▪ Upgrade on road section of CP4 on Waterton Road.

Route Option Ref.	Route	Description
11	Orbital	<ul style="list-style-type: none"> ▪ On-road link on Fairley Road from Newhills to Kingswells Crescent. ▪ Upgrade section of off-road path near Bucks Burn adjacent to Kingswells Crescent. ▪ Upgrade path adjacent to Kingswells Crescent and Kingswood Drive. ▪ Provide new section of path and dropped kerb to connect to existing footways. ▪ Upgrade section of CP31 which passes through park between Kingswood Mews and Kingswood Drive. ▪ Upgrade CP31 between Kingswood Drive and Kingswood Drive (near Fairley Street). ▪ Upgrade path adjacent to Kingswood Drive including widening.
13	Orbital	<ul style="list-style-type: none"> ▪ Upgrade CP44 Newhills Avenue Spur. Southern route section.
15A	Orbital	<ul style="list-style-type: none"> ▪ Provide a connection across the eastern end of Sheddocksley Playing Fields. ▪ Upgrade section of CP45 between 15.1 and Maidencraig
15B	Orbital	<ul style="list-style-type: none"> ▪ Provide a connection across the centre of Sheddocksley Playing Fields. ▪ Upgrade section of CP45.
19	Orbital	<ul style="list-style-type: none"> ▪ Upgrade CP87 from western end of Craigton Road to Cults Barn. Route would connect with Route Option 20. ▪ Provide a connection between Countesswells and CP87.
20	Orbital	<ul style="list-style-type: none"> ▪ Provide connection on Kirk Brae from Friarsfield to Sunnyside farm access track. ▪ Provide connection on Kirk Brae. ▪ Provide connection on North Deeside Road between Kirk Brae and St Devenick's Place. ▪ Provide connection on St Devenick's Place and St Devenick's Terrace to meet with the Deeside Way.
23	Orbital	<ul style="list-style-type: none"> ▪ Provide a new connection to Ladyhill Road. ▪ Provide signage on Ladyhill Road and on the northern section of Baillieswells Road. ▪ Provide signage on Ladyhill Road and on the northern section of Baillieswells Road. ▪ Provide a connection along Baillieswells Road from junction with Ladyhill Road to the A93. ▪ Provide a connection on the A93 between Baillieswells Road and Golf Road. ▪ Provide a connection on Golf Road.

Route Option Ref.	Route	Description
24	Orbital	<ul style="list-style-type: none"> ▪ Provide on-road cycle facility between entrance to Oldfold Farm and start of CP72. ▪ Provide a connection on CP72 between North Deeside Road and the Deeside Way. ▪ Upgrade access point linking CP72 to the Deeside Way. ▪ Provide connection on Binghill Road.
26	Radial	<ul style="list-style-type: none"> ▪ Provide AP3 between Loirston development and Wellington Road. ▪ Provide appropriate crossing facilities on Wellington Road. ▪ Provide AP3 between Wellington Road and Loirston School.
27	Orbital	<ul style="list-style-type: none"> ▪ Upgrade CP65 on Garthdee Road. Provide route to Deeside Way across field.
28	Radial	<ul style="list-style-type: none"> ▪ Provide connection on Redmoss Road.
34	Radial	<ul style="list-style-type: none"> ▪ Upgrade Causey Mounth route between Chapelton site and Badentoy Road. Adjacent equestrian route.
35	Radial	<ul style="list-style-type: none"> ▪ Provide a connection on Badentoy Road, Badentoy Avenue and Badentoy Crescent.
39	Radial	<ul style="list-style-type: none"> ▪ Upgrade northern section of Causey Mounth route between Badentoy Road and unnamed road. Adjacent equestrian route. ▪ Provide connection between northern extent of Causey Mounth and existing shared use footway on unnamed road.
40B	Radial	<ul style="list-style-type: none"> ▪ Provide connection from Portlethen P&R along Old Stonehaven Road. ▪ Provide a connection from Old Stonehaven Road, along Wellington Road, to roundabout at Gateway Drive. ▪ Provide connection between roundabout at Gateway Drive and Cove Road. ▪ Provide a connection between Wellington Road/A956 to meet with existing dual use facility on southern carriageway of A956.
41	Radial	<ul style="list-style-type: none"> ▪ Provide a connection between Maidencraig and Fairley Road. ▪ Provide a connection on Fairley Road and Old Skene Road.
45	Radial	<ul style="list-style-type: none"> ▪ Upgrade existing dual use facility on the A944 between Prime 4 development site and B9119, including provision of appropriate crossing facilities where the AWPR crosses the A944.

For reference these routes are illustrated in Figure 1 alongside the proposed / ongoing developments at the following locations:

- Residential
 - Blackdog
 - Dubford
 - Grandhome
 - Stoneywood
 - Newhills
 - Greenferns
 - Maidencraig
 - Countesswells
 - Friarsfield
 - Oldfold Farm
 - Loirston
 - Chapelton of Elsick
- Employment
 - Murcar
 - Dyce Drive
 - Kingswells
 - Westhill

In early December 2021 a desktop review was undertaken. This reviewed the proposed routes identified in 2019, the scoring applied, and initial comments on the viability of the active travel route options. This is summarised in Table 3.

Table 3: Summary of initial review

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review
4	Limited risk given use of existing roads and pathways. Main uncertainty regards changes in geometry at Greenbrae Drive / Denmore Road junction and what type of crossing will be possible.	Options 4 and 5 could be considered together to connect Grandhome and Murcar. With only one or the other there is an incomplete route between substantial residential and employment development areas.
5	Limited risk given use of existing roads and pathways. Main uncertainty regards the implementation of a crossing on Whitestripes Avenue from the Grandhome development, with assumption being this is provided by the developer.	Workshop comments included that previous Council consideration previously explored a cycle route from the A90 to Denmore Road (route 4) but that there were potential landownership issues.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review
7	High risk and uncertainty given the route requires a new bridge of the River Don.	<p>Option requested to be explored as a stand-alone active travel option.</p> <p>A preliminary engineering assessment suggests a bridge is feasible, although an expensive intervention.</p> <p>It is noted that preliminary design work has been undertaken on a proposed pedestrian and cycle bridge from Grandhome to Mugiemooss / Davidson's Mill.</p>
8	Limited risk given use of existing roads.	No additional comments ahead of site visit.
9	Requirement for new footbridge and upgrade of bypass to west of the route.	Need to consider land requirements.
11	Some risk due to the need to provide some new pathways and need for an earth / retaining wall at southern end of the route into the Park and Ride. Risk at the northern end of the route is reduced due to the route utilising a planned connection between Kingswood Crescent and the AWPR.	Noted in 2019 STAG Part 2 appraisal as an option that provides "greatest benefits" and ties with Kingswells Park and Ride.
13	Limited risk given use of existing pathway.	Part of route proposes to use an existing farm access road (noted as being 3.0 m wide in the 2019 STAG Part 2 appraisal).
15 (a)	Steep gradients which may cause difficulties for some users.	Has negative environment performance. Route option not essential for delivery of other schemes or developments.
15 (b)	Steep gradients which may cause difficulties for some users. Requires path widening and resurfacing.	Requires widening. Route option not essential for delivery of other schemes or developments.
41	Limited risk or uncertainty.	Existing bus gate and cycle route with bus only access from the east and bus and local access from the west.
45	Some uncertainty due to impact of new Aberdeen Football Stadium and space available for widening the route.	<p>Dependent on the impact of route widening and if land take necessary. Noted in the 2019 STAG Part 2 appraisal as an option that provides "greatest benefits" and ties in with Kingswells Park and Ride.</p> <p>The 2019 STAG Part 2 appraisal highlights that this route was previously submitted as a Community Links Project, but the application was unsuccessful.</p>

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review
19	No existing plan to link Countesswells and Friarsfield developments due to concerns about encouraging traffic through movements. Needs explored and managed if option taken forward.	Route options 19 and 20 could be considered together as they form a north-south route to Deeside Road (an alternative to Option 23).
20	Uncertainty surrounding routing through Friarsfield development and how it links with Countesswells. Discussions needed with owner and Waldorf School site. Width of Kirk Brae between Kirk Place and Sunnyside Livery creates risk for cyclists which may need mitigated or consider alternatives.	No additional comments ahead of site visit.
23	Uncertainty regarding road width at northern end of the route (Ladyhill Road only 4.7m wide). Suggested roadway widening to be considered but would require removal of some woodland.	Uncertainty regarding road width at northern end of the route. Suggested roadway widening to be considered but would require removal of some woodland which has negative environment performance.
24	Concern around safety of cyclists once housing developments are built out.	No engineering concerns although future impact on safety is concerning.
27	Uncertainty around feasibility and space for widening. Detailed investigations required to establish feasibility during design stage.	As highlighted in the 2019 STAG Part 2 appraisal, Garthdee is a busy area due to the University with a likely demand for cycle user provision.
26	No major constraints arising from ground conditions or obstacles on the route.	Route option passes directly through a public park. Potential land ownership issues.
28	Limited risk as route being developed on an existing road.	Lochside Academy located adjacent to Redmoss Road.
34	Significant financial risk due to capital costs (£1.7M).	No direct constructability concerns although potential land ownership issues. Noted in the 2019 STAG Part 2 appraisal report as having public pressure to upgrade route.
35	Further investigation required to establish feasibility of the route due to number of parked HGVs and ability to provide safe cycling provision.	No additional comments ahead of site visit.
39	No major risks or uncertainty identified.	Hillside Primary school located adjacent to Schoolhill Drive with existing off-road provision. School catchment primarily serving residents to the north / east.
40	Some uncertainty around feasibility of space to provide complete off-road link. Needs considered in greater detail at design stage.	No additional comments ahead of site visit.

It is noted that the 2019 STAG Part 2 appraisal did identify the following route options be pursued before others, given their greater overall benefits against the criteria assessed:

- Route 7 – connecting Grandhome with Stoneywood and onwards to Dyce, which provides a very high level of benefit under all the criteria considered (an option which requires the implementation of a new bridge over the River Don to directly connect between the Grandhome and Stoneywood sites.
- Several routes that provide links into the area around Dyce and the employment opportunities at Dyce and Kirkhill, with Option 11 linking between Newhills / Dyce and Kingswell:
 - Route 8
 - Route 9
 - Route 11
 - Route 13
- Route 45 – linking between Kingswells and Westhill and providing greater access to the employment opportunities within both locations, as well as integration between bus and active travel modes at Kingswells Park & Ride site. This was highly favoured in the public engagement.

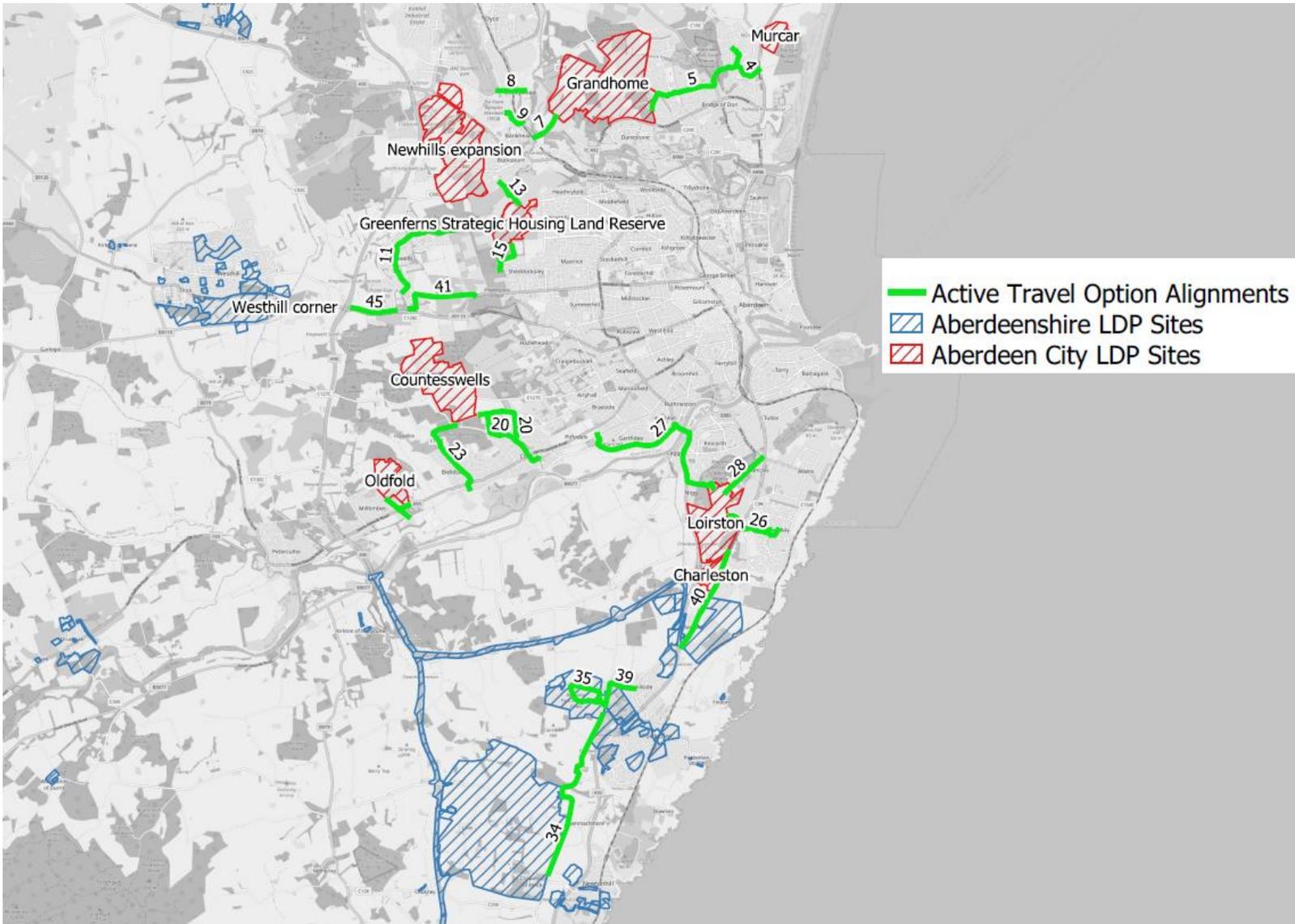


Figure 1: Map illustrating STAG Part 2 appraisal active travel routes

3. Mapping and data collection exercise

3.1 Mapping

3.1.1 Introduction

To supplement the initial desktop review, a mapping exercise has been undertaken that illustrates the identified routes from Table 2 and maps these alongside selected freely available information that establishes the proximity of these routes to:

- trip generators and attractors, e.g.:
 - existing and proposed land uses
 - connectivity and linkages to other elements of the walking and cycle user network
 - schools
- potential barriers, e.g.:
 - existing transport network, e.g., roads and railways
 - proposed and committed infrastructure projects
 - environmental designations, e.g., Special Protection Areas, Special Areas of Conservation, National / Local Nature Reserves, Sites of Special Scientific Interest, Geological Conservation Review Areas, or RAMSAR (wetlands of international importance)
 - cultural heritage site, e.g., Canmore Areas, Battlefields, Conservation Areas, Gardens and Designed Landscapes, Listed Buildings, Properties in Care, or Scheduled Monuments

These are illustrated alongside the route options in Figure 5 (northern route options), Figure 6 (central route options), and Figure 7 (southern route options).

3.2 Data collection

3.2.1 Introduction

To supplement the mapping exercise, we have undertaken a high-level analysis and interpretation of freely available quantitative and qualitative data, including socio-economic and demographic, to gain insights about the areas close to the proposed routes.

3.2.2 Census data

To determine the level of active travel, 2011 census data for mode of transport for journeys to work and study data¹ has been reviewed. The data is summarised in Table 4 and illustrated in Figure 2.

The data highlights that levels of travelling to work and study on foot in Aberdeen City as a whole (25.6%) is approximately double that of the selected local characteristic postcode sectors (12.8% average), in response to the 2011 census, reflecting the fact that the postcode sectors are on the periphery of the City.

¹ How do you usually travel to your main place of work or study (including school)? Tick one box only. Tick the box for the longest part, by distance, of your usual journey to work or study.

The data also highlights those levels of travelling to work and study by cycle in Aberdeen City (1.7%) and the selected local characteristic postcode sectors (1.4% average), in response to the 2011 census, are generally commensurate with those nationally (1.3%) – except for postcode sector AB15 9 which is approximately double at 2.9%, which may reflect the presence of the Deeside Way cycle route that runs parallel to the A93, North Deeside Road.

Table 4: Mode of transport for journeys to work and study²

	Work or study mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibus, or coach	Taxi or minicab	Driving a car or van	Passenger in a car or van	Motorcycle, scooter or moped	Bicycle	On foot	Other
Scotland	11.3%	0.3%	3.5%	13.4%	0.7%	40.9%	9.0%	0.2%	1.3%	18.5%	0.9%
Aberdeen City	9.4%	0.0%	0.5%	14.1%	0.8%	38.4%	7.3%	0.3%	1.7%	25.6%	1.9%
Aberdeenshire	11.3%	0.0%	1.0%	9.6%	0.9%	49.7%	8.9%	0.3%	0.8%	14.9%	2.7%
AB12 4	8.3%	0.0%	0.8%	7.3%	0.8%	53.1%	8.9%	0.4%	0.8%	17.4%	2.2%
AB12 5 (part) Aberdeenshire	16.5%	0.1%	0.8%	13.1%	0.4%	48.2%	14.1%	0.1%	0.8%	4.8%	1.3%
AB15 8 (part) Aberdeen City	8.6%	0.0%	0.3%	11.4%	0.7%	53.0%	11.0%	0.3%	1.5%	10.7%	2.5%
AB15 9	11.4%	0.0%	0.2%	8.6%	0.2%	46.7%	11.4%	0.3%	2.9%	16.4%	1.8%
AB21 9	8.1%	0.0%	0.2%	13.3%	1.2%	50.2%	7.8%	0.6%	1.4%	15.0%	2.1%
AB22 8	6.8%	0.0%	0.1%	11.0%	1.0%	54.0%	7.2%	0.4%	1.0%	15.9%	2.5%
AB23 8 (part) Aberdeen City	8.0%	0.0%	0.1%	13.6%	0.8%	49.5%	8.9%	0.5%	1.5%	15.0%	2.0%
AB39 3	10.6%	0.0%	1.1%	12.8%	0.8%	54.1%	9.7%	0.4%	0.9%	7.3%	2.2%

² Data extracted from www.scotlandscensus.gov.uk for all people aged 4 and over who are studying or aged 16 to 74 in employment in the week before the census.

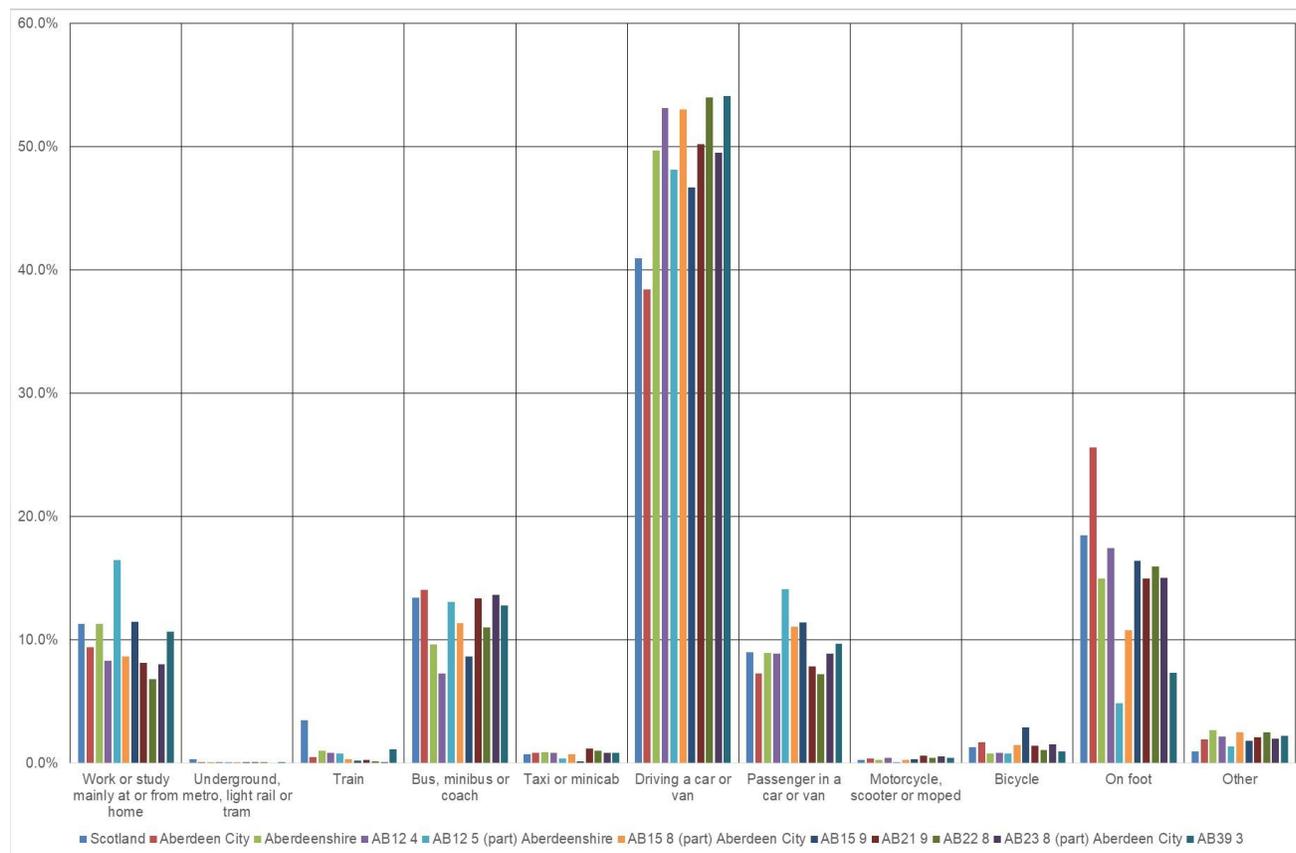


Figure 2: Mode of transport for journeys to work and study

3.2.3 Hands Up Scotland survey data

The Hands Up Scotland survey looks at how pupils travel to school and nursery throughout the country. The survey is conducted annually during September. The data from this survey for all school types excluding nursery in Aberdeen City is summarised and illustrated in Table 5 and Figure 3 respectively.

Table 5: Hands Up Scotland Survey travel modes in Aberdeen City – All school types

Mode	2016	2017	2018	2019	2020
Walk	49.5%	51.8%	49.2%	47.3%	50.7%
Cycle	3.4%	3.2%	3.1%	4.5%	4.6%
Scooter / skate	1.6%	1.7%	1.6%	1.6%	2.1%
Park and stride	7.7%	8.2%	9.4%	9.9%	11.3%
Driven	21.8%	21.8%	21.8%	21.6%	19.7%
Bus	13.1%	12.0%	12.5%	13.2%	9.7%
Taxi	2.1%	1.1%	1.8%	0.9%	1.4%
Other	0.7%	0.2%	0.6%	1.1%	0.6%

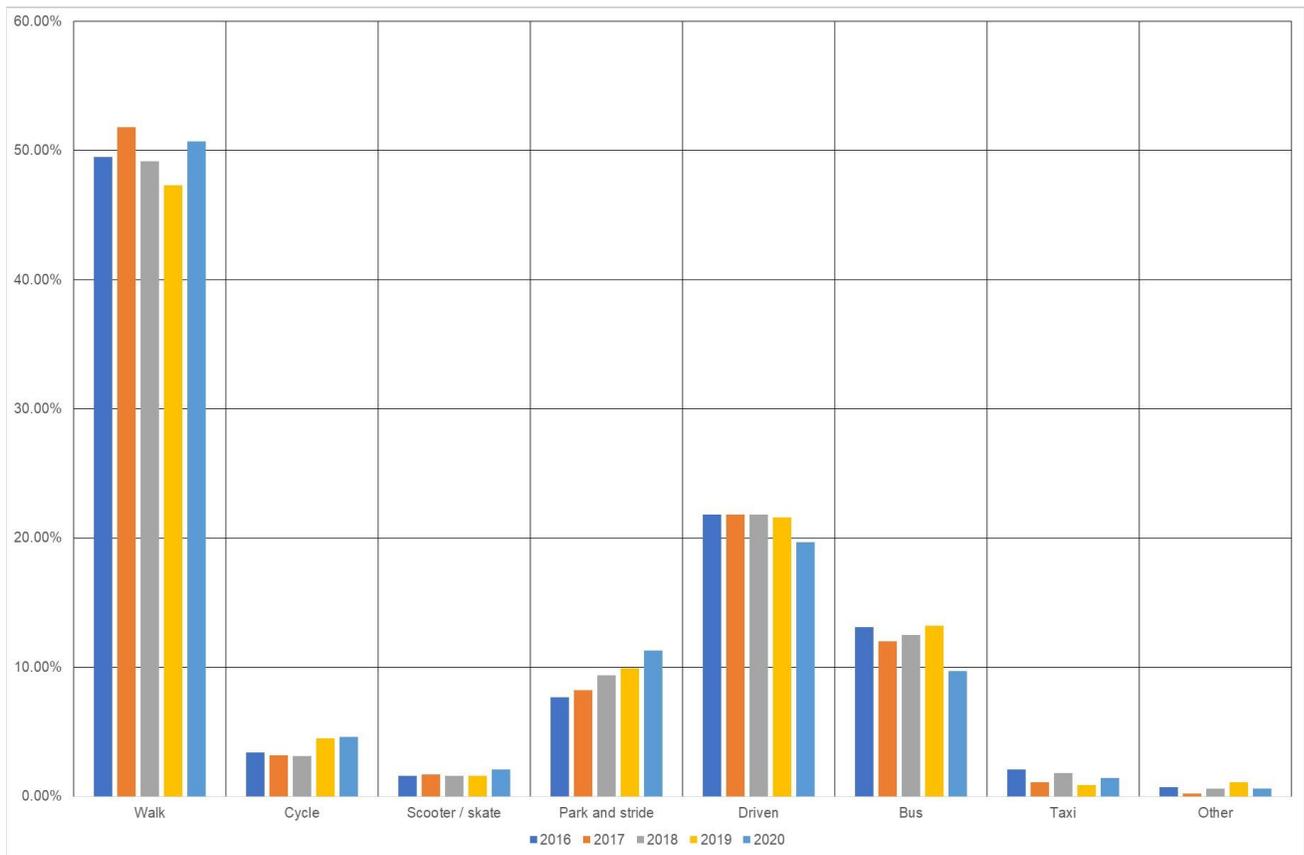


Figure 3: Hands Up Scotland Survey travel modes in Aberdeen City – All school types

Table 5 and Figure 3 highlight that walking is the most common way pupils travel to school, representing approximately 50% of all trips between 2016-2020. However, while pupils choosing to cycle or scoot / skate to school has been increasing over this period, only approximately 4.6% and 2.1% choose to do so in 2020 respectively. While pupils being driven has reduced slightly, there has also been an increase in those choosing to park and stride. There is an opportunity to encourage more pupils to cycle to school, preferably from the cohort being driven.

The data from the Hands Up Scotland survey for all school types excluding nursery in Aberdeenshire is summarised and illustrated in Table 6 and Figure 4 respectively.

Table 6: Hands Up Scotland Survey travel modes in Aberdeenshire – All school types

Mode	2016	2017	2018	2019	2020
Walk	39.8%	37.4%	38.5%	38.1%	41.9%
Cycle	4.7%	4.0%	4.8%	5.3%	5.0%
Scooter / skate	2.5%	2.1%	2.3%	2.5%	2.4%
Park and stride	7.8%	8.6%	8.2%	8.1%	7.6%
Driven	20.6%	22.1%	21.0%	21.6%	20.1%
Bus	22.0%	24.0%	23.5%	22.7%	21.5%
Taxi	1.8%	1.4%	1.4%	1.7%	1.4%

Mode	2016	2017	2018	2019	2020
Other	0.7%	0.4%	0.4%	0.2%	0.1%

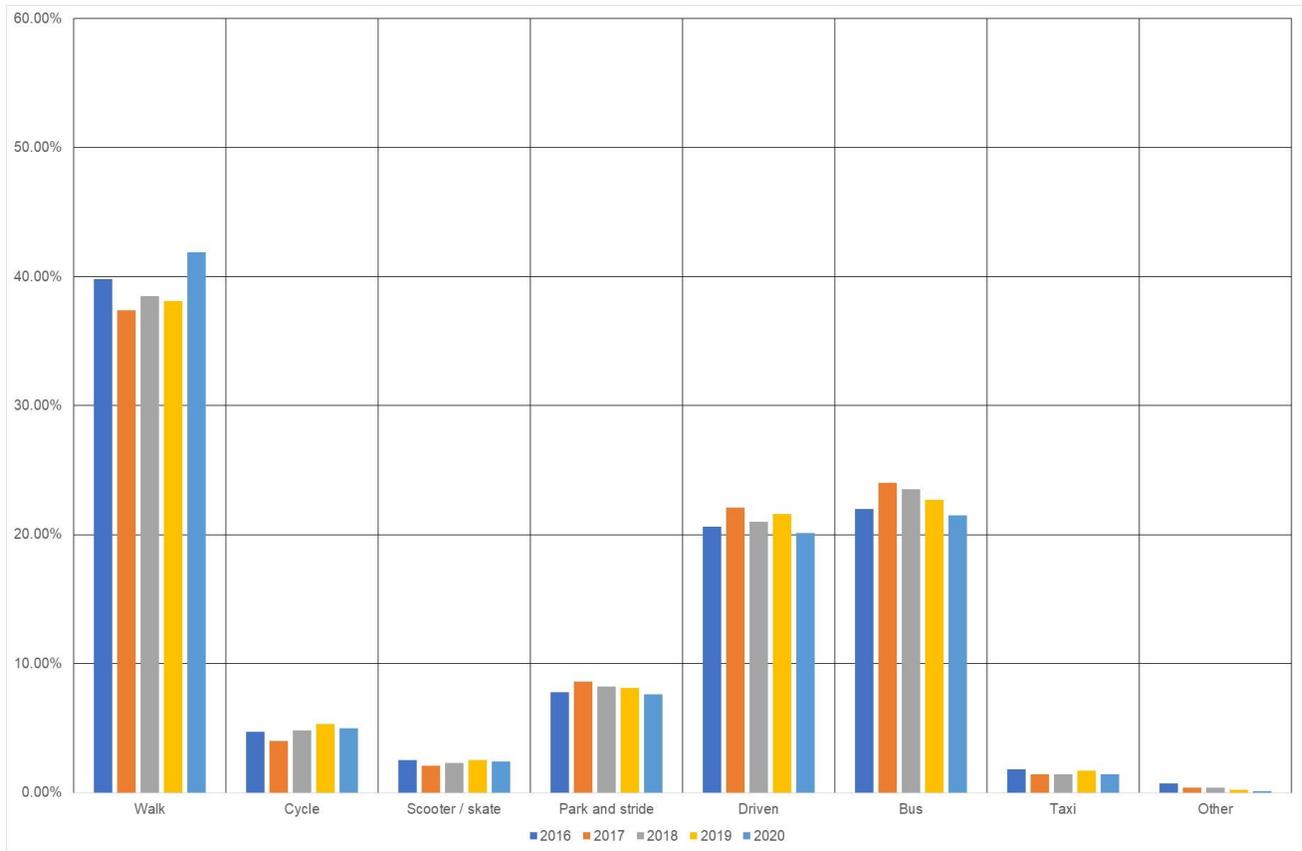


Figure 4: Hands Up Scotland Survey travel modes in Aberdeenshire – All school types

Table 6 and Figure 4 highlight that walking in Aberdeenshire is also the most common way pupils travel to school, representing approximately 38-42% of all trips between 2016-2020. However, pupils choosing to cycle or scoot / skate to school has remained generally steady at approximately 5.0% and 2.5% respectively. Similarly, pupils being driven has remained generally steady at approximately 20-22%, as have those choosing to park and stride (8-9%). Similarly, there is an opportunity to encourage more pupils to cycle to school, preferably from the cohort being driven.

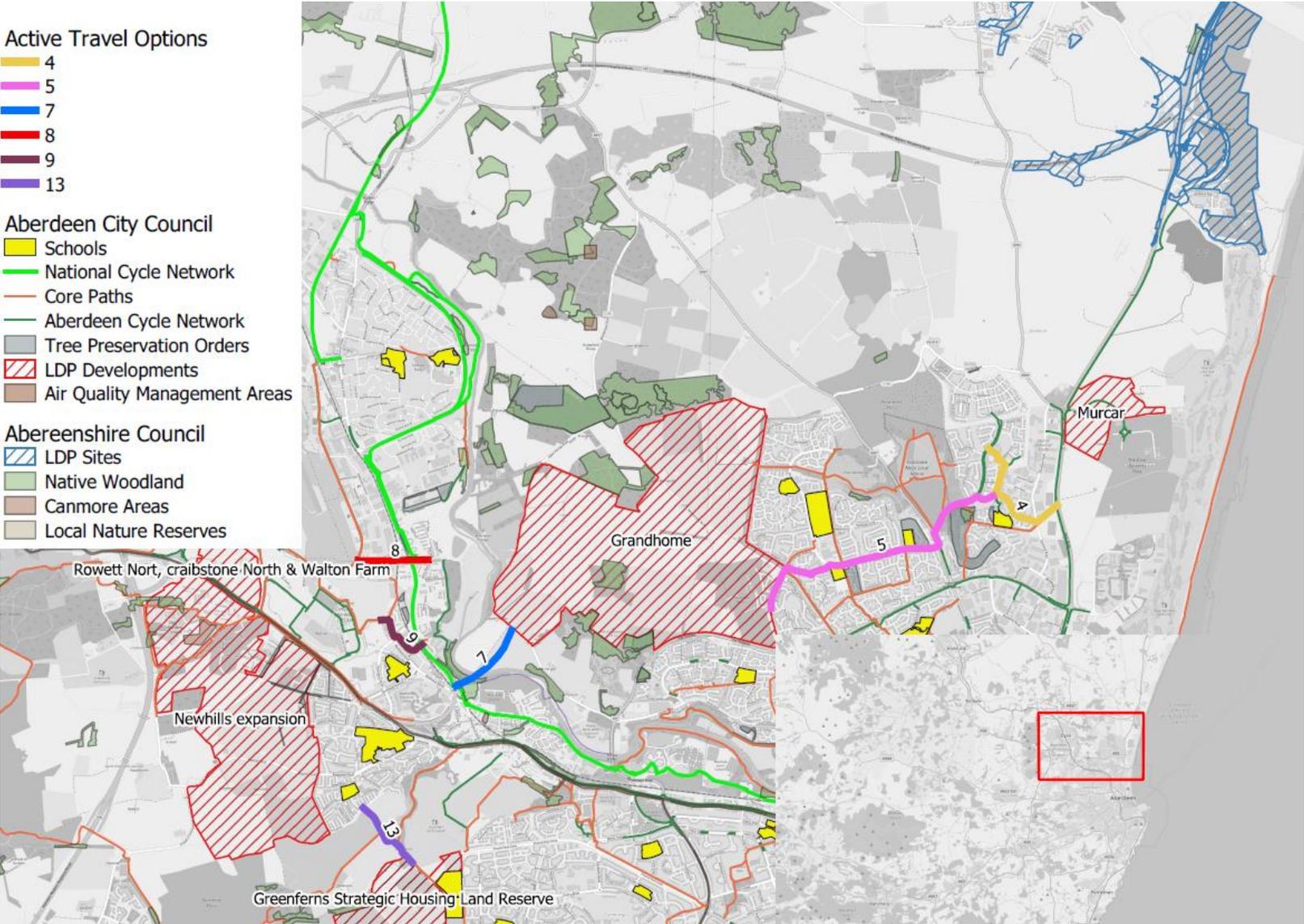


Figure 5: Northern route options

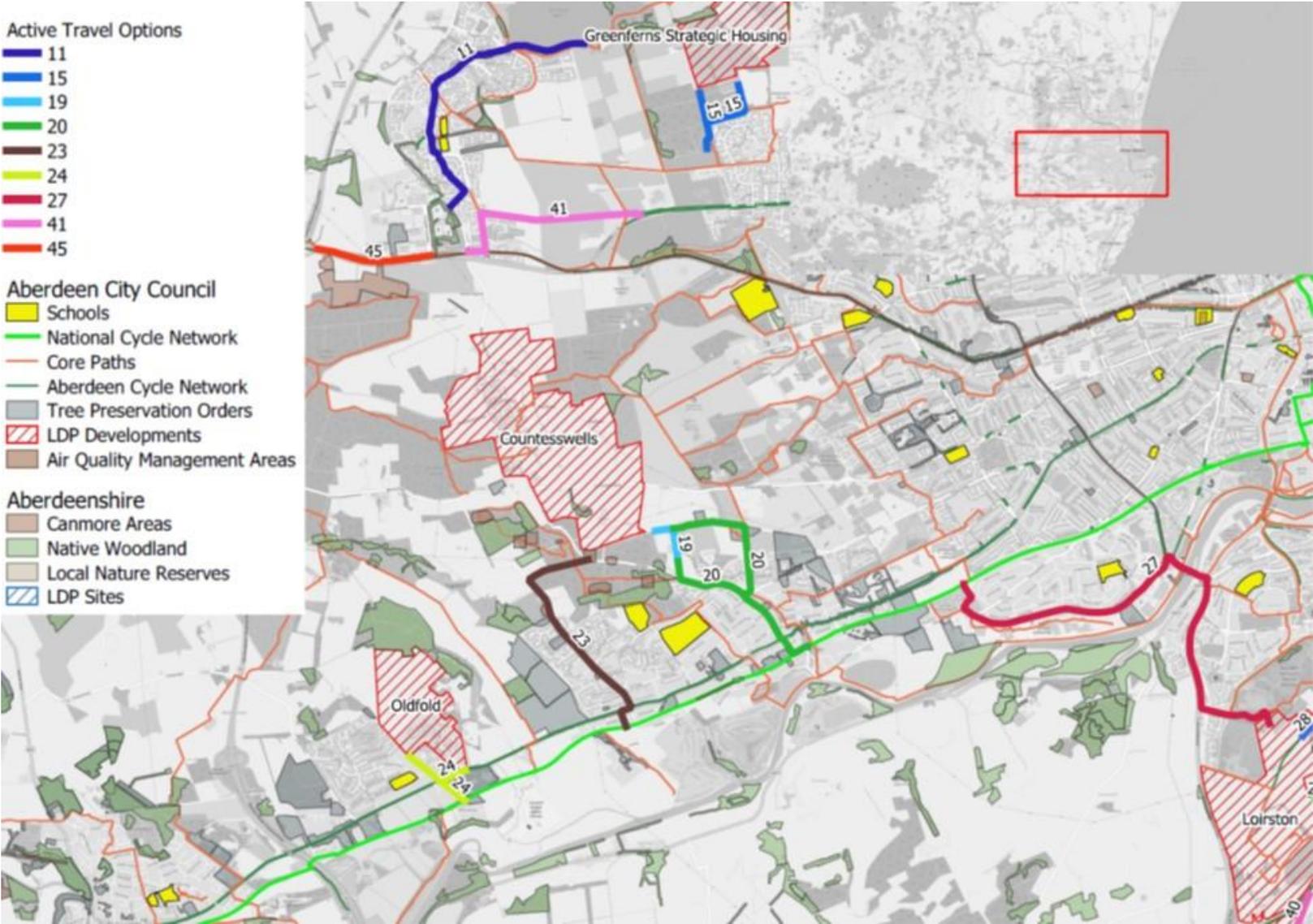


Figure 6: Central route options

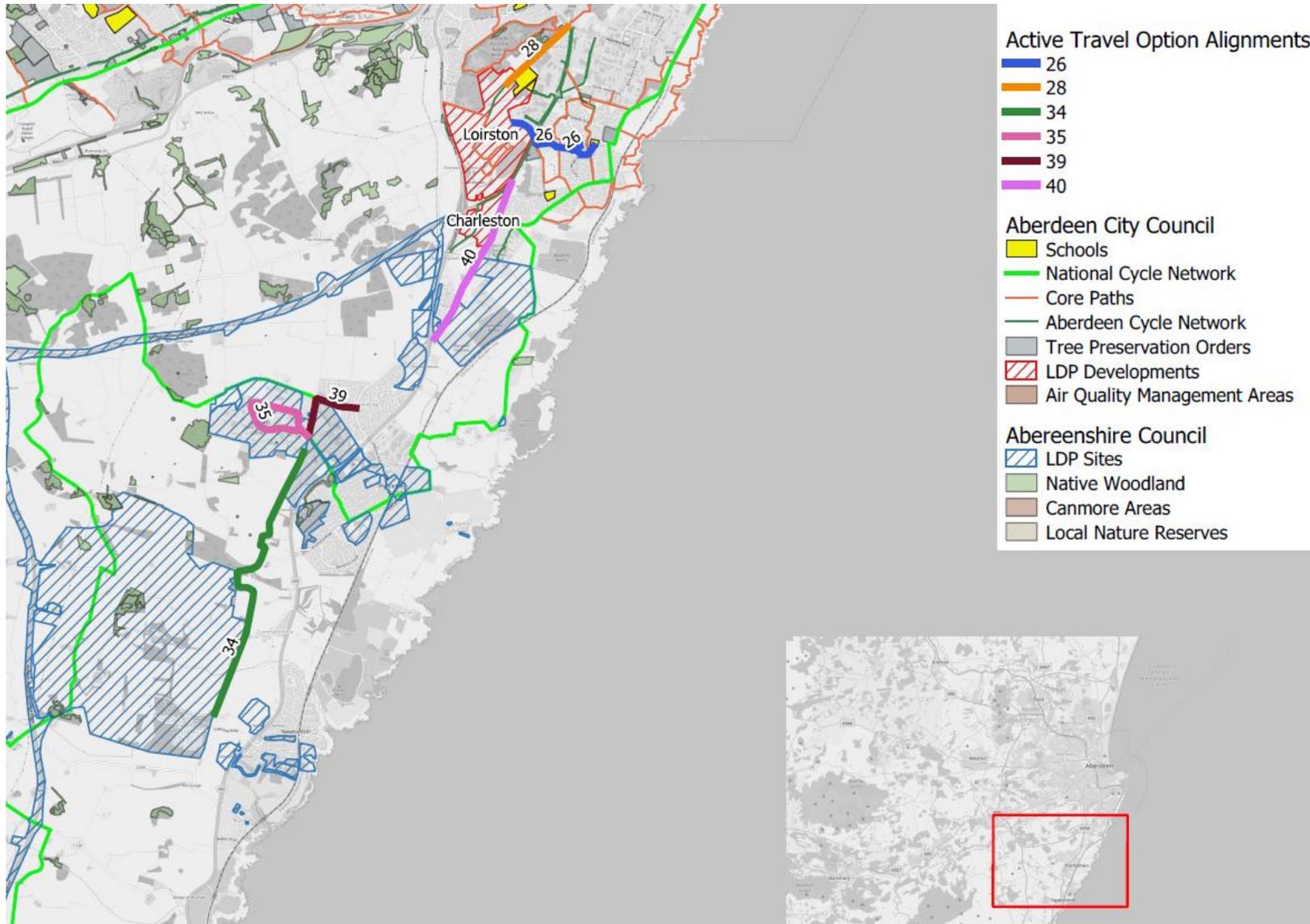


Figure 7: Southern route options

4. Site visit

4.1 Introduction

Prior to the site visit it was decided to consider Route 27 as two options. During discussions with the client, it was confirmed that consideration has been given to the provision of active travel facilities on the 'northern' section of Route 27, i.e., north of the River Dee and crossing of the River Dee. Therefore, while an assessment of the whole route has been undertaken, to be consistent with the 2019 STAG Part 2 appraisal, separate consideration has been given to the 'southern' section only of Route 27, i.e., between the A92 / B9077 junction south of the River Dee and the Loirston development adjacent to the A92, Stonehaven Road.

A site visit was undertaken on 20-22 December 2021 to identify other potential issues and / or constraints. The key findings from the site visits are summarised in Table 7.

Table 7: Summary of initial review and site visit

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
4	Limited risk given use of existing roads and pathways. Main uncertainty regards changes in geometry at Greenbrae Drive / Denmore Road junction and what type of crossing will be possible.	Options 4 and 5 could be considered together to connect Grandhome and Murcar. With only one or the other there is an incomplete route between substantial residential and employment development areas. Workshop comments included that previous Council consideration previously explored a cycle route from the A90 to Denmore Road (route 4) but that there were potential landownership issues.	Steep gradient where the route exits onto Greenbrae Drive, and path linking Seaview Drive to Provost Mitchell Circle, which is not currently suitable for disabled users, children under 12 or cyclists at high speed. Potential land issues on eastern extents if providing a link between A90 and Denmore Road.
5	Limited risk given use of existing roads and pathways. Main uncertainty regards the implementation of a crossing on Whitestripes Avenue from the Grandhome development, with assumption being this is provided by the developer.		Shared use footway on Dubford Road requires widening which would have potential land issues. Scope to improve routing on Scotstown Road between Jesmond Drive and Dubford Road. Potential for improving cycle access to schools in vicinity. Noted that Grandhome masterplan includes two primary schools and a secondary school, although children of initial Grandhome phase will be accommodated at nearby Danestone Primary and Bucksburn Academy secondary school.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
7	High risk and uncertainty given the route requires a new bridge of the River Don.	<p>Option requested to be explored as a stand-alone active travel option.</p> <p>A preliminary engineering assessment suggests a bridge is feasible, although an expensive intervention.</p> <p>It is noted that preliminary design work has been undertaken on a proposed pedestrian and cycle bridge from Grandhome to Mugiemoos / Davidson's Mill.</p>	<p>The proposed location of the bridge crossing was not accessible during the site visit. Has the potential to improve cycle access to Bucksburn Academy secondary school for children of initial Grandhome phase.</p>
8	Limited risk given use of existing roads.	No additional comments ahead of site visit.	<p>Busy junction with HGVs serving the paper mill to east on Stoneywood Terrace.</p> <p>Market Street to the west of the route is very narrow with parked cars. The scope is limited to cyclists using the carriageway.</p> <p>Proximity of NCN1 route not obvious to cyclists due to lack of route signing on Stoneywood Terrace. Provides a link between NCN1 and various core paths, including CP71 (Dyce Airport Cycle Path) for travel to the Airport and beyond to Kirkhill Industrial Estate.</p>
9	Requirement for new footbridge and upgrade of bypass to west of the route.	Need to consider land requirements.	<p>Footbridge over the Green Burn requires replacement to provide sufficient width for cyclists and pedestrians with potential land issues, although north side of burn is allotment land and car park so may be Council owned land. Challenging to accommodate segregated cycle movements across Stoneywood Road to access Waterton Road. Provides a link between NCN1 (and route option 7) and various core paths, including CP4 and CP71.</p>

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
11	Some risk due to the need to provide some new pathways and need for an earth / retaining wall at southern end of the route into the Park and Ride. Risk at the northern end of the route is reduced due to the route utilising a planned connection between Kingswood Crescent and the AWPR.	Noted in 2019 STAG Part 2 appraisal as an option that provides “greatest benefits” and ties with Kingswells Park and Ride.	<p>Good opportunity to upgrade existing path network through residential area.</p> <p>Improve crossings to serve desire lines, i.e., at Kingswood Drive and Kingswell Crescent. Zebra crossings which accommodate cyclists would be best to tie-in with current zebra crossing on Kingswood Drive near the Co-op and other community facilities.</p> <p>Bus stops adjacent to the route could be re-designed to accommodate infrastructure improvements.</p> <p>Alternative route on Wellside Avenue rather than route to the rear which is likely to require retention and possibly land take.</p>
13	Limited risk given use of existing pathway.	Part of route proposes to use an existing farm access road (noted as being 3.0 m wide in the 2019 STAG Part 2 appraisal).	Steep slope with path sitting above Howes Road is predicted to require land take to widen and make safe at the slope and retention of field.
15 (a)	Steep gradients which may cause difficulties for some users.	Has negative environment performance. Route option not essential for delivery of other schemes or developments.	This location was not visited due to the findings of the desktop review.
15 (b)	Steep gradients which may cause difficulties for some users. Requires path widening and resurfacing.	Requires widening. Route option not essential for delivery of other schemes or developments.	
41	Limited risk or uncertainty.	Existing bus gate and cycle route with bus only access from the east and bus and local access from the west.	Feasible and low cost, tying into existing facilities to the west on A944 and to the south on Skene Road.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
45	Some uncertainty due to impact of new Aberdeen Football Stadium and space available for widening the route.	Dependent on the impact of route widening and if land take necessary. Noted in 2019 STAG Part 2 appraisal as an option that provides “greatest benefits” and ties in with Kingswells Park and Ride. 2019 STAG Part 2 appraisal highlights that this route was previously submitted as a Community Links Project, but the application was unsuccessful.	The path is currently less than 3.0 m wide and due to private land boundaries, widening would require the use of central reserve which means potentially reducing the width of right turning areas. Shared used path between the roundabout and post office (west to east of A944) can be widened using grass verge with some retention. Lighting columns may reduce effective width. Scope to remove pinch point at Five Mile garage using central reserve or the lay-by next to the old post office.
19	No existing plan to link Countesswells and Friarsfield developments due to concerns about encouraging traffic through movements. Needs explored and managed if option taken forward.	Route options 19 and 20 could be considered together as they form a north-south route to Deeside Road (an alternative to Option 23).	Farm road access but appears to require a link between Countesswells development with potential requirement for land purchase.
20	Uncertainty surrounding routing through Friarsfield development and how it links with Countesswells. Discussions needed with owner and Waldorf School site. Width of Kirk Brae between Kirk Place and Sunnyside Livery creates risk for cyclists which may need mitigated or consider alternatives.	No additional comments ahead of site visit.	Effective width reduced on Kirk Brae due to parked cars at shop and elsewhere. Alternative route can make use of Cala internal network from Friarsfield Road. Narrow path up to the school from Craighbank Drive does not appear feasible without land purchase.
23	Uncertainty regarding road width at northern end of the route (Ladyhill Road only 4.7m wide). Suggested roadway widening to be considered but would require removal of some woodland.	Uncertainty regarding road width at northern end of the route. Suggested roadway widening to be considered but would require removal of some woodland which has negative environment performance.	This location was not visited due to the findings of the desktop review.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
24	Concern around safety of cyclists once housing developments are built out.	No engineering concerns although future impact on safety is concerning.	Some scope to make use of grass verge on east side but likely to be intermittent without land purchase therefore carriageway use more likely. Could improve road markings at A93 junction and signing generally.
27	Uncertainty around feasibility and space for widening. Detailed investigations required to establish feasibility during design stage.	As highlighted in the 2019 STAG Part 2 appraisal, Garthdee is a busy area due to the University with a likely demand for cycle user provision.	Pinch points adjacent to ASDA and retail parks but this section has committed improvements. Space available for widening and creating shared use or segregated path on Garthdee Road. Good connection to Deeside Way via housing estate.
27 (south)	-	-	Space available for widening and creating shared use or segregated path on A92, Stonehaven Road. There is only one single access point to the residential area to the west of the A92 (northbound between Nigg Way and Bridge of Dee) while the significant residential area of Kincorth lies to the east of the A92. Extensive verge and parkland on the east side makes this viable for a wide segregated facility to be provided. East side has adjacent residential properties and easier access to potential active travel user route, although access to properties needs to be considered. The A92 roundabout and the Bridge of Dee itself are considerable constraints to continuing the route across the River Dee.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
26	No major constraints arising from ground conditions or obstacles on the route.	Route option passes directly through a public park. Potential land ownership issues.	Crossing needed on Earn's Heugh Road to continue to Health Centre and primary school. Improvement required to crossing of dual carriageway (A956 Wellington Road). Feasible route to south of Balmoral industrial estate. Feasible route through residential estate and Dunlin Park.
28	Limited risk as route being developed on an existing road.	Lochside Academy located adjacent to Redmoss Road.	Potential to develop route as part of Redmoss development. Potential to improve cycle user access to Lochside Academy along Redmoss Road for catchment to the north.
34	Significant financial risk due to capital costs (£1.7M).	No direct constructability concerns although potential land ownership issues. Noted in 2019 STAG Part 2 appraisal as having public pressure to upgrade route.	Land required for path alongside the golf course. Potential crossing needed on Badentoy Road. Significant gradients and potential land ownership issues along southern extents.
35	Further investigation required to establish feasibility of the route due to number of parked HGVs and ability to provide safe cycling provision.	No additional comments ahead of site visit.	Pedestrian demand predicted to be low so shared footway possible option within industrial estate loop road. Potential raised tables across access points.
39	No major risks or uncertainty identified.	Hillside Primary school located adjacent to Schoolhill Drive with existing off-road provision. School catchment primarily serving residents to the north / east.	Forms part of NCN1 cycle route. Route adjacent to golf club car park is approximately 3.0 m wide but needs re-surfaced.

Route	2019 STAG Part 2 Risk and uncertainty comments	Initial desktop review	Site visit observations
40	Some uncertainty around feasibility of space to provide complete off-road link. Needs considered in greater detail at design stage.	No additional comments ahead of site visit.	Land required to provide segregated facility on east side of Wellington Road. Land or reallocation of carriageway potentially required on Old Stonehaven Road to widen facility accordingly.

5. Outputs

5.1 STAG Part 2 appraisal review

5.1.1 Scoring exercise

The scoring exercise undertaken for the STAG Part 2 appraisal has been reviewed and a reassessment made on which routes are worthy of further consideration. The methodology employed during the STAG Part 2 appraisal has been used, with each route appraised against the relevant transport planning objectives (set and agreed with the client team), the STAG criteria of environment, safety, economy, accessibility and social inclusion, and inclusion, and integration, and the other agreed criteria of feasibility, affordability, and public acceptability. A Summary of the 2019 STAG Part 2 appraisal and the 2022 review is provided in Table 8 (note, the route options identified in the 2019 STAG Part 2 appraisal as providing the greatest overall benefits and worth pursuing before others, and those being recommended for further consideration following this 2022 review are highlighted in green).

The full 2019 STAG Part 2 and 2022 review appraisal scoring is provided in Table 10 and Table 11 of Appendix A.

Table 8: Summary of appraisal outcomes

Route	2019 STAG Part 2 appraisal			2022 review		
	Total score			Total score		
	Without general appraisal criteria	With general appraisal criteria	Rank	Without general appraisal criteria	With general appraisal criteria	Rank
4	20	24	9	20	18	19
5	17	21	12	17	16	21
7	24	25	3	24	22	5
8	20	24	6	19	23	4
9	21	24	5	21	20	10
11	23	25	4	23	24	3
13	20	24	6	19	19	15
15 (a)	18	21	12	18	21	7
15 (b)	19	21	12	19	21	7
41	19	24	6	19	20	12
45	23	26	1	23	26	1
19	19	23	10	19	20	12
20	17	21	11	17	21	6
23	14	17	21	14	17	20

Route	2019 STAG Part 2 appraisal			2022 review		
	Total score			Total score		
	Without general appraisal criteria	With general appraisal criteria	Rank	Without general appraisal criteria	With general appraisal criteria	Rank
24	16	20	16	16	20	11
27	23	26	1	23	26	1
27 (south)	-	-	-	18	18	17
26	18	20	17	18	19	15
28	14	18	20	14	18	17
34	16	17	21	16	13	23
35	17	20	17	17	20	12
39	18	21	12	18	21	7
40	18	20	17	18	15	22

5.1.2 Recommendations

As highlighted in Table 8, it is recommended that the seven routes summarised in Table 9 are progressed to the concept design stage.

Table 9: Summary of recommendations

Route	Route description	Summary	To progress
7	Bridge crossing of River Don between Grandhome and Stoneywood	A bridge crossing over the River Don has been noted as a feasible option through a preliminary engineering assessment. It has been identified by the Council as a standalone active travel route that will make adjacent routes more feasible in providing a continuous route between the Grandhome development to Stoneywood and Dyce.	✓
8	Market Street and Stoneywood Terrace	There are no major constraints, e.g., land, and requires low cost, feasible upgrades on Stoneywood Terrace. Market Street is quiet and residential, although has limited options for improvements due to on street parking. There is the potential to link into Route 7 via Stoneywood development street network or NCN1.	✓

Route	Route description	Summary	To progress
9	Underpass on Millhill Brae till Newhills Bowling Club on Waterton Road	This route has no major constraints, and it is being recommended to substitute route 39 (see below). Although route 9 ranks lower than 39, it serves a greater benefit to the wider active travel network. Therefore, as a standalone option, route option 9 is concluded to be more feasible and supplements Route 7 and 8 to potentially create a high-quality active travel network within Bucksburn.	✓
11	Kingswells to Newmills Development	There are no major constraints identified. The route would require upgrading of an internal path network. As noted in the 2019 STAG Part 2 appraisal, this option provides the "greatest benefits" and ties with Kingswells Park and Ride and links northwards to the Newmills development area. Several uncontrolled crossings along the route could be upgraded to provide a high-quality continuous route.	✓
45	A944 Kingswells Park and Ride to A90 AWPR	According to the 2019 STAG Part 2 appraisal, this route is well used, and parts of the existing paths have already been upgraded to shared-use paths, although requires further improvements to create a consistent high-quality shared use path. Potential land constraints can be mitigated through utilising the carriageway and / or the central reserve of the A944. Despite its ranking, it has been confirmed that this route is already being considered as part of another project.	✗
20	Deeside Way to Friarsfield Development	This route would make use of the alternative route at its northern section, making use of the internal network of the CALA development which is accessed from Friarsfield Road. The route onto Craigton Road has a relatively steep gradient and potential land issues through the former school site. The progression of this route would have the potential for linking into Countesswells development subject to the progression of Route 19 further north.	✓
27	Deeside Way to Robert Gordon University and Garthdee Road	There are no major constraints on this route with the improvements likely to comprise using the southern footway and widening on the northern side of Garthdee Road, accommodated in the existing verge. At the eastern extents of Garthdee Road this route could tie-in to any committed proposals adjacent to the retail premises. This option has the potential to create a high-quality route in a busy area with access to local supermarkets and Robert Gordon University. Despite its ranking, it has been confirmed that this route is already being considered as part of another project.	✗

Route	Route description	Summary	To progress
39	Badentoy Road to Hillside School and Well Brae	There are no major constraints on this route, and it is part of NCN1 cycle route. However, it is recommended that this short route could only reasonably be taken forward as a group alongside adjacent route options. As a standalone option it is unlikely to provide the significant benefits. Therefore, it has been determined that it will not be progressed at this stage.	×

5.1.3 Additional note

The options summarised in Table 9 have been recommended following the scoring matrix exercise undertaken following the site visit. However, there are some routes where further discussion is required to ascertain whether the current provision is sufficient to avoid the requirement for land take if it was to be upgraded to current standards. For example, Route 5 would require land take to improve the existing shared use facility on the south side of Dubford Road. Maintaining the current provision negates land take and maintains a generally continuous route, although the overall comfort for users is currently compromised.

Also, considering the results from the scoring matrix exercise undertaken, and the recommendation to take forward Routes 7, 8, 9 and 11 to the concept design stage, the eventual delivery of Route 13, or a variation of it, may make a more compelling option if considered in context – despite its lower score. Therefore, while not being progressed as part of this study, this may be a route option that could be explored at a later stage to ‘complete’ an ‘orbital’ route that links ongoing / proposed developments (Grandhome, Stoneywood, Newhills expansion, Greenferns), surrounding areas (Dyce, Bucksburn, Kingswells), and other arterial active travel routes, e.g., NCN1 and the various facilities available on the A944 and B9119, Skene Road.

5.2 Next steps

Based on the information derived from the appraisal review, it will be necessary to develop design objectives / opportunities to be considered by the design team in developing the preliminary concept designs. These design opportunities / objectives will take the transport planning objectives and other criteria developed for the STAG Part 2 appraisal into consideration, as well as the example criteria listed in the Invitation, and will also be informed by the core design criteria identified in Cycling by Design, i.e.:

- Directness – it will be important to provide direct connections between developments.
- Safety – the safety of users (potentially new users at development sites keen to use new infrastructure for first time) will be paramount to attracting users and meeting objectives.
- Coherence – the importance of a joined-up and coherent network is also critical in attracting users.
- Comfort and attractiveness – the preliminary concept designs will aspire to provide a high level of service for users.
- Adaptability – it should be acknowledged that the preliminary concept designs may have to be adjusted / refined, and their viability for adaption will be considered and recorded.

Appendix A. Appraisal Matrices

Table 10: 2019 STAG Part 2 appraisal scoring matrix

Route	TPOs					Environment	Safety	Economy	Integration	Accessibility	Risk and uncertainty	Affordability	Public acceptability
	1	5	6	7	8								
	Increase the Modal Share for Sustainable Travel	Increase the Accessibility of Employment Opportunities	Are Safe and Secure	Are Sufficiently Direct for Commuters	Provide Good Integration between Modes								
4	2	2	2	3	2	1	1.8	2	3	1	-1	3	2
5	2	2	1	2	2	1	1	2	3	1	-1	3	2
7	3	3	3	2	3	0	3	2	3	2	-3	2	2
8	2	2	1	3	3	1	1	2	3	2	-1	3	2
9	2	2	2	3	3	0	2.3	2	3	2	-2	3	2
11	2	2	3	2	3	1	2.8	2	3	2	-2	2	2
13	2	1	3	2	1	1	3	2	3	2	-1	3	2
15 (a)	2	1	3	2	1	-1	3	2	3	2	-2	3	2
15 (b)	2	1	3	2	1	0	3	2	3	2	-2	2	2
41	2	2	1	2	3	1	1	2	3	2	-1	3	3
45	2	2	3	3	3	1	3	2	3	1	-2	2	3
19	2	1	3	2	1	1	3	2	3	1	-2	3	3
20	2	1	2	1	2	1	2.2	2	3	1	-2	3	3
23	2	1	1	1	2	0	1	2	3	1	-1	2	2
24	2	1	1	2	2	1	1.1	2	3	1	-1	3	2

Route	TPOs					Environment	Safety	Economy	Integration	Accessibility	Risk and uncertainty	Affordability	Public acceptability
	1	5	6	7	8								
	Increase the Modal Share for Sustainable Travel	Increase the Accessibility of Employment Opportunities	Are Safe and Secure	Are Sufficiently Direct for Commuters	Provide Good Integration between Modes								
27	2	2	3	3	2	1	3	2	3	2	-2	2	3
26	1	2	3	2	2	1	3	-1	3	2	-2	2	2
28	1	2	1	3	2	0	1	-1	3	2	-1	3	2
34	1	3	2	2	3	0	2	-1	3	1	-3	1	3
35	1	2	3	1	3	1	3	-1	3	1	-2	3	2
39	1	3	3	1	3	1	3	-1	3	1	-1	2	2
40	1	3	3	2	3	0	3	-1	3	1	-2	2	2

Table 11: 2022 review scoring matrix

Route	TPOs													
	1	5	6	7	8									
	Increase the Modal Share for Sustainable Travel	Increase the Accessibility of Employment Opportunities	Are Safe and Secure	Are Sufficiently Direct for Commuters	Provide Good Integration between Modes	Environment	Safety	Economy	Integration	Accessibility	Risk and uncertainty	Affordability	Public acceptability	
4	2	2	2	3	2	1	1.5	2	3	1	-1	-3	2	
5	2	2	1	2	2	1	1	2	3	1	-1	-2	2	
7	3	3	3	2	3	0	3	2	3	2	-3	-1	2	
8	2	2	1	3	3	1	1	2	3	1	-1	3	2	
9	2	2	2	3	3	0	2.3	2	3	2	-2	-1	2	
11	2	2	3	2	3	1	2.8	2	3	2	-2	1	2	
13	2	1	3	2	1	1	2	2	3	2	-1	-1	2	
15 (a)	2	1	3	2	1	-1	3	2	3	2	-2	3	2	
15 (b)	2	1	3	2	1	0	3	2	3	2	-2	2	2	
41	2	2	1	2	3	1	1	2	3	2	-1	-1	3	
45	2	2	3	3	3	1	3	2	3	1	-2	2	3	
19	2	1	3	2	1	1	3	2	3	1	-1	-1	3	
20	2	1	2	1	2	1	2.2	2	3	1	-2	3	3	
23	2	1	1	1	2	0	1	2	3	1	-1	2	2	
24	2	1	1	2	2	1	1.1	2	3	1	-1	3	2	
27	2	2	3	3	2	1	3	2	3	2	-2	2	3	
27 (south)	1	1	3	1	2	1	3	2	-3	2	0	2	3	

Route	TPOs					Environment	Safety	Economy	Integration	Accessibility	Risk and uncertainty	Affordability	Public acceptability
	1	5	6	7	8								
	Increase the Modal Share for Sustainable Travel	Increase the Accessibility of Employment Opportunities	Are Safe and Secure	Are Sufficiently Direct for Commuters	Provide Good Integration between Modes								
26	1	2	3	2	2	1	3	-1	3	2	-2	1	2
28	1	2	1	3	2	0	1	-1	3	2	-1	3	2
34	1	3	2	2	3	0	2	-1	3	1	-3	-3	3
35	1	2	3	1	3	1	3	-1	3	1	-2	3	2
39	1	3	3	1	3	1	3	-1	3	1	-1	2	2
40	1	3	3	2	3	0	3	-1	3	1	-2	-3	2