Bridge of Don to City Centre Active Travel Corridor

Appraisal Report

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Aberdeen City Council

Bridge of Don to City Centre Active Travel Corridor

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Contents

Executive Summary

The focus of this study is the Bridge of Don to City Centre Active Travel Corridor, which is a key scheme in the Aberdeen Active Travel Action Plan 2017 - 2021. The purpose of the study was to carry out an appraisal to identify a network for active travel provision which connects the Bridge of Don area to Aberdeen's city centre. The client team included Sustrans, Nestrans and University of Aberdeen, led by Aberdeen City Council's Strategic Place Planning team.

The appraisal was undertaken using the principles of Scottish Transport Appraisal Guidance (STAG), but also took account of Sustrans' Places for Everyone design criteria. Key steps in the process included:

- Review of previous studies and key documents;
- Broad stakeholder and public engagement;
- Examination of key problems and opportunities in the local active travel network;
- Development of transport planning objectives (TPOs) for the study;
- Generation of a long list of potential options;
- A high level appraisal to sift the long list into a shorter list of options; and
- A detailed appraisal against the TPOs, STAG criteria and 'implementability' issues, along with the Sustrans design criteria.

The study area is approximately 9 square km, comprising a core study area south of the River Don and a wider study area north of the river. The core area extends from Persley Bridge at the A92 in the west, to Beach Boulevard in the east and the city centre boundary to the south. The wider study area, which takes account of proposed future development consists of the area enclosed by the A92, A90 and the river, from the Parkway roundabout in the east, to Persley Bridge in the west.

The first stage of the study entailed a critical review of relevant national, regional and local policies, as well as consideration of relevant local projects. This established the context for the study, along with an evidence base for the assessment of the principal problems and opportunities in the active travel network. This was informed by site visits and a comprehensive programme of stakeholder and public consultation, carried out in association with the client team.

The study team then carried out a thorough analysis of this evidence base, which was used to identify key themes to inform the development of a set of relevant and applicable TPOs:

Table E 1 - Transport Planning Objectives

TPO	Description
TPO1	Improve quality of pedestrian and cycle provision on the transport network within the northern area of Aberdeen (to allow improved journey experience by users: direct, comfortable, attractive, safe, cohesive)
TPO2	Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre (to maximise the number of people with direct access to the network)
TPO3	Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users (to remove real and perceived safety and security issues that act as barriers to travel)
TPO4	Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment (to maximise the impact of walking and cycling uptake and modal shift on health and environment outcomes)
TPO5	Improve connectivity by foot or bike to key centres of employment, education and health facilities (to improve active travel's contribution to economic and social objectives)

The next stage was the generation of a long list of intervention options, derived from within the project team, the wider client group and from public and stakeholder consultation. Options were then sifted against their relevance to the agreed TPOs. Remaining options were grouped into packages that would provide a deliverable and complementary set of interventions, enabling the development of a preferred future network which would increase the number of people walking, wheeling and cycling. This resulted in a set of eleven packages which were considered in the appraisal. These are shown in Figure E 1 and described in Table E 2 below.

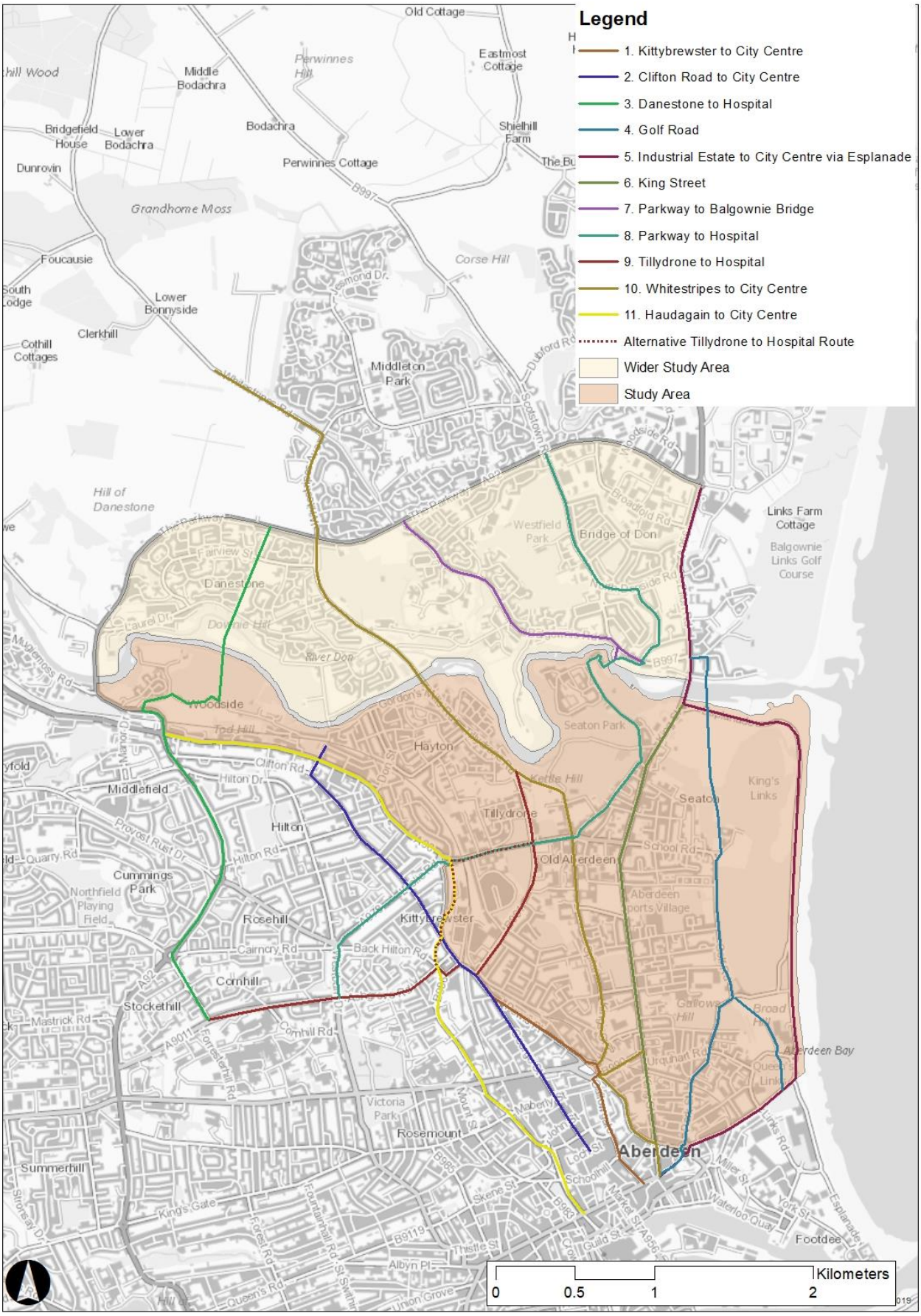

Figure E 1 - Map of option packages

Table E 2 - Option packages for appraisal

Package	Route Name	Description and Key Features
1	Kittybrewster to City Centre	New active travel route from Powis Terrace to the city centre using existing alignments with increased on-road and segregated cycle lanes. A possible alternative alignment to Option 2, for the section south of Powis Terrace. This route utilises the width on Powis Terrace albeit this route is still identified by ACC as a Primary Route in the Roads Hierarchy.
2	Clifton Road to City Centre	New active travel route from Woodside area (and NCN Route 1) to the city centre using existing alignments with increased on-road cycle lanes, crossing and junction improvements, incorporating elements of the BCI Project. This route uses quieter streets to route southwards from the existing interface with the NCN 1 and crossing facilities on the A96 Great Northern Road.
3	Danestone to Hospital	New active travel route between Danestone and the major hospitals, using a mix of existing carriageway and a new segregated route, with a new river bridge in the northern section. The route makes use of an existing pylon corridor from the residential area of Danestone to the existing NCN 1. This was viewed as a ready-made route which provide links into the adjacent residential areas.
4	Golf Road / Park Road	New active travel route east of King St, using a mix of existing carriageway and new segregated routes, with new river bridge at northern extent. Park Road has been identified as a route that ACC are considering for an HGV ban and was therefore identified as being suitable for a cycle route.
5	Industrial Estate to city centre via Esplanade	New active travel route from the A92 Parkway roundabout to the city centre via the Esplanade, using existing alignments with increased segregation, shared-use paths and footway improvements. This route makes use of the considerable road and footway space available on the Esplanade and aims to serve the leisure facilities from both the city centre and from Bridge of Don.
6	King Street	New active travel route along King Street from just south of the Bridge of Don to Castle Street, with significant segregation, junction upgrades and full resurfacing. This route looks to improve upon the main corridor from the city centre to Bridge of Don while considering that King Street will remain as a Primary Route in terms of the Roads Hierarchy and will be the main HGV route north from the city centre.
7	Parkway to Balgownie Bridge	New active travel route from the A92 Parkway to Balgownie Bridge using existing alignments with increased segregation and improvements to two crossings and a flight of steps. This route is through the centre of the wider study area and utilises a wide verge on the west side of Balgownie Road to access Balgownie Bridge. Onward routing to the city centre would be provided by connecting with route 8 southwards from Balgownie Bridge.
8	Parkway to Hospital	New active travel route from the A92 Parkway to Westburn Drive via Seaton Park using existing alignments with increased segregation and improvements to crossings and junctions. . This route follows quieter streets in Bridge of Don, a number of which have been signed as a preferred route by Aberdeen Cycle Forum. The route will cater for student trips between the Hillhead campus and the Hospital with linkages into NCN 1 and the University of Aberdeen buildings located off High Street.

Package	Route Name	Description and Key Features
9	Tillydrone to Hospital	New active travel route from Tillydrone to Ashgrove Road (near the Royal Infirmary), via the University of Aberdeen, incorporating elements of the BCI Project. This route will tie-in to the existing active travel facilities on Tillydrone Road and Gordon Brae to provide a continuous route from the wider study area linking into the University and continuing west to the Hospital.
10	Whitestripes to city centre	An alternative route option would use St Machar Road between Tillydrone Road and Great Northern Road where it would follow the BCI Project south to Ashgrove Road. This would be in lieu of routeing along Bedford Road and Powis Terrace.
11	Haudagain to city centre	New active travel route from Whitestripes Road (by Grandhome development) to the city centre via Tillydrone and Old Aberdeen, incorporating existing segregated and off-road active travel paths, including the NCN 1 and the Tillydrone Road and Gordon Brae facilities. The route also identifies improvements on the NCN 1 within the city centre.

The appraisal comprised a qualitative and quantitative assessment of the performance of each of the options against TPOs, implementability criteria (feasibility, affordability and public acceptability) and the STAG criteria (environment, safety, economy, integration, and accessibility and social inclusion). The options were then assessed against the Sustrans Places for Everyone criteria.

The appraisal concluded that there are several options for improving active travel connectivity in the Bridge of Don area which merit further detailed development and assessment. The ultimate aim should therefore be to develop a cohesive network of active travel routes to the north of Aberdeen city centre, that is linked to wider Active Travel Action Plan proposals and can deliver the many benefits identified for each package in this appraisal. To support decision making in the delivery of such a network, the appraisal has identified which packages should be considered as higher priority than others. These are:

- Packages 4, 5 and 6, which would all provide an active travel route along or parallel to King Street, the main north-south alignment connecting Bridge of Don to the city centre. The appraisal scores for each option are very similar and each brings specific opportunities and constraints.

- Packagess 10 and 11, which would provide connectivity between the city centre and areas in the northwest of the study area, with large trip generators at the centre of each route. It is noted that Package 11 scores higher than Package 10 in the appraisal, but this is mainly due to the benefits of incorporating the BCI Project.

It is recommended that further work is undertaken to develop these interventions to an appropriate level of design detail to allow for a further assessment of their deliverability, including technical feasibility. This would also enable further quantification of their likely impacts, both positive and negative. As set out in this report, there is a considerable level of community and stakeholder interest in active travel improvements. To ensure stakeholders are fully informed of developments, it is recommended that further community engagement is undertaken as the proposals are refined.

1. Introduction

1.1 Background

Jacobs UK Ltd has been appointed by Aberdeen City Council (ACC) to carry out an appraisal on the Bridge of Don to City Centre Active Travel Corridor.

The project is a key scheme listed in the Aberdeen Active Travel Action Plan 2017 - 2021. The objective of the Scottish Transport Appraisal Guidance (STAG) based options appraisal study is to identify a preferred network for active travel provision which comprehensively connects the Bridge of Don area to Aberdeen's city centre. The appraisal will also take account of Sustrans' Places for Everyone guidance and design criteria. The appraisal will take due consideration of any existing active travel infrastructure(s) including connections to adjacent Core Paths, the National Cycle Network and any other suitable paths in the study area. This options appraisal study will identify problems and opportunities in the local active travel network and will subsequently identify a preferred future network with the objective to increase the number of people walking and cycling.

A core client group has been created to help in the management of this project, which includes Sustrans, Nestrans and University of Aberdeen, led by ACC's Strategic Place Planning team.

1.2 Context

Aberdeen City Council, through its Active Travel Action Plan, is committed to increasing and improving active travel opportunities within the City. Some of its relevant objectives being:

1) Walking: To increase the number of people walking, both as a means of travel and for recreation, in recognition of the significant health and environmental benefits it can bring to our citizens.
2) Cycling: To foster a cycling culture in Aberdeen by improving conditions for cycling in Aberdeen so that cycling becomes an everyday, safe mode of transport for all.
3) School Travel and Young People: To ensure that all young people have the opportunity to travel to school by active and/or sustainable modes of transport and are equipped with the necessary knowledge, skills and infrastructure to allow them to undertake local journeys safely and independently.

In addition, the City's Local Outcome Improvement Plan 2016-26, stretch outcome 15 specifically aims to increase the number of people walking and cycling to 38% and 5% respectively as main mode of travel by 2026.

1.3 Scope, Objectives and Aims

The project involves a STAG-based options appraisal with the aim of identifying a package of interventions to improve active travel connections between the Bridge of Don area of Aberdeen and the City Centre. Scottish Transport Appraisal Guidance, also known as STAG, is a framework to assess evidence-based transport problems and opportunities, with the principle of being an objective-led approach, rather than a solutions-led approach.

The project will take cognisance of key Aberdeen City local transport strategies, plans and existing studies, and aims to achieve a clear modal shift to active travel modes, improve the quality and safety of active travel journeys and create better connectivity with key existing and future residential, employment, education and leisure attractors.

Within ACC's consultancy brief, the aim of the project is defined as follows:

"To undertake a STAG-based options appraisal to identify improvements for active travel connections in a north-south direction from the area north of the river Don, south to the city centre with connections to significant existing and planned trip generators and ensuring future proofing and seamless connectivity with the existing transport network across the area as well as planned transport network improvements within the area."

The project will:

- Audit existing walking/cycling infrastructure;
- Review existing travel data and project future demand;
- Identify possible new connections to significant trip generators - University, Beach, hospital etc;
- Review existing studies relating to active travel in the area, including the recent King Street design competition;
- Review the Aberdeen Local Development Plan (ALDP) for projects granted planning consent that propose provision of active travel infrastructure(s) and those developments that are still to achieve planning consent for delivery;
- Undertake Public and Stakeholder engagement to inform the various stages of the STAG appraisal, specifically informing problems, opportunities, objectives, options, acceptability;
- Identify physical, environmental and/or ecological constraints and opportunities while taking cognisance of Sustrans' Places for Everyone guidance;
- As part of the economic part of the appraisal, perform a cost-benefit analysis using nationally recognised active mode appraisal methods; and
- Produce a high-level implementation programme and cost estimates for each option and/ or package of options.

1.4 Study area

The study area is split into two sections, the Study Area and the Wider Study Area. This is illustrated in Figure 1:

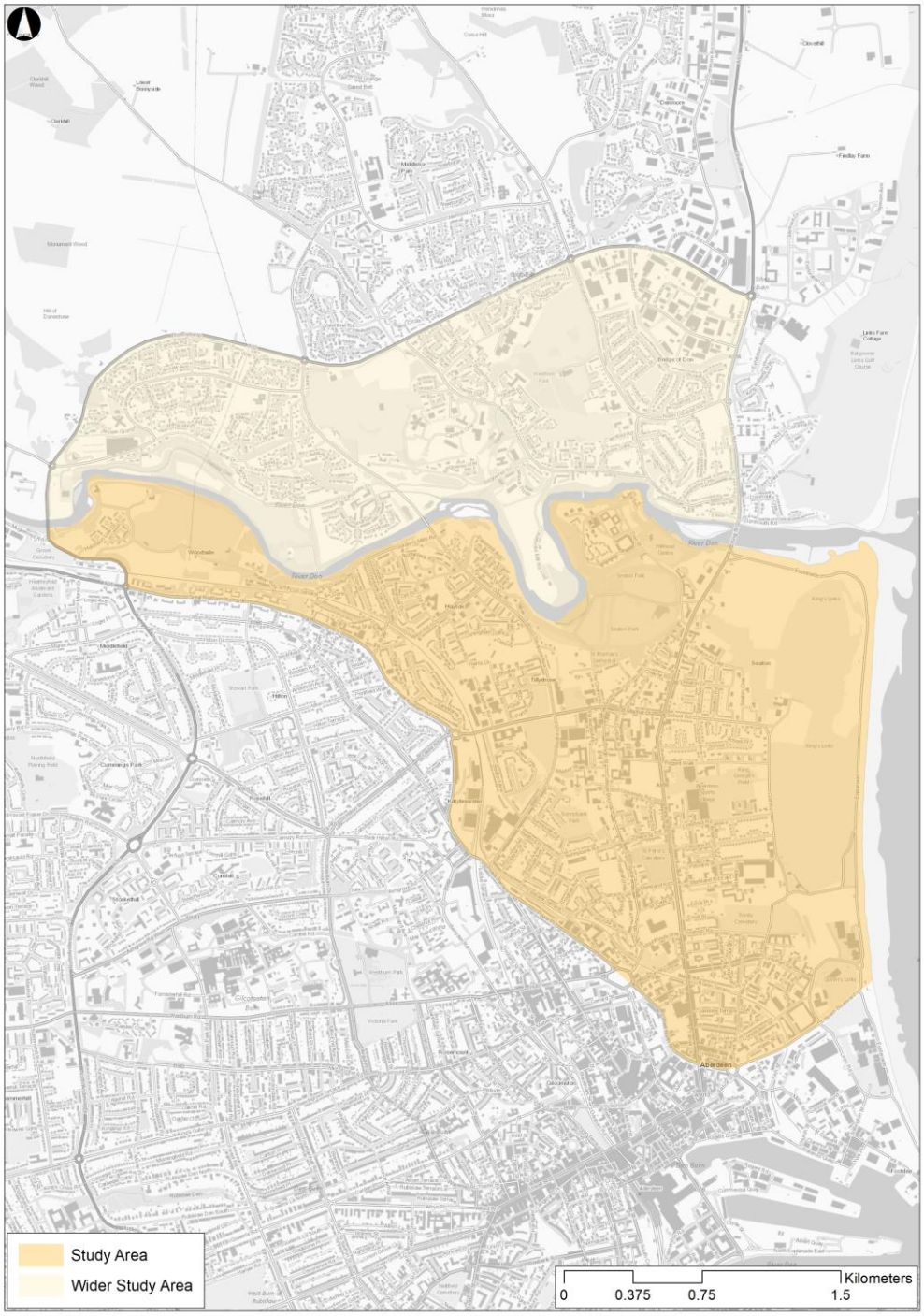

Figure 1 - Study Area and Wider Study Area

The Study Area, which is considered as the core area, is approximately 6.5 square km and consists of the area highlighted in Figure 1 south of the River Don, covering the area from Persley Bridge at the A92, east to beach boulevard and the city centre boundary. The Wider Study Area, which is considered as the surrounding area of influence, taking account of proposed future development, is approximately 2.5 square km and consists of the area north of the River Don, enclosed by the A92 and the A90 from the Parkway roundabout west to Persley Bridge.

While the connections within both study areas form a core part of this study, considering key potential trip generators out with the study area is also important in appraising potential active travel network improvements which will lead to an uptake in active travel tips.

2. Policy, Strategy and Proposal Context

2.1 Overview

As an important part of this study, the relevant national, regional and local policies were reviewed to ensure this study takes cognisance of, and is consistent with, policy and best practice. The Scottish Government, working closely with Regional Transport Partnerships and local authorities, has demonstrated commitment to increasing active travel through increased funding and robust policy frameworks.

At a local level, through embedding active travel its planning policies and processes, Aberdeen City Council is continuing to build on recent improvements in the active travel network by improving infrastructure and safety, as well as raising awareness of the benefits of walking and cycling.

2.2 National Policy

2.2.1 National Transport Strategy 2 *Draft Strategy for Consultation* (2019)

The Draft National Transport Strategy 2 (NTS2) presents a vision that Scotland will have a sustainable, inclusive and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. The vision is underpinned by four priorities, each which have three associated outcomes. The four priorities are:

- Promotes Equality - Everyone in Scotland will share in the benefits of a modern and accessible transport system;
- Takes Climate Action - People will be able to make travel choices that minimise the long-term impacts on our climate and the wellbeing of future generations;
- Helps our Economy Prosper - Scotland will have a transport system that will help deliver sustainable, inclusive economic growth enabling the whole country to flourish; and
- Improves our Health and Wellbeing - Scotland's transport system will be safe and enable a healthy and fit nation.

The importance of active travel is emphasised throughout NTS2, with enhanced active travel delivery seen as critical in achieving the overarching vision for Scotland's transport vision. NTS2 highlights that a positive trend in Scotland's transport is improved active travel delivery of ambitious and inclusive walking and cycling projects.

This project contributes to the achievement of these policies by:

- Delivering on the health and social outcomes desired at national level; and
- Providing a holistic, inclusive approach to identification of transport solutions

2.2.2 National Walking Strategy (2014)

The National Walking Strategy outlines the Scottish Government's vision of a Scotland where everyone benefits from walking. The three strategic aims are:

- "Create a culture of walking where everyone walks more often as part of their everyday travel and for recreation and well-being
- Better quality walking environments with attractive, well designed and managed built and natural spaces for everyone; and
- Enable easy, convenient and safe independent mobility for everyone"

This project contributes to the achievement of these policies by:

- Consulting with residents and community groups to identify the routes that people use; and
- Considering the needs of all users to improve mobility for everyone.

2.2.3 Cycling Action Plan for Scotland 2017-2020 (2017)

This is the third iteration of the Cycling Action Plan for Scotland (CAPS) and is the most progressive. It represents six years of shared work by partners an unshakeable commitment to the 2020 vision. This new set of actions outlines how the Scottish Government, local and authorities and all key partners will respond to the needs of stakeholders and how the active travel commitments will be achieved. This project contributes to the achievement of this plan by identifying network-wide improvements to enhance cycle update.

2.2.4 A Long-term Vision for Active Travel in Scotland 2030 (2014)

This document outlines the aspirations for how Scotland will look in 2030 if more people are walking and cycling for short, everyday journeys. The anticipated uptake in active travel will be achieved through increased investment in pedestrian and cycle infrastructure, behavioural change and training. This will subsequently result in supporting equality in opportunity, improvements in the environment, healthier life choices to treat and prevent disease and reduce health inequalities. This project contributes to the achievement of this vision by addressing the key problems and opportunities to improved walking and cycling journeys in the study area.

2.2.5 Active Travel Task Force Report (2018)

The Active Travel Task Force report makes recommendations on how to tackle the barriers to delivering new, innovative and popular infrastructure which encourages walking and cycling. The report outlines 18 recommendations which are split into four broad themes, the first three of which are addressed by this project:

- Infrastructure
- Community Engagement
- Behaviour Change and Culture
- Policies, Processes and Resources

2.2.6 Active Travel Framework (2019)

The Active Travel Framework brings together the key policy approaches to improving the uptake of walking and cycling in Scotland for travel. The framework identifies five high level outcomes that will contribute to realising the long-term vision and achieving the strategic objectives for policy at local and national level. The framework incorporates the aims of the National Walking Strategy and Cycling Action Plan as well as their related indicators, contributing to the national outcomes which form part of the National Performance Network.

2.2.7 Infrastructure Commission for Scotland – Key Findings Report (2020)

The Key Findings Report states that acceleration of the decarbonisation of heat and transport must be a key priority in reaching net zero carbon over the next 30 years. It recommends that the Scottish Government should ensure that NTS2 and the second Strategic Transport Projects Review (STPR2), which are due to be published during 2020, fully reflect the need to deliver an inclusive net zero carbon economy and consider the infrastructure and the use of it as a holistic system. The report states that "this should include:

- Aligning strategic investment decisions to address fully the requirement for demand management, a substantial increase in the proportion of journeys made by active travel, and opportunities for shared mobility as well as a much greater role for public transport.
- For such roads investment that is made as part of the above, a presumption in favour of investment to future proof existing road infrastructure and to make it safer, resilient and more reliable rather than increase road capacity."

2.3 Regional Policy

2.3.1 Regional Transport Strategy Refresh (2013)

Nestrans Regional Transport Strategy (RTS) was initially published in 2008 and was subsequently refreshed in 2013 following a number of changes to the policy and economic context within which the RTS sits. The Strategy has four strategic objectives based around Economy; Accessibility, Safety and Social Inclusion; Environment; and Spatial Planning.

Strategic Objective 2: Accessibility, Safety and Social Inclusion highlights the need to enhance choice, accessibility and safety of transport for all in the north east, particularly for disadvantaged and vulnerable members of society and those living in areas where transport options are limited. This also includes the aspiration to achieve increased use of active travel and improve air quality as part of wider strategies to improve the health of north east residents. This project contributes specifically to these aims.

2.3.2 Active Travel Action Plan (2014)

A commitment to develop an Active Travel Action Plan was included in the 2013 refresh of the Regional Transport Strategy with the aim of encouraging increased levels of active travel across the region. The action plan contains a long-term vision for active travel in the north east, in line with the overarching vision of the RTS, and covers the period to 2035. This project will build on the ATAP by identifying future improvements to the network in the north of the city.

2.4 Local Policy

2.4.1 City Centre Masterplan (2015)

The City Centre Masterplan (CCMP) report outlines a 20-year development strategy for Aberdeen City Centre. The masterplan, comprises of multiple documents, provides a framework for managing the city centre development up to 2035. The masterplan provides policy makers, landowners, employers, residents, investors and developers with a clear direction for future development, highlighting key physical development projects and non-physical initiatives related to city centre regeneration.

Within the plan, the Public Realm Strategy highlights the importance of improving connections and movements around the city. It states connectivity will be improved to facilitate a constant flow of pedestrians and cyclists around the city centre. This project will address the key challenges of accessing the city centre from the north of the city.

2.4.2 Aberdeen City Council Local Transport Strategy (2016)

The Local Transport Strategy (LTS) sets out the policies and interventions adopted by Aberdeen City Council to guide the planning and improvement of the local transport network over a five-year span. Following the previous LTS published in 2008, an analysis of the current transport trends and problems, a wide policy review and two rounds of consultation was undertaken. This review led to a refresh of the LTS vision, which now looks to develop:

> *"a sustainable transport system that is fit for the 21st Century, accessible to all, supports a vibrant economy, facilitates healthy living and minimises the impact on our environment"*

2.4.3 Aberdeen Active Travel Action Plan (2017)

The Aberdeen Active Travel Action Plan identifies the policies and design principles that Aberdeen City Council will abide by from 2017 to 2021. It identifies several actions and interventions that will be pursued in order to increase the number of journeys undertaken by active travel, while working towards meeting the vision set out in the Nestrans regional Active Travel Action Plan discussed in Section 2.3.2. This project will build on the ATAP by identifying future improvements to the network in the north of the city.

2.4.4 Cross City Connections (STAG Part 1 Appraisal) (2017)

In 2013, Aberdeen City Council published its Strategic Infrastructure Plan (SIP). It focusses on the delivery of the Strategic and Local Development Plans, identifying five key infrastructure goals. With regards to one of the key goals of transport, the Cross City Connections was identified as a new project. It focusses on:

- The transport connections between new areas of development on the outskirts of Aberdeen and in areas of Aberdeenshire close to the Aberdeen City boundary
- Providing attractive alternatives to the private car.

2.4.5 Roads Hierarchy (2019)

The Roads Hierarchy report helps to provide a policy context for future transport planning and forms the basis of identifying future projects now the Aberdeen Western Peripheral Route (AWPR) has been completed.

Ensuring access is maintained to the city centre, while aiming to prioritise people movement over motorised vehicle congestion is a key focus of the report. It suggests it will be necessary to ensure the whole transport network is modified and managed to prioritise and support active and sustainable travel. This forms the context of future road network improvements underlying the development of active travel improvements.

2.5 Ongoing Projects

2.5.1 Berryden Corridor Improvements

The Berryden Corridor Improvements (BCI) aims to tackle the pinch point in the network, as the route facilitates journeys between the city centre, the north of Aberdeen and beyond. Currently significant congestion exists, and the route is operating beyond its capacity. Plans to mitigate this include widening the existing road and junction improvements between Skene Square and Ashgrove Road. Furthermore, there is the construction of a new section of road between Ashgrove Road and Kittybrewster roundabout. The project will offer opportunity for further active travel improvements and connections to the north-west of the city centre.

2.5.2 City Region Deal Strategic Transport Appraisal (2019)

The Aberdeen City Region Deal Strategic Transport Appraisal is a STAG-based options appraisal which aims to take a long-term view of key transport requirements of the region. Having progressed through the Pre-Appraisal and Options Generation stage between 2017 and 2019, the study is currently at the STAG Part 1 initial appraisal, where the developed options will undergo an initial qualitative appraisal.

2.6 Sustrans – Key Publications

2.6.1 Paths for Everyone - National Cycle Network Review

Paths for Everyone is a review of the National Cycle Network (NCN) and an outline plan for improving and managing the network. The report is based on an audit of the NCN, carried out by independent surveyors in 2015-16, along with the views of a wide range of stakeholders, including users, partners, volunteers and supporters. The report defines two key strategic priorities: to make the NCN safer and more accessible for everyone. It also sets out a number of goals for a transformation of the network by 2040 which include:

- Ensuring that the whole network is categorised as being in 'very good' or 'good condition (currently 54%);
- Replacing existing on-road sections (currently 16,900 km) with new traffic-free paths or by creating quiet-way sections; and
- Increasing the number of users by 90% (compared to 2017) and more than doubling the number of journeys made on the NCN.

These goals are supported by 15 recommendations, which includes the delivery by 2023 of over 50 'activation projects', selected to improve accessibility on the network and demonstrate the level of change required.

2.6.2 Places for Everyone

1. Places for Everyone is a Transport Scotland funded programme, administered by Sustrans, that offers funding and support to local authorities and other applicants for the delivery of infrastructure to support everyday walking and cycling trips. The latest guidance was published in January 2020. To ensure that all projects which receive funding make the largest possible impact, applications for funding are assessed against their potential to meet the programme's Design Principles: 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.*

* In exceptional circumstances, Places for Everyone may consider projects where it is not technically feasible to achieve this specific criterion if all others are met and the impact of the proposal is deemed significant by Sustrans.

All Places for Everyone projects must meet these design principles. Further information is outlined in Appendix A to clarify what some of these design principles might mean in terms of practical delivery.

3. Existing Conditions / Context / Travel Trends

3.1 Overview

To understand how a transport network operates, it is necessary to assess existing and past data trends for transport and travel within the area, as well as connections to and from areas nearby. This section provides an exploration of the information available, which has been extracted from relevant data sources. The data analysis undertaken validates and adds to the problems and opportunities which inform the objective setting.

The data analysis was complimented by observations taken from a site visit conducted on 12th September 2019, which provided an important source of information regarding the existing conditions in the local area.

3.2 Data

3.2.1 Mode share

In order to understand the level of active travel use in the city, census data for method of travel to work or study has been reviewed. A comparison between the 2011 census results and 2001 census results was also reviewed in order to understand the trends in the local area. The data is summarised in Table 1:

Table 1 - Travel to work and study (Census 2011)

Transport Mode	Scotland	Aberdeen City		
	2011	2011	2001	% change between 2001 and 2011
Works or studies mainly at or from home	11.3%	9.4%	4.7%	4.7%
Underground tube metro or light rail	0.3%	0.0%	0.0%	0.0%
Train	3.5%	0.5%	0.3%	0.1%
Bus minibus or coach	13.4%	14.1%	14.9%	-0.8%
Taxi or minicab	0.7%	0.8%	0.9%	-0.1%
Driving a car or van	40.9%	38.4%	38.8%	-0.3%
Passenger in a car or van	9.0%	7.3%	9.6%	-2.3%
Motorcycle scooter or moped	0.2%	0.3%	0.5%	-0.2%
Bicycle	1.3%	1.7%	1.5%	0.2%
On foot	18.5%	25.6%	26.7%	-1.1%
Other	0.9%	1.9%	2.1%	-0.2%

The data highlights that residents travelling to work or study by foot in Aberdeen are significantly higher than the national average (7.1% higher), which is follows the expected trend when comparing the national average to an urban environment. Further to this, there has been a 1.1% decrease in people travelling by foot between 2001 and 2011 in Aberdeen City. The levels of residents cycling to work is significantly lower than those travelling by foot and is similar to the national average. Census data indicates a 0.2% increase in people cycling to work between 2001 and 2011.

Travelling to work or study by car still has the highest mode share in the city, accounting for 38.4% of all trips. This level is slightly lower than the national average (40.9%) and is a decrease on the amount of people

travelling by car in Aberdeen since 2001. However, the proportional mode share of residents driving to work or study has in fact slightly decreased since 2011, where the figure was 39%.

Table 2 outlines the travel to work data for the Study Area and Wider Study Area, utilising Census 2011 data at Data Zone level, compared to the wider city mode share. This highlights that a larger proportion of residents in the Study Area and Wider Study Area travel to work on foot and by bicycle, 8.2% and 0.2% greater respectively. Further to this, significantly less residents drive a car or van than in Aberdeen city overall (8.4% less).

Table 2 - Study Area and Wider Study Area travel to work and study (Census 2011)

Transport Mode	Study Area and Wider Study Area (Census 2011	Aberdeen City (Census 2011)
Works or studies mainly at or from home	11.1%	9.4%
Underground tube metro or light rail	0.0%	0.0%
Train	0.3%	0.5%
Bus minibus or coach	15.3%	14.1%
Taxi or minicab	0.7%	0.8%
Driving a car or van	30.0%	38.4%
Passenger in a car or van	5.4%	7.3%
Motorcycle scooter or moped	0.2%	0.3%
Bicycle	1.9%	1.7%
On foot	33.8%	25.6%
Other	1.4%	1.9%

3.2.2 Trip Generators

There are a range of trip attractors within and around the study area which dictate movements, these include education centres, transport hubs, health centres and retail and leisure parks. Figure 2 illustrates the key trip generators and Figure 3 demonstrates the origin /destination trips that Bridge of Don residents make to work.

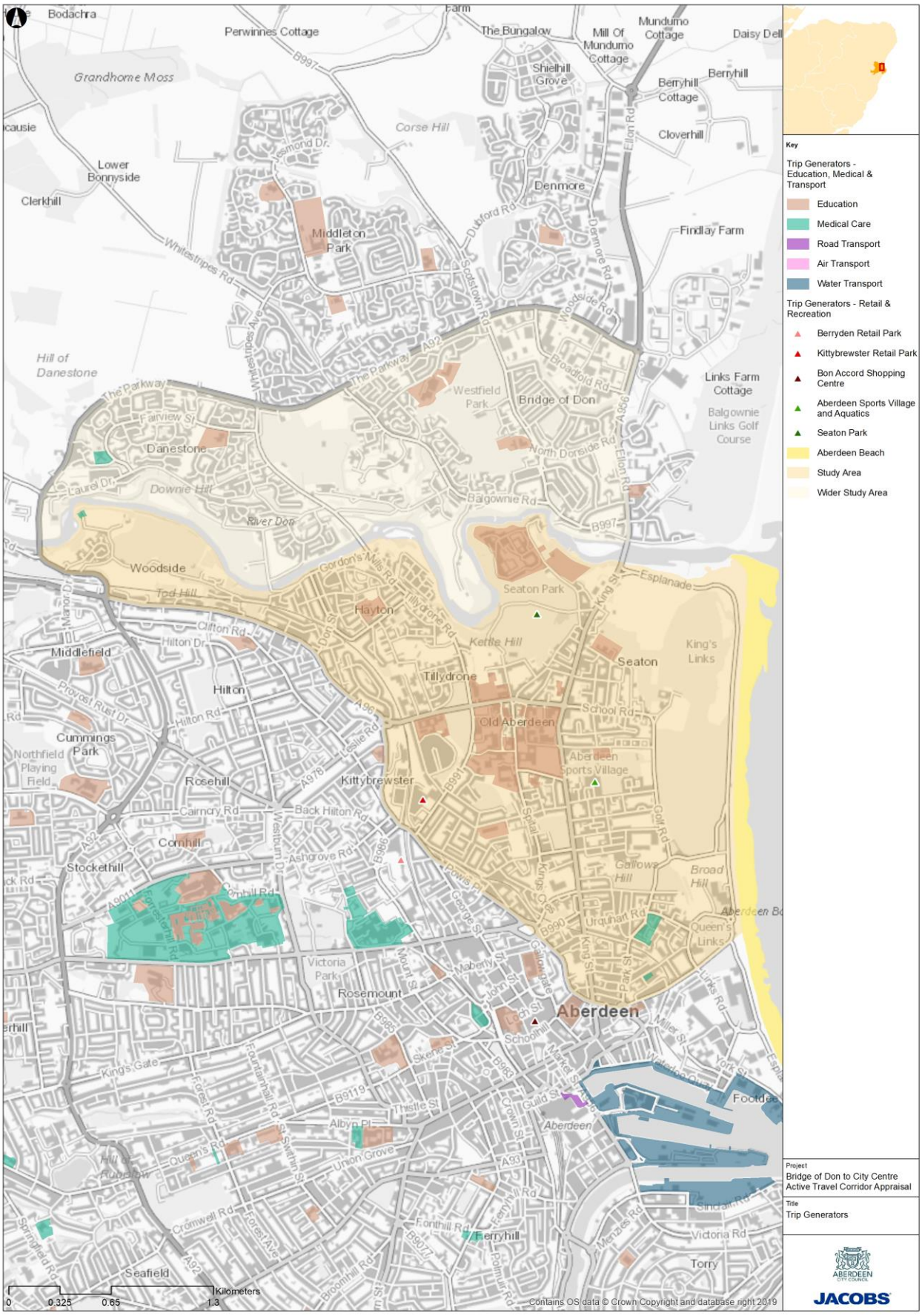

Figure 2 - Key Trip Generators

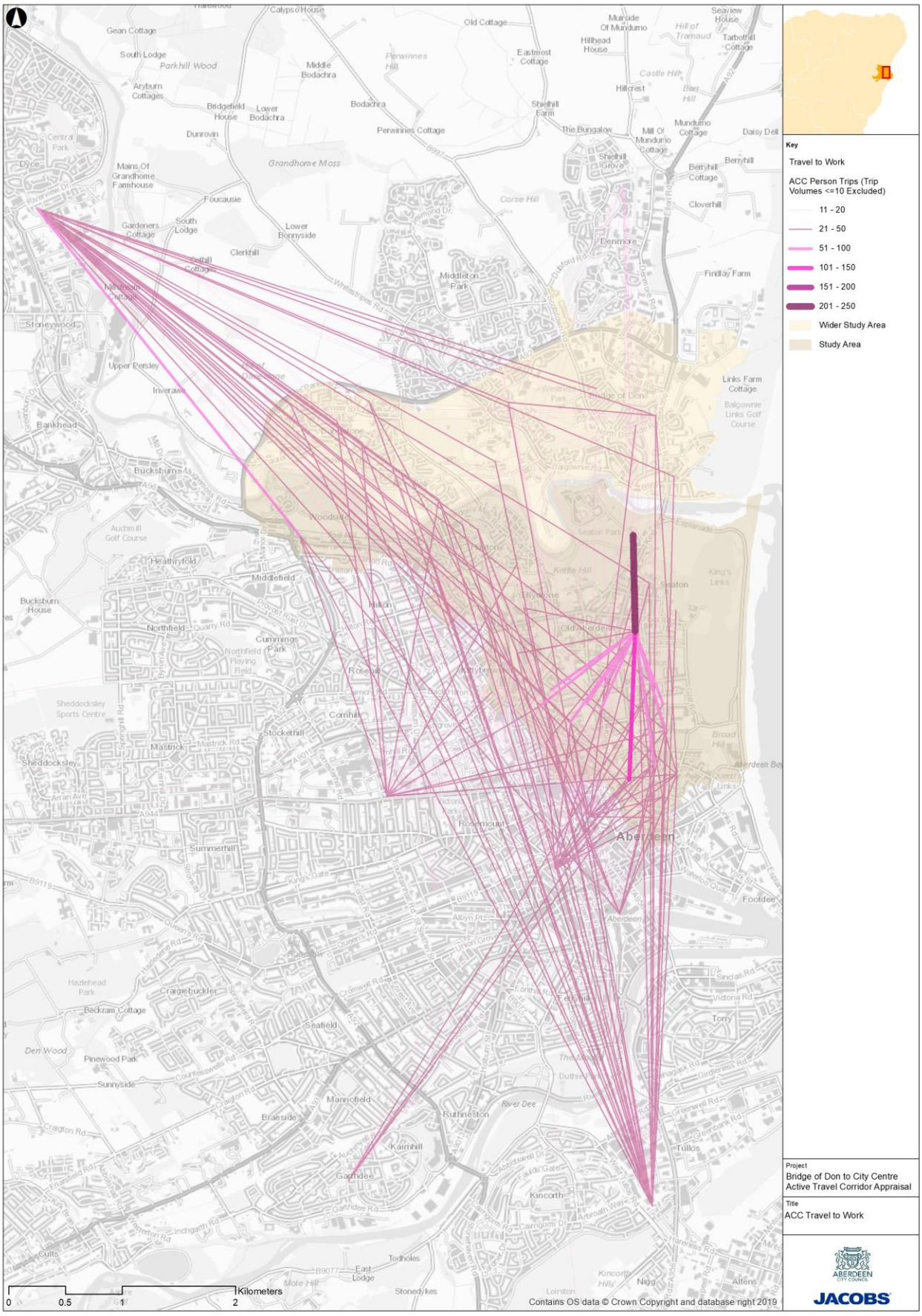

Figure 3 - Travel to work (Bridge of Don Residents only)

The main education centre trip generator in the area is the University of Aberdeen campus, situated in Old Aberdeen, south of the River Don. There are currently over 15,000 students attending the University, with the students split mainly between the Old Aberdeen Campus and Aberdeen Royal Infirmary Campus. Figure 3 demonstrates that as well as generating trips for the student population, the University is also a key trip generator for employment.

Figure 3 shows that there are a large number of residents in the Study Area who also work within the Study Area, mainly in Old Aberdeen, near the main University of Aberdeen Campus. A significant number of residents from the Study Area and Wider Study Area work in Dyce and the city centre / harbour area.

The main employment trip generators for Bridge of Don residents include Stoneywood Business Park, Aberdeen Royal Infirmary, Union Street (including Union Square), Bon Accord Centre and Tullos Industrial Estate. Figure 4 illustrates the key employment locations for Bridge of Don residents, taken from Census 2011 travel to work data.

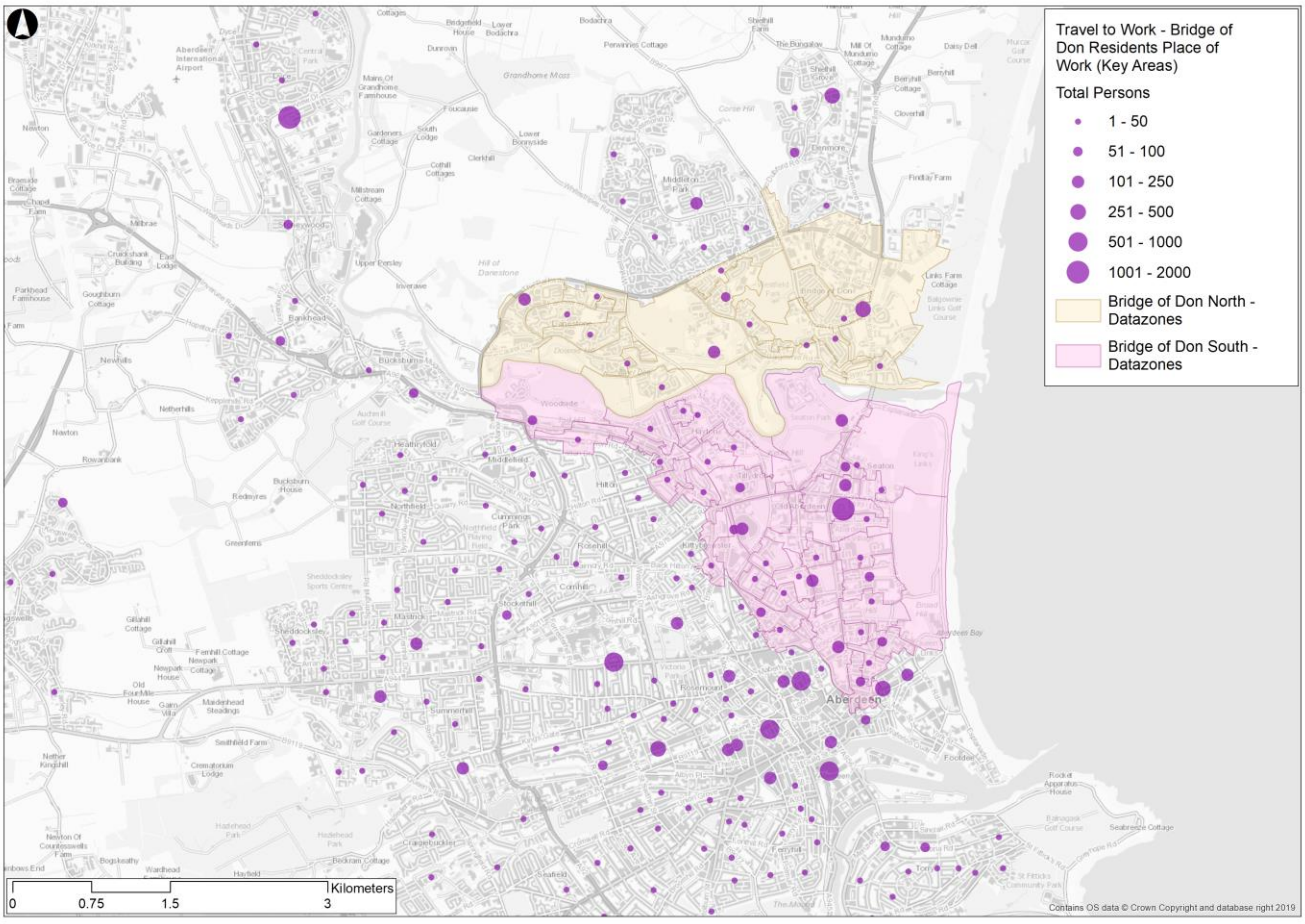

Figure 4 - Place of work for Bridge of Don Residents

High schools which have a catchment area within, or in close proximity to the study area include Oldmachar Academy, Bridge of Don Academy, St Machar Academy, Aberdeen Grammar and Harlaw Academy. Table 3 demonstrates the current number of pupils attending each school, as well as the forecasts for the future.

Table 3 - High School Total Pupils (*2017 Based Aberdeen City School Roll Forecasts)*

School Name	Pupils		
	2017 Actual	2020 Forecast	2025 Forecast
Oldmachar Academy	757	847	1179
Bridge of Don Academy	579	667	806
St Machar Academy	817	882	1165
Aberdeen Grammar	1120	1094	1058
Harlaw Academy	903	946	1171

It is evident from the above figures that there will be considerable rise in the number of students attending the high schools which have part of their catchment within the Bridge of Don area.

3.2.3 Active Travel Accessibility

In order to understand the overall accessibility of the study area by walking and cycling, an accessibility analysis was undertaken for this study. This was based on estimated journey times for walking and cycling from both study areas, as well as journey times from some of the key trip generators in the area. Pedestrian trips were assessed using suitable footpath and footway provision and cycle trips on suitable cycleways, shared-use paths and road provision. The established active travel network which is currently promoted to the public (including the Core Paths, NCN and local links) is illustrated below in Figure 5.

The analysis that follows highlights the strong accessibility potential of the existing walking and cycling network. In practice, this potential is undermined by physical barriers and other limiting factors (which are described further in this section of the report) but analysis underlines the accessibility that can be achieved if these barriers are overcome.

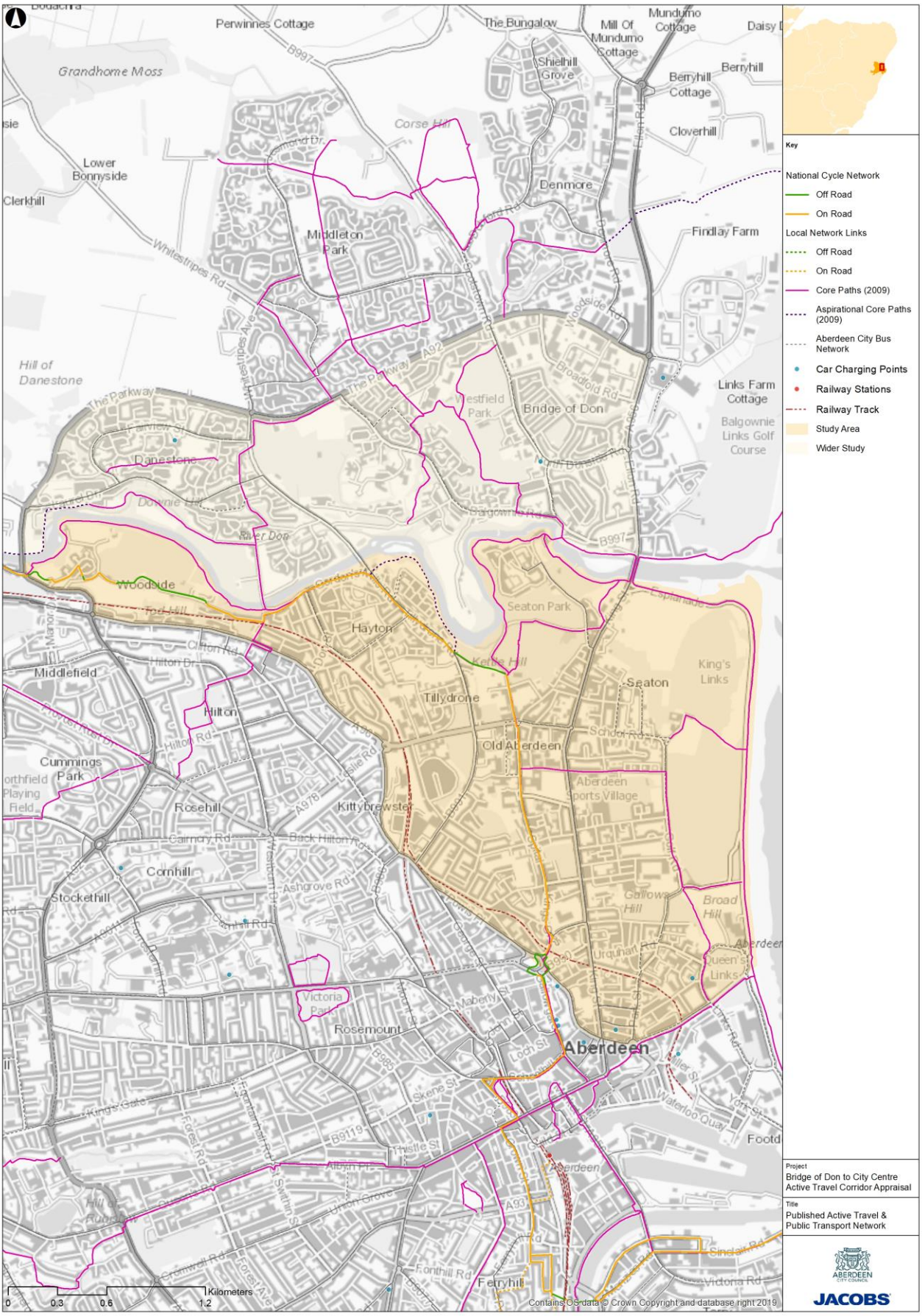

Figure 5 - Active Travel Network

TRACC multimodal accessibility analysis software was used to estimate these travel times. TRACC creates a dataset of all journeys and routes possible within a specified journey time, using the road network, core path network and cycle network. For this study only journey times up to a 60 minutes for pedestrians and 30 minutes for cyclists were considered.

Bridge of Don Accessibility

The accessibility plots in Figure 6 and Figure 7 for the Bridge of Don area demonstrate the estimated journey time extent for cycling and walking respectively. Within a 30-minute cycle journey time it would possible to reach as far as Aberdeen Airport to the northwest and south of Aberdeen city centre. Within a 30-minute walking journey time it is possible to reach just south of the River Don and within 60 minutes it is possible to reach the northern extents of the city centre.

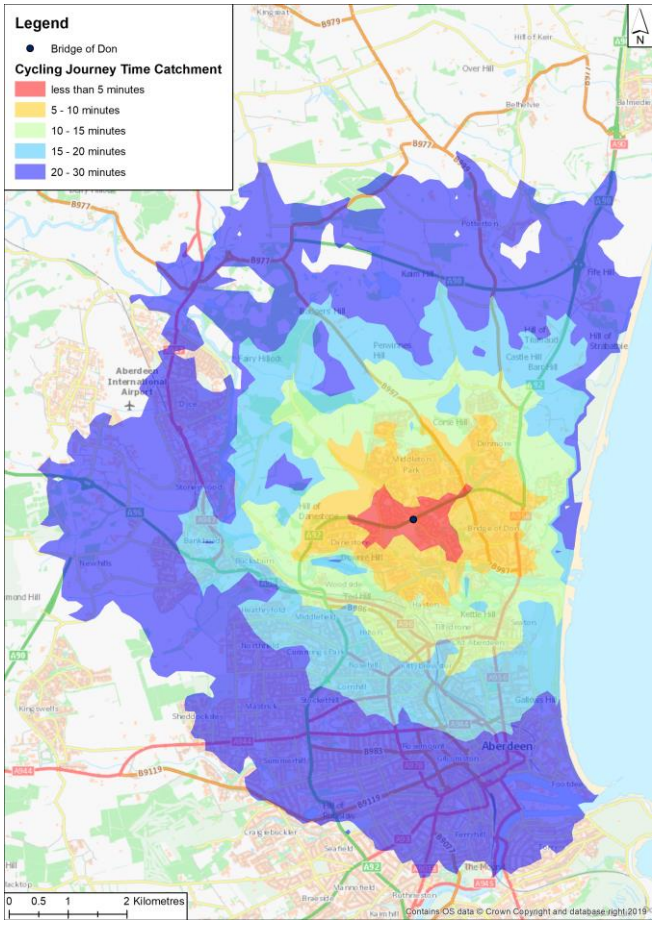

Figure 6 - Cycling catchment for Bridge of Don

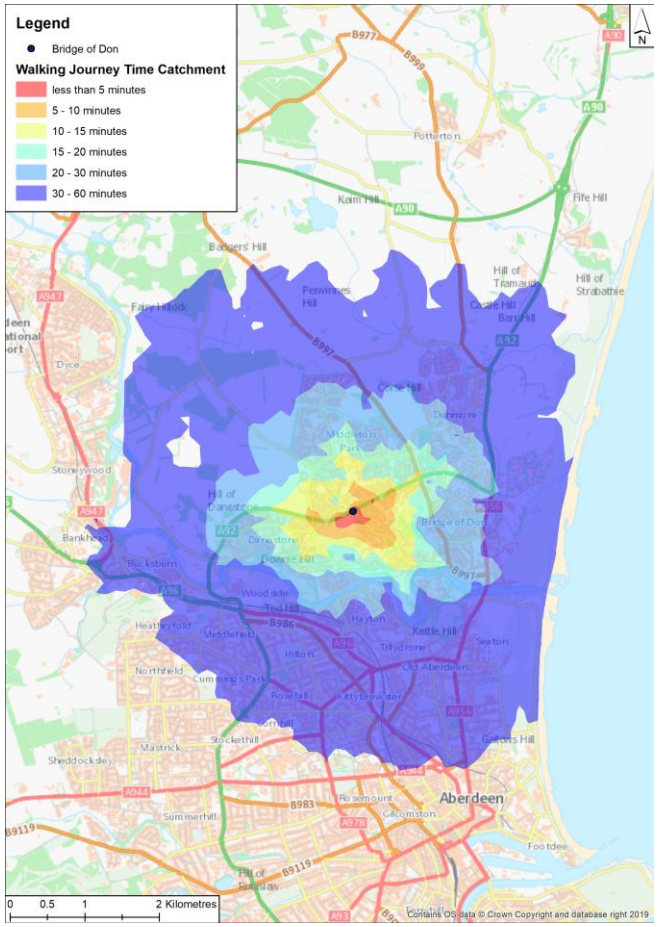

Figure 7 - Walking Catchment for Bridge of Don

City Centre Accessibility

The accessibility plots in Figure 8 and Figure 9 for the city centre Masterplan area demonstrate the estimated journey time extent for cycling and walking respectively. Within a 20-minute cycle journey time it would possible to reach most of the Bridge of Don area and Middleton Park. Denmore to the north is within a 30 minutes cycle. Within a walking journey time of 60 minutes the majority of the wider Bridge of Don study area, i.e. within the A92 and A90, is accessible from the city centre masterplan extents.

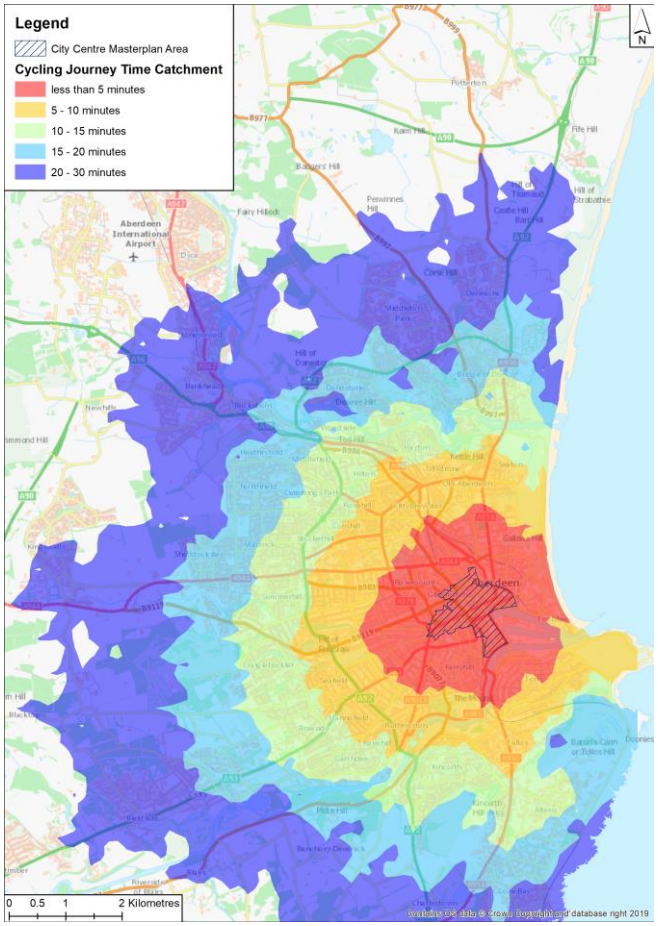

Figure 8 - Cycling catchment for the City Centre Masterplan area

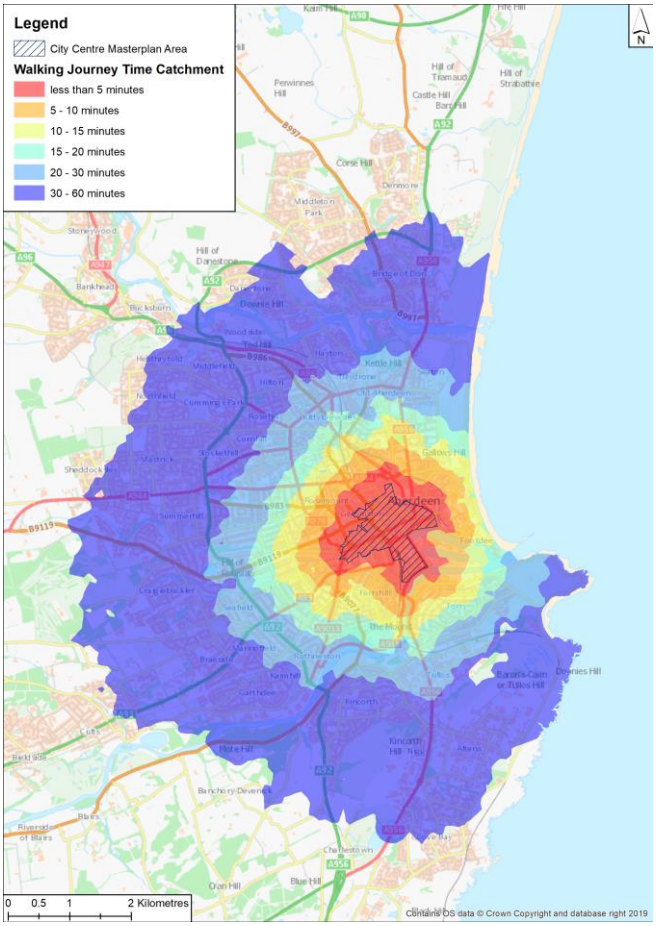

Figure 9 - Walking catchment for the City Centre Masterplan area

University of Aberdeen Accessibility

The accessibility plots in Figure 10 and Figure 11 for the University of Aberdeen demonstrate the estimated journey time extent for cycling and walking respectively. The wider Bridge of Don study area can be reached within 15 minutes, and in its entirety within 20 minutes by bicycle. It is possible to reach the wider Bridge of Don area within a walking time of 60 minutes; some locations to the south are within 30 minutes.

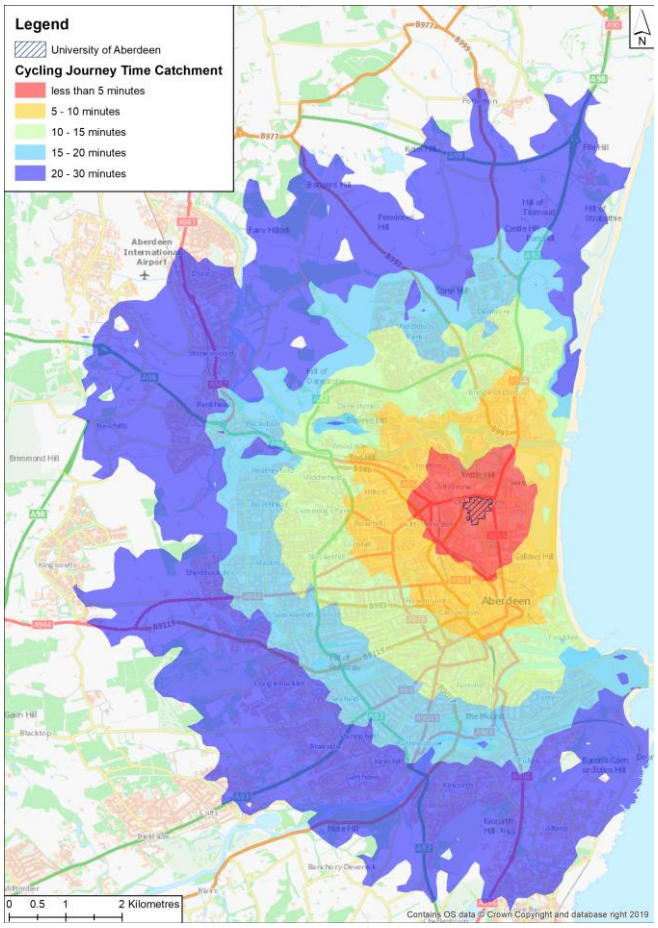

Figure 10 - Cycling catchment for University of Aberdeen

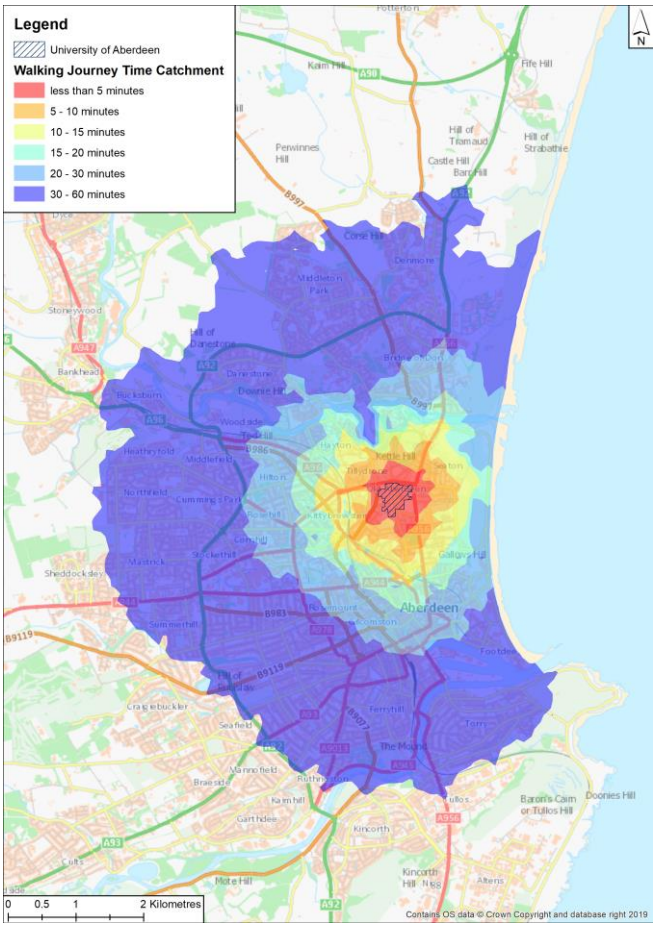

Figure 11 - Walking catchment of University of Aberdeen

Aberdeen Royal Infirmary Accessibility

Figure 12 and Figure 13 shows accessibility plots for the Aberdeen Royal Infirmary, demonstrating the estimated journey time extent for cycling and walking respectively. The wider Bridge of Don study area is accessible within 30 minutes by bicycle. It is however only possible to access around half of the wider Bridge of Don study area within a walking time of 60 minutes.

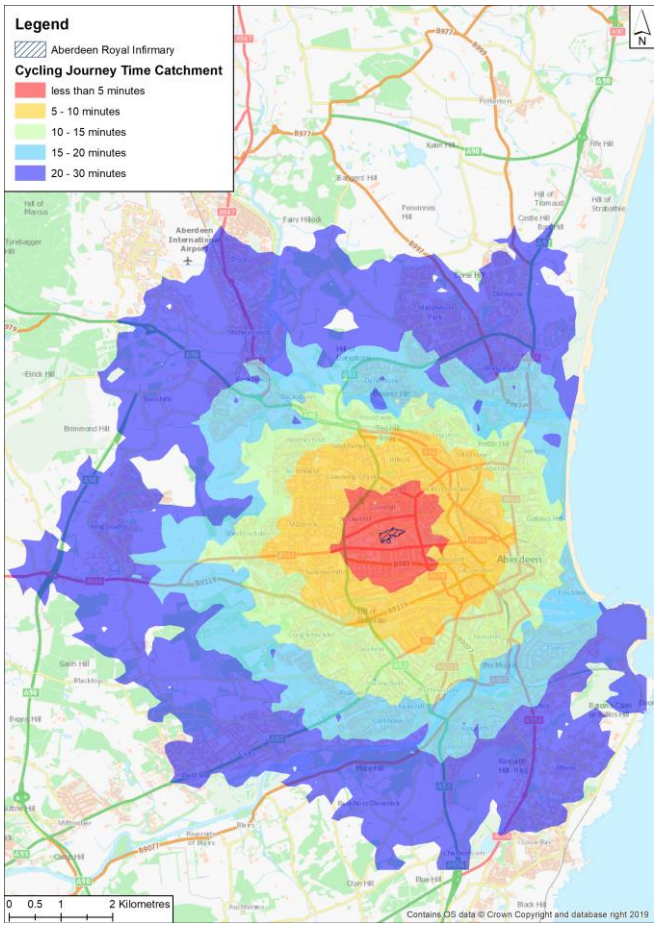

Figure 12 - Cycling catchment for Aberdeen Royal Infirmary

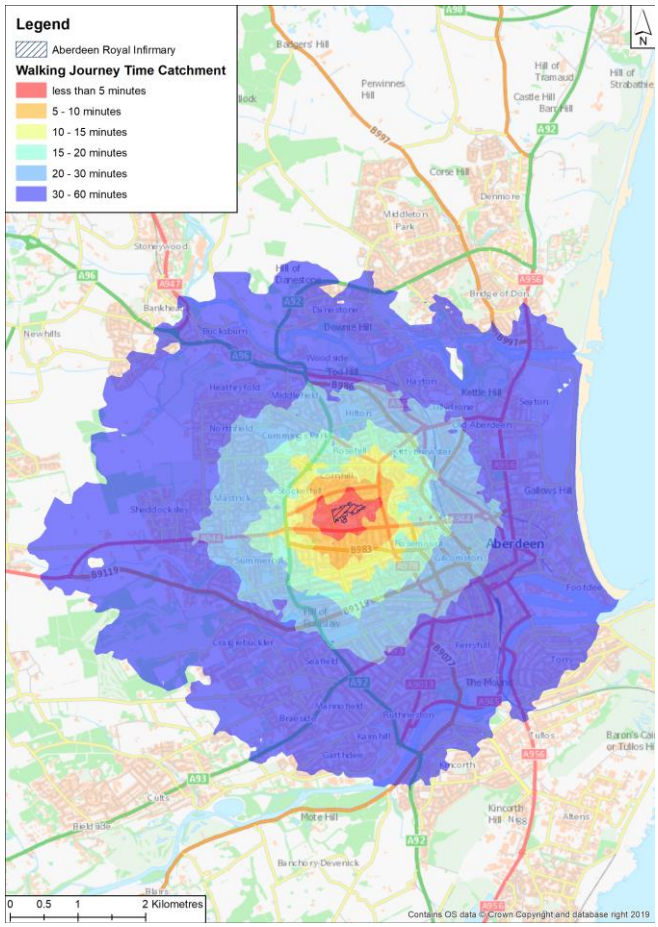

Figure 13 - Walking catchment for Aberdeen Royal Infirmary

Beach Area Accessibility

The accessibility plots in Figure 14 and Figure 15 for the Beach Leisure Centre/Ballroom demonstrate the estimated journey time extent for cycling and walking respectively. The wider Bridge of Don study area can be reached within a 30-minute cycle time. It is only possible to reach the south-eastern portion of the wider Bridge of Don study area within a walking time of 60 minutes.

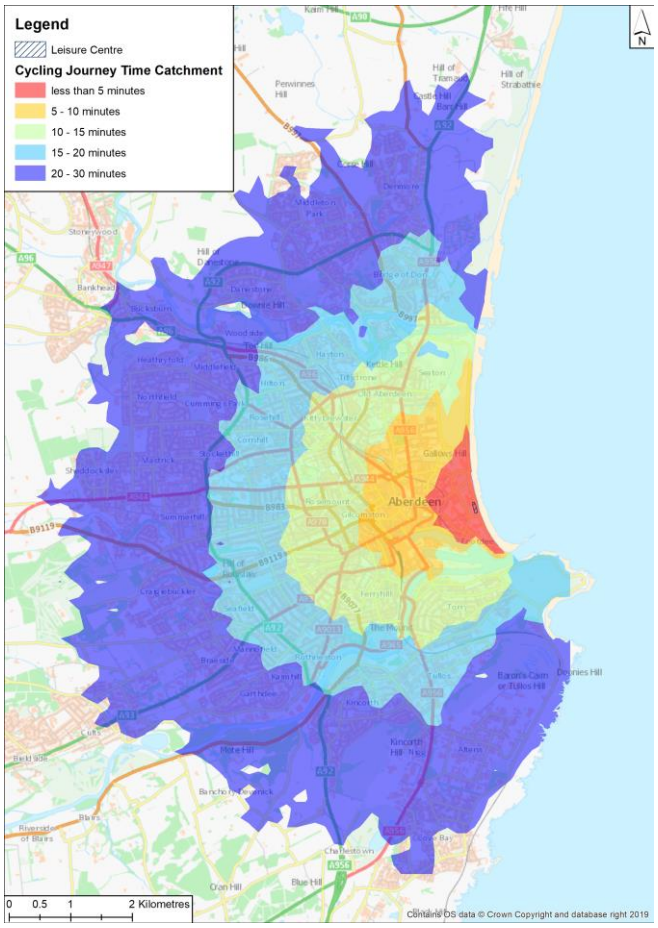

Figure 14 - Cycling catchment for beach area

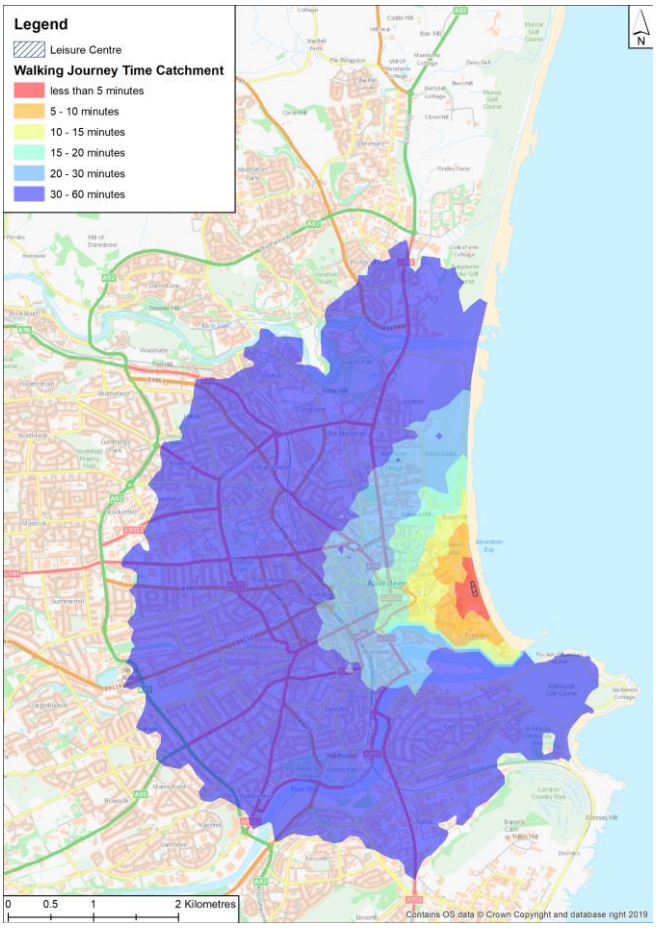

Figure 15 - Walking catchment for beach area

3.3 Existing network

3.3.1 Overview

A review of the existing active travel network was undertaken in order to assess the travel facilities and quality of infrastructure in place within the local area. This allows for a better understanding of the needs and facilities for all active travel users across the local area. To inform this assessment, a desktop analysis was undertaken and a site visit was conducted on 12th September 2019 and the routes surveyed are displayed in Figure 16.

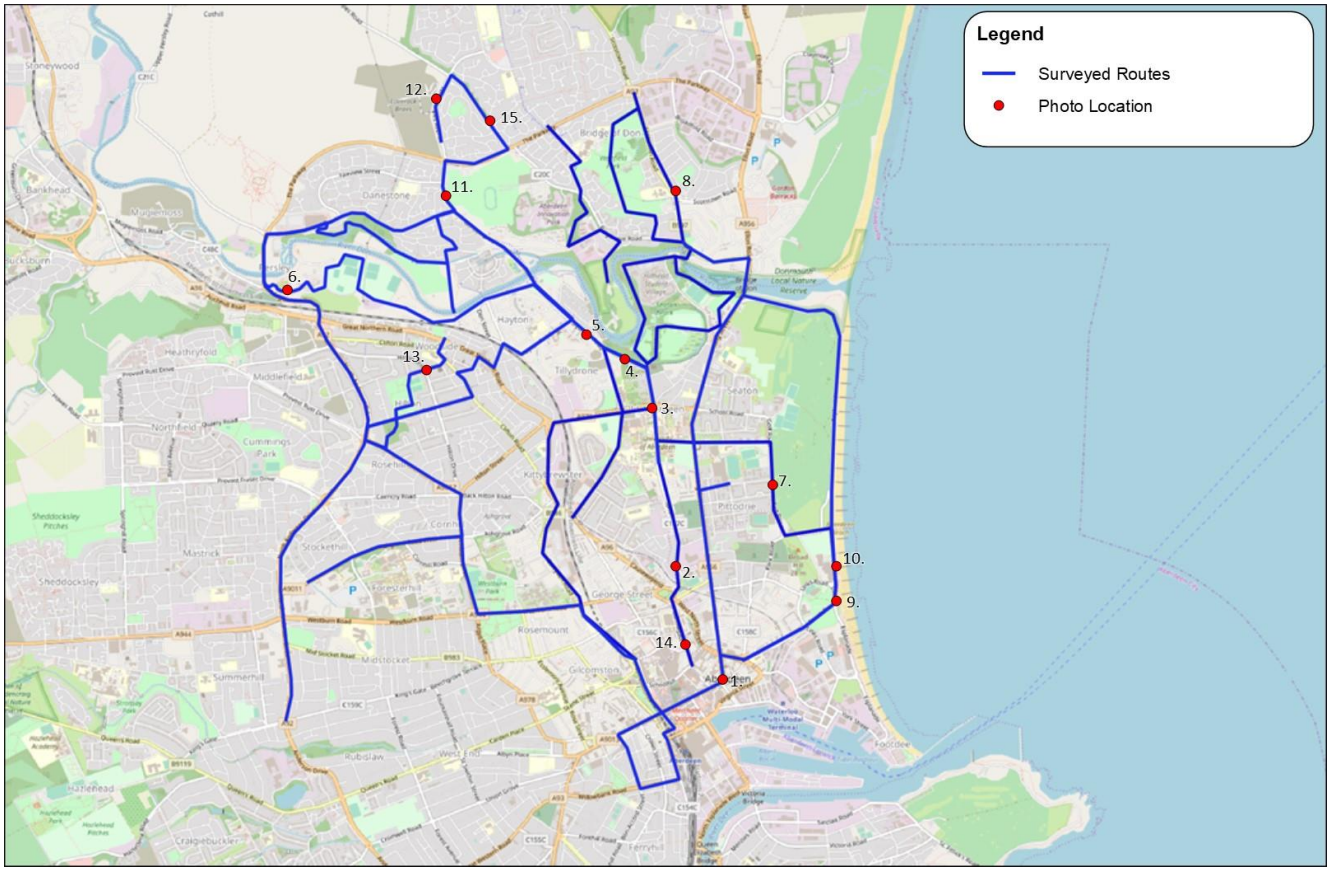

Figure 16 - Routes surveyed during site visit

3.3.2 Cycle Facilities

Beyond the capacity for cyclists to utilise the road, the cycling network in the Study Area, Wider Study Area and the wider Aberdeen City area consists of a mixture of on-road advisory cycle lanes, off-carriageway cycleways and cycle paths.

There is a mixture of designated national and local level cycle routes in the area, including the NCN Route 1 which routes north / south. The NCN 1 stretches for 2,728 km from Dover to the Shetland Islands and the segment that runs through the study area is the Aberdeen to Inverness Section. In Sustrans survey of the NCN in 2017-18, off-road segments typically scored well in the review, whereas on-road sections achieved lower scores. As noted in paragraph 2.6.1, Sustrans have a long-term goal to convert all existing on-road sections of the NCN to traffic-free routes.

The NCN routes north to south from the city centre are primarily an on-road section on Gallowgate and Spital until the St Machar Cathedral. From here the route goes east to west in a mixture of on-road and off-road sections. Photo 1 to Photo 6 below show the facilities along the NCN1 in the Study Area and Wider Study Area.

Photo 1 - NCN1 Signage near Marischal College

Photo 2 - NCN1 on-road section on King's Crescent

Photo 3 - NCN1 semi-segregated section on High St

Photo 4 - Off-carriageway section near Kettle Hill

Photo 5 - Segregated section on Tillydrone Road

Photo 6 - Off-carriageway section near Mugiemoss Road

The local cycling network is defined by Aberdeen City Council and Aberdeen Cycle Forum through a number of maps which illustrate the suggested cycle routes. The maps also show existing cycle facilities such as cycle Lanes, cycle shops, cycle parking and recommended quiet and recreational routes. The following images demonstrate some of the local cycle facilities in the Study Area and Wider Study Area:

Photo 7 - On-road advisory cycle lanes on Golf Road

Photo 8 - On-road advisory cycle lanes on Scotstown Road

Photo 9 - On-road advisory cycle lanes on Esplanade

3.3.3 Pedestrian Facilities

There is a range of pedestrian facilities in the Study Area and Wider Study Area. Within the study area there is a mix of modern pedestrian facilities including segregated footways, crossings and tactile paving, as well as some historical infrastructure. Photo 10 to Photo 15 demonstrate some of the pedestrian features within and around the study area.

Photo 10 - Crossing on Esplanade

Photo 11 - Segregated Footway on Gordon Brae

Photo 12 - Signalised Crossing on The Parkway

Photo 13 – Uncontrolled crossing on Hilton Drive

Photo 14 - Footway on Gallowgate near NE Scotland College

Photo 15 - Footpath between the Parkway and Whitestripes Avenue

3.3.4 Existing Conditions - Problems & Opportunities

Following the site visit and desktop study, an analysis was undertaken where problem and opportunity themes were developed; the defined themes are displayed in Table 4 and Table 5.

Table 4 - Site Visit Problem Themes

Problem Theme	Description
Poor Accessibility / Connectivity	Limited permeability for pedestrians and cyclists due to restricted path width (e.g. prevalence of pavement parking), limited pedestrian crossings, and lack of dropped kerb provision
	Discontinuous path provision and linkages
	Challenging topography (steep gradient) limiting accessibility of active travel network for the elderly, users with impaired mobility, and users with limited fitness levels.

Problem Theme	Description
Limited and Constrained Infrastructure	Poor signage and lighting along core paths and shared-use paths with unclear road markings creates confusion for pedestrians, cyclists and motorists alike, with the potential for accidents
	Limited visual amenity reduces attractiveness/appeal of network (e.g. lack of greenery)
	Poor surface conditions of paths (e.g. overgrown vegetation, loose gravel and cracked paving)
Real and Perceived Safety	Anecdotal evidence of vehicles not observing speed limits and performing unsafe overtaking manoeuvres
	Lack of lighting and unclear signage exacerbates real and perceived unsafe environment for pedestrians and cyclists.

Table 5 - Site Visit Opportunity Themes

Opportunity Theme	Description
Improved Accessibility / Connectivity	Scope to improve pedestrian access via wider footpaths and increased provision of pedestrian crossings
	Potential to enhance connectivity to services via foot and bike, e.g. enhance active travel links to/from west of Beach Leisure Centre (Esplanade)
High Quality Infrastructure	Low cost fixes to encourage walking (e.g. clearer signage on approach to Gallowgate roundabout and underpass)
	High quality pedestrian crossing points at new junctions serve as exemplars for future infrastructure
	NCN is generally well signposted and of good quality
Route Development	Opportunity to fill the gaps and develop a linked active travel network - Direct core path links that cut through cul-de-sacs can be built upon - Wide footways and roads have potential for high quality active travel infrastructure incorporated into them

3.4 Accident Data

3.4.1 Overview

An analysis of accident data highlights the levels of fatal, serious and slight classified accidents by year. Over a 5-year period, 1169 accidents were recorded in the Aberdeen City Council area, 208 of which occurred in the defined Bridge of Don Study area. There is a general trend in the region of a decreasing number of reported accidents; from 2013 to 2017 there has been a 56% decrease in the number of reported accidents in the Aberdeen City Council area. In the Bridge of Don study area there has been a 66% decrease in reported accidents in the same time period.

Within the Bridge of Don study area, the majority of accidents tended to cluster along King Street, at key junctions on the A96 and A92. Figure 17 illustrates the location of road accidents recorded between 2013-2017 in the study area and the wider local Aberdeen area.

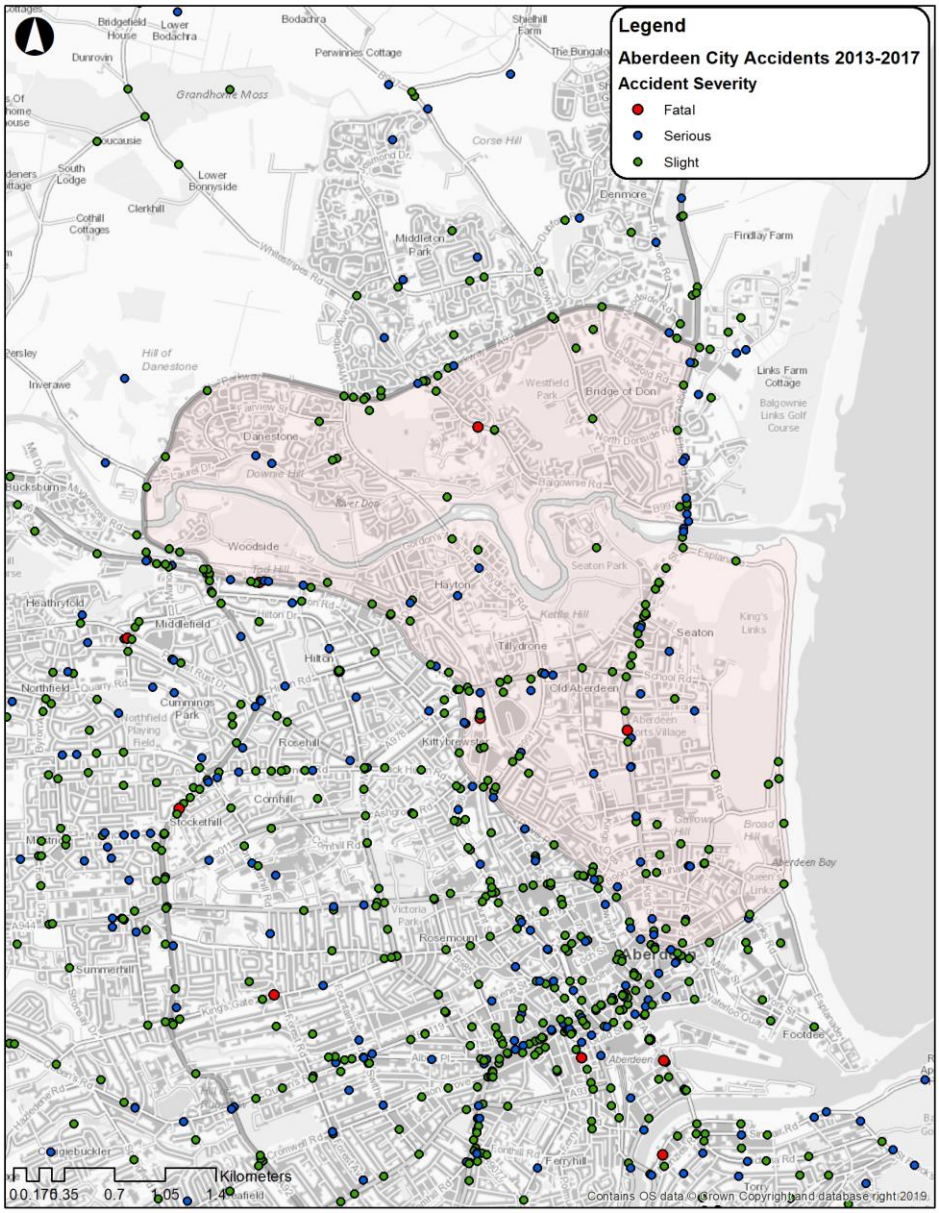

Figure 17 - Road Accidents by Severity (2013-2017) *STATS19*

Of the 208 recorded accidents in the Bridge of Don study area between 2013 and 2017, four accidents were fatal, 55 were serious and 149 were slight. The severity proportion of accidents is similar to that of the wider council area. Table 6 outlines the severity of accidents in the study area and the Aberdeen City Council area.

Table 6 - Road Accidents by Severity (2013-2017) *STATS19*

Accident Severity	Area	
	Aberdeen City Council	Bridge of Don Study Area
Fatal	20	4
Serious	327	55
Slight	822	149

3.4.2 Pedestrian and Cycling Casualties

An analysis of casualty data demonstrates the amount of accidents which involved either pedestrians and cyclists. This demonstrates that clusters of accidents involving pedestrians and cyclists tend to cluster around major junctions, specifically along the A96 and King Street. Figure 18 illustrates the spread of accidents involving pedestrians or cyclists between 2013 and 2017.

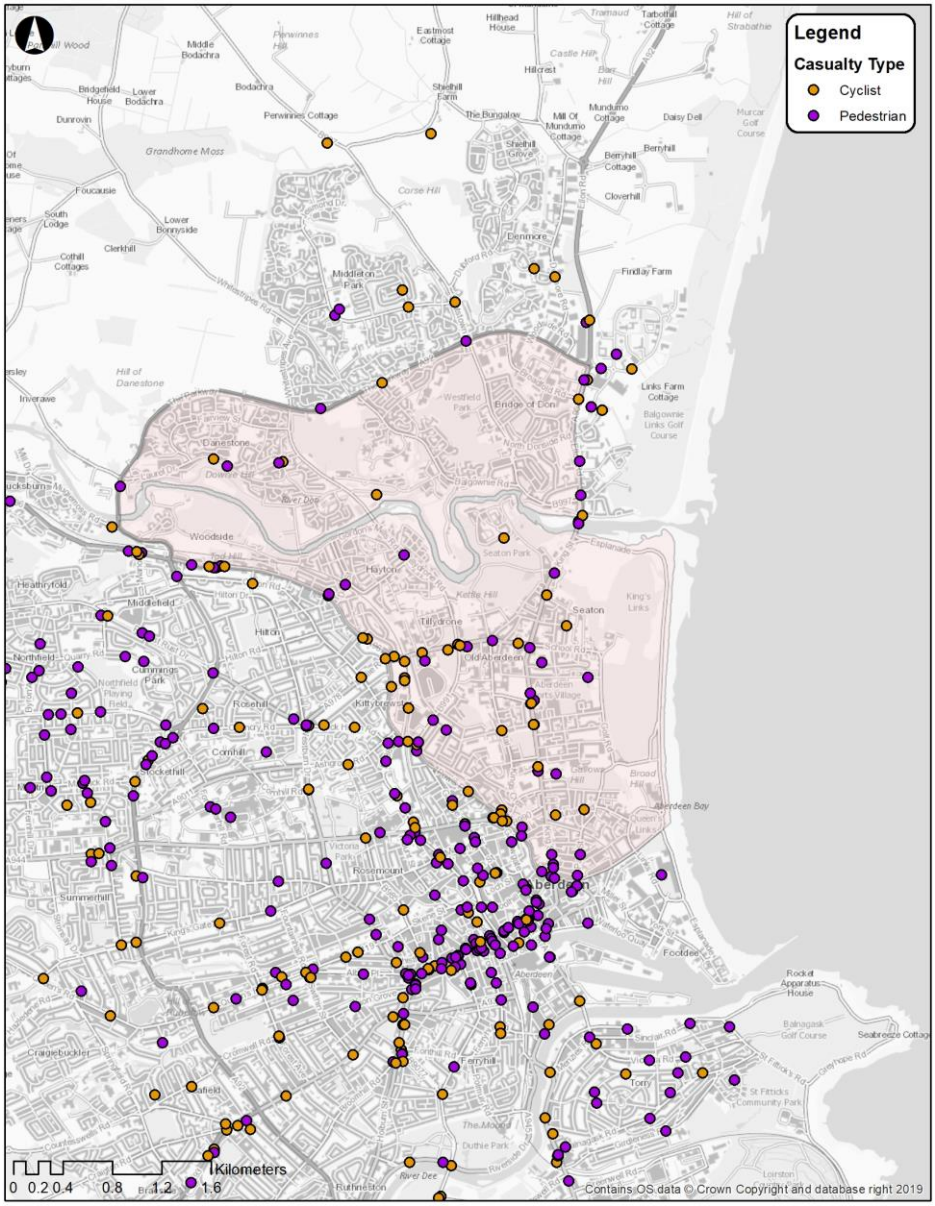

Figure 18 - Accidents Recorded Involving Pedestrians and/or Cyclists (2013-2017) *STATS19*

There are two main clusters of casualties involving cyclists, these are located at the A96 / Hutcheon St/Mounthooly roundabout and in the general vicinity of the A96 / St Machar Drive Roundabout. There is one clear cluster of pedestrian casualties, which is located in close proximity of the King Street / A96 junction. There was a total of 85 accidents involving a cyclist or pedestrian in the Bridge of Don study area between 2013 and 2017, amounting to 41% of total accidents recorded in this area. This proportion of accidents involving active travel users is similar to the Aberdeen City Council area.

4. Stakeholder Engagement

4.1 Consultation overview

Stakeholder Engagement is an essential element of the STAG process to ensure that specific knowledge and views of key users of the transport network are captured. It forms a key part of identifying the problems and opportunities in the local area, as well as potential interventions. Identifying key stakeholders who are affected by the local transport network, and engaging with through the appropriate means was considered essential in gathering a robust list of problems and opportunities

A communication strategy was developed by ACC and a wider stakeholder engagement plan was developed by Jacobs to facilitate the highest quality engagement, ensuring that delivery of the project is successful and effective. The aim of the stakeholder engagement process is to provide a means to share information, gather views and information which may affect a decision or activity and develop trusting long-term relationships with stakeholders.

The client team initially identified key stakeholders who would attend the stakeholder workshop as well as community groups who would be engaged with through surveys. Table 7 outlines the stakeholders who were invited to express their views on the Bridge of Don to City Centre Active Travel Corridor study:

Table 7 - List of Stakeholder Organisations who were contacted for engagement

Category	Organisation
Local Authorities	Aberdeen City Council
	Aberdeenshire Council
Aberdeen City Council	ACC Council Leaders
National / Regional Authorities	Nestrans
	Aberdeen City & Shire Strategic Development Partnership
Elected Members of Study Area	Bridge of Don Elected Members
	Dyce/Bucksburn/Danestone Elected Members
	Tillydrone/Seaton/Old Aberdeen Elected Members
	George Street/Harbour Elected Members
	Hilton/Woodside/Stockethill Elected Members
Local Active Travel Groups	Aberdeen Cycle Forum
	Grampian Cycle Partnership
	Aberdeen Outdoor Access Forum
	Cyclists' Touring Club Grampian
	Walk Aberdeen
National / Regional Active Travel Organisations	Cycling Scotland
	Sustrans
	CTC Grampian
	Aberdeen Outdoor Access Forum

Category	Organisation
	Living Streets
	Paths for All
Health & Emergency Services	NHS Grampian
	NHS Grampian Public Health
	Police Scotland
	Ambulance Service
	Fire Brigade
	Integrated Joint Board Aberdeen
	Health and Transport Action Plan rep
	Aberdeen Health and Social Care Partnership
	Integrated Joint Board Aberdeenshire
Local Community Councils (in project area) & Residents	Aberdeen City Community Council Liaison
	Old Aberdeen Community Council
	Froghall, Powis and Sunnybank Community Council
	Bridge of Don Community Council
	Dyce and Stoneywood Community Council
	Bucksburn and Newhills Community Council
	Danestone Community Council
	Tillydrone Community Council
	George Street Community Council
	Woodside and Hilton Community Council
Equality Groups	Disability Equity Partnership
	Bon Accord Access Panel
	Aberdeenshire North Access Panel
	Aberdeenshire South Access Panel
	Central Aberdeenshire Access Panel
	West Aberdeenshire Access Panel
	North East Sensory Services
	Grampian Regional Equalities Council
Road Transport Operators	North East Scotland Freight Forum
	Freight Transport Association
	Road Haulage Association
Trunk Road Operation / Maintenance	Bear Scotland
	Aberdeen Roads Ltd

Category	Organisation
Rail Transport Operators	Network Rail
	Abellio Scotrail
	Rail Freight Group
Marine Public Transport Operators	Northlink Ferries
Bus Operators	First Aberdeen
	Stagecoach Bluebird
	Community Transport Organisations
	Bains
	Deveron Coaches
	MW Nicoll
Air Transport Organisations	Aberdeen International Airport
Business Organisations	Visit Scotland
	Visit Aberdeenshire
	Aberdeen Inspired
	Institute of Directors
	Aberdeen Council of Voluntary Organisations
	Energetica
	Invest Aberdeen
	Aberdeen Harbour Board
	Peterhead Harbour
	Fraserburgh Harbour
	Opportunity North East
	Federation of Small Businesses
	Aberdeen & Grampian Chamber of Commerce
	Scottish Council of Development and Industry
	Scottish Enterprise Grampian
Educational Organisations	The University of Aberdeen
	Aberdeen's Robert Gordon University
	North East Scotland College
Environment	Scottish Environment Protection Agency
	Historic Environment Scotland
Other	Aberdeen Civic Forum
	Aberdeen Climate Action
	Aberdeen Play Forum
	Aberdeen City Voice

4.2 Stakeholder workshop

4.2.1 Workshop attendees and format

The stakeholder workshop was held on 9th October 2019 at Aberdeen City Council HQ (Townhouse) and was attended by a range of stakeholders with considerable knowledge using and operating transport in the local area.

The stakeholder workshop was attended by the following organisations:

- Aberdeen City Council
- Nestrans
- University of Aberdeen
- Aberdeen Cycle Forum
- CTC Grampian
- Disability Equity Partnership
- First Aberdeen

The workshop was facilitated by Jacobs employees with assistance from client group representatives. The running order and format, below, was adopted to encourage group discussions and allow attendees to express a wide range of views where appropriate:

- Presentation on study background, context and the purpose of the workshop
- Breakout session on problems and opportunities, including feedback
- Discussion of themes for Transport Planning Objectives
- Breakout session on potential interventions, including feedback
- Next steps

The presentation outlined the project approach, aims and how stakeholder engagement is a key component for achieving a successful outcome. Key facts, data trends and the local policy framework was summarised, painting a picture of current conditions in the wider study area. This was followed by the breakout session where attendees were split into groups, each facilitated by a Jacobs employee, where they were tasked with listing their top three problems and top three opportunities. Where possible, each group had a mix of representatives from organisations to ensure a variety of responses and prompt topical discussion. Each group reported back the findings to all attendees from their respective discussions and the results of the top three lists. These sessions were aimed at capturing attendees' views on problems relating to current active travel provision and identifying potential opportunities.

The afternoon session comprised of a short presentation on themes for Transport Planning Objectives. This highlighted the need to take cognisance of the Aberdeen City Region Transport Pre-Appraisal Objectives. Following this, the second breakout session took place, where attendees were tasked with discussing proposed interventions. Similarly to the morning breakout session, each group delivered a short presentation on the findings and key discussion points which took place during the session.

4.2.2 Workshop Problem and Opportunity Responses

Following the conclusion of the stakeholder workshop, the results of the problems and opportunities breakout session were collated and categorised into main themes. The main problem themes identified were:

- Design Guidance & Standards
- Access;

- Connectivity & Integration;
- Trip-end Facilities;
- Constrained Infrastructure;
- Safety;
- Transport Governance & Policy;
- Public Perception & Behaviour Change; and
- Funding & Resources.

The main opportunities themes identified were:

- Access;
- Infrastructure Investment;
- Asset Management;
- Connected Network;
- Behaviour Change & Public Environmental Awareness;
- Design Guidance & Planning;
- Economic Growth;
- Funding; and
- Other.

The detailed responses regarding the problems affecting active travel in the local area are detailed below in Table 8 and responses regarding the potential opportunities for increasing active travel uptake are detailed in Table 9.

Table 8 - Problems Identified by Stakeholders During the Stakeholder Workshop

Problem Theme	Description
Design Guidance / Standards	King Street: a main cycle corridor route but limited road space/allocation for cyclists as high incidence of heavy goods vehicles (HGVs) and cars driving within hatched lanes resulting in cyclists being blocked, and narrow bus lanes meaning buses drive close to/behind cyclists – issue compounded by high traffic volumes
	Pinch points: Incoherent network for cyclists from Haudagain Roundabout through to the city centre (i.e. A92/A96 from dual use lanes to single with potential to cause conflict/accidents) and Ellon Rd bridge as buses stop at north-side of the bridge
	Infrastructure needs to be inclusive to needs of present and future: King Street (and other busy corridors) contain high traffic volumes – intimidating for unexperienced cyclists (especially children)
	Shared-use paths causes potential for conflict with pedestrians
	Retrofitting infrastructure, such as cycle lane widths, is very expensive undertaking
Access	Low bike ownership levels in Aberdeen
	Low density / suburban sprawl makes active travel less viable/attractive – particularly for those with limited mobility and/or fitness
	Topography / Gradient: Ground level changes and gradients are a significant disincentive to cycling, especially northwest of Middleton Park towards Dyce (e.g. Whitestripes Rd) – particularly for those with limited mobility and/or fitness

Problem Theme	Description
	Unsuitable path conditions: 'old Aberdeen' style cobbled path of NCN route is problematic/difficult for off-road cycling option, and insufficient road gritting during winter problematic for on-road cyclists
	Poor path condition: prevalence of potholes and bumpy roads reduces attractiveness/viability of on-road cycling (e.g. King St)
	Limited equitable access throughout active travel network for those with mobility issues and wheelchair users, and insufficient available paths for those with visual impairment issues.
	Ellon Road: narrow pavement (shared-use path) combined with bus stop makes access problematic along path
Connectivity / Integration	Traffic signal phasing causes long delays/inconvenience for pedestrians and cyclists resulting in disrupted journeys
	General disjointed cycle infrastructure: kerbs & crossings requiring cyclists to dismount
	Discontinuous cycling routes: incomplete River Don path; shared-use paths require cyclists to stop/give way at all sides of the road; diversionary off-road cycle routes are time inefficient (down back street), and with broken links between key areas: Murcar – Blackdog; Balgownie Road – Gordon Brae; Bridge of Don (generally)
	Poor pedestrian permeability due to absence of controlled crossing points in convenient locations, e.g. Ellon Road
	Lack of coherent direct line of travel from the north onwards to the city centre, especially across the bridge
	Bridge of Don is a barrier to North-South movement due to limited safe pedestrian crossing opportunities
Trip-end Facilities	In-demand University of Aberdeen – Hospital route not catered for in active travel provisions
Constrained infrastructure (incl. investment and maintenance)	ACC have not unlocked the benefits of Aberdeen Western Peripheral Route (AWPR); e.g. potential for less queuing, congestion and increase in traffic speed
	Limited road space and car park space for bike shelters; most cyclists use the railings
Safety	KSIs: e.g. St Machar Drive/ Roundabout lack of crossings: 1 fatality in September 2019, with potential for further conflict/accidents
	Perceived unsafe environment: Seaton Park: poor/lack of overhead lighting and advisory signage to deter usage of some paths at night, especially impacts vulnerable users – wheelchair users, pram users and women/children; and Stockethill – Danestone: limited bus and cycle prioritisation, resulting in perceived opportunity for conflict/accidents
	Soft measures to improve safety are often neglected/dismissed, e.g. shifting driver attitudes, bikeability in schools etc. – bikability especially is relying on volunteer time/efforts due to constrained local authority resources
	Traffic congestion: Large vehicles travelling at relatively high speeds during peak hours within Kittybrewster and along King St / Bridge of Don
	Limited off-road cycling routes available; e.g. King St-City Centre route is primarily on-road

Problem Theme	Description
	Limited safe crossings: Northbound beach has no crossing to walk over to other side of the road
Transport Governance & Policy	Lack of political will to create action; schemes and funding suggestions don't translate into action on the ground (i.e. risk-adverse governance)
	Planning for/catering to car users is prioritised above all modes
	Little financial incentive not to drive into Aberdeen city and park – e.g. University of Aberdeen parking costs are £1/day (must buy in block of 5) – this price has not risen since 2009.
	Over-emphasis on Glasgow and Edinburgh active travel potential/opportunities/benefits – policy and governance disconnect with other areas
Public Perception / Behaviour Change	Car dependency culture compounded by convenience of driving within and between Bridge of Don rather than cycling and walking
	People perceive alternative to car as negative; culture of wanting to display overt affluence
	Vehicle pollution reduces appeal of active travel (e.g. Ellon Road/King St)
	Limited promotion / public awareness of active travel links
Funding / Resources	Local authorities have limited budgets; Sustrans' increase in budget puts strain on LAs as they need to match fund but also must prioritise resources (i.e. local authorities responsibility extends beyond Active Travel)

Table 9 - Opportunities Identified by Stakeholders During the Stakeholder Workshop

Opportunity Theme	Description
Access	Compact and relatively flat city, meaning distances for walking/cycling are short and routes are not strenuous - accessible for most users
	AWPR opening – alleviate volume of vehicles (especially diversionary route for HGVs) currently passing through Bridge of Don/Aberdeen city centre roads – opportunity to improve permeability and efficient access to key city areas for cyclists
	Improve consideration for cyclists, pedestrians and disabled persons on shared facilities
	Bedford Street: Bus gate operating currently, but constant battle to keep it open despite is stopping through-traffic – creating good environment for active travel
Infrastructure Investment	Regeneration in Tillydrone creates potential for infrastructure changes/upgrading/investment
	Improve cycling/walking network with new safe routes and improve sub-standard sections of existing sections
Asset Management	Don't attempt to construct entirely new network / prioritise interconnection between new and old cycling routes – i.e. new direct and easy routes around developments linked with existing well-developed routes
Connected Network	Create connected strategic active travel links between city centre, new housing developments, and key services (e.g. Aberdeen airport)
	Join up the existing cycle routes/core path connections

Opportunity Theme	Description
Behaviour Change / Public Environmental Awareness	Normalise cycling in Aberdeen through 'great climate' and heightened environmental awareness to establish a cycling culture – stems partially from increased cycle uptake improving image and safety perception of cycling
	Greater appetite for, and recognition of, need for changing status quo (by public and LAs) regarding transport due to climate change/climate emergency, obesity/public health strain, air pollution/quality
	Climate emergency is an opportunity for government and public to rethink car dependency
	Currently 24 cycle-friendly workplaces in Aberdeen, but these are approaching the 10-year plan end
Design Guidance and Planning	Bridge of Don is currently well-served for traffic-free roads/core paths
	Scope for car management/road reallocation for segregated cycle routes – a statement of intent/commitment to AT by ACC
	Increased political will for vehicle access regulation and speed restrictions, especially within residential areas and Aberdeen city centre: ACC considering banning HGVs along Park Road, opportunity to cater for active travel here; and Golf Road)
	Increasingly cyclists' safety and route improvements (AT schemes) are being prioritised / funded
	Scope to involve active travel stakeholders in decisions / planning, including interest groups designing/evaluating projects alongside ACC and partners (e.g. platforms like aberdeencycleforum.org,uk are useful to liaise with ACC, NESTrans etc at an early planning stage)
Economic Growth	Tourism: attractive and scenic active travel routes (e.g. between Esplanade and city centre) can increase footfall/cycling numbers and improve access to shops and services.
Funding	Tap into Sustrans' funding
Other	Potential to pilot projects

4.2.3 Workshop Intervention Responses

Following the problem and opportunity breakout session and the presentation on key themes and Transport Planning Objectives, stakeholders were tasked with proposing interventions which would address the key themes and objectives.

Following the work shop the themes were analysed and grouped into broader intervention themes. The themes identified were:

- Infrastructure investment & upgrading;
- Infrastructure Maintenance;
- Local Route Development;
- Strategic Route Development;
- Behaviour Change & Public Awareness;
- Design Guidance and Planning;
- Safety; and
- Other.

The full results from this exercise are outlined below in Table 10.

Table 10 - Interventions Identified by Stakeholders During the Stakeholder Workshop

Intervention Theme	Description
Infrastructure investment / upgrading	New shared-use crossings: River Don area, Donmouth & Dyce, and redesign Bedford Road to allow cyclists & pedestrians to cross and link into other routes
	Increased pedestrian crossings and priority at signalised junctions, e.g. King St / Ellon Rd
	Increased traffic signalling for cyclists
	Convert roundabouts to signalised junctions for improved safety for pedestrians crossing, e.g. St Machar Roundabout
	Bike hire scheme roll-out (ACC said to be looking into this – location TBC); with concessionary fares for those in low employment and those unemployed
	Cycling facilities: cycle parking, cycle hire, cycle hub (e.g. information, repairs etc.), and e-bike scheme
	King St: evaluate possibilities – e.g. segregated path and traffic lights at junctions (especially north st junction), and continuous footways over certain King St sideroads (see south of Diamond Bridge for examples) - to prioritise sustainable modes of transport along corridor
	Improve University of Aberdeen – Hospital route
	Continuation of King St northbound cycle lane to the southbound of King St combined with resurfacing of the road
	New cycle bridge over River Don
	Improve provision of dropped kerbs throughout network: northbound of Bedford Road (east side) and along/around the Parkway/B997
	Bridge linking Bridge of Don and Dyce – aspirations are there, but costly and topography is difficult
	Ellon St: floating bus stops to remove conflicts between bus passengers and cyclists
	Construct pedestrian only bridge close to BoD – noting that BoD bridge is a listed bridge (and environmental considerations of Nature Reserve must be acknowledged)
Infrastructure Maintenance	Grit cycle paths and pavements in winter
Route Development - Local	New cycle routes: On southbound side of Ellon Road
	Reassign lane on Ellon Road / Bridge of Don to segregated cycle lane and footway
	Bus and cycle lane only routes: University of Aberdeen – Bedford Road & Dubford Road
	More one-way streets (except cyclists)
	Direct cycle route from Kittybrewster to Aberdeen city centre; making this one-way, except for cyclists
	New segregated paths: Aberdeen beach/Esplanade linking to the city centre has the potential to be a very attractive active travel route for residents and tourists alike – an under-used north-south link
	Bedford road: provide an active link between the 2 university campuses

Intervention Theme	Description
Route Development - Strategic	New cycle route: Implement more routes feeding into NCN1 (a through route) to encourage more people onto the routes – enhanced if bike hire scheme is tied into routes to provide visitors with direct access
	Implement cycle link along Whitestripes Avenue and Parkway (A92), to provide continuous cycle north-south movement from Tillydrone (Tillydrone Avenue) to Middleton Park and Bridge of Don
	New shared-use routes: potential for increased linkages between Bridge of Don and Bucksburn/Dyce and Aberdeen Airport
	New cycle route: Implement a new cycle route from Murcar to Blackdog, linking to wider active travel network
	Create new active travel purpose-built routes connecting new developments to key shops/services/areas
	Tourist routes: Aberdeen train station - University of Aberdeen – Bridge of Don – North Aberdeen
	Strategic planning - Core path connections
Behaviour Change / Public Awareness	New housing developments north of Bridge of Don to be provided with sufficient cycling infrastructure to secure active travel commuter journeys from the start – an easy journey and long-term modal shift away from car dependency
	"Cycling championing": Promote awareness of active travel public and environmental health benefits via Aberdeencycleforum.org.uk, local schools and community councils
	Roll-out beginner adult cycling lessons (e.g. "Get About" cycling programme) to encourage confidence in cycling ability/proficiency
Design Guidance and Planning	Road reallocation for segregated cycle routes: e.g. potential to reallocate road space along A956, e.g. remove HGV use along strategic King St corridor, e.g. city centre road space reallocation to cycle routes
	Travel planning – residential travel packs for new homeowners
	Re-prioritisation and rethinking routes, e.g. along/around The Parkway – North Anderson Drive: give priority to cyclists at sideroads and minor road crossings
	BoD: 3 lane contraflow system during peak hours
	Integrate cycle parking and cycle hire locations
Safety	Speed limit reduction to 20mph on all residential roads, except main corridors
	Restricting/removing vehicle access in city centre and residential areas via road closures
Other	Investment Plan (rather than reactionary projects)
	ACC to promote plans and advice on active travel, targeting specific neighbourhoods and undertake detailed surveys and audits
	Multimodal travel: Space allocation on buses for bike storage
	Regulate driver behaviour within and across Bridge of Don – similar to 'Operation Close Pass'
	Low Emission Zones (LEZs) implemented; currently focus is primarily on buses and HGVs only
	Strategic programme of improvements to infrastructure

4.3 Additional Stakeholder Feedback

4.3.1 Additional Stakeholders

Stakeholders also provided feedback via email and telephone where they could not attend the workshop or when stakeholders specifically wanted to feedback directly to the project team. Additional stakeholder feedback was provided by the following organisations:

- NHS Grampian
- ScotRail
- Old Aberdeen Community Council
- Shopmobility Aberdeen
- University of Aberdeen
- Aberdeen Cycle Forum

4.3.2 Additional Stakeholder Problem and Opportunity Responses

The responses provided were combined, analysed and collated into themes. The main problem themes identified were:

- Congestion;
- Affordability;
- Connectivity;
- Permeability & Access;
- Route Condition & Suitability;
- Real & Perceived Safety; and
- Political Will.

The main opportunities themes identified were:

- Access.

The detailed responses regarding the problems affecting active travel in the local area are detailed below in Table 11 and responses regarding the potential opportunities for increasing active travel uptake are detailed in Table 12.

Table 11 - Problems Identified by Additional Stakeholders

Problem Theme	Description
Congestion	Too many cars in and around Bridge of Don.
Affordability	Public transport is too expensive / unaffordable for many.
Connectivity	Cycle lanes are ineffective (too many roads intersect and break it up). Bikes have to give way, but it should be the other way around.
	Inconsistent and intermittent cycle routes.
	Cycle lanes not well segregated and usually shared-use.
	Cycling access to the station is challenging, especially: When cycling from the north to the railway station, Shiprow only takes you part of the way to the station before cyclists

Problem Theme	Description
	have to mix with traffic. The large number of HGVs that are in the area around the docks can make this intimidating.
	For cyclists from the railway station heading towards Bridge of Don, the one-way system takes them away from the obvious route up Shiprow to Broad Street, and instead they have to walk across the junction at Guild Street and Carmelite Street; or instead follow the NCN Route 1 signage via Union Terrace and Schoolhill, which has no cycle lanes other than advance stops.
	A major issue is that cycle routes around Aberdeen are marked by inconsistency and lack of continuity, e.g. A cycle lane can change from on-road to on-pavement and back again within a few hundred yards A cycle lane can appear and disappear within a few hundred yards
Permeability / Access	Bridge of Don has a number of busy roads with either no footpaths, one-sided footpaths or footpaths in a state of disrepair.
	Bridge of Don has very limited dropped kerbs at the end of footpaths and there is no dropped kerb at the other side of the road when they cross.
	Don St / St Machar Drive: Drivers ignoring the yellow 'keep clear box' meaning it is difficult to go down the High Street if approaching from the west or from Don Street.
	Parking creates an especially hazardous situation as the cyclist has to cycle in and out of the traffic flow to pass parked vehicles.
	Walking access hindered by a number of obstacles, e.g. Refuse bins left on pavements.
Route condition / suitability	North of Lord Hay's Grove Junction: Road condition is very poor with a reasonably steep hill; some people don't cycle all of it but dismount and continue on foot. As there is no immediate pavement, they walk up the cycle lane against the wall.
	Poor condition of many road surfaces within/around Old Aberdeen and beyond.
	Setts; horrible to cycle on and this encourages cyclists to use the pavement along the High Street, Don Street, Dunbar Street, College Bounds and elsewhere.
	Lack of clarity: the introduction of 'cycleways' has surely created a situation where cycling on pavements would appear, to some cyclists, to now be legal and even encouraged by Aberdeen City Council - this is exacerbated by a lack of consistent signage.
	Physical state of cycle lanes: First metre of roadway is often the worst surface so on-road cycle lanes offer a low-quality cycling experience, while a cyclist seeking to avoid the worst elements are likely to risk the ire of motorists who see the cyclist 'hogging the road'. A cyclist swerving around potholes is also more at risk from passing traffic.
	Bridge of Don has narrow footpaths that are unsuitable as shared-use paths; it is difficult to make sure that vulnerable disabled pedestrians, children or elderly people are given right of way over vehicular forms of transport, cycles, push scooters etc.
	Complete lack of toilet facilities for tourists.
Real / Perceived safety	All of Aberdeen is a 'very very very dangerous place to cycle' (e.g. Market Street).
	City cycling is unsuitable for those without cycling experience.
	Cycling on pavement is prevalent and is hazardous.

Problem Theme	Description
	Cycling on pavement may occur due to other cultures; Old Aberdeen hosts quite a lot of people from outside the UK who may well be complying with the norms of their country.
	Confusion and inconvenience around shared use paths and where these end as the signage is not consistent, but neither are the routes; may result in cyclists choosing to cycle on the pavement between two sections of shared use path.
	Cycling on pavements is prolific in certain areas in Aberdeen, e.g. King Street and North East Scotland College. Although there have been incidences of cyclists passing along the small lanes and places between the streets in Old Aberdeen, they are typically considerate of pedestrians, e.g. pushing their bike through small lanes.
	Appeal of walking hindered by Concerns regarding adequacy of street lighting and lack of visible police and warden patrols.
Political Will	Frustration with ACC for proactively paying for cycling tour series events (incl. road closures) without allowing the public to experience the city without cars too.

Table 12 - Opportunities Identified by Additional Stakeholders

Opportunity Theme	Description
Access	Active travel can only be achieved if the footpaths, kerbs, crossings etc are suitable for all and are going to places people want to be.

4.3.3 Additional Stakeholder Intervention Responses

Additional Stakeholders also provided feedback on potential interventions in the study area. The responses have been analysed and collated into key intervention themes, which are:

- Infrastructure Investments;
- Policy Changes;
- Design Standards & Guidance; and
- Access & Connectivity.

Table 13 outlines the detailed responses regarding interventions.

Table 13 - Interventions Identified by Additional Stakeholders

Intervention Theme	Description
Infrastructure Investments	Do not continue with the Berryden Corridor Improvement.
	Build fit-for-purpose segregated cycleways, to connect the city and ensure bikes are completely separated from vehicles.
	Need for public benches in the key tourist areas: Identification suitable locations and funding needed.
Policy Changes	Implement Congestion Charge
Design Standards & Guidance	Footpaths need to be in good condition and wide enough that a distinct section can be set aside for vehicles to keep them away from pedestrians, who should be given priority.
	Dropped kerbs must be in place at every crossing point, with tactile paving to alert visually impaired people to their presence.

Intervention Theme	Description
	For controlled crossings, sounders should be in place so that they know when it is safe to cross, and the green man should be at a high level to ensure that people with profound hearing loss can see it and know when it is safe to cross.
	Many more crossing points should be created at suitable locations so that people have the opportunity to pop along to their local shop/ retail area as well as going all the way into the city.
	Address cycle route confusion/legality: The introduction of the blue road signs on Core Paths alongside roadways would create clarity as to where cycling was permitted, and that the lack of signage on a pavement should be considered as a sure sign that cycling was still illegal.
Access & Connectivity	Don Street to Hillhead cycle route: a lane for south bound cyclists would be a useful addition.
	North of Lord Hay's Grove Junction: Due to steep hill, some people dismount. As there is no immediate pavement, cyclists walk up the cycle lane against the wall. If the cycle lane was coloured, this might make vehicles more aware of it and make sure they stay clear, thus making it a safer place for the people who do push their bikes.
	Don St / St Machar Drive: Drivers ignoring the yellow 'keep clear box'; access to High St would be improved if keep clear box was re-painted.

4.4 Public drop-in

A public drop-in session was held on 17th October 2019 at Lidl (King Street) which ran from 13.00 to 19.00. Members of the public were informed about the project aims and intended outcomes and were subsequently given feedback forms to complete. The questions posed to public at the drop-in event were:

1. *What do you think the key problems relating to walking and cycling provisions in Bridge of Don and between Bridge of Don and Aberdeen City Centre?*

2. *What are the key opportunities for improving walking and cycling provisions in Bridge of Don and between Bridge of Don and Aberdeen City Centre?*

3. *What interventions could be implemented to address the problems and opportunities you have outlined above.?*

Members of the public were asked to either complete the questionnaire during the public drop-in event or take the form away and either email or post their response. Further to this, a map of the study area was on display where members of the public could annotate the issues geographically. Approximately 50 members of the public were spoken to throughout the event, and approximately 100 forms were given out to the public.

4.4.1 Public Drop-in Themes

Following the public drop-in session, the responses were analysed and categorised into key themes. Table 14 and Table 15 outline the key problems and opportunities identified.

Table 14 - Public Drop-in Session Problem Themes

Problem Themes	Description
Design Guidance & Standards	Pedestrian refuges limit space for cyclists on road as cars attempt to squeeze past or speed up to overtake cyclists before reaching the refuge. Golf Road is bad for this as road becomes narrow while being a popular route for cyclists from King Street to the Beach.
	Where Scotstown Road meets the Parkway (A92) and where Balgownie Road meets the Parkway, cycle lanes stop at zebra crossings leaving confusion for drivers and cyclists as cyclists are not allowed to cross on their bike.
	Speed bumps in Seaton Park make it difficult for disabled users to navigate
Access	Poor path condition along Gordon Mills Road running parallel to River Don. Similarly, Don Street (towards Hillhead Student Village) is very bumpy and cyclists/pedestrians must dodge pot holes
	Steep gradients and inclines make it difficult for all abilities/ages to walk or cycle
Connectivity & Integration	No clear path to Asda from Newburgh Drive forces pedestrians and cyclists onto Jesmond Drive
	'Cyclists please dismount' sign on Ellon Road (at Esso Garage) disrupts flow and connectivity as there is no signage directing where to go afterwards
	Poor connectivity on the south side of Bridge of Don towards Esplanade due to lack of signalised crossings
	No crossing on King Street at the 'Bobbin' pub/restaurant which is popular with students
Constrained Infrastructure	Difficult to widen paths in built up areas so need to be clever with road space
	Lack of secure areas to leave bicycles/equipment once destination is reached
Safety	Lack of segregated provision for cyclists
	Owns a bike but is afraid to use it due to personal safety fears
	Lighting at Seaton Park at night is not good – if there is any light then it is minimal and surrounding areas (bushes etc.) remain dark
	During the winter visibility is poor in Seaton Park
	Lighting at the Esplanade is not consistent - safety fears when running/walking alone
	Stepping off the bus and cyclists 'whizzing' past with little consideration
	Lorries and HGVs parking/driving in cycle lanes
	King Street is a horrible environment for pedestrians and cyclists despite being the direct route into town
	St Machar roundabout has no cycle lanes
Conflict, Behaviour Change & Public Perception	Issues regarding priority when there are cyclists on the road and vehicles turning left e.g. Regent Walk and Linksfield Road
	Problems priority will still exist if cyclists are segregated so there is a real need for clarity
	Difficulty travelling from King Street to the bus station as it is very confusing for car drivers so also confusing for cyclists resulting in conflict due to hesitant drivers

Problem Themes	Description
	Issue of cyclists and vehicles clashing due to both thinking they have right of way – 'own the road'
	At the Esplanade there is a segregated cycle and pedestrian path but people do not stick to the segregation.
	Cyclists on footways cause pedestrians to have limited space or are often unaware of cyclists coming behind them
	Cyclists on footpath down King Street
	Paths are too narrow at Seaton Park resulting in conflict between cyclists and pedestrians
	The bus shelter on Ellon Road (north side of Bridge of Don) causes conflict due to the path being narrow at that section on a core path
	Vehicles travelling around St Machar roundabout at high speeds with no regard to cyclists
Funding & Resources	Cost of implementing active travel infrastructure is high
	Constraints from conservation areas and private land
	Lack of advertisement/education for cycling and active travel in general
	Lack of cycle hire opportunity

Table 15 - Public Drop-in Session Opportunity Themes

Opportunities Themes	Description
Connectivity & Integration	Improve student connectivity to the rest of the University buildings and key social areas/trip generators
	Improve signage so active travel is easier for all abilities
Safety	Safety improvements at Seaton Park as it is attractive during the day but not at night
	Factors surrounding feeling safe
Design Guidance & Planning	Consideration in design for elderly and children
Other	Incentives to encourage active travel for at least one direction

4.5 Public Survey

The general public were invited to take part in an online survey in order to capture the views of local residents, businesses and key stakeholders who were unable to attend the facilitated workshop. The survey was launched on Citizen Space on 9th October 2019 and closed on 30th October 2019, allowing the public a total of three weeks to complete the survey. The online survey was promoted by Aberdeen City Council's Internal Communications team through various social media and media channels.

The survey comprised of 19 questions, detailed within Appendix B, which were developed and agreed upon by the project and client team prior to publication. The questions were designed to capture the travel patterns, as well as associated problems and opportunities faced by active travel users in the area. The questions were also designed to identify the barriers to residents using active travel as a regular travel mode and potential interventions needed to make more people walk and cycle.

In total, 130 people completed the survey, with the majority of respondents aged between 25 and 64.

4.5.1 Key Survey Results

Key responses from the survey were analysed and the findings are shown below in Figure 19 to Figure 23.

The pie chart below shows the majority of participants typical walking distance is between 1.5-3 km (54.5%) with the least amount of people walking over 3 km (17.8%).

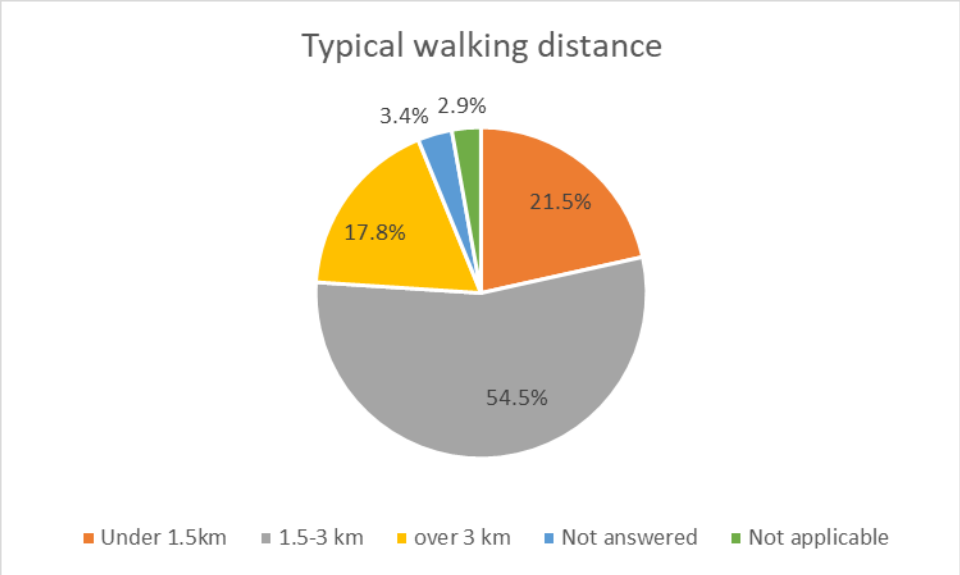

Figure 19 - Respondents Typical Walking Distance

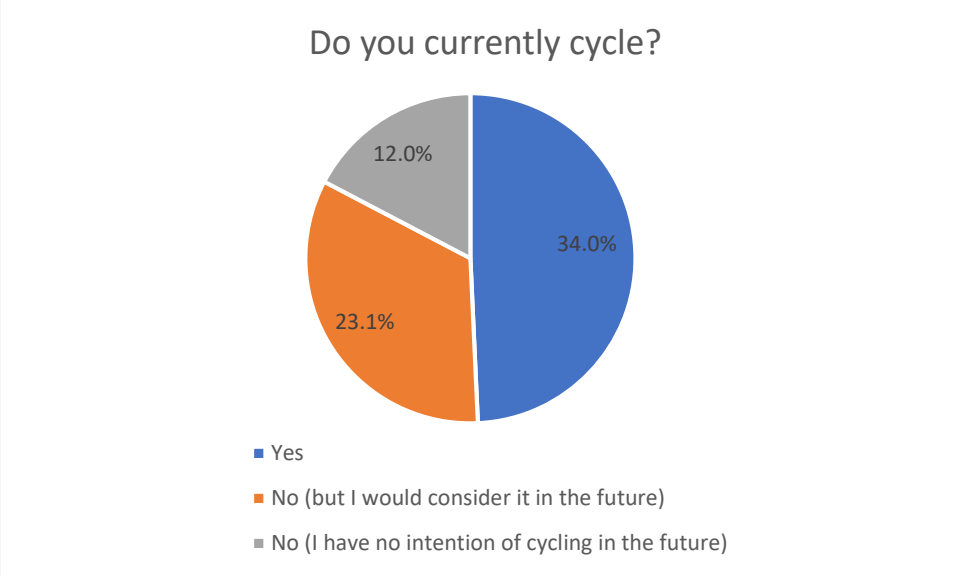

Figure 20 - Respondents Current Levels of Cycling

The results show 34% of people do cycle while 23.1% of people do not currently but would consider it in the future.

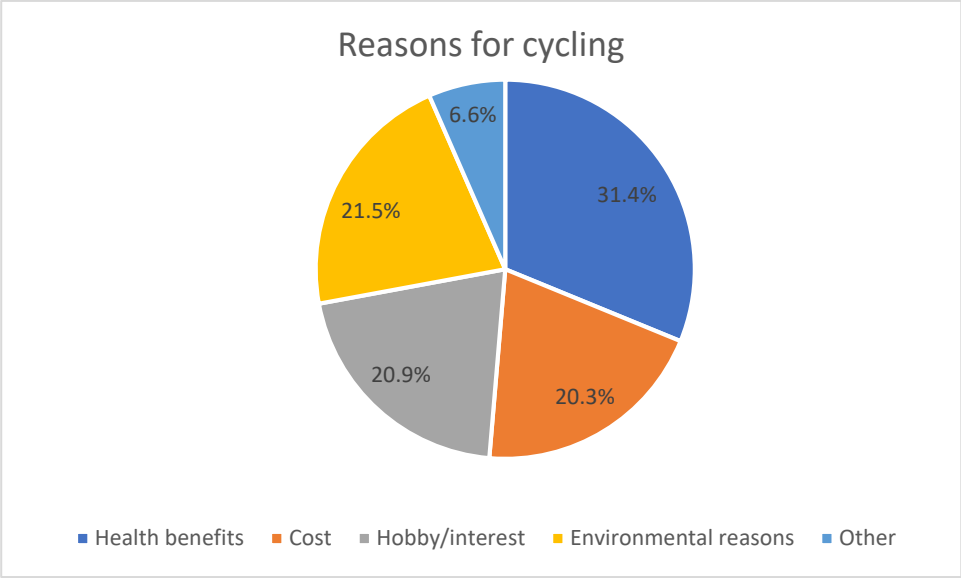

Figure 21 - Respondents reasons for cycling

The majority of participants said health benefits are their main reason for cycling (31.4%). However, cost (20.3%), environmental reasons (21.5%) and hobby/interest (20.9%) all showed close results.

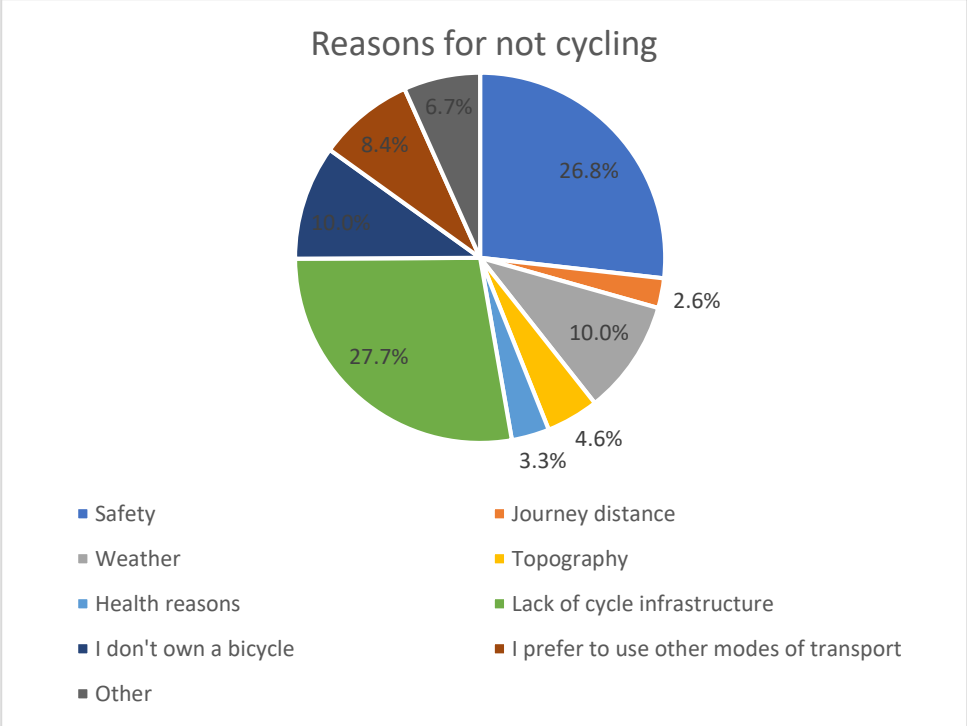

Figure 22 - Respondents Reasons for not Cycling

When asked reasons for not currently cycling, two of the main reasons were safety (26.8%) and lack of cycle infrastructure (27.7%). Journey distance was the least answered option (2.6%).

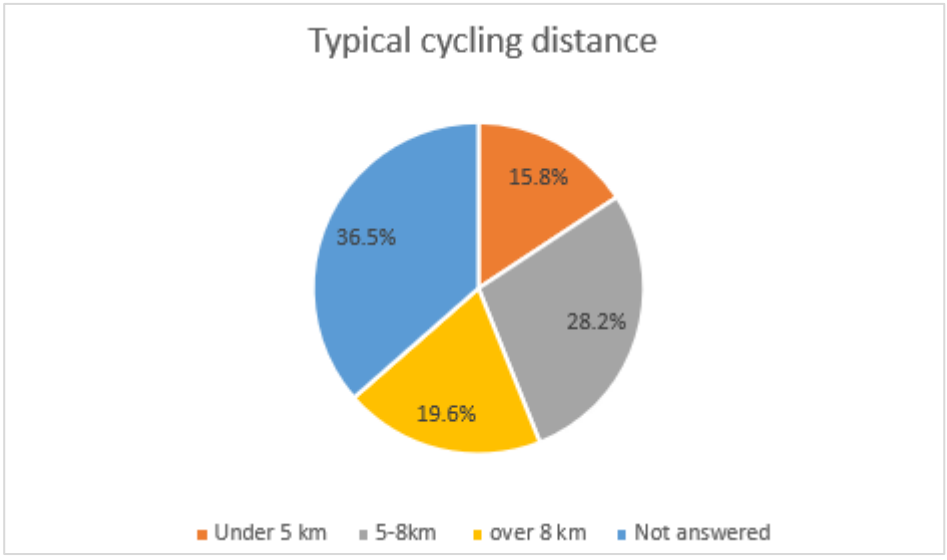

Figure 23 - Respondents Total Cycling Distance

The most common cycling distance travelled is between 5-8 km (28.2%), followed by over 8 km (19.6%) with the least number of people travelling under 5 km (15.8%).

4.5.2 Key Themes

Following the survey period, the individual responses to the following questions were analysed and grouped into specific themes:

- Thinking about locations between Bridge of Don and the City Centre, are there any specific routes or locations which are problematic for pedestrians?
- Thinking about locations between Bridge of Don and the City Centre, are there any specific routes or locations which are problematic for people with disabilities?
- Thinking about locations between Bridge of Don and the City Centre, are there any specific routes or locations which are problematic for cyclists?

Table 16 outlines the collated problem themes from the public survey, as well as the what active travel mode they relate to. Full analysis of the survey data is presented in Appendix C.

Table 16 - Key Themes from Public Survey

Survey Theme	Description
Signalling & Position	Specifically highlighted as an issue for pedestrians and the ease of crossing at junctions (signalised, priority and roundabout)
Narrow, Uneven Surfaces & Lanes	Issues highlighted for both cyclists and pedestrians regarding lack of space, cobbles and general uneven footways and road surfaces
Speeding and Volume of Traffic	Concerns regarding the safety of cyclists and pedestrians throughout their journey with particular focus on driver behaviour and vehicle congestion
Safety	Problems highlighted for both pedestrians and cyclists with regards to personal safety due to factors such as poor lighting

Survey Theme	Description
Crossing & Connectivity	Highlighted as an issue for both pedestrians and cyclists and the lack of a continuous network due to broken links
Drainage	Specifically highlighted as an issue for pedestrians and the problems created by flooding
Topography & Distance	Affecting both pedestrians and cyclists, issues regarding distance of journeys and steep gradients are outlined
Public Transport	The inadequate provision and frequency of public transport is highlighted.

5. Problems and Opportunities

5.1 Overview

Following the conclusion of the stakeholder engagement programme, site visit and data and policy analysis, the problems and opportunities identified were collated to effectively inform the Transport Planning Objectives. This chapter outlines the final problem and opportunity categories.

5.2 Problems

The combined problems identified for the Bridge of Don to City Centre Active Travel Corridor study are outlined in Table 17.

Table 17 - Problems identified

Problem Theme
Design Guidance & Standards - Poor street design for pedestrians and cyclists, including limited space allocation
Poor Accessibility - Multiple factors and barriers causing poor accessibility and permeability for all residents
Connectivity & Integration - Lack of connected active travel network and little integration with other modes
Lack of Trip-end Facilities - In-demand routes do not have adequate end-to-end facilities
Limited & Constrained Infrastructure - Car is dominant mode, resulting in limited space for active travel infrastructure
Real & Perceived Safety - Perception that the current network is an unsafe environment for vulnerable road users
Transport Governance & Policy - Car is still prioritised above other modes, lack of political will to shift to active travel
Public Perception & Behaviour Change - Car dependant culture is prominent in the local area, compounded by lack of public awareness of active travel links
Funding & Resources - Constrained local authority budgets

5.3 Opportunities

The combined opportunities identified for the Bridge of Don to City Centre Active Travel Corridor study are outlined in Table 18.

Table 18 - Opportunities identified

Opportunity Theme
Improved Accessibility - Improved access in a relatively compact city
Infrastructure Investment - Updating ageing and building new infrastructure
Asset Management - prioritise interconnection between new and old routes
Connected Network - Development of a strategic and joined up active travel network
Behaviour Change & Public Environmental Awareness - Utilise greater appetite for addressing climate emergency by normalising cycling and walking as essential modes of transport

Opportunity Theme
Design Guidance & Planning - Higher quality design and planning of new routes and wider network development
Economic Growth - Develop attractive and scenic routes to harness tourism potential
Funding - Utilise potential funding streams, such as Sustrans

6. Transport Planning Objectives

6.1 Overview

This chapter sets out the Transport Planning Objectives (TPOs) which have been developed through an objective mapping exercise, forming a key part of delivering the key project outcomes. The development of the TPOs fully reflect the specific problems and opportunities which were identified through a comprehensive stakeholder engagement programme, detailed data analysis and site visits during the initial stages of the appraisal and align with wider policy objectives identified earlier in the report.

The TPOs have been developed with SMART principles in mind and in cognisance of national, regional and local policy directives, as well as relevant plans and strategies which affect the wider study area. The draft TPOs were presented to the client team for comment in advance of finalising their development.

6.2 Transport Planning Objectives

The Transport Planning Objectives (TPOs) developed for the Bridge of Don to City Centre Active Travel Corridor study are outlined in Table 19:

Table 19 - Transport Planning Objectives

TPO	Description
TPO1	Improve quality of pedestrian and cycle provision on the transport network within the northern area of Aberdeen (to allow improved journey experience by users: direct, comfortable, attractive, safe, cohesive)
TPO2	Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre (to maximise the number of people with direct access to the network)
TPO3	Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users (to remove real and perceived safety and security issues that act as barriers to travel)
TPO4	Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment (to maximise the impact of walking and cycling uptake and modal shift on health and environment outcomes)
TPO5	Improve connectivity by foot or bike to key centres of employment, education and health facilities (to improve active travel's contribution to economic and social objectives)

6.3 Pathway from Problems and Opportunities to Objectives

The TPOs have been set to reflect the key themes emerging from the identified problems and opportunities. This ensures clear alignment from the stakeholder and public engagement activities to the setting of relevant and applicable TPOs, which have then guided our identification and development of intervention options.

The agreed TPOs therefore provide a clear link back to the underlying problems and opportunities of the current network and offer suitable guidance for the appraisal of options for the scale and stage of this appraisal.

7. Intervention Options

7.1 Overview

Following the analysis of data, consideration of the views of key stakeholders and the public, and also the development of transport planning objectives for the active travel network, a list of potential intervention options was established. The long list of intervention options was derived from within the project team, the wider client group and from public and stakeholder consultation. Options were then sifted against their relevance to the agreed TPOs. Remaining options were grouped into packages that would provide a deliverable and complementary set of interventions on specific parts of the network.

An outline of the process is shown below in Figure 24.

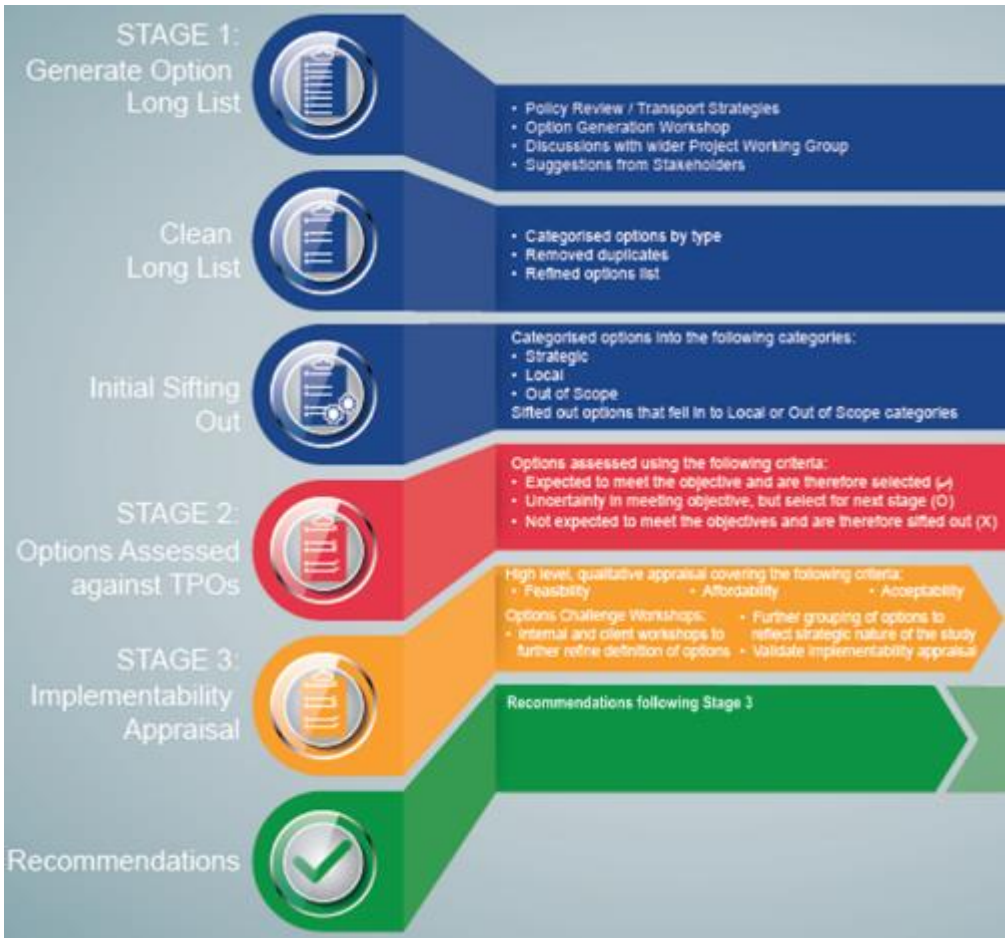

Figure 24 - Process for developing options

7.2 Initial Option Generation

An initial long list of potential improvement measures was prepared including options that would improve active travel on a number of identified routes in the study area and beyond e.g. to and from trip attractors outwith the study area. These compromised of behavioural change and trip end interventions as well as physical street and junction infrastructure measures. The options were based on the results of the data gathering described in previous chapters which comprised of: desktop review and route audits, consultation with stakeholders at workshops, engagement with the public through drop-in sessions and an online active travel survey.

The long list of measures is illustrated in Appendix D and includes a wide variety of measures ranging from new active travel bridges across the River Don, off-road cycleways, establishing routes through quieter residential areas and zebra crossings to replace refuge islands.

7.3 Option Development and Sifting

The development of interventions comprised of technical analysis and consideration of practical and feasible improvements that can be implemented to form suitable continuous routes that meet the TPOs.

As anticipated a number of the emerging options were similar, therefore the long list was subject to an initial sift based on categories of options, with duplicates removed along with any options that would likely fail to meet any of the study objectives. Measures that were deemed to be outwith the scope of the study e.g. geographically were also sifted out.

An important element in sifting is the identification of interventions that in isolation may fail to make it through but provide opportunity to act as enhancements and complementary components to a main intervention or package of interventions. This is particularly important for smaller scale interventions within an active travel commission of this nature which would require a package of measures to deliver the objectives set. For instance, the behavioural interventions will be applicable in tandem with any of the physical route interventions to provide an overall package of measures.

Following sifting, the route options, each with a number of interventions, were developed for the purposes of appraising against the identified criteria. A total of eleven routes have been developed as detailed in Table 20.

Table 20 - Route Options for Appraisal

Route Number	Route Name	Description and Key Features
1	Kittybrewster to City Centre	New active travel route from Powis Terrace to the city centre using existing alignments with increased on-road and segregated cycle lanes. A possible alternative alignment to Option 2, for the section south of Powis Terrace. This route utilises the width on Powis Terrace albeit this route is still identified by ACC as a Primary Route in the Roads Hierarchy.
2	Clifton Road to City Centre	New active travel route from Woodside area (and NCN Route 1) to the city centre using existing alignments with increased on-road cycle lanes, crossing and junction improvements, incorporating elements of the BCI Project. This route uses quieter streets to route southwards from the existing interface with the NCN 1 and crossing facilities on the A96 Great Northern Road.
3	Danestone to Hospital	New active travel route between Danestone and the major hospitals, using a mix of existing carriageway and a new segregated route, with a new river bridge in the northern section. The route makes use of an existing pylon corridor from the residential area of Danestone to the existing NCN 1. This was viewed as a ready-made route which provide links into the adjacent residential areas.
4	Golf Road / Park Road	New active travel route east of King St, using a mix of existing carriageway and new segregated routes, with new river bridge at northern extent. Park Road has been identified as a route that ACC are considering for an HGV ban and was therefore identified as being suitable for a cycle route.
5	Industrial Estate to city centre via Esplanade	New active travel route from the A92 Parkway roundabout to the city centre via the Esplanade, using existing alignments with increased segregation, shared-use paths and footway improvements. This route makes use of the considerable road and footway space

Route Number	Route Name	Description and Key Features
		available on the Esplanade and aims to serve the leisure facilities from both the city centre and from Bridge of Don.
6	King Street	New active travel route along King Street from just south of the Bridge of Don to Castle Street, with significant segregation, junction upgrades and full resurfacing. This route looks to improve upon the main corridor from the city centre to Bridge of Don while considering that King Street will remain as a Primary Route in terms of the Roads Hierarchy and will be the main HGV route north from the city centre.
7	Parkway to Balgownie Bridge	New active travel route from the A92 Parkway to Balgownie Bridge using existing alignments with increased segregation and improvements to two crossings and a flight of steps. This route is through the centre of the wider study area and utilises a wide verge on the west side of Balgownie Road to access Balgownie Bridge. Onward routing to the city centre would be provided by connecting with route 8 southwards from Balgownie Bridge.
8	Parkway to Hospital	New active travel route from the A92 Parkway to Westburn Drive via Seaton Park using existing alignments with increased segregation and improvements to crossings and junctions. . This route follows quieter streets in Bridge of Don, a number of which have been signed as a preferred route by Aberdeen Cycle Forum. The route will cater for student trips between the Hillhead campus and the Hospital with linkages into NCN1 and the University of Aberdeen buildings located off High Street.
9	Tillydrone to Hospital	New active travel route from Tillydrone to Ashgrove Road (near the Royal Infirmary), via the University of Aberdeen, incorporating elements of the BCI Project. This route will tie-in to the existing active travel facilities on Tillydrone Road and Gordon Brae to provide a continuous route from the wider study area linking into the University and continuing west to the Hospital. An alternative route option would use St Machar Road between Tillydrone Road and Great Northern Road where it would follow the BCI Project south to Ashgrove Road. This would be in lieu of routeing along Bedford Road and Powis Terrace.
10	Whitestripes to city centre	New active travel route from Whitestripes Road (by Grandhome development) to the city centre via Tillydrone and Old Aberdeen, incorporating existing segregated and off-road active travel paths, including the NCN 1 and the Tillydrone Road and Gordon Brae facilities. The route also identifies improvements on the NCN 1 within the city centre.
11	Haudagain to city centre	New active travel route from Haudagain roundabout to the city centre using new and existing alignments with significant segregated and shared paths, on-road cycle lanes, along with crossing and junction improvements, incorporating the full extent of the BCI Project. The route links into existing shared use facilities on Great Northern Road.

The routes in the context of Aberdeen city and the study area are illustrated in Figure 25 below. The interventions on the routes are annotated in Figure 26 to Figure 36.

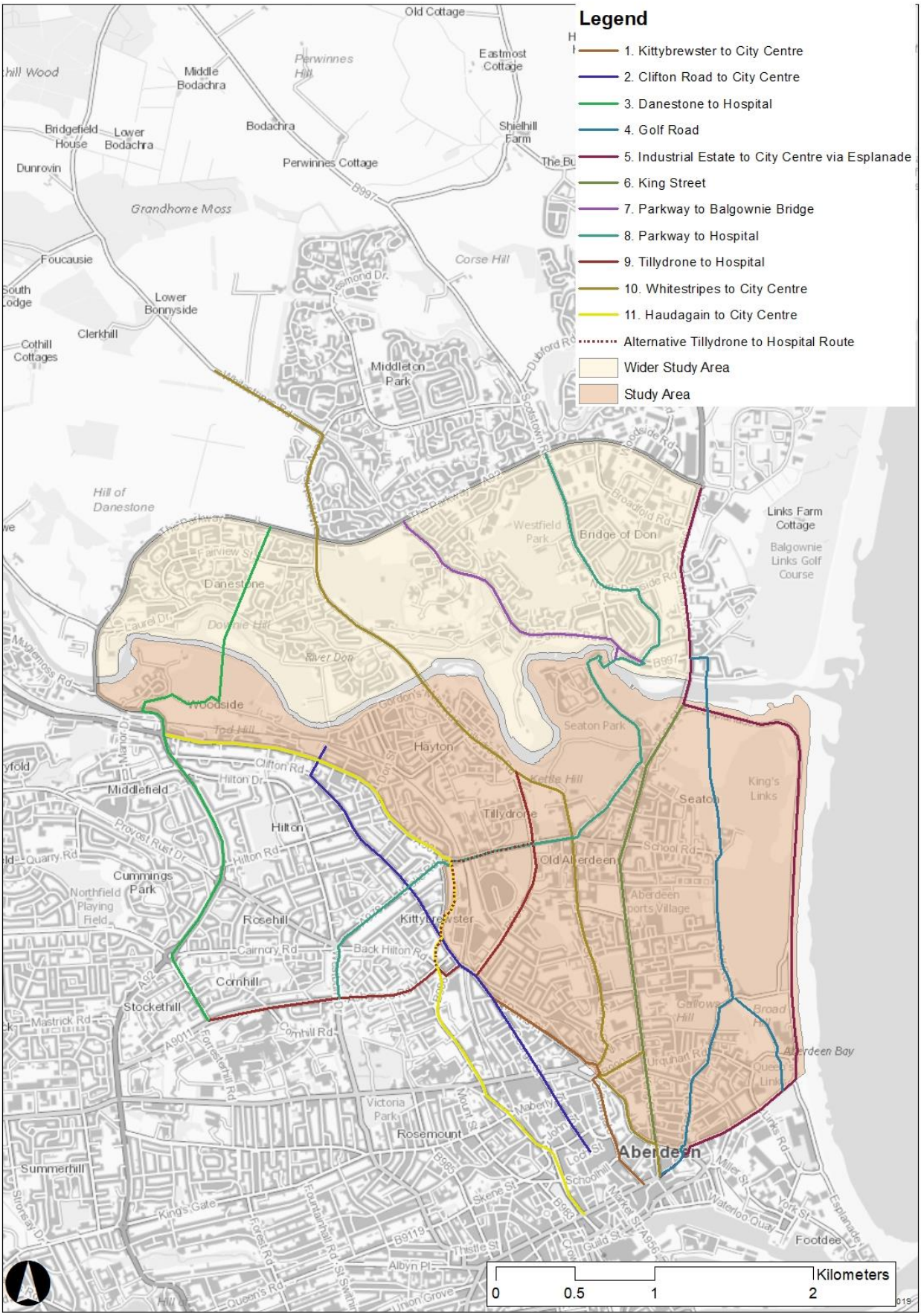

Figure 25 - Option route map

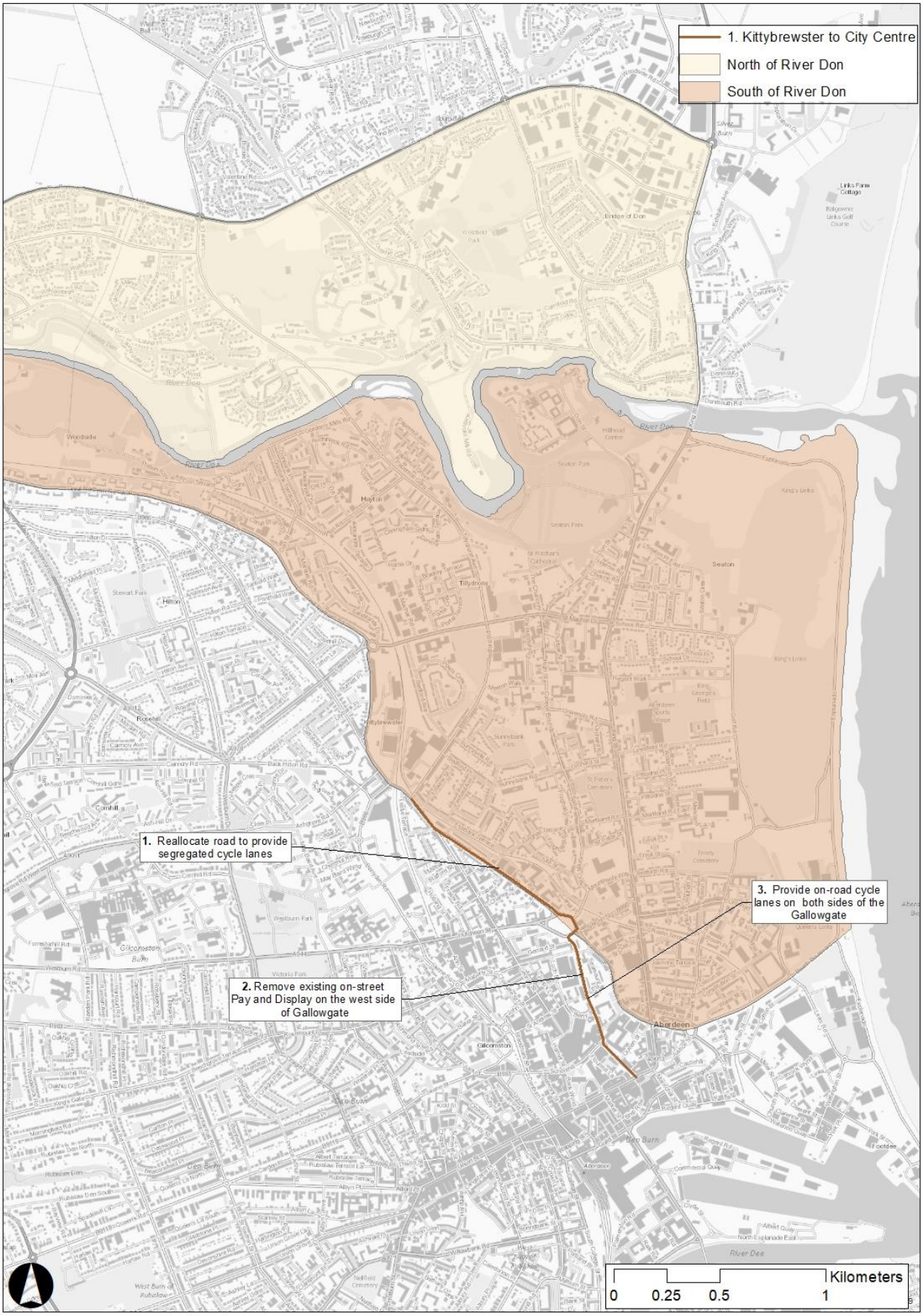

Figure 26 - Route 1: Kittybrewster to City Centre

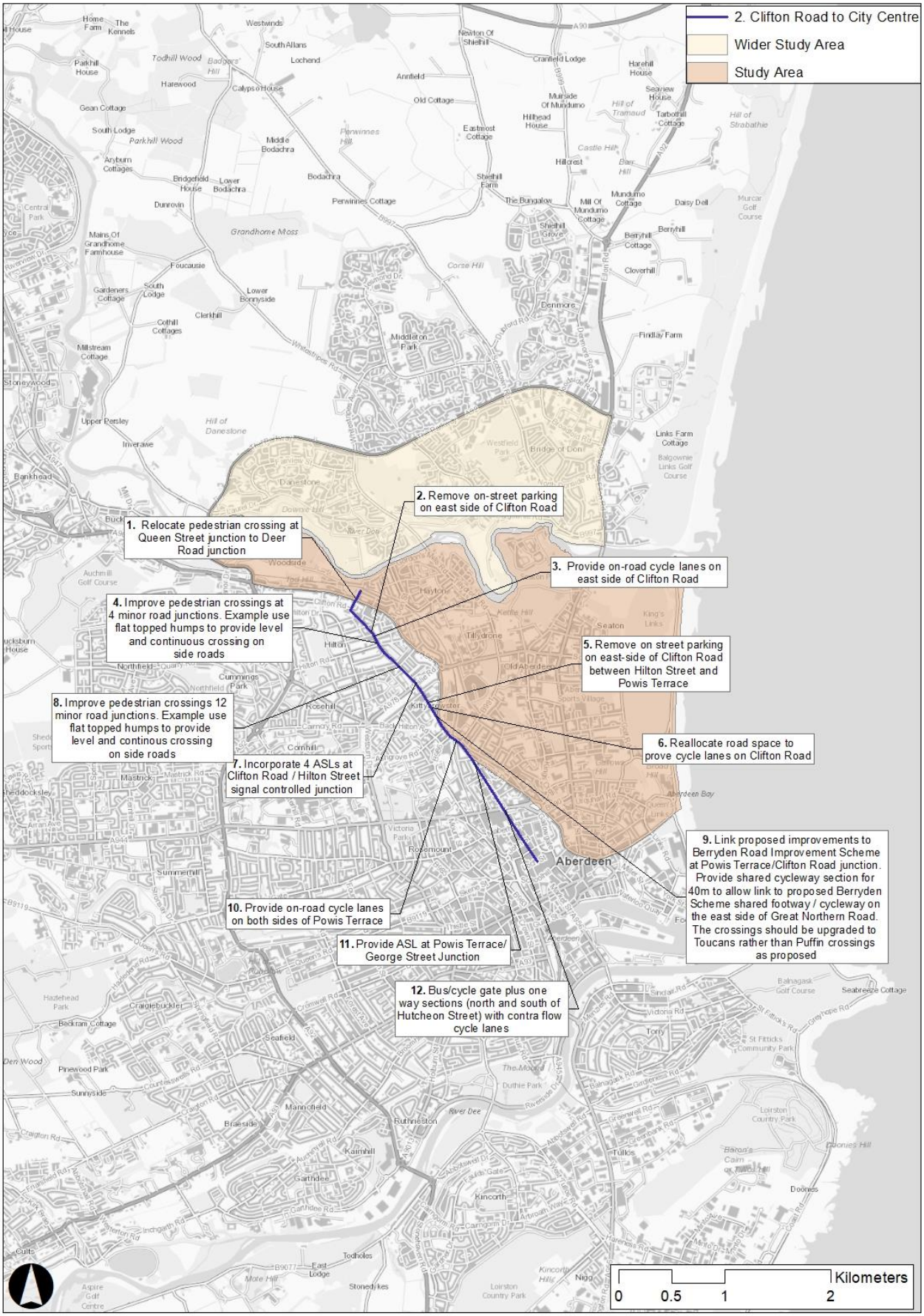

Figure 27 - Route 2: Clifton Road to City Centre

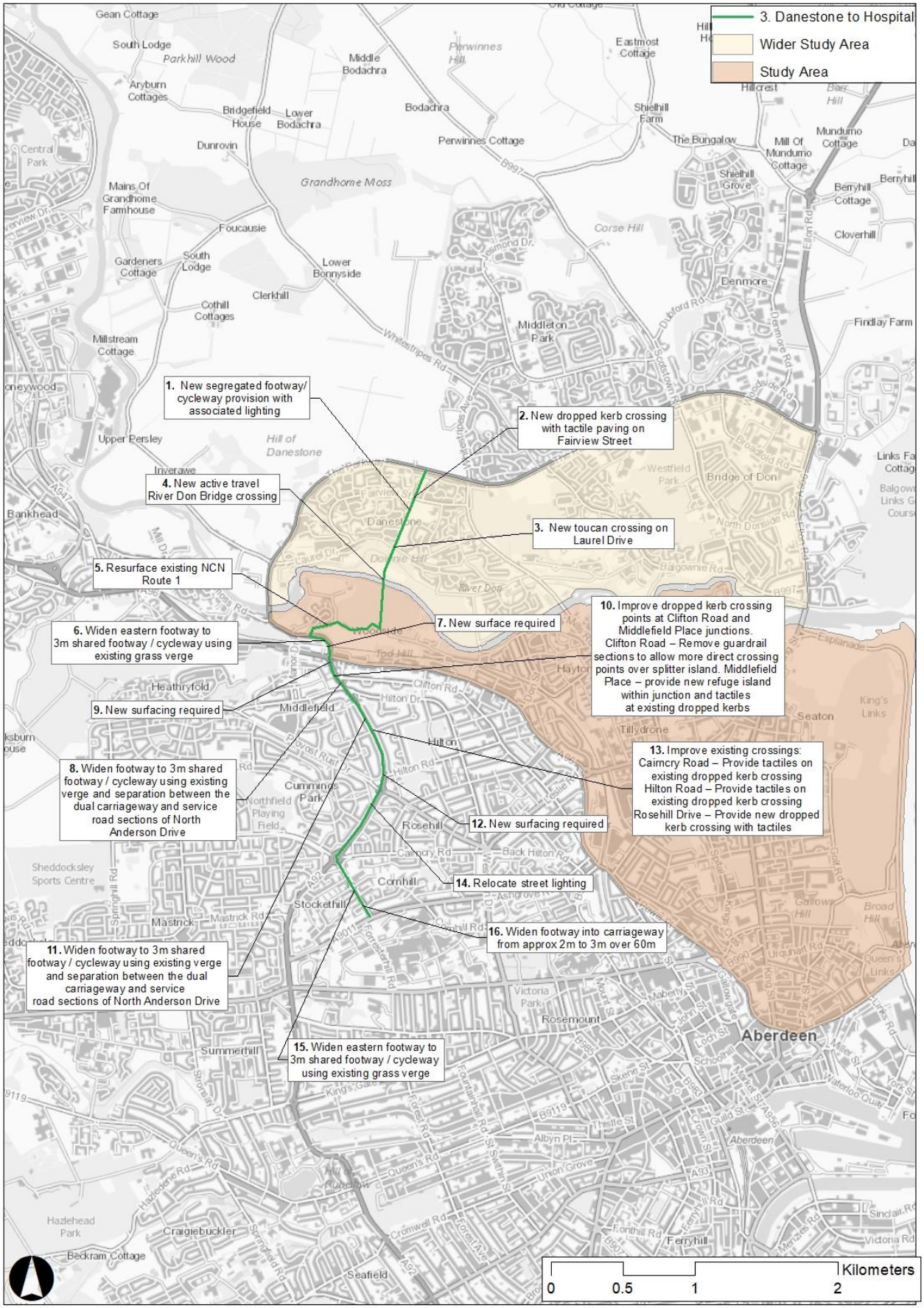

Figure 28 - Route 3: Danestone to Hospital

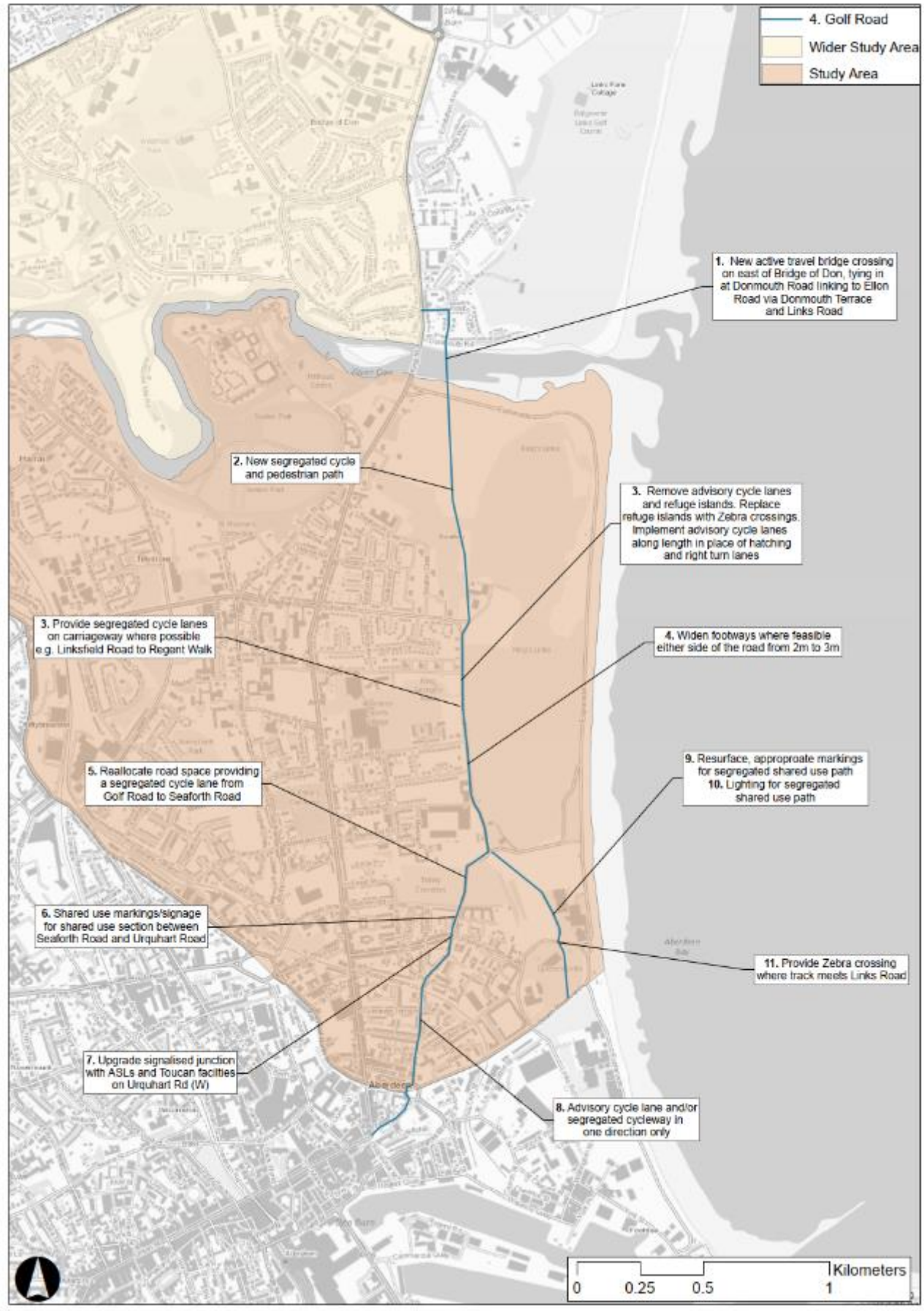

Figure 29 - Route 4: Golf Road / Park Road

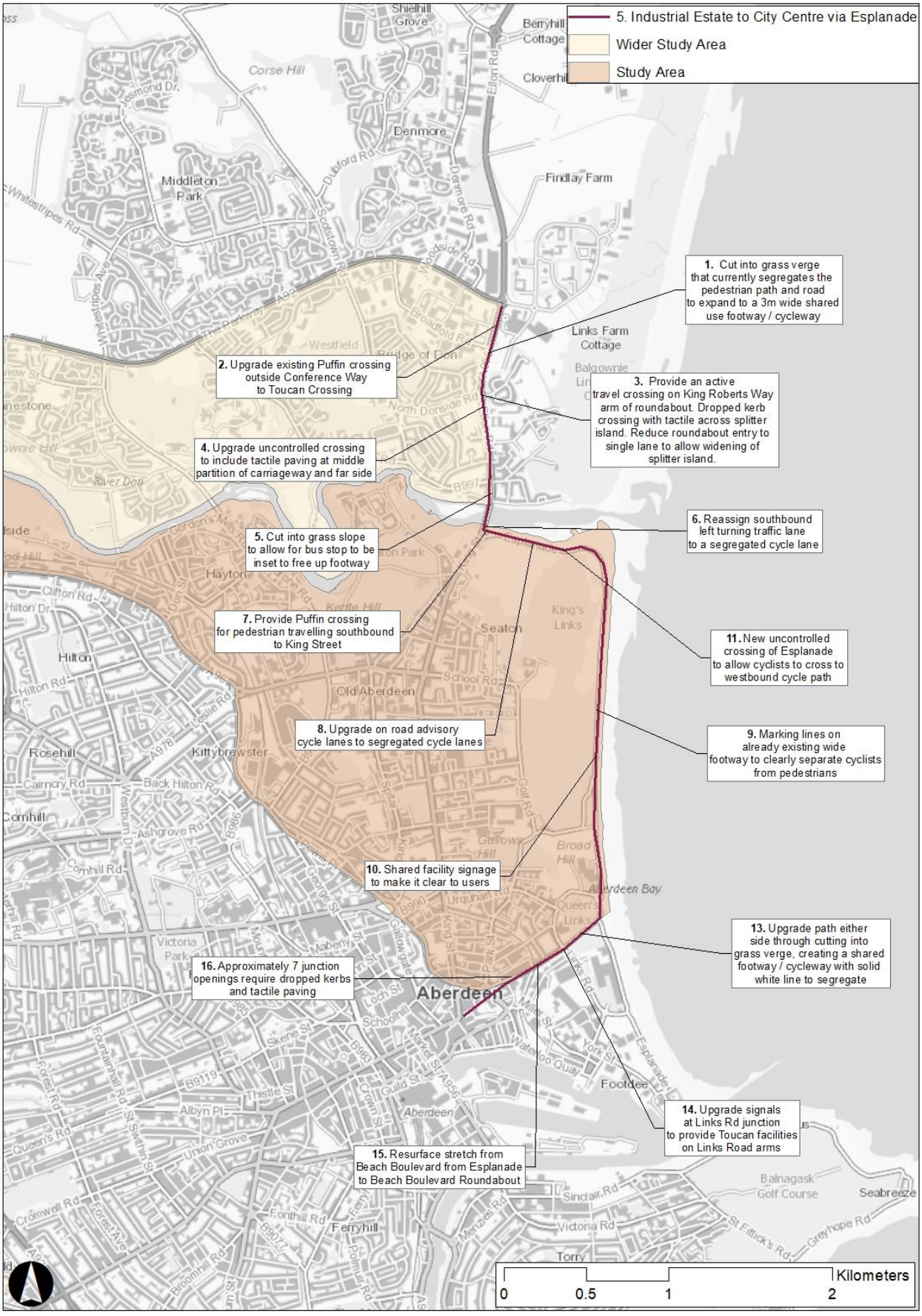

Figure 30 - Route 5: Industrial Estate to city centre via Esplanade

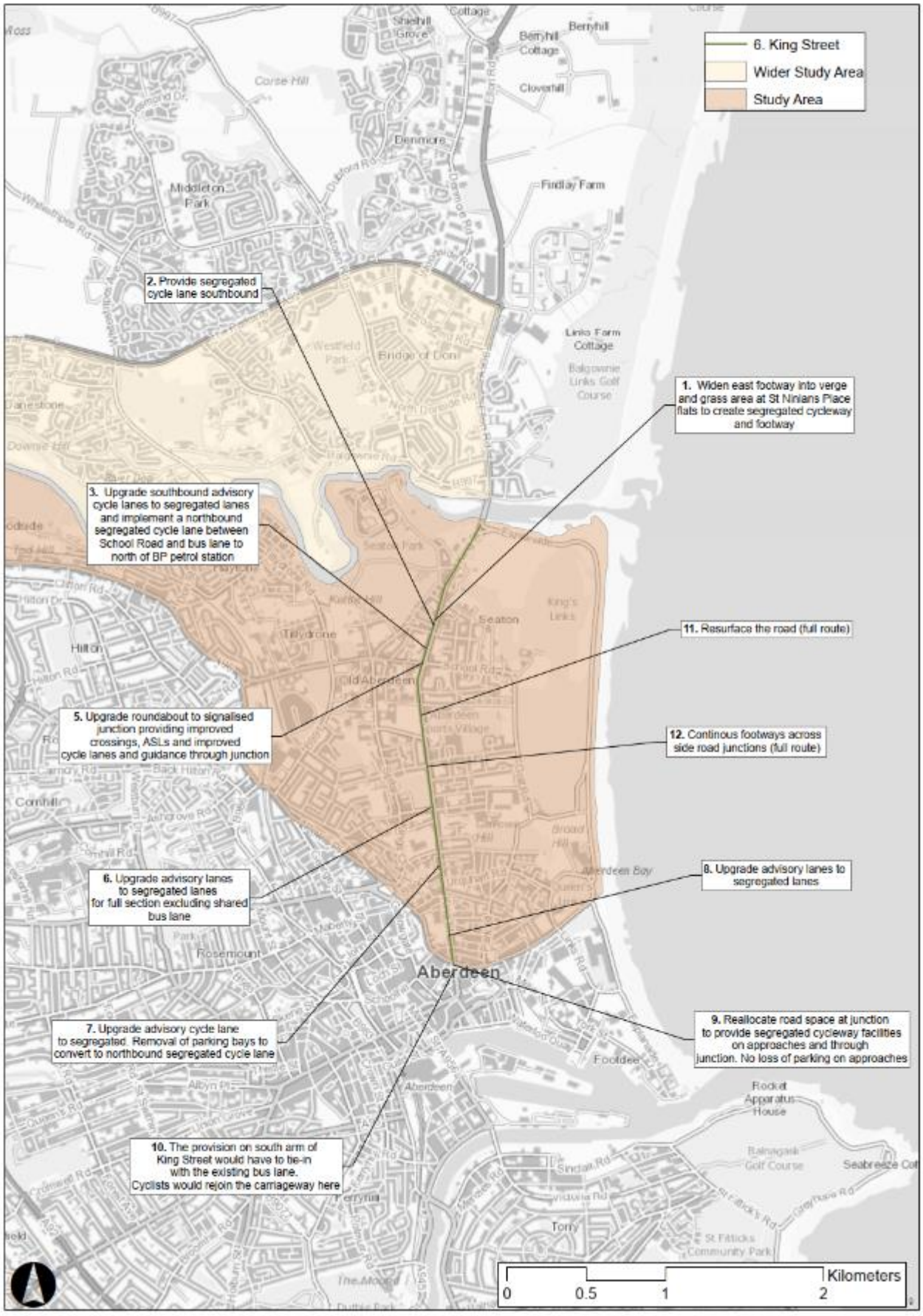

Figure 31 - Route 6: King Street

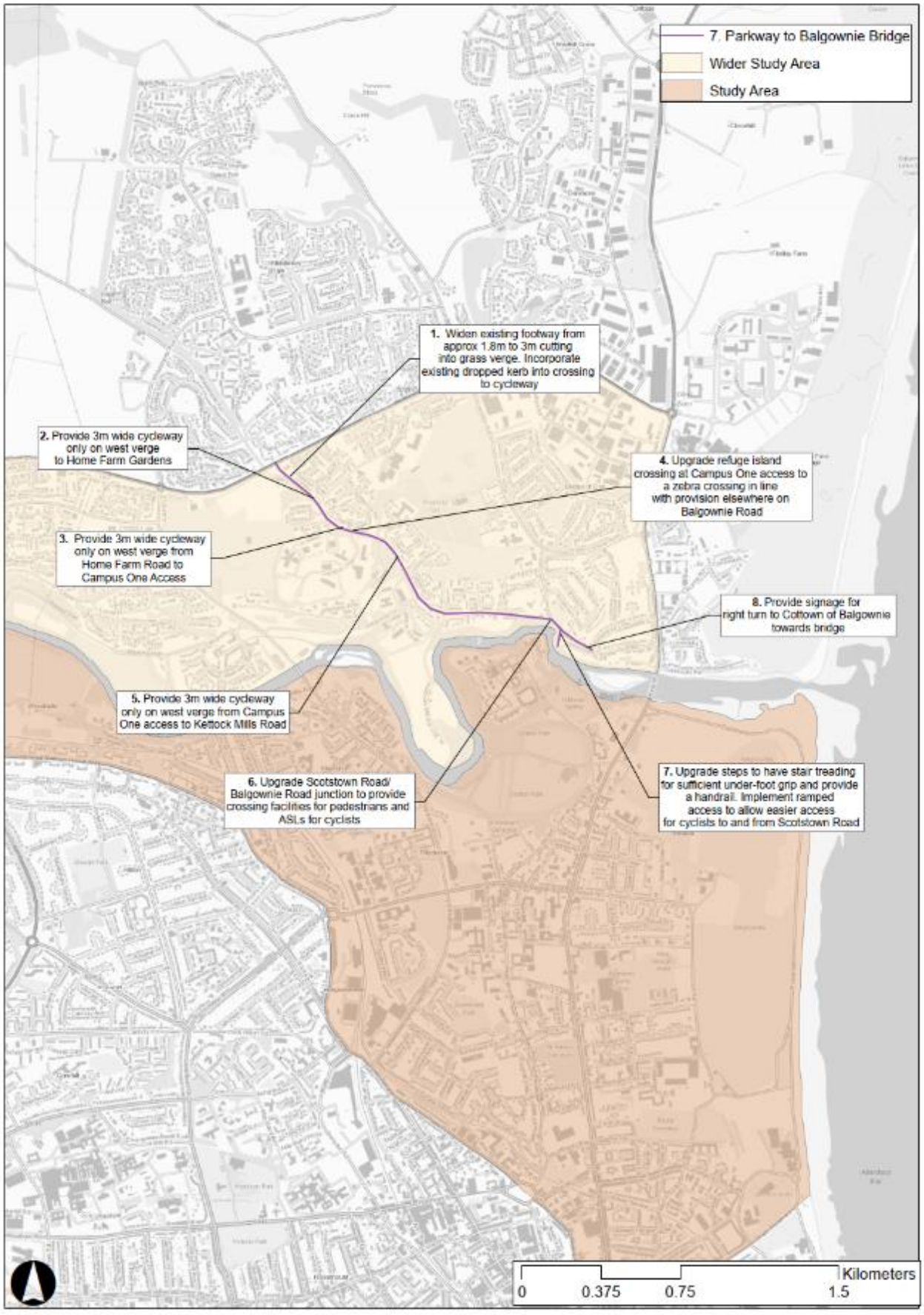

Figure 32 - Route 7: Parkway to Balgownie Bridge

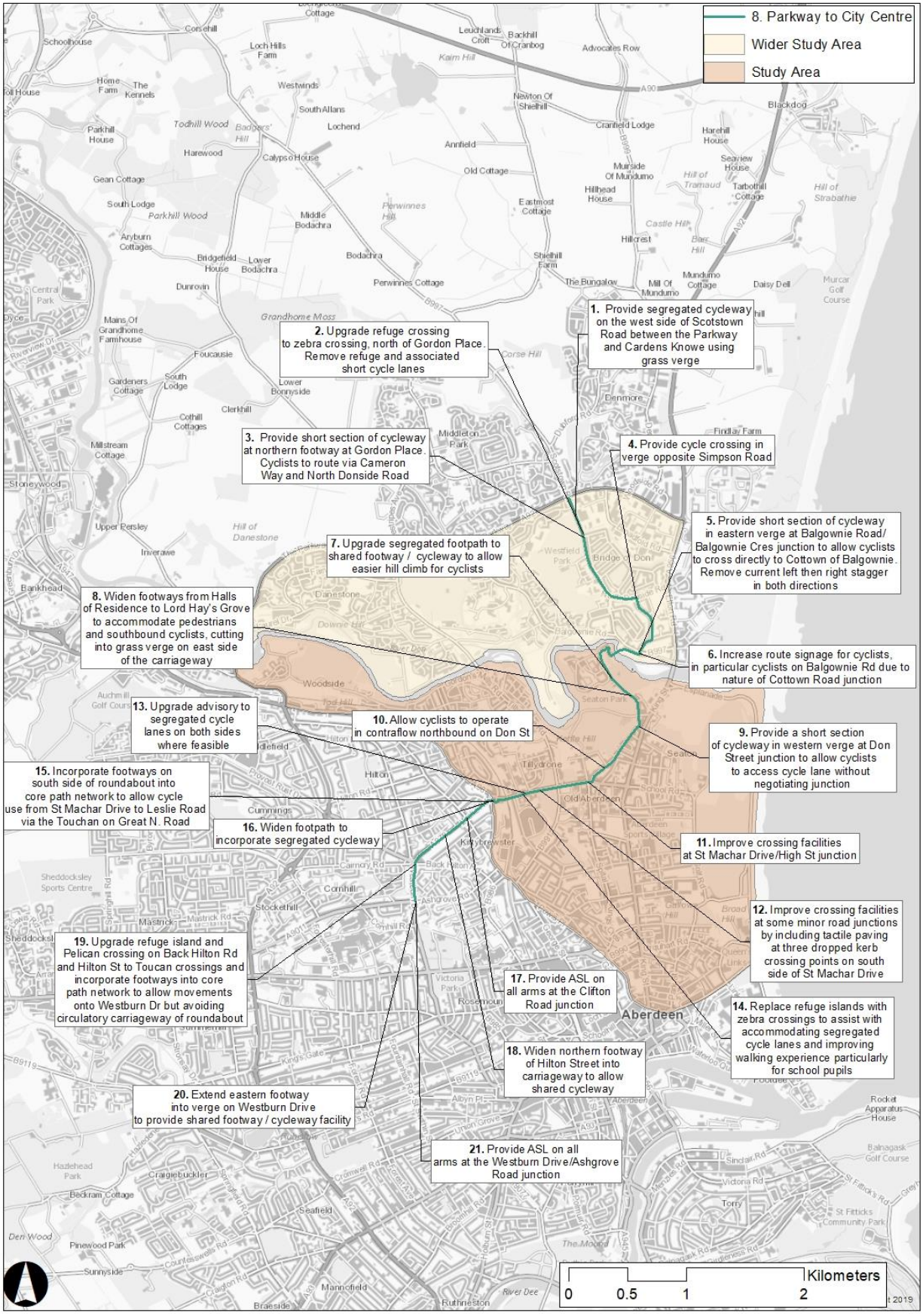

Figure 33 - Route 8: Parkway to Hospital

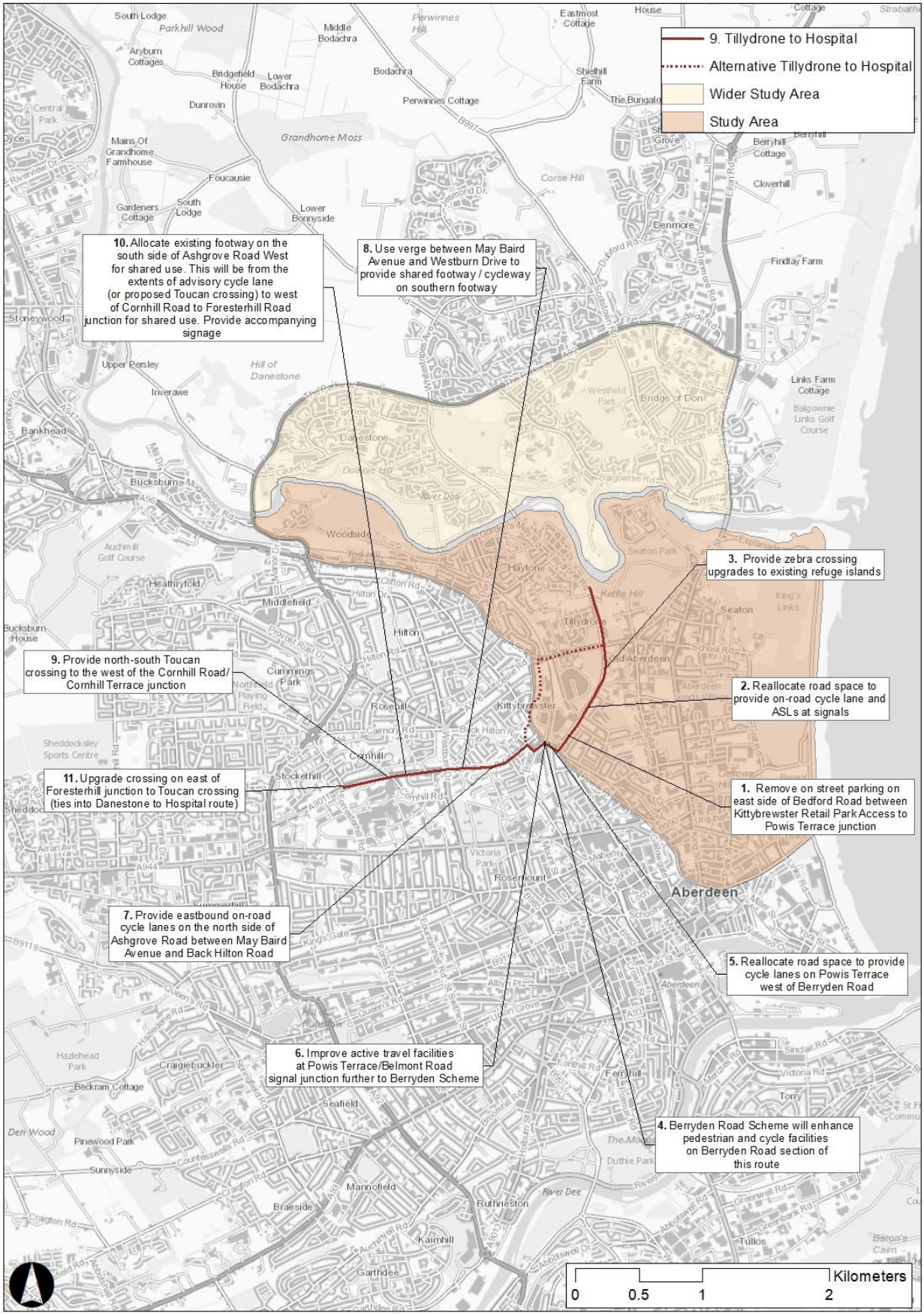

Figure 34 - Route 9: Tillydrone to Hospital

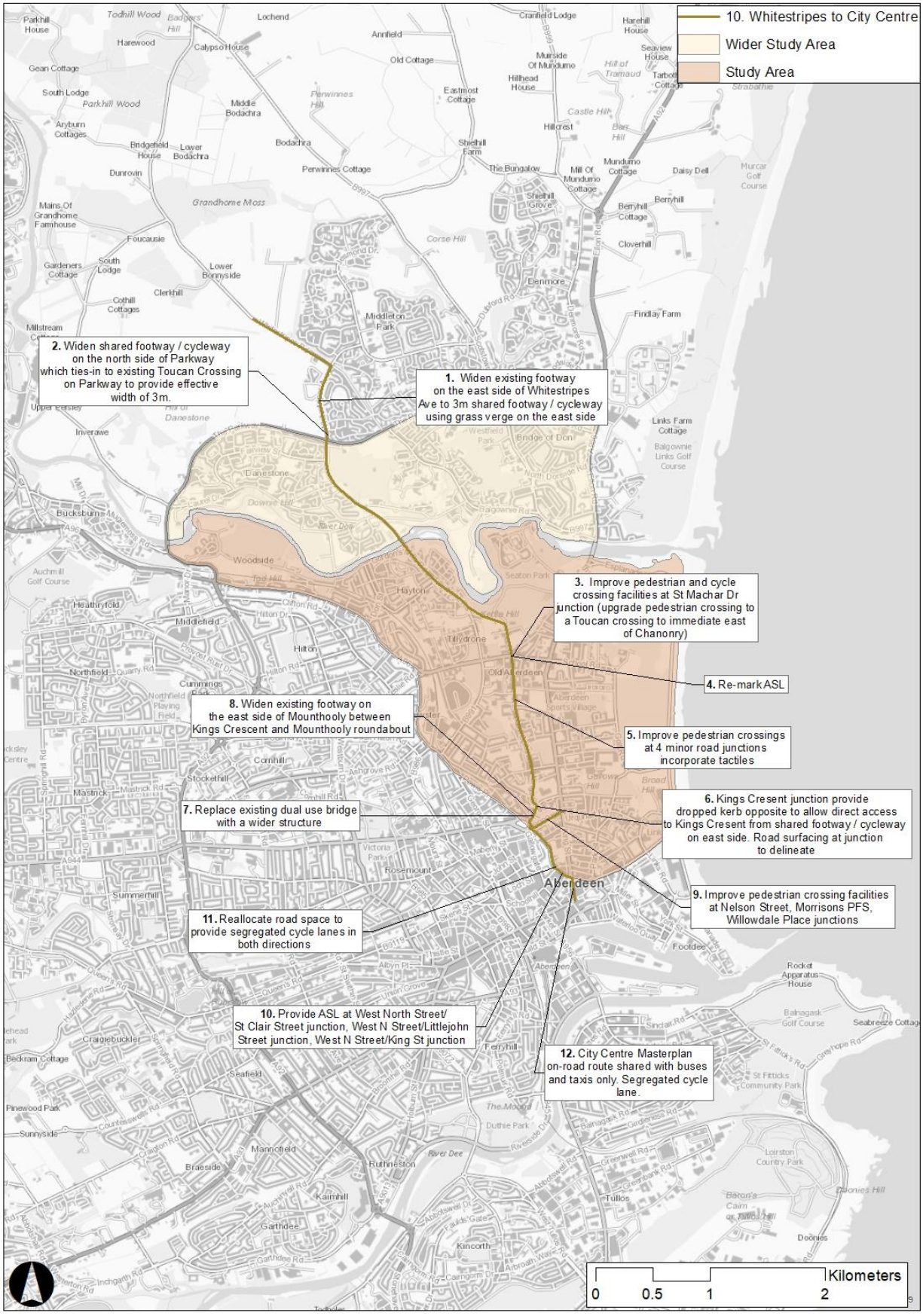

Figure 35 - Route 10: Whitestripes to City Centre

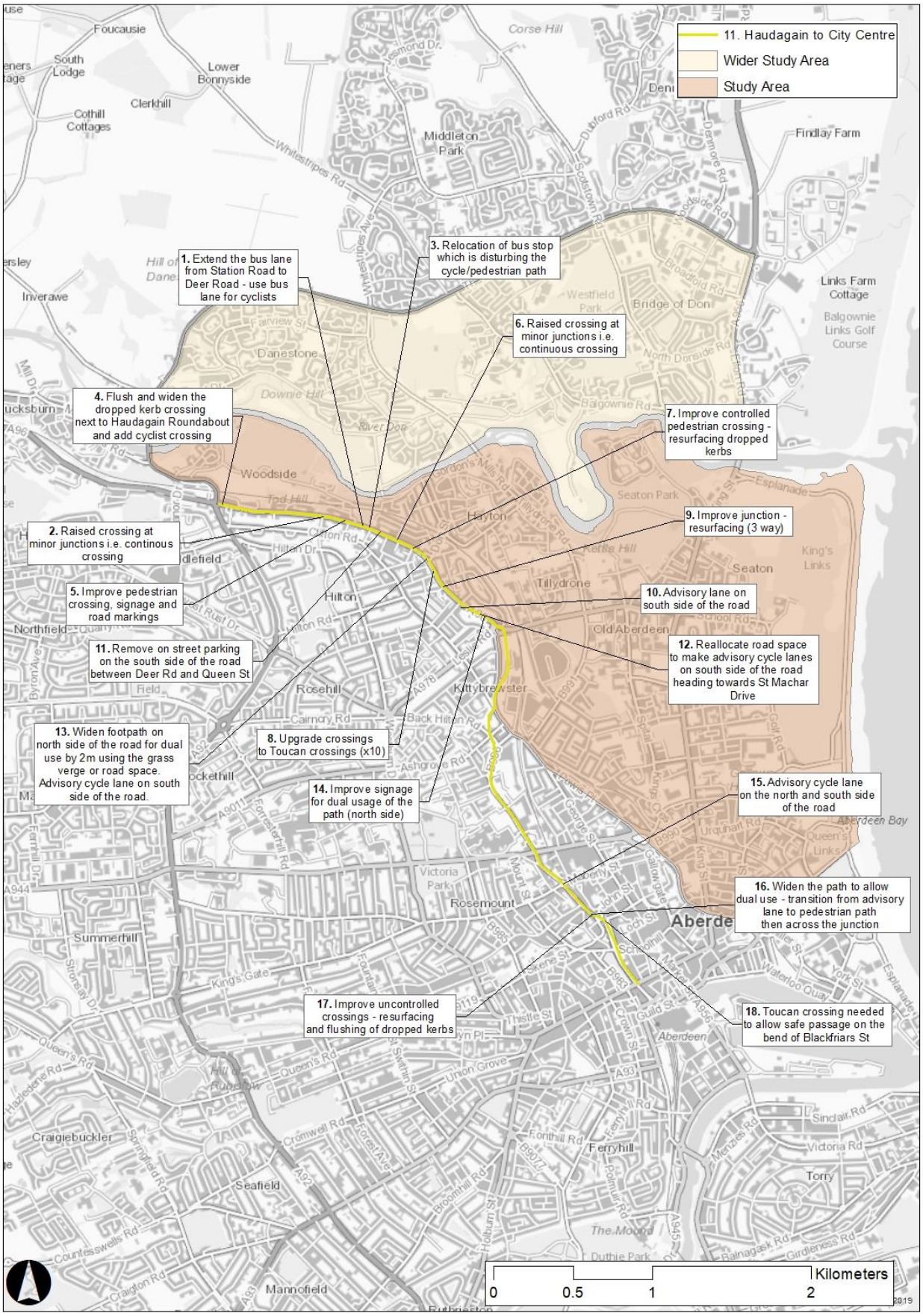

Figure 36 - Route 11: Haudagain to City Centre

7.4 Cost Estimates

Table 21 sets out high-level delivery cost estimates for each package of options. These cost estimates are based on the following high-level assumptions and caveats, and should be refined as each package is developed further.

- Costs have been estimated for the assumed level of intervention within each package, for on-road and off-road cycle links, crossings, junction improvements and structures
- Additional allowances have been made for design development (10%), preliminaries (20%), site supervision (5%) and traffic management (10%) as general allowances across each package
- Optimism bias has been assumed at 44%
- Costs have then been rounded to reflect the early stage of feasibility and appraisal and to provide a basis for broad comparison rather than detailed examination of the build-up of each package cost prior to design work
- No allowance was made for any additional risk or inflation to these cost estimates

This approach ensures that the main components of the delivery costs are accounted for, but it should be recognised that the intervention proposals within each package (and therefore their design and delivery costs) are subject to challenge, modification and development. These costs should therefore be read as a means to inform the appraisal only, and can be examined further as design work commences.

Table 21 – Delivery cost estimates

Package	Description	Delivery Cost Estimate
1	Kittybrewster to City Centre	£800,000
2	Clifton Road to City Centre	£1,000,000
3	Danestone to Hospital	£3,400,000
4	Golf Road / Park Road	£3,800,000
5	Industrial Estate to City Centre via Esplanade	£1,500,000
6	King Street	£3,500,000
7	Parkway to Balgownie Bridge	£1,000,000
8	Parkway to Hospital	£1,900,000
9	Tillydrone to Hospital	£800,000
10	Whitestripes to City Centre	£2,100,000
11	Haudagain to City Centre	£2,000,000

8. Appraisal

8.1 Approach to Appraisal

Given the scale of the packages of options, our approach to appraisal has been:

- TPO Appraisal - An initial, high level qualitative assessment of each package and the interventions that comprise that package against each of the agreed TPOs, considering the relative size and scale of the likely impacts;
- Implementability Appraisal - An initial, high level assessment of each package and the interventions that comprise that package against STAG Implementability criteria (feasibility of implementation, affordability to the public purse and any associated risks , the likely public response to implementation); and
- STAG Criteria Appraisal - A more detailed qualitative appraisal of each package and the interventions that comprise that package against the STAG Criteria (environment, safety, economy, integration, accessibility & social inclusion), considering the relative size and scale of the likely impacts.

For those packages of options which were considered to be worthy of further consideration, a separate assessment was carried out against Sustrans' Places for Everyone Design Principles to understand the potential funding suitability of the packages.

8.2 Appraisal Methodology

8.2.1 STAG Assessment Scale

As set out in STAG guidance, each package of options has been assessed against the TPOs and STAG criteria using a seven-point scale. This considers the relative size and scale of the likely impacts, in qualitative terms.

Table 22 – STAG seven point scale

Contribution towards TPO / STAG Criterion	Score Awarded
Major benefit	+3
Moderate benefit	+2
Minor benefit	+1
Neutral	0
Minor cost or negative impact	-1
Moderate cost or negative impact	-2
Major cost or negative impact	-3

8.2.2 TPO Appraisal

The STAG scoring criteria was applied to each of the TPOs as described below.

TPO 1

Improve quality of pedestrian and cycle provision on the transport network within the northern area of Aberdeen.

This is an assessment of the quality of active travel provision, so considers the proportion of each route which can be achieved on segregated and shared use paths or on-road cycle lanes. It also takes into account the amount of resurfacing and lighting provision, as well as improvements to signage and surface marking, new crossings or crossing upgrades and new infrastructure such as bridges, ramps, cycle gates and contraflow cycle lanes.

TPO 2

Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.

The assessment of TPO 2 considers many of the elements appraised for TPO 1, except for on-road cycle lanes and resurfacing. It also takes into account connectivity with other proposed routes, as contributing to improvements in access to a safe and integrated active travel network.

TPO 3

Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.

The assessment of TPO 3 considers many of the elements appraised for TPO 1, except for on-road cycle lanes and contraflow cycle lanes. It also takes into account surface quality (e.g. significant cobbled sections), whether the route is all in public areas or includes isolated sections and the proportion of the route which is not on Class A roads.

TPO 4

Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.

This combined 2011 Census data with an assessment of the number of dwellings within 5 minutes cycle journey time of each route, using TRACC transport accessibility software, to estimate the residential population which could easily access each route by foot or by bicycle.

TPO 5

Improve connectivity by foot or bike to key centres of employment, education and health facilities.

An assessment was made of the accessibility of key centres of employment, education and health and wellbeing from each route, producing an aggregate score for each route.

8.2.3 Implementability Appraisal

An appraisal of the feasibility, affordability and likely public acceptability of each package of options was also undertaken, using the criteria are set out in Table 23.

Table 23 – STAG Feasibility, Affordability and Acceptability Criteria

Criterion	Description
Feasibility	A preliminary assessment of the feasibility of construction or implementation of an option and the status of its technology as well as any cost, timescale or deliverability risks associated with the construction.
Affordability	The scale of the financing burden on the promoting authority and other possible funding organisations and the risks associated with these.
Public Acceptability	The likely public response to implementation of the option.

8.2.4 STAG Criteria

Each of the option packages was appraised against the five STAG criteria:

- Environment;
- Safety;
- Economy;
- Integration; and
- Accessibility and Social Inclusion

The environmental appraisal considered the impact of each option package for the following sub-disciplines:

- Global and Local Air Quality;
- Cultural Heritage;
- Noise & Vibration;
- Habitats and Biodiversity;
- Agriculture and Soils;
- Landscape & Visual Amenity;
- Water, Drainage and Flood Defence;
- Water Quality; and
- Geology.

The outputs from the appraisal process are collated in a set of Appraisal Summary Tables (ASTs) that present the score for each option against the TPOs and STAG criteria and a commentary on the option's performance or impact (see Appendix E). The ASTs include a recommendation as to whether the option should be taken forward for further assessment or sifted out, along with the rationale behind the recommendation.

8.2.5 Sustrans 'Places for Everyone' Design Criteria

As detailed in paragraph 2.6.2, Sustrans have developed a set of design principles to guide the development of projects which will seek funding from the 'Places for Everyone' programme. Each of the packages of options has been assessed against the following principles. This assessment does not directly inform the overall STAG appraisal, but has been undertaken to provide guidance to ACC on the alignment of the packages to future funding considerations.

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.

8.3 Summary of Appraisal Findings by Package

The key appraisal outcomes for each package of options are summarised below. Further details are contained in the ASTs in Appendix E.

8.3.1 Package 1: Kittybrewster to City Centre

A 1.7 km route from Powis Terrace to the city centre using existing alignments with increased on-road and segregated cycle lanes. The package would be simple to implement at a relatively low cost, delivering a moderate benefit for TPO 4 and a minor benefit for the other TPOs. A proposed lane reallocation on Powis Place and the removal of on-street parking bays could meet some public opposition, but public consultation indicates support for segregated cycle lanes in this location. This option would have negligible environmental impact and deliver minor safety benefits, due to the increase in segregated and on-road cycle lanes. Cycle access to the North East Scotland college campus would be significantly improved, contributing to moderate wellbeing benefits for students and minor integration benefits. Together with improved vehicle flows from the removal of on-street parking bays, this would also deliver moderate economic benefits. This option is a possible alternative alignment to Option 2, for the section south of Powis Terrace.

8.3.2 Package 2: Clifton Road to City Centre

A 3 km route from the Woodside area on the A96 Northern Road to the city centre using existing alignments with increased on-road cycle lanes, incorporating elements of the BCI project. It would deliver a major benefit for TPO 4, a moderate benefit for TPOs 1, 3 and 5 and a minor benefit for TPO 2. Intervention costs would be relatively low, but land acquisition would add to cost and timescales. Road space reallocation, parking space removal and the loss of mature trees could meet some public opposition, but public consultation indicates support from users. It would have negligible environmental impact, and deliver minor safety benefits, due to the increase in on-road cycle lanes and crossing improvements at minor road junctions. It would significantly improve pedestrian access to the Powis Terrace high frequency bus corridor and would improve active travel connectivity to a range of local services, and for residents in areas of multiple deprivation. It also connects with NCN Route 1. These all contribute to moderate integration and comparative accessibility benefits.

8.3.3 Package 3: Danestone to Hospital

A 4.3 km route from the Danestone area to the Royal Infirmary, using a mix of existing alignments with a new segregated section and river bridge. It would deliver a major benefit for TPOs 1 and 2, with a moderate benefit for TPOs 3, 4 and 5. Intervention costs would be relatively high and land acquisition would add to cost and timescales. Building new infrastructure in current green space would have a moderate environmental impact and could also meet some public opposition. However, public consultation indicates strong support for a new river crossing. Option 3 would significantly improve active travel access to current and future land uses and for residents in areas of multiple deprivation, contributing to moderate land use integration and comparative accessibility benefits. It also connects with NCN Route 1. New segregated and shared-use sections with good surfacing would deliver minor safety benefits. It would tie into designs for new cycleways as part of the Haudagain Improvement Scheme.

8.3.4 Package 4: Golf Road / Park Road

A 3.6 km route east of King St, using a mix of existing alignments with a new segregated section and river bridge. It would deliver a major benefit for TPOs 1, 2 and 3, with a moderate benefit for TPOs 4 and 5. Intervention costs would be relatively high and land acquisition would add to cost and timescales. Building new infrastructure in current green space (crossing a Local Nature Reserve) would have a moderate environmental impact and could also meet some public opposition. However, public consultation also indicates strong support for a new river crossing. Option 4 would have major economic, health and wellbeing benefits for users. It would significantly improve active travel access to current land uses and for residents in areas of multiple deprivation, contributing to moderate land use integration and comparative accessibility benefits. New segregated and off-road sections with good surfacing and lighting would deliver moderate accident reduction benefits.

8.3.5 Package 5: Industrial Estate to City Centre via Esplanade

A 5.4 km route from the Parkway / Ellon Road roundabout to the city centre via the Esplanade using existing alignments with increased segregation, shared-use paths and footway improvements. It would deliver a major benefit for TPOs 1, 2 and 3, with a minor benefit for TPOs 4 and 5. Costs would be in the mid-range and the environmental impact would be minor. The proposed lane reallocation south of the River Don bridge could meet some public opposition, but public consultation indicates support for significant levels of segregation. Significant upgrades through a variety of industrial, residential, and leisure areas, with a high level of segregation would deliver moderate economic and accident reduction benefits. It would improve pedestrian access to the Ellon Road bus corridor and would improve active travel connectivity to local services, contributing to minor integration and comparative accessibility benefits.

8.3.6 Package 6: King Street

A 2.9 km route from south of the Don Bridge to the city centre, using existing alignments with complete resurfacing. It would deliver a moderate benefit for TPOs 1, 2 and 3, with a major benefit for TPOs 4 and 5. Intervention costs would be relatively high and land acquisition would add to cost and timescales. Removing mature trees to widen footways would have a moderate environmental impact. This could also meet some public opposition, along with removal of parking spaces. However, public consultation indicates support for segregated facilities and good surfacing. Option 6 would deliver major economic, health and wellbeing benefits over a relatively wide area, as King Street is a main north-south access route. It would significantly improve access to high frequency bus services, to local services and for residents in areas of multiple deprivation, delivering moderate integration and comparative accessibility benefits. High levels of segregation coupled with resurfacing of the full route would deliver moderate accident reduction benefits. However, reducing capacity for vehicle flows would go against the existing Roads Hierarchy, as King Street is a primary route for HGVs and general traffic.

8.3.7 Package 7: Parkway to Balgownie Bridge

A 2.1 km route from the A92 Parkway to Balgownie Bridge using existing alignments with a new access ramp bypassing the steps down to the bridge. It would deliver a minor benefit for TPOs 1, 4 and 5, with a moderate benefit for TPOs 2 and 3. Intervention costs would be relatively low, but land acquisition would add to cost and timescales. Tree and habitat loss to widen footways and build an access ramp through woodland would have a moderate environmental impact. This could also meet some public opposition, but public consultation indicates support for segregated facilities and upgrades to crossings and the steps to Balgownie Bridge. Option 7 would deliver major economic benefits, enabling safer active travel access to employment locations in an area which currently has poor provision. New cycleways and upgrading the steps resurfacing would deliver moderate accident reduction benefits. Improved active travel access to employment sites and the Ellon Road bus corridor would deliver minor integration and accessibility benefits. This option is a possible alternative alignment to Option 8, for the section north of Balgownie Bridge.

8.3.8 Package 8: Parkway to Hospital

A 5.5 km route from the A92 Parkway to the Royal Infirmary, using existing alignments with some increased segregation and shared use facilities. It would deliver a minor benefit for TPOs 1 and 3, with a moderate benefit for TPO 2 and a major benefit for TPOs 4 and 5. Intervention costs would be in the mid-range, with land acquisition adding to cost and timescales. Tree and habitat loss to widen footways and cycleways would have moderate (and possibly major) environmental impacts. This could also meet some public opposition, along with the loss of permit parking on Don Street, but public consultation indicates support for segregated facilities and better cycling connectivity. Option 8 would deliver minor economic benefits, due to improved safety and wellbeing. These would increase to moderate or major benefits if constructed with the section of Option 7 south of the River Don. Increased connectivity to local services and for residents in areas of multiple deprivation would deliver moderate land use integration and comparative accessibility benefits. This option would deliver minor benefits for safety and the other aspects of integration and accessibility.

8.3.9 Package 9: Tillydrone to Hospital

A 3.2 km route from Tillydrone to the Royal Infirmary, linking existing active travel provision on Tillydrone Avenue to new provision and incorporating elements of the BCI project. It would deliver a minor benefit for TPO 1, moderate benefits for TPOs 2, 3 and 4, and a major benefit for TPO 5. Intervention costs would be relatively low. Tree removal would have minor environmental impacts. This, along with the removal of on-street parking could meet some public opposition, but public consultation indicates support for the type of measures adopted and for better cycle connectivity to the Royal Infirmary. Option 9 would deliver moderate economic benefits, due to improved safety and accessibility to educational and medical facilities. It would significantly improve pedestrian access to the Powis Terrace high frequency bus corridor and would improve active travel connectivity to a range of local services and for residents in areas of multiple deprivation, resulting in moderate integration and comparative accessibility benefits. It also connects with NCN Route 1. This option would deliver minor benefits for safety and community accessibility.

The alternative route using St Machar Drive and the upper half of the BCI project (9a in the tables below) delivers similar appraisal scores to option 9, with a moderate benefit for TPO 1, due to the greater segregation and 9 new Toucan crossings on the BCI section. It would also deliver moderate accident reduction benefits, for the same reasons, but would deliver only minor transport integration benefits as it does not serve the Powis Terrace high frequency bus corridor. The cost estimate excludes the section on the BCI.

8.3.10 Package 10: Whitestripes to City Centre

A 6.1 km route from Whitestripes Road to the city centre, using existing alignments including significant segregated sections. Almost half of the route is on the alignment of NCN Route 1, from the Diamond Bridge to Mounthooly roundabout. It would deliver moderate benefits for TPOs 1, 2, 3 and 5 and a major benefit for TPO 4. Intervention costs would be in the mid-range and land acquisition (if required) would add to cost and timescales. Tree and habitat loss to widen footways and replace a narrow active travel bridge would have a moderate environmental impact. This could also meet some public opposition, along with impacts on property boundaries. However, public consultation indicates strong support for segregated cycle lanes, crossing upgrades and widening the bridge. Option 10 would deliver moderate economic benefits, due to improved safety and cycle access to employment. It would significantly improve access to high frequency bus services, to local services and for residents in areas of multiple deprivation, delivering moderate integration and comparative accessibility benefits. High levels of segregation would deliver moderate accident reduction benefits.

8.3.11 Package 11: Haudagain to City Centre

A 4.5 km route from Haudagain roundabout to the city centre, using existing alignments at each end of the BCI. It would deliver major benefits for TPOs 1, 2, 3 and 4, and a moderate benefit for TPO 5. Intervention costs (which exclude the BCI section) would be in the mid-range and land acquisition would add to cost and timescales, but there would be a negligible environmental impact. Road space reallocation and removal of parking spaces could meet some public opposition, but public consultation indicates strong support for segregated cycle lanes and crossing upgrades. Option 11 would serve the Centre Point and Kittybrewster retail parks and is expected to lead to moderate modal shift towards active travel modes, producing a moderate economic benefit. Almost 70% of the route would be on segregated or shared use cycle paths and almost 30% on-road cycle lanes, delivering major safety benefits. It would significantly improve access to high frequency bus services, to local services and for residents in areas of multiple deprivation, delivering moderate integration and comparative accessibility benefits.

8.4 Summary of Appraisal Scores

Table 24 below shows the appraisal scores for the five TPOs for each option package, along with a summary of the implementability assessment. As shown in the table, most of the options would require the acquisition of third party land and all except options 1 and 5 would require the felling of mature trees. Both of these issues can lead to public objections, increasing costs, risks and timescales. The two columns on the right hand side record other significant issues which should be considered in the context of feasibility and public acceptability.

Table 25 presents the appraisal scores against the STAG criteria (and sub-criteria) for each option package. See Appendix E for further information.

Table 26 provides an assessment of the strengths and weaknesses of each option, whether the option is self-supporting or dependent on another option to be viable, and an indication whether the option delivers similar benefits to one or more of the other options. The options are then prioritised as high, medium or low, based on the results of the appraisal.

Table 27 presents an assessment of the options against the Sustrans 'Places for Everyone' design principles.

Table 24 – Summary of TPO and Implementability Appraisal[1]

Package	Route	TPO 1	TPO 2	TPO 3	TPO 4	TPO 5	Cost band	Requires land?	Tree removal?	Feasibility issues (+ land and tree removal)	Acceptability - likely objections (+ land and tree removal)
1	Kittybrewster to City Centre	1	1	1	2	1	Low	No	No	Nil	Road space reallocation & removal of parking spaces
2	Clifton Road to City Centre	2	1	2	3	2	Low	Yes	Yes	Nil	Road space reallocation & removal of parking spaces
3	Danestone to Hospital	3	3	2	2	2	High	Yes	Yes	New river bridge	Nil
4	Golf Road / Park Road	3	3	3	2	2	High	Yes	Yes	New river bridge	Loss of sports facilities
5	Industrial Estate to City Centre via Esplanade	3	3	3	1	1	Mid	No	No	Nil	Road space reallocation
6	King Street	2	2	2	3	3	High	Yes	Yes	Nil	Removal of parking spaces
7	Parkway to Balgownie Bridge	1	2	1	1	1	Low	Yes	Yes	Land availability for access ramp	Nil
8	Parkway to Hospital	1	2	1	3	3	Mid	Yes	Yes	Nil	Removal of parking spaces
9	Tillydrone to Hospital	1	2	2	2	3	Low	No	Yes	Nil	Removal of parking spaces
9a	Tillydrone to Hospital via BCI	2	2	2		3	Low	No	No	Nil	Removal of parking spaces
10	Whitestripes to City Centre	2	2	2	3	2	Mid	Yes	Yes	Replacement rail bridge	Impacts on property boundaries
11	Haudagain to City Centre	3	3	3	3	2	Mid	No	No	Nil	Road space reallocation & removal of parking spaces

[1] Scores range from -3 indicating a major cost or negative impact to +3, indicating a major benefit. ±1 indicates a minor cost or benefit; ±2 a moderate cost or benefit

Table 25 – Summary of STAG Criteria Appraisal[2]

Package	Route	Environment	Safety		Economy		Integration			Accessibility & Social Inclusion	
			Accidents	Security	Transport Economic Efficiency	Wider Economic Impacts	Transport Integration	Transport & Land Use Integration	Policy Integration	Community Accessibility	Comparative Accessibility
1	Kittybrewster to City Centre	0	1	1	2	0	0	1	1	0	1
2	Clifton Road to City Centre	0	1	1	1	0	2	2	1	1	2
3	Danestone to Hospital	-2	1	1	1	0	1	2	1	1	2
4	Golf Road / Park Road	-2	2	1	3	0	1	2	1	1	2
5	Industrial Estate to City Centre via Esplanade	-1	2	1	2	1	1	1	1	0	1
6	King Street	-2	2	1	3	1	2	2	1	0	2
7	Parkway to Balgownie Bridge	-2	2	1	2	0	1	1	1	1	1
8	Parkway to Hospital	-2	1	1	2	0	1	2	1	1	2
9	Tillydrone to Hospital	-1	1	1	2	0	2	2	1	1	2
9a	Tillydrone to Hospital via BCI	-1	2	1	2	0	1	2	1	1	2
10	Whitestripes to City Centre	-2	2	1	2	0	1	2	1	0	2
11	Haudagain to City Centre	0	3	2	2	0	2	2	1	1	2

[2] Scores range from -3 indicating a major cost or negative impact to +3, indicating a major benefit. ±1 indicates a minor cost or benefit; ±2 a moderate cost or benefit

Table 26 – Assessment of Complementarity, Strengths, Weaknesses and Priority

Package	Self-contained, or relies on complementary routes?	Delivers similar benefits to another option?	Strengths	Weaknesses	Priority
1	Variant to southern section of Option 2	Option 2	Low cost and easy to implement, 35% segregated cycle lanes, serves North East Scotland college	No provision for pedestrians, road space removal on high frequency bus corridor	Low
2	Could combine with Option 1	Option 11	Low cost, crossing upgrades at 16 minor road junctions, bus/cycle gate on George St with segregated 1 km contraflow cycle lane	Option 11 follows similar alignment and performs better in appraisal	Medium
3	Self-contained	No	New river bridge & 1 km off-road foot & cycleway, 50% shared use paths, 8 new / improved crossings	High cost and moderate environmental impact	Medium
4	Self-contained	Options 5 & 6	New river bridge & 1 km off-road foot & cycleway, 45% of route is segregated, 9 new / improved crossings, major economic benefits	High cost and moderate environmental impact	High (1 route in this corridor)
5	Self-contained	Options 4 & 6	Almost 65% segregation & 25% shared use paths, 7 new / improved crossings, crossing upgrades at 7 minor road junctions	May be too indirect to attract many new users, less connectivity to key centres than options 4 or 6	
6	Self-contained	Options 4 & 5	Almost 50% segregation, 2 major junction improvements, crossing upgrades at 17 minor road junctions, 4 improved crossings, major economic benefits, full route resurfacing	High cost and moderate environmental impact	
7	Variant or complement to northern section of Option 8	Option 8	Low cost, upgrade access to Balgownie bridge	Less than 25% segregation, and moderate environmental impact	Low
8	Self-contained, but could be complement to Option 7	No	Major improvement in connectivity to key centres including University and Royal Infirmary, 6 crossing upgrades	Less than 25% segregation, moderate environmental impact	Low

Package	Self-contained, or relies on complementary routes?	Delivers similar benefits to another option?	Strengths	Weaknesses	Priority
9	Self-contained	Option 9a	Low cost, major improvement in connectivity to key centres including University and Royal Infirmary, 3 crossing upgrades	Less than 20% segregation, slightly lower appraisal scores than option 9a	Medium
9a	Self-contained	Option 9	Low cost, over 40% segregation, major improvement in connectivity to key centres including University and Royal Infirmary, 9 new Toucan crossings	None	Medium
10	Self-contained	No	Replacement rail bridge for active travel, 50% segregation, crossing upgrades at 7 minor road junctions	Moderate environmental impact, road space removal on high frequency bus corridor	High
11	Self-contained	Option 2	Over 40% segregation and over 55% shared use paths or on-road cycle lanes, 9 new signalised crossings, crossing upgrades at over 40 minor road junctions	Cost is higher than option 2	High

Table 27 – Assessment of Sustrans 'Places for Everyone' Criteria

Package	Develop ideas collaboratively	Facilitate independent travel for everyone (inc unaccompanied 12 year old)	Enjoyment, comfort & protection	Access for all and equality of opportunity	Context-specific & evidence-led	Reallocate road space for active travel
1	All options have been informed by public and stakeholder consultation	30-40% of route suitable	Segregated cycle lanes for 35% of route, over 45% on minor roads		STAG is an evidence-led process. All options have been developed to suit their particular context and environment	For 35% of route (1.2 km)
2		20-30% of route suitable	Over 20% segregation and crossing upgrades at 16 minor road junctions, over 80% on minor roads			For 17% of route (1 km)
3		20-30% of route suitable	Over 20% segregated and resurfaced, almost 50% shared-use paths and 8 new or improved crossings			Nil
4		40-50% of route suitable	New active travel river bridge, 45% of route segregated and over 15% shared use paths, 100% minor roads			For 4% of route (0.3 km)
5		60-70% of route suitable	Over 60% segregation and 25% shared use, 7 new or improved crossings & 7 junction improvements, over 75% minor roads			Traffic lane at south end of bridge becomes cycle lane
6		40-50% of route suitable	Almost 50% segregation, crossing upgrades at 17 minor road junctions, 2 major junction upgrades			1 lane on each arm of King St / West North St junction
7		20-30% of route suitable	Over 20% segregation, upgrade steep, uneven steps and add access ramp through woodland, over 85% minor roads			Nil
8		10-20% of route suitable	Almost 20% segregation and 15% shared use paths, ASLs at 2 junctions and 9 crossing upgrades, over 60% minor roads			Removal of parking spaces to create cycle lanes
9		10-20% of route suitable	Over 15% segregation and 10% shared use paths, 4 improved crossings, over 70% minor roads			Removal of parking spaces to create cycle lanes
9a		40-50% of route suitable	Over 40% segregation and 10% shared use paths, 9 new crossings, over 30% minor roads			Removal of parking spaces to create cycle lanes
10		40-50% of route suitable	50% segregation, crossing upgrades at 7 minor road junctions, replacement rail bridge for active travel, over 80% minor roads			Nil

Package	Develop ideas collaboratively	Facilitate independent travel for everyone (inc unaccompanied 12 year old)	Enjoyment, comfort & protection	Access for all and equality of opportunity	Context-specific & evidence-led	Reallocate road space for active travel
11		40-50% of route suitable	Over 40% segregation and 25% shared use, 9 new signalised crossings & 44 crossing upgrades at minor road junctions, over 35% minor roads			For 2% of route (0.2 km)

9. Recommendations

9.1.1 Introduction

It should be noted that the STAG methodology is not designed to recommend a preferred option. In reality, it provides a multi-criteria assessment framework to assess the relative performance of transport interventions, enabling decision-makers to make an informed choice on the future development of interventions. The appraisal which is described in this report has shown that there are a number of potential interventions which could fulfil the brief; i.e. to improve "active travel connections in a north-south direction from the area north of the river Don, south to the city centre with connections to significant existing and planned trip generators".

The ultimate aim should therefore be to develop a cohesive network of active travel routes to the north of Aberdeen city centre, that is linked to wider Active Travel Action Plan proposals and can deliver the many benefits identified for each package in this appraisal. To support decision making in the delivery of that, the appraisal has identified which packages should be considered as higher priority than others. These are:

- Packages 4, 5 and 6, which would all provide an active travel route along or parallel to King Street, the main north-south alignment connecting Bridge of Don to the city centre. The appraisal scores for each option are very similar and each brings specific opportunities and constraints.
- Packagess 10 and 11,which would provide connectivity between the city centre and areas in the northwest of the study area, with large trip generators at the centre of each route. It is noted that Package 11 scores higher than Package 10 in the appraisal, but this is mainly due to the benefits of incorporating the BCI Project.

9.1.2 Packages 4, 5 and 6

Packages 4, 5 and 6 would provide very significant improvements in active travel connectivity within a similar travel corridor. Package 4 would deliver a new river crossing and a new high quality north-south route, upgrading an unclassified road, parallel to King Street and less than 600 metres to the east. It would improve connectivity to a number of significant trip generators as well as an area of multiple deprivation near Seaton Crescent. However, Package 4 has the highest estimated costs of all the routes. It would require significant land acquisition to construct almost 900 metres of segregated route across existing leisure facilities, as well as a new river bridge which would cross a local nature reserve. This would also give rise to moderate environmental impacts.

Package 5 would extend almost 1 km further to the north, serving a residential area to the east of Ellon Road, as well as the Conference Centre and the Science and Energy Park. It would be much cheaper to construct than Packages 4 or 6 and has only a minor environmental impact. This option would generally be perceived as a safer and more comfortable journey than the direct route along King Street, with very few opportunities for conflict with vehicles on the Esplanade. It also performs better than all of the other options in the assessment against the Places for Everyone criteria. However, it follows an indirect route to the city centre, via the Esplanade, which is almost 1 km east of King St. This would add almost 1.5 km to a commuting journey between Ellon Road and the city centre, compared to the direct route. This could be unattractive to many cyclists, who may prefer a more direct route. It also means that Package 5 provides direct connectivity to fewer trip generators than Packages 4 or 6. It also serves only 60% of the population that can access Package 4 and 55% of that served by Package 6[3].

Package 6 uses the direct King Street route, providing direct connectivity to a range of trip generators in the shortest journey time. Two major junctions would be improved; School Road / St Machar Drive and East / West North Street. The proposed resurfacing of the entire route would improve the comfort and safety of all users, not just those using active travel. However, the reallocation of road space for active travel use at two major junctions would conflict with the classification of King Street as a Priority Route in the Roads Hierarchy. King Street is a high frequency bus corridor, so pedestrians would be able to access bus stops more easily. On the other hand, road space reallocation for cycle users could cause delay to buses, which has the potential to deter users. Also, as

[3] Based on estimates of the residential population in the 2011 Census, living within 5 minutes cycle journey time of each route

King Street is a Priority Route, cyclists would be sharing road space with HGV traffic, which may make it unattractive for some users. The estimated costs of Package 6 are much higher than those of Package 5, approximately 90% of those of Package 4. Widening footways would require the removal of a number of mature trees, giving rise to moderate environmental impacts.

9.1.3 Options 10 and 11

Package 10 is the longest route, which would provide very significant improvements in active travel connectivity. It has the largest existing population of any of the routes within 5 minutes cycle time, and would serve the new Grandhome development, providing a direct connection to the University of Aberdeen and the city centre. It incorporates existing high quality provision north and south of the Diamond Bridge and proposes a number of interventions which would improve facilities on the existing NCN 1 Route. The estimated construction costs are very similar to those of Package 11 and the two routes perform similarly in the Places for Everyone assessment. Road space would be reallocated to create segregated cycle lanes for 550 metres on both sides of West North Street. This is a high frequency bus corridor, so this intervention could delay buses, with the potential to deter users. The amount of habitat and landscape loss would give rise to moderate environmental impacts.

Package 11 scores highest in the appraisal, but the northern extent is on the very edge of the study area until the BCI project and the section south of the A96 is out of the study area. Almost 70% of the route would be on segregated or shared use cycle paths, the route includes a large number of crossing improvements and directly serves the Kittybrewster and Centre Point retail parks, hence it scores very highly against all the TPOs, as well as the STAG criteria. This option would also have a negligible environmental impact, unlike the other options recommended as a priority for further consideration.

9.1.4 Next Steps

The findings of this study suggest that there are several options for improving active travel connectivity to and from the Bridge of Don area which merit further detailed development and assessment. It is recommended that further work is undertaken to develop these proposed high-priority interventions to an appropriate level of design to allow for a further assessment of their deliverability, including technical feasibility. This would also enable further quantification of their likely impacts, both positive and negative.

As set out in this report, there is a considerable level of community and stakeholder interest in active travel improvements. To ensure stakeholders are fully informed of developments, it is recommended that further community engagement is undertaken as the proposals are refined.

10. Monitoring and Evaluation

The final stage of the STAG process incorporates monitoring and evaluation, which is carried out following project implementation. This has an important role in determining whether the implemented project has achieved its TPOs and continues to represent value for money.

10.1.1 Monitoring

Key elements to include in the monitoring process are

- development of a strategy to outline how monitoring will be undertaken post-implementation and the scope of the process;
- development of challenging but achievable key performance indicators (KPIs) clearly linked to established policy directives;
- collection, analysis and interpretation of data relating to the KPIs, which should be appropriate to the scale and nature of the proposed intervention; and
- development of a Monitoring Report to detail the extent to which a project is delivering value for money and achieving the objectives set.

10.1.2 Evaluation

Evaluation forms an essential part of the policy cycle, providing evidence and learning points for future interventions and investments. It should be treated as a specific post-implementation event, designed to identify whether or not a project is performing as originally intended, is contributing to established policy directives and has delivered value for money.

Detailed guidance is available which sets out the various activities required, which should be proportional to the scale of the project. These include

- Process Evaluation, which is often referred to as 'lessons learned';
- Stage 1 Outcome Evaluation, which aims to provide a high level, early indication of project performance against targets; and
- Stage 2 Outcome Evaluation, which is conducted once the project has been in existence for a sufficient period (typically three to five years) to enable a comprehensive examination to be undertaken of actual performance against identified targets.

11. Summary and Conclusions

The appraisal has shown that there are a number of potential interventions which could fulfil the brief; i.e. to improve "active travel connections in a north-south direction from the area north of the river Don, south to the city centre with connections to significant existing and planned trip generators".

Packages 4, 5 and 6 would all provide an active travel route along or parallel to King Street, the main north-south alignment connecting Bridge of Don to the city centre. Packages 10 and 11 would provide connectivity between the city centre and areas in the northwest of the study area, with large trip generators at the centre of each route. The strengths and weaknesses of each route are summarised in Table 28.

Table 28 – Summary of Recommendations

Packages	Route	Strengths	Weaknesses
4	Golf Road / Park Road	Key desire line, attractive route off main carriageway New river crossing Avoids pinch points of King Street Connects high density residential areas, including areas of multiple deprivation	High estimated cost Significant land acquisition removing leisure facilities New bridge across local nature reserve Moderate environmental impacts
5	Industrial Estate to City Centre via Esplanade	Serves residential and industrial area north of existing river bridge Low traffic route – safe and comfortable Lower estimated cost than Options 4 & 6 Minor environmental impact	Attractive but off desire line, and less direct, adding up to 1.5 km to journey Less connectivity to key centres than options 4 or 6 Lane reallocation south of the bridge could meet public opposition
6	King Street	Key desire line, direct Connects high density residential areas, including areas of multiple deprivation Resurfacing whole route would improve comfort and safety of all users	Classified as a Priority Route; cyclists sharing road space with HGV traffic Bus delays from road space reallocation High estimated costs Moderate environmental impact
10	Whitestripes to City Centre	Direct, incorporates existing high quality provision High connectivity to population and trip generators Connects Grandhome development directly to University and city centre Targeted improvements to NCN 1	Bus delays from road space reallocation Moderate environmental impacts
11	Haudagain to City Centre	Highest appraisal scores against TPOs Almost 70% segregated or shared use cycle paths Incorporates all of Berryden Corridor High number of crossing improvements Directly serves Kittybrewster and Centre Point retail parks,	Route is on western edge of study area and southern section is outside area, Negligible environmental impact

The findings of this study indicate that there are several options for improving active travel links to and from the Bridge of Don area that merit further consideration. It is recommended that more detailed development and assessment be undertaken to allow a more thorough assessment of their deliverability and technical feasibility. This would also inform a further assessment of their likely impacts. To ensure that stakeholders are fully informed of developments, it is recommended that community engagement continues as proposals are refined.

Appendix A. Sustrans Places for Everyone Guidance

Appendix B. Public Survey Questions

Appendix C. Public Survey Responses

Appendix D. Options Long List

Appendix E. Appraisal Summary Tables

Appraisal Summary Tables

Option 1 Title: Kittybrewster to City Centre Description: New active travel route from Powis Terrace to the city centre using existing alignments with increased on-road and segregated cycle lanes. A possible alternative alignment to Option 2, for the section south of Powis Terrace.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide segregated cycle lanes (35% of route length) and on-road cycle lanes (nearly 30% of route length). This would reduce conflicts with vehicles and improve the route quality for cyclists.	+1
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide access to a route with segregated cycle lanes (35% of route length) and on-road cycle lanes (nearly 30% of route length). This would improve safety by reducing conflicts with vehicles. This route connects with options 2 and 10.	+1
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would have 35% segregated road cycle lanes and nearly 30% on-road cycle lanes. This would improve safety by reducing conflicts with vehicles. The route does not pass through any secluded areas.	+1
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve areas with a relatively high population density indicating that it could attract a reasonable number of new users	+2
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, North East Scotland college and to commercial and leisure facilities on Gallowgate.	+1

Implementability Appraisal		
Feasibility	No significant issues related to the implementation of this option are expected.	Minor consideration
Affordability	There would be relatively low capital and maintenance costs associated with the delivery of this option.	Minor consideration
Public Acceptability	There may be some opposition to the proposed road space reallocation on Powis Place, due to high traffic flows on this road. However, there should also be support as Powis Place is a key route into the city centre and has been cited as unsafe by cyclists in consultation feedback.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Road reallocated to provide segregated cycle lanes, on-street pay and display removed on west side of Gallowgate, provision of on-road cycle lanes on both sides of the Gallowgate. The existing environment along the proposed option alignment is dominated by the road network, commercial and residential properties. Sensitive receptors with regards to potential noise and vibration, air quality, landscape and visual amenity impacts include local residents, pedestrians, cyclists and vehicle travellers. Five cultural heritage assets immediately adjacent to the proposed interventions (Causewayend School, Category B Listed Building reference LB20650; Gallowgate, Voluntary Services, Category C Listed Building reference LB50053; 111 Gallowgate including boundary wall and railings, Category C Listed Building reference LB20316; Broad Street, Marischal College, Category A Listed Building reference LB20096; and 2 And 4 Upperkirkgate And 11 Gallowgate, Former Students Union, Category B Listed Building reference LB43377. Significant impacts on these assets are not anticipated. No sensitive habitats with regards to biodiversity have been identified along the route of the proposed intervention. Aberdeen City Centre Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective and 24 hour objective for Particulate Matter (PM_{10}). Whilst potential effects on emissions of CO_2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant.	Negligible benefits/ impact

	Minimal physical infrastructure requirements and potential construction impacts likely considered in line with those that would be experienced during operational maintenance. The interventions associated with this option have the potential for beneficial impacts on active travel users in terms of the amenity value and safety of routes. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Overall, it is considered that given the minimal infrastructure requirements and that potential impacts during construction would be likely considered in line with those that would be experienced during operational maintenance, negligible environmental impacts are anticipated. It is anticipated that no EIA or SEA would be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the level (35%) of segregated cycle lanes and nearly 30% of on-road cycle lanes on the route. Reallocating one lane in each direction on Powis Place for cycle use would reduce road space for car users and could lead to a slight increase in minor vehicle collisions, but this risk would be outweighed by the safety benefits for cyclists.	Minor benefit
Security	There should be some improvement in personal safety due to the level (35%) of segregated cycle lanes and nearly 30% of on-road cycle lanes on the route. The route does not pass through any secluded areas.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	An overall moderate benefit is expected. Active travel users could experience a minor reduction in journey times due to the creation of designated cycle lanes and removal of parking bays. The removal of these parking bays will also improve traffic flow for private vehicles; reducing congestion, journey times and driver stress. The creation of segregated cycle lanes between Powis Place and Mounthooly Roundabout will reduce road width, having a negative effect on driver welfare. Major wellbeing benefits are expected for active travel users, with segregated cycle lanes separating them from road traffic and reducing the risk of accidents. This may cause a modal shift towards cycling as users may feel safer. Such users may include those accessing the Aberdeen City Campus of the North East Scotland college. The wellbeing benefits experienced by these students, who can now access school via active travel, may be large. The health benefits arising from an active commute may improve focus and result in higher attainment. This will be beneficial for residents. A handful of small and medium enterprises are in close	Moderate benefit

	proximity to the proposed work, but the impacts on them are not expected to be significant. The removal of parking spaces may have a minor impact on trade.	
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
Integration:		
Transport Integration:	No identifiable impact	Neutral
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Minor benefit
Policy Integration	This option is likely to increase the use of active travel and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5. It includes proposals to reallocate one lane in each direction on Powis Place for cycle use. Powis Place is a high frequency bus corridor (with approx. 15 buses per hour in daytime in each direction) and this intervention could increase bus journey times, having a negative impact on users. The overall impact is therefore neutral.	Neutral
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups.	Minor benefit
Recommended as a priority route for further detailed development and assessment? (No)		
Rationale for Selection/Rejection at this stage: This option would be easy to implement at a relatively low cost and directly serves a large trip generator; the North East Scotland college. However, it does not include any measures for pedestrians, does not perform strongly against any of the other TPOs and other routes are considered to be a higher priority. It could be considered as an alternative to the southern section of Option 2, extending further into the city centre and aligning closer to the study area, but is not considered as a priority for further development and assessment.		

Option 2

Title: Clifton Road to City Centre

Description: New active travel route from Woodside area (and NCN Route 1) to the city centre using existing alignments with increased on-road cycle lanes, along with crossing and junction improvements, incorporating elements of the Berryden Corridor Improvements Project.

<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>

Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide on-road cycle lanes (over 45% of route length) and crossing improvements at 16 minor road junctions. This would reduce conflicts with vehicles and improve the route quality for both pedestrians and cyclists.	+2
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would increase access to a route with on-road cycle provision (for over 45% of route length) and crossing improvements at 16 minor road junctions. This would improve safety by reducing conflicts with vehicles. This route connects with options 1, 9 and 11.	+1
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would provide over 45% on-road cycle lanes, crossing improvements at 16 minor road junctions and advanced stop lines (ASLs) at two junctions. This would improve safety by reducing conflicts with vehicles. The route does not pass through any secluded areas.	+2
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve areas with a relatively high population density, connecting residential areas with a range of destinations, which could attract a high number of new users	+3
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, commercial / leisure facilities at the Berryden and Kittybrewster retail parks and on George Street, a health centre on Hutcheon Street and a primary school (at the northern extent).	+2

Implementability Appraisal		
Feasibility	Land acquisition would be required to deliver some interventions. This option would require the removal of some mature trees.	Moderate consideration
Affordability	There would be relatively low capital and maintenance costs associated with the delivery of this option. Some land acquisition would be required to deliver some interventions.	Minor consideration
Public Acceptability	There is likely to be public concern about road space reallocation, removal of parking spaces and trees, changes to boundary walls and one-way sections on George St. However, consultation feedback suggests that on-road cycle lanes and crossing improvements will be supported.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from removal of on street parking to improved pedestrian crossings and bus/cycle gate plus one-way sections with contra flow cycle lanes. The existing environment along the proposed option alignment is dominated by the road network, commercial and residential properties. Sensitive receptors with regards to potential noise and vibration, air quality, landscape and visual amenity impacts include local residents, pedestrians, cyclists and vehicle travellers. No sensitive habitats with regards to biodiversity have been identified along the route of the proposed intervention. There are several assets of cultural heritage interest adjacent to the route of the proposed intervention: • Aberdeenshire Canal, Remains Of, Scheduled Monument refence: SM10424 • March Stone No. 51 At Top Of Deer Road And West Corner Of Clifton Road Opposite Woodside School, Category B Listed Building reference LB20031 • Clifton Manor 352 Clifton Road Woodside, Category B Listed Building reference LB19975. • March Stone No. 56, Beside No. 41 Clifton Road Near The Junction Of That Road And Great Northern Road, Category B Listed Building reference LB20036. • 1 Great Northern Road, The Northern Hotel, Category A Listed Building reference LB20331 • 55 Powis Terrace, March Stone No 57, Category B Listed Building reference LB20037. • George Street, 593-595, Category C Listed Building reference LB20321 • 261-265 (Odd) George Street, Category B Listed Building reference LB20317	Negligible benefits/ impact

	• 230 George Street And 34 John Street, Category B Listed Building reference LB20649 • 119-125 (Odd Nos) George Street, Category C Listed Building reference LB50946 Minimal physical infrastructure requirements and potential construction impacts are considered likely to be in line with those that would be experienced during operational maintenance of the road network and other development consistent with an urban, city environment. Potential for noise and vibration impacts depending on nature of improvements to be made to pedestrian crossings, for example if flat topped humps are to be used. Potential for impacts on global and local air quality as a result of bus/cycle gate plus one way sections depending on levels of use. Whilst there is the potential for beneficial impacts along one section there may be adverse impacts along other sections if traffic is displaced from one road to another. Aberdeen City Centre Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective and 24 hour objective for Particulate Matter (PM_{10}). Whilst potential effects on emissions of CO_2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant. The interventions associated with this option have the potential for beneficial impacts on active travellers in terms of the amenity value and safety of routes. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Overall, it is considered that given the minimal infrastructure requirements and that potential impacts during construction would be likely considered in line with those that would be experienced during operational maintenance, negligible environmental impacts are anticipated and no EIA or SEA is anticipated to be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the level (over 45%) of cycle lanes on the route and the inclusion of crossing improvements at 16 junctions of minor roads with Clifton Road. Benefits are reduced to 'minor' by the removal of over 40 on-street car-parking spaces. If car users are required to park further away from their homes, this could marginally reduce their safety.	Minor benefit

Security	There should be some improvement in personal safety due to the level (over 45%) of cycle lanes on the route and the inclusion of crossing improvements at 16 junctions of minor roads with Clifton Road. The route does not pass through any secluded areas.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option has potential to produce a minor benefit. The vast majority of interventions within this option package offer minor benefits to active travel users, at a minor cost to road users. Changes in active travel journey times are expected to be minor, while there will also be a minor change in the reliability of journey times and a minor improvement in pedestrian safety. The removal of 11 on-street parking spaces has the potential to cause minor negative effects as it could force residents to park elsewhere and dissuade customers from the visiting businesses on Clifton Road. Intervention 13, the imposition of a one-way system and 1 km of contra-flow bike lanes, is the most significant intervention within this option package. Major safety and moderate journey time benefits for cyclists will be created at a moderate cost to private vehicles and businesses. There will be a moderate increase in journey times for private vehicles who will no longer be able to access George Street from one direction. This will restrict private vehicle access to the SMEs located along George Street (e.g. Butchers Arms). These businesses may face a reduction in footfall which, when combined with the removal of certain loading bays, may affect business viability. It is also possible that these businesses experience positive effects of increased footfall due to the increased accessibility for customers who cycle and appreciate decreased traffic. While this would be expected to cause a significant modal shift towards active travel modes (away from car travel) it will also increase short term congestion on surrounding roads where the traffic is displaced to, such as the A96 and Leslie Terrace. This congestion may increase short term pollution, in direct contradiction to the 2011 Aberdeen Air Quality Action Plan. The safety improvements should cause a modal shift towards cycling, but this change will occur in the longer term.	Minor benefit
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The impact on local businesses is not expected to be significant enough to cause a change in the local economy. Changes in the level of pollution will not be sufficient to effect worker health and therefore will also have negligible effects on the local economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts

Integration:		
Transport Integration:	This option would improve pedestrian access to bus stops on the Powis Terrace high frequency bus corridor (approx. 15 buses per hour in daytime) and to stops on Clifton Road (approx. 6 buses per hour in daytime).	Moderate benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in two areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, in Woodside and part of George Street.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (No)		
Rationale for Selection/Rejection at this stage: This option could be implemented at a relatively low cost, includes a 1 km contraflow cycle lane and crossing upgrades at 16 minor road junctions. It also scores 2 or more against most of the TPOs (except TPO 2). However, most of the route is outside the study area and Option 11 follows a similar alignment and scores higher in many aspects of the appraisal. For this reason, option 2 is not recommended as a priority for further consideration.		

Option 3 Title: Danestone to Hospital Description: New active travel route between Danestone and the Royal Infirmary, using a mix of existing carriageway and a new segregated route, with a new river bridge in the northern section.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide a new segregated section (almost 25% of route length), a new active travel-only river bridge and shared use pathways (for almost 50% of the route). It would include 2 new road crossings and 6 crossing upgrades. This would reduce conflicts with vehicles and improve the route quality for cyclists and pedestrians. It includes an existing section of an on-road National Cycle Network route (for over 15% of the route).	+3
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide access to a new route with a new river bridge, a new segregated section (almost 25% of the route length) and shared use pathways (almost 50% of the route), resurfacing and crossing upgrades. This would improve safety by reducing conflicts with vehicles. It includes an existing section of an on-road National Cycle Network route (for over 15% of the route) and connects with option 9.	+3
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would have almost 25% segregation and almost 50% shared-use sections, reducing conflicts with vehicles. Over 20% of the route would have new surfacing, improving comfort. It would include 2 new road crossings and 6 crossing upgrades. It includes an existing section of an on-road National Cycle Network route (for over 15% of the route). The new off-road section at the north end of the route would be isolated and some users may feel insecure out of daylight hours.	+2
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve a mix of areas, with both high and low population densities, connecting residential areas with a range of destinations, which could attract a reasonable number of new users.	+2

TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the Royal Infirmary, Woodside sports complex and three schools.	+2
Implementability Appraisal		
Feasibility	The technology on most of the route is relatively simple, with a new river bridge being the only complex element. Land acquisition would be required to deliver the new off-road section across existing farmland and/or sports facilities. This option would require the removal of some trees.	Moderate consideration
Affordability	This option would have relatively high capital and maintenance costs, due to the inclusion of a new river bridge and significant new off-road section, which would require land acquisition.	Major consideration
Public Acceptability	There is likely to be some public concern over land acquisition and tree removal. Consultation feedback indicates strong support for a new river bridge, new off-road cycleways and resurfacing.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from resurfacing existing routes to widening of shared use paths and provision of a new active travel bridge across the River Don. North of Laurel Drive the existing environment along the proposed option alignment is residential properties which back on to a strip of green space along which runs a high voltage power line with supporting pylons. South of Laurel Drive the proposed option alignment follows the route of the pylons and powerline through the wooded Persley Den and Danestone Country Park (woodland designated on the Ancient Woodland Inventory (AWI) as Long-established (of plantation origin). South of the River Don, the proposed route follows the line of the pylons across open fields and sports fields which are part of Woodside Sports Complex. Aberdeen City Council approved a detailed planning application for a mix of 401 two, three, four and five bedroom homes and will include apartments, townhouses, semi-detached, terraced and detached properties between the south side of River Don and Woodside. South of Woodside from the junction between Station Road and the A92 to the junction between Foresterhill Road and the A9011, the existing environment along the proposed option alignment is dominated by the road network, commercial and residential properties Between A92 Parkway to Station Road, there is the potential for moderate negative impacts on water quality, biodiversity and habitats, landscape and visual amenity due to the construction of a new	Moderate negative impact

	segregated footway/ cycle way with associated lighting, and the new active travel River Don Bridge Crossing. The River Don (SEPA ID: 23265) flows beneath the proposed active travel bridge. It has an overall status of Poor (SEPA, 2018). The construction of this section would involve felling of AWI woodland. Between Station Road and the junction between Foresterhill Road and the A9011, the potential impacts due to the interventions are generally considered to be negligible with minimal physical infrastructure requirements and potential construction impacts are considered likely to be in line with those that would be experienced during operational maintenance of the road network and other development consistent with an urban, city environment. However, it is considered that the widening of the footway into the grass verge along North Anderson Drive has the potential to fell existing trees and therefore result in potential moderate landscape and visual amenity impacts in this area. Aberdeen City Council (Anderson Drive) Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective Particulate Matter (PM_{10}). Whilst potential effects on emissions of CO_2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant. The interventions associated with this option have the potential for beneficial impacts on active travellers in terms of the amenity value and safety of routes. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Further assessment and development of mitigation measures would be required for this option due to the potential impacts on landscape, visual amenity, water quality and habitats and biodiversity. Ecological surveys would be required to assess potential impacts on the River Don from construction of the new bridge. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …*	

	Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation." Overall, it is considered that this intervention would have moderate adverse impacts. Further assessment would be required to determine whether there is the potential for significant environmental impacts in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and whether the proposed development would constitute an EIA Development (Schedule 2 – 10(b)).	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the segregation on the route and the inclusion of almost 50% new shared-use sections with good surfacing, which would reduce conflicts with vehicles. The route would include 1 new Toucan crossing, 1 new dropped kerb crossing and 6 crossing upgrades, which should reduce risks associated with crossing roads.	Minor benefit
Security	Personal safety should be enhanced for users due to the segregation on the route and the inclusion of almost 50% new shared-use sections with good surfacing, which would reduce conflicts with vehicles. The route would include 1 new Toucan crossing, 1 new dropped kerb crossing and 6 crossing upgrades. The new off-road section at the north end of the route would be isolated and some users may feel insecure out of daylight hours.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option has potential to produce a minor benefit. The creation of a considerable distance of segregated cycle lanes will create minor journey time savings and moderate wellbeing benefits for active travel users. Large parts of the route, particularly Hilton Drive to Cairncry Road, have high private vehicle traffic flows and therefore the creation of segregated cycleways will have major safety benefits for cyclists. There are very few costs of the project, with the exception of Cairncry Road to Ashgrove Road where there will be a minor increase in congestion and journey times. The extent of modal shift is uncertain due to the strong availability of existing, alternative active travel routes, but the increased provision of high quality segregated active travel infrastructure should attract users. The proposed new bridge over the river Don, which will incur a high CAPEX cost to construct, has two viable alternatives to the East and West - Persley bridge and a bridge by Grandholm Gardens. While this new bridge will offer moderate time savings to the residents of Danestone, the presence of existing	Minor benefit

	alternatives means that the impact on commuting patterns is expected to be limited. The improvements in accessibility to Woodside sports complex could potentially increase its use. Overall, the strong existing infrastructure lowers the potential impact of the proposed interventions and therefore only a minor benefit is anticipated.	
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
Integration:		
Transport Integration	This option would improve pedestrian access to bus stops on North Anderson Drive (routes 35, 37 and X37, with approx. 3 buses per hour) due to the inclusion of 6 road crossing improvements.	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5. It would also provide a direct active travel connection to a development of 400 new homes at Persley Den, which has conditional planning consent.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5. It also provides direct access to the National Cycle Network, as it incorporates an existing on-road section of Route 1.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in two areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, to the west of North Anderson Drive.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (No)		

Rationale for Selection/Rejection at this stage: This option would provide a new river bridge and a direct link to the Royal Infirmary for the residential areas of Danestone and the Grandhome development. It also scores 2 or more against all of the TPOs. This route may be worth considering further in the longer term, however there are other options which better meet the study brief and this option is not recommended as a priority for further development and assessment.

Option 4 Title: Golf Road / Park Road Description: New active travel route east of King St, using mix of existing carriageway and new segregated routes, with new river bridge at northern extent.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide new segregated paths for 45% of the route, a new active travel-only bridge over the River Don and new surfacing and lighting on over 35% of route. It would include new shared use sections / advisory cycleways, 5 new zebra crossings and 1 new Toucan crossing. This would significantly reduce conflicts with vehicles and improve the route quality for both pedestrians and cyclists.	+3
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide increased access to a new route with a new river bridge, 45% being segregated paths, including 35% with new surfacing and lighting. This would improve safety by reducing conflicts with vehicles. This route connects with options 5 and 6.	+3
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would provide 45% segregation, including new off-road sections with good surfacing and lighting over 35% of the route. New road crossings include 5 new zebras and 1 Toucan. This would improve safety by reducing conflicts with vehicles. The new off-road section at the north end of the route would be isolated and some users may feel insecure out of daylight hours.	+3
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve a mix of areas, with both high and low population densities, connecting residential areas with a range of destinations, which could attract a reasonable number of new users.	+2
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, Aberdeen Sports Village and stadium, leisure facilities on the Esplanade, two health centres in Park Road / Park Street area and a primary school (at the southern extent).	+2

Implementability Appraisal		
Feasibility	The technology on most of the route is relatively simple, with a new river bridge being the only complex element. Land acquisition would be required to deliver the new off-road section across existing sports facilities. This option would require the removal of some trees.	Moderate consideration
Affordability	This option would have relatively high capital and maintenance costs, due to the inclusion of a new river bridge and significant new off-road section, which would require land acquisition (currently sports facilities).	Major consideration
Public Acceptability	There is likely to be public concern about land acquisition, loss of sports facilities and tree removal. There may be concerns over construction traffic and impacts to surrounding residential areas, in relation to the new river bridge. However, consultation feedback indicates strong support for a new bridge, an alternative route to King St, wider shared use paths, as well as good lighting and signage.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from resurfacing existing routes to widening of shared use paths and provision of a new active travel bridge across the River Don. The Don Estuary transitional waterbody (SEPA ID: 200104) flows beneath the proposed active travel bridge. It has an overall status of High (SEPA, 2018). The proposed new active travel bridge would cross Donmouth Local Nature Reserve (LNR). There is the potential for significant impacts on this LNR from construction depending on the design of the bridge, such as use of piers in the watercourse. This LNR extents into the grassland south of the Esplanade where the new segregated cycle and pedestrian path will be constructed. There will be loss of a small number of trees on the boundary of the park but these are not classified as Ancient Woodland Inventory (AWI). The new active travel bridge to be constructed across the River Don would be approximately 200m east of Bridge of Don, Category B Listed Building. Further assessment required to determine potential impacts and develop mitigation to avoid / reduce potential impacts on this cultural heritage asset. The new segregated Active Travel path will cut through Seaton Park football pitches, potentially resulting in adverse impacts on community facilities. Kings Links Golf Course is located to the east of	Moderate adverse impact

	the proposed segregated Active Travel path, which would require potential impacts on landownership assessment to be determined. Category B listed building March Stone NO. 64 (LB:200044) is located on the South side of School Road at its junction with Golf Road (E:394822, N: 808382). The proposed cycle lane passes this historic asset. Category B listed building March Stone NO. 63 (LD:200043) is located on Golf Road at the rear entrance to Pittodrie Football Ground (E:394885, N:807577). The proposed cycle lane passes this historic asset. Once the Active Travel route meets the School Road and Golf Road Junction, it follows Golf Road. The provision of segregated cycle lanes on the carriageway, widening of footways from 2m to 3m, removal of refuge islands to be replaced by zebra crossings and reallocation of road space in favour of active travellers will provide beneficial impacts for them through improvements of safety and amenity value. Impacts would be anticipated on local residents along the route and on road users. This would include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks. Due to the short-term and small scale of the works, these impacts are not likely to be considered significant. The interventions associated with this option have the potential for beneficial impacts on active travellers in terms of the amenity value and safety of routes. Walkover surveys may be advised to along the entirety of the route interventions to confirm desk-based assessment. Ecological surveys would be required to assess potential impacts on the Don Estuary and LNR from construction of the new bridge. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* Mitigation would be required during construction of the proposed Active Travel crossing to avoid or reduce potential significant impacts on the watercourse and the LNR. During construction of cycle lanes	

	and alterations to the carriageway, appropriate mitigation would be required to minimise disruption to road users and active travellers through provision of diversionary routes and signage where appropriate. Timing of works should be planned to minimise disruption to local residents and consultation with residents and businesses likely to be affected during construction should be carried out prior to commencement of works. No significant impacts from CO_2 emissions and other pollutants would be anticipated during construction. Overall, it is considered that given the infrastructure required and the potential impacts on the Don Estuary Waterbody and LNR and Bridge of Don Listed Building, that this option would result in a moderate adverse impact. Further assessment would be required to determine whether there is the potential for significant environmental impacts in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and whether the proposed development would constitute an EIA Development (Schedule 2 – 10(b)).	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the high level (45%) of segregation on the route and the inclusion of over 35% new off-road sections with good surfacing and lighting. New road crossings include 5 new zebras and 1 Toucan.	Moderate benefit
Security	Personal safety should be enhanced for users due to the high level (45%) of segregation on the route and the inclusion of over 35% new off-road sections with good surfacing and lighting. The route also includes six new road crossings (5 zebras and 1 toucan). The new off-road section at the north end of the route would be isolated and some users may feel insecure out of daylight hours.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option is expected to produce a major benefit, with particular improvements for cyclists. The creation of this independent cycle route has potential to create significant impacts for residents to the north of the River Don accessing the city centre for both employment and leisure opportunities. Increased access to leisure facilities will have positive effects on businesses involved in this sector. Active travel users (cyclists and pedestrians) will experience major health and wellbeing benefits at the expense of a minor increase in journey times. The creation of 1 km worth of new segregated cycleways, the upgrading of refuge islands to zebra crossings, the widening of footways and the improving in road	Major benefit

	markings will all combine to have a major wellbeing benefit on any people travelling by foot or bicycle in the area. Moreover, active travel traffic will be displaced from the busy King Street Road to this new, safer, alternative. The extent of modal shift towards cycling will depend on how many users are willing to experience longer journey times, for the benefit of a safer, more enjoyable route. Minor increases in congestion are expected for private vehicles in the city centre, but these are not expected to be significant. A new active travel bridge may incur significant expenditure, while the acquisition of land from the golf course will be necessary for the expansion of cycling lanes. This route will be primarily used by residents from north of the river but may also be used by residents located to the east of King street. It therefore has an impact on a large population and has been deemed to have a major benefit overall.	
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
<u>Integration:</u>		
Transport Integration	This option would marginally improve pedestrian access to bus stops on Golf Road, Park Road and Park Street (route 13, with 3 buses per hour in daytime) due to the inclusion of six new road crossings (5 zebras and 1 toucan).	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
<u>Accessibility & Social Inclusion:</u>		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in several areas in Seaton classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016.	Moderate benefit

Recommended as a priority route for further detailed development and assessment? (Yes)	
Rationale for Selection/Rejection at this stage: This option would deliver a new river crossing and a new high quality route parallel to King Street, improving connectivity to a number of significant trip generators as well as an area of multiple deprivation. It has the highest estimated costs of all the routes and would require significant land acquisition, nevertheless, the benefits are sufficient for it to be recommended for further detailed development and assessment.	

Option 5

Title: Industrial Estate to city centre via Esplanade

Description: New active travel route from the A92 Parkway roundabout to the city centre via the Esplanade, using existing alignments with increased segregation, shared-use paths and footway improvements.

<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>

Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide significant levels of segregation (almost 65% of route length) and shared use paths (over 25% of route). Crossings and footways would be upgraded on Ellon Road and Beach Boulevard. This would significantly reduce conflicts with vehicles and significantly improve the route quality.	+3
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide significant segregation (almost 65% of route length) and shared use paths (over 25% of route). Crossings and footways would be upgraded on Ellon Road and Beach Boulevard. This would significantly improve safety by reducing conflicts with vehicles. This route connects with options 4 and 6.	+3
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would have almost 65% segregation (mainly on the Esplanade) and over 25% shared use paths. Crossings and footways on Ellon Road and Beach Boulevard would be upgraded. This would significantly improve safety by reducing conflicts with vehicles. Several junctions on Beach Boulevard would be improved with tactile paving and dropped kerbs. The Esplanade section is fairly isolated and some users may feel insecure out of daylight hours.	+3
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would connect residential areas with a range of destinations, but much of the route runs through areas with a very low population density, so may attract only a relatively low number of new users.	+1
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, employment sites at the north extent of the route, leisure facilities on the Esplanade and a health centre and primary school (at the southern extent).	+1

Implementability Appraisal		
Feasibility	No significant issues related to the implementation of this option are expected.	Minor consideration
Affordability	There would be relatively low capital and maintenance costs associated with the delivery of this option.	Minor consideration
Public Acceptability	There is likely to be some public concern about a reduction in road space for cars. However, consultation feedback indicates strong support for reducing conflicts between pedestrians and cyclists, segregated cycle lanes, junction and crossing improvements, signage and resurfacing.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from resurfacing existing routes to widening of shared use paths and reassigning a traffic lane to a segregated cycle lane. The existing environment along the option between The Parkway and the Bridge of Don is dominated by residential properties and the dual carriageway, sections of which are lined by trees. Crossing the Bridge of Don, a Category B Listed Building - Bridge of Don (LB:15710), provides views across the Don estuary and of the Donmouth Local Nature Reserve east of the bridge. The proposed option then follows the esplanade east and south with views across the North Sea (east) and Kings Links Golf Course (west). West of Links Road along Beach Boulevard, the existing environment becomes increasingly dominated by commercial and residential properties. The grass verge adjacent to Ellon Road that currently segregates the pedestrian path will be reduced to accommodate the shared use path however this impact is anticipated to be negligible. The proposed Active Travel route will cross Category B Listed Building - Bridge of Don (LB:15710). Potential impacts on this historic asset would be dependent on design of the route and any construction methods used on the structure. The route will pass by Category B Listed Building – March Stone (LD:20046) on the south bank of River Don, just off the Esplanade (E:395014, N:809236). Impacts on this asset are not anticipated on this asset from the new Active Travel route. The Donmouth LNR is located south of the Esplanade. Impacts are not anticipated on this designated site from construction of the proposed footway.	Minor adverse impact

	There are several bus stops situated along the route which would require consideration to assess potential impacts on public transport accessibility from the presence of new Active Travel routes and reallocation of road space. The interventions associated with this option have the potential for beneficial impacts on active travellers in terms of the amenity value and safety of routes. Sensitive receptors with regards to potential noise and vibration, air quality, landscape and visual amenity impacts include local residents, pedestrians, cyclists and vehicle travellers. Potential impacts during construction on local residents, pedestrians, cyclists and vehicle travellers include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks for the alterations to the cycleway and road surface. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Due to the short-term duration and scale of the works, significant impacts are not considered likely. Reassigning southbound left turning traffic lane to a segregated cycle lane may have a potential adverse impact on localised air quality depending on traffic levels as the stop starting movements of vehicles while they are in a queue emits a greater volume of pollutants than free-flowing traffic. However, it is not anticipated that this impact will be significant. Timing of works should be planned to minimise disruption to local residents and consultation with residents and businesses likely to be affected during construction should be carried out prior to commencement of works to notify them. Significant environmental impacts are not anticipated from the proposed interventions therefore it is not considered that an Environmental Impact Assessment or Strategic Environmental Assessment would be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. Crossings and footways on Ellon Road and Beach Boulevard would be upgraded. Pedestrians would be segregated from cyclists on the Esplanade and the section of Beach Boulevard from the Esplanade to Links Road. The proposed interventions at the southern end of the River Don bridge would reduce road space for car users and could lead to a slight increase in minor vehicle collisions, but this risk would be outweighed by the safety benefits for cyclists.	Moderate benefit

Security	Personal safety should be moderately enhanced for users due to the level of segregation (almost 65%) on the route (mainly on the Esplanade). Crossings and footways on Ellon Road and Beach Boulevard would be upgraded. The Esplanade section is fairly isolated, and some users may feel insecure out of daylight hours.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option has the potential to create moderate benefits through implementation of active travel infrastructure passing through a variety of industrial, residential, and leisure areas. The first section of the option's route features a significant length of road being upgraded in terms of its active travel infrastructure to allow for segregated cycle paths, improved crossings and minimised interference with bus stops. This may create benefits for residents, commuters and leisure users in the form of journey time improvements, wellbeing improvements, safety improvements and health improvements for users that shift from other modes of transport. Private sector companies in the industrial park area may experience benefits through increased access for current/potential employees, customers and suppliers. The re-allocation of a left turning lane for vehicles into a segregated cycle lane on the existing road bridge over the Don has a combination of benefits and costs for residents, commuters and leisure users in the form of increased safety (through reduced possibility of injury/mortality) and increased wellbeing derived from active travel journeys. This infrastructure may also encourage modal shift due to increased attractiveness of active travel. The potential costs affect the same groups through increased congestion due to re-allocation of road space in an already congested area. This may impact on industrial/logistical operations that pass through the area en route to Aberdeen's industrial areas in the Port/Harbour area and at the beginning of the route near Parkway roundabout. There is also a possibility that journey times increase and reliability of journey times decrease for leisure users entering the beachfront area by private vehicle. Improvements to the beachfront area in terms of segregated cycling provide benefits for pedestrians and cyclists alike in terms of safety, health, journey times, reliability of journey times, and wellbeing. These impacts will be felt mainly by leisure users but also some commuters who utilise the infrastructure. Given the area is a leisure destination, improving access may provide benefits for the businesses in the area through increased economic activity. There may be minor congestion impacts through the introduction of a crossing which could create costs for private vehicle owners in terms of increased journey times and increased driver stress.	Moderate benefit
Wider Economic Impacts	This option has the potential to provide minor positive impacts given the potential for these infrastructure improvements to positively affect residents, commuters, leisure users and businesses in	Minor benefit

	various areas of Aberdeen whilst also contributing to Regional Economic Strategy [4], Local Transport Strategy [5] and Air Quality Action Plan [6]. The option may also contribute towards national goals and plans (Active Travel Framework [7], Air Quality Strategy Objectives [8], and National Transport Strategy[9]). All of these underline the importance of active travel infrastructure, congestion, modal shift, and improvements in air quality.	
<u>Integration:</u>		
Transport Integration	This option would marginally improve pedestrian access to bus stops on Ellon Road (multiple routes with a high bus frequency) and Beach Boulevard (route 15, with 2 buses per hour in daytime) due to the inclusion of upgrades to crossings and footways.	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Minor benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
<u>Accessibility & Social Inclusion:</u>		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups.	Minor benefit
Recommended as a priority route for further detailed development and assessment? (Yes)		
Rationale for Selection/Rejection at this stage: This option would significantly improve active travel provision on Ellon Road and provide a safe and secure route to the city centre with very little traffic. It performs well against the Places for Everyone criteria and could be implemented at a relatively low cost. It takes an indirect route, so may not be attractive to all users, nevertheless, the benefits are sufficient for it to be recommended for further detailed development and assessment.		

[4] Aberdeen City Council and Aberdeenshire Council, https://www.aberdeencity.gov.uk/sites/default/files/Regional_Economic_Strategy_0.pdf and https://committees.aberdeencity.gov.uk/documents/s85085/PLA.18.025%20-%20Appendix-RES%2020180607F.pdf

[5] Aberdeen City Council, https://www.aberdeencity.gov.uk/sites/default/files/Local%20Transport%20Strategy%20%282016-2021%29.pdf

[6] Aberdeen City Council https://www.aberdeencity.gov.uk/sites/default/files/air_quality_action_plan_2011.pdf

[7] Scottish Government, https://www.transport.gov.scot/publication/active-travel-framework/

[8] DEFRA, https://uk-air.defra.gov.uk/air-pollution/uk-eu-policy-context

[9] Scottish Government, https://www.transport.gov.scot/our-approach/national-transport-strategy/

Option 6

Title: King Street

Description: New active travel route along King St from just south of the Bridge of Don to Castle St, with significant segregation, junction upgrades and full resurfacing.

High Level Appraisal against Transport Planning Objectives (TPOs)

Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide almost 50% segregation, upgrades to two junctions to significantly improve conditions for cyclists and to 17 crossings at minor road junctions, with new surfacing over the whole route. This would significantly reduce conflicts with vehicles and improve access to a high quality route.	+2
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide almost 50% segregation, significant upgrades to two junctions and to 17 crossings at minor road junctions, with new surfacing over the whole route. This would significantly improve safety by reducing conflicts with vehicles. This route connects with options 4, 5, 8 and 10.	+2
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would provide almost 50% segregation (reducing the risk of conflicts with vehicles), two junction upgrades and improvements to 17 crossings at minor road junctions, all of which would significantly improve safety. The full extent of the road, footways and cycleways would be resurfaced, substantially improving safety and comfort for users. The route does not pass through any secluded areas.	+3
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve areas with a relatively high population density, connecting residential areas with a range of destinations, which could attract a high number of new users	+3
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would significantly improve active travel connectivity to the city centre, Aberdeen Sports Village and stadium, the University of Aberdeen, several schools and health centres, and a variety of commercial services.	+3

Implementability Appraisal		
Feasibility	The technology to be employed on the route is relatively simple. Some land acquisition would be required to deliver some interventions. This option would require the removal of some trees.	Moderate consideration
Affordability	This option would have relatively high capital costs, due to the inclusion of two junction upgrades and full route resurfacing. Land acquisition would be required to deliver some interventions.	Major consideration
Public Acceptability	There is likely to be some public concern regarding land acquisition, removal of parking bays and trees. However, public consultation indicated support for segregated cycle lanes, junction improvements and resurfacing.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from removal of on street parking to improved pedestrian crossings and bus/cycle gate plus one-way sections with contra flow cycle lanes. The existing environment along the option between the Bridge of Don is dominated by residential and commercial properties and the A956. Sections of the route alongside St Ninians Flats are lined with mature trees in the verge. There are several bus stops situated along the route which would require consideration to assess potential impacts on public transport accessibility from the presence of new NMU routes and reallocation of road space. The proposed intervention route would pass Category B - St Peter's Cemetery Gates (LD:20060) on the northbound side of King Street (E:394265, N:807713). The works will upgrade the southbound lane and given the existing infrastructure surrounding this historic asset, potential impacts are not considered likely to be significant. The proposed interventions would include widening footways and provision of a segregated cycle lane on the southbound carriageway of King Street. The carriageway would be resurfaced along the whole route. The widening of the east footway into the verge north of Don Street has the potential to result in moderate adverse landscape and visual impacts due to the potential removal of mature trees.	Moderate adverse impact

	The interventions associated with this option have the potential for beneficial impacts on NMUs in terms of the amenity value and safety of routes. Aberdeen City Centre Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective and 24 hour objective for Particulate Matter (PM_{10}). Whilst potential effects of the proposed option on emissions of CO_2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant. Potential impacts during construction on local residents, pedestrians, cyclists and vehicle travellers include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks for the alterations to the cycleway and road surface. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Due to the short-term duration and limited scale of the works, significant impacts are not considered likely. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* Overall, it is considered that moderate adverse impacts are anticipated due to the potential landscape and visual impacts associated with the removal of mature trees from the verge adjacent to St Ninians Flats. It is not considered that an Environmental Impact Assessment or Strategic Environmental Assessment would be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the high level (almost 50%) of	Moderate benefit

	segregation on the route and full resurfacing of the whole route. Road crossings would be improved at King St/School Road/St Machar Drive and King St/West North St junctions. Reallocating one lane in each direction near the West North St junction for cycle use would reduce road space for car users and could lead to a slight increase in minor vehicle collisions, but this risk would be outweighed by the safety benefits for cyclists.	
Security	Personal safety should be enhanced for users due to the high level (almost 50%) of segregation on the route (reducing the risk of conflicts with vehicles) and two junction upgrades which will include advance stop lines, improved cycleways and guidance. The full extent of the road, footways and cycleways would be resurfaced, reducing the risk of slips, trips and falls, especially for elderly or disabled users. The route does not pass through any secluded areas.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option is expected to produce a major benefit. King Street runs directly north to south, as the main access road from north of the River Don to the City Centre. The nature of this road means it is used by a variety of communities and users, for a variety of different purposes. Any benefits generated will therefore be experienced by a wide area. The interventions have potential to provide major safety and moderate journey time benefits for cyclists. The segregation of over 1 km of cycle lanes is an infrastructure improvement which should ensure cyclists feel safer and are therefore more likely to travel by bicycle. It may increase the speed of travel down the main access corridor to the city centre (King Street), making it particularly appealing for commuters. A major modal shift towards active travel modes is therefore expected. This could affect industry in Aberdeen, through both a change in commuting patterns and productivity benefits for employers. A more active labour force has health benefits for individuals, leading to a decrease in sick days, increases in productivity and resulting in output gains. There are negligible costs expected for private vehicles, which instead may see minor welfare benefits from the resurfacing of the road. The only potential significant cost will be experienced by the local businesses located along King Street. The removal of on road parking spaces may reduce accessibility to these stores and may have a minor adverse impact on their trade. This impact is not deemed to be significant. A note should be made then if option 6 is selected in conjunction with option 4, the extent of the benefits will be dampened. These option packages will fulfil the needs of the same population, and therefore the implementation of both will have dampened effects.	Major benefit
Wider Economic Impacts	A minor benefit is expected. The nature of this route, which directly links the residential areas to the North of the river Don with the City centre, is expected to have a minor beneficial impact on the regional economy. A major shift towards active travel will increase the health of the labour force, leading to	Minor benefit

	productivity gains and an increase in industry output – broadly in line with the goals of the regional economic strategy[10]. The improved accessibility to city centre employment may also slightly increase house prices to the North of the river Don.	
Integration:		
Transport Integration	This option would provide residents of King St and adjoining streets with access to a route with significantly increased levels of segregated footways, easing access to bus stops on a high frequency bus corridor with multiple services.	Moderate benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in several areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, at the northern end of the route.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (Yes)		
Rationale for Selection/Rejection at this stage: This option uses the direct King Street route, providing direct connectivity to a range of trip generators in the shortest journey time. Two major junctions would be improved and the whole route would be resurfaced. It would have a moderate environmental impact and some of the proposed interventions could conflict with the classification of King Street as a Priority Route in the Roads Hierarchy. Nevertheless, the benefits are sufficient for it to be recommended for further detailed development and assessment.		

[10] Based on the Aberdeenshire Council Regional Economic strategy, 2018-2023 action plan, available at: https://www.aberdeenshire.gov.uk/business/support-and-advice/Publications/

Option 7 Title: Parkway to Balgownie Bridge Description: New active travel route from the A92 Parkway to Balgownie Bridge using existing alignments with increased segregation and improvements to two crossings and a flight of steps.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide segregated cycleways (over 20% of route length). One junction and a crossing would be upgraded. Steps to Balgownie bridge would be improved, with the addition of off-road ramped access. This would reduce conflicts with vehicles and improve the route quality for cyclists and pedestrians.	+1
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide access to a route with over 20% segregation and with upgrades to a junction and a crossing. Steps to Balgownie bridge would be improved, with the addition of off-road ramped access. This would improve safety by reducing conflicts with vehicles. This route connects with options 4, 5, 6 and 8.	+2
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would have over 20% segregation, a junction and crossing upgrade and improvements to a set of steep, uneven steps through a patch of woodland, with the addition of off-road ramped access. This would improve safety by reducing conflicts with vehicles. Signage would also be improved at the southern extent of the route. The Balgownie steps are fairly isolated and some users may feel insecure out of daylight hours.	+1
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	Whilst this option would serve some areas with a relatively high population density, it is a fairly short route, so may attract only a relatively low number of new users.	+1
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to employment sites in the Aberdeen Innovation Park and Nevis Business Park, the Balgownie Community Centre and leisure facilities, the Hillhead Student Village and the Ellon Road corridor.	+1

Implementability Appraisal		
Feasibility	Land acquisition and the removal of trees and vegetation would be required on Balgownie Road. Land ownership and availability for ramped access to the steps to Balgownie Bridge requires clarification.	Moderate consideration
Affordability	There would be relatively low capital and maintenance costs associated with the delivery of this option. Land acquisition would be required on Balgownie Road. Land ownership and availability for ramped access to the steps to Balgownie Bridge requires clarification.	Minor consideration
Public Acceptability	There is likely to be public concern regarding land acquisition and the removal of trees and vegetation. However, public consultation indicates strong support for segregated cycleways, crossing upgrades and improvements to the Balgownie steps.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions including provision of signage, widening of shared use paths and upgrading crossing facilities. The existing environment along the proposed option alignment is made up of residential properties and mixed vegetation including trees of varying maturity along Balgownie Road. The proposed intervention section between Balgownie Road and Balgownie Bridge is located within Ancient Woodland Inventory (AWI) woodland (Ancient (of semi-natural origin)). There are several designated cultural heritage assets adjacent to the route of the proposed option: • 79 Balgownie Road (LB:49996) - Category B Listed Building located on the northbound carriageway of Balgownie Road • Balgownie Lodge Gatehouse (LB15672) - Category B Listed Building adjacent to proposed alignment • 2-20 (Inclusive Nos) Cottown Of Balgownie, Bridge Of Don (LB15668) - Category B Listed Buildings • "BRIDGEFIELD" Balgownie Road Bridge Of Don (LB15670) – Category C listed building • Brig O' Balgownie Over River Don - Category A Listed building (LB20067) approx 40m west of proposed alignment.	Moderate adverse impacts.

	There would be moderate adverse biodiversity and habitats, landscape and visual amenity impacts due to the widening of the footway on the southbound side and provision of a 3m wide cycleway along the northbound side between Parkway and Campus One access. This is due to the potential removal of vegetation and mature trees within the verge between Home Farm Road and Campus One that would need to be considered with the widening of the footway at this location. Moderate adverse biodiversity and habitats, landscape and visual amenity impacts are also anticipated due to the provision of a 3m wide cycleway along the northbound side between Campus One access and Kettock Mills Road. This is due to the potential removal of vegetation and mature trees within the verge between Campus One access and Kettock Mills Road that would need to be considered with the widening of the footway at this location. Balgownie Lodge Gatehouse (LB15672) is Category B Listed Building situated on the corner of Kettocks Mills Road and Balgownie Road. Due to the provision of the 3m wide cycleway immediately adjacent to the property and any necessary accommodations works that would be required such as moving street lighting, further assessment would be required to determine the potential impacts on this cultural heritage asset. The woodland either side of the existing steps between Balgownie Road and Balgownie Bridge is designated as AWI. Provision of ramped access between Balgownie Road and Balgownie Bridge would therefore require felling of this woodland resulting in potential moderate adverse impacts on biodiversity and habitats, landscape and visual amenity. Walkover surveys may be advised to along the entirety of the route interventions to confirm desk-based assessment. Ecological surveys would be required to assess potential impacts of the removal of vegetation and felling of woodland. Brig O' Balgownie Over River Don is a Category A Listed Building located approximately 40m from the proposed ramp. Due to the felling of woodland and installation of ramped access between Balgownie Road and Balgownie Bridge, further assessment is required to determine the potential impacts on this cultural heritage asset. Impacts would be anticipated on local residents along the route and on road users. This would include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks. Due to the short-term nature and scale of the works, these impacts are likely to not be considered significant. During construction of cycle lanes and alterations to the carriageway, appropriate mitigation would be required to minimise disruption to road users and active travellers through provision of diversionary routes and signage where appropriate.	

	Timing of works should be planned to minimise disruption to local residents and consultation with residents and businesses likely to be affected during construction should be carried out prior to commencement of works to notify them. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* There are several bus stops situated along the route which would require consideration to assess potential impacts on public transport accessibility from the presence of new NMU routes and reallocation of road space. No significant impacts from CO_2 emissions and other pollutants would be anticipated during construction. The interventions would encourage greater use of active travel methods, potentially reducing car usage on the route which would have beneficial impacts on local air quality. Further assessment would be required to determine whether there is the potential for significant environmental impacts in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and whether the proposed development would constitute an EIA Development (Schedule 2 – 10(b)). It is anticipated that potential impacts would be at least moderate adverse.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. A junction, crossing and cycleways on Balgownie Road would be upgraded. This would reduce conflicts with vehicles and make a junction and road crossing easier and safer to use. A set of steep, uneven steps between Balgownie Road and	Moderate benefit

	Balgownie Bridge, through a patch of woodland, would be made safer and easier to use and a fully accessible off-road ramp added to bypass the steps.	
Security	Personal safety should be moderately enhanced for users due to the level of segregation (over 20%) on the route. A junction, crossing and cycleways on Balgownie Road would be upgraded, along with a set of steep, uneven steps through a patch of woodland. A fully accessible off-road ramp would be added to bypass the steps. Signage would also be improved at the southern extent of the route. The Balgownie steps section is fairly secluded and some users may feel insecure out of daylight hours.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option is expected to have a moderate benefit. The creation of designated cycle lanes, in an area which currently has poor provision, should allow safer active travel access to two important locations. To the north of the proposed option is Aberdeen Innovation Park and surrounding businesses, while the Ellon Road bridge over the River Don is located to the south. This link would provide a link between the industry to the north, and the primary connecting link between the communities to the north of the river and the city centre. This should be highly beneficial for commuters who wish to access either of these employment hubs. The increasing accessibility should create a modal shift towards cycling for commuters in the area. A further positive impact of the proposed interventions may be the improving accessibility to leisure facilities, with safer access by active travel to facilities in the city centre. The development of the Scotstown Road/ Balgownie Road junction is integral to this, allowing travellers from the north to safely join Balgownie Road, and continue their journey to the south. Furthermore, this junction is in close proximity to Balgownie Community centre, Balgownie Bowling club and a special education school. The improvements at this junction will provide major safety benefits to the protected users who utilise these facilities. A minor negative impact on private vehicle users is expected, with zebra crossings and signalised junctions potentially creating congestion and therefore increasing journey times in residential areas. There may be minor increases in driver stress. This package of interventions will be most effective if paired with appropriate crossing facilities to the North (across the parkway). This will ensure communities to both the North and South can make use of the new cycle facilities; maximising the amount of modal shift towards active travel modes.	Moderate benefit
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts

Integration:		
Transport Integration	This option would marginally improve pedestrian access to bus stops on Balgownie Road (route 1, with 4 buses per hour in daytime) due to the inclusion of a junction and crossing upgrade.	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Minor benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups.	Minor benefit
Recommended as a priority route for further detailed development and assessment? (No)		
Rationale for Selection/Rejection at this stage: This option would be fairly easy to implement at a relatively low cost and would significantly improve access to Balgownie Bridge, especially for people with reduced mobility. However, it is a short route which does not serve many trip generators and would be accessible to a low population, compared to the other options. It could be considered as an alternative to the northern section of Option 8, as it serves two small business parks and would be accessible from the Grandhome development, however it is not recommended as a priority for further development and assessment.		

Option 8

Title: Parkway to Hospital

Description: New active travel route from the A92 Parkway to Westburn Drive (Royal Infirmary) via Seaton Park using existing alignments with increased segregation and improvements to crossings and junctions.

<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>

Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide segregated cycleways (almost 20% of route length). Two junctions and 6 crossings would be upgraded. This would reduce conflicts with vehicles and increase the route quality for cyclists and pedestrians. The route includes Balgownie Bridge which is only passable by active travel.	+1
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide segregation (almost 20% of route length) and advance stop lines would be added at 2 junctions. Crossing upgrades would ease access to bus stops in several locations along the route. This would improve safety by reducing conflicts with vehicles. This route connects with options 2, 6, 7, 9, 10 and 11.	+2
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would have almost 20% segregation, some additional shared use paths (almost 15%) and improvements to 6 crossings and 2 junctions. This would reduce conflicts with vehicles, increase the width of cycleways and make junctions and road crossings easier and safer to use. The section near Balgownie Bridge is fairly secluded and some users may feel insecure out of daylight hours.	+1
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This is a fairly long route which would serve areas with a relatively high population density, connecting residential areas with a range of destinations, which could attract a high number of new users.	+3
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the University of Aberdeen, Royal Infirmary, the Hillhead Student Village, several schools and places of worship, a health centre and a variety of commercial services and workplaces.	+3

Implementability Appraisal		
Feasibility	No significant issues related to the implementation of this option are expected. Some land acquisition would be required to deliver some interventions. This option would require the removal of some trees.	Moderate consideration
Affordability	This is one of the longer routes, and the capital costs for this option would be in the middle of the range. Land acquisition would be required to deliver some interventions.	Moderate consideration
Public Acceptability	There is likely to be public concern about land acquisition, tree removal and impacts on residential permit parking on Don Street (south of Seaton Place). Public consultation indicates strong support for segregated cycleways and better cycling connectivity.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from resurfacing existing routes to widening of shared use paths and provision new crossing facilities. There is anticipated to be a major adverse potential impact on landscape and visual amenity as a result of the felling of mature trees along Scotstown Road between the Parkway and Cardens Knowe. Moderate impacts on habitats and biodiversity are anticipated as a result of the potential vegetation clearance and felling of mature trees. Ecological surveys would be required to further assess potential impacts of the removal of vegetation and felling of woodland as a result of the proposed option along this section. The provisions of a short section of cycleway at northern footway at Gordon Place. 30m x 2m to link Gordon Place to crossing and cycleway has the potential to have moderate landscape and visual amenity impacts depending on how the intervention is implemented due to the presence of mature trees. There is anticipated to be a moderate adverse potential impact on habitats and biodiversity, landscape and visual amenity as a result of the felling of trees Halls of Residence to Lord Hay's Grove (400m) to 3m to accommodate pedestrians and southbound cyclists. The widening of the northern footway of Hilton Street into carriageway by approx 1m to allow a shared cycleway along 550m length has the potential to have moderate landscape and visual amenity impacts depending on how the intervention is implemented due to the presence of young and mature trees in the verge along the northern footway.	Moderate to Major Adverse Impacts

	No Air Quality Management Areas have been designated within the vicinity of the proposed option. The proposed option is adjacent to numerous listed buildings, primarily concentrated around Cottown of Balgownie, Don Street at the Balgownie Bridge, and Don Street south of Seaton Place to St Machar Drive. However it is not considered that the interventions along these sections will have impacts on the cultural heritage assets. The interventions associated with this option have the potential for beneficial impacts on active travellers in terms of the amenity value and safety of routes. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* Impacts would be anticipated on local residents along the route and on road users. This would include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks. Due to the short-term and small scale of the works, these impacts are not likely to be considered significant. Timing of works should be planned to minimise disruption to local residents and consultation with residents and businesses likely to be affected during construction should be carried out prior to commencement of works. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Due to the short-term duration and limited scale of the works, significant impacts are not considered likely. Overall, it is considered that moderate to major adverse impacts are anticipated due to the potential biodiversity and habitats, landscape and visual impacts associated with the removal of mature trees along Scotstown Road between the Parkway and Cardens Knowe. This would depend on how the intervention is implemented therefore further assessment would be required.	

	Whilst the proposed option is not located within a sensitive area as defined in the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, further assessment would be required to determine whether the proposed development would constitute an EIA Development (Schedule 2 – 10(b)).	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. Two junctions, nine crossings would be upgraded and almost 20% of the route would be segregated. This would reduce conflicts with vehicles and make junctions and road crossings easier and safer to use.	Minor benefit
Security	Personal safety should be moderately enhanced for users due to the level of segregation (almost 20%) on the route. Two junctions and nine crossings would be upgraded. Signage would also be improved. The section of the route near Balgownie Bridge is fairly secluded and some users may feel insecure out of daylight hours.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option is expected to offer a moderate benefit. Active travel users may experience minor reductions in journey times, with segregated cycleways, wider footpaths and improved crossing facilities. Such interventions should also lead to moderate safety benefits, and therefore create moderate improvements in wellbeing. These improvements in wellbeing, combined with the creation of around 2 km of segregated cycle lanes, may cause a moderate modal shift towards active travel modes. It should also improve the safety of existing active travel users. Commuters and residents who use private vehicles may experience increased journey times due to increased congestion. This may cause delays, affecting journey time reliability along St Machar Drive, particularly at peak times. Active travel users of some educational facilities (University of Aberdeen, Hillhead Student Village, Scotstown School, St Peter's Roman Catholic Primary School and St Machar Academy) may experience safety improvements as a result of the interventions. The location of some interventions, including the installation of two zebra crossings, are close to St Machar Academy. Access to commercial and health destinations (University of Aberdeen, Royal Infirmary etc.) will be improved as a result of the interventions. This is a large scale option package Access to commercial and health destinations (University of Aberdeen, Royal Infirmary etc.) will be improved as a result of the interventions. The length of the route is substantial and therefore these interventions will be accessible from several residential areas.	Moderate benefit

	This option package differs from many of the alternatives due to the improvements in access to the West of Aberdeen city centre and would be upgraded to a major expected benefit if conducted in conjunction with option 7.	
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
<u>Integration:</u>		
Transport Integration	This option would improve pedestrian access to bus stops on many sections of the route, due to the inclusion of junction and crossing upgrades.	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5, along with the Grandhome development to the north of The Parkway.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
<u>Accessibility & Social Inclusion:</u>		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in several areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, in Tillydrone and Ashgrove.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (No)		
Rationale for Selection/Rejection at this stage: This option would significantly improve access to some major trip generators, including the University and Royal Infirmary. However, it includes less segregation than several of the other options, would have several issues to address in terms of implementation and has only been assessed as having minor benefits for most of the STAG criteria. It may be worth considering in the longer term, in conjunction with option 7, but is not recommended as a priority for further development and assessment.		

Option 9 Title: Tillydrone to Hospital Description: Route from Tillydrone to Ashgrove Road (Royal Infirmary), via the University of Aberdeen, incorporating elements of the Berryden Corridor Improvements Project.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would link existing active travel provision on Tillydrone Avenue with new provision, resulting in segregated and shared use sections for 30% of the route length, reducing the risk of conflicts with vehicles. Three crossings (2 x Toucans and 1 Zebra) will be upgraded to improve conditions for cyclists and pedestrians . Option 9a includes a section of the Berryden Corridor, increasing the segregated sections to over 45% of the total route, increasing the score for this TPO to 2.	+1 (9a +2)
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would link the University of Aberdeen with the Royal Infirmary, using existing active travel paths on Tillydrone Avenue. This option has segregated and shared use sections for 30% of the route length and upgrades to three crossings. This would improve safety by reducing conflicts with vehicles. This route connects with options 2 3, 8 and 10. Option 9a increases the segregated running to over 45% but the score is unchanged.	+2
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would link existing active travel provision on Tillydrone Avenue with new provision, resulting in segregated and shared use sections for 30% of the route length, reducing the risk of conflicts with vehicles. Upgrades at three crossings would improve safety for cyclists and pedestrians. The route does not pass through any secluded areas. Option 9a increases the segregated running to over 45% but the score is unchanged.	+2
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve a mix of areas, with both high and low population densities, connecting residential areas with a range of destinations, which could attract a reasonable number of new users. Option 9a would be accessible to over 30% more residents than option 9, increasing the score for this TPO to 3.	+2 (9a +3)
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the University of Aberdeen, the Royal Infirmary and commercial / leisure facilities at the Berryden and Kittybrewster retail parks. Option 9a offers similar levels of connectivity benefits to Option 9.	+3

Implementability Appraisal		
Feasibility	The technology to be employed on the route is relatively simple.	Minor consideration
Affordability	There would be relatively low capital and maintenance costs associated with the delivery of this option.	Minor consideration
Public Acceptability	There is likely to be public concern about the removal of parking spaces and mature trees. Public consultation indicates strong support for cycle lanes, crossing upgrades, widening footways and better cycling connectivity to the Royal Infirmary.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Interventions include reallocated of road space to provide cycle lanes, improvements to junctions, and provision of shared cycleways. Sensitive receptors with regards to potential noise and vibration, air quality, landscape and visual amenity impacts include local residents, pedestrians, cyclists and vehicle travellers. The proposed intervention route would pass 55 Powis Terrace, March Stone No 57 Category C Listed Building (LB20037) located against 55 Powis Terrace. Given the existing infrastructure surrounding this historic asset, potential impacts are not considered likely to be significant. Physical infrastructure requirements and potential construction impacts likely considered in line with those that would be experienced during operational maintenance. The interventions associated with this option have the potential for beneficial impacts on NMUs in terms of the amenity value and safety of routes. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Use of the verge between May Baird Avenue and Westburn Drive to provide shared cycleway on southern footway has the potential to remove trees. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland	Minor Adverse Impacts

	removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* Overall, it is considered that this option has the potential for minor adverse impacts due to the potential landscape and visual impacts associated with the potential removal of trees from the verge between May Baird Avenue and Westburn Drive to provide shared cycleway on southern footway. It is not considered that an Environmental Impact Assessment or Strategic Environmental Assessment would be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the segregated and shared-use paths and cycle lanes comprising 30% of the route, together with crossing improvements. The increased level of segregation on Option 9a (over 45%) would further reduce the accident risk, resulting in a moderate benefit.	Minor benefit (9a Moderate benefit)
Security	Personal safety should be enhanced for users due to the segregated and shared-use paths and cycle lanes comprising 30% of the route (reducing the risk of conflicts with vehicles), together with crossing improvements. The route does not pass through any secluded areas.	Minor benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option contains several interventions which are expected to offer an overall moderate benefit. Local residents travelling by foot or bicycle will experience the greatest benefit. Minor journey time benefits are expected for active travel users, with the improvements to road crossing facilities, creation of segregated cycle lanes and installation of improved signage. These improvements should also create a minor safety benefit for active travel users. Improvements to road crossings and the creation of segregated cycle lanes will reduce the risk of accidents, making residents feel safer and more comfortable accessing local facilities (employment hubs or leisure areas) by active travel modes.	Moderate benefit

	Private vehicle road users face an indeterminate change in journey times. Zebra crossings will cause delays and lengthen journey times, while the removal of on street parking will allow improved traffic flow and decrease journey times. Some modal shift towards active travel modes is expected. Many educational and medical facilities to the West of Aberdeen city centre will benefit from increasing accessibility, including the University of Aberdeen School of Medicine and Dentistry and the Aberdeen Royal Infirmary. The users of such facilities tend to belong to 'protected groups', such as school children or those with disabilities. The improvements to pedestrian infrastructure created by these interventions should improve access to these services by active travel modes. The benefit of this option may be considered major if conducted in conjunction with option 2, Clifton Road to City centre. The proposed active travel improvements to the Powis Terrace, Belmont Road and Berryden Road junction could integrate well with the one-way system and contra-flow bike lane infrastructure suggested in option 2. These improvements, when completed together, would unite many radial active travel routes from across Aberdeen; allowing an 'active travel core corridor' into the city centre. This is in keeping with the 'well connected links' targeted in the Local development plan.	
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
<u>Integration:</u>		
Transport Integration	This option would provide residents along the corridor with improved access to high frequency bus services on Powis Terrace (approx. 20 buses per hour in daytime) and to bus services on Tillydrone Avenue / Bedford Road (4 buses per hour in daytime). Option 9a would route along the Berryden Corridor rather than Powis Terrace, reducing the transport integration benefits to minor.	Moderate benefit (9a Minor benefit)
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit

Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in two areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, to the west of Tillydrone Avenue.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (No)		
Rationale for Selection/Rejection at this stage: This option would significantly improve access to several major trip generators, including the University, Royal Infirmary and the Centre Point and Kittybrewster retail parks. It would be relatively low cost to deliver and has fewer obstacles to address in terms of implementation. However, it includes less segregation than several of the other options, half of the route is outside the study area and it does not directly meet the brief as an individual route. It may be worth considering in the longer term, in conjunction with option 10, but is not recommended as a priority for further development and assessment. Option 9a scores slightly better in the appraisal, due to the significantly greater provision of segregated cycle and footways on the Berryden Corridor. Should the route be considered for development in the future, the variation which routes via the Berryden Corridor would be recommended for further consideration.		

Option 10

Title: Whitestripes to city centre

Description: New active travel route from Whitestripes Road (by Grandhome development) to the city centre via Tillydrone and Old Aberdeen, incorporating existing segregated and off-road active travel paths.

<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>

Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would incorporate existing segregated, shared and off-road active travel paths between The Parkway and St Machar Drive. Additional segregation and shared use paths would result in 60% of the route length with active travel provision, further reducing conflicts with vehicles. This option includes a new Toucan crossing, upgrades to 7 crossings at minor road junctions and a replacement rail bridge.	+2
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide segregated, shared and off-road paths for 60% of the route length, incorporating existing facilities between The Parkway and St Machar Drive. This would improve safety by reducing conflicts with vehicles. This option includes a new Toucan crossing, upgrades to 7 crossings at minor road junctions and a replacement rail bridge. This route connects with options 1, 6, 8 and 9.	+2
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would provide segregated, shared and off-road paths for 60% of the route length, incorporating existing facilities between The Parkway and St Machar Drive. This would improve safety by reducing conflicts with vehicles. This option includes a new Toucan crossing and upgrades to 7 crossings at minor road junctions. Over 15% of the route would be on cobbled roads, reducing comfort for cyclists. The northern extent of the route (on Whitestripes Road) would be isolated until the Grandhome development is completed and some users may feel insecure out of daylight hours.	+2
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	The longest route, which would mainly serve areas with a relatively high population density, connecting residential areas with a range of destinations, which could attract a high number of new users.	+3
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, University of Aberdeen, 2 health centres, 2 primary schools, St Machar Cathedral and the Aberdeen Mosque.	+2

Implementability Appraisal		
Feasibility	The technology on most of the route is relatively simple, with a new rail bridge being the only complex element. Land acquisition may be required to deliver the new bridge and some footway widening. This option would require the removal of some trees.	Moderate consideration
Affordability	This is one of the longer routes, and the capital costs for this option would be in the middle of the range, with a new river bridge also incurring relatively high maintenance costs. Land acquisition may be required to deliver the new bridge and some footway widening.	Moderate consideration
Public Acceptability	There is likely to be public concern about land acquisition, tree removal and impacts on property boundaries. Public consultation indicates strong support for segregated cycle lanes, crossing upgrades and widening the rail bridge.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions from reallocation of road space, to improved pedestrian crossings and widening of existing footways. The widening on the east side of Whitestripes Avenue to 3m shared cycleway using grass verge on the east side and the replacement of the existing dual use bridge on the east side of Mounthooly has the potential to result in moderate biodiversity and habitats; landscape and visual impacts due to the potential removal of mature trees and vegetation. The interventions associated with this option have the potential for beneficial impacts on active travel users in terms of the amenity value and safety of routes. Aberdeen City Centre Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective and 24 hour objective for Particulate Matter (PM_{10}). Whilst potential effects of the proposed option on emissions of CO_2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant. Potential impacts during construction on local residents, pedestrians, cyclists and vehicle travellers include noise and vibration, visual, and air quality impacts during construction due to the presence of construction plant and roadworks for the alterations to the cycleway and road surface.	Moderate adverse impacts

	Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Due to the short-term duration and limited scale of the works, significant impacts are not considered likely. Further consideration would need to be given to the provision of compensatory planting in line with Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands and Scottish Government's policy on control of woodland removal to mitigate the potential impacts of felling of woodland and potentially individual trees associated with this option. Aberdeen City Council's Local Development Plan 2017 Policy NE5 Trees and Woodlands includes: *"There is a presumption against all activities and development that will result in the loss of, or damage to, trees and woodlands that contribute to nature conservation, landscape character, local amenity or climate change adaptation and mitigation. …* *Where trees may be impacted by a proposed development, a Tree Protection and Mitigation Plan will need to be submitted and agreed with the Council before any development activity commences on site. This should include details of compensatory planting, temporary earth works and any site preparation."* Overall, it is considered that moderate adverse impacts are anticipated due to the potential biodiversity and habitats, landscape and visual impacts associated with the removal of trees and vegetation associated with interventions for this option. It is not considered that an Environmental Impact Assessment or Strategic Environmental Assessment would be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the high level of segregated, off-road and shared paths (almost 60% of the route) and the crossing, junction and bridge improvements. Reallocating one lane in each direction on West North St for cycle use would reduce road space for car users and could lead to a slight increase in minor vehicle collisions, but this risk would be outweighed by the safety benefits for cyclists.	Moderate benefit
Security	Personal safety should be enhanced for users due to the high level of segregated, off-road and shared paths (almost 60% of the route) and the crossing, junction and bridge improvements.	Minor benefit

Economy:		
Transport Economic Efficiency (TEE)	This option is expected to offer a moderate benefit at a very low cost. The proposed interventions link the strong existing cycling facilities to the north of the river with the city centre. This has potential to be particularly beneficial for the Danestone and Middleton Park communities, who would obtain safe active travel links all the way to the city centre and are therefore able to commute by foot or bicycle. This will allow residents to access a wider range of employment opportunities, while also improving the health and wellbeing of the area. Furthermore, city centre employers may benefit from a larger potential labour force. These benefits for active travel users are at the expense of a minor increase in congestion for road users; resulting in journey time increases between West North Street and King Street. This increase in congestion in the city centre is opposed to local policy goals but will help induce modal shift towards active travel modes. There may be an increase in driver stress as a result of increasing journey times. Other proposed interventions should enhance safety along the route, with ASL and pedestrian crossing improvements offering moderate benefits for active travel users at a minor cost to private vehicles.	Moderate benefit
Wider Economic Impacts	This option does not have a significant impact on the on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
Integration:		
Transport Integration	This option would provide improved access to bus stops on King's Crescent, Spital and College Bounds (route 20, 1 bus per hour in daytime) and high frequency bus services on West North Street (approx. 15 buses per hour in daytime).	Minor benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5, along with the Grandhome development to the west of Whitestripes Road.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
Accessibility & Social Inclusion:		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Neutral

	It includes proposals to reallocate one lane in each direction on West North St as a segregated cycle lane. West North St is a high frequency bus corridor (approx. 15 buses per hour in daytime in each direction), and this intervention could increase bus journey times, having a negative impact on users. The overall impact is therefore neutral.	
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in one area classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, to the west of Tillydrone Road and Tillydrone Avenue.	Moderate benefit
Recommended as a priority route for further detailed development and assessment? (Yes)		
Rationale for Selection/Rejection at this stage: This option would provide very significant improvements in active travel connectivity and would provide a direct connection to the University of Aberdeen and the city centre from the new Grandhome development. It incorporates existing high quality provision north and south of the Diamond Bridge and proposes a number of interventions which would improve facilities on the existing NCN 1 Route. It would have a moderate environmental impact and would reallocate road space on a high frequency bus corridor. Nevertheless, the benefits are sufficient for it to be recommended for further detailed development and assessment.		

Option 11 Title: Haudagain to City Centre Description: New active travel route from Haudagain to the city centre using new and existing alignments with significant segregated and shared paths, on-road cycle lanes, along with crossing and junction improvements, incorporating the Berryden Corridor Improvements Project.		
<u>High Level Appraisal against Transport Planning Objectives (TPOs)</u>		
Objective:	Performance against TPO	Score
TPO 1: Improve quality of pedestrian and cycle provision on the transport network within the Bridge of Don area.	This option would provide new segregated paths (over 40% of route length), shared-use paths (over 25%) and on-road cycle lanes (over 30%), 9 new signalised crossings (on the Berryden Corridor) and improvements at over 40 minor road junctions. Segregated paths would have new surfacing and lighting. This would significantly reduce conflicts with vehicles and improve the route quality for both pedestrians and cyclists.	+3
TPO 2: Increase access to safe and integrated active travel network between Bridge of Don and Aberdeen City Centre.	This option would provide segregated, shared and on-road cycle paths for over 95% of the route length, incorporating existing facilities and the Berryden Corridor. With 9 new signalised crossings and crossing improvements at over 40 minor road junctions, safety would be significantly improved by reducing conflicts with vehicles. Segregated paths would have new surfacing and lighting. This route connects with options 2 and 8.	+3
TPO 3: Improve the level of safety, comfort and personal security on the active travel network in the northern area of Aberdeen, to benefit travel experience of all users.	This option would provide segregated, shared and on-road cycle paths for over 95% of the route length, incorporating existing facilities and the Berryden Corridor. This would improve safety by reducing conflicts with vehicles. Segregated paths would have new surfacing and lighting. This option includes 9 new signalised crossings (on the Berryden Corridor) and upgrades to over 40 crossings at minor road junctions. The route does not pass through any secluded areas.	+3
TPO 4: Increase the number of trips made by foot or bike to contribute towards the aim of improved health and reduce impact of travel on the environment.	This option would serve areas with a relatively high population density, connecting residential areas with a range of destinations, which could attract a high number of new users	+3
TPO 5: Improve connectivity by foot or bike to key centres of employment, education and health/well-being.	This option would improve active travel connectivity to the city centre, commercial / leisure facilities at the Berryden and Kittybrewster retail parks and on Great Northern Road, 3 health centres and 4 schools.	+2

Implementability Appraisal		
Feasibility	Land acquisition would be required to deliver some interventions. This option would require the removal of some mature trees.	Moderate consideration
Affordability	The capital costs for this option would be in the middle of the range, due to the number of interventions it includes. Some land acquisition would be required to deliver some interventions.	Moderate consideration
Public Acceptability	There is likely to be public concern about road space reallocation, removal of parking spaces and trees. However, consultation feedback suggests strong support for segregated and shared use paths, as well as the high number of crossing improvements.	Moderate consideration
High Level Appraisal against STAG Criteria		
Criterion		
Environment	Performance against STAG Criterion	Score
	Range of interventions including: bus lane extension; pedestrian crossing improvements; active travel route connections; and reallocation of road space. The existing environment along the proposed option alignment is dominated by the road network, commercial and residential properties. Sensitive receptors with regards to potential noise and vibration, air quality, landscape and visual amenity impacts include local residents, pedestrians, cyclists and vehicle travellers. No sensitive habitats with regards to biodiversity have been identified along the route of the proposed intervention. There are two assets of cultural heritage interest adjacent to the route of the proposed intervention: • Aberdeenshire Canal, Remains Of, Scheduled Monument refence: SM10424 • 1 Great Northern Road, The Northern Hotel, Category A Listed Building reference LB20331 Minimal physical infrastructure requirements and potential construction impacts are considered likely to be in line with those that would be experienced during operational maintenance of the road network and other development consistent with an urban, city environment. Potential for noise and vibration impacts depending on nature of improvements to be made to pedestrian crossings. Negligible impacts on global and local air quality as a result of interventions	Negligible benefits / impacts

	Aberdeen City Centre Air Quality Management Area was designated by virtue of likely exceedances of the annual mean objective for Nitrogen Dioxide and by virtue of the likely exceedance of the annual mean objective and 24 hour objective for Particulate Matter (PM10). Whilst potential effects on emissions of CO2 and other pollutants is not currently known at this stage and will depend on impacts on traffic flows, it is not anticipated to be significant. The interventions associated with this option have the potential for beneficial impacts on active travel users in terms of the amenity value and safety of routes. Potential construction mitigation measures could include providing advanced notification of works; clearly signposting diversion routes; timing works to reduce potential noise and vibration disturbance; and implementing measures to reduce potential fugitive dust emissions. Overall, it is considered that given the minimal infrastructure requirements and that potential impacts during construction would be likely considered in line with those that would be experienced during operational maintenance, negligible environmental impacts are anticipated and no EIA or SEA is anticipated to be required.	
<u>Safety:</u>		
Accidents	This option would enhance safety and reduce accident risk for the following user groups - Age (elderly and very young), Disability and Pregnancy and maternity. This is due to the high level of active travel paths on the route, which would reduce conflicts with vehicles. Segregated paths would have new surfacing and lighting. The route would include 40 new Toucan crossings and over 40 minor crossing upgrades, which should significantly reduce risks associated with crossing roads.	Major benefit
Security	Personal safety should be enhanced for users due to the high level of active travel paths, many with good surfacing and lighting. The route would include 40 new Toucan crossings and over 40 upgrades at minor road crossings. This would reduce conflicts with vehicles and make junctions and road crossings easier and safer to use. The route does not pass through any secluded areas.	Moderate benefit
<u>Economy:</u>		
Transport Economic Efficiency (TEE)	This option is expected to have a moderate benefit. The improvements in crossing infrastructure and the creation of advisory cycle lanes will have benefits for local active travel users, particularly those belonging to protected groups. Active travel users are expected to experience minor reliability and journey time benefits and moderate improvements in wellbeing (due to safety benefits). There will be a minor reduction in private vehicle welfare due to a minor increase in both journey times and driver stress. A minor benefit is expected for the private sector operators within Haudagain retail park due to the improving accessibility by foot. A minor negative impact is expected for the businesses between Deer Road and Queen Street due to the removal of on street parking and the resulting reduction in	Moderate benefit

	accessibility for private vehicles. This impact is expected to be minor as it is partly offset by the increased accessibility for active travel modes. When considered in isolation, these proposed interventions are small in magnitude, mainly resulting in minor effects. The greatest benefit arising from this option, and the reasoning behind assigning a moderate benefit overall, is the increased integration with other option packages. If this option package is completed alongside both option 2 (Clifton Road to City Centre) and option 8 (Parkway to City Centre) there will be connectivity gains. The increased cohesion between 'routes' will unite active travel infrastructure across the city, leading to a more comprehensive 'active travel offering' throughout Aberdeen. This is expected to lead to moderate modal shift towards active travel modes and contributes to the overall moderate benefit expected.	
Wider Economic Impacts	This option does not have a significant impact on the local/national economy. While there will be locational impacts, there will not be a substantial change in conditions so as to impact the wider economy. The proposed interventions will facilitate movement around the city in line with local and national policy, but the magnitude of change from this option alone will not be significant enough to influence the local economy.	Negligible benefits / impacts
<u>Integration:</u>		
Transport Integration	This option would improve pedestrian access to bus stops on the Great Northern Road high frequency bus corridor (approx. 12 buses per hour in daytime) and to travel opportunities on the new Berryden Corridor.	Moderate benefit
Transport and Land-Use Integration	This option would improve active travel connectivity to a range of existing land-uses identified for TPO 5.	Moderate benefit
Policy Integration	This option is likely to increase the use of active travel, provide moderate enhancements to interchange opportunities (pedestrian / bus) and therefore has the potential to encourage mode shift from car to more sustainable transport. It is therefore in harmony with the aims of government policy in the areas of transport and health.	Minor benefit
<u>Accessibility & Social Inclusion:</u>		
Community Accessibility	This option would improve accessibility by active travel to a range of local services identified for TPO 5.	Minor benefit
Comparative Accessibility	This option would increase accessibility to local services for vulnerable user groups. This option would increase accessibility for residents in three areas classed in the most deprived 20% in the Scottish Index of Multiple Deprivation 2016, in Woodside and near the St Machar roundabout.	Moderate benefit

Recommended as a priority route for further detailed development and assessment? (Yes)	
Rationale for Selection/Rejection at this stage: This option incorporates existing high quality provision north and south of the Diamond Bridge, as well as the BCI project, and a number of interventions are proposed which would improve facilities on the existing NCN 1 Route. Almost 70% of the route would be on segregated or shared use cycle paths, the route includes a large number of crossing improvements and it directly serves the Kittybrewster and Centre Point retail parks. It would also have a negligible environmental impact. Hence, this option has high scores in many aspects of the appraisal. The northern extent of the route is on the very edge of the study area until the BCI project and the section south of the A96 is out of the study area. Nevertheless, the benefits are sufficient for it to be recommended for further detailed development and assessment.	