A803 Sustainable Transport Corridor RIBA Stage 2

Concept Design Report

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Executive Summary

East Dunbartonshire Council (EDC), Glasgow City Council (GCC) and Strathclyde Partnership for Transport (SPT) are working together to develop a package of measures to improve sustainable travel opportunities on the A803 corridor, including improvements for active travel and public transport, from Torrance Roundabout in the north to Sighthill/Royston Road in the south. Arcadis UK Limited has been commissioned by EDC to develop a RIBA Stage 2 concept design report for the A803 corridor between Bishopbriggs and Glasgow, building on the previous Stage 1 study undertaken by Atkins in February 2023.

The study area considers the A803 corridor between Torrance Roundabout at the north and extends south through Bishopbriggs and into the City of Glasgow, terminating to the north of the M8 at Sighthill/Royston Road.

Aim and Objectives

The Project Aim is shown below and has been derived from the Glasgow City Region City Deal Objectives.

The project will create a high-quality low carbon transport corridor along the A803, ensuring reliable bus journey times without long delays. The project will seek to provide, high quality, safe and segregated active travel. The project will also enhance the quality of the environment, sustainability and ecology through new and improved public and green spaces, whilst maintaining its function for businesses / residents that require loading / parking space.

Design objectives were developed that link back to the project aim, these objectives were then used to create assessment criteria through which designs options could be assessed objectively.

Option Development

The development of options was undertaken in 2 stages, initially a long list of design interventions was developed. These were a wide range of interventions that the design team considered may be able to contribute to meeting the design objectives. They included features such as bus lanes, cycle lanes and footway widening. Due to the differing environment along the corridor (semi-rural at the north end and urban at the south end), the corridor was reviewed in sections. The initial long list of options was presented to key stakeholders and additional long list options developed following this feedback. The options were then reviewed against the assessment criteria and low scoring options (those that didn't meet the design objectives) were sifted from the design development process at this stage. The design options that scored well were progressed through to the short-listing stage; at this stage options were grouped into scenarios to allow for full corridor length designs to be developed. The 3 shortlisted scenarios were:

- Bus Priority – a southbound bus lane throughout the corridor and a northbound bus lane at the southern end of the corridor, some junction improvements including at Crosshill Road, Bishopbriggs Cross and Colston Road (banned northbound right turn)
- Bus and Active Travel – similar to the above but without the northbound bus lane and with improved active travel provision, including off road cycle lanes to the north of the corridor
- Active Travel – no significant bus priority measures, further active travel provision and the signalisation of the Balmuildy Road junction (to provide improved pedestrian crossing facilities)

Each of the shortlisted options includes ensuring that all bus stops along the corridor include real time passenger information, accessible kerb heights and high-quality shelters. They also include traffic signal optimisation for the signalised junctions.

The project team developed these scenarios and prepared designs for each which were suitable for technical assessment, including traffic modelling and for public consultation.

Initial Traffic Modelling

Traffic modelling was undertaken using the A803 corridor model, using a base demand scenario extracted from the regional traffic model. This initial assessment did not include a reduction in demand to take into account policy decisions around reducing vehicle kilometres, therefore providing a robust assessment of motor vehicle impacts.

For the bus priority focused option (Option 1) the modelling showed significant congestion was caused at the junctions between Fountainwell Road and Colston Road; with the demand scenario tested the model was unable to process the demand through the junctions as vehicles queued beyond the model extent. A sensitivity test was undertaken applying a lower demand scenario (-20%) which still showed queuing back through these junctions and beyond the extents of the model. It was clear from this assessment that providing bus lanes in each direction in the Glasgow section of the corridor would cause unacceptable delays to all vehicles, including buses, along the corridor.

The option which combined active travel and bus priority measures (Option 2), showed some improvements to bus journey times in the southbound direction. However, the reduction in capacity at the Atlas Road junction resulted in some significant increases in delays, particularly in the northbound direction.

The active travel focused option (Option 3), showed significant benefits to all vehicles including buses, the main reason for this was the changes to the Colston Road (banned northbound right turn) and the optimisation of the Atlas Road junction. By not relocating road space at the Atlas Road junction the journey time benefits through the above measures (which were also included in Option 1 and 2) were further increased.

All 3 options include upgrading bus stops to include high quality shelters, accessible kerb heights and real time passenger information where these aren't currently present, and optimisation of traffic signals at signalised junctions along the corridor.

In general, the traffic modelling showed that significant benefits to journey times for general traffic and buses could be achieved by optimising the traffic signal operation of the junction with Atlas Road and through banning the northbound right turn at Colston Road to allow for a more efficient signal staging plan to the included. However, reassigning road space from general traffic to bus lanes has a negative impact on junction performance at key locations (particularly Atlas Road). This creates inefficiencies in the signal arrangement (wasted green time for bus lanes) which causes congestion stretching back beyond the starting point of the bus lanes proposed. The modelling assessment also showed that the proposals at the north end of the corridor had a relatively minor impact, with limited negative impacts for general traffic when road space was reallocated to other modes but also only relatively small benefits to bus journey times when bus lanes were included.

Overall, the option that performed best for general traffic and buses was the active travel focussed option (Option 3).

Consultation

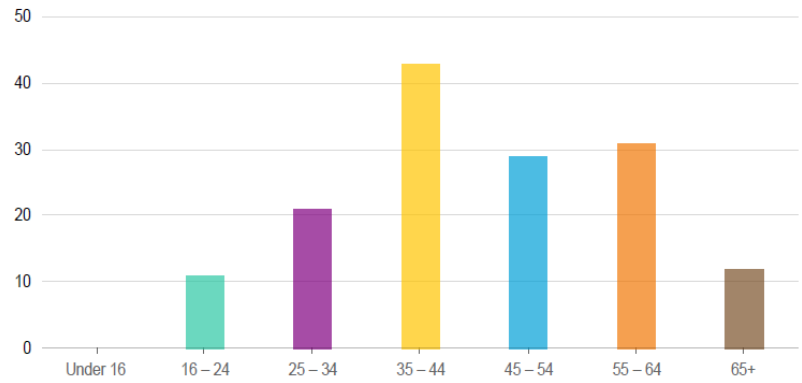
Public and stakeholder consultation on the shortlisted options took place during March-April 2024. Consultation comprised of an in-person public consultation event (with key stakeholders invited to attend a session prior to the public event) and an online public consultation platform. The aim of the consultation was to understand the public's view on three initial route options, in order to assist in the development of the final route option to go forward for detailed design.

Online public consultation for the A803 Stage 2 shortlisted options went live on 11th March 2024 and closed on 21st April 2024. A story map on the council website took visitors through the project objectives and three route options, with visualisations of the proposals. Technical drawings were made available on the consultation website. An online survey was provided to allow the public to give feedback on the route options and inform the final design.

A public consultation drop-in event took place on 21st March 2024 between 13:00-19:00 at the Bishopbriggs War Memorial Hall. Project information and design visualisations for three route options were provided for members of the public to view. Approximately 75-100 people attended the event and gave feedback.

From 11th March to 21st April 2024, online consultation on the A803 Corridor Improvements Project was live. In total, there were 159 responses and 1,3497 website views.

48% of respondents were male, 44% female, 2% other and the remaining (6%) prefer not to say. The age profile of respondents is shown below, with the largest proportion (27%) falling into the 35-44 years category.



Age category of online survey respondents (by number)

The majority (89%) of respondents use a private car to travel along the corridor, whilst 21% use bus, 35% walk and 16% cycle. When asked the reason for choosing the modes of travel the most commonly cited reasons were convenience (79%), faster journey times (57%) and reliability (52%).

Survey respondents were asked if they had a route preference based on the three options that were presented. The highest proportion of respondents (45%) wanted to leave the corridor in its existing state. For those who chose an option, the majority (42%) chose Option 3. Only 9% chose Option 2 and 3% Option 1.

Survey respondents were asked if they would like to see any other changes, bearing in mind their preferred option. Comments have been analysed and split into themes. More detail is provided in Section 5 of the report, but a summary of the key themes is included below:

- Prioritising active travel: generally asking for more walking and cycling infrastructure to be added along the corridor.
- Prioritising public transport: asking for improved shelters, more bus lanes and specifically measures to reduce excessive wait times for buses at the junction with Royston Road.
- Optimising traffic signals: general concern about adding more signals to junctions along the corridor, especially north of Bishopbriggs town centre. Comments also included requests for better optimisation of the traffic signals and support for the signalisation of the Balmuildy Road junction.
- Removing bus lanes from the proposals: concern that adding bus lanes on the corridor will add to congestion, noting the recent removal of bus lanes from the A803 near Springburn.
- Improving parking: these comments included requesting more residential parking provision, increased enforcement and removing the parking charges from the public car park at Bishopbriggs Park.

Survey respondents were asked if they thought the proposals would change the way they used the corridor. 75 (64%) respondents said it would change the way they travel, and 42 (36%) said it wouldn't. Of those who stated they thought the proposals would change the way they travel, 61% said it would impact them positively, whilst 39% thought it would impact them negatively. Positive changes included increased safety and a higher propensity to choose active travel and public transport modes. Negative changes included increased

congestion along the corridor, reduced accessibility for elderly/disabled people, diverting to residential roads to avoid the A803, and discouraging visitors to Bishopbriggs.

Emerging Preferred Option

Following the results of the initial traffic modelling, feedback from the public consultation and an assessment of the options against the assessment criteria, it was concluded that an option based around Option 3 – Active Travel would be developed. Further development of the option includes the addition of bus priority measures where their impact on the road network and parking is not expected to have a significant negative impact, and where they will improve journey times for buses.

Technical drawings for the emerging preferred option have been developed and further traffic modelling has been undertaken based on these drawings. This updated traffic modelling predicts that the preferred design option will reduce bus journey times along the corridor, particularly in the southbound direction during the morning peak hour, with benefits of between 1 and 2 minutes. It should be noted that most of these benefits occur at the southern end of the corridor. There are some increases to general traffic journey times, particularly in the southbound direction in the evening peak period.

A Stage 1 Road Safety Audit (RSA) has been carried out based on the preferred option and a designer's response with client sign-off is provided in Appendix A of this report. An EqIA has also been developed and is included in Appendix B.

Next Steps

At commencement of Stage 3 of the project it is recommended that the following tasks are undertaken before the design is developed further:

- Design development of the quietway route around Bishopbriggs Town Centre
- Review of the impact of the proposals at the Royston Road junction in line with other GCC projects in the area (confirmation of which project will progress the design)
- Review of the Fountainwell junction design provided by GCC and integration of those proposals into the A803 design

1 Introduction

1.1 Background and Purpose

East Dunbartonshire Council (EDC), Glasgow City Council (GCC) and Strathclyde Partnership for Transport (SPT) are working together to develop a package of measures to improve sustainable travel opportunities on the A803 corridor, including improvements for active travel and public transport from Torrance Roundabout in the north to Sighthill/Royston Road in the south. Arcadis UK Limited has been commissioned by EDC to develop a RIBA Stage 2 feasibility study for the A803 corridor between Bishopbriggs and Glasgow, building on the previous Stage 1 study undertaken by Atkins in February 2023.

The development of this project has been funded through the 'Place and Growth Programme', which in turn forms part of the Glasgow City Region City Deal. The City Deal is a partnership involving eight local authorities that cover the Greater Glasgow Conurbation. It will fund major infrastructure projects of a strategic nature which will support the economic vitality of the region.

The Glasgow City Region City Deal is comprised of eight local authorities: East Dunbartonshire Council; East Renfrewshire Council; Glasgow City Council; Inverclyde Council; North Lanarkshire Council; Renfrewshire Council; South Lanarkshire Council; and West Dunbartonshire Council. These authorities and other agencies are partnering to deliver a range of projects design to deliver, stimulate and support sustainable economic development and vitality across the greater Glasgow area, the benefits will include:

- Deliver £2.2 billion in additional GVA per annum (a 4% uplift) across the City Region.
- Support an additional overall increase of around 29,000 jobs in the City Region.
- Create 15,000 construction jobs through the City Deal construction programme.
- Work with 19,000 unemployed residents and support over 5,500 back into sustained employment.
- Lever in an estimated £3.3 billion of private sector investment to support the delivery of the projects within the infrastructure programme.
- Spread the benefits of economic growth across the Region, ensuring deprived areas benefit.

The A803 Sustainable Transport Corridor is one of three major neighbouring projects being promoted by EDC and funded through the City Deal. The £34.88million City Deal Investment in East Dunbartonshire includes :

- Delivery of Westerhill Development Road and the associated Westerhill Regeneration Area Masterplan;
- A803 Corridor Improvements; and
- Bishopbriggs Town Centre Regeneration.

Given challenges relating to affordability around each of the EDC City Deal Programme, prioritisation has been undertaken based around economic impact. The A803 Route Corridor project element therefore was deferred from the City Deal programme with further design work and the improvement works required to be funded through other sources.

1.2 Study Area

The study area considers the A803 corridor between Torrance Roundabout at the north and extends south through Bishopbriggs and into the City of Glasgow, terminating to the north of the M8 at Sighthill/Royston Road. The study considers the interaction of the A803 with the wider conurbations through which it passes. The study area is shown in Figure 1-1. The Bishopbriggs Relief Road (BRR1-4), to the south of the Westerhill Development Road has already been constructed.

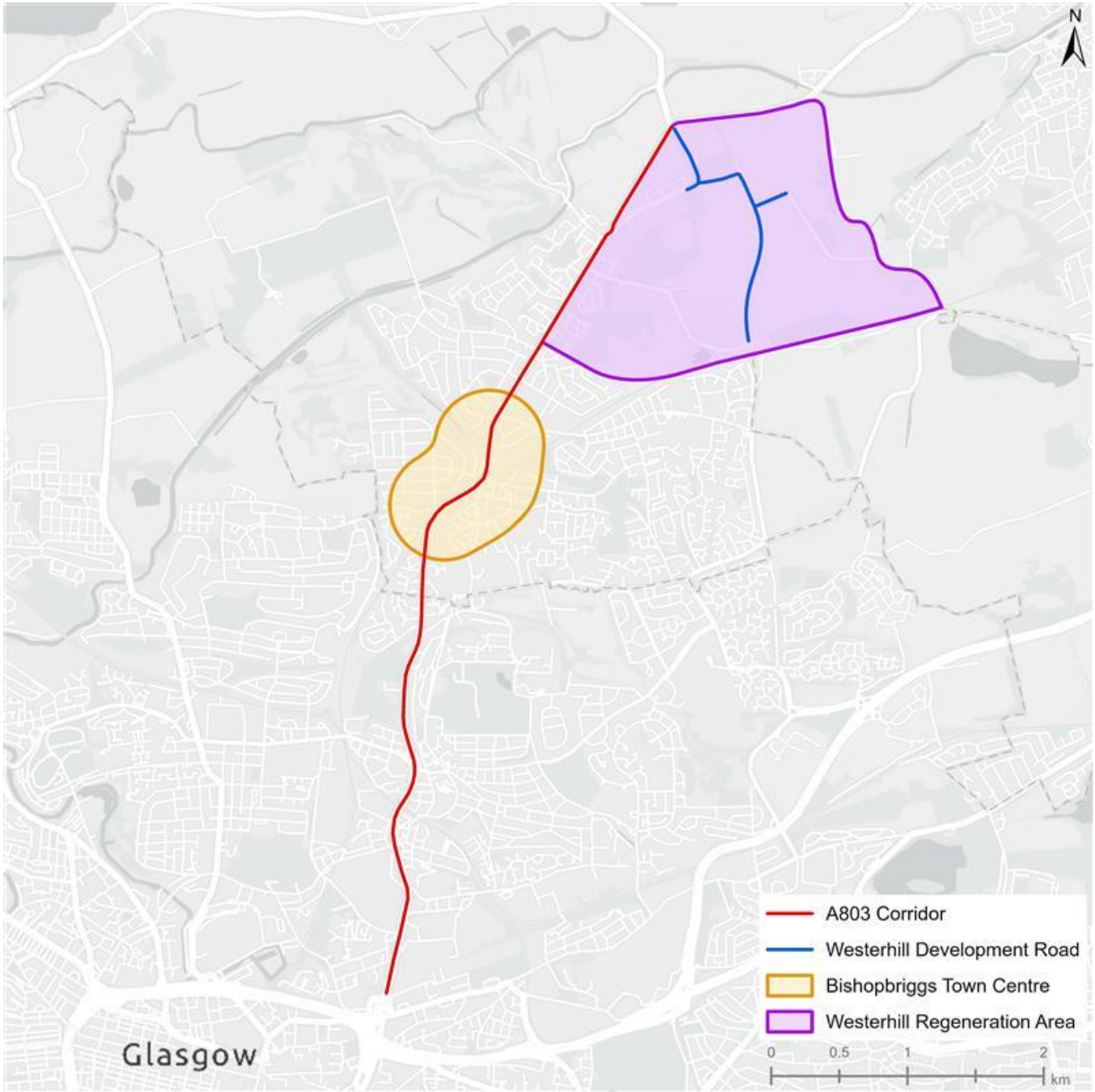


Figure 1-1 A803 corridor and City Deal areas of development

1.3 Methodology

1.3.1 Review of Existing Conditions

A desktop review of the existing conditions along the corridor was undertaken and supplemented through an initial site visit. The condition of the current active travel and public transport networks were assessed to identify any issues and opportunities along the corridor.

Previous A803 corridor studies (including public consultation) and traffic surveys were also interrogated to understand current travel behaviour and mode share along the route.

1.3.2 Option Development

A long list of options was produced by first breaking the corridor into manageable sections outlined below:

- **Northern Section** = Torrance Roundabout to Morrisons Supermarket access road (all within EDC area)
- **Central Section** = Bishopbriggs Town Centre to Hawthorn Street
- **Southern Section** = Hawthorn Street to Royston Road (all within GCC area)

Possible interventions for each section to improve bus priority and active travel along the route were identified through a combination of site visits and a desktop study. The long list of options is shown in Appendix C.

The long list of interventions was then assessed to identify their feasibility and impact to produce a shortlist of three route options. These options were then developed in more detail and subjected to more detailed assessment and public consultation. From this a single preferred option was then selected.

The single preferred option was then developed into a concept design package to be taken forward into RIBA Stage 3.

1.3.3 Stakeholder and Public Consultation

Stakeholder and public consultation took place between 11th March to the 21st April 2024, to consult on the shortlisted options and inform final design.

An online public consultation platform was made available on the East Dunbartonshire Council website, including a storyboard with options visualisations and an online survey. In addition, a public consultation event was held on the 21st March 2024, which also included an integrated stakeholder focus group.

1.3.4 Options Appraisal

The initial approach to developing options was to identify design interventions which would assist in meeting the project objectives. These interventions were then taken forward into a long list assessment. An option identification exercise was undertaken by the Arcadis project team. This was then discussed with the Technical Working Group (which includes officers from EDC, GCC and SPT) followed by an engagement workshop with officers from EDC, GCC and SPT. This approach ensured that a wide range of options were developed. This option generation exercise developed the 'longlist' of options (see Appendix C for details).

Possible interventions for each section to improve bus priority and active travel along the route were identified through a combination of site visits and a desktop study.

The long list was then assessed against the scheme objectives, using engineering judgement and the outputs of the initial traffic modelling undertaken. This assessment sifted the long list measures into interventions which could then be grouped into scenarios that could then be assessed as shortlisted options. These options were then developed in more detail with more detailed assessment and public consultation undertaken on these.

From this a single preferred option was identified and developed further into a concept design package to be taken forward.

2 Policy Review and Scheme Objectives

2.1 Policy Review

Table 2.1 details relevant national, regional and local policy documents and their relevance to this study.

Table 2.1 Policy Review

Policy Document	Description	Relevance to A803 study
National		
Climate Change Act 2019	The Climate Change Act commits the UK to achieving net zero by 2050.	Through promotion and facilitation of sustainable travel along the A803 Corridor, it is contributing to congestion reduction and reduction in use of private vehicles. Local projects, such as this one, are making small contributions to the achievement of wider climate change and emissions abatement targets.
Low Carbon Scotland – Meeting Our Emission Reduction (2nd Report on Proposals and Policies RRP2)	The Low Carbon Scotland report sets out Scottish Government's approach to achieving transport emissions abatement over the period to 2027. The Proposals and Policies review assesses how progress towards the carbon reduction is progressing and within RPP2 the Scottish Government's shorter-term approach to achieving a reduction in transport emissions are set out. The core proposals in RPP2 are – decarbonising vehicles, promoting sustainable communities, engaging with businesses around sustainable transport and ensuring efficient use of the road network.	The A803 Corridor proposals align to the RPP2 policy of promoting sustainable communities through encouraging modal shift towards more sustainable modes and reducing congestion through reducing the use of private vehicles.
Scotland's National Performance Framework (NPF4)	The National Performance Framework uses outcomes that reflect the values and aspirations of the people of Scotland. The framework provides Scottish public bodies with a shared set of goals to collaborate towards.	Through the proposed improvements to public transport along the corridor the proposals will help to achieve the NPF4 aim to improve access to public transport. The active travel improvements also align with the aim to reduce car use by encouraging people to use active travel for everyday journeys.

National Transport Strategy 2, 2020	The second National Transport Strategy (NTS2), published by Transport Scotland in February 2020, provides the national transport policy framework, setting out a clear vision of a sustainable, inclusive, safe and accessible transport system which helps deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors. It sets out key priorities to support that vision: reducing inequality; taking climate action; helping deliver inclusive economic growth; and improving health and wellbeing. The Strategy presents the vision for Scotland's transport system over the next 20 years, which is: "We will have a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors." The Strategy includes the Sustainable Investment Hierarchy and Sustainable Transport Hierarchy. These prioritise interventions which reduce the need to travel unsustainably and walking, wheeling and cycling respectively.	Through promotion and facilitation of sustainable travel along the A803 Corridor, the scheme can contribute to the NTS2 vision by contributing to a more sustainable, inclusive, safe and accessible transport system.
A Walking Strategy for Scotland	Published by the Scottish Government in 2014, which focuses on encouraging walking as part of everyday travel and generating better quality walking environments.	The aspirations for the A803 corridor are to promote sustainable travel choices through interventions to improve the existing active travel network.
Cycling Framework for Active Travel	The Cycling Framework for Active Travel sets out strategic priorities and shared actions to maximise cycling's contribution in realising the Scottish Government's long-term Vision for Active Travel in Scotland: That Scotland's communities are shaped around people, with walking and cycling the most popular choice for everyday short journeys.	It is clear that the overall aspirations for the A803 align strongly with the national planning context which is driven by environmental goals to reduce the need to travel, make sustainable journeys easier and promote walking, cycling and public transport above the private car.

Transport (Scotland) Act 2019	The Bill for the Transport (Scotland) Act 2019 was passed by the Scottish Parliament on 10th October 2019 and received Royal Assent on 15th November 2019. The provisions contained within the Act include: • LEZ schemes – creates a system allowing local authorities to establish, operate, amend and revoke LEZ schemes; • Provision of bus services by local transport authorities – which facilitates an authority (such as SPT or a Council) being able to provide local bus services (potentially directly, or through a company) provided it will contribute to the implementation of its general policy objectives; • Bus services improvement partnerships (BSIPs) – which facilitates the creation of a statutory partnership between a relevant authority (or authorities) and operator(s) to improve bus services in a specified area(s); • Workplace Parking Levy – which facilitates a local authority (or authorities) creating a requirement to have a licence to provide parking at workplaces, and to charge employers for that licence based on the number of spaces available; and • Local Services Franchises – facilitating the creation of a franchise for local bus services by an authority (or authorities) in a specified area(s).	Improvements for bus services including improvements to bus stops and bus priority measures form a key part of the proposals for improvements along the A803 corridor.
Regional		
The Regional Transport Strategy for the West of Scotland – 2022-2037 (draft for consultation)	The new RTS published in 2023 sets out policies to guide decision-making on transport by SPT and partners in the region, to deliver a new vision for transport for the Strathclyde area: *"The west of Scotland will be an attractive, resilient and well-connected*	Through promotion and facilitation of sustainable travel along the A803 Corridor, the scheme can contribute to the SPT RTS vision through promoting modal shift to walking, cycling and public transport via infrastructure interventions.

	place with active, liveable communities and accessible, vibrant centres facilitated by high quality, sustainable and low carbon transport shaped by the needs of all." The Priorities and Targets have been intended to drive forward the change required to respond to the wider policy context and challenges to achieve a more sustainable, equitable and healthier transport system for all. The RTS objectives are as follows: • OBJ1: To improve accessibility, affordability, availability and safety of the transport system, ensuring everyone can get to town centres, jobs, education, healthcare and other everyday needs. • OBJ2: To reduce carbon emissions and other harmful pollutants from transport in the region. • OBJ3: To enable everyone to walk, cycle or wheel and for these to be the most popular choices for short, everyday journeys. • OBJ4: To make public transport a desirable and convenient travel choice for everyone. • OBJ5: To improve regional and inter-regional connections to key economic centres and strategic transport hubs for passengers and freight.	
SPT Freight Strategy for Strathclyde	In 2018 SPT published their 'Freight Strategy for Strathclyde' which sets "the context for freight in Strathclyde and its transport network within the strategic road and rail network". The six main ambitions for the freight strategy are: • Improve Air Quality and Environment; • Increase the Safety of Freight Movement; • Encourage and Facilitate International Freight Movement;	The most relevant sections of this for the study relate to the environmental ambitions which seek to improve the fleet, shift to cargo bikes and smaller, greener vehicles for local deliveries, all of which align with the ambition of the A803 study.

	• Enhance Quality of Life and Well-Being; • Facilitate and Support Economic Competitiveness; and • Enable Communication	
SPT Regional Active Travel Strategy for the west of Scotland 2024-2038 and Network & Infrastructure Delivery Plan (Draft)	A draft Regional Active Travel Strategy and Network & Infrastructure Delivery Plan is now available. This provides an overview of the current landscape in the region and includes a regional active travel network. The Infrastructure Delivery Plan captures a prioritised network, which is mapped. Regional design standards are also provided.	The Strategy should be considered as scheme developments along the A803 are considered over the coming years.
Local		
East Dunbartonshire Adopted Local Development Plan 2	The LDP Guides the future use of land in East Dunbartonshire by setting out planning policies and identifying sites for development and protection. The purpose of the plan is to manage the development and use of land in the best long-term public interest, with a focus of contributing to sustainable development and achieving national objectives. The policies and proposals in LDP2 relate to one or more of the following objectives and development must contribute to meeting the following objectives where applicable: • Promote sustainable development, as part of a low carbon economy, which is energy efficient, improves air quality and contributes to net zero emissions by 2045 and climate change mitigation and adaptation; • Support the redevelopment or reuse of brownfield land within sustainable locations in the urban area or brownfield land with acceptable green belt uses; • Improve the quality of design in our places and improve health and wellbeing, with opportunities for social interaction and recreation and enhancing green infrastructure;	The focus on environmental measures around the low carbon economy, coupled with the need to enhance the design of place are directly relevant to the A803 study and will be considered in the future development of the project.

	• Protect and enhance the natural and historic environment of our towns, villages and countryside; • Create places that are safe, easy to move around and are well connected by walking, cycling and public transport; • Deliver good quality homes in the most sustainable locations that meet local needs, including a range of tenures and house types; • Support the growth and diversification of businesses and attract employers to the local area; and • Create successful town and village centres that have high social value and are lively and accessible.	
East Dunbartonshire Council Local Transport Strategy 2020-2025	The East Dunbartonshire Local Transport Strategy (EDC LTS 2020-2025) sets the Council's vision and plan for transport and travel in East Dunbartonshire. It recognises that enhancing the transport network is a key driver for: • improving the local economy; • improving the environment; • increasing social inclusion; and • delivering health benefits for all residents and visitors of East Dunbartonshire.	A range of area wide policies were established which influence the A803 and Bishopbriggs. These are summarised below: • Continue to support transport improvements that benefit East Dunbartonshire by improving the connectivity of the City Region; • Provision of low-level cycle signals at traffic signals and at carriageway crossings where appropriate; • Provision of Advanced Stop Lines with lead-in cycle lanes at signal-controlled junctions where appropriate; • Deliver the Active Travel Strategy; • Continue to deliver bus stop and shelter improvements across East Dunbartonshire in partnership with SPT; • Maintain a close relationship with SPT and bus operators to continue to encourage the provision of local bus services in East Dunbartonshire; • Maintain footways and roads to a high standard in line with the Roads Asset Management Plan; • Identify suitable locations and roll out Urban Traffic Control systems to improve traffic management; and

		• Implement appropriate measures for reducing vehicle speeds to enhance the appeal of sustainable travel.
East Dunbartonshire Active Travel Strategy	The council is working to produce a new Active Travel Strategy, to bring in line with the LTS 2020-2025. The 2015-2020 ATS had 3 core aims: • Facilitate an increase in the proportion of everyday journeys and leisure journeys made by walking and cycling in East Dunbartonshire; • Deliver a more connected network of active travel routes and infrastructure incorporating high environmental and design standards; and • Facilitate delivery of behavioural change, through activities such as training and promotion of active travel.	The local policies are well informed by local problems and opportunities and therefore strongly aligned with the objectives of this project. Regional and National policy has influenced local policy in ED and as such this project is also aligned with the wider goals set out in the policies above. • ATS 1.4 – Bishopbriggs/Forth and Clyde Canal access; • ATS 1.5 – East-West connectivity improvements – Allander Walkway to Cadder Bridge; • ATS 1.6 – A803 Improvements; and • ATS 1.10 – Kirkintilloch/Lenzie to Bishopbriggs route
A Parking Management Plan for East Dunbartonshire	East Dunbartonshire Council's Parking Management Plan supports the aims of the Local Transport Strategy 2020-2025 and promotes sustainable transport choices. The Plan was driven by public concerns regarding parking in residential streets, town centres, rail stations and around schools. The Plan outlines how parking restrictions are to be enforced, and key policies and actions include: • supporting an enhanced electric vehicle charging network; • improved sheltered cycle parking; and • the continued operation and monitoring of pay & display car parks in town centres. The Plan also encourages active travel and sustainable transport as the first option for travelling to and from school and states that traffic-free school schemes will be implemented based on individual schools' circumstances and needs.	Outcomes which are likely to impact the A803 are: • Keep town centres clear to create places that are attractive, safe and pedestrian friendly environments that are also accessible by people who cycle; • Support an enhanced electric vehicle public charging network; • Support access by active travel by ensuring provision of sheltered cycle parking facilities at key locations throughout East Dunbartonshire; • Support access to rail stations by active travel; and • Encourage and promote more journeys to be made to school by active and sustainable modes in line with the Schools Access Hierarchy

Glasgow Transport Strategy 2022	The Glasgow Transport Strategy (GTS) is Glasgow's updated local transport strategy. It is currently under preparation but will set out a Policy Framework and a Spatial Delivery Framework to help guide decision-making on transport up to 2030, with the goal of working towards four overarching outcomes: • Transport contributes to a successful and just transition to a net-zero carbon, clean and sustainable city; • Transport has a positive role in tackling poverty, improving health and reducing inequalities; • Transport contributes to continued and inclusive economic success and a dynamic, world class city; and • Places are created where we can all thrive, regardless of mobility or income, through liveable neighbourhoods and an inclusive City Centre.	The GTS presents 143 polices that will influence Glasgow's approach to travel and transport in the coming years. There is support and focus on developing Low Traffic Neighbourhoods; decarbonising transport and travel; working with SPT and public transport operators to support and promote public transport and active travel. The GTS also discusses maintenance, servicing, parking management, net zero economy and access to travel and transport. It is therefore clear, from a local policy perspective the shift to a more equitable and sustainable transport network is the key driver for all policies. This project, as one would expect, aligns well with this key objective and confidence can be drawn that the overall principles are well supported by the key policy documents in both the EDC and Glasgow area.
Glasgow Active Travel Strategy	Glasgow City Council adopted its Active Travel Strategy (ATS) in February 2022. The vision contained in the strategy is that 'walking, wheeling and cycling will be the first and natural choice for everyday journeys, for people of all ages and ability, to travel locally to schools, to shops, to work, or to the city centre.' There are three policy and action areas within the ATS: • Connectivity: people and place: rebalancing streets and spaces - with a focus on networks and infrastructure in street environments. • Unlocking Change: enabling everyone to walk, wheel or cycle - focussing on training and education and working collaboratively. • Thinking Differently: encouraging, motivating and sustaining change -	Proposals will include walking and cycling improvements within the Glasgow section of the A803. These proposals will connect with recently implemented and future active travel projects in Glasgow.

	focussing on communication and promotion and inspiring people through larger events and other activities.	
Glasgow City Council: Liveable Neighbourhoods	Liveable Neighbourhoods (LN) is Glasgow's approach to blending the 20-minute neighbourhood concept with the place principle. This process was initiated in Summer 2021 with the publication of the LN Toolkit and was followed by in-person and digital community engagement in October/November 2021 and February 2022.	The proposals will complement the LN measures being developed within Glasgow, particularly at the south end of the route which links to LN Tranche 2 proposals in this area.
City Centre Transport Plan	Glasgow City Council published the City Centre Transport Plan (CCTP) which was approved at the City Administration Committee on 1 December 2022. The CCTP replaces the City Centre Transport Strategy 2014 – 2024. The key aims of the CCTP are: • Re-allocate road space in Glasgow City Centre for active travel and green infrastructure; • Deliver improved public transport and support/encourage a shift to more sustainable modes, particularly walking, cycling and public transport; • Improve access for the mobility impaired; • Achieve a 30-40% reduction in peak-hour private car traffic in Glasgow City Centre by 2030; • Deliver improvements for servicing (e.g. goods, deliveries and waste collection) to improve the vitality of Glasgow City Centre; • Support a doubling of Glasgow City Centre's population by 2035; and • Support Glasgow's aim to be carbon neutral by 2030. The CCTP provides a clear framework for transport decision-making in Glasgow City Centre. The CCTP ties in	The proposals will include measures to encourage model shift for trips within and to/from Glasgow. This includes prioritising bus travel and improvements to active travel provision to encourage journeys to be taken by sustainable modes.

	with other key policy documents such as the overarching Glasgow Transport Strategy, the city-wide Active Travel Strategy and the City Centre Strategic Development Framework.	
Low Emission Zone	Glasgow City Council expanded the existing Low Emission Zone (LEZ) in the city centre. The purpose of the LEZ is to improve air quality and protect public health from harmful pollutants, in particular nitrogen dioxide. Introducing the LEZ can help accelerate the uptake of less polluting vehicles, encourage people to move away from private car use and increase the safety, attractiveness, and amenity of the city centre. Phase 1 was limited to buses and was introduced on 31 December 2018. Phase 2 expanded the scope to all vehicles and has been enforced by way of a penalty charge from 1 June 2023.	The proposals, by providing improvements to bus and active travel modes, will encourage people to make journeys by sustainable modes. This will assist in encouraging people to move away from private car use.

2.2 Scheme Objectives

2.2.1 Project Aim

The Project Aim is shown below and has been derived from the Glasgow City Deal Objectives.

"The project will create a high-quality low carbon transport corridor along the A803, ensuring reliable bus journey times without long delays. The project will seek to provide, high quality, safe and segregated active travel. The project will also enhance the quality of the environment, sustainability and ecology through new and improved public and green spaces, whilst maintaining its function for businesses / residents that require loading / parking space."

2.2.2 Design Objectives

Based on the project aim, SMART objectives were produced for different transport modes, shown in Table 2.2.

Table 2.2 Objectives

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
Public Transport	Improve peak hour journey times	Improve journey times during AM and PM peak hours (08:10-09:10 and 16:25-17:25), for motor vehicles travelling north and south along the A803 corridor.	Average bus journey times from Paramics model	Conditions on the corridor, whilst congested, are such that improvements for buses should be achievable	There are currently high levels of congestion at pinch points along the corridor in peak hours. The proposals aim to reduce levels of congestion through optimisation of junctions, retaining road space for private vehicles, and improving signal timings, leading to improvements in journey times.	Pre and post construction
Public Transport	Improve peak hour journey time reliability	Improve journey time reliability in peak hours (08:10-09:10 and 16:25-17:25) by a journey time decrease between 10-20%.	Variation in bus journey times from Paramics model	Conditions on the corridor, whilst congested, are such that improvements for buses should be achievable	Due to congestion along the corridor and lack of bus lanes, bus journey time are currently unreliable. The proposals aim to improve congestion leading to greater journey reliability.	Pre and post construction

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
Public Transport	Improve accessibility of bus stops along the corridor	Improve existing bus stops to include shelters and real time passenger information where this is not already available.	Assessment of bus stops along the corridor – reviewing kerb heights and crossing provision to/from bus stops	Accessibility should be achievable at the vast majority of bus stops	Many of the existing bus stops along the corridor are sub-standard. The proposals would improve the accessibility of the bus stops which do not currently have real time information or shelter for bus passengers.	Pre and post construction
Walking and Wheeling	Increase the number of safe crossing points for walking and wheeling routes	Improvement of existing crossing points and implementation of new crossing points to enhance safety for pedestrians and increase connections.	Number of additional safe crossing points provided by scheme	Any new signalised junctions would feature controlled crossing points, and there are opportunities along sections of the corridor to provide additional crossing points in line with desire lines	Issues in crossing the corridor contribute towards severance for non-motorised users, reducing the attractiveness of walking/wheeling in the area. Providing new, safe crossings would address this	Pre and post construction
Walking and Wheeling	Ensure that footways meet the minimum width requirements	Ensure footways along the corridor align with Scottish Design guidance 'Designing Streets' where possible. Where corridor widths are restricted,	Assessment of desire lines and presence/width of footways	There are locations along the corridor that are significantly constrained by highway and property boundaries, however, in other locations there is	In some areas along the corridor there are sub-standard footway widths. The proposals aim to improve footway widths to meet standards where	Pre and post construction

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
		footway widths should be optimised.		sufficient room to make improvements to footway widths	possible, although this will be restricted by limited public highway width in places.	
Walking and Wheeling	Improve accessibility for all users	Improvement of existing crossing points and implementation of new crossing points to enhance safety for pedestrians and increase connections.	Number of compliant crossings (meaning that they include dropped kerbs and appropriate tactile paving)	Although parts of the corridor are constrained, targeted accessibility improvements should be achievable, particularly at existing crossings	Safe crossing points are an essential part of accessibility, and accessibility is a key factor in the attractiveness of using a corridor as a pedestrian/wheeler	Pre and post construction
Cycling	Improve provision for cyclists along and across the corridor, aiming for best practice but always meeting at least the minimum requirements	Improving provision for cyclists against the baseline, including new advanced stop lines and lead-in cycle lanes at signal-controlled crossings where appropriate, off-road cycle lanes, and segregated cycle tracks where possible.	Assessment of proposed provision against Cycling By Design Level of Service	There are opportunities to provide cycle infrastructure either alongside or, where space is constrained, parallel to the corridor. There are also opportunities to link to existing routes	There is currently no provision for cyclists along much of the corridor. The proposals focus on improving active travel provision including cycle lanes and priority at signalised junctions.	Pre and post construction
Private Vehicles	Ensure that queue lengths do not	Ensure that queue lengths do not increase by more	Queue length outputs from local traffic modelling	Optimisation of existing junctions could improve the	There are currently high levels of congestion at pinch	Pre and post construction

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
	increase significantly along the corridor	than 10% in Bishopbriggs town centre and 25% elsewhere along the corridor	(using the LinSig software package) or observed from corridor model (which uses Paramics, which is a strategic modelling software package)	efficiency of the corridor. Where queues are most severe currently, major reductions in vehicle traffic capacity will not be proposed	points along the corridor in peak hours. The proposals aim to reduce levels of congestion through optimisation of junctions, retaining road space for private vehicles, and improving signal timings, leading to reduced queue lengths at junctions.	
Private Vehicles	Reduce negative impact of private cars on corridor	Reduction in congestion due to the use of private vehicles along the corridor	During design development from traffic flows taken from the regional traffic model (Strathclyde Regional Transport Model – SRTM) and post construction observed through traffic counts	Improvements resulting in less congestion and more public transport use are achievable	There are currently high levels of congestion at pinch points along the corridor in peak hours. The proposals aim to reduce levels of congestion through optimisation of junctions, retaining road space for private vehicles, and improving signal timings. This will improve the negative impact of private	Pre and post construction

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
					vehicles on the corridor.	
Place and Local Economy	Retain existing loading provisions along the corridor	Retain existing loading provision along the corridor and/or increase number of bays to meet demand retained within 25m of existing provision.	Number and location of bays compared with existing	Existing provisions can either be retained or relocated	Many businesses operate along the corridor and loading is essential for many of them. It is important to minimise the impact of the scheme on commercial operations	Pre and post construction
Place and Local Economy	Provide short-term cycle parking near local shops and services	Provision of multiple, additional secure cycling parking near bus stops, rail stations, and key amenities.	Additional cycle spaces provided	Cycle parking can have a small footprint and should therefore be possible along much of the corridor where it is needed	Safe and secure cycle parking is essential to encourage people to use the corridor via bicycle	Pre and post construction
Residential Amenity	Retain required car parking for residents within the area	Retain required car parking for residents within the area, and/or add new parking spaces to address shortfall in provision or demand.	Number and location of spaces compared with existing	Identifying the volume of parking required will allow for the safeguarding of existing/new space for resident parking	It is essential that required parking for residents who need it is retained to reduce negative impacts of the scheme	Pre and post construction
Residential Amenity	Ensure walking and wheeling routes between residential	Improvement of existing crossing points and	Number of additional safe crossing points and assessment of	There are opportunities for new and improved	Accessibility to/from the corridor is just as important as	Pre and post construction

Mode / Topic	Objective	Specific	Measurable	Achievable	Relevant	Time bound
	areas and the corridor have sufficient footway widths and safe crossing points	implementation of new crossing points to enhance safety for pedestrians and increase connections, taking desire lines into account.	desire lines and footway widths on surrounding streets	crossing points along the corridor, and for improving footways on connecting side streets	accessibility on and along the corridor	
Residential Amenity	Improve access to cycle parking for residents	Provision of additional secure cycle parking. If possible, include two or more new cycle parking hubs	Number of additional secure cycle spaces provided	Cycle storage has a relatively small footprint so should be achievable along the corridor where required	Secure cycle parking in residential areas is essential to encourage people to use bikes for everyday journeys	Pre and post construction
Sustainability	Increase/improve green/blue space along the corridor and plant native trees	The creation of additional green spaces (or ponds) along the corridor, and planting of 10 or more trees.	Number of green spaces proposed and trees	Improvements to existing green spaces shouldn't impact on the corridor in terms of transport. New green/blue spaces and tree planting will be dependent on available land	Greenspace is an important factor in making the corridor and its surrounds an attractive place to spend time in	Pre and post construction
Sustainability	Improve interchange between sustainable transport modes	Provision of multiple, additional secure cycling parking near bus stops, rail stations, and key amenities.	Number and position of cycle parking	Cycle storage has a relatively small footprint so should be achievable along the corridor where required	Secure cycling parking is essential for multi-modal sustainable journeys	Pre and post construction

3 Baseline Conditions

3.1 Overview

The section of the A803 corridor forming this study is approximately 7.5km long and varies in form, amenity and utility. At its northern extent the study area is a predominantly rural environment which separates the conurbations of Bishopbriggs and Kirkintilloch. Quickly, however, the corridor transitions to a low-density urban environment, which is on the periphery of the Bishopbriggs urban area commencing around the Strathkelvin Retail Park. The road, which is a two-lane single carriageway, is generally flanked by residential properties and this environment remains fairly consistent until Bishopbriggs Town Centre. Bishopbriggs Town Centre is predominantly retail in nature, including food and drink offer, to the northeast of the town centre is a large, recently redeveloped, Morrisons supermarket.

Between the town centre and the EDC / GCC boundary, the density of the built environment intensifies. In addition, the road environment becomes a more dominant factor, having increased from two lanes north of the town centre to four. However, while these sections don't have designated parking, they are generally impacted by parked vehicles. The adjacent land-use is a mix of commercial and residential.

The feasibility report prepared by Atkins during the previous stage of the project provides a detailed review of the existing conditions along the corridor. An updated summary is provided below with mode detail provided within Appendix D.

3.2 Local Road Network

The A803 varies through the study area, with it being a rural 2-lane A road in the northern section of the corridor, to a 4-lane dual carriageway at the southern end of the corridor. The surrounding road network mainly consists of local 2 lane roads, to the north this connects with A807 providing a link to Torrance and Milngavie and to the south the A803 connects with junction 15 of the M8.

3.3 Active Travel Network

The existing active travel network within the study area is limited. However, NCR 754 runs alongside the Forth and Clyde Canal to the northwest of the study area. Appendix D provides more detail of the existing active travel network along the corridor.

3.4 Public Transport Network

There are several bus routes that operate within the study are, either travelling along or crossing the A803. Figure 3-1 demonstrates the service frequency of existing bus routes along the corridor, with line thickness representing number of buses per hour for each service. Bus routes 88 and 89 service the majority of corridor at 15 and 30-minute intervals, whilst other routes service sections of the corridor at varying frequencies.

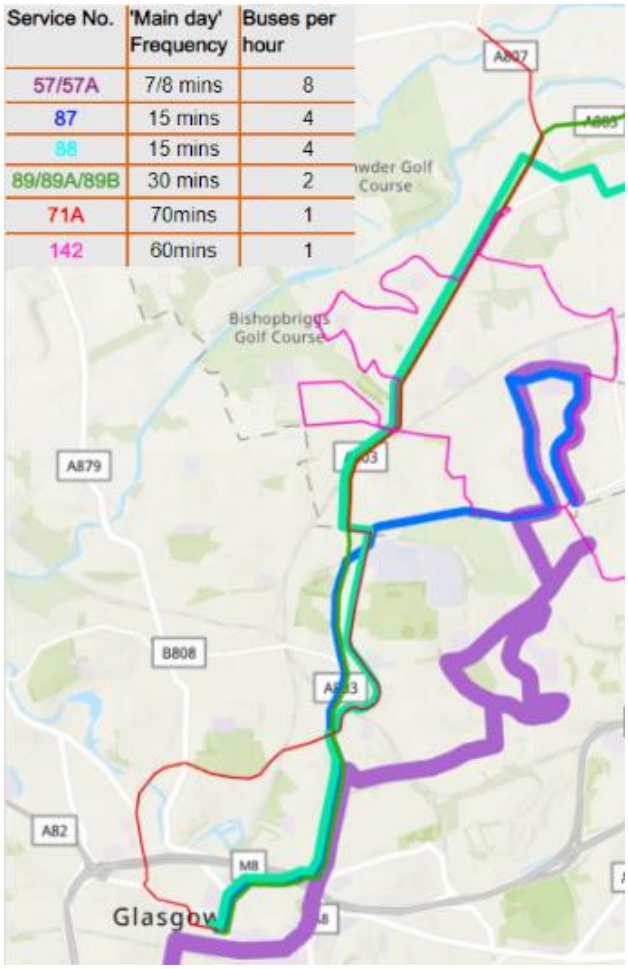


Figure 3-1 Existing bus routes and frequency (based on information from January 2024)

Appendix D demonstrates the existing public transport network/services along the corridor.

3.5 Collision Data

The latest data set available, from CrashMap, for collisions is up to the end of 2022. During the five-year period up to the end of 2022 there was one collision which resulted in a fatality and a total of 15 collisions which resulted in a serious injury. Of those serious collisions, there were 6 collisions which resulted in a serious injury to a pedestrian or cyclists. Table 3.1 provides additional detail on those collisions.

Table 3.1 Crashmap pedestrian/cycle accident data

Location	Pedestrian / Cycle casualty	Date	Severity
Junction with St Rollox Brae	Cycle	19/10/2018	Serious
South of St Rollox Brae	Pedestrian	29/09/2018	Serious
South of St Rollox Brae	Pedestrian	25/03/2022	Serious
South of St Rollox Brae	Pedestrian	29/02/2020	Serious
Atlas Road junction	Pedestrian	17/12/2021	Serious
Brackenbrae Road junction	Pedestrian	06/10/2021	Serious

The overall number of serious and fatal collisions is not unusually high for a section of road with this volume of traffic, but there is a high proportion of pedestrian casualties – particularly within a relatively short distance of each other. The collision data for the section of the A803 near to the St Rollox Brae junction is shown in Figure 3-2. It should be noted that this shows all casualty types (not just the pedestrian and cyclist casualties noted in Table 3.1).

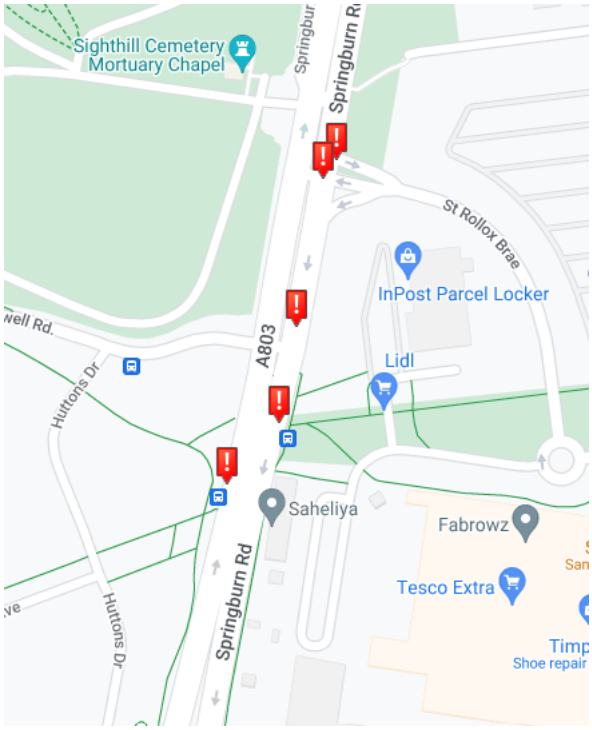


Figure 3-2 St Rollox Brae accidents 2018-2022 (all casualty types)

3.5.1 DfT collision data

DfT collision data has been analysed and collision hotspots have been identified at the locations shown in Table 3.2. The DfT dataset provides detailed road safety data about the circumstances of personal injury road accidents in GB for the last 10 years of published, validated and available data (2013 - 2023*), the types of vehicles involved and the consequential casualties. The statistics relate only to personal injury accidents on public roads that are reported to the police, and subsequently recorded, using the STATS19 accident reporting form.

Data was last downloaded and updated on 13/11/24 and is updated annually. Next data update check due on 13/11/25.

Table 3.2 Collisions hotspots (2013-2023) (Source: DfT)

Pinch point location	Number of collisions	Collision types	Casualty types	Themes
A803/Fountainwell Road junction	7	1 x fatal 1 x serious 5 x slight	2 x Pedestrian 3 x car occupant 1 x taxi occupant	Car going ahead approaching junction, pedestrian collision at front of vehicle. Vehicles turning in or out of Fountainwell Road.
A803/Cobden Road junction	18	2 x serious 16 x slight	1 x cyclist 17 x car occupants	Cyclist turning right out of Cobden Road, colliding with vehicle. Vehicles turning right out of Cobden Road colliding with those going north or south. Vehicles waiting to turn right into Cobden Road from south colliding with south-east bound traffic.
A803/Petershill Road Road junction	5	5 x slight	1 x pedestrian 4 x car occupants	Vehicle heading south colliding with pedestrian crossing from vehicles offside. Vehicles travelling north/south colliding with vehicles heading east/west.
A803/Keppochhill Road/ Atlas Road junction	18	3 x serious 15 x slight	3 x pedestrian 15 x car occupants	Vehicles travelling north colliding with pedestrian at crossing. Vehicles turning right onto Atlas Road colliding with vehicles on Atlas Road travelling west or turning right. Shunts.
A803/Kenmure Avenue/Springfield Road junction	7	1 x serious 6 x slight	4 x pedestrian 1 x cyclist 2 x car occupants	Vehicle colliding with pedestrian at crossing point and within 50m of crossing when heading along A803. Vehicle turning right onto A803 colliding with cyclist doing the same manoeuvre.
A803/Balmuildy Road junction	4	1 x serious 3 x slight		Vehicles turning left or right onto A803 colliding with north or southbound traffic

3.6 Traffic Data

Appendix D demonstrates local traffic data for the corridor including traffic flows, delays, parking and queueing. Key pinch points have also been identified.

Two-way traffic flows vary along the corridor, with peak AM and PM flows between 08:10-09:10 and 16:25-17:25, as shown in Table 3.3.

Table 3.3 Summary of Traffic Data (November 2022)

Location on A803	AM Peak Hour – two-way flows (VPH)	PM Peak Hour – two-way flows (VPH)
North of junction with Crosshill Road	1,521	1,458
North of junction with Kenmure Avenue	1,584	1,560
North of junction with Colston Road	1,429	1,224
North of junction with Rollox Brae	2,139	2,072

Table 3.3 shows that traffic flows are higher at the southern end of the corridor, with flows around 25% lower within the East Dunbartonshire section of the corridor (north of Colston Road).

Traffic levels remain relatively high from midday onwards, with the late morning period being the quietest day-time period. The AM peak is shorter and more pronounced than the PM peak, which is longer and has a steadier increase/decrease during the shoulder periods.

3.7 Cycle Data

The number of cyclists on the A803 was also captured during the traffic surveys noted in section 3.6. As with the traffic data the volumes vary along the corridor, and it should be noted that these surveys were undertaken in November when cycle flows tend to be lower.

Two-way cycle flows during the overall vehicle AM and PM (08:10-09:10 and 16:25-17:25) peak hours are shown in Table 3.4

Table 3.4 Summary of cycle counts (November 2022)

Location on A803	AM Peak Hour – two-way flows (VPH)	PM Peak Hour – two-way flows (VPH)
North of junction with Crosshill Road	0	4
North of junction with Kenmure Avenue	4	12
North of junction with Colston Road	7	4
North of junction with Rollox Brae	16	21

Table 3.4 shows that cycle flows are relatively low along the corridor at present, this is likely to be in part due to the lack of facilities for cyclists along the corridor. The data also shows the cycle flows are slightly higher towards the southern end of the corridor, which may be linked to shorter commuting trips into central Glasgow.

3.8 Environment and Ecology

3.8.1 Preliminary Environmental Appraisal

A Preliminary Environmental Appraisal Report has been prepared by Sweco for EDC and presents a desktop review of the existing conditions along the A803 scheme extent.

The following sections contain a brief overview of baseline conditions. Full details of the environmental baseline and constraints can be found in the PEA Report and the Preliminary Environmental Appraisal Report.

Biodiversity and Habitats

The habitats on site comprise primarily urban environments with parcels of woodland and modified grassland on roadside verges and urban amenity areas.

Bishopbriggs Park is located to the west of the A803 carriageway in the Central Section and is part of the existing East Dunbartonshire green network consisting primarily of mixed woodland with mature and semi-mature broadleaved and coniferous trees. Bishopbriggs Burn flows through the park towards the Forth and Clyde Canal which is an important biodiversity corridor in East Dunbartonshire. The burn has the potential to support otter (*Lutra lutra*) and further assessment is recommended. A habitat suitability assessment found that the burn had sub-optimal suitability for water vole (*Arvicola amphibius*) due to high disturbance and a lack of suitable refuges and nest building opportunities in the surrounding habitat. The invasive non-native species (INNS) rhododendron (*Rhododendron ponticum*), which is the dominant shrub within the woodland on the north side of the burn, and cherry laurel (*Prunus laurocerasus*) were recorded in the park. The spread of INNS is a key pressure on biodiversity decline and colonisation can suppress native ground flora.

A semi-mature sycamore tree with bat roosting potential was recorded in Bishopbriggs Park and there are a number of bird boxes installed on trees within the park.

One parcel of long-established (of plantation origin) woodland listed on the Ancient Woodland Inventory (AWI) intersects with the site boundary in Bishopbriggs Park in addition to a parcel of ancient woodland in the North Section along the A803, south of Meadowburn. The woodland in the North Section appears to have suitability for red squirrel (*Sciurius vulgarus*) and pine marten (*Martes martes*) however the presence of either species is considered unlikely due to the lack of records of the species, the lack of connectivity to other woodland and the presence of grey squirrel (*Sciurus carolinensis*). Two trees with bat roosting potential were recorded in this woodland; one tree has a bat box installed and the other has natural bat roosting features.

Although no evidence of badger was recorded, the woodland, scrub and grassland habitats on site have suitability to support badger. There is suitable bird nesting habitat across the site primarily in the woodland habitats but also in the scrub, grassland and scattered trees along the roadside.

Noise

The existing acoustic environment and surrounding area is dominated by road traffic noise along the A803. Another major source of noise is the Glasgow to Edinburgh railway line. South of Bishopbriggs the railway line is located to the west of the A803. Other noise sources include the adjoining and surrounding roads and some minor industrial noise. East Dunbartonshire does not currently have any Noise Management Area's or designated Quiet Areas. The Glasgow Noise Action Plan identified Candidate Noise Management Areas (CNMAs) and Candidate Quiet Areas (CQAs). There is one CNMA and one CQA within 500m of the A803 scheme extent. The CNMA runs approximately 200m in length along the A803, within the proposed scheme extent. The CQA is approximately 200m east of the proposed scheme.

Air Quality

EDC has designated an air quality management area (AQMA) in Bishopbriggs relating to exceedances of both the nitrogen dioxide (NO_2) and particulate matter (PM_{10}) annual mean objectives. The Kirkintilloch Road AQMA was declared in 2005. The AQMA encompasses a 60m wide corridor along the A803 Kirkintilloch

Road, Bishopbriggs between EDC's border with Glasgow City Council and a point 30m north of Cadder Roundabout.[1]

The EDC 2022 Annual Progress Report confirmed that, at respective monitoring locations along the A803 and within proximity to the A803, annual mean concentrations of NO_2 remained below the respective objective within and outside the AQMA for the period 2017 to 2021 inclusive. Similarly, at the relevant automatic monitoring sites, there were no reported exceedances of the PM_{10} and $PM_{2.5}$ objectives[2].

Glasgow Local Authority has four AQMAs. The city centre AQMA is loosely bound by the M8 motorway to the west and north (with slight protrusions at North Street and Royston Road) and therefore borders the southern extent of the scheme[3].

Water Environment

The majority of the A803 scheme extent lies within the River Kelvin catchment with the exception of a stretch of approximately 1km in total towards the southern tip of the scheme extent which lies in the Glasgow Coastal catchment area[4].

The River Kelvin lies at its closest approximately 800m from the northern most point of the A803 scheme extent. Bishopbriggs Burn, flowing east to west, is closest to the A803, approximately 20m, at OS grid reference NS 61024 70367 and flows into the River Kelvin (Glazert Water to Tidal Limit). The source of Bishopbriggs Burn is unknown as the watercourse only appears in open channel to the west of Bishopbriggs town centre but is likely to originate to the east of Bishopbriggs and be culverted under the urban area.

The Forth Clyde Canal lies north/west of the A803 scheme extent and at its closest point is approximately 350m from the A803 (NS 61633 72186).

The flood risk maps for Scotland show that the A803 is not at risk from fluvial flooding, however it does identify a flood risk associated with Bishopbriggs Burn to the west of Bishopbriggs town centre. Here the watercourse has a 10% chance of flooding each year. The flood risk maps identify some areas of surface water flood risk for the A803 the main locations are near Charles Street, near Hawthorn Street and within Bishopbriggs town centre[5].

The northern most 50m of the A803 scheme extent lies on Kelvin Sand and Gravel groundwater (superficial), which is 55.8 km^2 in area. North of Bishopbriggs town centre the A803 scheme extent crosses Kirkintilloch groundwater (bedrock), which covers an area of 152.8 km^2. South of this the A803 crosses Glasgow and Motherwell groundwater (bedrock), which is 514.8 km^2 in area.

Geology

Based upon the BGS Geology Viewer most of the course of the A803 scheme extent is underlain by till. There is one alluvium deposit crossing the A803 scheme north of Bishopbriggs town centre, at approximately NS 61051 70373. There is a 50m stretch of lacustrine deposits north of Springburn, at approximately NS 60432 68306. There are several stretches of the A803 scheme extent with no available superficial geology data, including Bishopbriggs town centre and South Springburn.

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[1] UK Air Information Resource, AQMA Details, Kirkintilloch Road AQMA, https://www.laqmportal.co.uk/aqma_maps//KirkintillochRoadAQMA.pdf [Accessed Feb 2024]

[2] East Dunbartonshire Council, "Air Quality Annual Progress Report (APR)", 2021, https://www.eastdunbarton.gov.uk/annual-progress-report [Accessed Feb 2024].

[3] Glasgow City Council, "Air Quality Progress Report", 2023, Air Quality Progress Report, https://www.glasgow.gov.uk/CHttpHandler.ashx?id=60697&p=0, 2023 [Accessed Feb 2024].

[4] Scottish Government, "Scotland's Environment Web", https://map.environment.gov.scot/sewebmap/ [Accessed Feb 2024].

[5] SEPA Flood Maps, https://scottishepa.maps.arcgis.com/apps/webappviewer/index.html?id=3098bbef089c4dd79e5344a0e1e7c91c&showLayers=FloodMapsBasic_2743;FloodMapsBasic_2743_0;FloodMapsBasic_2743_1;FloodMapsBasic_2743_2;FloodMapsBasic_2743_3;FloodMapsBasic_2743_4;FloodMapsBasic_2743_5;FloodMapsBasic_2743_6;FloodMapsBasic_2743_7;FloodMapsBasic_2743_8;FloodMapsBasic_2743_9;FloodMapsBasic_2743_10;FloodMapsBasic_2743_11 [Accessed Feb 2024].

There are no recorded landfill sites or other waste sites within 500m of the A803 scheme extent[6]. There is no contaminated land within 100m of the scheme extent that has been recorded on the Spatial hub for Scotland [7]. Due to the urban area and likely historic land uses there could be contaminated land not yet identified.

Landscape

Given the linear nature of the A803 corridor the project site and various proposals are dispersed over a significant distance passing through varied urban landscapes and a short stretch of rural landscape at the very northern end.

EDC has captured polygons of Tree Preservation Areas. There are number of Tree Preservation Areas adjacent to the extent of the proposed scheme located.

Agriculture and Soils

The northern extent the A803, north of Cadder, passes through a rural environment with agricultural land, for both crops and grassland, adjacent to the corridor. From Cadder southwards the corridor becomes more urban with a mixture of residential and commercial land-use.

There is limited soil data available for the A803 scheme extent due to its urban nature. Soil conditions along the scheme extent generally comprise of locally peaty, clayey loam, sandy loam, silty loam. One band of riverine clay and floodplain sands and gravel crosscuts the scheme extent north of Bishopbriggs town centre, trending southeast to northwest.

Historic Environment

The A803 scheme extent is in proximity to the Antonine Wall Heritage Site (UNESCO World Heritage Site (WHS) and Scheduled Monument. It runs east to west and at its closest point is situated approximately 50m north of Torrance Roundabout (NS 62361 72819). The Antoine Wall lies 30m north of Torrance Roundabout at its closest point. The WHS buffer zone runs approximately 1 km to 1.5 km from the wall to the north and south. Approximately 800 m of the proposed scheme from Torrance Roundabout south lies within the buffer zone.

The Forth and Clyde Canal, a Scheduled Monument, is north/west of the A803 scheme extent and at its closest point is approximately 350m from the A803. There are 12 listed buildings within 100m of the A803 scheme extent. Historic Environment Scotland maps identify three Conservation Areas as follows:

- Cadder (CA256) – located 200m west of the A803
- Balmuildy/Kirkintilloch Road (CA648) – located either side of the A803 and including a 150m stretch of the A803 north of Bishopbriggs town centre.
- Coltpark Avenue/Stuart Drive (CA255) – located immediately west of the A803

3.8.2 Preliminary Ecological Assessment

A UK Habitat classification and protected species scoping survey was carried out on 13 December 2023, to map the habitats present on site and assess their potential to support notable/protected species. The survey found that the site comprises primarily grassland, woodland, and urban environments. The site has potential to support nesting birds and bats. Several Invasive Non-Native Species (INNS) of plants were recorded on site including rhododendron and cherry laurel.

The following further surveys are recommended to be undertaken during future project stages:

- If any tree in the PRF-M bat roost suitability category (T1 and T2) is expected to be impacted, a tree climbing survey using an endoscope is recommended. If T1 is found to still have potential to support

[6] SEPA, “Scotland’s Waste Sites and Capacity Data Tool”, https://www.sepa.org.uk/data-visualisation/waste-sites-and-capacity-tool/ [Accessed Feb 2024].

[7] Spatial Hub Scotland, “Contaminated Land”, https://data.spatialhub.scot/dataset/contaminated_land-is/resource/82a46536-4de2-4107-85dd-fb9de7569dd8 [Accessed Feb 2024].

roosting bats following the tree climbing survey, then it is recommended that two dusk emergence surveys are undertaken between May and September, with at least one survey taking place between May and August.

- A pre-construction badger survey no more than three months prior to the start of works.
- An otter survey up to 200m upstream and downstream of Bishopbriggs Burn.

If the bat box on T2 is not in use, it is recommended that it is moved to a tree that will not be impacted by the proposed scheme. If bats are found to be roosting in the bat box, a licence application to NatureScot will be required to allow impacts to the roost.

If the tree (T3) in the PRF-I bat roost suitability category is to be impacted by works (such as pruned or felled) it is recommended that this work is carried out as "soft felling/pruning" under supervision by a licensed bat worker as a precaution.

It is considered best practice that appropriate precautions be taken, documented and implemented through a Pollution Prevention Plan (PPP) to safeguard habitats from being detrimentally impacted during the pre-construction (e.g. ground investigation works), construction and maintenance phases of the project. Best practice and guidance will be considered in the preparation of the PPP and will include SEPA's Guidance for Pollution Prevention. These measures include but are not limited to appropriate storage of fuels/oils, treatment of arisings and silt/pollution protection.

It is recommended that vegetation clearance and tree felling is kept to a minimum. The Scottish Government's Policy on Control of Woodland Removal provides guidance on whether removal of woodland is likely to be permitted. There is a strong presumption against removal of woodland in Scotland. If design proposals include felling of woodland, then consultation with the local planning authority is recommended to establish whether the proposed extent of removal would be permitted.

It is a mandatory requirement that nesting birds (or their nests or eggs), including ground nesting birds in the grassland, are not killed or injured or their active nests destroyed as a result of activities on site. It is recommended that clearance of vegetation is kept to a minimum. Any clearance of vegetation that is suitable for nesting birds should be undertaken outside the core nesting bird season (March to August inclusive). If the works programme cannot be amended to facilitate this, a pre-works check for nesting birds should be undertaken by a suitably qualified ecologist one week prior and then no more than 48 hours prior to works. If active nests were found, there would be no other option but to delay works in this immediate area until chicks have fledged which could be a period of up to ten weeks.

It is recommended that night working and night lighting is kept to a minimum. Additional lighting at night should be hooded to avoid overspill and lighting should be directed away from semi-natural habitats including woodlands, hedgerows and rivers. Lighting should be designed with reference to the Bat Conservation Trust and Institute of Lighting Professionals guidance note 08/23 and in consultation with a qualified ecologist.

During works, if any excavations will be left open overnight, ramps must be installed to allow egress of any animals that enter the excavations.

The activities involved in the management and disposal of INNS are subject to regulatory control. It is a mandatory requirement to demonstrate that reasonable steps to avoid unlawful spread of INNS has been taken and ensure compliance with Scottish Government's Code of Practice. It is therefore recommended that an INNS Management Plan is prepared and implemented during works to avoid the spread of invasive species.

The following enhancement opportunities for securing positive effects for biodiversity in line with Policy 3 of the Fourth National Planning Framework (NPF4) are recommended:

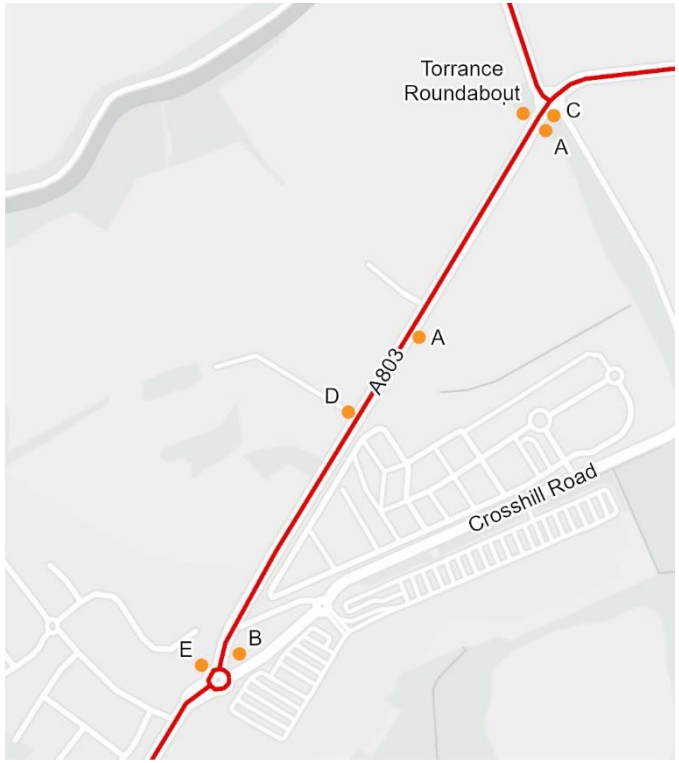
- Use of native plant species which benefit pollinators and/or provide food for winter birds within soft landscaping;
- Seed any newly planted areas with a wildflower mix beneficial to pollinating insects;
- Inclusion of log piles and bug box/hotels to benefit invertebrates;
- Installation of bat and/or bird boxes;

- Use of wildlife friendly lighting in parts of the site not already lit by existing street lighting; and
- Compensating any loss of trees by planting native species in alternative areas.

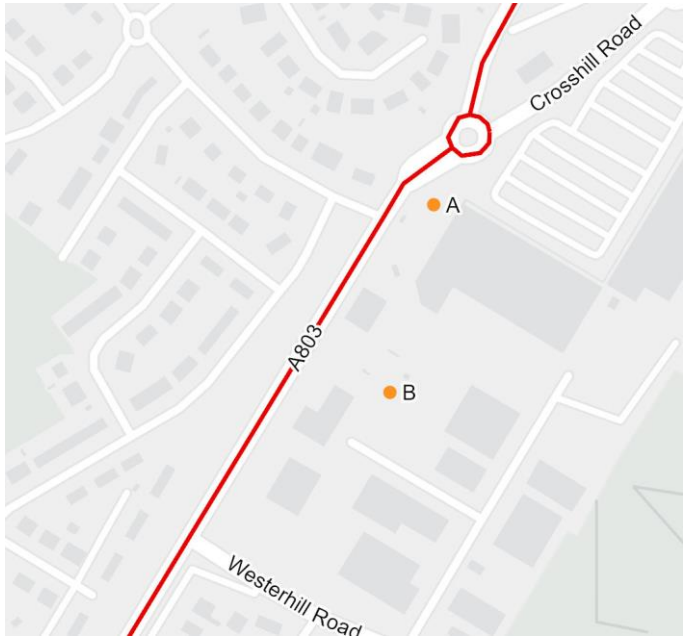
3.9 Issues

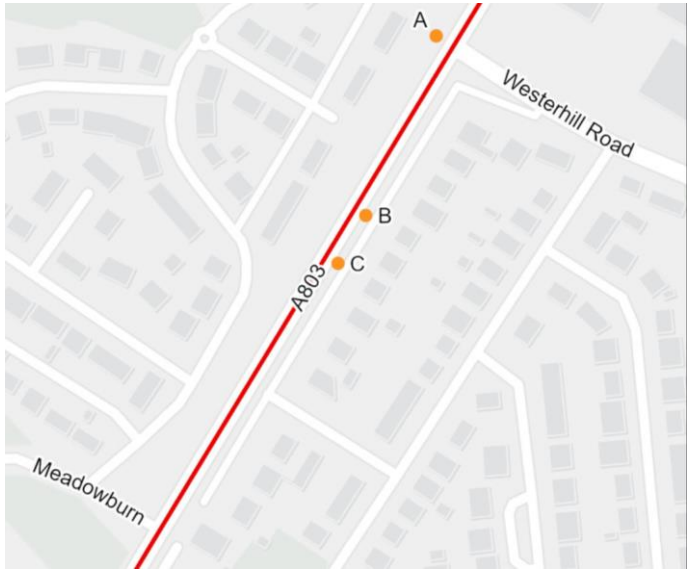
Existing transport issues along the corridor have been identified through undertaking site visits, engineering reviews of the existing road layout, engagement with the community and stakeholders and input from the project team.

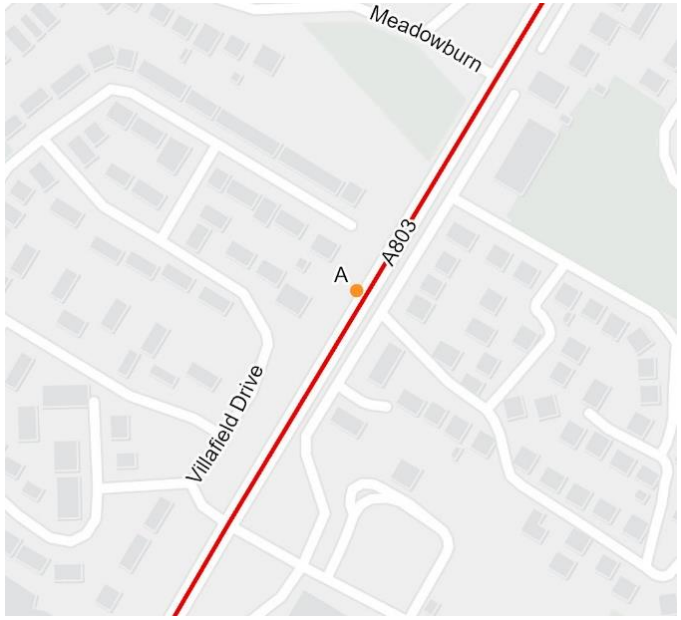
Table 3.5 Issues along existing corridor

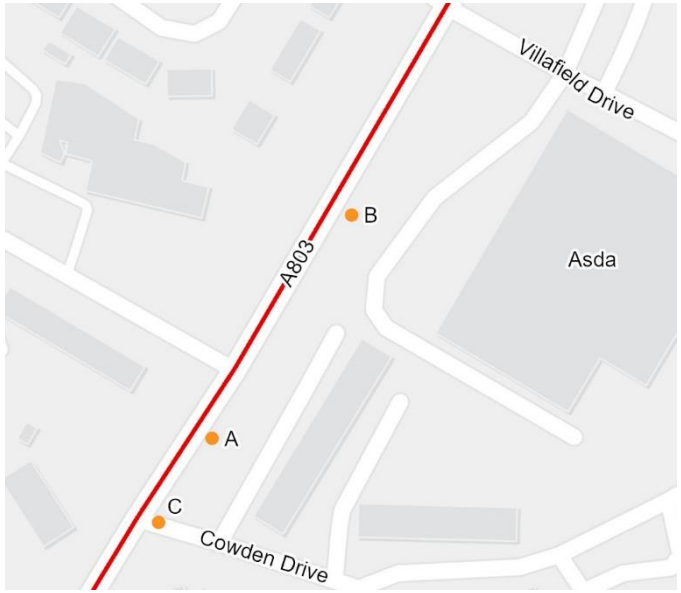
Location	Mode	Ref	Issue
Torrance Roundabout to Crosshill Road 	Active Travel	A	Limited footway provision on eastern side of the carriageway between Torrance roundabout and Crosshill Road with only 2 short, very narrow sections of footway serving the two southbound bus stops. Away from that there is no formal footway provision on the eastern side of the carriageway.
	Active Travel	B	A footway is provided to the east of the carriageway from approximately 50m north of the roundabout at Crosshill Road, however, On the approach footway width on the eastern side is limited by guard-railings.

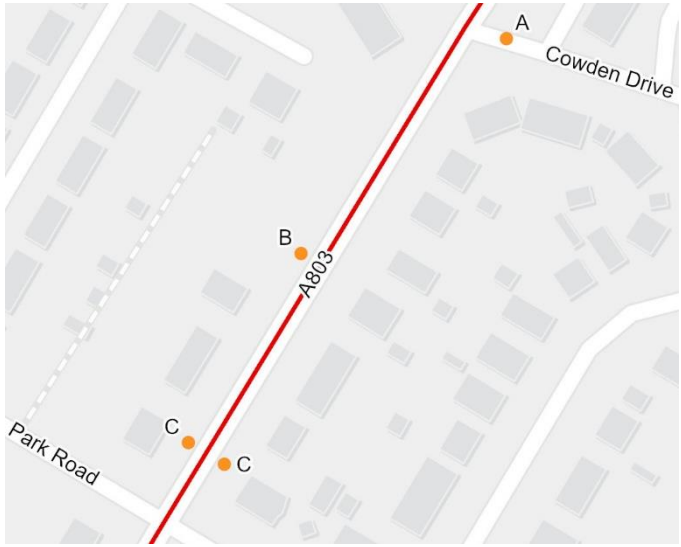
	Active Travel	C	The refuge island on southern arm of Torrance roundabout has no dropped kerbs.
	Active Travel	D	Poor condition of the dropped kerbs across the gated access track.
	Active Travel	E	Crossing of the A803 and Crosshill Road at the roundabout is a poor, with no crossing provision.
	Active Travel	n/a	No cycle provision along this section of the A803.
	Public Transport	F	Poor bus stop facilities in this section, no shelters for southbound stops and in the northbound direction only the southernmost stop has a shelter. Waiting areas especially for the southbound stops and lack crossing facilities for onward travel by foot.
	Land Constraints	n/a	Limited/no additional land available, however, there is a verge/boundary area between fields and eastern carriageway to north of the section. Any additional land to the south of here is constrained by cemetery.
Crosshill Road to Westerhill Road	Active Travel	A	The refuge arm on the southern arm of retail park roundabout, and the junction with the petrol station on the east side have no dropped kerbs.

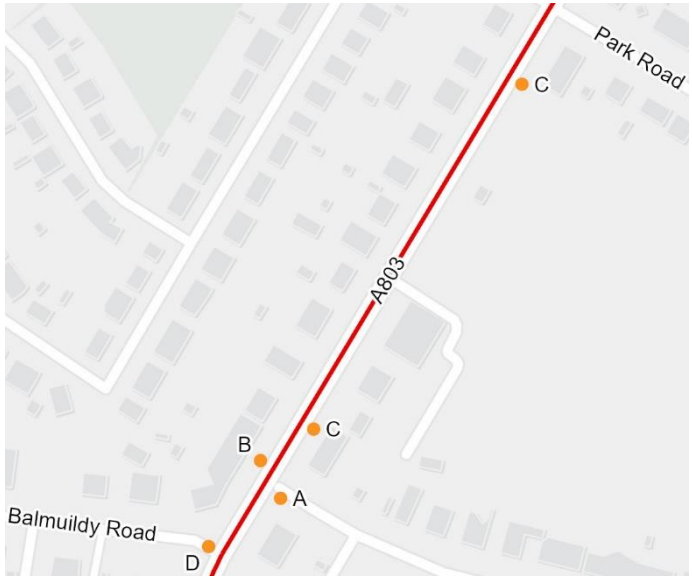
	Active Travel	n/a	No cycle provision along entire link
	Land Constraints	B	Land to the east is constrained by private retail and industrial land
	Road Network	A	Traffic congestion resulting in queueing traffic regularly occurs during peak hours and busy periods (such as Saturday mornings) at the retail park. This makes it difficult for vehicles to exit Cadder Road, especially those wishing to turn right.
Westerhill Road to Meadowburn	Active Travel	A	2.5m footway on western side of carriageway, narrower due to barriers at junction with Westerhill Road.

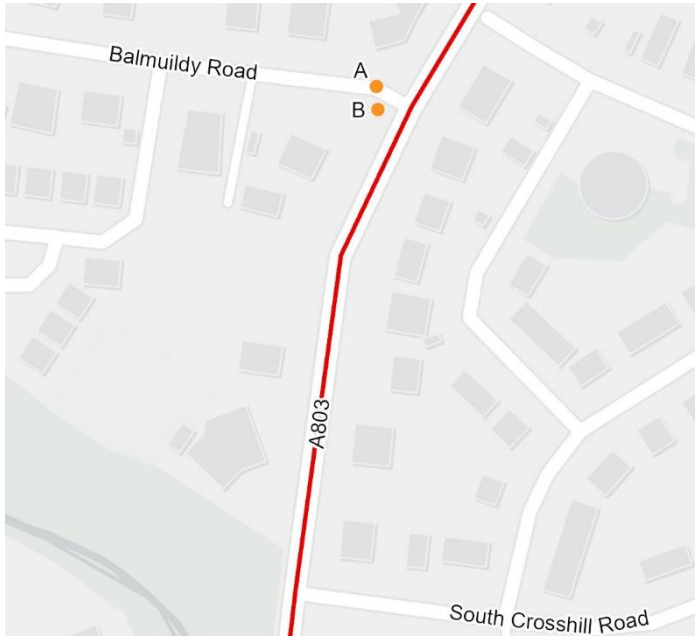
	Active Travel	B	No footway provision on eastern side
	Active Travel	C	No crossing point to reach bus stop on eastern side of carriageway. Note that the A803 junction with Meadowburn is due to be signalised (as part of works to facilitate a nearby residential development) and will provide a safe crossing point across the A803.
	Active Travel	n/a	No cycle provision along entire link
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data). PM peak northbound journey times experience delays and unreliability (Journey time survey data). This section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*.
Meadowburn to Villafield Drive	Active Travel	n/a	No immediate footway provision on eastern side of carriageway.

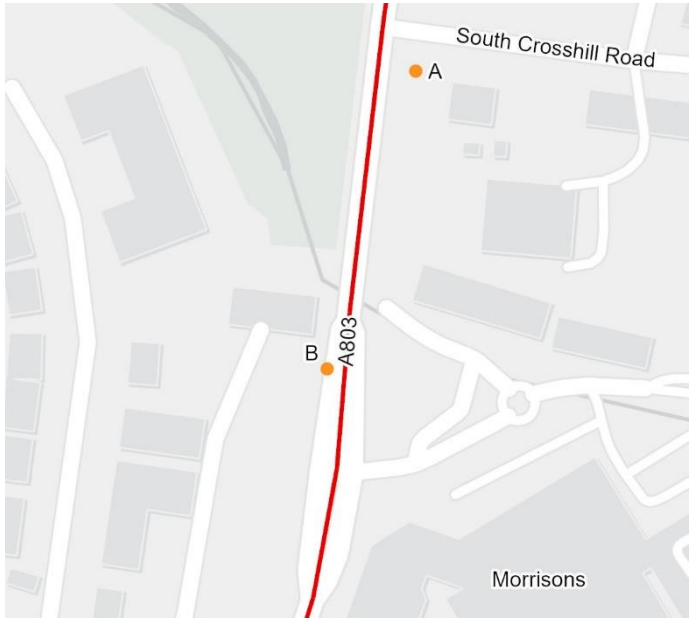
	Active Travel	n/a	No cycle provision along entire link.
	Active Travel	n/a	No bus stops in this section for southbound routes.
	Public Transport	A	Northbound bus stop is located away from the main trip attractor (Asda) in the area.
	Public Transport	n/a	Section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*. Section between south of Hilton Road and Meadowburn is in 25% most congested traffic delays (NB)*.
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data). PM peak northbound journey times experience delays and unreliability (Journey time survey data).
Villafield Drive to Cowden Drive	Active Travel	A	Eastern side footpath is not accessible from road at the southern section (footway is directed to Whitelaw Gardens and the underpass that runs underneath the A803 to link with Hilton Road).

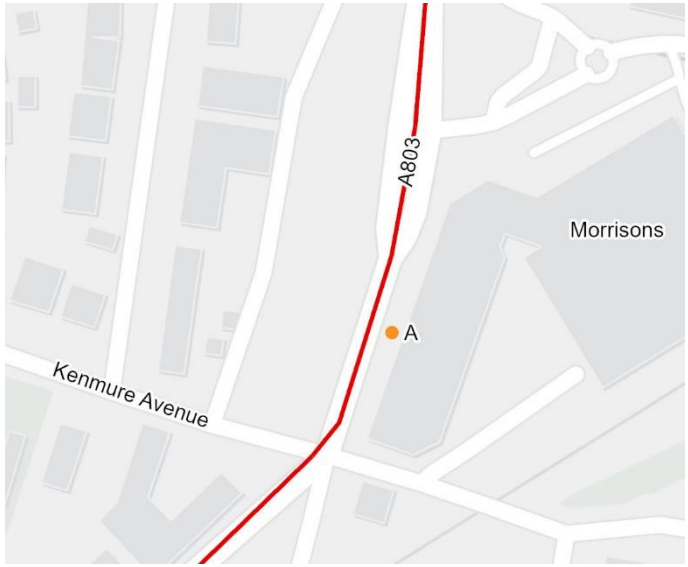
	Active Travel	B	No crossing to access bus stop on Eastern side.
	Active Travel	C	No crossing at Cowden Drive junction.
	Active Travel	n/a	No cycle provision along entire link.
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data). PM peak northbound journey times experience delays and unreliability (Journey time survey data). Section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*. Section is in 25% most congested passenger weighted delays (NB)*.
Cowden Drive to Park Road	Active Travel	A	No north / south crossing at Cowden Drive junction.

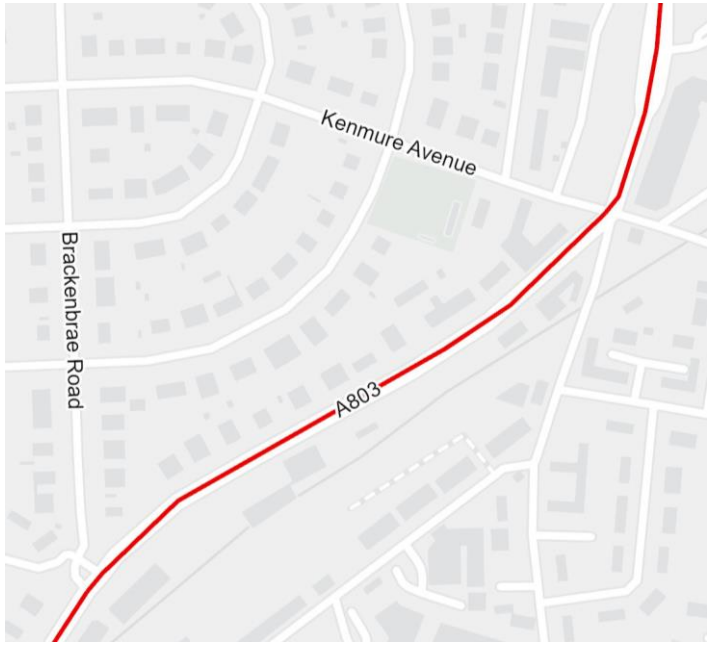
			
	Active Travel	B	No surface level crossing to access bus stop on Western side. However, an underpass is provided at the Cowden Drive junction (A) to cross the A803.
	Active Travel	n/a	No cycle provision along entire link.
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data). PM peak northbound journey times experience delays and unreliability (Journey time survey data). Section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*. Section is in 25% most congested passenger weighted delays (NB)*.
	Land constraints	C	Limited/no additional land available within adopted boundary. Residential wall boundaries on both the side of the road after the footpath which are not wide enough to provide shared used path.
Park Road to Balmuildy Road	Active Travel	A	No footpath provision along the Eastern side to the south of the link after Wester Cleddens Rd T- junction.

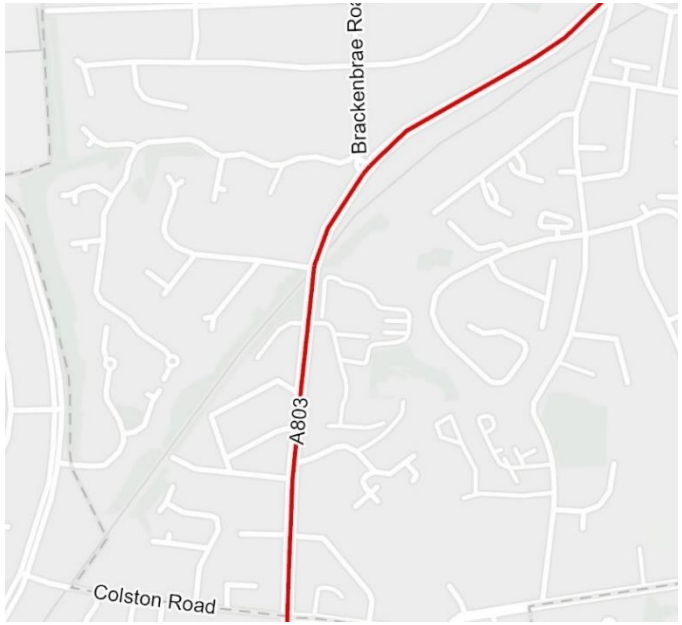
	Active Travel	B	No crossing to access bus stop on Western side.
	Active Travel	C	No crossing to access bus stops on Eastern side.
	Active Travel	D	No crossing at Balmuildy Road T- junction.
	Active Travel	n/a	No cycle provision along entire link.
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data). PM peak northbound journey times experience delays and unreliability (Journey time survey data).
	Land constraints	n/a	Limited/no additional land available within adopted boundary. Residential wall boundaries on both the side of the road at the back of the footway which are not wide enough to provide shared used path.
Balmuildy Road to South Crosshill Road	Active Travel	n/a	No footpath provision along the Eastern section from Balmuildy Road junction till the intersection at South Crosshill Rd for about 30m North of the junction which is 2.6m wide.

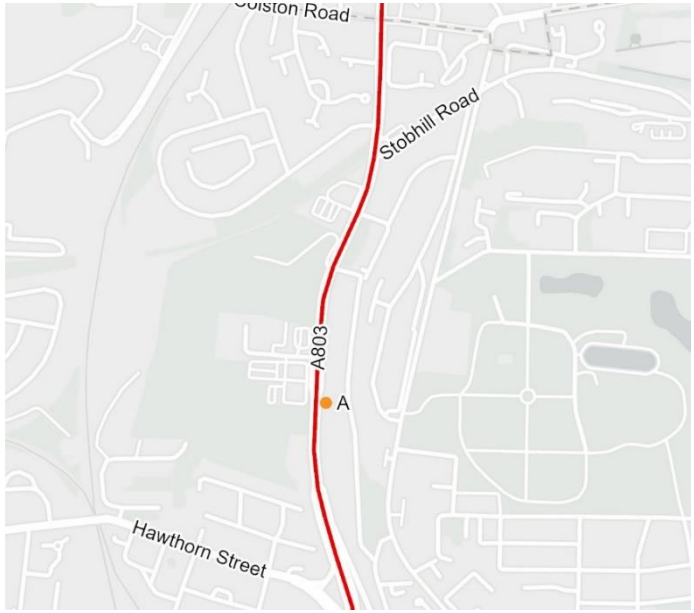
	Active Travel	A	No crossing at Balmuildy Road T- junction.
	Active Travel	n/a	No cycle provision along entire link.
	Public Transport	n/a	No bus stops or bus lane provision along entire link.
	Road Network	B	Very large corner radius and limited visibility for pedestrians crossing Balmuildy Road
	Road Network	n/a	AM peak southbound journey times experience delays and unreliability (Journey time survey data) Section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*
South Crosshill Road to Morrisons Access	Active Travel	A	Eastern footway is separated from the carriageway by guard-railing and slopes down towards Bishopbriggs library linking to the underpass that runs underneath the A803 to link with Bishopbriggs public park.

	Active Travel	n/a	No cycle provision along entire link.
	Road Network	n/a	Section is in 25% most congested links for traffic delays and passenger weighted delays (SB)*
	Active Travel	B	Provision of guard-railing along the western footpath reduces width and limits access.
Morrisons access to Kenmure Avenue	Active Travel	n/a	No cycle provision along entire link

	Road Network	n/a	Section is in top 10% most congested sections for traffic delays, top 25% for passenger weighted delays (SB)* Section is in top 25% most congested sections for traffic delays (NB)*
	Land Constraints	A	Colonnade of the adjacent building along the eastern footway reduces access and width.
Kenmure Avenue to Brackenbrae Road	Active Travel	n/a	No cycle provision along entire link

	Road Network	n/a	Section is in top 10% most congested sections for traffic delays and passenger weighted delays (SB)*
Brackenbrae Road to Colston Road	Active Travel	n/a	No cycle provision along entire link

	Road Network	n/a	Section is in top 10% most congested sections for traffic delays (as far as Viewfield Road) and passenger weighted delays (SB)* Section is in top 10% most congested sections for traffic delays (between Colston Rd and Viewfield Rd) and passenger weighted delays (North of Colston Road) - (NB)*
	Land constraints	n/a	Limited/no additional land available within adopted boundary. Residential wall boundaries on both the side of the road after the footpath which are not wide enough to provide shared used path.
Colston Road to Hawthorn Street	Active Travel	A	From Stobhill Road to the Lenzie Way bus stop (A) on this link reduces to a width of 2.5m in the southern section. There is no footpath provision on the eastern side after this point for this link.

	Active Travel	n/a	No cycle provision along entire link
	Road Network	n/a	Section is in top 25% most congested sections for traffic delays and passenger weighted delays (SB)* Section south of Colston Road is in top 10% most congested for traffic delays and passenger weighted delays (NB)* Section has significant variance in NB journey times during both peak hours (journey time survey data)

*Bus congestion / delay information and analysis provided by First Bus.

3.9.1 General Issues

In addition to the issues highlighted in the specific sections along the corridor there are some route wide issues including sections of poor-quality street lighting, limited and inadequate wayfinding for pedestrians and cyclists and general poor quality of existing soft landscaping along the corridor.

3.10 Opportunities

A summary of key opportunities along the corridor are listed below. These opportunities have been identified through site visits and a desktop study during which a gap analysis of the route was undertaken.

Additional intervention areas and opportunities from a placemaking exercise undertaken by the Arcadis Landscape & Urban Design Team is illustrated in Figure 3-3 and detail shown in Table 3.6.

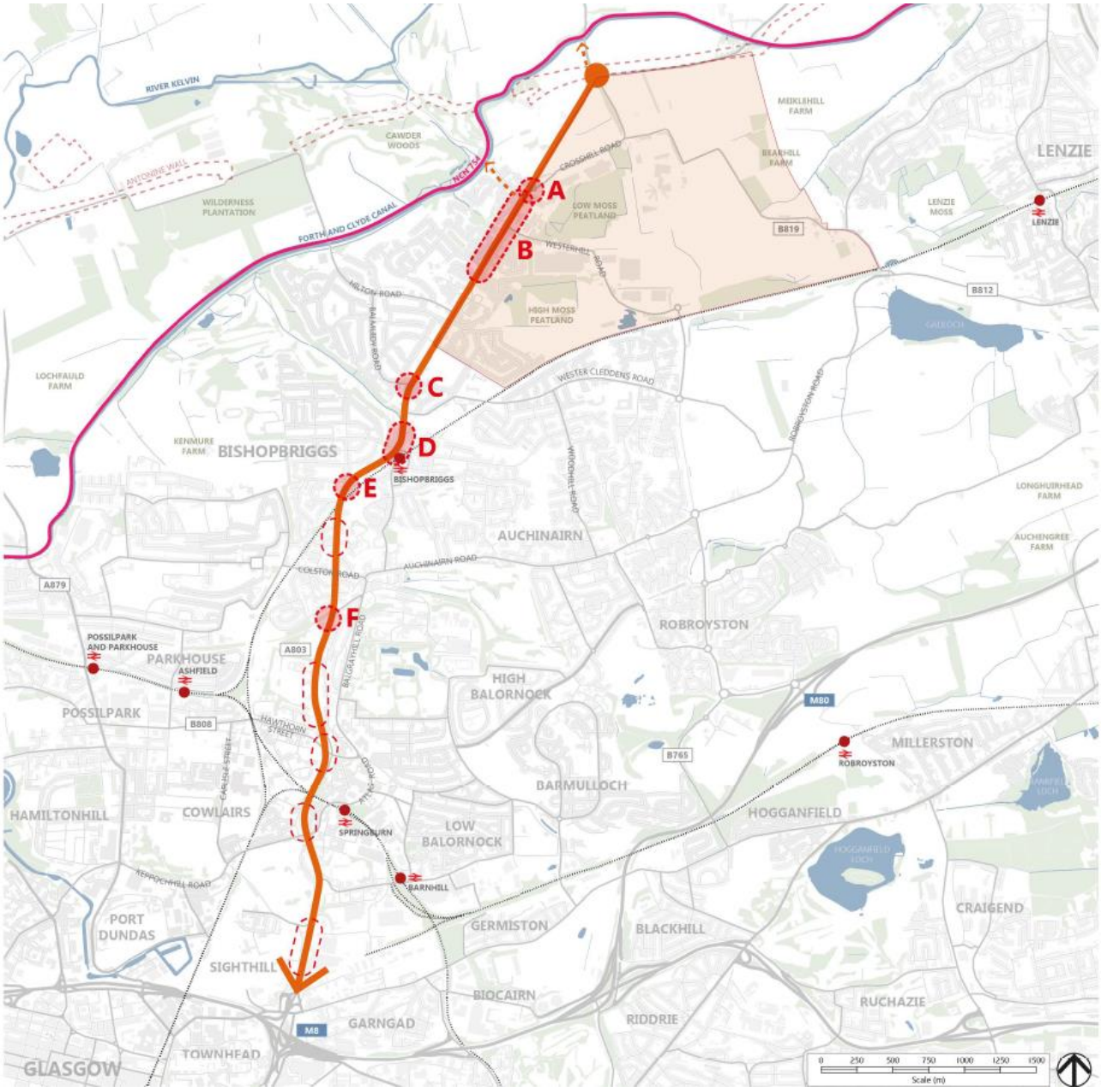


Figure 3-3 Intervention Areas and Opportunities

Table 3.6 Intervention Areas and Opportunities

Area	Opportunity
A803 Route-wide	• Appropriate wayfinding information for pedestrians and cyclists; information totems/boards at commercial and mixed-use nodes, key junctions and primary bus stops along the corridor • Adequate lighting along the corridor to enhance overall safety and accessibility to pedestrians and cyclists • Improvements to existing junction crossing, new toucan junction where appropriate • Planting improvements on soft verges along the A803 • There is potential for widening of carriageway in some areas to allow for a bus lane to improve bus journey times, increase journey time reliability and reduce delays. There is also opportunity for adjusting signalised junctions to give priority to buses (bus activated stage calls) and review existing signalised junction staging/timing arrangements to identify any optimisation opportunities and to improve effectiveness of measures • Potential for off-road active travel provision towards the north of the corridor • Traffic calming measures on some side roads to create parallel active travel routes • Investigate and identify measures to address collision hotspots
A - New Place at Cadder Roundabout and Strathkelvin Retail Park	• Proposed junction redesign and reallocation of road space to open/green space as gateway greening to Strathkelvin Retail Park • Proposed bi-directional cycle track adjacent to carriageway, shared with pedestrian • Active travel route connection to proposed Westerhill Regeneration Area and Forth and Clyde Canal • Distinct paving for the new public open space
B - A803 Meadowburn Amenity Green Space	• Planting improvements with potential rain gardens • Proposed remote bi-directional cycle track, separated from pedestrian • Proposed outdoor play / recreational area • Active travel route connection to proposed Westerhill Regeneration Area
C - Balmuildy Road Junction	• Reallocation of road space to narrow existing bellmouth • Proposed bi-directional cycle track adjacent to carriageway, shared with pedestrians
D - Bishopbriggs Town Centre Regeneration	• Proposed junction redesign and reallocation of road space to new open/multi-use space • Gateway greening and entrance improvements to Triangle Shopping Centre, Bishopbriggs Park and Bishopbriggs Rail Station • Paving improvements throughout the town centre
E - Gateway Improvements at Duncryne Place – Brackenbrae Road – A803 junction	• Proposed junction redesign and reallocation of road space to new green/recreational space • Proposed bi-directional cycle tracks adjacent to carriageway, separated from pedestrians

F - Springburn / Stobhill Road junction	• Reallocation of road space to narrow existing bellmouth • Proposed planting improvements along the retail block • Proposed bi-directional cycle tracks adjacent to carriageway, separated from pedestrians
Hawthorn Street	• Potential to connect into the wider Glasgow cycle network at this location, with the Glasgow City Network proposing a route along Hawthorn Street and Atlas Road.
Royston Road	• Potential to tie in improvements to the wider improvements proposed along Royston Road as part of Glasgow City Council's Liveable Neighbourhoods or City Network programmes.

Key areas for the scheme to address include the following areas, illustrated in Figure 3-4. Associated opportunities for each area is shown in Table 3.7.

- Cadder Roundabout – Westerhill Road – Meadowburn
- Villafield Drive – Hilton Road
- Balmuildy Road – South Crosshill Road – Morrisons Access – Springfield Road
- Colston Road junction

Figure 3-4 Key areas to address

Table 3.7 Summary of opportunities

Area	Opportunity
Cadder Roundabout – Westerhill Road – Meadowburn	• Opportunities for an off-road active travel provision to the west of the A803 • Bus priority measures to be considered to include bus lanes, signal priority, junction optimisation/upgrades • Bi-directional cycle track adjacent to carriageway, shared with pedestrian
Villafield Drive – Hilton Road	• Opportunities for an off-road active travel provision to the west of the A803 • Bus priority measures to be considered to include bus lanes, signal priority, junction optimisation/upgrades
Balmuildy Road – South Crosshill Road – Morrisons Access – Springfield Road	• Bus priority measures to be considered to include bus lanes, signal priority, junction optimisation/upgrades • Bi-directional cycle tracks adjacent to carriageway, shared with pedestrian • A mix of off-road cycle track and quiet roads providing a 'quietway' link from Balmuildy Road to Bishopbriggs town centre.
Colston Road junction	• There is potential to ban the northbound right turn to improve the junction efficiency • Bus priority measures to be considered to include bus lanes, signal priority, junction optimisation/upgrades
Gateway Improvements at Duncryne Place – Brackenbrae Road – A803 Junction	• Bi-directional cycle tracks adjacent to carriageway, separated from pedestrians
Springburn / Stobhill Road Junction	• Bi-directional cycle tracks adjacent to carriageway, separated from pedestrians

3.11 Constraints

3.11.1 Environment

A key environmental constraint is Bishopbriggs Park including the presence of Bishopbriggs Burn, and its associated habitats and species. Other key constraints within the scheme extent include, but are not limited to, listed buildings and Tree Preservation Areas / Orders and the AQMAs associated with the A803 corridor. In close proximity to the proposed scheme extent is also the Antonine Wall Heritage Site (UNESCO WHS) and Scheduled Monument situated approximately 50m north of Torrance Roundabout.

3.11.2 Land Take Requirements

In general, where the road space along the corridor is constrained, the land use is primarily residential or smaller commercial units. This means land acquisition is unlikely to be desirable within those areas and as such the design has been constrained to within the roads boundary. However, at one location on the approach to the Hawthorn Street junction, an area of land has been identified that would support the development of the project. The land is required to widen the existing footway to create a shared path – the land is currently occupied by Police Scotland – further discussions with Police Scotland will be required at the next design stage to discuss the potential land acquisition.

3.11.3 Road Space Restrictions

The road space available, and the demand for that space by different road users, varies significantly along the corridor. Throughout the corridor the overall width of the road and footway is constrained, there are locations within the design options where footways are proposed to be converted to shared-use paths (for pedestrians and cyclists), there are likely to be locations where the footway will need to be widened into the existing carriageway to accommodate this. The section of the A803 through Bishopbriggs town centre is an area where road space is limited and demand from different road users is high, restricting the available options through this space. The initial appraisal of the long list of options concluded that providing a safe, segregated cycle route through the town centre on the A803 would not be achievable within this project, due to the objectives around improving conditions for pedestrians and bus passengers and not causing significant traffic congestion.

3.12 Previous and Relevant Studies

3.12.1 East Dunbartonshire Part 2 Transport Appraisal – Kirkintilloch / Lenzie Bishopbriggs – Glasgow Corridor Study

Between 2012 - 2015, EDC and SPT commissioned AECOM to undertake a STAG Transport Appraisal of sustainable transport options within the Kirkintilloch / Lenzie – Bishopbriggs - Glasgow corridor. Whilst this study considered a wider study area the focus on the A803 corridor was significant. The aim of the study was to support delivery of the Council's Local Transport Strategy (LTS) 2013-2017 and emerging Local Plan 2.

The study established a range of problems, including the following which impacted the A803:

- Peak congestion, particularly on the A803 through Bishopbriggs, with associated impact on journey time reliability and air quality;
- High levels of through-traffic with a potential negative effect on local traffic movement;
- Parking pressures around rail stations (Lenzie), and on-street parking in Bishopbriggs including the A803;
- Bus journey time reliability on the A803 during peak times, and also on the M8 approach to Glasgow (express services from East Dunbartonshire via the A806);
- Future growth in economic and housing developments including areas such as Woodilee and Westerhill which will potentially generate up to 3,000 extra trips during peak periods on the transport network;
- Relatively high private car ownership, with higher than national average use of car for travel to work and study;
- The following Transport Planning Objectives were developed through a review of baseline data, engagement and policy to address the identified problems;
  - Promote modal shift to sustainable transport modes for trips to key attractors outside of the study area, particularly commuting journeys;
  - Improve public transport journey times and journey time reliability through the study area;
  - Improve accessibility by sustainable transport modes to key trip attractors within the study area;
  - Deliver a transport network that supports improvements to human health and air quality, while minimising the impact on the environment; and
  - Provide a sustainable transport network that supports local development, regeneration and contributes to the sustainable economic growth of the study area.

Following completion of the Appraisal exercise the following options were provided by the study:

- A803 Quality Bus Corridor;
- Kirkintilloch Bus Hub;
- Bus Park and Ride in the Vicinity of the B757;
- Bus Park and Ride Adjacent to Bishopbriggs Relief Road;
- Kirkintilloch / Lenzie Loop Bus;
- Increased Parking at Lenzie Station;
- New Rail Station at Woodilee; and
- New Rail Station at Westerhill.

Only one option directly impacts the A803 Corridor, the Quality Bus Corridor, however many of the options were designed to generate modal shift and reduce private car trips. These options would be likely to have a positive impact on traffic levels through Bishopbriggs and north Glasgow if implemented. Further consideration of the potential for a Quality Bus Corridor was considered within a subsequent study undertaken by Sweco in 2017.

An update was made to the report in 2023 to assess with the options suggested were still relevant. The update demonstrated that the problems and issues identified within the 2015 STAG study remain relevant in the current context, except for identified parking pressures at Lenzie Rail Station due to the introduction of waiting restrictions. This includes consideration of problems and issues on that part of the A803 study corridor that did not form part of the STAG studies.

Of the opportunities identified within the 2015 STAG Study, a number of these have been realised in the period since completion of these studies, including:

- Improvements to bus stop facilities and the implementation of RTPI displays within the East Dunbartonshire boundary to link into infrastructure south of Colston Road.
- Completion of Phase Three and Phase Four of the BRR in 2014 and 2017 respectively - including provision of a dedicated walking / cycling route on the route of the old Westerhill Road.
- The opening of Robroyston rail station and Park and Ride facility in 2019.

A number of new opportunities have emerged including:

- Westerhill Masterplan proposals
- A significant area of regeneration at Sighthill
- The North City Way active travel link
- Opportunities related to funding
- Potential to lever modal shift to active travel and sustainable modes

3.12.2 A803 Quality Bus and Cycle Corridor – Feasibility Report, SWECO 2017

The purpose of the study was to assess the “current functionality of this vital link in relation to the different user groups: pedestrians (including people with disabilities), cyclists, public transport and other motorised vehicles. This report will present the finding of the assessment and suggest improvement designs to provide an enhanced travel corridor for public transport and cyclists”.

The study evaluated existing geometry, statutory undertakers, traffic flows, multi-modal infrastructure provision and collision history to aid the development of design options. The study, which was only considering the A803 between Torrance Roundabout and the Glasgow City Council boundary, separated the study area into Sections:

- Section A-1 – Torrance Roundabout to Disused Access;
- Section A-2 – Disused Access to Cadder Roundabout;
- Section B-1 – Cadder Roundabout to Westerhill Road;
- Section B-2 – Westerhill Road to Villafield Drive;
- Section B-3 – Villafield Drive to Cowden Drive;
- Section B-4 – Cowden Drive to South Crosshill Road;
- Section C-1 – South Crosshill Road to Kenmure Avenue; and
- Section C-2 – Kenmure Avenue to Colston Road

The study presented 6 options:

- Option 1 – Southbound Bus Lane without Meadowburn Ghost Island;
  - Section A-1 – No change;
  - Section A-2 – Bus lane in southbound direction and removal of one ghost island to a minor access;
  - Section B-1 – No change;
  - Section B-2 – Southbound bus lane;
  - Section B-3 – Southbound bus lane;
  - Section B-4 – Three sections of discontinuous bus lane between Hilton Road and South Crosshill Road;
  - Section C-1 – Short southbound bus lane from Morrisons access for a distance of 48m; and
  - Section C-2 – Southbound bus lane from the town centre to Council boundary with breaks provided for three junctions.
- Option 2 – Southbound Bus Lane with Meadowburn Ghost Island;
  - Similar to Option 1, however, with the reduction of bus lane lengths by over 300m.
- Option 3 – Southbound Bus Lane with Localised Widening;
  - Similar to Option 1, however, with the reduction of bus lane lengths by over 66m.
- Option 4 – Southbound Bus Lane with Advisory Cycle Lanes;
  - This option had discontinuous marked cycle lanes in both directions through Sections A2, B2, B4 (in part) and a northbound cycle lane in Sections C2. Bus lanes, shared with cycles are shown southbound B3, C1 and C2.
- Option 5 – Northbound and Southbound Bus Lane; and
  - This option provided bus lanes in both directions in Sections C1 and C2 only.
- Option 6 – Shared Use Path.
  - A continuous 3.5m wide shared use path along the full length of the corridor on the northbound side.

Option 2 was recommended as the preferred option from this study though these findings have not been taken forward for implementation.

3.12.3 Atkins A803 Sustainable Transport Corridor Feasibility Study. 2022.

Atkins were commissioned by East Dunbartonshire Council (EDC) to develop a Feasibility Study for the A803 corridor between Bishopbriggs and Glasgow. The project was funded through the 'Place and Growth Programme' which in turn forms part of the Glasgow City Region Deal. The City Deal is a partnership involving eight local authorities that cover the Greater Glasgow Conurbation. It will fund major infrastructure projects of a strategic nature which will support economic vitality of the region. A key objective was to consider the length of the corridor between Torrance roundabout to the north and Royston Road to the south, considering proposals in both Glasgow and East Dunbartonshire. This would allow for a more holistic approach to be developed, compared to previous studies which had just focussed on the East Dunbartonshire section of the corridor.

The study included a review of the following:

- Review of policies (National, Regional and Local);
- Previous studies;
- Land use development;
- Transport patterns;
- Casualty and collision data; and
- Public utilities.

The study considered the following areas in relation to the route function:

- Bishopbriggs Town Centre:
- Walking and Cycling;
- Public Transport Provision;
- Junctions; and
- Traffic Data.

The study found that majority of the signal-controlled crossings are fully equipped with dropped kerbs and tactile paving, although the signalling equipment is occasionally incorrectly positioned. However, uncontrolled crossings, particularly at side roads, generally lack compliance with accessibility standards i.e., flush dropped kerbs, tactile paving, correctly positioned signalling equipment and smooth / consistent footway surfacing. There are opportunities identified in the study to make improvements at some of the crossings and to ensure consistency and accessibility along the corridor.

The study set out a series of recommended next steps including:

- Commissioning a topographical survey to enhance the accuracy of the design proposals
- Further public and stakeholder consultation
- Quantitative analysis of the proposals, particularly traffic modelling

This set the basis for the scope of the concept design stage of the project.

3.12.4 Major Developments

Sighthill Regeneration

This £250million Sighthill Transformational Regeneration Area, is the biggest such project in the UK outside of London. When complete, the project will have created a new neighbourhood on the north side of the city centre, just 15 minutes' walk from George Square in Glasgow City Centre. Some of the features of the regenerated Sighthill will include:

- New housing (almost 1000 home);
- A new community campus school;
- A new pedestrian and cyclist bridge over the M8 motorway improving the connections between Sighthill and the City Centre (this is now open); and
- A road-bridge over the Glasgow-Edinburgh railway line improving the connections between Sighthill and neighbouring communities.

The parkland and the green space of the area has been significantly improved, with a new public square, new shops and commercial space.

North City Way

Glasgow's "City Ways" is an emerging radial active travel network which connect the city centre with the wider conurbation. Of direct relevance to this study is the North City Way (NCW). The route will connect Milton with the City Centre, via Springburn, and pass within a short distance of the A803 at Hawthorn Street in Springburn. The NCW is due to pass through the Sighthill Regeneration Area and connect with the Avenue at Baird Street.

The Avenues

The Avenues are a collection of 21 streets within the City Centre of Glasgow that are to be subject to a major overhaul. Each Avenue will have an "improved external environment that will rebalance traffic modes, introduce green and SMART infrastructure, and place "people" firmly at the heart of the project vision and design strategy."

The improvements include:

- Increased Pedestrian/Cycle Space;
- Continuous Footways;
- Segregated Cycle Lanes;
- Green/Blue Infrastructure;
- Reduced Street Clutter; and
- Intelligent Street Lighting (ISL) and Improved Lighting Features.

Whilst the Avenues are situated outside the study area, it is likely that to improve onward connectivity from the A803 connection into the Avenue network will be crucial. Three Avenues could serve as a link to the A803,

either connecting with the A804 at Baird Street or at Cathedral Street adjacent to the Royal Infirmary Hospital. They will also likely impact the ability of road traffic to access the city centre and result in changing traffic patterns in and around the periphery of the City Centre area, including the southern end of the A803 corridor.

Liveable Neighbourhoods

Liveable Neighbourhoods (LN) is Glasgow City Council's approach to blending the 20-minute neighbourhood concept with the place principle. This programme emerged as an output from the City-wide public conversation on Glasgow's Transport future called Connecting Communities.

The City Council will work with and enable communities to improve their areas through the formation of Liveable Neighbourhood Plans.

Through six tranches of work, LN plans will cover every area of Glasgow. Following the eight-stages of the RIBA process, LN Plans will both identify existing activity and propose new interventions which align with the four themes of LN:

- Local Town Centres
- Everyday Journeys
- Active Travel
- Streets for People

Figure 3-5 demonstrates the proposed Liveable Neighbourhood areas for study, which include 'Springburn, Balornock / Barmulloch and Robroyston / Millerston' and 'Sighthill / Roystonhill / Germiston and Blackhill / Hogganfield' which are situated along the A803 corridor.

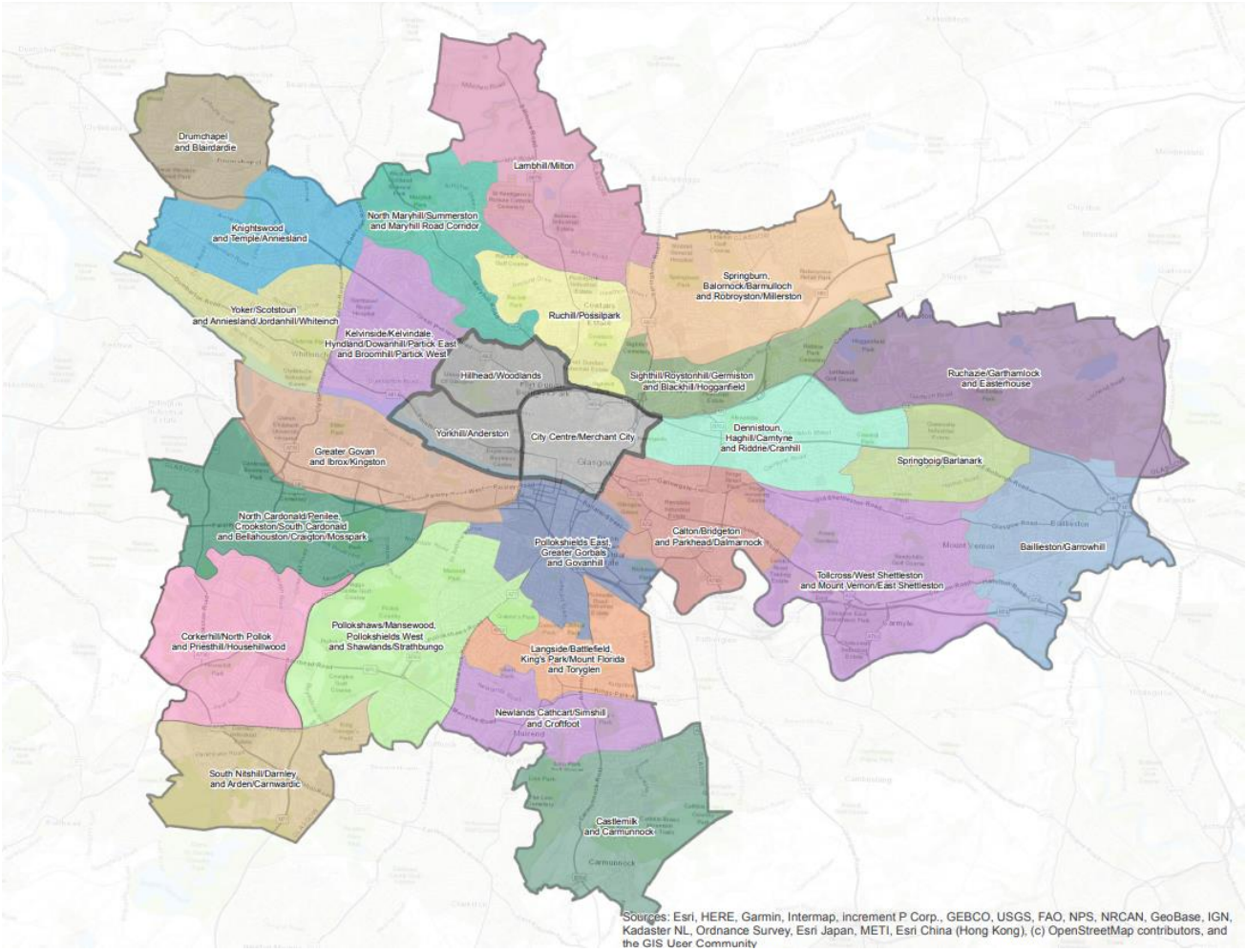


Figure 3-5 Proposed Glasgow Liveable Neighbourhoods - Areas for study

Royston to Hogganfield LN covering the neighbourhoods of Royston, Sighthill Germiston, Blackhill and Hogganfield was included in Tranche 2 of the study.

RIBA Stage 0-2 activity in these LN areas commenced in November 2022 and is now complete. RIBA Stage 1 Community Engagement was undertaken in February and March 2023.

RIBA Stage 1 Community Engagement was undertaken in February and March 2023. The RIBA stage 0-1 reports were presented to the Environment and Liveable Neighbourhoods City Policy Committee on the 24 August 2023.

Additional engagement for RIBA Stage 2 took place in August-November 2023 and the RIBA Stage 2 reports were presented to committee in March 2024.

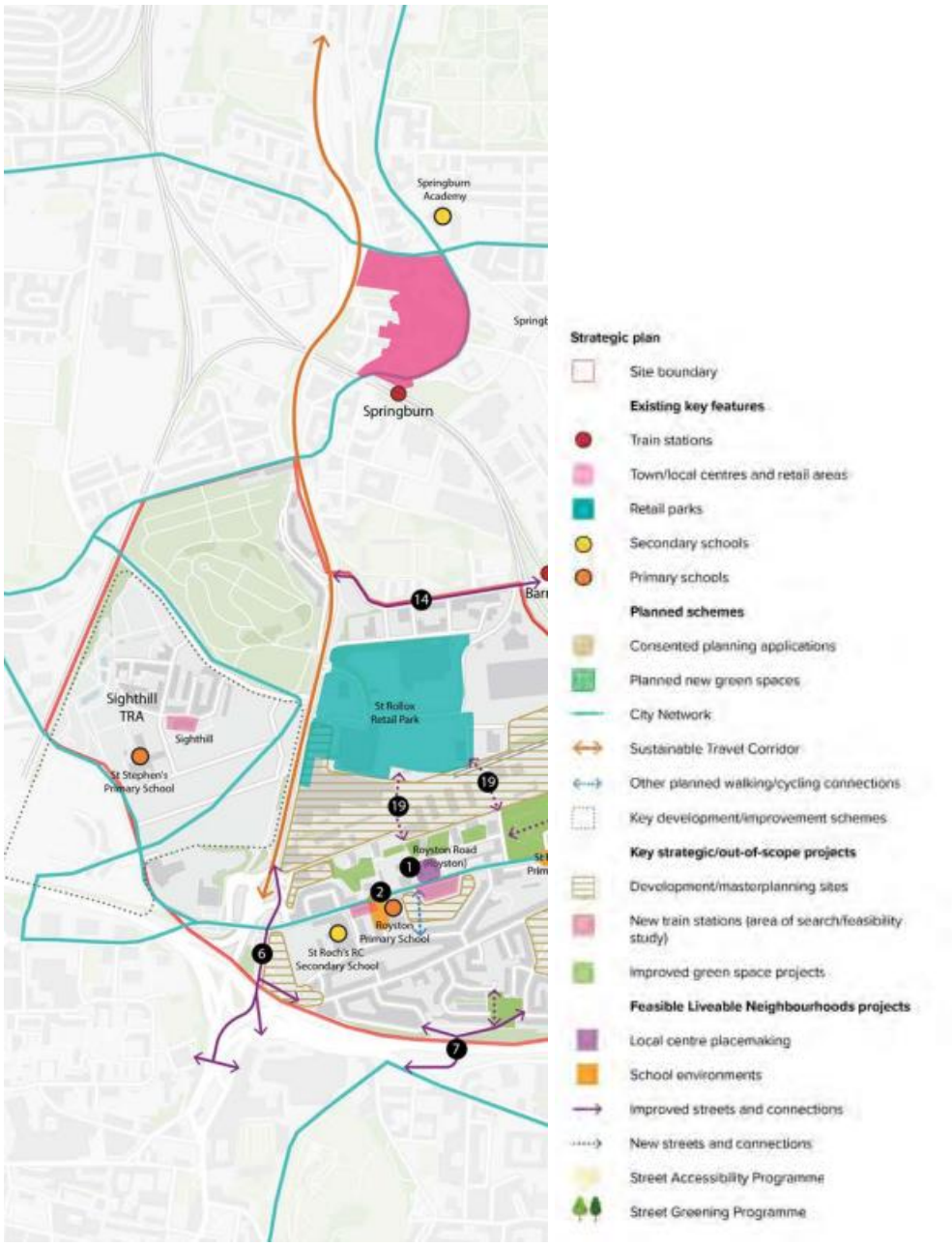


Figure 3-6 Stage 2 Royston to Hogganfield LN

Figure 3-6 demonstrates the section of the Royston to Hogganfield LN which run along the A803 corridor. Within the strategic plan, a sustainable travel corridor is planned for the A803, and city network routes connecting areas either side of the corridor. There are also a number of development/masterplan sites situated along the corridor.

City Network Delivery Plan

The City Network Delivery Plan is part of a suite of strategic documents which will create a modern, resilient and sustainable transport system for Glasgow, to help transform the city into a more inclusive, liveable and attractive place for residents, businesses and visitors.

The City Network will be delivered alongside interventions identified through the Liveable Neighbourhoods engagement process to significantly improve the pedestrian environment across Glasgow. The network will also build on the success of the City Ways programme and link with the Avenues programme in the City Centre which will provide strategic coherence for active travel development.

The aims of the City Network are:

- Enable direct clear active journeys to everywhere in Glasgow for everyone in Glasgow
- Eliminate traffic danger as a reason not to cycle
- Improve ability of Glasgow's road network to enable movement of people and goods
- Be usable all year round
- Encourage demographic use which is representative of Glasgow (e.g. 50% women)
- Provide easy access to Glasgow's green network of canals, rivers, parks and old railways
- Creation of a continuous, coherent network which offers direct journeys
- Delivery of a functional network by 2030, building out from existing and planned infrastructure and learning delivery lessons from other cities and from experience in Glasgow (particularly the Spaces for People programme in 2020-21)

Figure 3-7 City Network map (zoomed in on project area to the right)

Figure 3-7 demonstrates the map of indicative City Network routes. The southern end of the A803 corridor reaching up to Springburn is contained within the Phase 1 North City Network Advanced Delivery Area which was previously selected as part of the Spaces for Everyone programme. North City Network delivery area routes include Hawthorn Street and Atlas Road along the A803 corridor.

Glasgow's Active Travel Strategy 2022-2031

Glasgow's Active Travel Strategy sets out the vision to make active travel the first natural choice for everyday journeys and sets out the three themes on how Glasgow will increase walking, wheeling and cycling across Glasgow:

1. Connectivity, people and place: rebalancing our streets and spaces
2. Unblocking change: enabling everyone to walk, wheel or cycle
3. Thinking differently: encouraging, motivating and sustaining change

The strategy defines how active travel contributes to the transport needs of the city whilst incorporating priorities for the city in light of the climate emergency and Glasgow's commitment to achieving net zero carbon by 2030.

The actions set out in the Active Travel Strategy are relevant to the A803 corridor study and follow the following relevant themes:

- Inclusive and accessible design
- Connecting neighbourhoods
- Improve active travel links with public transport
- Safer walking and cycling to schools
- Road safety

4 Option General and Assessment

4.1 Option Generation

The development of options was undertaken in 2 stages, initially a long list of design interventions was developed. The approach to developing options was to identify design interventions which would assist in meeting the project objectives. These interventions were then taken forward into a long list assessment. An option identification exercise was undertaken by the Arcadis project team, it was then discussed with the Technical Working Group (which includes officers from EDC, GCC and SPT) and then with an engagement workshop with officers from EDC, GCC and SPT. This approach ensured that a wide range of options were developed. This option generation exercise developed the 'longlist' of options (see Appendix C for details).

The process for options generation and assessment from identifying the long list of options through the refining the preferred option is shown in Figure 4.1.

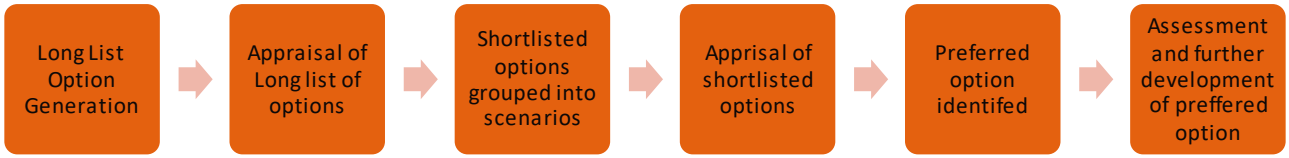


Figure 4.1 – Option Generation and Assessment Process

These were a wide range of interventions identified through a combination of site visits and a desktop study, that the design team considered may be able to contribute to meeting the design objectives. They included features such as bus lanes, cycle lanes and footway widening. Due to the differing environment along the corridor (semi-rural at the north end and urban at the south end), the corridor was reviewed in sections:

- Torrance Roundabout to Crosshill Road
- Crosshill Road to Balmuildy Road
- Balmuildy Road to Kenmure Avenue
- Kenmure Avenue to Brackenbrae Road
- Brackenbrae Road to Colston Road
- Colston Road to Stobhill Road
- Stobhill Road to Hawthorn Street
- Hawthorn Street to Atlas Road
- Atlas Road to Royston Road

The initial long list of options was presented to key stakeholders and additional long list options developed following this feedback. The longlist assessment is shown in full in Appendix C.

4.2 Options Appraisal

The appraisal framework to identify the preferred option from the short list is demonstrated in Table 4.1. Options were assessed against project objectives, weighted based on discussions with the technical group, and scored based on their performance against value/source.

Table 4.1 Appraisal Framework

Mode / Topic	Objective	Value / Source	Weighting	-2 score	-1 score	0 score	+1 score	+2 score	Score Weighting
Public Transport	Improved peak hour journey times	Average bus journey times from Paramics model	15%	Journey times increased	Some peak hour journey time improvements but also similar level of increases in opposite direction / peak period	Less than 5% in peak hour journey times in one direction (no change in opposite direction / peak period)	Peak hour journey times improved by 5 - 10% without significantly increasing opposite direction/peak	Peak hour journey times improved by >10% without increasing opposite direction/peak	35.0%
	Improved peak hour journey time reliability	Variation in bus journey times from Paramics model	15%	Journey time variation increased by >20%	Journey time variation increased by 10-20%	No change in journey time variation	Journey time variation decreased by 10-20%	Journey time variation decreased by >20%	
	Improve accessibility of bus stops along the corridor	Assessment of bus stops along the corridor - reviewing kerb heights and crossing provision to / from stops	5%	Number of accessible bus stops along the corridor is decreased	n/a	No change	Some additional bus stops will have compliant raised kerbs and pedestrian routes to / from the stop	All bus stops along the corridor have compliant raised kerbs and pedestrian routes to / from the stop	
Walking and Wheeling	Increase the number of safe crossing points for walking and wheeling routes	Number of additional safe crossing points provided by scheme	5%	Number of safe crossing points decreased	n/a	No change in number of safe crossing points	Number of safe crossing points increased	All pedestrian desire lines catered for with safe crossing points	15%
	Ensure that footways meet the minimum width requirements	Assessment of desire lines and presence/width of footways	5%	Decrease in the presence of compliant footways	n/a	No change in number of compliant footways	Number of compliant footways increased	Compliant footways provided in all areas where there is known/assumed demand	

	Improve accessibility for all users	Number of compliant crossings (dropped kerbs, tactile paving)	5%	Decrease in the number of compliant crossing points	n/a	No change in the number of compliant crossing points	Number of compliant crossing points increased	All crossing points are compliant	
Cycling	Improved provision for cyclists along and across the corridor, aiming for best practice but always meeting at least the minimum requirements	Assessment of proposed provision against CBD LOS	20%	n/a	n/a	No improvement in level of service compared with existing	Improved level of service along the corridor	High level of service provided along the full corridor	20%
Private Vehicles	Ensure that queue lengths do not increase significantly along the corridor	Queue length outputs from Paramics / LinSig	2.5%	n/a	Queue lengths increased by more than 10% (min veh TBC) in town centre **and** more than 25% elsewhere	Queue lengths increased by more than 10% (min veh TBC) in town centre **or** more than 25% elsewhere	Queues increased by less than 10% in town centre, some queues elsewhere increase by up to 25%	No queue increases of more than 10% in town centre or 25% elsewhere	5%
	Reduce negative impact of private cars on corridor	Traffic flows from Strategic Model	2.5%	Increase of 100+ vehicles in Peak Hours	Increase of 25-100 vehicles in Peak Hours	No change (-25 to +25) vehicles in Peak Hours	Reduction in vehicle numbers of 25+ vehicles	n/a	
Place and Local Economy	Retain existing loading provisions along the corridor	Number and location of bays compared with existing (or demand based on surveys?)	5%	Reduction in bays with insufficient capacity retained to meet existing demand	No change despite a lower provision being able to meet demand	No change or not applicable	Number of bays to meet demand retained but distance increased	Number of loading bays to meet demand retained within 25m distance of existing provision	10%
	Provide short-term cycle parking near local shops and services	Additional cycle spaces provided	5%	Secure cycle parking decreased	n/a	No change	Provision of cycle parking is increased along the corridor	All key trip attractors feature secure cycle parking within 100m	

Residential Amenity	Retain required car parking for residents within the area	Number of and location of spaces compared with existing	3%	Reduction in parking bays with provision >20% lower than demand in all locations	Reduction in parking bays with provision <20% lower than demand in all locations	Not applicable (no formal parking in area)	Parking added to address shortfall in provision v demand	Parking space reallocated but still enough to meet demand	10%
	Ensure walking and wheeling routes between residential areas and the corridor have sufficient footway widths and safe crossing points	Number of additional safe crossing points and assessment of desire lines and footway widths on surrounding streets	3%	n/a	Reduction in some footway widths on surrounding streets	No change in number of safe crossing points or changes to footways	Number of safe crossing points increased	All pedestrian desire lines catered for with safe crossing points	
	Improve access to cycle parking for residents	Number of additional secure cycle spaces provided	3%	Provision decreased	n/a	No change	Provision of additional secure cycle parking	Provision of additional secure cycle parking with 2 or more hubs added	
Sustainability	Increase/improve green/blue space along the corridor and plant native trees	Number of green spaces proposed and trees	2.5%	Loss of trees/greenspace	n/a	No change	Planting of >10 trees	Planting of >10 trees and the creation of additional greenspace (or ponds)	5%
	Improve interchange between sustainable transport modes	Number and position of cycle parking	2.5%	Removal of cycle parking	n/a	No change	Provision of additional secure cycle parking near one bus stop or rail station	Provision of multiple additional secure cycle parking near bus stops and rail stations	

Low scoring options (those that didn't meet the design objectives) were sifted from the design development process at this stage, the sifted options are shown in Appendix E. The design options that scored well were progressed through to the short-listing stage. At this stage options were grouped into scenarios to allow for full corridor length designs to be developed.

The 3 shortlisted scenarios were:

- Bus Priority – a southbound bus lane throughout the corridor and a northbound bus lane at the southern end of the corridor, some junction improvements including at Crosshill Road, Bishopbriggs Cross and Colston Road (banned northbound right turn)
- Bus and Active Travel – similar to the above but without the northbound bus lane and with improved active travel provision, including off road cycle lanes to the north of the corridor
- Active Travel – no significant bus priority measures, further active travel provision and the signalisation of the Balmuildy Road junction (to provide improved pedestrian crossing facilities)

Optimisation of the existing signalised junctions and improvements to bus stops (accessibility) and shelters is included within each of the three scenarios.

The assessment framework was then used to appraise the shortlisted options, these results are shown in Table 4.2.

Figure 4-1 – Option 1: Bus Priority

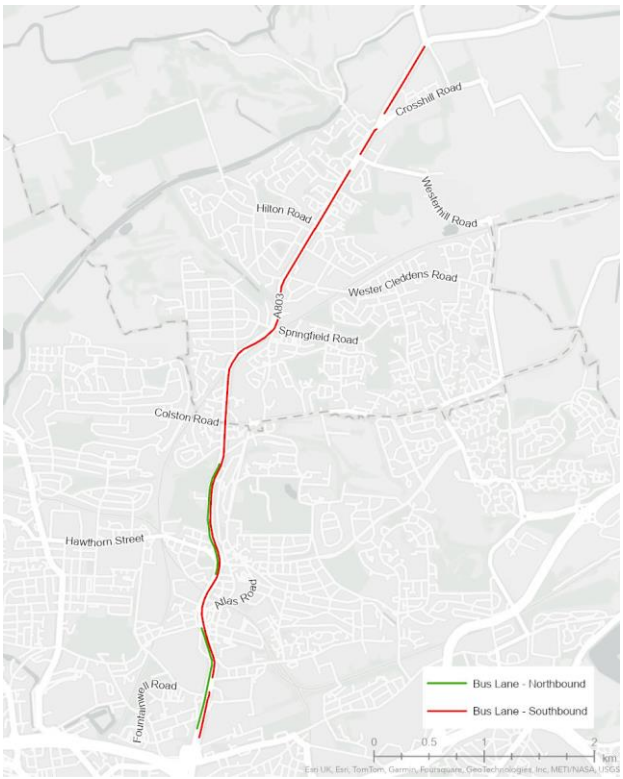


Figure 4-2 – Option 2: Bus & Active Travel

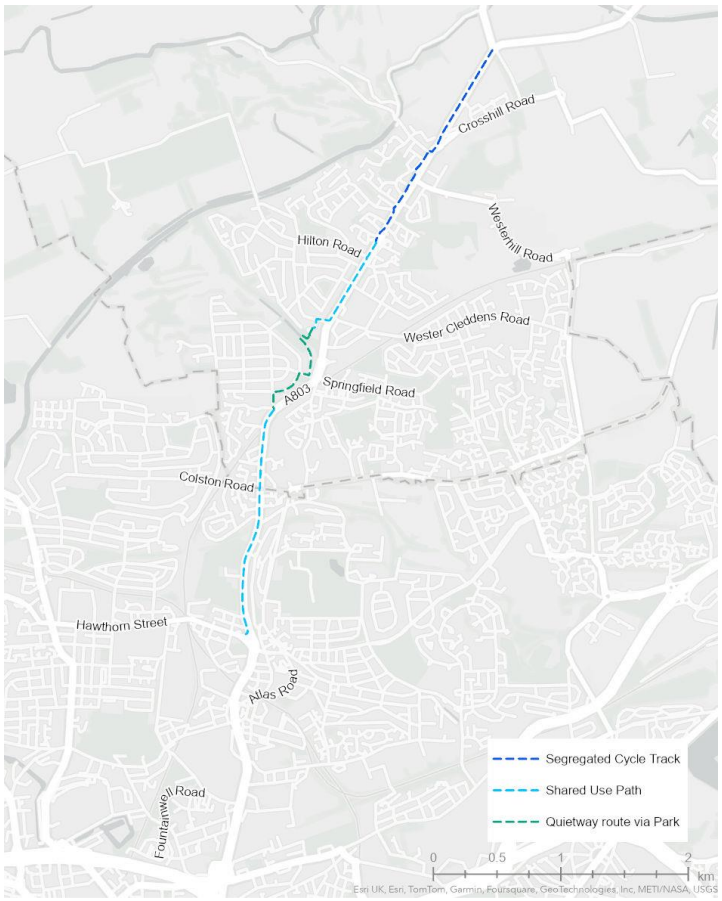


Figure 4-3 – Option 3: Active Travel

Table 4.2 Shortlist options assessment framework

Measure	Public Transport			Walking and Wheeling			Cycling	Private Vehicles		Place and Local Economy		Residential Amenity			Sustainability		Total Scores
	Improved peak hour journey times	Improved peak hour journey time reliability	Improve accessibility of bus stops along the corridor	Increase the number of safe crossing points for walking and wheeling routes	Ensure that footways meet the minimum width requirements	Improve accessibility for all users	Improved provision for cyclists along and across the corridor, aiming for best practice but always meeting at least the minimum requirements	Ensure that queue lengths do not increase significantly along the corridor	Reduce negative impact of private cars on corridor	Retain existing loading provisions along the corridor	Provide short-term cycle parking near local shops and services	Retain required car parking for residents within the area	Ensure walking and wheeling routes between residential areas and the corridor have sufficient footway widths and safe crossing points	Improve access to cycle parking for residents	Increase/ improve green/blue space along the corridor and plant native trees	Improve interchange between sustainable transport modes	
Scenario	15.0 %	15.0 %	5.0%	5%	5%	5%	20%	2.5%	2.5%	5%	5%	3%	3%	3%	2.5%	2.5%	
Scores																	
Option 1 - Bus	-2	-2	2	1	1	1	-1	-2	-2	1	1	1	0	1	1	2	3
Option 2 - Hybrid	2	-1	2	1	1	1	1	-1	-1	1	1	1	1	1	1	1	12
Option 3 - Active Travel	2	1	2	2	1	1	2	2	1	1	1	1	2	1	1	0	21
Weighted Scores																	Total Scores (out of 100)
Option 1 - Bus	-15.0	-15.0	5.0	2.5	2.5	2.5	-10.0	-2.5	-2.5	2.5	2.5	1.7	0.0	1.7	1.3	2.5	-20.42
Option 2 - Hybrid	15.0	-7.5	5.0	2.5	2.5	2.5	10.0	-1.3	-1.3	2.5	2.5	1.7	1.7	1.7	1.3	1.3	40.00
Option 3 - Active Travel	15.0	7.5	5.0	5.0	2.5	2.5	20.0	2.5	1.3	2.5	2.5	1.7	3.3	1.7	1.3	0.0	74.17

The impacts of each option have been assessed in a variety of ways. The impact on bus and traffic journey times and queues have been assessed using complex traffic modelling software, forecasting the impacts of the proposed changes (the traffic modelling report in Appendix K provides more information on this). The impacts on pedestrians, cyclists and the environment has been assessed using the technical knowledge of the design team.

This assessment has been used, along with public and stakeholder engagement to identify and develop a single preferred option to be taken forward into RIBA Stage 3 (detailed design).

5 Stakeholder and Public Engagement

A stakeholder workshop, attended by officers from EDC, GCC and SPT, to run through the initial long list of options and to generate potential additional options took place on 8th November 2023, with a follow up session with any EDC officers who couldn't attend the workshop held on 29th November 2023. These workshops identified some additional options to include within the long list and identified some additional localised issues along the corridor, which were considered within the long list option assessment.

Consultation on the shortlisted options took place during March-April 2024. Consultation comprised of a stakeholder workshop, in-person public consultation event and an online public consultation platform. The aim of the consultation was to understand the public's view on three initial route options outlined in Section 3, to assist in the development of the final route option to go forward for detailed design.

Consultation methods included:

- Stakeholder workshop with EDC, GCC, and SPT.
- Public drop-in session at Bishopbriggs Memorial Hall.
- Online public survey
- Story Map on council website with technical drawings and visualisation.

The public drop-in session was well attended, with approximately 75-100 people visiting the session. Key themes from the online survey and in-person consultation event have been identified and demonstrated in Table 5.1. Detailed analysis of stakeholder and public feedback is attached in Appendix F.

Online survey questions are attached at Appendix G and public consultation information boards at Appendix H.

Table 5.1 Key Themes

Theme	Comments
Accessibility	• Short green-man time at crossings. • Concerns that shared-use pathways are dangerous for those who are visually impaired. • Lack of considerations for disabled people in the proposals.
Congestion / increased journey times	• Concerns regarding an increase in congestion as a result of the route upgrades (reallocation of road space). • Addition of a bus lane reducing space for other motor vehicles along the corridor. • Suggestions to remove the bus lanes entirely, and to introduce double yellow lines outside businesses to improve the flow of traffic.
Remove bus lanes	• Remove the proposed bus lanes from the designs entirely – suggestion linked to the fear of increased congestion along the corridor. • Approximately 10% of respondents stated removing bus lanes would be their preference.
Bishopbriggs Cross traffic lanes	The Bishopbriggs Cross junction (A803/Kenmure Avenue/Springfield Road) was frequently mentioned regarding a number of perceived issues/suggestions including parking, conflict between cyclists and left-turning vehicles, optimisation of traffic signals, dangerous driving, and improvements to active travel links.

Improve existing traffic signals	Optimisation and improvement in communication between traffic signals along the corridor to improve traffic flow.
Prioritise active travel	• Shortlisted options are not ambitious enough for active travel users. • Wider footways and segregation from traffic were suggested. • If parking were to be removed/enforced, there would be more scope to include cycle lanes along the corridor. • Provide links to the wider active travel network. • Safe school cycle routes.
Parking	• Illegal parking on Kenmure Avenue and in bus stops. • Improved parking enforcement and removing the fee at the existing car park in Bishopbriggs. • Priority parking for residents outside homes. • Provide free parking in Bishopbriggs.
Segregating pedestrians and cyclists	Concerns about the safety of shared use paths for children and those with restricted mobility.
General	• Resurface and fix potholes • Lack of environmental resilience/adaptation interventions • Perceived negative impact on small businesses due to lack of parking and congestion

6 Technical Appraisal

6.1 Traffic Impact Assessment

The traffic impact has been assessed using the outputs from the traffic modelling undertaken by Systra.

Option 1 – the reduction in traffic capacity resulted in the model for Option 1 not being able to run, this means that there was so much congestion and queuing within the model that the traffic queues extended to the extent of the model and prevented vehicles being able to enter the model. The team was able to qualitatively assess the issues within the model through viewing the model as it was running. It was noted the main issue was the proximity of signalised junctions between Hawthorn Street and the St Rollox Brae junction, the re-allocation of lanes from general traffic to bus lanes in this area resulted in significant levels of queuing. It was concluded that the model was unviable due to demand not being able to enter the model (due to the extent of queuing in the model).

Option 2 – the results show significant improvements (6 minutes) in bus journey times in the southbound direction during the morning peak hour and a 2-minute reduction in the evening peak hour. This is primarily due to updating the signal timings at the Atlas Road junction which increases the amount of green time available in peak hours for all southbound vehicles including buses. In the northbound direction, the morning peak hour shows a 2-minute increase in journey times for buses (due to the prioritisation of signal times for southbound movements). For general traffic, there are increases in journey times with an increase of 4-5 minutes (southbound) and 6-7m (northbound) in the morning peak hour, and a 17-minute increase in the southbound direction with a 1-minute decrease in the northbound direction.

Option 3 – also shows a journey time reduction for buses of around 6 minutes in the southbound direction in the morning peak hour, with the northbound direction being very similar to the reference case. In the evening peak hour, there are very little changes to bus journey times in comparison to the reference case. For general traffic there is 3-minute reduction in southbound journey times in the morning peak hour with northbound journey times 1-2 minutes longer. In the evening peak hour general traffic journey times are similar to the reference case (1 minute slower southbound and 30 seconds quicker northbound).

In general the traffic modelling showed that significant benefits to journey times for general traffic and buses could be achieved by optimising the junction of Atlas Road and through banning the northbound right turn at Colston Road to allow for a more efficient signal staging plan to the included, However, reassigning road space from general traffic to bus lanes has a negative impact on junction performance at key locations (particularly Atlas Road), creating inefficiencies in the signal arrangement (wasted green time for bus lanes) which causes congestion stretching back beyond the starting point of the bus lanes proposed. The modelling assessment also showed that the proposals at the north end of the corridor had a relatively minor impact, with limited negative impacts for general traffic when road space was reallocated to other modes but also only relatively small benefits to bus journey times when bus lanes were included.

Overall, the option that performed best for general traffic and buses was the active travel focussed option (Option 3) as this option had the greatest journey time benefits as it optimised the traffic signals without reallocating road space. In the option 2, the journey time benefits for buses are lower due to the queuing of general traffic restricting access to the bus lanes.

6.2 Walking and Cycling Impact Assessment

A qualitative assessment of expected impact that each of the shortlisted options will have on walking and cycling was undertaken by the project team. In summary:

Option 1 – There are some benefits for pedestrians - for example, better crossing provision at the northern end of the corridor at the Crosshill Road junction, an additional pedestrian crossing across the A803 located at

the rugby club north of Balmuildy Road and improvements in Bishopbriggs town centre. However, there are limited impacts elsewhere and no significant improvements for cyclists.

Option 2 – The pedestrian benefits are similar to Option 1, with the junction improvements and crossings provided. The provision of shared-use paths for the majority of the corridor and the segregated track between Cadder Road and Villafield Drive provide some benefits to cyclists, providing a safe route along the corridor. However, it is noted that at some locations street furniture and bus stops will result in some narrow sections, with may cause conflicts between pedestrians and cyclists. The provision of cycle lanes on the Kenmure Avenue arm of the Bishopbriggs Cross junction provides a safe link for cyclists to access the town centre and station from the proposed quieter route within the adjacent residential streets.

Option 3 – The pedestrian benefits are similar to Option 2, with the junction improvements and crossings provided with the addition of signalising the Balmuildy Road junction to provide safe crossing provision for pedestrians. The segregated cycle tracks at the north end of the corridor and shared-use paths through the central section provide safe cycle provision for approximately two thirds of the corridor and link into key destinations and wider routes.

In summary all three options are expected to have a positive impact on walking and cycling within the study area. Option 3 is expected to have the greatest positive impact, with additional cycle lane provision and improved pedestrian crossing facilities at junctions, with Option 2 also having a significant positive impact. Option 1 is not expected to have a significant impact but still includes some improvements.

6.3 Preliminary Environmental Appraisal Report

Sweco were commissioned to undertake a preliminary environmental appraisal report as part of this project. The full report is included in Appendix I and summarised here. In Table 6.2 below, each of the three options have been assessed against the Sustainability objective: 'Increase/ improve green/blue space along the corridor and plant native trees.' The assessment has been based upon the criteria shown in Table 6.1 and is based upon whether there is an opportunity within the scheme to achieve the objective.

The appraisal presented is an initial high-level consideration based upon the potential for opportunities and does not take into consideration constraints such as the presence of utilities, landowners, sight lines, funding and other constraints which may prevent opportunities being brought forward.

Table 6.1: Assessment Criteria

Positive contribution	✓
Neither contributes nor hinders	-
Prevents/hinders achieving objective	✗

Table 6.2: Assessment of Each Option Against the Environmental / Sustainability Objective

	Objective: *Increase/improve green/blue space along the corridor and plant native trees*	
		Assessment Score
Option 1 – Bus Priority	North of Cadder	✓
	Through Cadder	✓
	North of Bishopbriggs Town Centre	✓
	Bishopbriggs Town Centre	✓
	South of Bishopbriggs Town Centre	✓
	Northern Springburn	✓
	Southern Springburn	✓
	Sighthill	✓

Option 2 – Hybrid	North of Cadder	✓
	Through Cadder	✓
	North of Bishopbriggs Town Centre	✗
	Bishopbriggs Town Centre	✓
	South of Bishopbriggs Town Centre	✓
	Northern Springburn	✓
	Southern Springburn	✓
	Sighthill	✓
Option 3 – Active Travel	North of Cadder	✓
	Through Cadder	✓
	North of Bishopbriggs Town Centre	✗
	Bishopbriggs Town Centre	✓
	South of Bishopbriggs Town Centre	✓
	Northern Springburn	✓
	Southern Springburn	✓
	Sighthill	✓

The appraisal against the project objectives for the three short-listed options concludes that there is potential under all options to "Increase/ improve green/blue space along the corridor and plant native trees" thus meeting this objective. Option 2 and 3 have been recorded as presenting a hinderance/preventing the objective being met north of Bishopbriggs town centre as these options involve tree removal along Bishopbriggs Burn which would have an adverse impact upon ecology and landscape. Whilst it may be possible to replant, an impact would still remain. However, this would need to be balanced with the wider benefits associated with providing an active travel facility along the A803 corridor.

Table 6.3 shows a summary of the Preliminary Environmental Appraisal Report, where each option was appraised against the STAG environment sub-criteria using the seven-point STAG assessment criteria (Table 6.4).

Table 6.3: Summary of Environmental Appraisal for each Option

	Option 1	Option 2	Option 3
Noise and vibration	-	-	-
Global air quality - carbon dioxide (CO_2)	-	-	-
Local air quality - particulates (PM_{10}) and nitrogen dioxide (NO_2)	✗	-	-
Water quality, drainage and flood defence	-	-	-
Geology	-	-	-
Biodiversity and habitats	-	✗	✗
Landscape	-	✗	✗
Visual amenity	-	-	-
Agriculture and soils	-	-	-
Cultural heritage	-	-	-
Summary	-	-	-

Table 6.4: STAG Seven-Point Environmental Assessment Scale

For each STAG Criteria it should be noted whether the option would bring:		
Major benefit	✓✓✓	These are benefits or positive impacts which, depending on the scale of benefit or severity of impact, the practitioner feels should be a principal consideration when assessing an option's eligibility for funding.
Moderate benefit	✓✓	The option is anticipated to have only a moderate benefit or positive impact. Moderate benefits and impacts are those which taken in isolation may not determine an option's eligibility for funding but taken together do so.
Minor benefit	✓	The option is anticipated to have only a small benefit or positive impact. Small benefits or impacts are those which are worth noting, but the practitioner believes are not likely to contribute materially to determining whether an option is funded or otherwise.
No benefit or impact	-	The option is anticipated to have no or negligible benefit or negative impact.
Small minor cost or negative impact	×	The option is anticipated to have only a moderate cost or negative impact. Moderate costs/negative impacts are those which taken in isolation may not determine an option's eligibility for funding but taken together could do so.
Moderate cost or negative impact	××	The option is anticipated to have only a moderate cost or negative impact. Moderate costs/negative impacts are those which taken in isolation may not determine an option's eligibility for funding but taken together could do so.
Major cost or negative impacts	×××	These are costs or negative impacts which, depending on the scale of cost or severity of impact, the practitioner should take into consideration when assessing an option's eligibility for funding.

The summary of the environmental appraisal for each option in the table above shows there is little difference between the options. The exception being for landscape and biodiversity for options 2 and 3 due to the likely works required leading to adverse impacts within Bishopbriggs Park to enable the off-line cycle path to cross Bishopbriggs Burn in this location.

Therefore, environment is unlikely to be the deciding factor in option selection, however, there are some impacts in the Bishopbriggs Park area which would need careful consideration to mitigate. It is expected that where possible any negative environmental impact associated with the cycle route through the park would be mitigated through further development of the design.

6.4 Cost Estimates

Initial cost estimates have been undertaken for each option (estimates were undertaken for Option 1 and Option 2, the cost estimate for Option 3 was developed using the relevant costs from the other options). These all include 20% risk and contingency and 10.77% allowance for inflation. There is no allowance for optimism bias within these costs. The costs of signal upgrades and bus stop improvements along the corridor are not included within these costs. The costs include the highways works shown at Bishopbriggs Town Centre (BTC) but exclude the additional costs for landscape improvements (see Figure 6.1 below showing a visualisation of the proposed Bishopbriggs Town Centre improvements and more details are provided in the BTC RIBA Stage 3 report – included within Appendix L) and bus stop improvements such as RTPI displays (likely to cost approximately £10,000 at each location) being added to all bus stops where they aren't currently included along the corridor.

- Option 1 = £5.4m
- Option 2 = £8.9m
- Option 3 = £8.5m

Cost estimates should be updated at each stage of the project as more details, such as proposed materials and the extent of utility diversions etc. are known. The cost estimates for Option 1 and Option 2 are included within Appendix M.

Figure 6-1 Visualisation of proposed Bishopbriggs Town Centre improvement (Sweco)

7 Preferred Option

Following the results of the initial traffic modelling, feedback from the public consultation and an assessment of the options against the assessment criteria it was concluded that an option based around Option 3 – Active Travel would be developed. The development of the option includes the addition of bus priority measures where their impact on the road network (queue lengths and journey times for general traffic) and parking is not expected to have a significant negative impact and where they will improve journey times for buses. The preferred option incorporates the proposed improvements to the pedestrian environment at Bishopbriggs town centre (those proposals have been developed and consulted upon separately), it also includes improvements to bus stops (shelters, accessible kerb heights and RTPI) where required and signal optimisation at all signalised junctions along the corridor (between Torrance roundabout and Royston Road).

Technical drawings for the emerging preferred option have been developed and further traffic modelling has been undertaken based on these drawings.

Visualisations of the preferred option are shown in Figures 7.1 to 7.3 below and drawings are shown in Appendix J.

Figure 7-1 Visualisation of preferred option proposals at junctions with Cadder Road and Crosshill Road

Figure 7-2 Visualisation of preferred option proposals at Bishopbriggs town centre

Figure 7-3 Visualisation of preferred option proposals at junction with Cairn Street

8 Summary of Impacts of Preferred Option

8.1 Sustainable Travel Impacts

8.1.1 Walking

The preferred option improves the pedestrian environment along the corridor, the main improvements include:

- Footway widening along the A803 – primarily on the western side of the road. However, it should be noted that this is primarily where the footway is converted to shared path with cyclists.
- Converting the roundabout at the junction of the A803 and Crosshill Road to a signalised junction with new pedestrian crossings across each arm of the junction, providing a safe route for pedestrians between the retail park and northbound bus stop.
- Signals added to the junction between the A803 and Balmuildy Road, providing a signalised crossing across Balmuildy Road, creating a safe route for pedestrians walking along the A803.
- Footway widening and improved crossings at Bishopbriggs Town Centre.
- Signal changes at the junction with Colston Road which are likely to reduce the wait time for pedestrians and linked improvements to the junction of Stobhilll Road which aim to prevent parking across the junction and reduce the crossing distance for pedestrians.

8.1.2 Cycling

The preferred option improves the environment for cyclists along the corridor, the main improvements include:

- A shared use path for pedestrians and cyclists between Torrance Road and Cadder Road (linking to the north to the proposed cycling improvements along the A807).
- An off-road cycling track between Cadder Road and Villafield Road
- A shared-use path between Villafield Road and Balmuildy Road
- A quietway link between Balmuildy Road and the junction of Brackenbrae Road and the A803, through Bishopbriggs public park
- Segregated cycle tracks on Kenmure Avenue between the junction with the A803 and Kenmure Drive – providing a link between the quietway link (above) and Bishopbriggs town centre
- A shared use path between Brackenbrae Road and Hawthorn Street (connecting into the wider network)

8.1.3 Public Transport

The main improvements for public transport users are focussed on improving bus routes and facilities along the A803. However, the proposed improvements at Bishopbriggs town centre will improve access for rail passengers to Bishopbriggs rail station. The main improvements for bus passengers include:

- Bus stop improvements, ensuring that all stops include a shelter, real time information displays and accessible kerb heights
- A southbound bus lane between Cadder Road to the north and the junction with Villafield Drive to the south
- A southbound bus lane from south of the junction with Balmuildy Road to the junction with South Crosshill Road, where it links with an advanced bus signal facility the provides priority for southbound buses into Bishopbriggs town centre
- A southbound bus lane from just south of the Morrisons access junction in Bishopbriggs town centre to just south of the junction with Viewfield Road
- A southbound bus lane from just south of the junction with Cadder Road to just north of the junction with Hawthorn Street
- A southbound bus lane from just south of Fountainwell Road to just north of Royston Road

- A revised layout on the southbound slip road of the A803 to the junction with Royston Road, installing a central island and moving the bus stop to the west of this to provide a simpler route for southbound buses through this junction.

8.2 Environmental / Ecological Impacts

If permitted development rights can be applied, it is likely that the Proposed Scheme will not require an EIA Screening, but it should be noted that this could be requested by the council.

An EIA is a systematic assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing them, are understood by relevant stakeholders prior to any decision being made.

If, however, the Proposed Scheme falls under the Town and Country Planning Act then it is more likely that EIA Screening will be required. In either case, it is considered that the size and scale of the works and its location is unlikely to require a full EIA.

It is expected that either route will require supporting documentation but that the requirements for these would be different. The requirements would be discussed and agreed with the planning officer but as a minimum, it is expected that the following would have to be submitted to support any permitted development or application - design drawings (engineering, drainage, landscape and planting) and also an outline construction environmental management plan (oCEMP). Other documents could include a summary of consultation, the ecology PEA, an air quality/noise assessment (if required), a planning statement or design and access statement.

8.3 Traffic Impacts

The preferred option has been modelled using 2 future scenarios, a 2025 high growth scenario and a 2040 high growth scenario. These scenarios were selected to ensure that a robust assessment on the potential impacts of the design was considered. These high growth scenarios do not include any reduction of traffic based on policy decisions (noting the Scottish Government target of a 20% reduction in car kilometres by 2030 against a 2019 baseline).

This updated traffic modelling predicts that the preferred design option will reduce southbound bus journey times in the morning peak period by about 1 minute in the 2025 high growth scenario and 2 minutes in the 2040 high growth scenario. In the northbound direction there was no significant change in journey times in either scenario. The majority of the reduction in journey times was achieved in the section of the corridor between Hawthorn Street and Keppochhill Road.

In the evening peak period, there is a predicted decrease in journey times for southbound buses of 90 seconds in the 2025 high growth scenario and 30 seconds in the 2040 high growth scenario. However, there was a predicted increase of approximately one minute for northbound buses in both scenarios in the evening peak period.

For general traffic in the morning peak there is predicted to be increase in southbound journey times in the 2025 high growth scenario of approximately 2 minutes 30 seconds, and of 2 minutes in the 2040 high growth scenario. For northbound traffic both the 2025 and 2040 high growth scenarios are predicted to increase journey times by 1 minute in the morning peak period.

In the evening peak period, there is a predicted increase in journey times for southbound general traffic of 3 minutes in the 2025 high growth scenario and 4 minutes in the 2040 high growth scenario. For northbound general traffic there is an increase in journey of 30 seconds in 2025 and a decrease of 45 seconds in 2040. It should be noted that with such small changes that ultimately there is minimal operational difference between the reference case and the scheme in both future year scenarios.

8.4 Road Safety

A stage 1 Road Safety Audit (RSA-1) was undertaken by Sweco. The audit team undertook a site visit in October 2023, during the middle of the day when the weather was fine. The audit highlighted 12 areas for review, which were considered within a designer's response document. The response document confirms whether the recommendations have resulted in an update to the design for this stage or in some cases whether the changes will be incorporated into further updates during the RIBA stage 3 design process. The RSA-1 and Designer's Response document are included within Appendix A of this report.

The provision of additional pedestrian crossing points should improve safety for pedestrians, especially at locations such as the Balmuildy Road junction where pedestrians currently have to cross the relatively busy side road without a pedestrian green man. Safety for cyclists should also be improved by the proposals with the cycle lanes providing additional separation from motor traffic. For motor vehicle users, safety is expected to be improved by the review of the traffic signals along the corridor, ensuring that timings allow sufficient clearance time for vehicles and avoiding conflicts within the junction.

8.5 Economic Impacts

An assessment of the economic impact of the proposed scheme was undertaken by Systra, through a Transport Economic Efficiency (TEE) assessment. This assessment was carried out using the outputs from the traffic modelling and inputting them into TUBA (Transport User Benefits Analysis) to show the economic impact of the scheme. Further detail is included within the Traffic Modelling Report included within Appendix K.

The assessment results in a BCR for the morning peak hour of -1.246 and a BCR of 0.174 for the evening peak hour as the impacts of delays to general traffic in the morning peak hour, and to a lesser extent in the evening peak hour, cause economic disbenefits. It should be noted that there are small benefits due to the bus journey time reduction but with relatively low number of bus passengers (compared with private motor vehicle users) the delay to motor vehicles outweighs the benefits to bus passengers (an increase in the number of buses on the corridor and a corresponding increase in bus passengers would result in greater benefits). The economic assessment has not quantified the benefits to active travel users which can result in significant economic benefits through health improvements.

It is recommended that at the next stage an AMAT assessment is undertaken to ensure the positive impacts for pedestrians and cyclists are considered within the economic assessment.

8.6 Equalities Impact Assessment (EqIA)

An EqIA for the preferred option was undertaken by Sweco. The EqIA assessed the impact, both positive and negative, of the preferred option on users of the corridor with protected characteristics. The assessment also flagged actions which should be taken forward to address some of the potential impacts of the project, these include:

- Make the design gender-inclusive and take a responsive approach. This includes:
  - Ensuring lighting is sufficient in the sections going through the more rural areas.
  - Consider implementing CCTV in isolated sections and at bus stops.
  - Engage with the police and consider data with regards to locations where assaults have occurred previously.
- Provide safe seating and resting places along the active travel route. Could also consider providing water fountains at appropriate locations.

- Improve street greenery and planting along the A803 and ensure the route is well shaded by the greenery. This will both increase climate resilience and adaptation as well as improved safety as street greenery has been shown to reduce levels and perception of crime in urban environment.
- Consider further consultation with:
  - Disability groups
  - LGBT+ groups
  - The Scottish Refugee Council Regional Coordinator
  - Religious groups to confirm that the proposed scheme will not impact relevant communities and if enhancement can be made
  - The police in terms of assault and crime hotspots data and any further information as necessary.
  - Women and female teenagers from local communities on designing safe resting spots.
  - Communities in the rural areas of East Dunbartonshire to understand their access and use of bikes. Consider how access and use of bikes can be improved, such as investing in community cycling groups or implementing bike rental schemes at key rural locations.
- Where the shared pathway and segregated cycleway join, improve signage to clearly direct users at transition points, ensuring it is visible and understandable.
- For safety purposes, the design could consider options that would keep the proposed scheme open, for example not planting continuously and keeping gaps.
- It is recommended that it is considered how a behaviourally change campaign could be implemented to further improve the mode change of this scheme and to get the most from the new infrastructure provided.
- It is essential that women are consulted fully on designs to ensure they are fully inclusive and meet their needs.

The assessment, and particularly the actions identified, should be reviewed at the outset of the next stage of the project. The assessment is included within Appendix B.

8.7 Permissions

With regards to the proposed A803 corridor development, the route to planning will depend on the land requirements for the Proposed Scheme. Should they be located within the adopted road boundary, then the interventions could be delivered under deemed planning permission. If they extend outwith the adopted road area, then it could require planning permission under the TCP (Scotland) Act 1997.

To confirm the route to planning, it is recommended that once the interventions are confirmed and the land take required, that a review is undertaken along with a meeting with the planning officer. An agreement can then be reached on the best way to progress the scheme and ensure compliance with current legislation. For the preferred option it is likely that the only area that will be outside of the adopted road area will be the offline cycle route through Bishopbriggs Town Centre public park. However, this will need to be reviewed in detail at the outset of the next stage of work.

Potential consents, licences and permissions, which may be applicable to the A803 Proposed Scheme were identified by SWECO. Table 8.1 summarises these consents and includes anticipated timescales for these.

Table 8.1 Statutory Consents and Permissions

	Environmental
No	1
Consent/Licence	Environmental Impact Assessment.
Relevant Body	Local Authority (LA)
Key Legislation	Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.
Development Component	Proposed Scheme.
Requirement for Consent/Licence	TBC – Screening for EIA is dependent on the status of the Permitted Development Rights and the location of the interventions. Further EIA deliverables dependent upon screening decision.
Time Scales	If required, the local planning authority must adopt a Screening Opinion within the period of 21 days beginning with the date of receipt of the request (or longer if agreed in writing between the planning authority and the applicant). Details on the EIA Screening process can be found in Section 3.2.
	Noise and Vibration
No	1
Consent/Licence	Noise: Control of Pollution Act 1974 Section 61 consent
Relevant Body	EDC/GCC
Key Legislation	COPA 1974 under Section 61
Development Component	Construction Works
Requirement for Consent/Licence	TBC Prior to construction
Time Scales	TBC
	Air Quality
No	1
Consent/Licence	Air Quality Assessment (AQA)

Relevant Body	Local Planning Authority
Key Legislation	Draft Air Quality Planning Guidance, East Dunbartonshire Council 2018
Development Component	Proposed Scheme
Requirement for Consent/Licence	TBC. If the proposed scheme meets any of the criteria set out below, an AQA will be required. The development will: Realign roads, i.e. changing the proximity of receptors to traffic lanes (where the change is 5m or more and the road is within an AQMA) and Introduce a junction or remove an existing junction near to existing receptors. (Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g., traffic lights or roundabouts.)
Time Scales	TBC
	Water quality, drainage and flood defence
No	1
Consent/Licence	Controlled Activity Regulations (CAR) Licence – Construction Run Off
Relevant Body	Scottish Environment Protection Agency (SEPA)
Key Legislation	Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR Regulations)
Development Component	Discharging run-off from the construction site (including preparatory works).
Requirement for Consent/Licence	TBC. There are two levels of authorisations that apply to the discharge of water run-off from construction sites to the water environment: 1. General Binding Rule (GBR); or 2. A licence. Type required depends on the scale of the construction site itself. <u>General Binding Rule:</u>

	If below the licence level thresholds are authorised under GBR 10 of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended). No application or notification to SEPA required, provided construction site meets requirements of GBR (refer to CAR Practical Guide). <u>Licence:</u> Construction sites that discharge water run-off to the water environment and: a) cover an area greater than 4 hectares; or b) contain a road (or track) greater than 5 kilometres in length; or c) include any land with an area greater than 1 hectare that has a slope more than 25 degrees; or d) include any road (or track) with a length greater than 500 metres that has a slope more than 25 degrees will be authorised under a licence. You must apply for, and be granted a licence, before the activity can take place.
Time Scale	SEPA have 30 days to assess an application for registration and four months for a licence.
No	2
Consent/Licence	Controlled Activity Regulations (CAR) Licence – Engineering Activities
Relevant Body	Scottish Environment Protection Agency (SEPA)
Key Legislation	Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR Regulations)
Development Component	Activities defined as engineering activities within the engineering regime section of the CAR Practical Guide such as new or modified bridges, culverts, bank reinforcement, channel modifications (diversions, realignment etc.)
Requirement for Consent/Licence	The level of authorisation and any application charge will depend on the type and scale of the engineering activity. Control may apply at any of the three levels of authorisation: • GBR's: 5,6,7,8,9,12,13,14 and 25 may apply • registration • licence (simple or complex)
Time Scales	SEPA have 30 days to assess an application for registration and four months for a licence.
	Geology
	No consents or permissions anticipated at this time.

	Biodiversity
No	1
Consent/Licence	Protected Species Licence – Badger
Relevant Body	NatureScot
Key Legislation	Protection of Badgers Act 1992 as amended by the Wildlife and Natural Environment (Scotland) Act 2011.
Development Component	Required for components of the Proposed Scheme that affect areas suitable for badger.
Requirements for Consent/Licence	If a badger sett is recorded within 30m of the proposed works a licence from NatureScot would be required prior to construction.
Time Scale	If the proposed scheme falls under the TCP Scotland Act 1997, then this will be required post planning application ahead of construction and in accordance with the Wildlife and Natural Environment (Scotland) Act.
No	2
Consent/Licence	European Protected Species Licence – Bats
Relevant Body	NatureScot
Key Legislation	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
Development Component	Required for components of the Proposed Scheme that affect habitats with potential for roosting bats.
Requirement for Consent/Licence	Further surveys are required if either of the two trees identified with bat roosting potential are to be impacted by the proposed works. If the trees are found to be roosts and will be impacted, a licence from NatureScot would be required prior to construction.
Time Scale	As above.

No	3
Consent/Licence	European Protected Species Licence – Otter
Relevant Body	NatureScot
Key Legislation	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
Development Component	Required for components of the Proposed Scheme that affect areas suitable for otter.
Requirement for Consent/Licence	A survey 200m upstream and downstream of Bishopbriggs Burn is required. If the proposed works could cause impacts to an otter breeding site or resting place, a licence application to NatureScot would be required prior to construction.
Time Scale	As above
No	4
Consent/Licence	Ancient Woodland Inventory
Relevant Body	Local Authority (LA)
Key Legislation	There is a strong presumption against removal of Ancient Woodland in Scottish Planning Policy.
Development Component	Required for components of the Proposed Scheme that could cause impacts to Ancient Woodland.
Requirement for Consent/Licence	Consultation with the Planning Authority is required to permit removal of Ancient Woodland.
Time Scale	If the proposed scheme falls under the TCP Scotland Act 1997, then this will be required prior to planning application.
No.	5
Consent/Licence	Non-Statutory Designated Sites
Relevant Body	Local Authority (LA)
Key Legislation	Local planning policy

Development Component	Non-statutory sites could not be identified as GMBRC was closed at the time of writing the PEA Report and EDC and GCC were not able to provide data. GMBRC remains closed at the time of writing this report. It is therefore, unknown if the development could cause impacts to any non-statutory designated sites.
Requirement for Consent/Licence	Data on non-statutory designated sites should be obtained from EDC and GCC. If any designated sites could be impacted by the proposed works, consultation with the Planning Authority would be required.
Time Scale	Prior to planning application
	Landscape and visual amenity
No.	1
Consent/Licence	Tree Felling Permission
Relevant Body	Scottish Forestry
Key Legislation	Town and Country Planning (Scotland) Act 1997 (TPOs)
Development Component	For any tree felling. Refer to Felling Permission Application Guidance for exemptions. Felling tree with TPO requires Scottish Forestry to consult with the LA.
Requirement for Consent/Licence	If required / applicable. Required prior to construction.
Time Scale	Once submitted and assessed, requires 28 days for consultation. Felling periods normally granted for 2 years. Felling trees within a Conservation Area, approved by Scottish Forestry but proposer required to inform the LA of intention to fell 6 weeks prior to felling.
	Agriculture and soils
	No consents or permissions anticipated at this time.
	Cultural Heritage
	Consultation with HES required as within buffer zone of WHS. The A803 scheme does not lie within Scheduled Monument boundary so SMC is not required.
	Listed building consent is not anticipated to be required at this time as there are no direct impacts. (Subject to consultation with the LPA).
	Waste and Materials

	No consents or permissions anticipated at this time, based on our assumption that all construction material will be reused on site. If this changes a waste transfer licence may be required.

9 Delivery Plan

At the commencement of the A803 project it was assumed that the project would be delivered using funding from the City Deal. However, as the City Deal projects have developed, increasing costs and high inflation rates have meant that future design stages and the construction of the A803 project will no longer be funded through the City Deal. Alternative funding opportunities should be explored further and the delivery of the entire corridor as one construction project is unlikely, therefore we have reviewed how certain elements of the project may be delivered in sections and how they can potentially be matched to alternative funding sources.

9.1 Funding Opportunities

Due to the size of the project and the wide range of project objectives the proposed option could be suitable for funding from a variety of sources. These include:

- Active Travel
- UK Government Funding
- Town Centre Regeneration
- Developer Contributions

9.1.1 Active Travel

Active travel funding in Scotland is in a state of change. Currently, the main source of funding for projects is via the Places for Everyone programme (PfE), however, this is being replaced by a tiered funding system administered by Transport Scotland. This will mean that there is a direct grant to all local authorities, effectively replacing CWSR (Cycle Walking Safer Routes), a higher direct award amount to authorities with a track record of delivery (currently Glasgow and Edinburgh) and an application-based process for projects (ATIF) which is likely to be a similar system to PfE. Depending on the location of the section (whether it is within Glasgow or East Dunbartonshire), utilising direct block funding or applying for grants through specific areas through ATIF may be an appropriate source of funding.

In addition to ATIF it may be possible to include parts of the project, towards the south of the corridor, into the adjacent Places for Everyone funded Liveable Neighbourhoods or Glasgow City Networks projects.

9.1.2 Local Government (Levelling Up Fund)

There have been 3 rounds of Levelling Up funding. Following the 2024 General Election, the UK government announced that the Department for Levelling Up, Housing and Communities would be renamed the Ministry of Housing, Communities and Local Government. It is not known whether further funding rounds will be announced.

9.1.3 Transport Scotland Regeneration Capital Grant Fund (RCGF)

The Regeneration Capital Grant Fund is delivered in partnership with COSLA and local government. The Fund supports locally developed place-based regeneration projects that involve local communities, helping to tackle inequalities and deliver inclusive growth in deprived, disadvantaged and fragile remote communities across Scotland.

Applications to the fund are invited on an annual basis and, where justified, can potentially cover more than one financial year. Applications are not restricted in geography, size or type of project. It will be for applicant organisations to demonstrate that projects fit with the aims and objectives of the fund and can demonstrate clear regeneration outcomes in line with Transport Scotland's strategy document 'Achieving a Sustainable Future' and local area regeneration plans.

Projects should:

- focus on areas that suffer from high levels of deprivation and disadvantage
- demonstrate clear community involvement
- deliver large scale transformational change with strong regeneration outcomes
- encourage additional investment and address market failure

It should be noted that this scheme has been paused, and no applications were accepted in 2024 for 2025/26 funding.

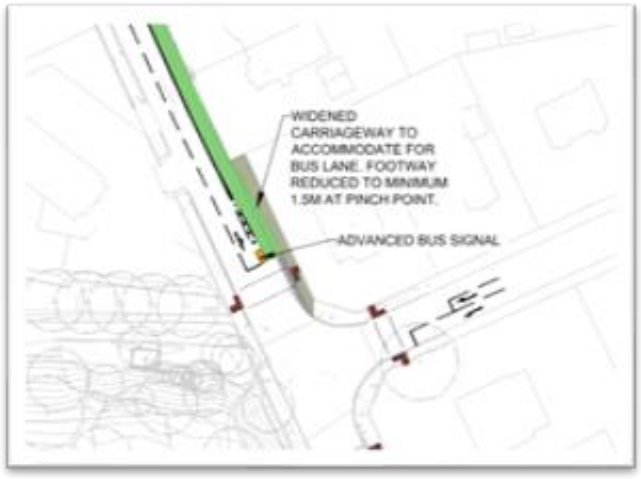
9.2 Funding Potential

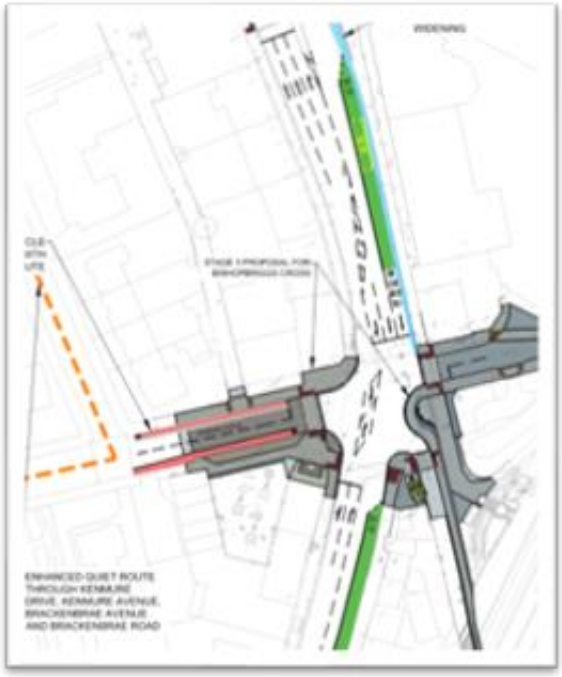
Towards the end of the study, it was noted that City Deal funding is unlikely to be available for further design development or construction. However, there has been a commitment by EDC to implement improvements on the route and they will work with GCC/SPT delivery partners where appropriate.

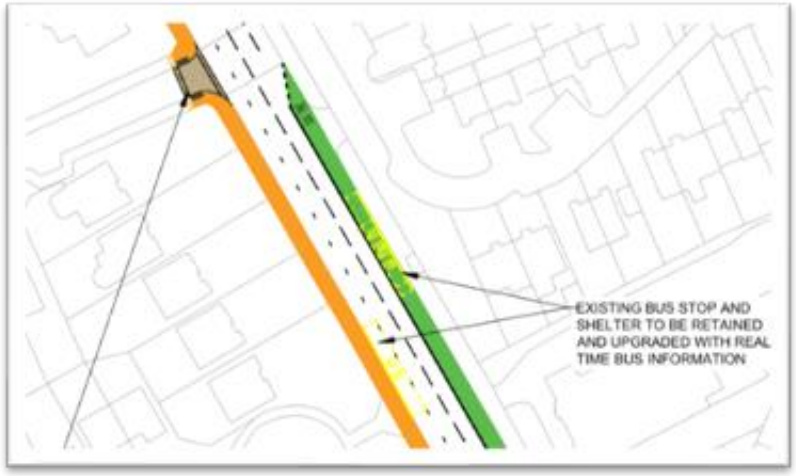
Potential alternative funding for sections of the corridor have been considered and outlined in Table 9.1. This will assist with targeting sections of the project to future funding streams; should the project need to be split into sections. It should be noted that splitting the project into smaller sections for delivery is likely to result in an increase in the overall cost for implementing the options. It is likely that the main opportunity for funding will be Transport Scotland's Active Travel Infrastructure Fund (ATIF), however, other funding opportunities should be explored. These cost estimates have been derived from the cost estimates outlined in Section 6 of this report. The costs all include 20% risk and contingency and 10.77% allowance for inflation and results in a total cost of approximately £9.4m. The costs of standalone signal upgrades, bus stop improvements along the corridor, and the active travel route through the park are not included within these costs.

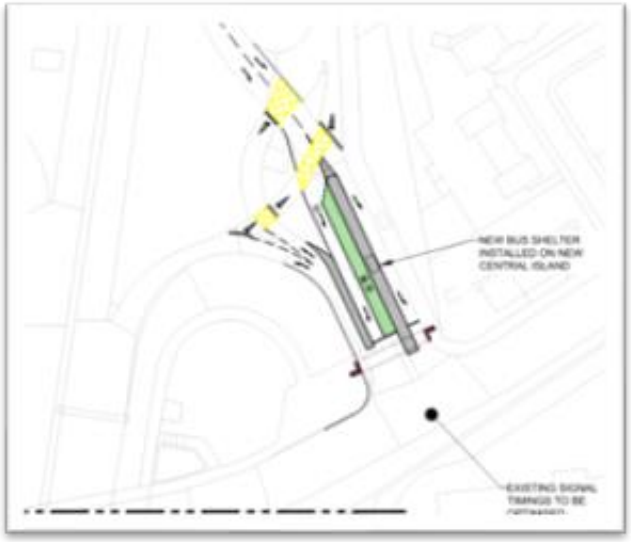
Table 9.1 Potential Funding

Location	Description	Plan	Estimated Cost	Identified funding stream	Other potential funding
Torrance Road to Cadder Road	Shared use footway		£1.2m	ATIF	
Crosshill Road to Cadder Road	Signalisation of Crosshill Road and changes to junction at Cadder Road		£1.5m	ATIF	Future developer contributions

Location	Description	Plan	Estimated Cost	Identified funding stream	Other potential funding
Cadder Road to South Crosshill Road	Bus priority measures – primarily bus lanes and minor alterations to junctions		£750k	Future developer contributions	
Cadder Road to Villafield Drive	Off road dedicated cycle track		£900k	ATIF	Future developer contributions

Location	Description	Plan	Estimated Cost	Identified funding stream	Other potential funding
Balmuildy Road junction	Signalisation of junction and junction changes		£300k	ATIF	Future developer contributions
South Crosshill Road to Brackenbrae Road	Bishopbriggs town centre improvements		£1.5m	Future developer contributions	ATIF

Location	Description	Plan	Estimated Cost	Identified funding stream	Other potential funding
Balmuildy Road to Brackenrae Road	Off road cycle track through park connecting to enhanced quiet route		TBC – to be costed following confirmation of proposed route in stage 3.	ATIF	Future developer contributions
Brackenbrae Road (inc) to Hawthorn Street	Shared use footways and bus priority measures – including changes to signals		£2.34m	ATIF	Future developer contributions

Location	Description	Plan	Estimated Cost	Identified funding stream	Other potential funding
Hawthorn Street to approach to Royston Road (not included)	Bus priority measures and minor junction changes		£400k	Developer contributions (Fountainwell)	
Royston Road junction	Changes to the southbound slip road to provide bus priority		£500k	GCC Liveable Neighbourhoods or City Network funding via ATIF	Developer contributions

10 Summary

During RIBA stage 2 the option identification and assessment work undertaken has allowed the team to identify a single preferred option to be taken forward for further design development.

The proposed option includes (from north to south)

- Improvements to bus stops (RTPI, bus shelters and kerb heights where required)
- A widened footway (western) between Torrance roundabout and Cadder Road to provide space for a shared use footway for pedestrians and cyclists
- Converting the roundabout at Crosshill Road to a signalised junction with improved pedestrian crossing facilities
- A southbound bus lane in sections (between Cadder Road and Park Road, Balmuildy Road to Viewfield Road, just south of Colston Road to just north of Hawthorn Street and just south of Fountainwell Road to just north of Royston Road)
- An off-road cycle track from Cadder Road in the north to Villafield Drive to the south)
- A 3m shared use path between Villafield Drive and Balmuildy Road – connecting to a quiet on road cycle route linking into Bishopbriggs Park where a new off-route cycle lane (to be developed) will link to Kenmure Drive)
- Traffic signals with new pedestrian crossings added to junction with Balmuildy Road
- Footways widened and crossings improved in Bishopbriggs town centre (designs taken from the Bishopbriggs Town Centre project) – with cycle lanes added providing a connection to the proposed cycle route on Kenmure Drive and Kenmure Avenue
- Junction changes at Brackenbrae Road to provide improvements for pedestrians and a simpler layout for vehicles
- A shared use path on the western footway between Brackenbrae Road and Hawthorn Street (where the route will connect to the wider Glasgow cycle network)
- Reconfigured junction at Colston Road with the northbound right turn banned to increase efficiency of the traffic signals
- Amendments at the junction with Stobhill Road to reduce north / south crossing width and to remove ad-hoc parking close to the junction on Stobhill Road
- A revised junction layout on the southern slip road at the Royston Road junction, providing improved bus priority on the approach to the southbound stop line

The proposed option includes improvements for pedestrians, cyclists and bus passengers, however, there are some negative impacts on general traffic (cars and goods vehicles) due to the reallocation of road space from private motor vehicles to more sustainable modes of transport. The total cost estimate for implementing these measures is approximately £9.4m (excluding general traffic signal and bus stop improvements along the corridor and the active travel route through Bishopbriggs Park). This report summarises those impacts and sets out the proposed next steps for taking this project forward.

Appendix A

Stage 1 Road Safety Audit

Appendix B

EqIA

Appendix C

Longlist of Options

Appendix D

Corridor Assessment

Appendix E

Technical Drawings – Shortlisted Options

Appendix F

Consultation Summary Report

Appendix G

Online Survey Questions

Appendix H

Public Consultation Information Boards

Appendix I

Preliminary Environmental Assessment Report

Appendix J

Technical Drawings – Preferred Option

Appendix K

Traffic Modelling Reports

Appendix L

Bishopbriggs Town Centre – RIBA Stage 3 Report

Appendix M

Cost Estimates (Option 1 and 2)

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