DL Central Active Travel Scheme

Part 8 Planning Report

Project number: 60661468

August 2022

Delivering a better world

Quality information

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1. Introduction

Overview

On behalf of Dun Laoghaire Rathdown County Council (DLRCC), AECOM have prepared this Part 8 report for the proposed Dun Laoghaire Central Active Travel Scheme. The objective is to upgrade the pedestrian and cycling infrastructure to promote active travel within the following study area:

- Kill Avenue (R830) from Rochestown Avenue / Kill Lane / Abbey Road extending approximately 850m to its junction with Glenageary Road Upper / Oliver Plunkett Road / Highthorn Park / Mounttown Road Upper.
- Mounttown Road Lower (R829) from its junction with Glenageary Road Upper / Oliver Plunkett Road / Highthorn Park / Kill Avenue, extending approximately 757m to its junction with Tivoli Road / York Road / Mounttown Road Upper.
- Mounttown Road Upper (R829) from its junction with Mounttown Road Lower / Tivoli Road / York Road, extending approximately 400m to a point approximately 20m east of the existing roundabout junction (Castlepark / Monkstown Avenue / Carrickbrennan Road).
- Glenageary Road Upper (R829) from its junction with Kill Avenue / Oliver Plunkett Road / Highthorn Park extending approximately 780m up to the Glenageary Roundabout.

Objectives

The proposed scheme being brought forward for Part 8 will help deliver the following objectives:

- To provide continuous, high-quality and consistent cycling and walking facilities;
- To provide improved public realm areas and enhance the overall visual quality;
- Promote modal shift from private vehicle to more sustainable modes including walking, cycling and public transport;
- Enhance permeability and creating a place for all ages and abilities;
- Improve bus priority along Kill Avenue up to the Bakers Corner Junction;
- Protect and enhance sensitive landscapes;
- Enhance safety for all road users including vulnerable persons.

Report Structure

Following this introductory chapter, the remainder of this report is as follows:

- Chapter 2 presents an overview of the Planning Process that the scheme sits within;
- Chapter 3 presents the relevant Policy Context of the scheme;
- Chapter 4 presents the scheme details;
- Chapter 5 presents the impacts of the scheme; and
- Chapter 6 details the Consultation undertaken with DLRCC Departments.
- Chapter 7 details the Alternatives Considered.

2. Planning Process

Part 8

Section 179 of the Part XI of the Planning and Development Act 2000, (as amended); and Part 8 of the Planning and Development Regulations 2001, (as amended) set out the requirements in respect of certain classes of development by on or behalf of local authorities. Part 8 of the Regulations comprises 7 Articles – 79 to 85. Article 80(1) lists the type of Developments to which Part 8 is required. The proposed road development is covered under the above article.

Site Notices

In accordance with the Article 81 the Local Authority shall:

(a) Give notice of proposed development in a newspaper;

(b) Erect site notices on the land on which the proposed development would be situated.

Dun Laoghaire Rathdown County Council published a notice of the proposals in an appropriate newspaper. Site notices will also be erected at various locations across the study area and will be maintained for the duration of the submission period.

Planning Consultations

Article 82(3) prescribes Statutory and Non-Statutory bodies to which a local authority should send notice of proposed development. These are summarised in the 7.2 Appendix B: Notification of Statutory Consultees.

Part 8 Planning Documents

The following is a list of Part 8 planning documents contained within this application

Title	Document Number
Proposed Layout Plan 1 of 5	60661468_SHT_DLRC_141.1_A
Proposed Layout Plan 2 of 5	60661468_SHT_DLRC_141.2_A
Proposed Layout Plan 3 of 5	60661468_SHT_DLRC_141.3_A
Proposed Layout Plan 4 of 5	60661468_SHT_DLRC_141.4_A
Proposed Layout Plan 5 of 5	60661468_SHT_DLRC_141.5_A
Options Report	n/a
Transport Assessment Report	n/a
Appropriate Assessment (AA) Screening Report	n/a
Environmental Impact Assessment (EIA) Screening Report	n/a
Preliminary Ecological Assessment (PEA Report)	n/a

Submission Process

Dún Laoghaire-Rathdown County Council is required to make full plans and particulars of the proposed development available for inspection. These will be made available at the following location:

- Dún Laoghaire-Rathdown County Council, County Hall, 1 Harbour Square, Dun Laoghaire, Co Dublin, A96 K6C9

Submissions or Observations can be made:

1. Online https://www.dlrcoco.ie/en/council-development-projects-part-viii/proposed-part-8-schemes

All submissions must include a contact name and address. Submissions made as part of the process are to be accessible upon request.

Any submissions or observations received by the Council are considered in the Part 8 Chief Executives Report which is prepared and presented to the Councillors for adoption. The Chief Executives Report lists those who made a submission together with the summary of their points made in the respective submission. The Report addresses each point and forms the local authority's response.

Arising from consideration of the representations, the Chief Executive's Report sets out whether or not it is proposed to proceed as originally planned or to proceed with a modified proposal. It is then a matter for the members of the Council i.e., the Councillors to grant planning or not.

3. Policy Context

Overview

The scheme is strongly supported by policy at all levels (i.e., European, National, Regional and Local), as well as in multiple policy areas. While the scheme aligns most obviously with policy aimed at reducing emissions, improving safety and encouraging a modal shift to walking and cycling, the project provides a unique opportunity to address a much wider range of policy objectives by integrating green infrastructure and public realm improvements. This section provides a detailed overview of this policy context and highlights how the scheme could make a positive impact in many policy areas.

Policy level	Policy
European	• European Green Deal • RISM Directive
National	• Project Ireland 2040: National Planning Framework • National Development Plan 2021-2030 • Climate Action Plan 2021 • National Investment Framework for Transport in Ireland (NIFTI) • National Physical Activity Plan • Government Road Safety Strategy 2021-2030
Regional	• Regional Spatial and Economic Strategy for the Eastern and Midland Region, 2019-2031 • Draft Transport Strategy for the Greater Dublin Area 2022-2042 • GDA Cycle Network Plan
Local	• Dun Laoghaire Rathdown County Council Development Plan 2022-2028

European Policy

European Green Deal

The European Green Deal was adopted in 2020 and contains a set of policy initiatives (presented in Figure 3-1) aimed at making the European Union climate neutral by 2050. Overall, the Green Deal aims to reduce emissions by at least 50% by 2030 and achieve net-zero emissions by 2050 by introducing new strategies, funding and legislation for the circular economy, transport, buildings, and biodiversity. Two of these strategies are described in further detail.

Figure 3-1 - European Green Deal focus areas

EU Sustainable and Smart Mobility Strategy

Forming part of the Green Deal, the EU's *Sustainable and Smart Mobility Strategy* aims to reduce transport emissions across the Union through funding, regulations and policy supports for clean and sustainable mobility. While naturally EU policy mainly focuses on pan-European measures and cross-border mobility, the Strategy does reiterate strong support for investment in urban walking and cycling infrastructure by member states.

The Strategy places a particular emphasis on urban mobility and increasing the sustainable mode shares for trips to work, school and other key destinations. The Street Scheme will make progress towards the strategy, as shown in Table 3-1 below.

Table 3-1 - Alignment to the EU Sustainable and Smart Mobility Strategy

No.	Action
35	As set out in the 2030 climate target plan, increasing the modal shares of collective transport, walking and cycling, as well as automated, connected and multimodal mobility will significantly lower pollution and congestion from transport, especially in cities and improve the health and well-being of people. Cities are and should therefore remain at the forefront of the transition towards greater sustainability. The Commission will further engage with cities and Member States to ensure that all large and medium-sized cities that are urban nodes on the TEN-T network put in place their own sustainable urban mobility plans by 2030. The plans should include new goals, for example on having zero emissions and zero road fatalities. Active transport modes, such as cycling, have seen growth with cities announcing over 2300 km of extra cycling infrastructure. This should be doubled in the next decade towards 5000 km in safe bike lanes. The Commission is also considering developing a mission in the area of Climate-neutral and Smart Cities28 as a strategic priority for joint action to accomplish decarbonisation within a large number of European cities by 2030.
37	The EU and Member States must deliver on our citizens' expectations of cleaner air, less noise and congestion, and eliminating fatalities on our city streets. By revising the Urban Mobility Package to promote and support these sustainable and healthy transport modes, the Commission will contribute to the improvement of the current European framework for urban mobility. Clearer guidance is needed on mobility management at local and regional level, including on better urban planning, and on connectivity with rural and suburban areas, so that commuters are given sustainable mobility options. European policies and financial support should also reflect the importance of urban mobility for the overall functioning of the TEN-T, with provisions for first/last mile solutions that include multimodal mobility hubs, park-and-ride facilities, and safe infrastructure for walking and cycling.

Biodiversity Strategy for 2030

The *Biodiversity Strategy* is also part of the European Green Deal, and it *"aims to put Europe's biodiversity on the path to recovery by 2030 for the benefit of people, climate and the planet"*. Noting that *"the biodiversity crisis and the climate crisis are intrinsically linked"'*, the strategy notes the dual benefits of green infrastructure or nature-based solutions, such as cooling in urban areas, reducing pollution and flooding, mitigating the impact of natural disasters, and protecting wildlife and biodiversity. It also recognises the value of green and open spaces to physical and mental wellbeing, particularly in urban areas where space is limited.

The Biodiversity Strategies recommends a number of actions aimed at greening urban areas, including:

- The "systemic integration" of healthy ecosystems, green infrastructure and nature-based solutions into urban planning, including in public spaces, infrastructure and the design of buildings and their surroundings;
- The development of 'Urban Greening Plans' in all European cities of at least 20,000 inhabitants which would focus on creating biodiverse and accessible urban parks, green spaces and tree-lined streets; as well as improve connections between existing green spaces.

The scheme provides a prime opportunity to integrate green infrastructure into the design of new walking and cycling facilities, and to enhance the urban realm throughout the scheme extents.

Road Infrastructure Safety Management (RISM) Directive

The European Union has set a 'Vision Zero' target, which aims to halve fatalities on European roads by 2030, and reduce this to 'almost zero' by 2050. Influenced by a 'Safe Systems' approach, which is a road safety concept that deaths and serious injuries are largely preventable by good design and maintenance of road infrastructure, the 'Vision Zero' target is accompanied by a suite of European and national policies and programmes aimed at achieving this strategic ambition.

Accordingly, the Directive on Road Infrastructure Safety Management (RISM) defines procedures for EU member states to improve safety on European road networks. Under RISM, each member state is required to carry out actions to monitor and improve road safety on the network, including network-wide 'Safety Ranking', regular Road Safety Inspections, Road Safety Audits during planning and design of infrastructure, training, certification and knowledge exchange with local authorities and European partners. While RISM was originally intended to cover just the TEN-T network, the 2019 revision to the RISM Directive notes that it is: *"desirable for those RISM principles to be applied to other parts of the European road network*".

RISM was updated in 2019 to require Member States to take into account the needs of 'vulnerable road users' in network planning, design and operation, which are defined as *"non-motorised road users, including, in particular, pedestrians and cyclists".* In planning and designing road infrastructure, the updated RISM Directive places much greater emphasis on separating protecting vulnerable road users from the risks of high-speed and high-volume traffic, and requires authorities to consider things such as:

- *"Provisions for cyclists, including the existence of alternative routes or separations from high-speed motor traffic;*
- *Density and location of crossings for pedestrians and cyclists;*
- *Provision for pedestrians and cyclists on affected roads in the area; and*
- *Separation of pedestrians and cyclists from high speed motor traffic or the existence of direct alternative routes on lower class roads".*

Similarly, the rationale for the scheme recognises that traffic volumes are high along Kill Avenue, Mounntown Lower, Mounttown Road Upper and Glenageary Road Upper to have cyclists mixed with general traffic. The scheme proposes cycle tracks with a view to providing continuous, segregated and high-quality cycling routes.

National policy

'Project Ireland 2040' – National Planning Framework

Project Ireland 2040 is Ireland's National Planning Framework (NPF) and provides a high-level strategic plan to shape planning policy, future growth and development in Ireland in the period to 2040. The NPF aims to avoid the "mistakes" made in previous planning policy – mistakes that have led to urban sprawl, unbalanced regional development, and increased car dependency - by ensuring that investment is closely aligned to these overarching principles. The NPF is based on ten 'National Strategic Outcomes' (NSO), which are an expression of the shared national goals or benefits the NPF aims to achieve. These are displayed in Figure 3-2.

Figure 3-2 - Project Ireland 2040 National Strategic Outcomes

All public projects are required to demonstrate how they align to the NPF, and how they would contribute to the achievement of the NSO. The alignment of the proposed scheme to the NSO is summarised in the table below.

Table 3-2 - Alignment with NPF National Strategic Outcomes

NSO	Relevance to the Proposed Scheme
1. Compact Growth	Responding to past levels of urban sprawl and car dependency, the NPF aims to concentrate growth in existing villages, towns and cities; and to ensure that residents have easy access to jobs, amenities and services. The scheme will encourage compact growth by encouraging a shift to sustainable modes of transport, and making Dun Laoghaire a healthier and more liveable town.
4. Sustainable Mobility & 10. Transition to a low Carbon and Climate Resilient Society	The scheme aims to support sustainable mobility and encourage a shift from private cars to reduce transport emissions.
7. Enhanced Amenity & Heritage	The scheme proposes to open up the existing greens at Rose Park and Casement Villas, to deliver enhanced amenities and public realm for local residents and visitors to walk, cycle, jog, or to simply enjoy spending time in a high-quality public realm.
9. Sustainable management of water, waste and other environmental resources	The scheme aims to improve environmental quality by integrating green infrastructure (i.e., vegetation, SUDs etc) into the planning and design, where possible.

As well as the NSO, the NPF also includes 'National Policy Objectives' to provide a more specific statement of the types of actions or investment that should be prioritised. Several of these are of particular relevance to the scheme and are displayed in Table 3-3 below. As well as transport and climate objectives, this highlights the potential of the project to make a positive contribution to other policy areas, particularly in terms of improving the environment and quality of life within the study area.

Table 3-3 - Alignment with NPF National Policy Objectives

No.	National Policy Objective
6	**Making Stronger Urban Places:** Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.
26	**People, Homes and Communities:** Support the objectives of public health policy including Health Ireland and the National Physical Activity Plan, through integrating such policies, where appropriate and at the applicable scale, with planning policy.
27	**People, Homes and Communities:** Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages.
54	**Realising our Sustainable Future:** Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaption objectives, as well as targets for greenhouse gas emissions reductions.
57	**Realising our Sustainable Future:** Integrating sustainable water management solutions, such as Sustainable Urban Drainage (SUDS), non-porous surfacing and green roofs, to create safe places.
62	**Realising our Sustainable Future:** Identify and strengthen the value of greenbelts and green spaces at a regional and city scale, to enable enhanced connectivity to wider strategic networks, prevent coalescence of settlements and to allow for the long-term strategic expansion of urban areas.
64	**Realising our Sustainable Future:** Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.

Climate Action Plan 2021

Climate action is a key objective of the scheme and is rooted in a robust national climate policy framework. In 2021, the 'Climate Action and Low Carbon Development (Amendment) Act' became law. The Act established a legally binding target to reduce emissions by 50% (relative to a 2018 baseline) by 2030, and to move towards net-Zero emissions by 2050.

The Act provides for a system of carbon budgets to enforce these targets, which would set a maximum level of emissions for each sector of the economy to stay within, and gradually decrease in the period to 2030 and 2050. In October 2021, the Climate Change Advisory Council (CCAC) published proposed carbon budgets for the 2021-2030 period, which outlined pathways to achieving the overall emissions reductions target of 50% by 2030. The carbon budgets were based on an average reduction of 4.8% per annum in 2021-2025, rising to 8.3% in 2026-2030.

In November 2021, the Department of Environment, Climate and Communications published a new Climate Action Plan, which sets out targets and actions required to give effect to the carbon budgets for 2021-2030. Overall, the Plan aims for a 51% reduction in transport emissions by 2030, with a particular focus on demand management, sustainable mobility and shifting trips from fossil fuel-powered cars to walking, cycling and public transport. Among the targets and measures contained in the Plan:

- Increase in daily public transport and active mode trips by 500,000 (+14%) through planned sustainable mobility programmes (i.e. BusConnects, DART+, Connecting Ireland), investment in active travel and other measures
- Reduction in internal combustion engine vehicle kilometres by 10%.

According to the Plan, achieving these targets requires *"continued and enhanced investment in walking, cycling and public transport infrastructure and services across the country"*, and a focus on "reliable" and "realistic" sustainable mobility options to enable this shift. It commits to allocating 20% of the transport capital budget towards active travel, as well as the completion of the GDA Cycle Network. The Climate Action Plan also supports the reallocation of public space to be less "vehicle centred" and more "people centred". Some relevant actions are shown in the table below.

Table 3-4 - Alignment with Climate Action Plan 2021 actions

No.	Action
98	Increase nature connectedness and promote pro-environmental behaviours by developing outdoor recreation
231	Continue the improvement and expansion of the Active Travel and Greenway Network
232	Develop a coherent and connected National Cycle Network Strategy
233	Construct an additional 1,000km of cycling and walking infrastructure, and deliver 500km of cycling and walking infrastructure in the GDA Network
234	Encourage an increased level of modal shift towards active travel (walking and cycling) and away from private car use
255	Balance better movement priorities within urban areas to transition the built environment and public domain from one that is "vehicle centred" to being "people centred" to align with the goal of net zero by 2050.
473	Explore options for the delivery of a National Implementation Strategy for Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas

The scheme aligns with the objectives of the Climate Action Plan and the legally-binding targets for emissions reductions. It will support the implementation of the GDA Cycle Network Plan and a major shift towards sustainable modes of transport, while discouraging use of private cars in Dublin City. It will also help to make Dublin more resilient to climate change through the provision of green infrastructure; promoting a nature-based approach to managing challenges from flooding and pollution.

National Investment Framework for Transport in Ireland (NIFTI)

The Department of Transport recently published a framework for guide future investment in the land transport network and to prioritise investment that supports the delivery of the National Strategic Outcomes. The investment objectives of NIFTI are:

- *'Delivering clean, low-carbon and environmentally sustainable mobility;*
- *Supporting successful places and vibrant communities;*
- *Facilitating safe, accessible, reliable and efficient travel on the network; and*
- *Promoting and strong and balanced economy.'*

NIFTI includes two 'hierarchies' specifying the order in which transport investment should be prioritised: an 'intervention hierarchy' and a 'modal hierarchy'; both of which are shown in the figure below.

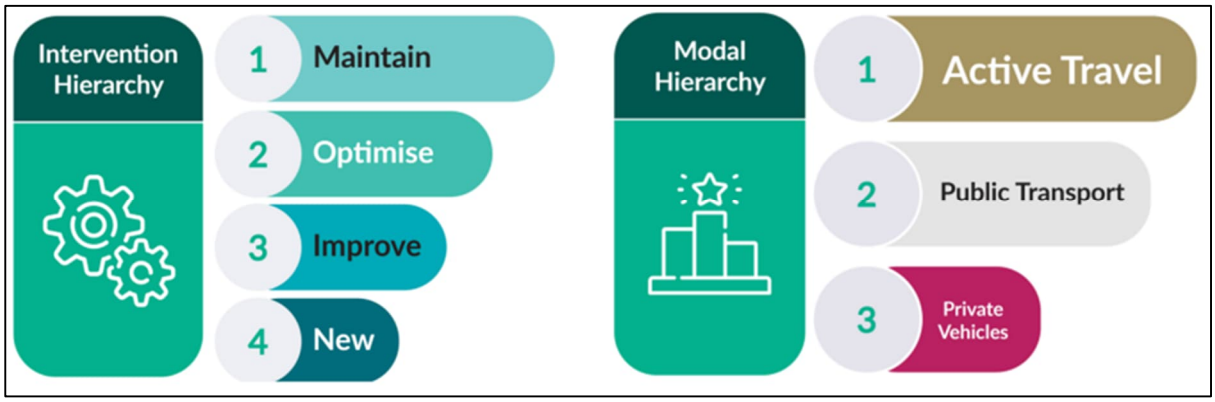

Figure 3-3 - NIFTI intervention and modal hierarchies

The Intervention Hierarchy differentiates between the level of intervention proposed, and states that investment should firstly seek to 'maintain' existing infrastructure; then to 'optimise' or 'improve' existing infrastructure; and finally – if it is not possible to achieve an objective through previous steps – to invest in providing 'new' infrastructure. The aim of the Investment Hierarchy is to maximise the lifespan and value for money of past investments, and to ensure that more affordable and efficient options for achieving an objective are considered before investing in large-scale transport projects or programmes.

The scheme is mostly aligned with Level 3 ('improve') on the Intervention Hierarchy. While requiring new infrastructure in parts, the primary focus of the project is improving and re-designing existing public space in Dublin City to be more efficient, sustainable and equitable. This includes targeted upgrades to cycling, pedestrian, and public transport infrastructure, while reducing the prominence given to private cars.

The Modal Hierarchy differentiates between the modes of transport, and states that Active Travel (walking and cycling) should be prioritised, followed by public transport, and lastly by private vehicles. As outlined throughout, the scheme has been guided by a user hierarchy which seeks to prioritise active travel and bus users over private cars, which squarely aligns with NIFTI's Modal Hierarchy.

National Physical Activity Action Plan

The aim of the Department of Health's *National Physical Activity Plan* is to increase physical activity levels across the whole population, and the Plan sets separate targets for adults, children and older people to reach the recommended levels of physical activity. Recognising that there are many reasons that people are unable to meet recommended levels of physical activity, the Plan contains some guiding principles to promote greater levels of physical activity, namely by: *"creating increased opportunities for people to be active in ways which fit into everyday lives; which is suitable for individual needs, circumstances and interests; and which removes the barriers people face to being active and encouraging people to recognise how to overcome those barriers".*

The Plan highlights walking and cycling as a way to easily incorporate physical activity in everyday life, and includes several actions aimed at promoting active travel and recreation, including to:

- *'Develop and promote walking and cycling strategies in each Local Authority Area;*

- *Ensure that the planning, development and design of towns, cities and schools promotes cycling and walking with the aim of delivering a network of cycle routes and footpaths;*
- *Ensure that the planning, development and design of towns and cities promotes the development of local and regional parks and recreational spaces that encourage physical activity;*
- *Prioritise the planning and development of walking and cycling and general recreational / physical activity infrastructure; and*
- *Explore opportunities to maximise physical activity and recreational amenities in the natural environment'.*

As well as providing dedicated facilities for walking and cycling, the scheme aims to create opportunities for physical activity and exercise for residents, locals and visitors alike. In line with national policy, this infrastructure should be attractive and accessible to users of all ages and abilities.

Government Road Safety Strategy 2021-2030

The Government's Road Safety Strategy (RSS) 2021-2030 is Ireland's fifth RSS, and provides an integrated strategy for managing safety on the road network up to 2030. Building on progress over previous decades, the RSS aims to reduce road deaths on Irish roads by at least 50% (144 to <72), with serious injuries decreasing by the same percentage (1259 to <630). One of the key intervention areas is promoting safe and healthy modes of travel (i.e. walking and cycling). The RSS emphasises the many benefits provided by active travel, and recognises the unique vulnerability of pedestrians and cyclists in collisions. It proposes several actions aimed at improving safety and encouraging increased uptake, including:

- Continue to implement an active travel infrastructure scheme where Local Authorities can apply for funding to develop improved active travel infrastructure;
- Encourage modal shift to support environmental, safety and health objectives by promoting the use of sustainable and active modes of travel; and
- During 2021-2025, construct 1,000 km of segregated walking and cycling facilities to provide safe cycling and walking arrangements for users of all ages.

In line with the RSS, the scheme aims to promote safety for vulnerable road users to ultimately reduce collisions and encourage increased levels of walking and cycling due to a safer and more pleasant environment.

Regional policy

Regional Spatial and Economic Strategy (RSES) 2019-2031

The *Regional Spatial and Economic Strategy* (RSES) for the Eastern & Midland Regional Assembly provides a high-level development framework for the region, and supports the implementation of the NPF and relevant economic policies and objectives of the Government at a regional level. Local authorities are required to give effect to the policies of RSES when developing county and local area plans. For the Dublin Metropolitan Area, the RSES notes several key guiding principles, including the development of strategic and sustainable transport networks, urban and social regeneration, and enhancing amenities and Green Infrastructure.

Several Regional Policy Objectives (RPO) are also relevant to the scheme, especially the strong emphasis placed on developing strategic Green Infrastructure that links key environmental assets in the Dublin region.

Table 3-5 - Alignment with Regional Spatial and Economic Strategy (RSES) 2019-2031 actions

RPO	Action
5.2	**Sustainable transport:** Support the delivery of key sustainable transport projects including Metrolink, DART and Luas expansion programmes, BusConnects and the GDA Metropolitan Cycle Network and ensure that future development maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, existing and planned.
5.3	**Sustainable transport:** Future development in the Dublin Metropolitan Area shall be planned and designed in a manner that facilitates sustainable travel patterns with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe and attractive street environment for pedestrians and cyclists
5.7	**Green Infrastructure:** Coordinate across local authority boundaries to identify, manage, develop and protect regional Green Infrastructure, to enhance strategic connections and develop a Green Infrastructure policy in the Dublin Metropolitan Area
5.8	**Green Infrastructure:** Support the promotion and development of greenway infrastructure and facilities in the Dublin metropolitan area, and support the expansion and connections between key strategic cycle routes and greenways as set out in the NTA GDA Cycle Network Plan

Draft Transport Strategy for the Greater Dublin Area

The overall aim of the draft Strategy is:

> *"To provide a sustainable, accessible and effective transport system for the Greater Dublin Area which meets the region's climate change requirements, serves the need of urban and rural communities, and supports economic growth".*

As with NIFTI, the draft Strategy is guided by a road user hierarchy, which aims to prioritise investment and space allocation towards pedestrians at the top, followed by cyclists, public transport, goods, and lastly, private motor vehicles.

The objectives of the scheme align squarely with the high-level objectives of the draft GDA Transport Strategy outlined above. They also align with numerous specific actions (shown in Table 3-6 below), particularly those relating to completion of the GDA Cycle Network, improving quality and accessibility of public space for pedestrians, and integrating high quality design and place-making with transport investments.

Table 3-6 - Alignment with draft GDA Transport Strategy actions

No.	Action
PLAN 12	**Urban Design in Major Infrastructure Projects:** The NTA will incorporate a high standard of urban design and placemaking into the planning and design of all major public transport infrastructure schemes, and will consider how greater biodiversity could be fostered.
PLAN 13	**Urban Design in Walking and Cycling Projects:** In the design, planning and prioritisation of walking and cycling schemes, the NTA and the local authorities will ensure the incorporation of urban design and placemaking considerations.
PLAN 14	**Reallocation of Road Space:** The NTA, in conjunction with the local authorities, will seek the reallocation of road space in Dublin City Centre, Metropolitan towns and villages, and towns and villages across the GDA to prioritise walking, cycling and public transport use and prioritise the placemaking functions of the urban street network.
PLAN 16	**The Road User Hierarchy:** The NTA, in the decision-making process around the design, planning and funding of transport schemes in the GDA, will be guided by the priority afforded to each mode in the Road User Hierarchy as set out in the Transport Strategy.
WALK 2	**Improved Footpaths:** The NTA, in conjunction with local authorities, will implement footpath improvement schemes across the GDA where required throughout the period of the Transport Strategy in order to ensure that they are of sufficient width, adequately lit, serve both sides of the road in urban areas (in most cases) are of good quality surfacing and are free of unnecessary clutter.
WALK 3	**Improved Junctions:** *The NTA, in conjunction with local authorities, will implement junction improvements across the GDA as follows: • To enhance safety at junctions, a programme of "narrowing" junctions by reducing kerb-line radii will be undertaken as a means of managing*

	vehicular speeds; and • To enhance movement by pedestrians and cyclists, a programme of removal of slip lanes will be undertaken at appropriate locations, together with consideration of junction signalling changes to better balance the use of the junction between motorised and vulnerable modes.
WALK 8	**Persons with Disabilities:** Local authorities in the GDA and the NTA will take full account of people with disabilities and pedestrians with mobility impairments when delivering transport schemes which affect the pedestrian environment; and will implement improvements to existing facilities where appropriate and encourage the enforcement of the Road Traffic Laws in this regard.
CYC 1	**GDA Cycle Network**: It is the intention of the NTA and the local authorities to deliver a safe, comprehensive, attractive and legible cycle network in accordance with the updated Greater Dublin Area Cycle Network.
CYC 2	**Cycle Infrastructure Design:** It is the intention of the NTA to ensure that cycle infrastructure in the GDA provides an appropriate quality of service to all users, through the implementation of the design guidance contained in the latest version of the National Cycle Manual.
TM 1	**Management of Dublin City Centre:** The NTA and Dublin City Council, in collaboration, will deliver the public transport, cycling and walking networks, and public realm that are required to serve an expanding City Centre and to facilitate a post-Covid recovery based on sustainable transport. The NTA and Dublin City Council will also ensure that the delivery of goods to city centre businesses and the operation of taxis are managed to the benefit of all users of the city centre.
FREIGHT 8	**Environmental Measures for Freight:** It is the intention of the NTA, in collaboration with other authorities to: • Seek the reduction of the amount of 'last mile trips' being made by motorised vehicles; • Facilitate the transition to zero-emission delivery vehicles such as cargo bikes and electric vehicles; and • Support local 'Click and Collect' facilities where appropriate to minimise trips to individual homes and workplaces.

GDA Cycle Network Plan

The GDA Cycle Network Plan accompanies the draft GDA Transport Strategy and sets out the vision and planned network of cycling facilities in Dublin city centre and the surrounding GDA. The overall vision of the Network is:

> *"The Greater Dublin Area Cycle Network seeks to be an inclusive cycling environment that is safe for all cycling abilities and ages with strong function and recreational connectivity between homes and key destinations"*.

The goals of the GDA Cycle Network are to:

- **Increase participation –** The plan proposes an optimised cycle network accessible by cyclists of all abilities, regardless of users' level of confidence and skill. Specific attention is given to increasing cycling for school, education and recreational trips
- **Improve safety and accessibility –** Safety and accessibility will be improved on the GDA Cycle Network, such that actual and perceived safety concerns are reduced. Users should be able to quickly access the network from home, work and/or education settings.
- **Improve connectivity –** Barriers will be removed or mitigated where they obstruct direct and continuous cycling. Initiative and infrastructure will be designed, developed and delivered to enhance permeability and enable the connection to key destinations.
- **Create a navigable and coherent network –** The GDA Cycle Network will be enhanced to improve connections between cycle routes with suitable infrastructure, supporting facilities and wayfinding signage.

The GDA Cycle Network Plan places a much greater emphasis on the safety, quality and accessibility of cycling infrastructure compared to before, making it clear that in order to attract cyclists of all abilities, the scheme must be designed to very high specifications, with a high standard of segregation and continuity. It also places more emphasis on recreational cycling, which supports measures to improve the comfort and attractiveness of any cycling facilities.

As illustrated in Figure 3.4 Scheme, Mounttown Road Upper is identified as a Primary Route meaning that it is a main cycling arterial with high levels of utility cycling. The remainder of the scheme is identified as Secondary Routes meaning they serve as links from the primary cycle routes to local zones. In summary the proposed scheme has the potential to accommodate higher levels of cycling among local residents, visitors and commuters.

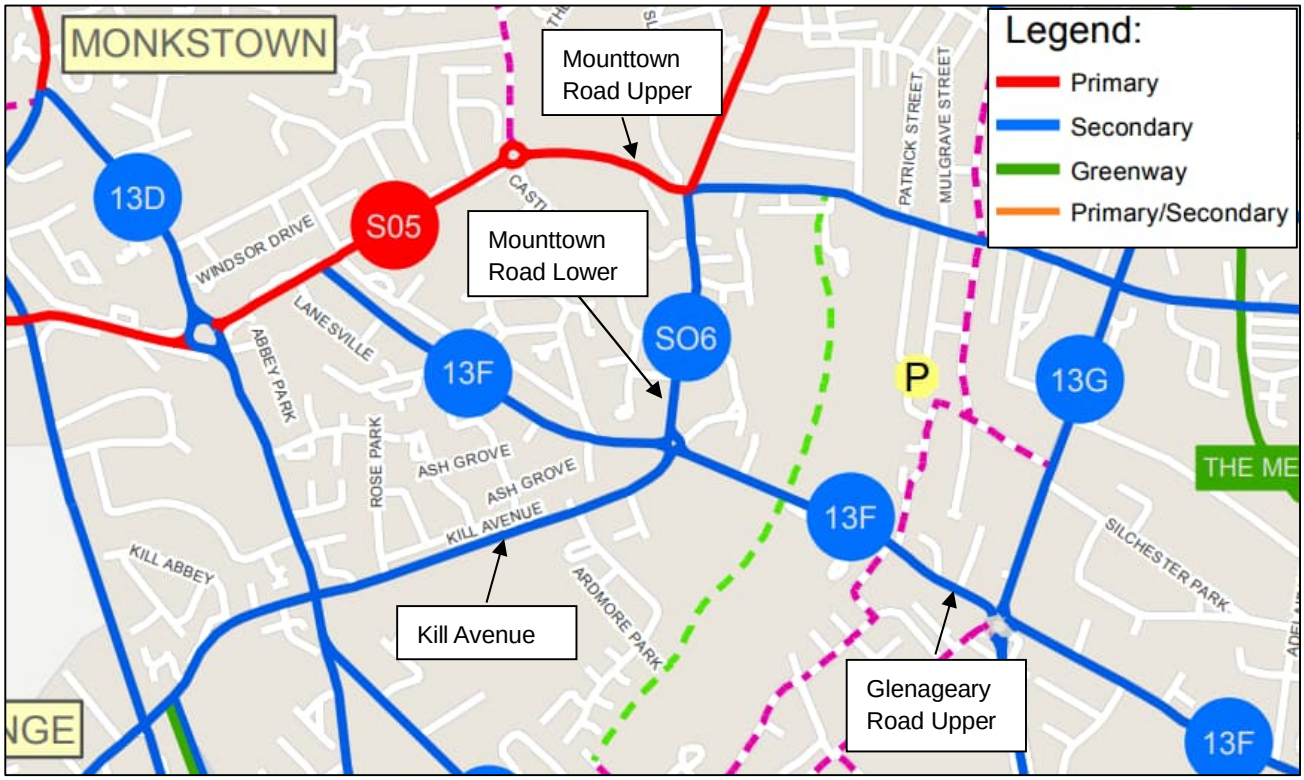

Figure 3-4 – Scheme within the GDA Cycle Network Plan

Local Policy

DLRCC Development Plan 2022 - 2028

The proposed scheme complies with the DLRCC Development Plan 2022-2028, which was adopted in March 2022. The Plan sets out a vision for the towns and villages within the county to guide future climate resilience and economically vibrant growth over the Plan period. The Plan identifies the overall policy approach for Transport and Mobility as being:

- The adopt the 'Avoid – Shift – Improve Approach'
- To integrate land use and transport policies
- To support the demand management approach which focuses on moving people from private car to sustainable modes
- To improve permeability for the pedestrian and cyclists
- To provide attractive high-quality walking and cycling networks with direct routes to local destinations and transport hubs
- To adopt a balanced approach to road and street design in accordance with the four core principles of DMURS – connected networks, multifunctional streets, pedestrian focus and a multi disciplinary approach.

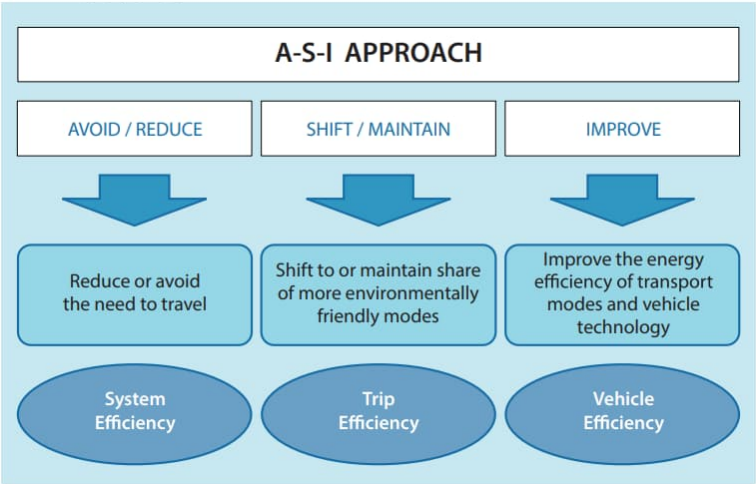

Figure 3-5 Avoid – Shift – Improve Model (Source: DLRCC Development Plan 2022 – 2028)

Design Guidance

In additional to the relevant policy guidance, the proposed scheme has been prepared in compliance with the following design guidance:

- DMURS (Design Manual for Urban Roads & Streets);
- National Cycle Manual;
- National Transport Authority, Project Management Guidelines;
- Traffic Management Guidelines; and
- Traffic Signs Manual.

4. Proposed Scheme

Overview

The proposed scheme will upgrade existing pedestrian and cycle infrastructure extending approximately 2.8km. The scheme will include works to the following roads:

- Kill Avenue (R830) from its junction with Rochestown Avenue / Kill Lane / Abbey Road extending approximately 850m to its junction with Glenageary Road Upper / Oliver Plunkett Road / Highthorn Park / Mounttown Road Upper.
- Mounttown Road Lower (R829) from its junction with Glenageary Road Upper / Oliver Plunkett Road / Highthorn Park / Kill Avenue, extending approximately 757m to its junction with Tivoli Road / York Road / Mounttown Road Upper.
- Mounttown Road Upper (R829) from its junction with Mounttown Road Lower / Tivoli Road / York Road, extending approximately 400m to a point approximately 20m east of the existing roundabout junction (Castlepark / Monkstown Avenue / Carrickbrennan Road).
- Glenageary Road Upper (R829) from its junction with Kill Avenue / Oliver Plunkett Road / Highthorn Park extending approximately 780m up to the Glenageary Roundabout.

The extents of the proposed scheme are outlined in Figure 4-1 below.

Figure 4-1 Scheme Extents

Kill Avenue

Kill Avenue / Rochestown Avenue / Kill Lane/ Abbey Road Signalised Junction

The scheme commences at the 'Bakers Corner' junction, an existing 4-arm signal-controlled junction connecting Kill Avenue / Rochestown Avenue / Kill Lane / Abbey Road. The proposed scheme comprisings of the following amendments at the junction:

- Rochestown Avenue, it is proposed to remove the existing Left Turn Lane on Rochestown Avenue to provide a more compact pedestrian crossing at the junction. Rochestown Avenue would then comprise of lane 1 as a left & straight lane and lane 2 as a right turning lane.
- Kill Avenue, it is proposed to amend the lane markings on Kill Avenue, lane 1 will comprise of left & ahead and lane 2 will comprise of ahead & right. This will assist to give greater capacity for through traffic at the junction;
- Pedestrians, it is proposed to introduce more compact junction by reducing the corner radius on all arms to 4.5m – 6m as per the DMURS guidelines, to reduce pedestrian crossing distances. Controlled pedestrian crossings are proposed on all arms of the junctions.
- Cyclists, it is proposed to introduce entry and exit cycle lanes on all arms of the junction, to enhance safety for cyclists. It is proposed to provide an orbital cycle track at the junction to provide continuous segregated cycle infrastructure. Pedestrian crossings are proposed across the orbital cycle track, which will be raised to provide pedestrian priority at these uncontrolled crossing locations. The design proposes segregated crossings for pedestrians and cyclists, which will facilitate pedestrians and cyclists crossing simultaneously.

Kill Avenue

From the 'Bakers Corner' junction, the scheme proposes the following:

- Cyclists, the existing on road cycle lanes are proposed to be replaced by a new raised 3m wide two-way cycle track on the southern side of Kill Avenue up to the junction with Glenageary Road Lower / Mounttown Road Lower and Oliver Plunkett Avenue. The cycle track will offer a continuous facility for cyclists, where cyclist priority is also proposed across all side roads, enhancing cyclist safety.
- Pedestrians, the existing footpaths are proposed to be 2.0m on both sides of the carriageway with some localised pinch points where the footpath width is reduced to 1.8m. It is also proposed to introduce pedestrian priority across all side roads. Junction radius is also proposed to be reduced where feasible to 4.5m- 6m, to reduce pedestrian crossing distances.
- Bus, the existing bus lane along Kill Avenue travelling towards Bakers Corner junction currently yields to general traffic immediately prior to the vehicular entrance of the Holy Family Parish. An existing issue is general traffic in the bus lane, therefore it is proposed to extend the bus lane by approximately 40m, to enhance bus priority at this location.
- Traffic, it is proposed to reduce the existing lane widths to 3m, which is as per the DMURS guidance for Arterial and Link streets for low to moderate design speeds, which is applicable for the study area given the predominately residential nature of the surround land uses.
- Landscape, it is proposed to implement significant planting and urban realm improvements along Kill Avenue and to the existing greens at Casement Villas and Rose Park as illustrated in Figures 4-2 and 4-3 respectively.

Figure 4-2 Proposed Landscape and Public Realm at Casement Villas Green

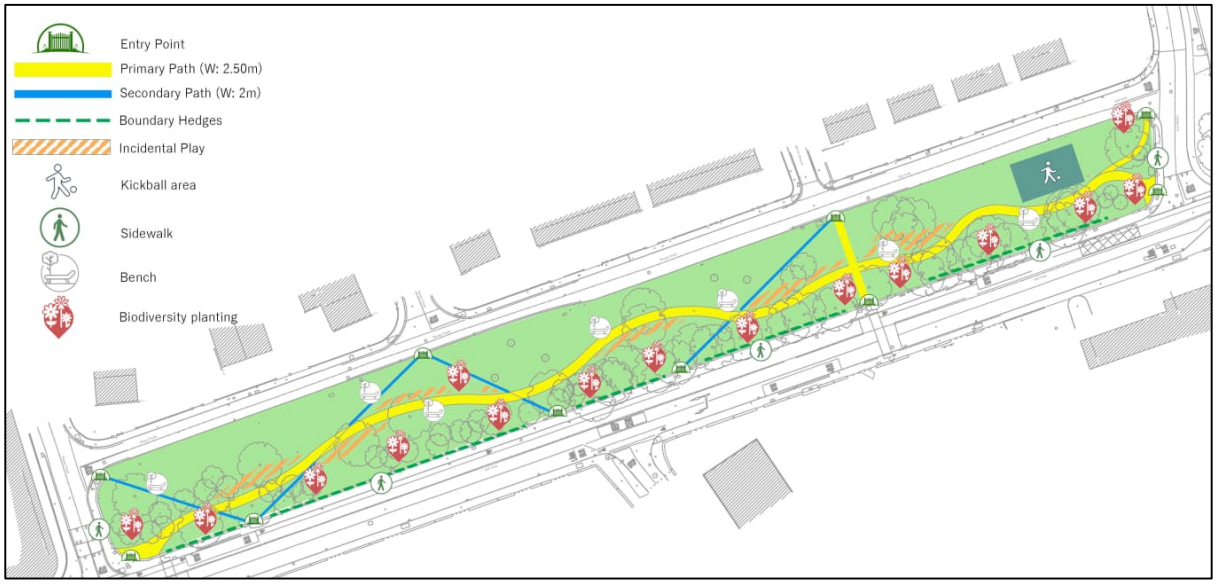

Figure 4-3 Proposed Landscape and Public Realm at Rose Park

Figure 4-4 Kill Avenue Photomontage (near Holy Family Parish)

Kill Avenue / Claremont Avenue Signalised Junction

The existing 3-arm signal-controlled junction is proposed to be retained. The following upgrades to the junction have been proposed:

- Cyclists, the existing on road cycle lanes are proposed to be removed and the proposed two way cycle track will continue on the southern side of the carriageway. Dedicated signals will control cyclists crossing at this junction.
- Pedestrians, the staggered pedestrian crossing on Kill Avenue will be upgraded to a straight crossing providing a more direct crossing facility and reduced crossing distance. A pedestrian crossing is also proposed along Claremount Avenue.
- Traffic, Kill Avenue eastbound will be reduced from two straight ahead lanes to one, with the one right turning lane maintained.

Figure 4-5 Kill Avenue Photomontage (near Ardmore Park)

Kill Avenue / Oliver Plunkett Road / Mounttown Lower / Highthorn Park / Glenageary Road Upper Signalised Junction

The existing signalised junction is proposed to be maintained as a 5-arm signal-controlled junction, but with the following mitigation:

- Traffic, removal of existing left slip lanes on Glenageary Road Upper, Oliver Plunkett Road, and Mounttown Lower. Instead of left turn slip, Oliver Plunkett Road will have one lane for straight ahead and left turning traffic and a short lane for right turning traffic. Glenageary Road Upper westbound will have no left turn slip, instead will have a left and straight-ahead lane, and a lane for right turning traffic. Mounttown Road Upper will have one lane for straight ahead and left turning traffic and a short lane for right turning traffic. Kill Avenue will remain the same as existing.

- Cyclists, the removal of these left slip lanes facilitates the provision of a 2-way cycle facility. The proposed cycle facilities are designed as an orbital track at the junction, to offer cyclists with a continuous segregated cyclist facility. Cyclist entry and exit lanes are proposed on all arms of the junction.

Glenageary Road Upper – Between Kill Avenue and Cualanor Avenue

The proposed scheme is proposing the following active travel upgrades to Glenageary Road Upper between Kill Avenue and Cualanor junctions:

- Cyclists, a raised two-way cycle track (3.0m wide) is proposed on the southern side of the carriageway along Glenageary Road Upper from its junction with Kill Avenue to Cualanor Avenue. A raised singe lane cycle track is also proposed on the northern side of the carriageway connecting the respective junctions.
- Bus, the existing bus lanes along Glenageary Road Upper are proposed to be removed. The existing bus service frequencies along Glenageary Road Upper is low, with services running every 60minutes approx. Removal of the bus lanes provide an opportunity to enhance pedestrian and cycle infrastructure and ultimately increase capacity for these sustainable modes.
- Pedestrians, the existing footpaths are proposed to be 2.0m on both sides of the carriageway. It is also proposed to introduce pedestrian priority across all side roads. Junction radius is also proposed to be reduced where feasible to 4.5m- 6m, to reduce pedestrian crossing distances.
- Landscape, it is proposed to implement significant planting and urban realm improvements along Glenageary Road Upper on both sides of the carriageway.

Figure 4-6 Glenageary Road Upper Photomontage (near Honeypark)

Glenageary Road Upper / Maypark Avenue / Cualanor Avenue – Signalised Junction

The existing 4-arm signal-controlled junction is proposed to be retained. The following upgrades are proposed at the junction:

- Cyclists, it is proposed to introduce entry and exit cycle lanes on all arms of the junction, to enhance cyclist safety. It is proposed to provide an orbital cycle track at the junction to provide continuous segregated cycle infrastructure.
- Pedestrian, crossings are proposed across the orbital cycle track, which will be raised to provide pedestrian priority at these uncontrolled crossing locations. The design proposes segregated crossings for pedestrians and cyclists, which will facilitate pedestrians and cyclists crossing simultaneously.
- General Traffic, it is proposed to remove the Bus Lanes / Left Turn Lanes on Glenageary Road. It is proposed to provide a straight ahead / left turning lanes, and a dedicated lane for right turning traffic on both Glenageary Road East and West. The left turning slip on Maypark Avenue will be removed, instead with a left / straight lane and a right turning lane will be provided, as will Cualanor Avenue.

Glenageary Road Upper – Between Cualanor Avenue and Glenageary Roundabout

The proposed scheme is proposing the following active travel upgrades to Glenageary Road Upper between Cualanor Avenue and Glenageary Roundabout:

- Cyclists, a raised two-way cycle track (3.0m wide) is proposed on the northern side of the carriageway along Glenageary Road Upper. A raised singe lane cycle track is also proposed on the southern side of the carriageway.
- Bus, the existing bus lanes along Glenageary Road Upper are proposed to be removed. The existing bus service frequencies along Glenageary Road Upper is low, with services running every 60minutes approx. Removal of the bus lanes provide an opportunity to enhance pedestrian and cycle infrastructure and ultimately increase capacity for these sustainable modes.
- Pedestrians, the existing footpaths are proposed to be 2.0m on both sides of the carriageway. It is also proposed to introduce pedestrian priority across all side roads. Junction radius is also proposed to be reduced where feasible to 4.5m- 6m, to reduce pedestrian crossing distances.
- Landscape, it is proposed to implement planting and urban realm improvements where feasible along Glenageary Road Upper on both sides of the carriageway.

Mounttown Road Lower

The proposed scheme is proposing the following active travel upgrades to Mounttown Road Lower between Glenageary Road Upper and Tivoli Road junctions:

- Cyclists, no existing cycle facilities is situated along Glenageary Road Upper, the proposal will introduce a raised two-way cycle track (3.0m wide) on the eastern side of the carriageway.
- Pedestrians, the existing footpaths are proposed to be 2.0m on both sides of the carriageway. It is also proposed to introduce pedestrian priority across all side roads. Junction radius is also proposed to be reduced where feasible to 4.5m- 6m, to reduce pedestrian crossing distances.
- Bus, the existing bus stops are proposed to be retained on the existing locations.

Figure 4-7 Mounttown Road Lower Photomontage (near Fitzgerald Park)

Mounttown Road Upper

The proposed scheme is proposing the following active travel upgrades to Mounttown Road Upper between Tivoli Road and approximately 20m east of the existing Castlepark / Monkstown Avenue / Carrickbrennan Road roundabout junction.

- Cyclists, from the Tivoli Road / Mounttown Road Lower junction, it is proposed to introduce a shared pedestrian and cycle path, due to carriageway width constraints. After the pinch point along Tivoli Road, raised cycle tracks (2.0m wide) are proposed on both sides of the carriageway. The existing designated car parking along Mounttown Road Upper is proposed to be redesigned, to protect the upgraded cycle tracks on both sides of the carriageway.
- Pedestrians, the existing footpaths are proposed to be 2.0m on both sides of the carriageway. It is also proposed to introduce pedestrian priority across all side roads. Junction radius is also proposed to be reduced where feasible to 4.5m- 6m, to reduce pedestrian crossing distances.
- Bus, the existing bus stops are proposed to be retained on the existing locations. Bus stop islands are proposed as per the National Cycle Manual, to provide cyclists with a safe and continuous cycling route.

Figure 4-8 Mounttown Road Upper Photomontage

5. Impacts of the Scheme

This chapter provides an overview of the likely impacts of the proposed scheme.

Traffic Assessment

AECOM has undertaken a Transport Assessment report, reviewing the proposed scheme against the existing conditions. The existing conditions assessment identified high volumes of traffic on all junctions in the study area, but also high volume of pedestrians and cyclists due to proximity of large residential areas, schools, and services in the local area, which indicated a significant demand for active travel.

The scheme proposes a number of mitigation measures to promote pedestrian and cycle infrastructure at the existing signalised junctions. For instance, existing left turn slip lanes are proposed to be omitted at a number of existing junctions, to provide a more compact junction as per DMURS, to reduce crossing distances and to assist in reducing vehicular turning speeds. The proposed designs will assist to introduce new and high-quality cycle and pedestrian infrastructure to meet the scheme objectives in terms of promoting sustainable transport.

The report notes that the results of the junction modelling indicates that the existing junctions will have reduced vehicular capacity as a result of the proposed scheme. However, the proposed designs will result in an increase in capacity for sustainable active travel modes. The proposed designs will

- will promote walking and cycling;
- reduced pedestrian crossing distances at junctions;
- Provider safer facilities for pedestrians and cyclists;
- enhance permeability for sustainable active travel modes; and
- encourage travel for all ages to walk or cycle.

Appropriate Assessment (AA) Screening Report

The proposed development is subject to relevant EU Environmental Directives and application National Legislation, Policies, Plans and Guidelines. This requires that screening is required to projects to examine if any impacts are likely on natura 2000 Sites, that is Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

An AA Screening Report has been prepared by AECOM, which concluded:

- There is considered to be no possibility of effects from the Proposed Scheme itself on any European Site, SCI / QI species or supporting habitat
- Consequently the in-combination assessment also concludes that there is no potential for in combination effects to arise with any other projects or plans;
- Therefore in view of best scientific knowledge and on the basis of objective information, it is concluded that the Proposed Scheme, whether individually or in combination with other plans or projects, beyond reasonable scientific doubt is not likely to have significant effects on any European Site.
- Therefore, there is no requirement to proceed to the next step of Appropriate Assessment and in subject to other requirements the Proposed Scheme can be authorised.

Environmental Impact Assessment (EIA) Screening Report

AECOM has undertaken an EIA Screening Report to inform the proposed scheme. The purpose of the EIA Screening Report was to determine whether the preparation of EIAR is required for the proposed scheme.

The assessment identifies that the proposed scheme does not meet the criteria or minimum thresholds outlined in Section 50(1)(a) of the Roads Act 1993 (as amended) or Schedule 5, Part 1 and Part 2 of the Planning and Development Regulations 2001 (as amended), and therefore does not trigger the requirement for a mandatory EIA

A sub-threshold screening assessment was undertaken in accordance with selection criteria outlined in Annex III of the EIA Directive and Schedule 7 of the Planning and Development Regulations 2001 (as amended) in order to determine whether or not the Proposed Development would be likely to have significant effects on the environment.

The likely impacts that will arise from the Proposed Development in the absence of appropriate mitigation measures have been evaluated in-line with relevant guidance and regulatory frameworks described above, with the following noted:

- It is recognised that during the construction phase of the Proposed Development there may be temporary and transient negative impacts although not significant;
- The Proposed Development will create some impact to the settings of heritage assets located within close proximity. However, this impact will be temporary and limited to the construction phase.

However, the Contractor shall comply with all relevant environmental legislation, published standards, accepted industry practice, national guidelines and codes of practice appropriate to the Proposed Development during the construction phase. If the recommended mitigation measures are adhered to, it is unlikely that the Proposed Development will have a significant effect on any of the headings investigated as part of the sub-thresholds assessment for the Proposed Development.

The below mitigation measures shall be implemented during the construction phase of the Proposed Development.

- To ensure minimum disruption to the Proposed Development site it is recommended excavation be kept to a minimum;
- Construction material shall be sourced locally from licensed suppliers, where possible;
- Relevant best practice guidance documents, including the National Roads Authority's (NRAs) 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (NRA, 2004) and the World Health Organisation's (WHOs) 'Community Noise Guidelines' (Berglund et al., 2003), should be implemented during the construction phase and working hours onsite should be limited to prevent noise becoming a nuisance. Other best practice pollution prevention measures include CIRIA 'Guideline Document C532 Control of Water Pollution from Construction Sites' and 'C648 Control of Water Pollution from Linear Construction Projects';
- Whilst there will be no direct impacts to the Zones of Notification associated with the former ecclesiastical sites (DU023-013) and fortifications (DU023-014), a notification of proposed works within the Zones of Notification around these recorded monuments must be submitted to the National Monuments Service at least two months prior to site works entering either zone;
- Despite the ground disturbance caused by the previous development of the road, the National Monuments Service may require that an archaeological watching brief be carried out (involving archaeological monitoring and recording) alongside groundworks within the Zones of Notification by a suitably qualified and licensed Archaeological contractor. Relevant licenses should be acquired from the DoCHG/NMS and the National Museum of Ireland (NMI) for all archaeological works. Any archaeological mitigation must be agreed in consultation with the National Monuments Service and Dun-Laoghaire-Rathdown County Council; and
- Close correspondence should be maintained between local utilities providers in case of an instance where a diversion of utilities arises owing to the works during the construction phase.
- A Construction Environmental Management Plan, Waste Management Plan and Construction Traffic Management Plan should be prepared for the Proposed Development by the Contractor prior to construction.
- The Proposed Development does not screen in under mandatory criteria and, with implementation of appropriate mitigation and best practice measures, does not screen in for EIA under sub-threshold assessment.

Public Lighting

As part of the detail design stage, a public lighting design will be developed for the scheme. Existing public lighting is located on all the roads along the study area, the strategy will aim to retain existing public lighting where possible. If the scheme proposals impact upon existing public lighting, if required new lighting will be installed to provide uniform lighting along the scheme.

Arboricultural Assessment

CMK Horticulture & Arboriculture Ltd were commissioned to provide a condition assessment of the existing tree vegetation on the study area, to prepare an arboriculture impact study and to recommend tree protective measures for those trees for retention within the proposed development.

An Arboriculture Assessment of the proposals is being undertaken by CMK Horticulture & Arboriculture Ltd to inform the design of this Part 8 scheme to identify whether any existing trees or vegetation will be impacted. The report will highlight areas for sensitive consideration during the proposed development and construction works, to identify mitigation measures such as tree pruning, tree protection, landscaping and monitoring.

Any construction works near retained trees will be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist will be retained by the principal contractor or site manager to monitor and advise on any works within the Root Protection Zones (RPA) of retained trees to ensure successful tree retention and planning compliance.

Adjoining Schemes

A land use and planning survey was undertaken along the proposed scheme. The Dun Laoghaire Rathdown County Council and ABP online database was reviewed to identify planning schemes that could impact on the proposed scheme. A list of the projects is outlined in the following table.

Table 5-1 Adjoining Schemes

Location	Ref	Description Summary	Date Permitted
0.483ha lands at Baker's Corner, Rochestown Avenue and Kill Avenue, Dun Laoghaire, Co. Dublin, A96TD77	ABP311411 21	Permission for a strategic housing development for student accommodation shall provide for 276no. bedspaces with associated facilities, a public house, 2no. commercial units and ESB Substation.	26/01/202 2
Michael's Hospital Car Park, Crofton Road, Dun Laoghaire, Co. Dublin.	309098	Demolition of an existing house, construction of 102 no. Build to Rent apartments and associated site works. Strategic Housing Development - Application	TBC
3, Matthew Terrace, Monkstown Farm, Dun Laoghaire, County Dublin	D20A/0839	Demolition of 3 commercial structures and construction of 2 independent buildings comprising of 6 apartments.	TBC
Glenageary Road Upper between the Sallynoggin and Killiney Towers Roundabouts	N/a (Part 8)	Active Travel Improvements on Glenageary Road Upper between the Sallynoggin and Killiney Towers Roundabouts	n/a
Dundrum to Dun Laoghaire	N/a (Part 8)	The "DLR Connector" walking, cycling and public realm improvement scheme would connect neighbourhoods and villages East to West across the county through a safe, accessible and attractive walking and cycling route with public realm and greening improvements.	n/a

Preliminary Ecological Appraisal Report (PEAR)

AECOM was commissioned by Dún Laoghaire-Rathdown County Council to conduct a Preliminary Ecological Appraisal (PEA) in relation to the proposed scheme. AECOM Ecologists conducted an ecological walkover survey of the Proposed Scheme footprint and areas within 50 m either side of the Proposed Scheme.

This Preliminary Ecological Appraisal Report (PEAR) sets out the survey methods, results, potential ecological constraints associated with the Proposed Scheme and recommendations for further survey work and/or mitigation, where these are deemed necessary. The approach applied when carrying out the desk study generally accords with the Guidelines for Preliminary Ecological Appraisal published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). This PEAR addresses relevant wildlife legislation and planning policy.

The following summarises the findings of the PEA and recommendations for further work or specific mitigation:

- There are two European sites within 2 km of the Proposed Development. The AA Screening Report concluded that the Proposed Scheme has no possibility of likely significant effects on any European sites.
- There are two nationally designated sites within 2 km of the Proposed Scheme. The Proposed Scheme is separated from these designated sites by existing development, and there are no terrestrial or hydrological pathways to these sites or any other nationally designated site.

- Habitats within the site are dominated by existing roads and buildings. Other habitats present within the survey area are typical of the urban environment, and include scattered trees and parkland, non-native shrubs, amenity grassland, and small parcels of woodland. The majority of works will occur within existing areas of hardstanding, and only a small amount of habitat loss is required to facilitate the Proposed Scheme. Any losses will be compensated for by landscape planting. In general, landscaping should incorporate native species of local provenance providing habitats for birds, mammals, and invertebrate species. Proposed wildflower grassland in areas of open space should be managed in an ecologically sensitive manner.
- The scheduled invasive species three-cornered leek and Spanish bluebell were identified outwith but adjacent to the site boundary. It is recommended that biosecurity measures are implemented to prevent the further spread of these species. A number of medium-impact and low-impact invasive species were identified within the survey area. As good practice, the measures to be implemented for the scheduled species should be adopted for these non-scheduled invasive species as practicable.
- Two trees with Low suitability to support roosting bats were identified. Both trees are to be retained. Habitats within the survey area are not considered to be important to foraging and commuting bats. No impacts to bats are predicted as a result of the Proposed Scheme.
- There is no suitable habitat within the survey area for badger, and badger is not considered to pose a constraint to the Proposed Scheme. Other protected mammals, such as hedgehog may be present within the survey area. Mitigation measures for hedgehog have been provided, involving construction safeguards.
- Vegetation onsite offers limited potential nesting habitat for common bird species only. Vegetation clearance / maintenance should take place outwith the bird breeding season (March to August inclusive), unless first checked by a suitably experienced ecologist.
- There is no potential habitat for any other protected or notable species (e.g. badger, otter, amphibians, common lizard, invertebrates) within the survey area. No further surveys are recommended.

Drainage and SuDS

A preliminary SuDS and drainage strategy has been developed for this scheme by Civic Engineers as set out below.

The Dun Laoghaire Central project proposes a new active travel route across three centrally linked streets – Kill Avenue, Glenageary Road, Mounttown Road Lower and Mounttown Road Upper. The scheme forms part of national efforts to facilitate improved, accessible active travel infrastructure to help combat effects of climate change.

Dlr have set out their County Development Plan 2022-2028 which strives to deliver on its core focus of sustainability whilst centring its objectives towards achieving climate resilient, liveable and vibrant communities. Within the County Development Plan, Dlr have emphasised the seismic role green infrastructure has in delivering these core principles, outlining it as a strategic asset in aiding sustainable development. Outlined in Appendix 14 of the CDP 2022-2028, Green Infrastructure (GI) is presented as a key factor in the progression to a climate resilient nation.

The DL Central Active Travel project presents itself as an opportunity to produce a model scheme in line with both the County Development Plan and Green Infrastructure Strategy.

Green Infrastructure Strategy

Adopting green infrastructure as a key objective can help deliver an integrated approach to the development and planning of the Dlr County. Dlr have outlined three strategic themes that the GI strategy strives to deliver:

1. Accessibility, Recreation, Health and Well-being

2. Natural and Cultural Heritage

3. Water Management

The incorporation of strategic drainage infrastructure as well as local green amenity can enhance an area's biodiversity and increase exposure to green space, ultimately improving its residents' health and wellbeing by promoting the use of outdoor areas. Integrating GI helps to increase exposure to green space across the urban

landscape by creating smaller, more frequent pockets of open green space where previously, may have been sparse.

Dlr recognise the natural and cultural heritage to be preserved and enhanced throughout its county. Providing consistent green space and infrastructure through new and retrofitted schemes allows for the natural and cultural heritage to be maintained whilst also progressing the county towards a sustainable and vibrant streetscape. The county covers an area of approximately 126 km2 ranging from mountains, urbanised landscapes, as well as 17 km of coastline. The GI Strategy highlights that the connection of natural and cultural heritage between different locations within the county is poor. Recognising the ability a well-connected GI network will have in providing this link across the county is integral in preserving this heritage.

At its core, the implementation of SuDS enables the DL Central scheme to deliver on the GI Strategy's third theme: water management. Correctly managed sustainable urban drainage systems enable surface water across the urban landscape to be treated, attenuated and ultimately, alleviate current loads on the existing drainage system.

Six conceptual 'corridors' have been proposed as stems within a strategic spatial framework of green infrastructure within the county. Adopting a spatial framework approach aids in creating a network of green infrastructure such that interventions are prevented from serving a constricted area but instead are part of an inclusive network bettering the county as a whole. The corridors have been recognised as forming gateways between existing green spaces within the county with the opportunity to expand them, increasing the level of GI in the area. Within the corridors, 'green streets' are proposed as forming the branches of the network, further enhancing the literal connection between GI. The proposed green corridor network is shown in Figure below.

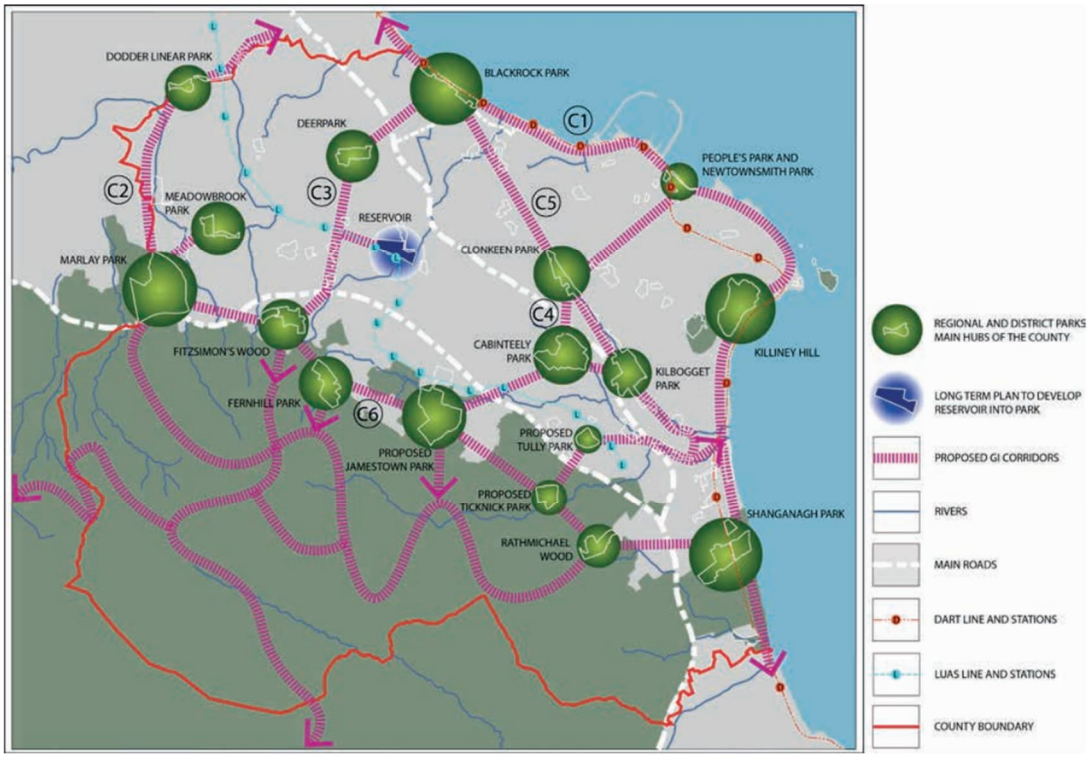

Figure 5-1 Green Corridor Network - Green Infrastructure Strategy, Dlr Council (2022)

Corridor 4 has been recognised as a key link, spanning from the coastline at People's Park, through the urbanised parks of Clonkeen and Cabinteely, concluding at the mountains further inland. Significantly, DL Central intersects with this corridor, establishing itself as a potential link to the proposed network. Incorporating a high functioning SuDS network in proximity promotes the expansion of the conceptual corridor to further the spatial framework of GI across the county. Its location with respect to the conceptual corridor is shown in Figure overleaf.

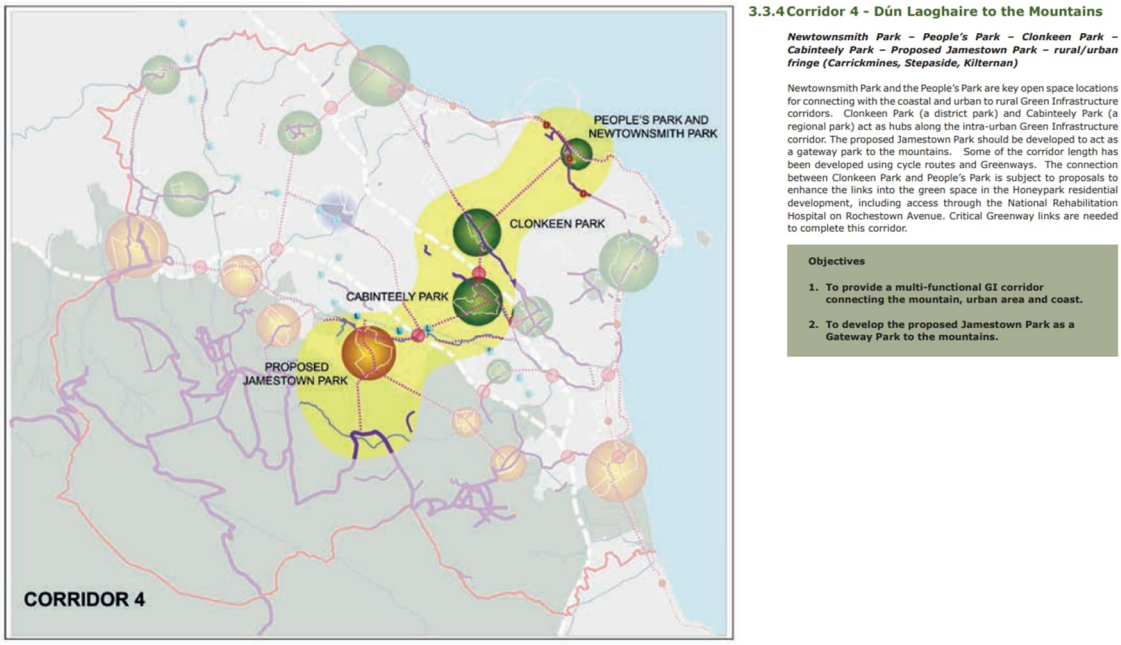

Figure 5-2 Corridor 4 - Green Infrastructure Strategy, Dlr (2022)

To enable this spatial framework of GI to become tangible, the strategy calls for a 'pilot green street project' to be actioned, stating – "This strategy recommends that Dlr initiate a pilot Green Street project, as part of a new development and/or the regeneration/retrofitting of an existing urban streetscape(s).

DL Central sits within the extents of corridor 4. It proposes itself as a key opportunity to incorporate a high functioning SuDS network in proximity to key urban parks in the area, ultimately enhancing the link from the sea to the mountains within a county-wide spatial framework of GI.

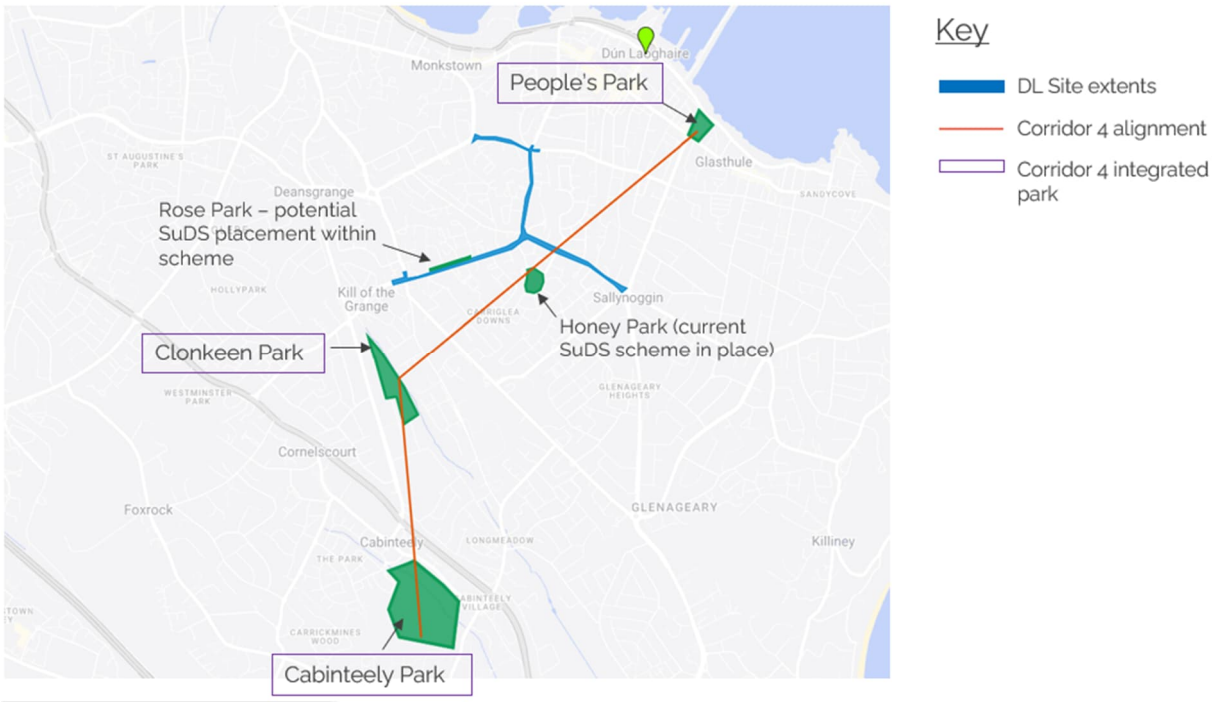

Figure 5-3 DL Central intersecting conceptual Corridor 4, Civic Engineers (2022)

Emerging Strategy and Design Principles

The active travel proposals, through the reallocation of space in the ground plane, presents a meaningful opportunity to incorporate and integrate green and blue features into the streetscape and deliver the pilot scheme set out in policy.

This topography introduces a longitudinal fall along the streets, with midway along Mounttown Road Lower the identified low point in the local landscape. This fall provides the hydraulic head to create a series of interconnected SuDS features, threaded along the length of the three primary streets.

This strategy offers a twin water management system that can operate independently of the existing sewer network, bringing with it additional water management and attenuation capacity, holding and retaining water during storms, which will add higher levels of resilience to the local water management network, reducing the likelihood and frequency of flooding in the network as a whole.

These SuDS features will combine to deliver the four key SuDS objectives:

- **Water Quantity** – the sponge city principles will introduce pockets of water storage along the streets. This capacity will be achieved through a cocktail of different techniques, ranging from oversized pipes, tanks, gap graded stone substrate and structural soils. The first choice is the use of nature-based solutions to deliver this capacity, typically in the form of raingardens and swales. These features offer many benefits, however green features introduce evapotranspiration into the water management sequence, this is the vaporisation of water back into the local atmosphere, reducing the volume of water that passes through the network while also cooling local temperatures. Something that is especially beneficial when dealing with heavy summer showers.
- **Water Quality** – The street designs will carefully consider the water shed path for surface water as it is conveyed across the street surface and enters into the SuDS system. The vital point is that all water entering the system will pass through biofilters that will trap and hold sediment, typical highway contaminants, such as hydrocarbons, brake dust, rubber crumb amongst others. The biofilters will also reoxygenate the water as well as cooling it down. Two negative attributes associated with surface water passing through conventional highway drainage systems that adversely impacts on watercourse ecosystems.
- **Biodiversity –** using nature based solutions will hardwire habitat into the streetscapes, creating a long term ecological environment for nature to recolonise and occupy.
- **Amenity -** These features will enhance the experience of passing along these streets, especially on foot or by bike. By improving this experience it will increase the likelihood of people choosing to walk and cycle, and foster a culture of active travel as the automatic first choice.

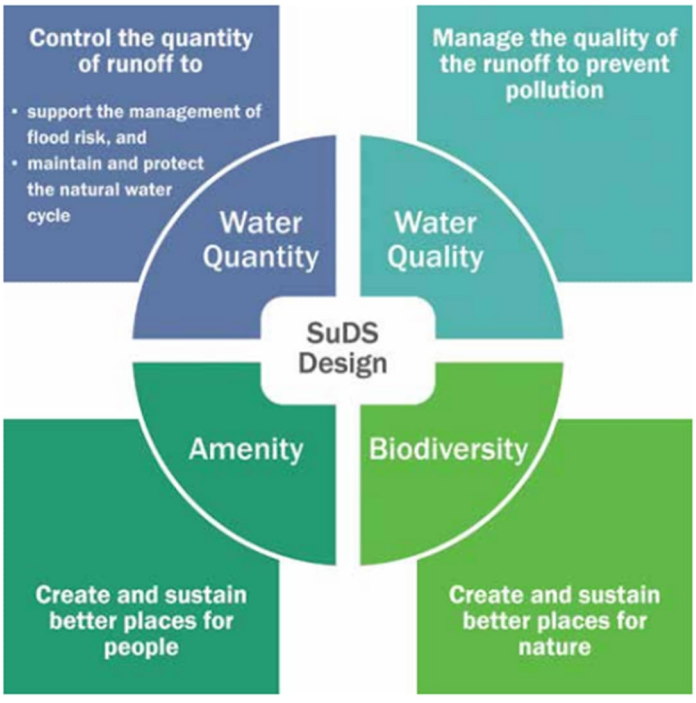

Figure 5-4 Key SuDS Principles, Ciria SuDS Manual (2015)

The new cycling layout is a fundamental reordering of the street and reallocates space away from motor vehicle use. This presents a sizeable opportunity to incorporate green and blue features into these spaces. Limiting the areas that motor vehicle access means that pavement design can respond to lower loadings, which presents the opportunity to use different techniques as the foundation for the surfaces. This is particularly the case with cycle lanes.

Reimagining the technical design of cycle lanes, especially as they route across the entire plan, means that they can be considered as a drainage spine, the primary artery in a new SuDS network, tying together a constellation of other SuDS features scattered across the local spaces and streets. Considering the cycle lane sat on top of the equivalent of a French Drain or a really simple filter drain means that the SuDS system is shallow, using low tech and readily sourced materials in the form of aggregate, geofabrics and perforated pipes. Each piece of the SuDS network can plug in to this armature stretching across the plan to provide a green and blue infrastructure framework.

The first preference is to replicate natural geographic processes, which means infiltration is the optimal choice for slowly routing water back to local water courses. And SuDS design will exhaust this option before exploring alternatives. However, should ground conditions not suit infiltration, and that may include issues around contamination or sensitive 3rd party buried structures, such as utility chambers or building basements, then attenuation will be considered next. The principle here is that the water route and velocity will be designed in a way that slows down the rate at which the water is conveyed throughout the system and this will be presented in a form of relative betterment when compared with the existing conventionally designed and operated system, measured in terms of discharge rates.

Overall SuDS Strategy

Draft preliminary SuDS proposals have been prepared for the scheme and issued to Dlr Water Services Department to illustrate the potential level of opportunity to offer maximum SuDS benefit to the scheme. Through outlining the additional benefits of implementing each SuDS option against the key principles noted above, as well as the key next steps in determining their feasibility for construction, these plans help provide a useful understanding of where best to strategically invest in SuDS across the scheme. The proposed SuDS interventions on each street is outlined below.

Kill Avenue (Baker's Corner to Glenageary Road Upper)

Baker's corner sits at a highpoint in the landscape, a ridge between the Deansgrange River catchment to the west and Monkstown River to the east. Where space provision allows, rain gardens are proposed at junction corners, allowing for surface water to be captured from the footway, cycleway and carriageway.

Where a new bi-directional cycle lane is to be introduced across the southern extent of Kill Avenue, porous paving is proposed, taking run off from the adjacent footway and half of the cambered carriageway.

North of Kill Avenue (where there is limited space on street intervention), the opportunity to utilise Rose Park to attenuate, treat and infiltrate the remaining run off area is proposed. As well as allowing storm flows to by-pass the existing sewer network, this option would present the opportunity (using enhanced swales) to integrate the landscape with informal play elements within the park.

East of Rose Park, the continuation of an integrated porous paving network along the bi-directional cycle lane from west to east is presented, with rain gardens also included where footway space allows at side street entrances.

Glenageary Road Upper

Along the most easternly section of Glenageary Rd Upper, space solely allows the use of porous paving within the bi-directional cycle lane. Closer towards Maypark Avenue the additional space allows for green infrastructure interventions along the central section of the road and between the carriageway and cycle lanes at both road edges, providing effective segregation for cyclists as well as the attenuation and treatment of flows. Longitudinally the street falls westwards towards Kill Avenue/Mounttown Road lower, presenting the opportunity to create a SuDS network that connects to the proposed SuDS interventions on Mounttown Road.

Mounttown Road

Along Mounttown Road Lower, porous paving on the bi-directional cycle on the east of the road allows for a SuDS conduit to be continued towards the low point of the site, positioned approximately midway along the street extent. With no feasible adjacent areas from this low point to take surface water into a pond/wetland environment, infiltration through the gravel trench below the porous surface into the surrounding soils provides the best option to remove flows from the existing sewer network.

On Mounttown Road Upper, the provided space allows for green infrastructure and porous paving interventions, which could together form a network that discharges into a proposed enhanced swale on the southern edge of the existing footway, positioned at the lower end of the street towards the roundabout with Monkstown Avenue. The feasibility of utilising existing greenspace just south of this swale for further storage could also be explored.

SuDS and Drainage Next Steps

As outlined in the SuDS Opportunity plans, as the design develops, further investigation into the position of existing drainage and utilities, soil conditions and adjacent land use will be required to establish what level of intervention can be achieved as part of this project. This would include, but not be exclusive to the following surveys and engagement:

- Soakaway testing to appraise infiltration feasibility and presence of contamination
- CCTV surveys of existing drainage to establish condition and alignments
- Targeted trial pits to establish extent of underground constraints
- Consultation with relevant local authority departments and external stakeholders on potential use of adjacent areas of site to maximise SuDS benefits.

In addition, an appraisal of suitable porous surfacing products will need to be carried out, focusing on parameters such permeability, durability, maintenance requirements, traffic loading categories, rideability and available colours. Consultation with providers such as KBI Solutions (flexi-pave), Roadstone (duraflow) and Kilsaran (Climaphalt) to establish how each of their products score against these parameters is on-going.

Suitable maintenance programmes will also need to be established to maximise the benefit and ensure the longevity of the scheme. Any agreed maintenance schedule for green infrastructure should include the following:

- Regular removal of debris
- Regular inspections of pipework and sediment forebays
- Repairing of any erosional damage or re-planting when deemed necessary.

6. Consultation

Consultation was undertaken with the various department in DLRCC to obtain any feedback on the draft scheme. Feedback from received from the Water Services and Traffic Departments, which are detailed below along with AECOMs response.

DLRCC Water Services Department

A summary of the comments from DLRCC Water Services Department is summarised as follows along with our proposed response:

1. *There appear to be no drainage proposals shown as part of the scheme. All run-off from the scheme must be intercepted/treated prior to discharge to any attenuation systems and ultimately the public sewer.*

   Response: A preliminary drainage design has now been prepared for the scheme by CIVIC engineers and is included within this Part 8 submission. The design has been undertaken in accordance with DLRCC policy; including the County Development Plan 2022-2028: Section 10.2.2.6 Policy EI6: Sustainable Drainage Systems. The scheme proposes application of porous asphalt, rain gardens and enhanced swales.

2. *This scheme could utilise the existing green areas to reduce surface water runoff from the footpaths and proposed cyclepaths while improving water quality, biodiversity and the urban realm as a whole.*

   Response: All green infrastructure areas adjacent to the carriageway and cycleway are proposed to be utilised as SuDS as part of a series of interconnected SuDS networks. There is also the potential to connect carriageway and footway drainage into SUDS strip in the green areas such Rose Park. There are a number of established trees within the greens, therefore this would need to be sensitively designed and to the Parks Department approval.

3. *The profile of green areas should also be altered to create small bioretention areas or swales.*

   Response: The proposal includes the introduction of Swales and Raingardens within the Rose Park greens and across the site where space permits

4. *Treepits should be provided in appropriate locations.*

   Response: Treepits are proposed within the scheme, structural soils is the preferred solution for the root zone to provide adequate bearing capacity and allow for effective management of underground utilities.

5. *This scheme could also be an ideal opportunity for the Council to trial porous asphalt, particularly in the less trafficked sections of the scheme such as footpaths and cyclepaths..*

   Response: Porous asphalt is now proposed as part of the proposed scheme as detailed in the preliminary drainage design drawings.

DLRCC Traffic Department

A summary of the comments from DLRCC Traffic Department is summarised as follows:

1. *The proposals at the Bakers Corner junction will assist to improve conditions for all road users;*

   Response: The proposed design has been developed to enhance accessibility and safety for pedestrians and cyclists at the junction, whilst optimising capacity for general traffic and buses.

2. *The access into IADT isn't clear from the drawing (due to the legend).*

   Response: The IADT entrance design has updated and is illustrated in General Arrangement drawing 60661468_SHT_DLRC_141.1_A.

3. *Please confirm turning facilities are sufficient at the Claremount Avenue / Kill Avenue junction.*

   Response: A swept path analysis has been undertaken for a refuge lorry turning left from Claremount Avenue onto Kill Avenue. The analysis is illustrated in Figure 6.1 below demonstrates a large vehicle will be able to safely turn left from Claremount Avenue onto Kill Avenue.

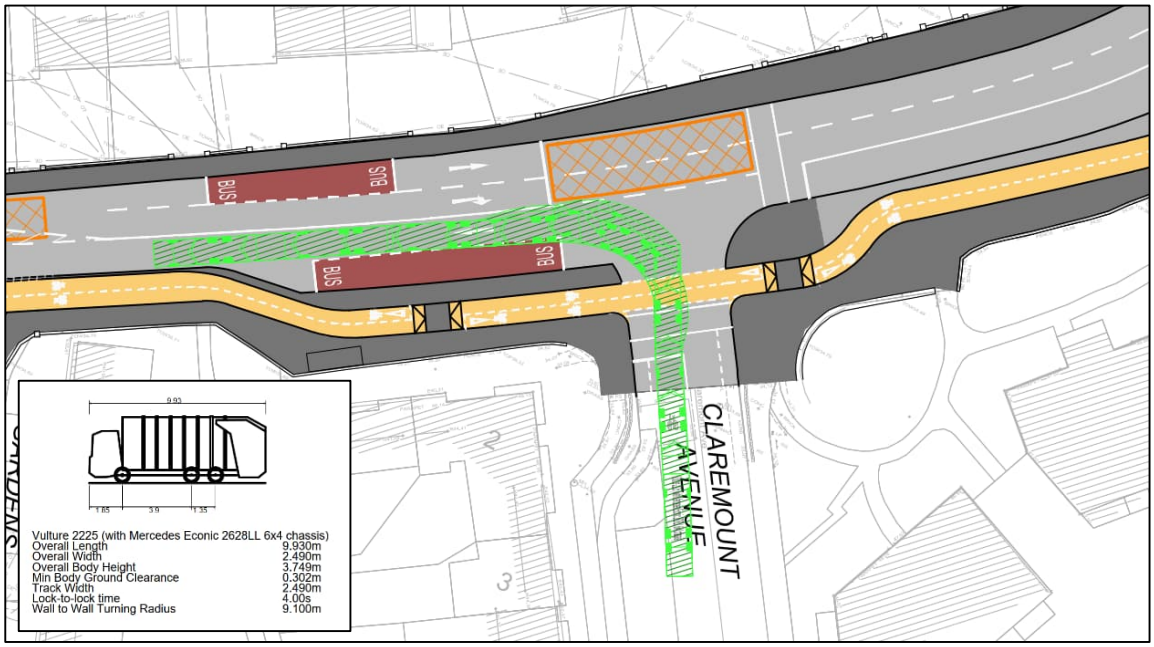

Figure 6-1 Swept Path Analysis of a refuse lorry turning from Claremount Avenue onto Kill Avenue

4. *Please confirm turning facilities are sufficient at the Mounttown Road Lower / Highthorn Park junction.*

   Response: A swept path analysis has been undertaken for a refuge lorry turning left from Mounttown Road Lower into Highthorn Park. The analysis is illustrated in Figure 6.2 below demonstrates a large vehicle will be able to safely turn left from Claremount Avenue onto Kill Avenue.

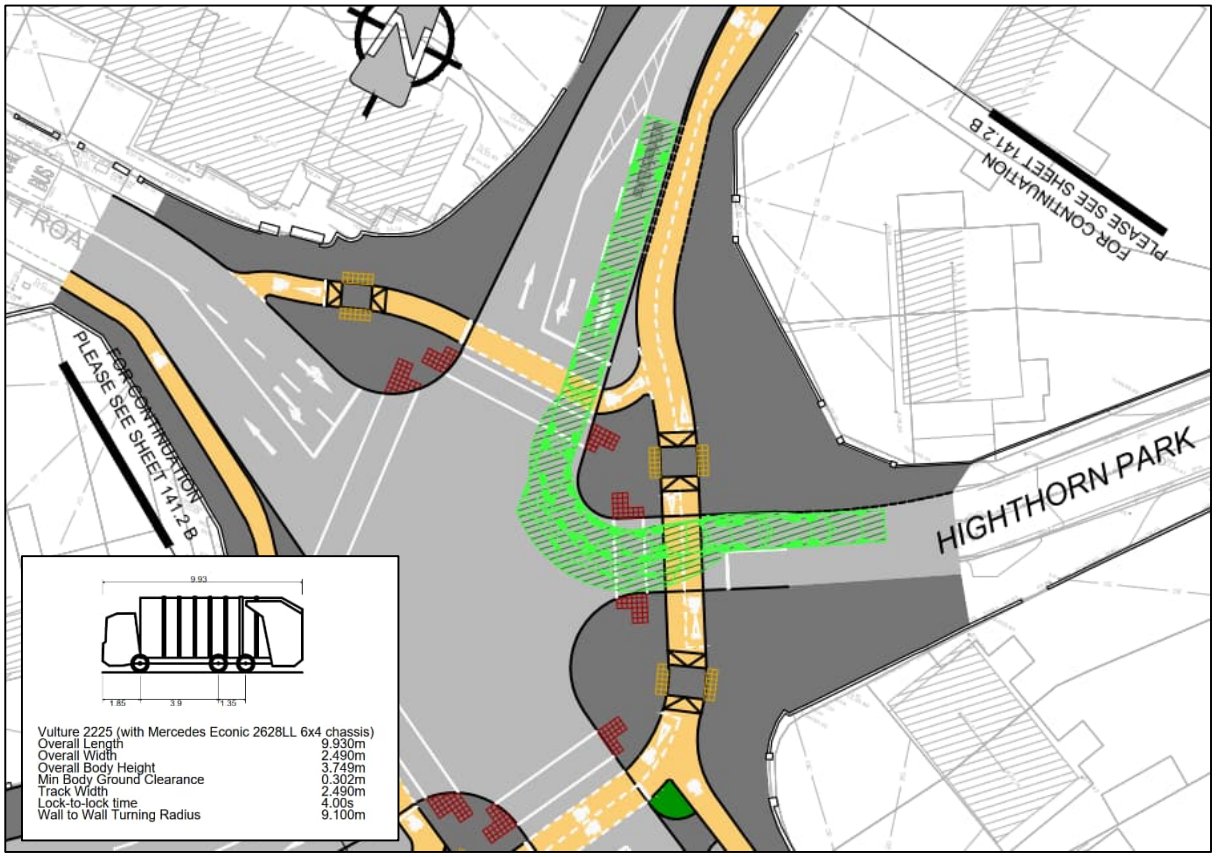

Figure 6-2 Swept path analysis of a refuse lorry turning from Mounttown Road Lower onto Highthorn Park

5. *Confirm accessibility for cyclists from the Glenageary roundabout to the Glenageary Road Upper cycle lanes.*

   Response: Cyclists travelling from the Sallynoggin Road direction will have to travel along the shared pedestrian and cycle path onto Glenageary Road Upper to utilise the existing toucan crossing to access the proposed two way cycle track on Glenageary Road Upper.

6. *Confirm design rationale for cycle infrastructure on Glenageary Road Upper.*

   Response: Due to physical constraints along Glenageary Road Upper it is not feasible to provide a single cycle track along the southern side of the carriageway between Saint Kevin's Villas and Glenageary Roundabout. A two way cycle track on the northern side is proposed to provide continuous cycle infrastructure through this section.

7. *Confirm design rationale for Mounttown Road Upper.*

   Response: Due to physical constraints at this location, segregated pedestrian and cycle facilitates are not feasible. The existing footpath on the southern side of Mounttown Road Upper has been marginally widened by approximately 1.0m to cater for the shared pedestrian and cycle path.

8. *There is a ramp crossing of Knapton Road which should be used.*

   Response: Agreed, the scheme proposes to utilise the recently constructed ramp crossing at the Knapton Road junction.

9. *Any impacts on existing parking to be documented.*

   Response: The proposed scheme will result in the removal of some existing pay and display parking along Mounttown Road Upper and Mounttown Road Lower.

10. *The design rationale of the tactile paving to be confirmed.*

    Response: AECOM have prepared a drawing detailing the proposed tactile paving arrangements at a signalised junction illustrated in Figure 6-3 to inform discussions between DLRCC and NTA.

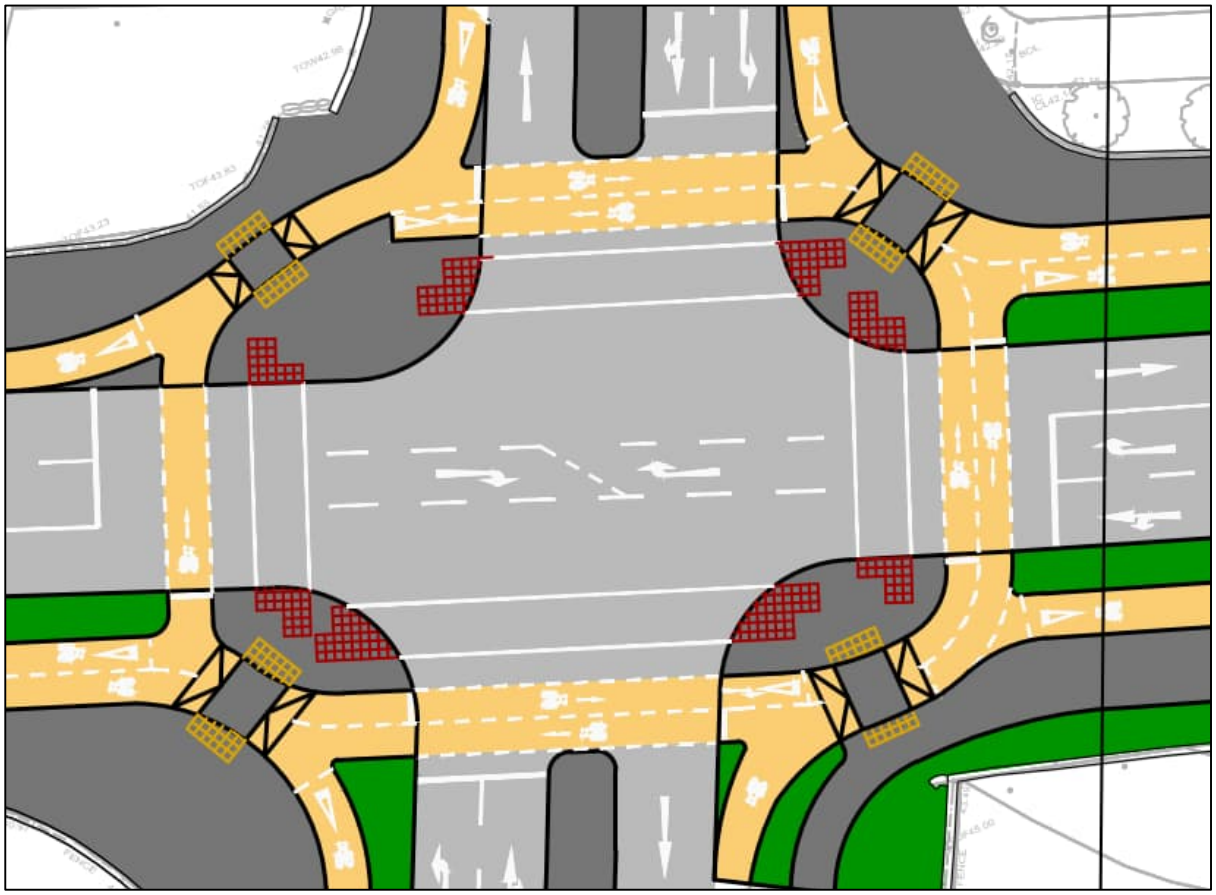

Figure 6-3 Proposed Tactile Paving Detail at Signalised Junctions

11. *A traffic impact assessment report should be prepared detailed the junction modelling analysis.*

    Response: Junction analysis has been undertaken of the existing and proposed signalised junctions. A separate Transport Assessment has been prepared and includes information regarding the junction analysis results.

Consultation

The following DLRCC Departments were also consulted on the draft Part 8, and provided no comments or objections to the proposals:

- Urban Design
- Parks
- Lighting
- Heritage
- Planning.

7. Alternatives Considered

AECOM have prepared an Options Report, which presents the alternatives options considered to inform the identification of a preferred option. A Multi Criteria Analysis (MCA) was undertaken for various sections along the route, with a preferred option identified and taken forward through Preliminary Design. Through this process, the preferred route was identified as set out in the proposed General Arrangement drawings.

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