

Navan Cycle Scheme – R147 Martha's Bridge to Circular Road

Part 8 Report

Meath County Council

September 2022



Notice

This document and its contents have been prepared and are intended solely as information for Meath County Council and use in relation to R147 Navan Cycle Scheme Martha's Bridge to Circular Road

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Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 0	DRAFT	CC	DB	JMC	ST	Aug. 2022
Rev 1	DRAFT	CC	DB	JMC	ST	Aug. 2022
Rev 2	For Information	CC	DB	JMC	ST	Aug. 2022
Rev 3	Final For Planning	CC	DB	JMC	ST	Aug. 2022
Rev 4	Final For Planning	CC	DB	JMC	ST	Sept. 2022

Client signoff

Client	Meath County Council
Project	Navan Cycle Scheme – R147 Martha's Bridge to Circular Road
Job number	5212234
Client signature / date	

Contents

Chapter	Page
1. Introduction	4
1.1. Scheme Overview	4
1.2. Stakeholder Consultation	4
1.3. Part 8 Planning Documentation	5
2. Purpose of the Scheme	6
2.1. Project Aim & Objectives	6
2.2. Design Principles	6
3. Planning and Policy Context	7
3.1. National Transport Policy	7
3.2. Regional Policy	11
4. Description of Existing Network on Proposed Route	14
4.1. Road Network	14
4.2. Junctions	15
4.3. Public Transport	15
4.4. Pedestrian & Cycle Facilities	15
5. Description of Proposed Scheme	17
5.1. Link Provision	17
5.2. Key Ancillary Elements	18
5.3. Key Features	20
6. Environmental & Quality Assessments	22
6.1. Appropriate Assessment	22
6.2. Environmental Impact Assessment	22
6.3. Quality of Service Assessment	22
7. Impact of the Proposed Scheme	23
7.1. Pedestrians, Cyclists, Traffic & Transportation	23
7.2. Landscape and Visual	24
7.3. Built and Cultural Heritage	24
7.4. Other Environmental Impacts	24
7.5. Conclusion	24
8. Submissions	26
Appendix A. Graphics	27
A.1. Drawings	27
A.2. Photomontages	28
Appendix B. Tree Impact Summary	29
Appendix C. AA Screening Report	30
Appendix D. EIA Screening Report	31
Appendix E. Traffic and Transport Analysis Technical Note	32
Appendix F. Flood Risk Assessment	33

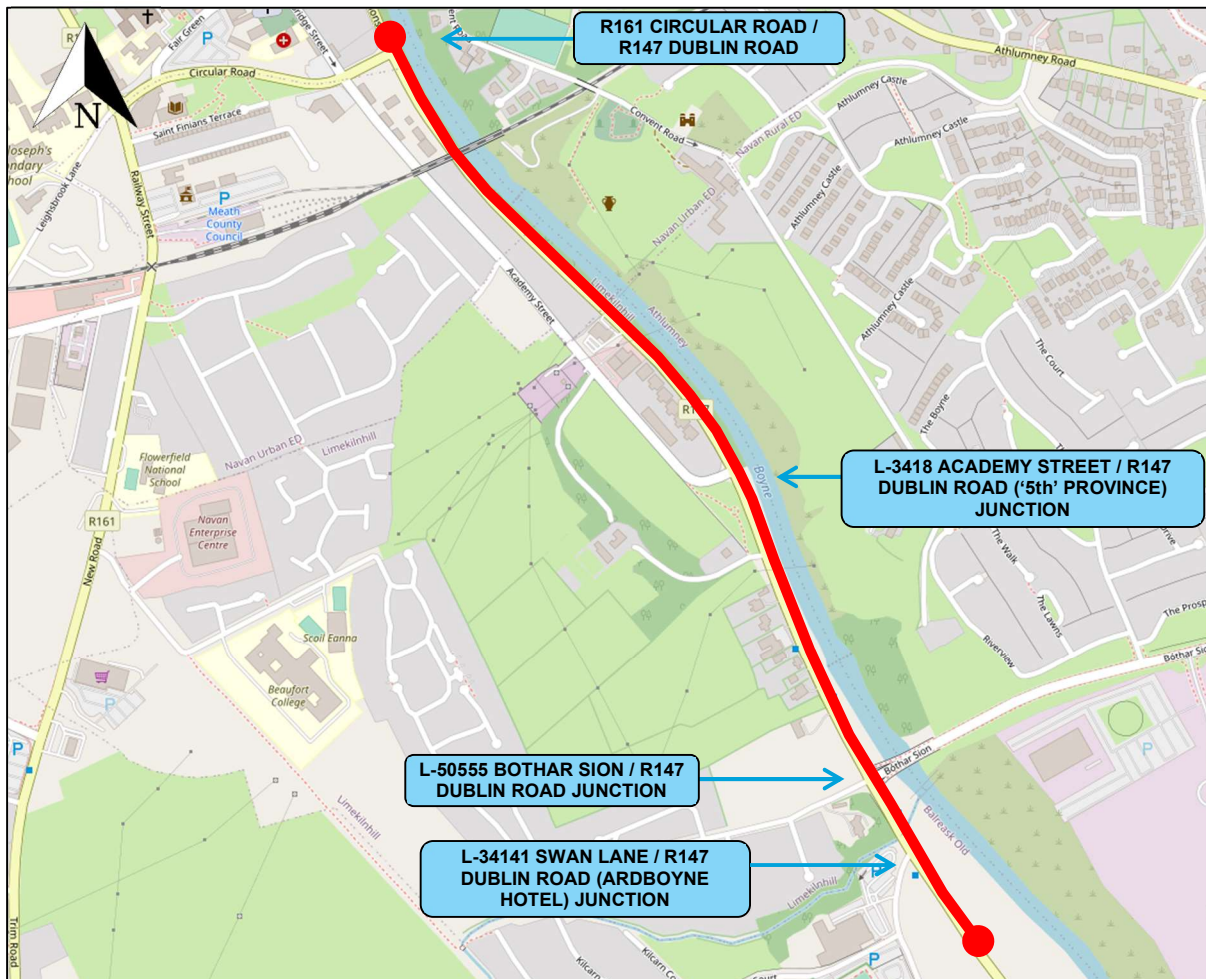
1. Introduction

1.1. Scheme Overview

Meath County Council (the Client/MCC) as the Contracting Authority, appointed Atkins (the Consultant) to provide Engineering-led Multi-disciplinary Consultancy and Design services for the concept development & option selection, preliminary design and statutory processes of enhanced cycle & pedestrian facilities and associated works including public realm and urban enhancements on the R147 from Martha's Bridge to Circular Road in Navan, Co. Meath, as part of the Navan Cycle Scheme.

The Project is located south of Navan Town centre, adjacent to the River Boyne (which is part of the "River Boyne and River Blackwater" SAC). The northern end of the scheme ties into the R161 Circular Road / R147 Dublin Road junction while the southern end ties into the existing R147 Dublin Road, south of its junction with Swan Lane (L-34141). Figure 1-1 illustrates the location and the extents of the route, which totals approximately 1.4km.

Figure 1-1 - Proposed Route Locations



1.2. Stakeholder Consultation

Stakeholder Consultation has been undertaken with the following key stakeholders;

- National Transport Authority,
- Meath County Council,
- All other relevant bodies.

1.3. Part 8 Planning Documentation

This Part 8 planning report has been prepared in accordance with Part 8 of the Planning and Development Regulations, 2001 as amended. This report should be read in conjunction with the following complementary documentation:

- Drawings:
 - 5212234/HTR/DR/0001 - Site Location Plan
 - 5212234/HTR/DR/0111 – Sheet 1 of 3
 - 5212234/HTR/DR/0112 – Sheet 2 of 3
 - 5212234/HTR/DR/0113 – Sheet 3 of 3
- Tree Impact Statement (*Atkins Ref: 5212234DG0046*)
- Appropriate Assessment Screening Report (*Atkins Ref: 5212234DG0028*)
- Environmental Impact Assessment Screening Report (*Atkins Ref: 5212234DG0021*)
- Traffic and Transport Analysis Report (*Atkins Ref: 5212234DG0032*)
- Flood Risk Assessment Report (*Atkins Ref: 5212234DG0026*)

2. Purpose of the Scheme

2.1. Project Aim & Objectives

The overall purpose of the project is the delivery of a cycle network which will provide a safe and attractive cycle route, catering for all cycle users including commuters, leisure, and family cycling groups. Ultimately when the route is delivered, it will help to improve safety, including a reduction in vehicle speeds, and contribute towards an increased number of trips in the area by pedestrians and cyclists.

The objectives for the scheme are based on multi criteria requirements outlined by the Department of Transport in their report '*Common Appraisal Framework for Transport Projects and Programmes (March 2016, updated October 2021)*' (CAF). The multi-criteria headings are as follows:

- **Safety:** To reduce the potential for conflict between all road users along the route through the provision of a facility which is in line with the current standards. The Scheme will seek to:
 - Reduce the frequency of conflict between all road users by providing a safer route for all users.
 - Improve priority for cyclists at junctions.
 - Improve safety for vulnerable road users and provide a better environment for vulnerable road users within the study area.
- **Physical Activity:** Provide improved opportunities for pedestrians and cyclists, thereby promoting physical activity, through improvements to footpaths and crossings, and the provision of new cycling facilities.
- **Environment:** To minimise impacts on the receiving environment.
- **Accessibility & Social Inclusion:** To improve accessibility for all road users and bring social inclusion benefits to those for whom non-motorised means are the predominate form of transit.
- **Integration:** To support the strategies set out in national and regional policies and guidelines.
- **Economy:** To provide an investment that offers good value for money.

Additional to the above CAF objectives, the following localised objectives are applicable:

- Provide a high Quality of Service (QoS) based on requirements of the National Cycle Manual.
- Improve local movement capabilities including access to Navan Town Centre from residential areas to the south and east of Navan for pedestrians and cyclists.
- Create a sustainable mode of active-travel access to the primary and secondary schools in the greater urban area of Navan.
- Provide additional recreational links by linking the local communities to future greenway and cycling routes for Navan (as identified in the NTA's Greater Dublin Area (GDA) Cycle Network Plan).
- Provide a consistent and coherent standard of cycle facilities into Navan Town Centre.

2.2. Design Principles

The cycle network has been designed in accordance with the guidance set out in the NTA's National Cycle Manual (NCM) and to provide a high Quality of Service based on requirements of the NCM. Given the urban environment in Navan, the design was also considered in the context of the Design Manual for Urban Roads and Streets (DMURS).

It is also inherently critical that the cycle routes' requirements are balanced with the needs of pedestrians and that the requirements for vehicular traffic movement are appropriately considered.

The core principles which should be implemented in the development of a cycle network are;

- **Road Safety:** Measures should be implemented which increase safety and the perception of safety.
- **Coherence:** Route and link type should have continuity and layout to be obvious at junctions.
- **Directness:** Route should be direct, minimising delays and bestowing the advantage to cyclists.
- **Comfort:** Routes should be of adequate width and surface quality with minimal delays.
- **Attractiveness:** Route should be well maintained with landscaping and adequate lighting.

3. Planning and Policy Context

National, Regional and Local planning policy has been considered to ascertain compliance and is summarised below.

3.1. National Transport Policy

3.1.1. National Investment Framework for Transport in Ireland (NIFTI)

The purpose of NIFTI is to plan for how Ireland will invest in its transport system over the coming years and decades. As part of Project Ireland 2040, it notes that the population of Ireland will grow to almost 5.7 million people by 2040. This framework aims to improve the transport system while focusing on the most environmentally sustainable modes of transport so that the increase in demand brought on by the increased population is met sustainably.

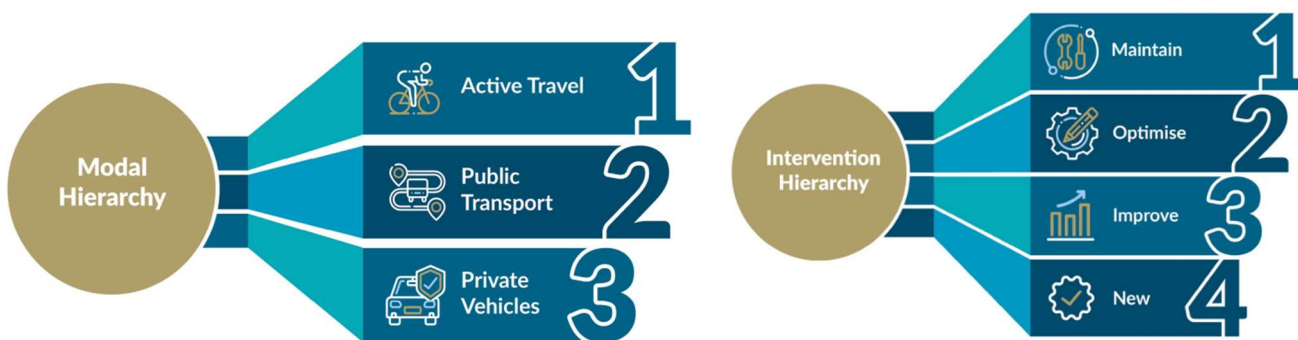
NIFTI notes that decarbonising the transport sector is an urgent priority in the context of our climate change targets, and so aims to support sustainable mobility wherever it is feasible and encourage modal shift to these modes, namely active travel, and public transport. The Framework recognises that many of the same measures that reduce greenhouse gas emissions can also have a beneficial impact for other elements of environmental sustainability. Increased public transport and alternative fuel usage can help to improve air quality and reduce noise pollution, while active travel brings health benefits.

The four NIFTI Investment Priorities, which identify what will be invested in, are supplemented by modal and Intervention Hierarchies, which set out how NIFTI will undertake investment. It can be seen below in **Figure 3-1** and **Figure 3-2** that active travel is a core element of the four identified Investment Priorities and that NIFTI emphasises active travel as the most desirable mode of transport in the framework.

Figure 3-1 - NIFTI Four Investment Priorities (source: gov.ie/transport)



Figure 3-2 - NIFTI Modal and Intervention Hierarchies (source: gov.ie/transport)



As per the Intervention Hierarchy, NIFTI places emphasis on the use of existing assets (through maintenance, optimisation, or improvement), over the development of new. NIFTI recognises that investments in transport

networks and services, and the policies that drive these investments, can impact on the environment, and several environmental assessments have been carried out in parallel with its development, which includes a Strategic Environmental Assessment (SEA), which highlighted several potential impacts associated with the outcomes, Investment Priorities and Hierarchies proposed by NIFTI, as follows:

- Negative Impacts include, but are not limited to:
 - Short-term/localised negative impacts on water quality and increased noise pollution during construction.
 - Localised increases in pollution or increased CO2 emissions, or localised climate vulnerability such as flooding.
 - Long-term impacts on biodiversity, landscape, or cultural heritage features because of new infrastructure developments.
 - Long-term impacts because of land-take and changes in land use required for new developments.
- Positive Impacts include, but are not limited to:
 - Positive impacts to population and human health because of increased safety, with improvements to signage, adequate road surfacing, junction upgrades or realignment works.
 - Benefits for the economy, tourism and regional connectivity providing better social inclusion.
 - Reduced carbon emissions and improved air quality because of sustainable mobility developments.
 - Reduction in localised noise pollution and vibration because of development in sustainable and active travel modes and actions to promote electric vehicles.

3.1.2. Sustainable Mobility Policy

In parallel with NIFTI, the Department of Transport has undertaken a review and plans to publish a new Sustainable Mobility Policy shortly. This will set out the policy framework for walking, cycling and public transport to support Ireland's overall requirement to achieve a 51% reduction in greenhouse gas emissions by 2030. The new policy will primarily focus on measures to promote and facilitate active travel and public transport for all thereby encouraging less private car usage nationally to support the Government's climate commitment.

The policy will outline a set of actions to increase active travel infrastructure provision and improve public transport capacity and services across the country. These will be supported by behavioural change and demand management measures to make sustainable modes the preferred choice for as many people as possible. The Climate Action Plan sets out additional measures to promote other complementary transport mitigation measures such as the switch over to electric car usage and greater use of renewable fuels for transport.

The new policy will build on and replace the existing sectoral policy documents that were published in 2009: Smarter Travel, A Sustainable Transport Future 2009-2020, and the National Cycle Policy Framework.

3.1.3. National Cycle Policy Framework 2009 – 2020

The backdrop to this policy is the government's transport policy for Ireland. The NCPF sets out a suite of intervention to improve the ease and safety of cycling to achieve greater mode share going forward. The framework states that the focus needs to be on:

- Reducing volumes of through-traffic, especially HGVs, in city and town centres and especially in the vicinity of schools and colleges.
- Calming traffic/enforcing low traffic speeds in urban areas.
- Making junctions safe for cyclists and removing cyclist-unfriendly multi-lane one-way street systems.
- Paying special attention to integrating cycling and public transport.

Other interventions include the following:

- Schools will be a strong focus of the NCPF.
- Supporting the provision of dedicated signed rural cycle networks for Cycling Tourism.
- Ensuring surfaces used by cyclists are maintained to a high standard and are well lit.
- Ensuring that all cycling networks are sign-posted to a high standard.
- Supporting the provision of secure cycle parking at all destinations of importance.

- Integrating cycling and Public Transport, including cycle parking at stations, and the capability to carry bikes on Public Transport services.
- Creation of municipal bike systems to complement an improved Public Transport system.
- Ensuring proposals cater for a 10% modal share of cyclists.

The NCPF states that making provision for cyclists in the urban environment does not merely consist of providing dedicated cycling facilities, but also involves wider traffic interventions that benefit all vulnerable road users.

3.1.4. National Cycle Manual 2011 – Present

The National Cycling Manual (NCM) embraces the principles of Sustainable Safety, as this will offer a safe traffic environment for all road users including cyclists. The five principles of Sustainable Safety are described in the NCM (Section 1.1) and noted below:

- Functionality – i.e., the design which is fit for purpose is safer.
- Homogeneity – i.e., reducing the relative speed, mass and directional differences of different road users sharing the same space increases safety.
- Legibility – i.e., a road environment that all road users can read and understand is safer.
- Forgivingness – i.e., environments that contribute to benign outcomes of accidents are safer (“passive safety”).
- Self-awareness – i.e., where road users are aware of their own abilities and limitations to negotiate a road environment, the environment is safer.

The NCM offers guidance on integrating the bicycle in the design of urban areas. Throughout the option selection and design process of this scheme the NCM is used.

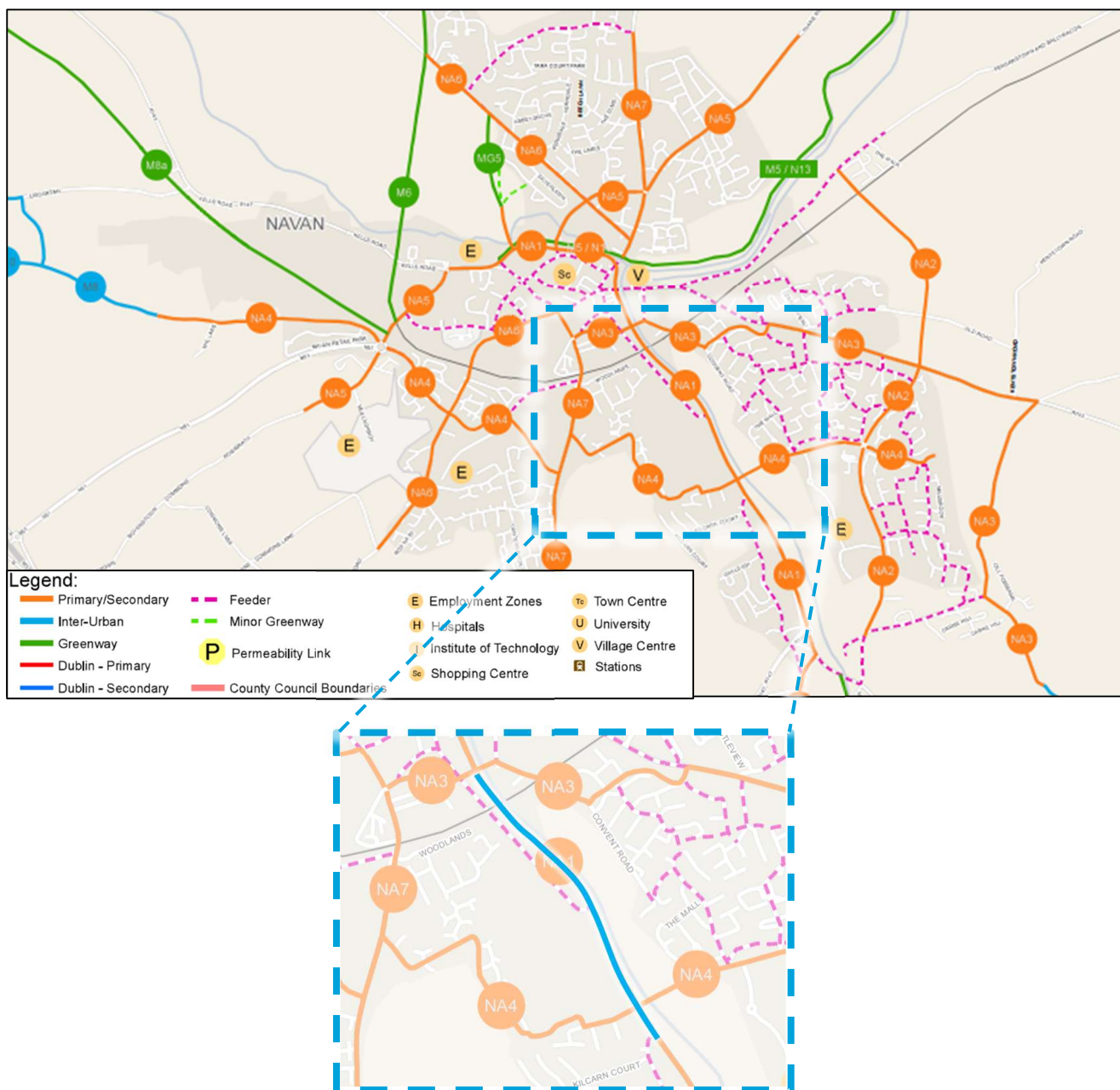
3.1.5. NTA Cycle Network Plan (Greater Dublin Area) 2013

The NTA Cycle Network Plan (Greater Dublin Area) was compiled to identify and determine in a consistent, clear, and logical manner, the urban cycle network at the primary, secondary and feeder levels in the greater Dublin area. Unlike area-based plans prepared previously by Local Authorities, this Cycle Network Plan is to be consistent across county boundaries such that there is continuity of route networks across these administrative boundaries. Within County Meath the study focused on establishing an inventory of the cycling facilities within the larger towns of the county and the existing primary facilities in Navan were assessed in the study to determine links throughout the town.

The NTA Cycle Network Plan sets out to develop a detailed understanding of cycling demand over a 10-year horizon period in the greater Dublin area. Over this 10-year period the demand for cycling in the GDA is forecast to increase due to two factors – population growth and the changes to the cycling mode share. The GDA Cycle model, developed as part of the Cycle Network Plan, provides a comprehensive representation of existing and projected future cycling demand patterns in the Greater Dublin Area. Trip assignment and route choice in the model is based on trip distance alone to provide a strategic plot of cycling desire lines on the network. The target is to provide a Quality of Service of Level B along all routes, regardless of the volume of demand.

Figure 3-3 shows the proposed routes for the Navan Cycle Scheme in relation to the NTA Cycle Network Plan (CNP). The R147 Martha’s Bridge to Circular Road (a section of the NA1) is noted as a Primary/Secondary Route. This section of road facilitates frequent cyclist and pedestrian movements due to its proximity to residential areas and amenities such as schools, sports clubs, and commercial properties. Tie-ins from this project to the existing Johnstown Cycle Scheme at Martha’s Bridge and to the proposed Athlumney to Trim Road Cycle and Pedestrian Scheme at Circular Road integrate this project into the CNP as do the proposed Feeder Routes on Swan Lane and Academy Street.

Figure 3-3 - Routes in relation to the NTA Cycle Network Plan for the GDA



Greater Dublin Area Cycle Network Plan Primary / Secondary Routes, as shown above:

- Na1: R147 Dublin/Kells Road between the N51 and Old Balreask Woods.
- Na2: Metges Road/ East Orbital.
- Na3: Fairgreen to Johnstown with a new bridge over the River Boyne.
- Na4: Southern Ring from Johnstown to Athboy Road.
- Na5: Northern Cross from Athboy Road to Slane Road.
- Na6: Windtown Road to Commons Road.
- Na7: Proudstown Road to Trim Road

3.1.6. Climate Action Plan 2021

The Climate Action Plan sets out a course of action over the coming years to address climate disruption, which is acknowledged as having diverse and wide-ranging impacts. The document outlines the aims for each sector of industry in Ireland. Electricity, Transport, Built Environment, Industry, Agriculture and Waste have all been assessed in the document with a roadmap laid out to deliver a reduction of emissions in each of these sectors between 2021 and 2030, and to reach net zero nationally by no later than 2050.

As part of the plans for a significant cut in transport emissions, the CAP states an objective of 500,000 extra walking, cycling and public transport journeys per day by 2030.

The promotion of walking, cycling and public transport, and a modal shift from the use of private vehicles will all contribute to the achievement of the targets set out in relation to climate action.

3.2. Regional Policy

3.2.1. Regional Spatial and Economic Strategy (2019 – 2031)

The Regional Spatial and Economic Strategy provides a roadmap for effective regional development identifying key strategic assets, opportunities and challenges and sets out policy responses to ensure the people's needs are met. The document delivers a combination of response, design, and innovation; in how the Eastern & Midlands Region does business, delivers homes, builds communities and values land-use – creating healthy places and promoting sustainable communities. The RSES introduces the concept of a Growth Framework to achieve this integration as it is considered that regional growth cannot be achieved in linear steps. The report highlights Navan as a key location for development and sets out a policy objective to “support the promotion and development of greenway infrastructure and facilities in the Dublin Metropolitan area and to support the expansion and connections between key strategic cycle routes”. The strategy sets out key objectives for cycling as follows:

- Provide safe cycling routes in towns and villages across the region.
- Investment priorities for feasibility and route selection studies for cycleways shall identify and subsequently avoid high sensitivity feeding or nesting points for birds and other sensitive fauna.
- Delivery of the National Cycle Plan within the region.

The Regional Spatial and Economic Strategy (RSES) published in June 2019 sets out an integrated policy to enable the creation of sustainable regions with the capability to be resilient to future climate change. The Regional Policy Objectives (RPOs) contained in the RSES are designed to promote efficiencies in water and energy use and the move towards a low carbon economy. They aim to encourage a modal shift towards green transport and energy options in addition to bolstering the robustness of local regional ecosystems through a regional green infrastructure strategy.

In the specific context of climate change RPO 7.30 refers to the preparation of a greenhouse gas inventory for the region to inform the preparation of a strategic mitigation action plan. RPO 7.31 requires Local Authorities to develop Climate Action Strategies (CAS) as well as local climate adaptation and mitigation strategies. The Meath Climate Action Strategy was adopted in September 2019. Scheme specific Regional Policy Objectives are shown below:

- RPO 7.30: Within 1 year of the adoption of the RSES, the Eastern and Midland Region Assembly (EMRA) shall seek with other stakeholders to carry out an assessment of transport emissions in the Region to identify greenhouse gas forecasting and to analyse the emissions impacts of development in the Region.
- RPO 7.31: Within 1 year of carrying out a regional emissions assessment, EMRA shall compile and publish an emissions inventory and, in collaboration with the relevant departments and agencies, agree emissions reductions targets in accordance with agreed national sectoral plans and to support an aggregate 40% reduction in greenhouse gas emissions by 2030 in line with the EU 2030 Framework.

The above RPOs are intrinsically linked to the modal shift towards green transport and subsequent reduction in greenhouse gases.

3.2.3. Meath County Council Development Plan (2021 – 2027)

The Meath County Council Development Plan states that a key priority for this Plan is the development of a sustainable transport system, promoting measures to increase the use of public transport, while also increasing the modal share for walking and cycling in towns and villages across the County. Its objectives align with current policies that focus on active travel, such as Ireland Project 2040, the NTA Cycle Network Plan (Greater Dublin Area) 2013, National Cycle Manual, among many others. MCC recognises the importance of both walking and

cycling to the overall well-being and quality of life of residents. Walking and cycling trends are noted to vary across the county. This highlights the difference in the convenience of walking or cycling as an option, due to the level of connectivity, road safety and quality of facilities provided.

The Council engaged with the NTA to develop modal share targets for the promotion of measures to increase the use of public transport, while also increasing the modal share for walking and cycling in towns across the County. The Development Plan clearly sets out the development of cycling and pedestrian linkages with the following aims relevant to the Navan Cycle Scheme R147 Martha's Bridge to Circular Road, under the Movement Strategy Objectives and Policies (referenced as "MOV OBJ" and "MOV POL", respectively).

- The Plan will seek to support and facilitate an increase in modal share for cycling and increases in the use of the bus network in the County.
- Inclusion of measures to improve the efficiency and sustainability of urban transport including improved and expanded public transport capacity; walking and cycling infrastructure; improved traffic management and bus priority; and better use of Intelligent Transport Systems (ITS), where appropriate.
- To promote the use of mobility management and travel plans to bring about behaviour change and more sustainable transport use.

It is the objective of the Council:

- MOV OBJ 3: To ensure that design for cycle infrastructure for all relevant developments shall be carried out in accordance with the Greater Dublin Area Cycle Network Plan, other relevant design standards or any successors to these documents.
- MOV OBJ 11: To provide bus priority measures on existing and planned road infrastructure, where appropriate, in collaboration with the NTA, Bus Éireann and TII.
- MOV OBJ 27: To implement, in conjunction with the NTA, the recommendations of the NTA strategy with regard to walking and cycling infrastructure.
- MOV OBJ 28: To revise road junction layouts, where appropriate, to provide dedicated pedestrian and cycling crossings, reduce pedestrian crossing distances, provide more direct pedestrian routes, and reduce the speed of turning traffic.
- MOV OBJ 29: To implement at appropriate locations pedestrian permeability schemes and enhancements.
- MOV OBJ 42: To develop and implement, in consultation with the Department of Transport a programme for the upgrading, improvement and maintenance of the non-national road network in the County.

The following are policies of the Council:

- MOV POL 8: To cooperate with the NTA and other relevant agencies to have ongoing reviews of the network of bus routes in Meath, and to support and encourage public transport operators to provide improved bus services in, and through the County.
- MOV POL 9: To ensure that the design and planning of transport infrastructure and services accords with the principles of sustainable safety, in order that the widest spectrum of needs, including pedestrians, cyclists, the ageing population and those with mobility impairments are taken into account.
- MOV POL 12: To support the implementation of recommendations presented in the NTA's Transport Strategy for the Greater Dublin Area 2016-2035 and any subsequent reviews thereof. To ensure that design for cycle infrastructure for all relevant developments shall be carried out in accordance with the Greater Dublin Area Cycle Network Plan, other relevant design standards or any successors to these documents.
- MOV POL 17: To identify and seek to implement a strategic, coherent and high-quality cycle and walking network across the County that is integrated with public transport and interconnected with cultural, recreational, retail, educational and employment destinations, and attractions.
- MOV POL 18: To support the provision of a long-distance inter-connecting walking/cycling route(s) between the Irish Republic and Northern Ireland.
- MOV POL 19: To support the NTA in the development of a strategic pedestrian network plan for the main urban centres of the County.
- MOV POL 20: To encourage, where appropriate, the incorporation of safe and efficient cycleways, accessible footpaths, and pedestrian routes into the design schemes for town centres/neighbourhood centres, residential, educational, employment, recreational developments, and other uses.
- MOV POL 21: To require that adequate facilities for the secure parking of bicycles be provided at convenient locations close to public transport nodes and public transport interchanges.
- MOV POL 22: To prioritise the safe movement of pedestrians and cyclists in proximity to public transport nodes.

- MOV POL 28: To promote the carrying out of Road Safety Audits and Road Safety Impact Assessments on new road schemes, road and junction improvements and traffic management schemes in accordance with the TII Publication TII-GE-STY-01024 and advice contained in the DTTAS (DTO) Traffic Management Guidelines 2012.

3.2.3.1. Navan Development Plan

It is noted that the Navan Development Plan has been made redundant and has been incorporated into the Meath County Development Plan. The following is an extract from the MCC website¹:

“Following the abolition of Town Councils and with the adoption of the Meath County Development Plan 2021-2027, all Town Development Plans are redundant and Planning policy and zoning relating to the former Town Councils are now incorporated into the Meath County Development Plan 2021-2027.”

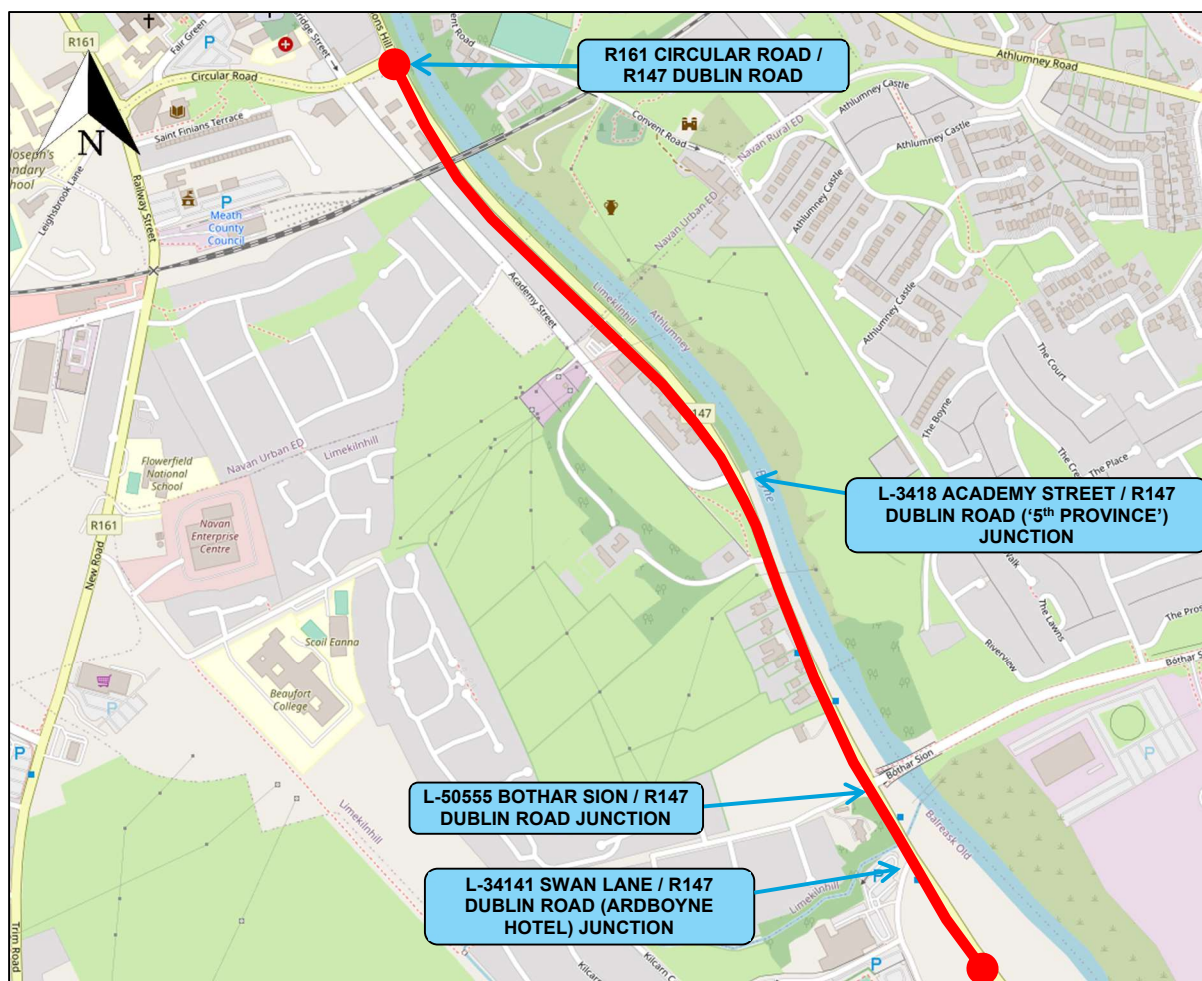
¹ <https://www.meath.ie/council/council-services/planning-and-building/development-plans/town-development-plans/navan-development-plan>

4. Description of Existing Network on Proposed Route

4.1. Road Network

The Project is located south of Navan Town centre, parallel and adjacent to the west side of the River Boyne, totalling approximately 1.4km in length. The northern end of the scheme ties into the R161 Circular Road / R147 Dublin Road junction while the southern end ties into the existing R147 Dublin Road east of Swan Lane (Ardboyne Hotel). Figure 4-1 illustrates the location and the extents of the route.

Figure 4-1 – Route Location and Extents



The typical cross section of the R147 within the scheme's extents is a single carriageway circa 7.5m wide kerb to kerb with footpaths on both sides, bringing the total width (from back-of footpath to back-of footpath) to circa 12m. Each footpath is periodically separated from the carriageway by grass verges and/or modest verge trees, with a portion of the scheme to the north having only one footpath on the east side of the R147. Public lighting columns are typically located on the footpath or behind the boundary railings at the east side of the R147. The west side of the scheme is bounded predominantly by residential properties, as well as a green area and several commercial properties on the northern end of the scheme. The east side of the R147 is bounded exclusively by the River Boyne from Circular Road to Martha's Bridge, with residential properties present south of the bridge thereafter. Figure 4-2 illustrates an example of an existing cross section of the R147.

Figure 4-2 - Example of existing R147 cross section



Based on a 22nd to 28th of March 2022 traffic survey carried out by Nationwide Data Collection on behalf of Meath County Council, the following was concluded:

- 85th percentile speeds were 63 km/h (average across 3 no. ATC² sites, northbound & southbound)
- 7-day daily average of 15,836 vehicles (average across 3 no. ATC sites, northbound & southbound)

4.2. Junctions

There are four junctions along this section of the R147. Two of these junctions, Martha’s Bridge and Circular Road, are signalised junctions serving both local and through traffic in Navan. The Academy Street and Swan Lane junctions are unsignalised, both of which serve residential and commercial properties. Refer to Figure 4-1.

4.3. Public Transport

4No. bus stops are located along the length of the scheme. These are outlined within the table below:

Table 4-1 - Public Transport Details

Direction & Relative Position ³	Description
Northbound (Chainage 1+020)	Bus Éireann bus bay Stop No.: 136621 Service(s): NX
Southbound (Chainage 1+100)	Bus Éireann bus bay Stop No.: 136631 Service(s): NX
Southbound (Chainage 1+280)	Bus Éireann bus bay Stop No.: 101801 Service(s): 109, 109A, 109X, 134, 136
Northbound (Chainage 1+380)	Bus Éireann bus bay Stop No.: 136961 Service(s): 109, 109A, 109X, 134, 136

4.4. Pedestrian & Cycle Facilities

There are controlled pedestrian crossings located at both Martha’s Bridge and Circular Road junctions. The road has dropped kerbs across most crossing locations, but no tactile paving has been provided throughout the route with exception to both controlled junctions.

² ATC: Automatic Traffic Counter

³ Chainages as per the Drawings within Appendix A.

There are no formal cycling facilities along this route, however the eastern arm of Martha's Bridge junction connects to the existing Johnstown Cycle Scheme infrastructure via the existing shared space over Martha's Bridge.

5. Description of Proposed Scheme

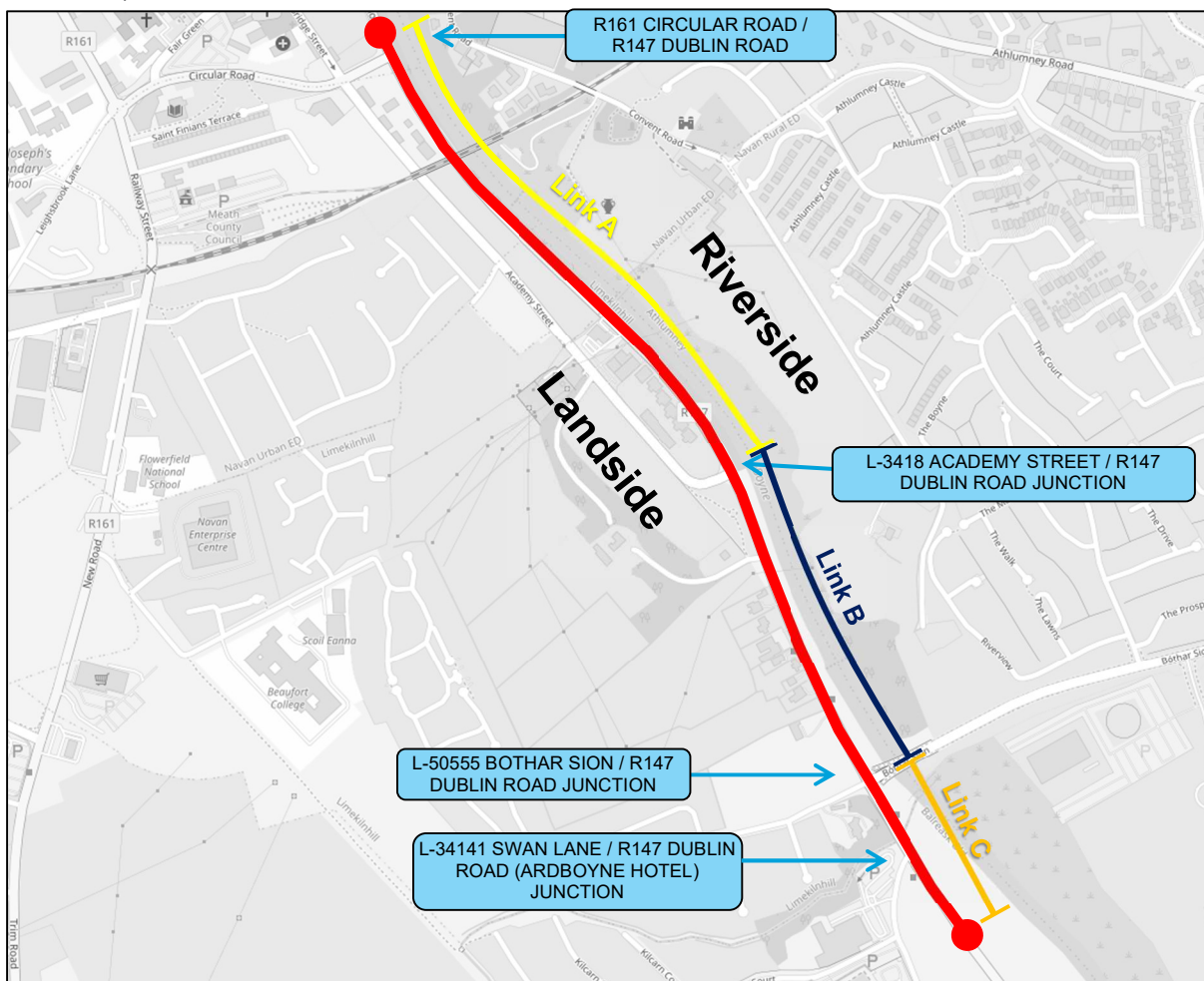
5.1. Link Provision

Following the completion of a detailed Options Appraisal, undertaken in line with the Department of Transport's Common Appraisal Framework, the Preferred Options for the Navan Cycle Scheme: R147- Martha's Bridge to Circular Road are as outlined in the sections following.

5.1.1. Methodology for Options Assessment

For the ease of identification and the option selection process, the route was split into 3 links, these being:

- **Link A** – R161 Circular Road / R147 Dublin Road to L-3418 Academy Street / R147 Dublin Road Junction (Ch. 0+120 – 0+680)⁴
- **Link B** – L-3418 Academy Street / R147 Dublin Road Junction to L-50555 Bothar Sion / R147 Dublin Road Junction (Ch. 0+860 – 1+160)
- **Link C** - L-50555 Bothar Sion / R147 Dublin Road Junction to approx 60m thereafter (Ch. 1+260 – 1+420)



Each of the links was assessed individually with various cross section and junction options using a multi-Criteria Analysis based on their performance in terms of the needs of the cyclist and impacts on the community and environment. Each option was assessed in a comparative manner to each other, and the highest ranked option carried forward to become part of the Preferred Option.

⁴ For Chainages, refer to the Drawings contained within Appendix A.

5.1.2. Preferred Options

The preferred option determined for Link are as outlined in Table 5-1.

Table 5-1 - Link Types

Link Name	Link Type	NCM Ref.	Proposed Speed Limit
Link A	Two-way Cycle Track (East Side)	4.3.4	50kph
Link B	Two-way Cycle Track (West Side)	4.3.4	50kph
Link C	Two-way Cycle Track (West Side)	4.3.4	50kph

The desirable widths of each element of the links shall be as per Table 5-2. Widths which still comply with the minimum required in the design standards (NCM and DMURS) are denoted in brackets. The desirable widths are achieved at a minimum, unless noted otherwise within the Preliminary Design Drawings.

Table 5-2 - Table of Desired Widths

Link Type	Footway Width	Cycle Track Width	Verge Width	Trafficked Width	Total Width
Two-Way Cycle Track	2m (min. 1.8m)	3-4m (min 3m)	-	2 x 3.25m lanes (3m lanes at junctions)	12.5m (min. 11.3m)

Further details of the scheme's design are outlined in Section 5.2, to be read in conjunction with the Drawings in Appendix A.1.

5.2. Key Ancillary Elements

5.2.1. Junctions & Entrances

All junctions along the route will be upgraded with features as follows:

- Junction radii shall be tightened to 6m at Martha's Bridge and Academy Street and 4.5m at Swans Lane and Circular Road. The larger radii are to accommodate bus movements. Swan Lane, due to its skew, will include for an over-run area for larger vehicles.
- Raised entry treatment on the adjoining roads (to slow approaching traffic and remove the need to dish-down pedestrian crossings).
- Tactile paving shall be provided at the crossings to advise visually impaired pedestrians.
- Circular Road junction and Academy Street junction will both have segregated signalised junctions (the latter being an upgrade from the existing priority junction).
- Martha's Bridge junction will have Shared Areas with Toucan Crossings. This arrangement at Martha's Bridge junction was determined to cater to the 4-way junction more safely, when consideration was given to the existing shared area east side of Martha's Bridge junction, and the volume of school children anticipated to use the junction (due to the proximity of schools).
- The existing right turn pocket at the Maxol garage is to be removed as part of the proposals, to mitigate against landtake at this location, and direct impacts on the River Boyne SAC.
- Between each junction pedestrians, cyclists and vehicular traffic are segregated.

5.2.2. Pedestrian Crossings

Given the location of the scheme (i.e., outside of town centre locations, which would have high pedestrian and cyclist activity) the widths of crossings shall be as per the minimum required within DMURS (Section 4.3.2) and the Traffic Sign Manual (Section 7.16):

- 4m wide for Shared crossings (i.e., for pedestrians and cyclists), widened to 6m where there is two-way pedestrian and cyclist movement;
- 2m at all uncontrolled pedestrian crossings.

All proposed crossings are shown within the Preliminary Design Drawings.

5.2.3.

5.2.3. Drainage

Typically, drainage will be provided using the existing surface water drainage system with no provision for additional or relocated gullies. The new footpaths and cycle tracks will generally slope towards the road to remove the need for additional drainage collection measures. Alternatively, and where the proposed scheme results in a marked increase in catchment area (due to an increased hard-standing area), sections of footway and/or cycle track will be constructed using either porous surfacing; or where appropriate, the cross-fall will fall towards an adjacent grass verge (thus not discharging into the surface water network).

The details of this will be developed as part of the detailed design.

5.2.4. Lighting

All footpaths, cycle tracks and roads will be fully lit during hours of darkness, in line with current best practice and design guidance in relation to public lighting.

All existing lighting within the scheme will be upgraded to new energy-efficient LED lighting; the details of which will be developed as part of the detailed design.

5.2.5. Pavements

To give the highest quality of service for cyclists, it is envisaged that a smooth asphalt surface course will be used with 10mm aggregate as recommended by the National Cycle Manual, with sufficient base and foundation layers to prevent failure. Shared spaces and footpaths are intended to be a concrete surface, to provide colour-contrast when compared to road and cycle surfaces, to aid people with visual impairments. The exact construction depth for the footpath and cycle track pavements is subject to detailed design.

5.2.6. Services

At the outset of the project, utility companies were contacted seeking information relating to their plant and ducting within the route corridor. The following information was received.

Table 5-3 - Summary of Utility Companies' Infrastructure

Service Provider	Services Present
BT	No
Eir	Yes
Enet	Yes
ESB	Yes – underground traffic cables identified. Street lighting also
GNI	Yes – Low and Medium Pressure
Irish Water	Yes – Watermain, storm water and foul water services
Virgin Media	No

A Ground Penetrating Radar (GPR) has been undertaken and a detailed utility survey will be undertaken to inform the Detailed Design Phase in determining the location of services to the most accurate extent possible. Any service diversions or protection works will be determined at that Phase. Given the nature of the scheme, which is contained within the existing boundary extents for most of the length of the routes, service diversions are expected to be minimal.

5.2.7. Land Take

There is land take required to facilitate the pedestrian and cyclist provisions for the scheme. The existing boundaries impacted as a result are as denoted on the Drawings.

5.2.8. Tree Removal and Proposed Landscaping

To accommodate the provision of the necessary pedestrian and cyclist infrastructure, the proposed scheme does require the removal of several trees (as noted within the Preliminary Design Drawings). A targeted tree survey has been undertaken based on the preliminary design and the expert advice of an arboriculturist has been used to determine the value, age, and condition of all trees along the proposed route and any mitigation required where

affected. A tree impact statement has produced by the arboriculturist, the values from which are summarised in Appendix B.

Landscaping, in the form of replacement trees, new trees, new hedging and street furniture is proposed. Much of the proposals are located at the '5th Province' area at the Academy Street junction as denoted in the Drawings.

5.2.9. Structures

The Swan River flows in an easterly direction through the southern portion of the study area before out-falling to the River Boyne. This stream is culverted beneath the R147. It is assumed that the existing wall is cantilevered from the west side of the culvert. The proposed solution is to extend the existing cantilever to support the additional width of the proposed cycle way and footpath.

Retaining walls may be required at areas where landtake is necessary to minimise the impacts on adjacent private lands.

The foregoing shall be further developed in Phase 5 (Detailed Design), including structural assessments and the procurement of site investigations to inform the design.

5.3. Key Features

Further to the scheme-wide design features noted in Section 5.2, the other areas of note are described in Table 5-4. This section should be read in conjunction with the Drawings.

Table 5-4 – Key Features

Chainage	Details
0+000 - 0+020	The route will tie into the proposed Athlumney to Trim Road scheme, whose design includes a raised two-way cycle track on the east side of the R147. The details of the tie-in will be considered at Detailed Design.
0+060	The two-way cycle track will continue through the Circular Road junction, with northbound and southbound cyclists protected from all traffic movements. Eastbound and westbound cyclists will cross at designated cycle crossing points (into and out of Circular Road). Pedestrians will be segregated from cyclists and vehicles and have their own crossing phases. The junction will be upgraded to be compliant with DMURS (i.e., left-slip lanes removed, and corner radii tightened), to promote slower speeds and reduce crossing distances for pedestrians and cyclists).
0+070 – 0+530	A 460m long new footpath is to be provided on the west side of the R147, where none currently exists, to improve pedestrian linkage, and to contribute to the urban character of the road.
0+210	Footpath width will be decreased on the west side of the R147 to a minimum of 1.6m locally due to the existing constraint of the railway arch bridge abutments (which are unaffected by the scheme).
0+580	The existing turning lane for southbound traffic to turn right into the Maxol Station will be removed to facilitate width requirements for the two-way cycle track, accompanying footpaths and trafficked lanes, within the existing road boundary.
0+760 to 0+900	The Academy Street junction will be upgraded to a signalised junction. The Scheme is to tie into proposals which were conditioned by means of a grant of permission of an adjacent development (Planning Ref.: SH306021). Along Academy Street there will be a proposed junction to this adjacent development. Southbound cyclists will transition from the river side to the land side and vice versa. The '5th Province' green area will be improved to include a new cycle track along the west side of the scheme (distancing cyclists from the junction and creating a direct link to/from Academy Street) and a new landscaping design as detailed in the Drawings appended. Northbound buses will be given priority to turn left onto Academy Street. A proposed bus stop will be included on the southbound lane south of the junction (Chainage 0+840).

Chainage	Details
0+900 to 1+120	Existing private entrance driveways between Academy Street Junction and Martha's Bridge are to be refined with the inclusion of additional verges to achieve consistent entrance widths and increase adjacent green areas.
1+030	The existing bus stop is to be retained on west side of the R147, with cycle track detail designed as per BusConnects Guidance. Bike parking will be provided adjacent to the bus stop.
1+080	The existing bus stop is to be retained on east side of the R147.
1+160 to 1+220	A new right-turn lane is proposed at Martha's bridge junction onto Springfield Glen.
1+220 to 1+260	Martha's Bridge Junction is to be upgraded to include four shared areas on each corner of the junction, tying into proposed north-south two-way cycle track and existing east-west shared facilities on Martha's Bridge.
1+260 to 1+365	Land take will be required to facilitate proposed works, as noted in Section 5.2.7.
1+290	The existing bus stop (in lay-by) is to be retained on east side of the R147, with a new bus shelter to be provided.
1+320	The carriageway cross section over the Swan Bridge / Robinrath culvert is to be widened on the west side of the R147 to facilitate the proposed works.
1+340 to 1+360	The Swan Lane junction is to be upgraded to include tightened radii and a raised table crossing point for cyclists and pedestrians. Cycle facilities will begin / terminate on Swan Lane, tying into the existing arrangement. A section of Swan Lane will be included to provide access for cyclists towards the following facilities: Ardboyne Hotel, several sports grounds (Navan Rugby Football Club & Navan Tennis Club), both Ard Ri Community National School & Balreask School and the Old Balreask Wood housing estate.

6. Environmental & Quality Assessments

6.1. Appropriate Assessment

As part of the Preliminary Design Phase a Screening for Appropriate Assessment (AA) Report was undertaken (Atkins ref. 5212234DG0028, as contained within Appendix C). The purpose of the Screening for Appropriate Assessment Report is to determine the likelihood of significant effects, if any, that the proposed project could have on Natura 2000 sites either alone or in combination with other plans or projects.

This Screening for Appropriate Assessment report is based on the best available scientific information. It is concluded by the authors of the report that the proposed Navan Cycle Scheme – R147 Martha’s Bridge to Circular Road, either alone or in combination with other plans or projects, will not result in likely significant effects on River Boyne and River Blackwater SAC, River Boyne and River Blackwater SPA or any other European site.

Thus, Atkins recommended that it is not necessary for the proposed project to proceed to Appropriate Assessment. However, the competent authority will ultimately determine whether an AA is required or not.

6.2. Environmental Impact Assessment

As part of the Preliminary Design Phase an Environmental Impact Assessment Screening Report was prepared (Atkins ref. 5212234DG0021, as contained within Appendix D). The purpose of this report is to determine whether the project requires the preparation of an Environmental Impact Assessment Report (EIAR), the key findings of which were as follows;

- Due to the limited nature of the works, it is considered that there will be no significant cumulative impacts with other developments in the general area;
- Limited noise, vibration and dust emissions may be generated during construction; however, this is anticipated to be minimal in effect and will cause no significant impact;
- There will be no significant impact on biodiversity, groundwater, surface water or traffic; and,
- There will be no impact on recorded monuments or historic features.

In summary, no significant adverse impacts to the receiving environment will arise because of the proposed project.

Accordingly, Atkins consider that the preparation of an EIAR is not required for the Navan Cycle Scheme – R147 Martha’s Bridge to Circular Road Scheme. However, the competent authority will ultimately determine whether an EIAR is required or not.

6.3. Quality of Service Assessment

The routes have been designed to provide the highest quality of service possible for all users, within the constraints identified. Segregation along the routes allows for minimal conflicts between pedestrians and cyclists, increasing comfort and attractiveness for both. Table 6-1 shows the level of service being achieved along each route (as assessed in accordance with the National Cycle Manual).

Table 6-1 - Quality of Service

PCI Range	No. Adjacent Cyclists	No. of Conflicts (Per 100m)	Journey Time delay	HGV Influence	Quality of Service
86-100	1+1	0.4	8%	0-1%	A

7. Impact of the Proposed Scheme

7.1. Pedestrians, Cyclists, Traffic & Transportation

7.1.1. Pedestrians

The new routes will provide safe, accessible, and attractive routes for pedestrians with minimum 1.8m wide footpaths for all areas where new paths are to be provided, except for a limited number of narrowed sections, as noted on the Drawings. New and improved crossings will allow pedestrians to cross all the roads within the scheme extents in a safe manner. The location of many of these crossings will improve access and permeability for pedestrians to the residential, recreational, and retail areas within the scheme extents; and onwards to the commercial, educational and transport hubs closer to the town centre.

Facilities for those users with visual or mobility impairments will be much improved, with tactile paving, flush kerbs and raised crossings provided throughout.

7.1.2. Cyclists

The provision of improved cycling facilities throughout this route will be beneficial to cyclists using the R147 to travel within Navan. The provision of this high-quality cycle infrastructure (QoS Level A) will provide attractive and safe routes for cyclists linking many residential, educational, and commercial areas in the Town Centre, as well as connections to other proposed cycleway and greenway projects in the area. The scheme will segregate cyclists from vehicles along the entire route.

7.1.3. Public Transport

The provision of upgraded bus stops (with Kassel kerbs) and additional bus stops (e.g., on the R147 just south of the Academy Street junction) will improve facilities for public transport users in the area. Dedicated bicycle parking will be provided adjacent to the northbound bus stop on the R147 located between the Martha's Bridge and Academy Street junctions, in line with the latest guidance from the NTA.

The proposals also include for a dedicated section of bus lane on the northbound approach to the Academy Street junction, and a new right-turning traffic lane on the southbound approach to Martha's Bridge junction, both of which will facilitate the improved progression of buses at those locations.

7.1.4. Vehicular Traffic

There will be some impacts to the existing vehicular traffic on the surrounding road network. Given the nature of the proposals (e.g., reduction in carriageway width, reduction in junction radii and an increase in pedestrian/cyclists crossings) there will be a slowing of traffic speeds compared to that existing, resulting in some increase in journey time. The upgrades to the junctions to bring them in-line with current standards (i.e., DMURS, the National Cycle Manual and NTA BusConnects Guidance) will result in a reduction in capacity of each of the junctions.

This however is a necessity to provide a scheme which is safe and in line with best practice, guidelines, and national policy. These proposals will help to reduce the likelihood of conflicts between all road users. The improvements to pedestrian and cycling infrastructure will encourage a modal shift away from the private vehicle, which should have a corresponding effect on reducing traffic volumes locally.

Refer to Appendix E for the Traffic and Transport Analysis Technical Note⁵, for further details.

7.1.5. Road Safety

The scheme's preliminary design has been subject to an independent Stage 1 Road Safety Audit, the findings of which have been accounted for in the current proposals; and it will be subject to Stage 2 and 3 Road Safety Audits upon completion of the Detailed Design and after Construction, respectively.

⁵ It is noted that following the TTA, as the Preliminary Design developed, the junction at Martha's Bridge was amended for safety and operational reasons to include for the provision of Shared Areas and Toucan Crossings rather than segregating cyclists from pedestrians (as outlined in Section 5.2.1 of this report). It is considered that the findings of the TTA are therefore conservative from a traffic impact point of view, as the junction was assessed inclusive of an additional "active travel" phase (i.e. dedicated phase for cyclists), which was since removed by the provision of Toucan Crossings, as shown on the Drawings.

7.1.6. Construction Traffic

During the construction phase, vehicular movement will increase in the immediate area, and temporary vertical elements such as hoarding or protective fencing, will be put in place. All construction impacts will be temporary. Prior to the commencement of works, the contractor should prepare a Construction Environmental Management Plan in line with best practice measures to avoid and minimise potential impacts on sensitive environmental receptors that could potentially occur during the construction phase.

7.2. Landscape and Visual

The proposed route has been designed to minimise the requirement for land take. The proposed works will take place majorly within the existing roadway cross section and will increase the pedestrian and cycling provisions along the route.

To accommodate the provision of the necessary pedestrian and cyclist infrastructure, the proposed scheme requires the removal of trees at various locations along the scheme (as noted within the Drawings). A targeted tree survey has been undertaken based on the preliminary design and the expert advice of an arboriculturist has been used to determine the value, age, and condition of all trees along the proposed route and any mitigation required where affected.

Replacement trees will be proposed at adjacent locations, where possible and as noted on Drawings. A net gain in trees is proposed as part of the scheme.

The proposed landscape design will have a positive visual impact along the route. The area benefiting most from this is the green area at the 5th Province sculpture (Academy Street junction) which will be an improved gateway feature to the town from the R147. Additional landscaping is proposed along the route, as outlined on the Drawings.

7.3. Built and Cultural Heritage

A desktop study was carried out to identify the architecture, archaeology, and cultural heritage within the study area. There is 1 no. National Inventory of Architectural Heritage (NIAH) feature located within the northern region of the study area. NIAH (2022) describe this as a 'seven arch railways viaducts over river, c. 1849, of rock faced rusticated limestone. Segment arches. Rubble sandstone boundary wall mark's locations of former south-western riverbank.'

The northern part of the study area also briefly intersects a zone of notification for several Sites and Monuments Record (SMR) sites/features. The intersection of this zone of notification means that the appropriate authorities will need to be notified of any construction works occurring in this area. The northern section of the study area covers the Navan Historic Core Architectural Conservation Area (ACA).

Given the location of the scheme along the existing road network and the nature and scale of the proposed works, it is not anticipated that there will be a significant impact on archaeology, architecture, and cultural heritage.

7.4. Other Environmental Impacts

Other Environmental Impacts (ecology, noise, air quality, etc) are as noted in the EIA Screening Report, which as noted in Section 6 is recommended to be screened out.)

7.5. Conclusion

The preliminary design for the scheme has been undertaken in line with DMURS, the NCM and BusConnects guidance, developing the preferred options as outlined in the *Feasibility Study and Options Selection & Appraisal Report* (Atkins Ref: 5212234DG0006).

The proposed improvements realised as part of the scheme align with the aims and objectives, as follows:

- **Safety (Conflict)**
 - The potential for conflicts shall be reduced through the provision of formalised crossing facilities throughout.
 - Where traffic volumes and speeds require it, the potential for conflicts shall be reduced by the segregation of cyclists from vehicular traffic.
 - The potential for conflicts between cyclists and pedestrians shall be reduced through the implementation of segregated facilities for much of the scheme.
- **Safety (Priority)**

- Cyclist priority shall be improved at all junctions.
- **Safety (Vulnerable Road Users)**
 - Vulnerable road users shall be catered for through formalised crossing facilities, footways, and the provision of kerbing and tactile paving in line with best practice.
- **Physical Activity**
 - The provision of the proposed facilities shall bring enhancements for pedestrians and cyclists, thereby promoting physical activity, particularly for those travelling to the adjacent residential, recreational, commercial, and educational areas.
- **Accessibility and Social Inclusion**
 - Likewise, as with Physical Activity, accessibility and social inclusion shall be improved for those road users who rely on a non-motorised means of transport.
- **Environment**
 - The impact on the environment will be minimal, and the scheme is recommended to be screened-out for EIAR and AA.
- **Integration and Economy**
 - From these benefits the proposals will offer good value for money, both at a strategic level, and to those individual users for whom the scheme shall enable a modal switch from the private car to walking / cycling.
 - The scheme aims to improve integration within the local area of Navan by aligning with several national and regional policies. At a national level the scheme aligns with the objectives of NIFTI, Sustainable Mobility Policy, National Cycle Policy Framework 2009 – 2020, National Cycle Manual 2011, NTA Cycle Network Plan (Greater Dublin Area) 2013 and the Climate Action Plan 2021 whilst at a regional level, the scheme aligns with the Regional Spatial and Economic Strategy (2019 – 2031) and Meath County Council Development Plan (2021 – 2027).
- **Localised objectives**
 - The scheme will provide a high Quality of Service (QoS) based on requirements of the National Cycle Manual (Level A).
 - The scheme will improve local movement capabilities including access to Navan Town Centre from residential areas to the south and east of Navan for pedestrians and cyclists, through the provision of new pedestrian and cycling infrastructure.
 - The scheme will create a sustainable mode of active-travel access to the primary and secondary schools in the greater urban area of Navan.
 - The scheme will provide additional recreational links by linking the local communities to future greenway and cycling routes for Navan (as identified in the GDA Cycle Network Plan).
 - The scheme will bring about improvements in the urban space / public realm, along the route, and around the Academy Street junction.

8. Submissions

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the development would be situated, may be made in writing to the Local Authority; *Planning Department, Meath County Council, Buvinda House, Dublin Road, Navan, Co. Meath*, through the Council's website (www.meath.ie or <https://consult.meath.ie>) or emailed to planning@meathcoco.ie.

Submissions shall be made on or before the deadline as noted on Meath County Council's website with respect to the scheme.

Submissions should be headed: **“Navan Cycle Scheme – R147 Martha’s Bridge to Circular Road”**

All comments, including names and address of those making submissions regarding this scheme will form part of the statutorily required report to be presented to the monthly meeting of Meath County Council. Accordingly, these details will be included in the meeting minutes of that meeting and may appear in the public domain.

Appendix A. Graphics

A.1. Drawings

A.2. Photomontages

Appendix B. Tree Impact Summary

Appendix C. AA Screening Report

Appendix D. EIA Screening Report

Appendix E. Traffic and Transport Analysis Technical Note

Appendix F. Flood Risk Assessment

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