# BusConnects Galway: Dublin Road

January 2025

# Environmental Impact Assessment Report

## Volume 1 Non-Technical Summary

BUS CONNECTS

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

# Preface

The structure of this Environmental Impact Assessment Report (EIAR) for the BusConnects Galway: Dublin Road (hereafter referred to as the Proposed Development) is summarised as follows:

**Volume 1: Non-Technical Summary**

Volume 1 provides a non-technical summary of the information contained in Volume 2 of the EIAR.

**Volume 2: Main Environmental Impact Assessment Report**

Volume 2 provides a general introduction, outlines the environmental impact assessment process, describes the scope of the Proposed Development, presents the consideration of reasonable alternatives and describes the environmental impacts specific to the Proposed Development.

**Volume 3: Figures**

Volume 3 provides drawings and large format images (labelled as 'Figures') that illustrate the information detailed in Volume 2 of the EIAR.

**Volume 4: Appendices**

Volume 4 provides documentation and data that is supplemental to the information provided in Volume 2 of the EIAR.

# Non-Technical Summary

# Table of Contents

# 1 INTRODUCTION

This document is the Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) for the BusConnects Galway: Dublin Road (referred to as the Proposed Development throughout this NTS). This document summaries the EIAR in non-technical language, including the likely significant effects identified, the proposed mitigation and monitoring measures, and any residual effects arising from the Proposed Development.

The Proposed Development will support integrated sustainable transport usage through infrastructure improvements for active travel (both walking and cycling), and the provision of enhanced bus priority measures for existing (both public and private) and all future services who will use the corridor.

The Proposed Development is located in Galway City and extends along the Dublin Road from the east of Moneenageisha Junction to Doughiska Road Junction. The total distance is approximately 3.9km and includes areas such as Roscam, Doughiska, Murrough, Renmore, Merlin Park and Wellpark.

The route of the Proposed Development is presented in Figure 1-1, and general arrangement drawings of the Proposed Development are appended to this EIAR.

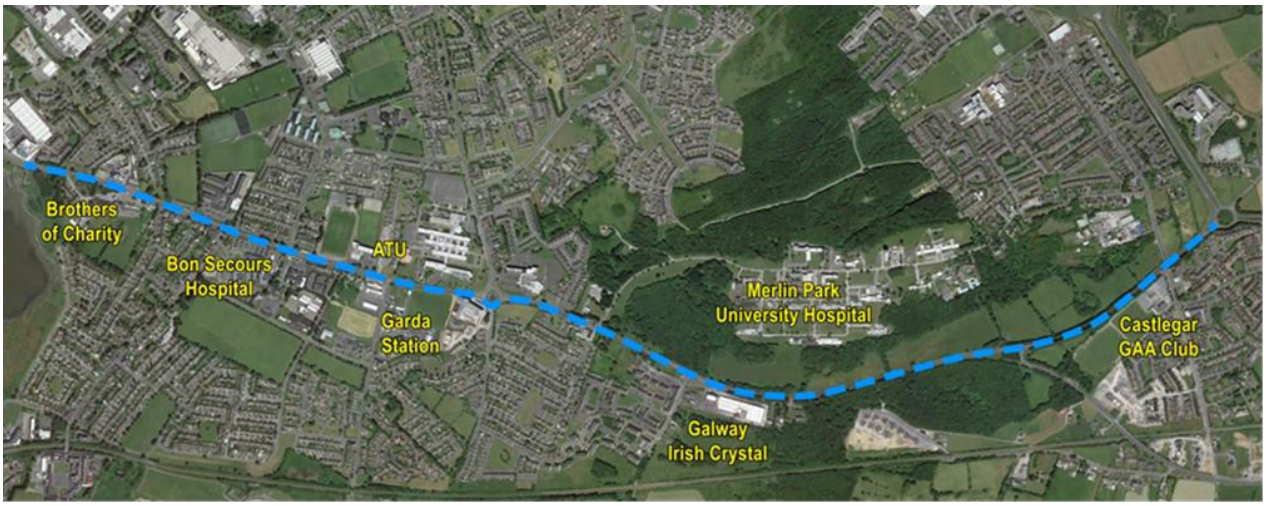


***Figure 1-1 Route of the Proposed Development***

The Proposed Development includes an upgrade of the existing bus priority and cycle facilities. The scheme includes a substantial increase in the level of bus priority provided along the corridor, including the provision of additional lengths of bus lane, resulting in improved journey time reliability. Throughout the Proposed Development, bus stops will be enhanced to improve the overall journey experience for bus passengers. Cycle facilities will be substantially improved with segregated cycle tracks provided along the links and protected junctions with enhanced signalling for cyclists provided at junctions.

The Proposed Development will provide for considerable journey time reliability for existing bus services travelling into and running through the city centre while also complementing the proposed new city bus network cross-city spine routes, proposed as part of the Galway Transport Strategy (GTS, 2016). The city bus network routes will be designed to coalesce along this high-quality corridor, providing high-frequency services with journey time reliability and opportunities for interchange.

The Proposed Development will ensure that public transport services can access key areas such as the retail and recreational facilities, sports grounds, hotels and Bed & Breakfasts along the route and key areas such as Atlantic Technological University (ATU), Merlin Park Hospital and Bon Secours Hospital.

In addition to the improvements to bus journey times and journey time reliability, the Proposed Development will provide significant benefits for cyclists and pedestrians. The provision of dedicated segregated cycling

infrastructure along the Proposed Development will make cycling trips safer and more attractive. The scheme design has been developed having regard to the relevant accessibility guidance and universal design principles so as to provide access for all users. The scheme will provide improved pedestrian crossing facilities along the route, with an increase in the number of signalised crossing points.

The primary objective of the Proposed Development, therefore, is the facilitation of modal shift from car dependency through the provision of walking, cycle and bus infrastructure enhancements, thereby contributing to an efficient, integrated transport system and facilitating a shift to a low carbon and climate resilient City.

## 1.1 Aims and Objectives

Galway City Council's strategic objectives for transport as outlined in the Galway Transport Strategy (GTS, 2016) are:

- to promote and encourage sustainable transport;
- to manage the traffic in a way which maximises mobility and safe movement; and
- to maintain and develop/upgrade infrastructure.

The aim of the Proposed Development is to provide enhanced walking, cycling and bus infrastructure on this key access corridor, which will enable and deliver efficient, safe, and integrated sustainable transport movement along the route. The objectives of the Proposed Development are to:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;
- Enhance the potential for cycling by providing safe infrastructure for cycling, segregated from general traffic wherever practicable;
- Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets;
- Enable compact growth, regeneration opportunities and more effective use of land in Galway City and environs, for present and future generations, through the provision of safe and efficient sustainable transport networks;
- Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved sustainable connectivity and integration with other public transport services; and
- Ensure that the public realm is carefully considered in the design and development of the transport infrastructure and seek to enhance key urban focal points where appropriate and feasible.

The planning and design of the Proposed Development has been guided by these aims and objectives.

The outcomes achieved from delivering the Proposed Development will be:

- An attractive, resilient, equitable public transport network better connecting communities and improving access to work, education and social activity;
- Facilitate a transport infrastructure network that prioritises walking and cycling and a mode shift to public transport resulting in better air quality and reduced carbon emissions; and
- Support increased economic and social potential through integrated land-use and transport planning to reduce the time burden of travel.

## 1.2 Role of Galway City Council

The Proposed Development is being delivered by Galway City Council (GCC) and funded by the National Transport Authority (NTA) under the Sustainable Measures Transport Grant.

GCC's role in the Proposed Development includes undertaking the design and planning process, seeking (and obtaining) all development consents including related compulsory acquisition approvals from An Bord Pleanála, and construction of the Proposed Development (once approved).

# 2 ENVIRONMENTAL IMPACTS ASSESSMENT PROCESS

## 2.1 EIA Process

Environmental Impact Assessment is a systematic and an iterative process that examines the potential environmental impacts of a Proposed Development and establishes appropriate design and mitigation measures to avoid, reduce or offset any predicted environmental impacts.

The EIAR reports the findings of an assessment of the environmental impacts of the Proposed Development. The purpose of the EIAR is to:

- Describe the baseline conditions before any work on the Proposed Development has commenced and likely evolution of the environment without the Proposed Development;
- Describe the Proposed Development;
- Provide a description of alternatives considered in the development of the Proposed Development;
- Describe the assessment methodologies used to assess the potential environmental impacts of the Proposed Development;
- Describe environmental issues and any likely significant impacts which may arise during the Construction and Operational Phases of the Proposed Development;
- Consider the potential cumulative impacts as a result of potential impacts from other schemes in combination with the predicted impacts of the Proposed Development;
- Propose mitigation measures to reduce or avoid these impacts; and
- Identify the significant residual impacts which occur after the proposed mitigation measures have been implemented.

All assessments have been conducted in accordance with best practice and applicable guidelines. Some chapters of the EIAR use specific guidelines related purely to that particular discipline.

This NTS is Volume 1 of the EIAR and presents a summary of the EIAR, including key aspects of the Proposed Development and the associated beneficial and adverse impacts of importance.

The EIAR documents have been divided into the following Volumes for ease of use:

- Volume 1 – NTS (this document);
- Volume 2 – Main Reports;
- Volume 3 – Figures; and
- Volume 4 – Appendices.

# 3 NEED FOR THE PROPOSED DEVELOPMENT

## 3.1 Context

Private car dependence causes significant congestion, affecting our quality of life, our urban environment, and road safety. As the population of Galway City and its suburbs is expected to rise by 50-60% by 2040, there will be an increased demand for travel on roads which do not currently have the capacity for more traffic. Therefore, enhanced sustainable transport options are needed. Without intervention, traffic congestion will lead to longer and less reliable pedestrian, cycle, and bus journeys throughout the region and this will affect the quality of people's lives. On the other hand, sustainable transport infrastructure helps

create more sustainable communities and healthier places, while also stimulating our economic development. It contributes to good health and well-being when delivered effectively.

## 3.2 Project Ireland 2040 - National Development Plan 2021-2030

Project Ireland 2040 is the government's longstanding overarching strategy to make Ireland a better country for all and to work towards a more resilient and sustainable future. Under the heading 'Major National Infrastructure Projects' the National Development Plan 2021-2030 sets out a selection of 'Sustainable Mobility' projects included in the Plan as 'Strategic Investment Priorities'. The strategy ensures the alignment of investment plans with the stated National Strategic Objectives for 2040 in a considered, cohesive and defined manner. The National Planning Framework (NPF) and the National Development Plan 2021-2030 together form Project Ireland 2040.

The Proposed Development, forming part of the overall NTA BusConnects Programme, is identified as a component of a Strategic Investment Priority, with an associated investment commitment, which has been determined as central to the delivery of the National Planning Framework vision. Delivering the Proposed Development will provide the infrastructure needed to help Galway City move from excessive dependence on the private car to walking, cycling and public transport.

## 3.3 Climate Action Plan 2023

Climate Action Plan (CAP) 2023 is the second annual update to Ireland's Climate Action Plan 2019. This CAP is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. The plan implements the carbon budgets and sectoral emissions ceilings and sets a roadmap for taking decisive action to halve Irelands emissions by 2030 and reach net zero no later than 2050.

CAP 2023 calls for a significant cut in transport emissions by 2030 in order to meet the sectoral emission ceiling, with the transport sector having an aim of a 50% reduction in emissions by 2030. The 'Avoid' (reduce or avoid the need for travel – land use planning), 'Shift' (Shift to more environmentally friendly modes – public transport, active travel), 'Improve' (Improve the energy efficiency of vehicle technology- vehicle efficiency, clean fuels) approach has been adopted to help achieve these targets. The targets from the previous plan (Climate Action Plan 2021) have been updated to include '*a 20% reduction in total vehicle kilometres, a reduction in fuel usage, and significant increases to sustainable transport trips and modal share'*

One of the key actions to deliver abatement in transport identified in the Plan is the advancement of the BusConnects Programme in 5 cities (which includes Galway). The delivery of the Proposed Development will provide the transport infrastructure required to deliver sustainable transport options that will support the key actions set out in the Climate Action Plan 2023. The Proposed Development will expand, enhance and connect to pedestrian and cycle networks and will assist in facilitating modal shift. It is clear that the targets set out within Climate Action Plan 2023 are closely linked to the delivery of key transport infrastructure projects, such as the BusConnects Programme and therefore the Proposed Development.

## 3.4 Climate Action Plan 2024

The Climate Action Plan (CAP) 2024 is the third annual update to Ireland's Climate Action Plan. The purpose of the CAP is to lay out a roadmap of actions which will ultimately lead the country to meeting the national climate objective of pursuing and achieving, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy. It aligns with the legally binding economy-wide carbon budgets and sectoral emissions ceilings that were agreed by Government in July 2022.

The CAP 2024 builds upon CAP 2023 by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings. CAP 2024 provides a roadmap for taking decisive action

to halve Ireland's emissions by 2030 and reach net zero by no later than 2050, as committed to in the Climate Action and Low Carbon Development (Amendment) Act 2021.

Regarding transport the expected outcomes of CAP 24, as stated in the plan, is: '*CAP24 adheres to the framework set out in CAP23 but makes some necessary refinements to that approach while taking into account the progress made so far in 2023. The expected outcome is that CAP24 will build on CAP23 in enabling us to meet the first and second carbon budgets.'*

## 3.5 Galway Transport Strategy (GTS) 2016

The GTS (GCC, 2016) is a comprehensive transport strategy for Galway City and its environs (including areas within the jurisdiction of Galway County Council), intended to establish a framework for the development of the transport network over the next 20 to 30 years. The GTS sets out proposals for the road network, public transport network, walking network and cycling network, and contains a number of significant proposals which will allow the city to continue to grow in a sustainable manner. The GTS has been adopted by both GCC and Galway County Council and is implemented through the policies of their respective Development Plans.

The Proposed Development is needed to support the implementation of the GTS in regard to improving the pedestrian environment, while taking cognisance of and supporting pedestrian and public realm planning objectives locally. In addition, the Proposed Development will improve the existing streetscape/urban realm setting along the corridor by providing significantly enhanced crossing facility and complementary planting regimes.

The Proposed Development supports the implementation of the GTS Cycle Network and Infrastructure Development, set out in Appendix F of the GTS. It will provide infrastructure that will support and enhance cycling as a transport mode, including the delivery of infrastructure for specific routes identified as part of the cycle network plan. The segregation and safety improvements to walking and cycling infrastructure will further maximize the movement of people travelling sustainably along the corridor and will therefore cater for higher levels of future population and employment growth.

As part the GTS, the Proposed Development is to be developed to achieve a continuous priority for bus movement within the metropolitan area. This is to be achieved through enhanced bus lane provisions and the removal of delays along the route.

According to the GTS, the development and implementation of priority infrastructure on the Proposed Development is needed to ensure that delays are minimised, reliability is improved, and use of buses is made more attractive.

Overall, the Proposed Development will make a significant contribution to the overall aims and objectives of BusConnects and the GTS, which will allow the city to grow sustainably into the future, which would not be possible in the absence of the Proposed Development.

# 4 CONSULTATION

Public participation has been an integral part of the evolution of the Proposed Development from the outset to seek feedback and participation throughout its development. GCC has undertaken a comprehensive consultation and engagement process with stakeholders, landowners and members of the public throughout the design progression of the Proposed Development.

The primary objective of the non-statutory public consultation process was to provide opportunities for members of the public and interested stakeholders to contribute to the planning and design of the Proposed Development and to inform the development process. Public participation in the planning and design of the Proposed Development was encouraged from an early stage through on-the-ground engagement and information and media campaigns.

The non-statutory consultation process assisted in:

- The establishment of a sufficiently strong environmental baseline for the Proposed Development and its surroundings;
- The identification, early in the process, of specific concerns and issues relating to the Proposed Development so that they could be appropriately accounted for in the design and assessment scope; and
- Ensuring the appropriate involvement of the public and stakeholders in the design and assessment process.

## 4.1 Consultation Events and Stakeholders Engagement

The first Non-Statutory Public Consultation (NSPC) undertaken by GCC and their consultant ran for a period of 12 weeks from the 8th October 2020 to 7th January 2021. This consultation was held fully online as were all meetings due to COVID-19 restrictions in place at the time.

Due to changes in the Public Spending Code, revised NTA Project Approval Guidelines and proposed revised layouts along Bus Corridors (NTA Preliminary Design Guidance Booklet for BusConnects Core Bus Corridor, 2021), the Strategic Assessment Report was redrafted, and the Proposed Development was subject to a revised Concept Development and Option Selection phase including a 2nd Non-Statutory Public Consultation.

As part of Phase 2 (Concept Development and Option Selection) Barry Transportation carried out the 2nd Non-Statutory Public Consultation – Emerging Preferred Route (EPR) in January 2023 with a consultation period of four weeks.

The issues raised by respondents during these consultations were considered as part of the final EPR and formed the basis of the preliminary design.

## 4.2 Consultation with Prescribed Bodies and Other Consultees

In addition to the extensive non-statutory public consultation on the Proposed Development, GCC and the design team undertook consultation with prescribed bodies and produced an EIA Scoping Report. The said report was issued to prescribed bodies and relevant non statutory consultees in May 2023. Feedback from this consultation was also used to inform the EIAR and the preliminary design proposals, where appropriate.

Consultations were also conducted with organisations such as the National Parks and Wildlife Service (NPWS), Galway City Council and local environmental groups and these are considered in the development of the relevant impact assessments chapters contained in Volume 2 of this EIAR.

## 4.3 Consultation with Landowners and Local Business Groups

There has been ongoing engagement with landowners whose properties will be impacted, or potentially affected, as the design development for the Proposed Development has progressed, from the earliest stages of the project, refer to Chapter 1 (Introduction) of this EIAR.

During the preliminary design process an investigation of the land registry database was undertaken to identify potentially impacted landowners. A total of 32 Registered or Reputed landowners, 5 No. Occupiers and 6 No. Lessees were identified as potentially requiring partial acquisition in order to complete the Proposed Development

Landowner meetings commenced in January 2023. Contact has been made with representatives of the majority of potentially impacted folios. There has been ongoing engagement with landowners whose properties are affected, as design development has progressed on the Proposed Development. Over the

course of the engagements, affected property owners have had the opportunity to discuss different aspects of the Proposed Development with the design team.

On the 1st July 2024 registered letters were issued to registered addresses of the properties likely to be the subject of the Proposed Development CPO process seeking to engage with them to outline the Proposed Development and CPO, to ascertain ownership details (or to confirm ownership details based on Property Registration Authority – Registry of Deeds referencing research), and to ascertain any other parties with an interest in the property / lands.

Since July 2024, a series of landowner meetings were scheduled with all identified parties who requested a meeting. Following this initial engagement, and where other parties were identified with an interest in any property/land, further registered letters were issued to these parties offering a meeting to discuss the proposed development and CPO. Follow-up conversations have been facilitated as a result of these letters on request.

# 5 ALTERNATIVES CONSIDERED

## 5.1 Strategic Alternatives

The Proposed Development has been developed following careful consideration of alternatives. The GTS, and its associated Strategic Environmental Assessment, considered several strategic options relevant to the Proposed Development.

The consideration of alternative options included a 'Do Nothing' alternative. This is a scenario where the Proposed Development would not be progressed. This option was deemed to be unacceptable as traffic congestion throughout Galway City is particularly high, with the number of cars on the road increasing and significant daily traffic delays. Without intervention, potential impacts could worsen for the region, including:

- Continued growth of traffic congestion;
- Impacts on the ability of the region to grow economically due to increased traffic congestion;
- Longer journey times and increased travel stress will diminish quality of life; and
- Environmental emissions targets will not be met.

GCC carried out a review of the existing transport network and future forecasts of travel demand in Galway. The assessment of travel demand and journey types concluded that, given the low-density nature of land-use development in Galway City and environs to date, the continued need for improvement in bus services as part of the overall GTS would be required. The GTS also looked at a phasing approach to the implementation of supporting infrastructure and services in the short, medium, and longer-term over a 20-year period.

Any new public transport network proposed for Galway also needs to be cognisant of the vibrant nature of Galway city and its environs, to allow it to 'breathe' by removing traffic congestion and to create an attractive environment for people to access and move around.

The concept for the Proposed Development therefore was to focus on the provision of infrastructure and supporting traffic management measures necessary to cater for existing and future bus services, which either approach and terminate in the city centre from the east and west or run through the city centre from either direction.

Through the work undertaken in the preparation of the GTS, including its supporting studies, various alternatives to deal with the transport needs along the broader corridor which are intended to be partly addressed by the Proposed Development were identified and considered.

Other strategic alternatives considered included:

- Bus Rapid Transit (BRT);
- Light Rail;
- Rail Integration;
- Metro;
- Demand Management; and
- Technological Alternatives.

The Proposed Development has been developed to provide a level of service similar to BRT. The GTS concluded that the construction of a new heavy rail/ light rail/metro alternative would not be justified by the predicted level of demand.

In addition, demand management and technological alternatives, such as congestion charges, road pricing or electric vehicles on their own would not remove the need for additional bus transport or cycling infrastructure along the route of the Proposed Development.

## 5.2 Route Alternatives

Alternative route options have been extensively considered during the design development of the Proposed Development. The development of the design has also been informed by a review of feedback and new information received during each stage of public consultation and as the level of data, such as surveys, transport and environmental data was collected and assessed.

Development of the Proposed Development has evolved in the following stages:

1) **Option Selection Report (Appendix A3.1 in Volume 4)**: In early 2022, the NTA initiated plans to progress the development of the Galway BusConnects: Dublin Road as identified in the GTS. As part of this body of work, the BusConnects Galway: Dublin Road Options Selection Report was prepared which identified feasible options along the corridor, assessed these options and arrived at an Emerging Preferred Route;

2) **Public Consultation:** Informed by feedback from the EPR Non-Statutory Public Consultations, the first held from the 8th October 2020 to 7th January 2021 and the second held from the 13th January 2023 to the 13th February 2023;

3) **Draft Preferred Route Option Development**: Informed by feedback from the overall public consultation process, stakeholder engagement and the availability of additional design information, the design of the Emerging Preferred Route evolved with further alternatives considered;

4) Emerging **Preferred Route Option**: Informed by feedback from the overall public consultation process, continuing stakeholder engagement and the availability of additional design information, the Preferred Route Option, being the Proposed Development, was finalised.

Alternative options have been considered in a number of areas during the design development of the Proposed Development, such as the varying cross sections, junction layout, location of offline cycle routes and the road layout in constrained locations. Careful consideration for alternative cycling route options was also fundamental in the process of defining the EPR.

The alternative route options were then evaluated under the following criteria:

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

Informed by the appraisal of alternative route options, the Emerging Preferred Route was identified and is summarised as follows:

*'The BusConnects Galway: Dublin Road scheme starts east of Moneenageisha Junction where it ties into the BusConnects Galway: Cross City Link proposals and follows Dublin Road as far as the Doughiska Junction.*

*For the full length of the route dedicated bus lanes, segregated cycle lanes and footpaths are provided on either side of the road. Dublin Road remains 2 way for general traffic. All major junctions along the route are upgraded to signalised junctions with pedestrian and cyclist provision, including the Skerritt Roundabout.'*

## 5.3 Design Alternatives

Following the completion of the public consultation process in relation to the Emerging Preferred Route, various amendments were made to the Proposed Development proposal to address, where practical to do so, the issues raised in submissions.

Furthermore, there was additional design development along the Proposed Development taking into account additional information gathered. This additional design development took account of:

- New and updated topographical survey information;
- Ground investigation information;
- Landscape design amendments;
- Arboricultural design inputs;
- Further engagement with developers and owners of adjacent lands;
- Drainage design amendments; and
- Ecologist inputs.

Proposed design changes as outlined in the responses in Table 5-1 below were considered in the preliminary design stage.

***Table 5-1 Public Consultation Suggestions & Responses Summary Table***

| Suggestion | Response |
|---|---|
| Increase the width on the cycleways especially at junctions due to turning, waiting and stacking. | Lane widths are to design standards. Consideration to be given to widening the southern footpath between Coast Road and Doughiska junctions. |
| Design to take account of the existing traffic problems at Atlantic Technological University (ATU) bus stop | Design updated |
| Use 'Cyclops' or 'Dutch' arrangement at all junctions. | Cyclops Junction has been considered and adopted for one of the junctions. |
| Provide physical separation between cycleways and traffic lanes | 0.5m strip to be considered as part of the preliminary design stage. |
| Provide lay-by bus stops at ATU | Adopted as part of the preliminary design stage. |
| Issue with right turning across footpath, cycleway, bus lane and traffic lane. | Providing a cycle track & bus lane would improve vehicle sightlines when exiting. Also, signalised junctions will provide gaps in traffic flow allowing egress. Dublin BusConnects referred to a number of examples which already exist which have set a precedence in response to exiting and turning right. |
| Pedestrian crossing across entrances is set back | Design updated. |

| Suggestion | Response |
|---|---|
| Amend alignment at No. 18 Dublin Road to provide 600mm from garage. | Design updated. |
| Provide a yellow box on Michael Collins Road to allow properties facing Dublin Road right turn onto Michael Collins Road. | Issue with loop detector. |
| Provide a signalised junction at the entrance to Woodhaven and incorporate entrance to Merlin Gate. | This would result in two signalised junctions within 130m of each other which would be undesirable for Dublin Road traffic. |
| Use of old Dublin Road at Coast Road for cycle lane / footpath to avoid junction | Included as part of preliminary design. |
| Provide link to Greenway project. | To be considered as a separate commission. |
| Amend the cycleway arrangement at Coast Road junction to have southbound cyclists cross the junction on the eastern side. | Design updated. |
| Woodhaven - remove trees and keep the cycleway / footpath route along bus lane. | Design updated. |

# 6 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Proposed Development has an overall length of approximately 3.9km, commencing at the Moneenageisha Junction in the west and tying into the Doughiska Junction in the east with junctions at Renmore Park, Renmore Road, Michael Collins Road, Ballyloughane Road, Skerritt Junction, Merlin Park Hospital, Lios an Uisce (Galway Crystal), Rosshill Road, Coast Road and Doughiska Road. The Proposed Development comprises the provision of public transport facilities and active travel facilities from the Moneenageisha Junction to the Doughiska Junction. This route is a main arterial route into Galway City centre for both commuters and for tourists. It also runs adjacent to the ATU, Merlin Park Hospital, Bon Secours Hospital and a number of schools and other amenity locations.

The design of the Proposed Development has progressed through extensive design iterations, focusing on reducing potential environmental impacts where feasible, while still achieving the project's objectives. Additionally, feedback from the thorough consultation process has been incorporated.

The Proposed Development has been developed to ensure that the principles of universal design are integrated fully in the design, providing access for all users, and eliminating barriers to disabled people.

A typical BusConnects road layout is shown in Figure 6-1.

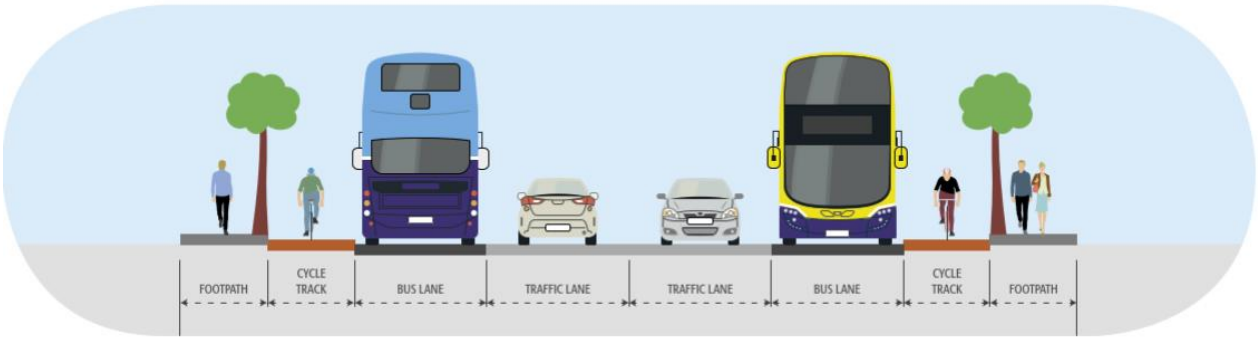


***Figure 6-1 Typical BusConnect Road Layout***

The Proposed Development will make significant improvements to pedestrian and cycling facilities and to bus priority. Some of the key changes that will be made to the existing corridor as a result of the Proposed Development are the following:

- The number of pedestrian signal crossings will increase by 50% from 1 to 2 as a result of the Proposed Development;
- The number of traffic signal controlled junctions will increase from 6 to 9 as a result of the Proposed Development;
- The proportion of segregated cycle facilities will increase from 0% on the existing corridor to 100% on the Proposed Development;
- The reconfiguration of existing and new bus stops will result in 21 number bus stop facilities; and
- The proportion of the route having bus priority measures will increase from 49% on the existing corridor to 100% on the Proposed Development.

For the purpose of describing the Proposed Development it has been split into two sections as follows:

- Section 1: Moneenageisha to Skerritt Roundabout; and
- Section 2: Skerritt Roundabout to Doughiska Junction;

## 6.1 Section 1: Moneenageisha to Skerritt Roundabout

The Proposed Development commences east of Moneenageisha Junction where it will tie into the BusConnects Cross-City Link project. This section of the Proposed Development is approximately 1500m in length. It is proposed to maintain the two-way general traffic lanes and introduce continuous bus lanes in both directions along its length. The existing footpaths will be upgraded and extended, and new segregated cycle tracks will be provided in both directions along the whole of this section. At some locations along the Proposed Development, the desired cycleway width cannot be achieved, and localised narrowing is required.

Signal-controlled crossings will be provided at all junctions through a combination of dedicated cycle crossings and shared toucan crossings. A pedestrian crossing will be upgraded to toucan crossing, to the west of the Renmore Park, and a new toucan crossing at ATU entrance is proposed, connecting the inbound direction bus stops to the campus.

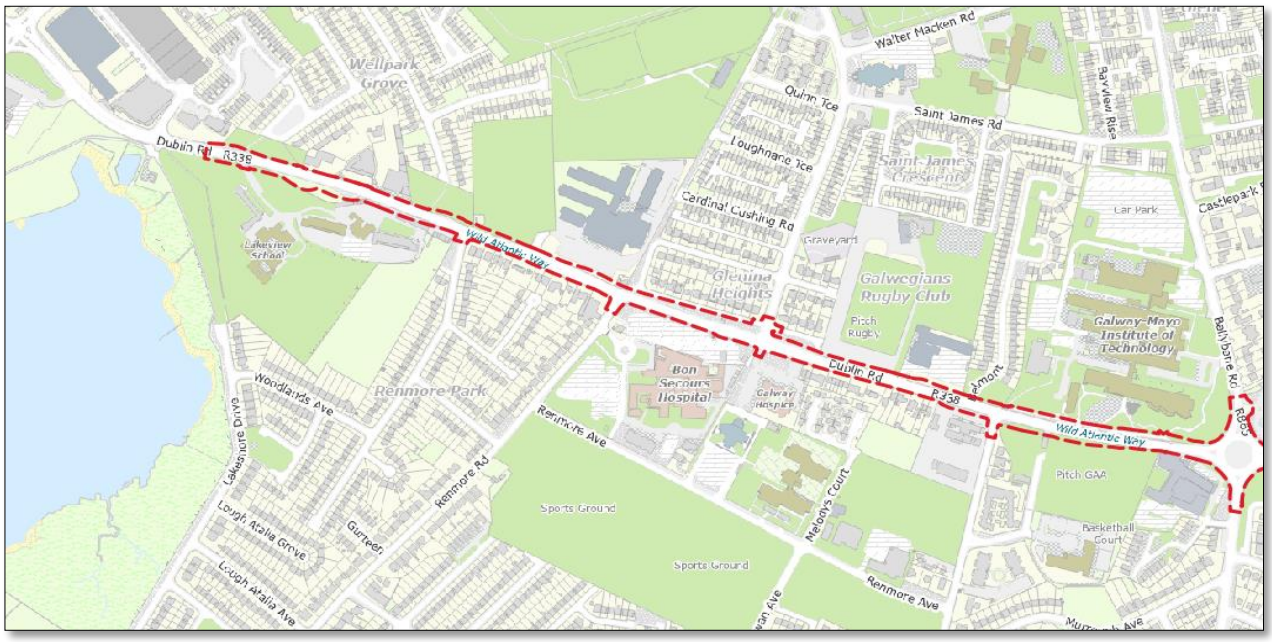


***Figure 6-2 Section 1 – Moneenageisha to Skerritt Roundabout***

The existing signalised junctions at Renmore Road and Ballyloughnane Road are proposed to be modified to improve infrastructure and provide dedicated pedestrian and cyclist facilities. A new "cyclops" (Cycle Optimised Protected Signals) junction is proposed to replace the Skerritt roundabout which is designed to separate pedestrians and cyclists from traffic at the junction, reducing the possibility of collisions or conflict. This design also creates more space for landscaped areas at the outer edges, see Figure 6-3 below.

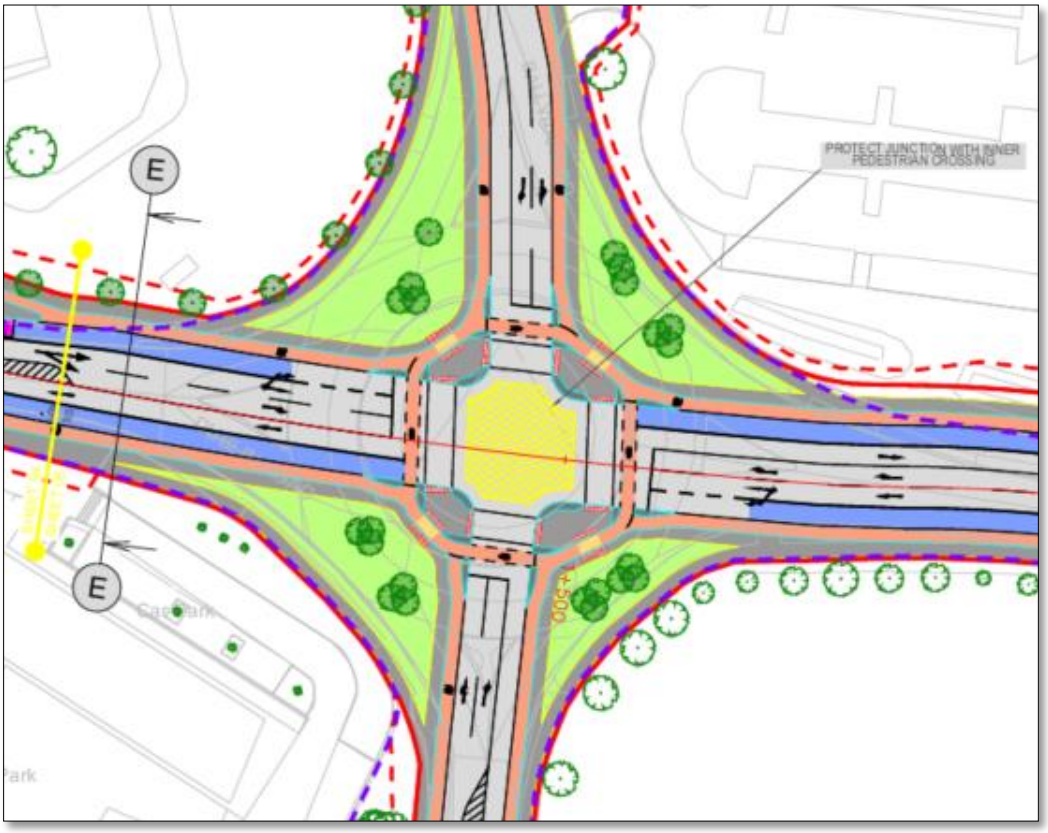


***Figure 6-3 Skerritt Roundabout (Cyclops) Indicative Design***

There are no new structures proposed along this sub-section of the Proposed Development route.

A number of new access arrangements are proposed at local business and housing estates along the route.

Temporary land acquisition is required within this Section at various locations to facilitate works, including drainage connections and reconfiguration of access, footpaths and cycle tracks. All temporary land acquisition is to be reinstated once works are completed.

Permanent land acquisition is required within this section to allow for the proposed cross-section widening and construction of new footpaths and cycleways. The following locations will be impacted by the additional land take for the scheme:

- Greenspace and paved area outside of Brothers of Charity Services Galway;
- Greenspace by Wellpark Grove Park;
- Greenspace west of Connacht Hotel;
- Greenspace in The Connacht Hotel Car Park;
- Garden and driveway of 18 Dublin Road;
- Approximately 34 private car parking spaces (26 temporary lost, and 8 permanently lost);
- Public Greenspace south of Glenina Heights;
- Greenspace in the western corner of Galway Hospice Foundation;
- Greenspace by Bon Secours Hospital;
- TFI bike station Glenina;

- Greenspace by Galwegians Rugby Football Club;
- Greenspace and paved area in Flannery's Hotel Car Park;
- Industrial area to the west of Ballyloughane Road;
- Greenspace in Belmont;
- Gaelscoil Dara sports field; and
- Greenspace outside of ATU Galway Campus

The works in the Brothers of Charity lands will include demolition of two single-storey buildings located just inside the existing boundary wall. Boundary walls at the Brothers of Charity, Wellpark Grove Park, greenspace west of Connacht Hotel, the Connacht Hotel, 18 Dublin Road site, Duggan's Spar, Bon Secours Hospital, Galwegians Rugby Football Club, Flannery's Hotel, Industrial area (former Dawn Dairies Site) at the corner of Ballyloughane, Belmont Estate, ATU Galway Campus and ATU Pitches will be demolished and will be rebuilt at the new boundary location.

## 6.2 Section 2 Skerritt Roundabout to Doughiska Road Junction

Section 2 is approximately 1400m in length and runs from Skerritt roundabout to Doughiska Junction where the scheme ties in with the Martin junction completed in June 2023. The route is to be realigned and widened in order to provide a continuous bus lane in both directions, a segregated cycle track in both directions, a reconstructed footway in both directions and a general traffic lane in both directions.

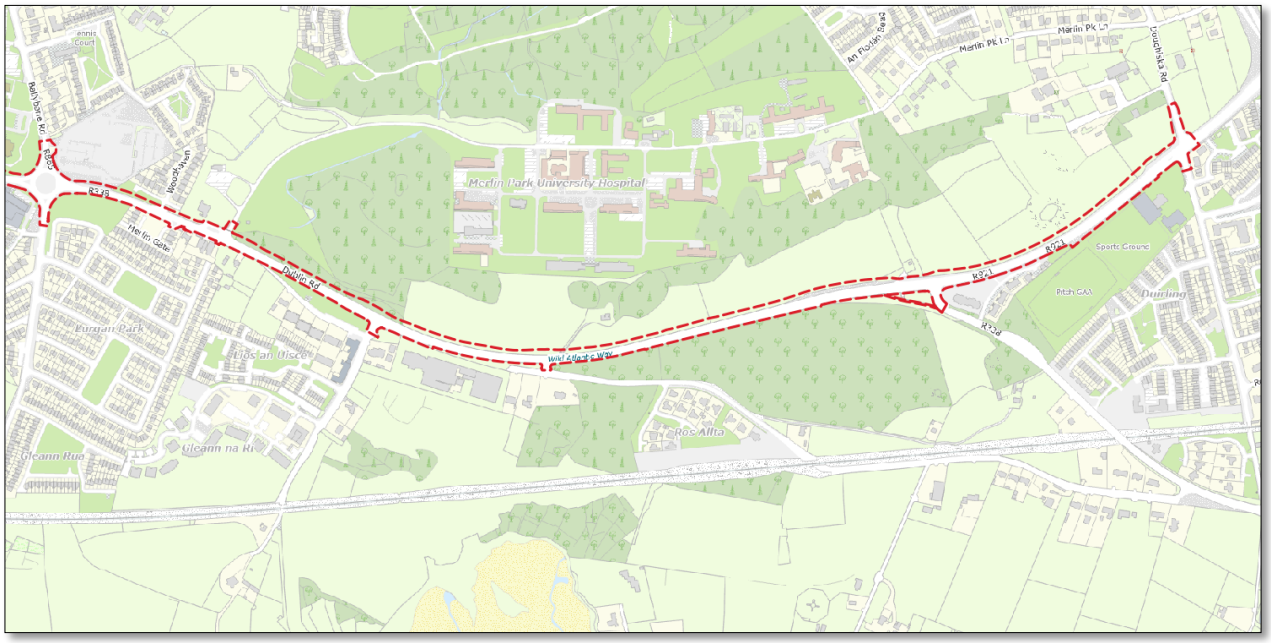


***Figure 6-4 Section 2 – Skerritt Roundabout to Doughiska Road Junction***

Cycling facilities to be provided along this section of the Proposed Development are as follows:

- New segregated cycle tracks will be provided in each direction from Skerritt Junction to the Coast Road (chainage 3+280);
- A two-way segregated cycle track will be provided on the northern side of the route from the Coast Road to Doughiska Junction which will run behind the roadside tree line; and
- Signal-controlled crossings provided at all junctions through a combination of dedicated cycle crossings and shared toucan crossings.

The Proposed Development will upgrade pedestrian routes and crossing points to improve mobility along this section. Footpaths are to be replaced and widened with new high quality paving surfaces, and between chainage 2+280 and 3+760, a new footpath will be implemented along the outbound carriageway to link in with the existing ones at Doughiska.

A Pedestrian crossing is being proposed at all new non-signalised junctions and raised crossings in the minor junctions and entrances.

There is a proposal for one retaining wall in the northeast corner of Skerritt Junction, at the frontage of former Corrib Great Southern Hotel site. The proposed reinforced concrete wall length will be 50.0m and have a maximum height of 2m approximately above ground level.

Between the Skerritt Junction and the eastern extremity of the Proposed Development the additional required land is primarily to the north of the existing R338. The land take impacts include:

- The entrance to the former Corrib Great Southern Hotel site (now derelict)
- Greenspace outside the Woodhaven Estate
- HSE lands at Merlin Park Hospital
- Agricultural land located adjacent to the Dublin Road to the east of Merlin Park

# 7 CONSTRUCTION

## 7.1 Introduction

The Construction Phase for the Proposed Development is anticipated to take approximately 24 months to complete.

The construction of the Proposed Development will include the following activities:

- Site preparation and clearance works, including:
  - Land acquisition where temporary or permanent land take is required;
  - Installation of fencing and signage;
  - Protection of trees and vegetation to be retained;
  - Vegetation clearance and treatment of non-native invasive plant species (if needed);
  - Archaeological investigations;
  - Ground investigations;
  - Set up of Construction Compounds;
  - Installation of temporary lighting;
  - Installation of temporary traffic management measures (as required); and
  - Demolition of items such as buildings, walls, gates, fencing, lighting poles and bus stops.
- Road and street upgrades, including:
  - Alterations to parking and access;
  - Excavation of the road surface;
  - Implementation of pedestrian and cyclist safety measures;
  - Adjustment or upgrades to drainage;
  - Realignment, upgrades, replacement or protection of utilities and services;
  - Construction of structures, including:
    - Retaining wall; and
    - Storm water holding tanks/pumping stations;
  - Construction of pavement, including general traffic carriageways, bus lanes, cycle tracks, off-line bus stops, traffic islands, off-line parking and loading bays;
  - Construction of road furnishings (including street furniture, signage, lighting, bus stops (shelters, CCTV, and information displays) and communication systems; and
  - Boundary treatment and landscaping.
- Construction site decommissioning, including the removal of all construction facilities and equipment.

A Construction Compound to accommodate the construction of the Proposed Development will be located on the Dublin Road on GCC lands (adjacent to The Connacht Hotel). The Construction Compound is shown in Figure 7-1.


***Figure 7-1 Location of Proposed Construction Compound***

The Construction Compound will be used as the primary location for the storage of materials, plant and equipment, site offices, worker welfare facilities and limited car parking. The Construction Compound will be secured, to ensure the safe storage of all on-site material and machinery. Permanent and temporary fencing will be erected, and site security will be employed. Appropriate environmental management measures will be implemented at the Construction Compound.

## 7.2 Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) has been prepared which describes the overall environmental management strategy that will be implemented during the Construction Phase of the Proposed Development. The CEMP includes the mitigation measures which will be implemented to provide environmental protection during the Construction Phase of the Proposed Development. The CEMP addresses construction traffic management, resource and waste management, invasive species management, surface water management and environmental incident response measures.

The CEMP will be updated by GCC (the Employer for the construction works) prior to the commencement of the Construction Phase, so as to include any additional measures required pursuant to conditions attached to any decision to grant approval for the Proposed Development. GCC shall set out the Employer's Requirements in the Construction Contract including all applicable mitigation measures identified in this EIAR, as well as additional measures required pursuant to conditions attached to any decision to grant approval.

The CEMP has regard to the guidance contained in the Transport Infrastructure Ireland (TII) Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan, and the handbook published by Construction Industry Research and Information Association (CIRIA) in the UK, Environmental Good Practice on Site Guide, 5th Edition (CIRIA 2023)..

## 7.3 Construction Traffic Management Plan

A Construction Traffic Management Plan (CTMP) has been prepared to demonstrate the manner in which the interface between the public and construction-related traffic will be managed and how vehicular movement will be controlled.

The roads and streets along the Proposed Development that will be upgraded will remain open to traffic, wherever practicable, during the Construction Phase. To maintain traffic movements, it will be necessary, in limited instances, to undertake some traffic diversions or lane restrictions locally to complete particular elements of the works.

Access to properties will be maintained as far as reasonably practicable. While there may be temporary constraints to access during the normal hours of work, these will be communicated and arranged in consultation with the impacted users. Access for emergency vehicles will be maintained at all times.

Wherever possible, cycle and pedestrian routes will be maintained along the route throughout the duration of the construction works. If necessary, alternative routes will be provided to facilitate both pedestrian and cycle movements. Bus services will be maintained; however, some existing bus stop locations will need to be temporarily relocated to accommodate the works.

The works will be completed on a sectional basis along the corridor such that no areas will experience an extended period of construction disruption over the approximate 24-month duration. GCC will facilitate pro-active communication of the scheduled planned works by the appointed contractor to ensure that impacted individuals, businesses and communities are kept aware of upcoming likely temporary disruptions.

# 8 ENVIRONMENTAL IMPACTS AND MITIGATION

The EIA process provides a valuable opportunity to reduce potential environmental effects through design refinements. The Proposed Development design prioritises environmental considerations, minimising impacts while meeting project objectives through an iterative design process. Feedback received from the comprehensive consultation programme undertaken throughout the option selection and design development programme have been incorporated where appropriate.

GCC (the Employer for the construction works) shall set out the Employer's Requirements in the Construction Contract and will ensure that all applicable mitigation measures identified in the EIAR, as well as additional measures required in any conditions attaching to An Bord Pleanála's decision to grant approval are adhered to. The procurement of the construction contractor will involve the determination that the appointed contractor is competent to carry out the works, including the effective implementation of the mitigation measures. The appointed contractor will be required to plan and construct the Proposed Development works in accordance with the Employer's Requirements, and GCC will employ an Employer's Representative team with appropriate competence to administer and monitor the construction contract for compliance with the Employer's Requirements, which in turn shall contain all mitigation measures detailed in this EIAR, and the relevant documentation appended thereto.

The EIAR presents an evaluation of the likely significant environmental effects and applicable mitigation and monitoring measures associated with the Construction Phase and Operational Phase based on the current design.

The following sections provide a summary of the assessments for each environmental topic and sets out the likely significant residual effects as a result of the construction and operation of the Proposed Development. The following environmental topics are described:

- Chapter 6 – Traffic and Transport;
- Chapter 7 – Air Quality;
- Chapter 8 – Climate;
- Chapter 9 – Noise and Vibration;
- Chapter 10 – Population;
- Chapter 11 – Human Health;
- Chapter 12 – Biodiversity;
- Chapter 13 – Water;
- Chapter 14 – Land, Soils, Geology and Hydrogeology;
- Chapter 15 – Archaeological and Cultural Heritage;
- Chapter 16 – Landscape (Townscape) and Visual;
- Chapter 17 – Waste and Resources;
- Chapter 18 – Material Assets;
- Chapter 19 – Risk of Major Accidents and / or Disasters; and
- Chapter 20 – Cumulative Impacts and Environmental Interactions.

## 8.1 Traffic & Transport

The Traffic and Transport impact assessment (Chapter 6 of this EIAR) has two distinct parts: the physical changes to transport networks, and the traffic modelling.

The traffic and transport impacts have been broken down into the following assessment topics for both the Construction and Operational Phases:

The assessment of physical changes:

- Pedestrian Infrastructure: The changes to the quality of the pedestrian infrastructure as a result of the Proposed Development;
- Cycling Infrastructure: The changes to the quality of the cycling infrastructure as a result of the Proposed Development;
- Bus Infrastructure: The changes to the quality of the bus infrastructure as a result of the Proposed Development; and
- Parking / Loading: The changes to the availability of parking and loading as a result of the Proposed Development.

The modelling-based assessment:

- People Movement: An assessment has been conducted to determine the potential impact that the Proposed Development will have on the projected volume of people (by mode – Walking, Cycling, Bus and General Traffic) moving along the Proposed Development during the Operational Phase;
- Bus Performance Indicators: The changes to the projected journey times and reliability for buses as a result of the Proposed Development; and
- General Traffic: The direct and indirect impacts on general traffic using the Proposed Development and surrounding road network.

For the Construction Phase temporary traffic management arrangements will be prepared in accordance with the Department of Transport's 'Traffic Signs Manual, Chapter 8 Temporary Traffic Measures and Signs for Roadworks (2019)'. Measures to minimise the impacts associated with the Construction Phase will be implemented. A Construction Stage Mobility Management Plan, as described in the CEMP, will be prepared by the appointed contractor to encourage its personnel to travel to site by sustainable modes.

The assessment concludes that the impact during the Construction Phase will be Negative, Slight to Moderate and Temporary in nature, and with the application of the proposed mitigation measures described above, the impact on traffic and transport will not be significant.

The impacts assessed for the Operational Phase determines how the Proposed Development integrates within the existing network and changes to traffic flows in the direct and indirect study area. The assessment demonstrates the following:

- Pedestrian Infrastructure: Overall, the quality of the pedestrian infrastructure will improve along all sections. The scale of improvements are as follows:
  - Positive, Significant and Long-Term in Sections 1 and 2;
- Cycling Infrastructure: Given the quality of the existing cycling infrastructure along the Proposed Development, the improvements to the quality of the infrastructure along the Proposed Development will be as follows:
  - Positive, Very Significant and Long-Term in Sections 1; and
  - Positive, Significant and Long-Term in Section 2;
- Bus Infrastructure: The results of the assessment demonstrate that the improvements to the quality of the bus infrastructure are as follows:
  - Positive. Moderate and Long-Term in Sections 1 and 2;
- Parking and Loading: Given the nature of the loss in parking and the availability of alternative spaces in the indirect study area, the impact is expected to be as follows:
  - Negative, Slight and Long-Term in Section 1; and
  - No impact in section 2;
- People Movements: Overall, it is anticipated that the increases to the total number of people travelling along the Proposed Development will have a Positive, Significant and Long-Term effect;
- Bus Network Performance Indicators: Overall it is anticipated that the improvements to the network performance indicators for bus users along the Proposed Development will be Positive, Significant and Long-Term; and
- General Traffic Network Performance Indicators: Overall, it has been determined that the impact of the redistributed general traffic along the surrounding road network will be Negligible, Not Significant and Long-Term.

The Proposed Development will deliver strong positive impacts to the quality of pedestrian, cycling and bus infrastructure during the Operational Phase, improving people movement in line with the scheme objectives. These improvements will help to provide attractive alternatives to the private car and promote changes from the use of private cars to walking, cycling and public transport, allowing for greater capacity along the corridor to facilitate the sustainable movement of people as population and employment levels grow in the future. The Proposed Development design has been developed with cognisance of the relevant accessibility guidance and universal design principles so as to provide access for all users.

Given that the Proposed Development results in a positive impact for walking, cycling, bus and people movements, mitigation and monitoring measures have not been considered beyond those already incorporated as part of the Proposed Development.

Although it is recognised that there will be some negative impacts for general traffic and parking / loading availability, the Proposed Development has been designed and outlined within this assessment to take cognisance of the relevant traffic and transport guidelines. The assessment demonstrates that there will be no significant deterioration in the general traffic environment in the study area as a consequence of meeting

the scheme objectives of providing enhanced sustainable mode priority along the direct study area and no further mitigation measures are considered.

Additional analysis undertaken using the Proposed Development models has shown that the new bus infrastructure facilitates a significant level of resilience for bus services that will use the Proposed Development, from implementation into the future. The Proposed Development will provide a higher level of protection to bus journey time consistency and reliability and will allow the service pattern and frequency of bus services to be increased into the future to accommodate additional demand without having a significant negative impact on bus journey time reliability or the operation of cycle and pedestrian facilities.

## 8.2 Air Quality

The Air Quality assessment (Chapter 7 of this EIAR) involved a review of available published data, a review of applicable guidelines, air quality monitoring at sensitive locations along the Proposed Development and calculations to assess air quality impacts that are predicted to occur as a result of the Proposed Development. It considers the likely significant effects associated with the construction and operation of the Proposed Development on air quality.

The existing air quality along the Proposed Development meets National and European Union air quality standards, determined by reviewing ambient air quality monitoring data. Continuous monitoring of nitrogen dioxide ($NO_2$) and particulate matter (as $PM_{10}$ and $PM_{2.5}$) carried out by the EPA and passive diffusion tube monitoring of $NO_2$ carried out by Galway City Council in the Galway City area, as well as the scheme-specific diffusion tube monitoring survey of $NO_2$ reported pollutant concentrations in compliance with the National and European Union air quality limit values.

The impacts assessed for the Construction Phase include dust emissions from activities such as site clearance, utility diversions, road and junction construction work and landscaping.

In terms of construction dust impacts during the Construction Phase, appropriate mitigation measures to ensure that construction dust nuisance is minimised will be implemented for the duration of the Construction Phase. The potential air quality impacts associated with Construction Phase construction traffic routes and changes in traffic flows have been assessed. The assessment concludes that the effect of construction traffic on air quality will be at most direct, short-term, negative and not significant. No mitigation measures will be required during the Construction Phase as all ambient air pollutant levels are predicted to comply with air quality standards. The assessment identifies a generally neutral, short-term, and not significant impact on air quality as a result of Construction Phase of the Proposed Development.

The impacts assessed for the Operational Phase include the potential air quality impacts associated with changes to traffic flows along the Proposed Development and realigned traffic lanes and traffic flows. No mitigation measures will be required during the Operational Phase as all ambient air pollutant levels are predicted to comply with air quality standards. The assessment identifies a generally neutral, long-term impact on air quality as a result of the Operational Phase of the Proposed Development.

## 8.3 Climate

Climate is defined as the average weather over a period of time. Climate change is a significant change to the average weather, and while climate change is a natural phenomenon, human activities are negatively impacting on the climate, through the release of greenhouse gases.

The climate assessment (Chapter 8 of this EIAR) involved a review of greenhouse gas (GHG) emissions, a review of applicable guidelines and predictive calculations to assess climate impacts. The Proposed Development was also assessed in terms of its vulnerability to climate change.

The impacts assessed during the Construction Phase included emissions from activities such as site clearance, utility diversions, road widening and excavation works (where required), works at junctions and

landscaping. Construction traffic routes were also assessed as part of the assessment. Construction traffic and the embodied carbon (i.e. the total energy required to make / produce any product or services) for any construction materials required will be the main sources of greenhouse gas emissions during construction.

Mitigation measures have been incorporated into the construction design with the goal of reducing the embodied carbon associated with the Construction Phase of the Proposed Development. These mitigation measures include the replacement, where feasible, of concrete containing Portland cement with concrete containing ground granulated blast furnace slag. This measure has the potential to result in an estimated saving of 641 tonnes of $CO_{2eq}$ in the current design of the Proposed Development. GHG emissions associated with the Proposed Development are predicted to be a small fraction of Ireland's Transport sector 2030 emissions ceilings and non-Emission Trading Scheme 2020 target.

The Operational Phase of the Proposed Development will support the delivery of government strategies by enabling sustainable mobility and delivering a sustainable transport system. Its aim is to provide enhanced walking, cycling and bus infrastructure on key access corridors in Galway City and its environs. This will subsequently enable and deliver integrated sustainable transport movement along these corridors. The proposed infrastructural works will provide connectivity and integration with other public transport services leading to more people availing of public transport. The Proposed Development achieves the project objectives in supporting the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets. This has the effect of a reduction in total vehicle kilometres, a reduction in fuel usage, and increases to sustainable transport trips and modal share in accordance with the 2024 Climate Action Plan.

The effect of the greenhouse gas emissions associated with the lifetime of the Proposed Development (Construction and Operational Phases), after mitigation, is predicted to be positive, long-term and not significant.

## 8.4 Noise & Vibration

The Noise and Vibration assessment (Chapter 9 of this EIAR) considers the potential impacts of noise and vibration associated with the Proposed Development. The assessment involved a review of available published data, baseline noise monitoring to establish the current background levels, and calculation of noise and vibration levels predicted to be generated during the Construction and Operational Phases.

The baseline surveys determined the main source of noise within the study area is road traffic with a small contribution from local sub-urban sources such as car park activities, pedestrian movements and environmental sources from bird song and leaf rustle. There are no sources of perceptible vibration in the existing environment.

Under the Do-Nothing scenario there is no expected change in the prevailing baseline noise environment other than expected traffic growth in line with national forecasts.

The impacts assessed for the Construction Phase included the generation of noise and vibration from road and junction reconfiguration, resurfacing works, road widening works, utility diversions, boundary and retaining wall construction. Construction traffic noise impacts along the surrounding road network has also been calculated as part of the assessment.

Mitigation measures to reduce potential construction noise include:

- Specific construction activities that will be carried out by the appointed contractor will be outlined in a Construction Noise and Vibration Management Plan;
- Selection of the least noisy construction machinery and equipment or the noise control of plant at source for any machinery or equipment for which a less noisy option is not available or practical (e.g. silencers, acoustic covers);
- Proper maintenance of construction machinery and equipment to minimise noise production;
- Using appropriate noise screening and hoarding, particularly for noisy activities required at specific locations;

- Limiting hours of construction works to mostly take place during daytime hours, Monday to Friday and scheduling construction activities in a manner that accounts for the location of the site and the nature of neighbouring properties;
- Appointing a dedicated liaison officer on-site during construction works to communicate between the appointed contractor and local noise sensitive receptors, where required; and
- Carrying out noise monitoring at noise sensitive locations.

Mitigation measures to reduce potential vibration impacts from construction activities include:

- Specific construction activities that will be carried out by the appointed contractor will be outlined in a Construction Noise and Vibration Management Plan;
- A clear communication programme will be established to inform adjacent building residents in advance of any works which may give rise to vibration levels likely to exceed noticeable levels;
- Selecting less vibration-intensive construction methods and / or machinery and equipment, where possible; and
- Carrying out monitoring at sensitive locations where there is potential for the vibration limits to be exceeded during specific phases of works.

During the Construction Phase of the Proposed Development, noise levels at properties closest to working areas will be temporarily increased. The linear nature of the works however, means that noise emissions related to construction works will be of temporary impact at any one area as the works progress along the length of the Proposed Development. The application of the construction noise thresholds, hours of works, along with the implementation of appropriate noise control measures will control noise impacts at noise sensitive locations along the length of the Proposed Development.

The impacts assessed during the Operational Phase relate to changes in traffic noise levels along the Proposed Development that will result from the reconfigured cross sections and road layouts and changes in traffic volumes and fleet mixes through the use of bus priority signals and the shift to the use of public transport. Along roads outside of the Proposed Development boundary, potential noise impacts assessed relate to any changes in traffic flows as a result of redistributed traffic.

The assessment has determined that there are no significant noise impacts arising from the Operational Phase of the Proposed Development.

## 8.5 Population

The Population Assessment (Chapter 10 of this EIAR) examined the study area for the Proposed Development which is located within the Electoral Divisions of Wellpark, Mervue, Ballybaaan, Lough Atalia, Renmore and Murrough which together have a population of 22,619 (CSO, 2022). The area is predominantly residential, although it contains areas of green space zoned for recreation/amenity and for enterprise and industry. There is a wide range of community facilities including health centres and hospitals, colleges and schools, religious facilities, community centres, charitable services, sports and playing fields.

The principal thoroughfare is represented by Dublin Road for which the new public transport (bus) infrastructure is proposed. Currently, there are no continuous bus lanes or cycle lanes, and the road is subject to regular peak hour congestion which has a negative effect on journey time for local traffic and also for out-of-town traffic arriving from the N67. Community facilities such as shops and services, along with health facilities, tourist/visitor accommodation and other businesses are found along the length of the road (but mostly in the central and western sections) and in the suburbs set back from the road. The use of private vehicles, accounts for around 60% of local commuting journeys by local people. A distinct proportion of trips are made by college students given the location of the ATU at Skerritt Junction. Journey amenity for all modes is, however, poor. The presence of community facilities, high traffic volumes and limited number crossing points contribute to community severance.

During the Construction Phase, prioritisation will be given to community accessibility for pedestrians, including people with disabilities, and for cyclists and public transport passengers. Given the existing high volume of vehicle traffic, on-road works will require some land closures and are likely to lead to some disruption to traffic movement. However, the works will be broadly sequentially phased along three sections west of Skerritt Junction, at Skerritt Junction and east of Skerritt Junction and managed so as to minimise the impact on the respective direction of traffic flow during the morning and afternoon peaks. The CEMP includes measures to mitigate the impacts of works, to minimise construction traffic movements, and to cease construction activities should congestion become severe.

There will be some negative effects on community amenity during construction due, for example, to noise and vibration or visual effects (see respective chapters). The need for road widening in places, to accommodate bus lanes, and pedestrian or cycle infrastructure, will require some land take and tree removal. There will also be impacts on residential and business access, although accessibility will be maintained, and impacts will be temporary or even brief in duration. There will be impacts on the boundaries of some businesses and community facilities. On completion, however, enhanced landscaping and tree planting is proposed, and accesses will be reinstated or improved.

In the Operational Phase, there will be a much improved infrastructure for public transport, continuous cycle tracks and improved pedestrian paths as well as more signalised crossings. Community accessibility will be much improved with the prospect of enhanced connectivity with the BusConnects Cross City Scheme and proposed cycle infrastructure elsewhere across Galway City. There will be corresponding benefits also for commercial accessibility and amenity. It is expected that the improved infrastructure for public transport and active travel will lead to a degree of modal shift from private vehicles and a consequent improvement in community amenity. These effects will be long term, positive and very significant.

## 8.6 Human Health

The Human Health assessment (Chapter 11 of this EIAR) considers the human health impacts associated with the Construction and Operational Phases of the BusConnects Galway: Dublin Road Scheme.

The design of the Proposed Development has evolved through comprehensive design iteration with particular emphasis on minimising the potential for environmental impacts, where practicable, whilst ensuring the objectives of the Proposed Development are attained. In addition, feedback received from the comprehensive consultation programme undertaken throughout the option selection and design development process have been incorporated into the Proposed Development, where appropriate.

Transport is required for access to a variety of resources important to health and social inclusion, including traveling to work or school, visiting family and friends, accessing health services, and shopping and leisure. Poor access to transport results in barriers to these important health resources and can contribute to health inequalities and social exclusion. Key issues for transport are affordability, availability and accessibility. According to data compiled by INRIX, a world-leader in mobility data, Galway places in the worst 50 cities in the world for congestion – taking 39th place, with Dublin the only other Irish city placing higher at Number 12.

For people needing access to city centre services, including health services they will be facilitated by the Proposed Development.

Minor, non-significant, effects are predicted during the Construction Phase, largely related to noise emissions and annoyance due to traffic measures. These are short term in duration.

The Proposed Development will not change the physical ability to access healthcare services. However, the predicted improvements in public transport journey times and reliability would make public transport a much more convenient choice for travelling to healthcare services and would reduce the likelihood in missing appointments due to traffic congestion delays. The inclusion of bus priority measures would also provide more efficient and reliable routes for emergency ambulances, and so could contribute to improved, the assessment of the psychological impact on a population of community basis will be overall positive.

Overall effects on traffic and transport are predicted to be generally positive and these include positive effects on modal share, positive, very significant and long-term impact in terms of People Movement by sustainable mode with significantly reduced bus journey times.

Lack of regular physical activity is a leading cause of chronic disease and premature deaths. The Proposed Development will improve opportunities and convenience for walking and cycling, which will support people in the area in achieving recommended levels of weekly physical activity, for example as part of an active travel commute to work or education. It will also increase safety and the perception of safety for pedestrians and cyclists.

The Proposed Development is expected to have a significant long term positive contribution to health outcomes in the operational phase, largely related to socioeconomic benefits and associated health benefits as well as improved access to services and opportunities for reducing inequalities. Positive psychological impacts are also predicted.

As no mitigation or monitoring measures are proposed as a result of this assessment of effects on human health, no further assessment of residual effects on human health is required.

## 8.7 Biodiversity

The Biodiversity (Ecology) Assessment (Chapter 12 of this EIAR) involved a review of available published data to identify any features of ecological value and field surveys of habitats, bats, ground mammals, protected invertebrates and birds. The Proposed Development is not located within the boundary of any European Site. The nearest European sites are the Inner Galway Bay SPA and the Galway Bay Complex SAC, located c. 55 m and c. 63 m south-west of the Proposed Development, respectively.

The main habitat within the Proposed Development is buildings and artificial surfaces, comprising the existing R338 road, pedestrian pathways, access roads and parking areas. Habitats present in the study area are within an urban context and most are artificial in nature. The main habitats of conservation concern are located within the area of Merlin Park, north of the Proposed Development.

The main habitat types within the Proposed Development include buildings and artificial surfaces, amenity grassland, stone walls and other stonework, hedgerows and treelines. There are no watercourses, drains or other water bodies in the study area. The assessment identified:

- Annex I protected Lowland Hay Meadows habitat type at Merlin Park;
- No rare or protected plant species along the Proposed Development;
- One area of invasive Himalayan knotweed adjacent to a stone wall at Merlin Park. Winter heliotrope and Snowberry were also recorded but are considered low risk;
- Potential roost (locations where bats rest) features in trees at Merlin Park and adjacent to the Proposed Development;
- A total of no. 5 trees of low potential for bat roosting habitat will require felling and a derogation licence to do so. A derogation licence was granted from NPWS on the 25th November 2024 to undertaken these works. (Licence Reference DER-BAR-2025-33);
- Three bat species (Leisler's bat, Common pipistrelle, Soprano pipistrelle) are using the site for foraging and commuting;
- No evidence of other mammal usage of the study area;
- Wintering bird surveys notable species include kingfisher, snipe and little egret at Lough Atalia;
- Breeding bird surveys revealed common passerine species using the area of Merlin Park;
- Grey heron and long-eared owl recorded in the area during walkover and bat surveys; and
- No evidence of the protected Marsh fritillary butterfly breeding on site. No records of Devil's bit scabious (preferred foodplant) but limited field scabious recorded.

Potential impacts on biodiversity for the construction phase may arise from activities such as:

- Site preparation and clearance;
- Removal of existing boundaries, pavements, lighting columns, bus stops and signage;

- Removal of trees and vegetation;
- Protection and / or diversion of buried services;
- Reconnection of existing and new drainage infrastructure into the existing surface water drainage infrastructure;
- Road widening, pavement reconstruction, and kerb improvements;
- Temporary and permanent land take;
- Installation of new bus stops and junction;
- Property boundary reinstatement, signage replacement, installation of lighting columns; and
- Landscaping, tree planting and reinstatement of temporary land acquisitions.

Potential impacts during both the Construction and Operational Phases have been identified in relation to surface water changes, habitat loss and fragmentation, invasive species, and disturbance / displacement. A range of mitigation measures will be implemented to avoid or reduce negative impacts on biodiversity during the Construction and Operational Phases. Construction Phase mitigation includes measures to protect surface water, prevent the spread of invasive species, reduce disturbance, minimise vegetation clearance and tree felling, protect retained trees, minimise disturbance and noise, and minimise artificial lighting impacts. Construction management measures are included in the project CEMP, Invasive Species Management Plan (ISMP) and the Surface Water Management Plan (SWMP).

A derogation licence is required as there is potential for bats to be present in suitable trees along the route. The Derogation Licence application was submitted to National Parks and Wildlife Servies (NPWS) on behalf of GCC committed to undertaking certain measures in Chapter 12 (Biodiversity) of this EIAR.

Operational Phase mitigation includes landscaping, measures to protect surface water, prevent the spread of invasive species, contribution to the management of Annex I habitat, minimise artificial lighting impacts, create roosting accommodation for bats with bat boxes and erect bird boxes. It is also noted that the design of the Proposed Development includes for an improvement of surface water run-off quality into Lough Atalia, with the inclusion of petrol / oil interceptors prior to discharge. This is predicted to be a positive residual effect.

The assessment concluded that there will be no significant residual impacts on protected habitats, rare and protected plant species, mammals, birds, amphibians, reptiles, protected invertebrates. In addition, potential impacts on designated European sites are specifically assessed in the Natura Impact Statement (NIS), which also forms part of this application. The conclusion of the NIS is that after the implementation of mitigation measures the Proposed Development will not have any adverse impact on the integrity of the conservation objectives of any European site.

## 8.8 Water

The Water Assessment (Chapter 13 of this EIAR) involved a desk-based study and the completion of field surveys to establish the current surface water conditions and to identify the likely impacts of the Proposed Development. A desk study of the existing road drainage system within the Study Area, using online mapping tools (Google Street view and OpenStreetMap) and historical sewer network information, was conducted to determine the locations of existing road drainage and associated outfall locations.

The existing system within the Study Area is serviced by surface water and combined drainage network. Flows are typically collected in standard gully grates and routed via a gravity network to outfall points. It can be summarised that the main surface water receptors for the drainage system within the Study Area are:

- Lough Atalia;
- Corrib Estuary;
- Oranmore Bay; and
- Inner Galway Bay North

All of the above waterbodies form parts of Special Areas of Conservation (SACs).

The current European Union Water Framework Directive (WFD) status of the waterbodies as designated by the EPA, and their Risk (of not achieving their WFD objectives) status are as follows:

- Corrib Estuary: Moderate status, risk categorisation is Under Review;
- Oranmore Bay: Unassigned status, Not at Risk; and
- Inner Galway Bay North: Good status, Not at Risk.

It is considered that, following the implementation of good practice design measures, the anticipated impacts of the Proposed Development on the biological, physico-chemical and hydromorphological quality elements will not compromise progress towards achieving 'Good' status or cause a deterioration of the overall Good Ecological Potential (GEP) of any of the waterbodies in proximity to the Proposed Development.

There are two European Sites, Galway Bay Complex SAC and Inner Galway Bay SPA, with downstream hydrological connectivity within the study area. A separate Flood Risk Assessment (FRA) has been prepared and is included in this EIAR. The assessment concluded that the Proposed Development is at low risk of fluvial and tidal floodings (Flood Zone C). The risks relating to the Proposed Development from groundwater and pluvial flooding are moderate and can be managed during the construction and operation of the Proposed Development.

The potential impacts identified during the Construction Phase included impacts from construction runoff and watercourse disturbance due to utility diversions and relocation, road resurfacing and road realignments, removal and subsequent reinstatement of boundary walls.

During the Construction Phase there is potential for local drainage system disruption, change in the natural hydrological regime due to an increase in discharge because of dewatering activities (where required) and temporary increase in hardstanding areas and / or soil compaction. During construction, the water quality of all waterbodies could potentially be impacted by surface water runoff containing fine sediments, accidental spillages, and accidental leakages of construction materials via surface water system connections.

Surface water management is addressed in the CEMP, which details control and mitigation measures for avoiding, preventing, or reducing any significant adverse impacts on the surface water environment during the Construction Phase of the Proposed Development. These include a requirement for an environmental incident response plan; the control of runoff of fine sediments; the management of storage of materials / fuels, management of the batching and use of concrete; and the management of vehicles and plant.

Following the implementation of the mitigation measures no significant impacts are anticipated on any water body as a result of the Construction Phase of the Proposed Development.

The impacts assessed during the Operational Phase include the potential surface water impacts associated with areas of impermeability and traffic displacement. During the Operational Phase, the design of the Proposed Development will ensure that there will be no net increase in surface water runoff rates to any of the connected waterbodies, using a combination of sustainable drainage systems petrol interceptors, online attenuation and flow control. These mitigation measures will reduce the potential risks to water quality from routine road contaminants.

In the Operational Phase the drainage infrastructure (including the sustainable drainage systems) will be maintained by GCC and will be subject to their management procedures. No additional mitigation is required, and no impacts are anticipated on any water body as a result of the Operational Phase of the Proposed Development.

## 8.9 Land, Soils, Geology & Hydrogeology

The Land, Soils, Geology and Hydrogeology Assessment (Chapter 14 of this EIAR) considered the likely significant impacts with regards to land, soils, geology and hydrogeology associated with both the Construction and Operational Phases of the Proposed Development. The land, soils, geology and

hydrogeology assessment included a desk-based study of publicly available information, findings of ground investigations, design information and a scheme walkover survey.

The wider region surrounding the study area is dominated by geomorphological features formed during the last major glaciation period. The Proposed Development and the study area can be described in two sections: western and eastern sections. The western section is underlain by made ground, that is soils which have been anthropogenically altered and generally used for development. The eastern section of the Proposed Development is underlying by glacial till deposits derived from limestone, bedrock outcrops and made ground.

The aquifer (where groundwater is stored) underlying the Proposed Development is classified as Regionally Important with karstified groundwater flow. Within the study area groundwater vulnerability ranges from moderate / high on the west to extreme vulnerability on the east of the Proposed Development. Areas with natural soils such as The Merlin Meadows are classified as having extreme vulnerability according to the GSI classification. From GSI mapping review and results of the geophysical survey, eight karst features are identified within the study area with medium to high importance.

The Galway Bay Complex (Lough Atalia) SAC and the Inner Galway Bay SPA are identified as environmentally sensitive areas within the study area with a high value on an international scale. Merlin Meadows is identified as environmentally sensitive areas within the study area with a high value on a local scale. Merlin meadows are not situated in an SAC or SPA.

Land and soils will be impacted by the implementation of the Proposed Development, particularly during the construction phase. The impacts include:

- Loss or damage of topsoil;
- Mobilisation of contamination into the Regionally Important Aquifer as a result of the following:
  - Removal of hardstanding; and
  - Karst features acting as point source.
- Mobilisation of contamination into Protected Areas; and
- Dewatering.

Appropriate mitigation measures will be implemented to avoid or reduce negative impacts on land, soils, geology and hydrogeology during the Construction Phase. These measures include implementation of an Environmental Incident Response Plan, detailing actions to be taken in the event of a pollution incident, implementation of a CEMP, installation of silt traps, and a sealed drainage network. It is expected that there will be no residual construction impacts on land, soils, geology and hydrogeology.

Reduction in recharge to the aquifer and the contamination of the aquifer are considered potential impacts on the local environment on land, soil, geology and hydrogeology during the Operational Phase of the Proposed Development. As with the Construction Phase, a mitigation measure during the Operational Phase is that the drainage network will be sealed throughout the Proposed Development.

Effective implementation of the mitigation measures will result in imperceptible residual adverse impacts on the land, soil, geology, and hydrogeology in the Operational Phase of the Proposed Development.

## 8.10 Archaeological & Cultural Heritage

The Archaeological and Cultural Heritage Assessment (Chapter 15 of this EIAR) included a desk-based review of published and unpublished documents, historical mapping, and a field survey, and has been carried out according to best practice and guidelines relating to archaeological and cultural heritage.

Cultural heritage background information from early prehistoric times up to the present day have been reviewed to have a full baseline of constraints. There are a relatively low number of recorded cultural heritage sites within the Study Area, including:

- Two archaeological monuments: a disused quarry (CH011, SMR GA094-018) within Merlin Park and a boundary stone (CH002, RPS no. 8406, RMP GA094-030001) located on the boundary of the townlands of Rinmore and Milestone;
- Two protected structures: Rosedale School and Lakeview School (Brothers of Charity) (CH004, RPS no. 8405) and a Boundary Stone which is also a recorded archaeological RMP site (CH002, RPS no. 8406, RMP GA094-030001-) in Renmore;
- From National Inventory of Architectural Heritage, it is noted that Glenina House (now in use as the clubhouse for former Galwegians Ruby Football Club) is located 190m north of the Study Area, with the associated southern boundary wall and former gated entrance located along the Proposed Development footprint extent;
- There are three designed landscapes located within the Study Area: Renmore house (CH013), Merlin Park (CH014) and Wellpark (CH016);
- A total of three stray artefacts are recorded within townlands Merlin Park and Ballybaan. These comprise of two axe heads and a fragment of rotary quern; and
- Nine undesignated cultural heritage sites/features (CH001, CH003, CH005, CH006, CH007, CH008, CH009, CH010, & CH012) have been identified from field-based inspections within the Study Area.

For Construction Phase impacts that are temporary in duration, these reflect *indirect* impacts associated with the construction period (e.g. noise, visual amenity distraction, heavy machinery movements etc.). Such temporary impacts cannot be fully mitigated at Construction Phase (save for written and photographic setting records prior to construction) and will result in temporary residual significance of effect on the heritage receptor.

For Construction Phase impacts that are permanent in duration, these reflect *direct* impacts and complete removal of a cultural heritage receptor during the construction stage period (including potential presently unknown archaeological sites). Mitigation measures can reduce the significance of effect by means of preservation in situ and/or preservation by record. Nonetheless any physical loss of the Cultural Heritage receptor is noted as a permanent residual effect both in the context of the heritage site itself as well as a loss to the overall Cultural Heritage resource on a local, regional and/or national level.

There are slight (temporary negative) residual effects on the building façade and entrance (location only) at the former Renmore House estate (CH003), the estate itself (CH013) and at the former Glenina House estate layout (CH015) at construction stage.

All other identified residual effects on the cultural heritage resource at construction stage are considered Not Significant or Imperceptible.

The mitigatory measures adopted at construction stage shall be subject to agreement with relevant statutory authorities (National Monuments Service).

All archaeological and cultural heritage issues will be resolved by mitigation during the pre-Construction Phase or Construction Phase, in advance of the Operational Phase, therefore no significant residual impacts have been identified.

All Operational Phase impacts that are considered permanent reflect both direct and indirect impacts associated with the Proposed Development, including associated boundary walling, lighting etc. Some permanent impacts cannot be fully mitigated at Construction and/or Operational Phase (save for written and photographic setting records prior to construction) and will result in a measurable residual significance of effect on the heritage receptor.

A positive moderate (permanent) residual effect is identified for the milestone boundary marker CH002. This feature is currently hidden from view and will be exposed and, via appropriate mitigation measure, enhance its presentation as a public amenity feature.

Any physical loss of the Cultural Heritage receptor is noted as a permanent residual effect both in the context of the heritage site itself as well as a loss to the overall Cultural Heritage resource on a local, regional and/or

national level. As for the Construction Phase, there are slight (negative) residual effects that are considered permanent at Operational Phase, on the building façade at the former Renmore House estate (CH003), the estate itself (CH013) and at the former Glenina House estate layout (CH015). All other identified residual effects on the cultural heritage resource at Construction Phase are considered Not Significant or Imperceptible.

## 8.11 Landscape & Visual

This Landscape and Visual Impact Assessment (LVIA) (Chapter 16 of this EIAR) was undertaken through a combination of desk studies and field surveys. The desk studies involved assessment of satellite imagery, Google Street View, historic and ordnance survey mapping, background search of the relevant policies from the local council and analysis of the Zone of Theoretical Visibility (ZTV). The site-work stage involved the verification of nearby views from the initial desk-based study. Field notes were recorded in relation to the likes of topography, land use, significant landscape features, sensitive visual receptors and overall landscape character. The assessment has been carried out according to best practice and guidelines relating to landscape and visual assessment, and in the context of similar large-scale infrastructural projects.

When assessing the potential impacts on the landscape and visual amenity resulting from the Proposed Development, the criteria considered include landscape character sensitivity, magnitude of likely impacts, and the significance of landscape effects.

The Proposed Development will involve a realignment, rearrangement and widening in places of approx. 3.9km of Old Dublin Road commencing east of Moneenageisha Junction and tie-in to the existing road at Doughiska Road Junction, on the eastern side of Galway city. The scheme will see dedicated bus lanes, segregated cycle lanes, and footpaths, along with general traffic lanes, provided in both directions

The receiving environment is the area along the proposed route, a corridor approx. 500m in width, stretching from the Martin Roundabout (N67/R921) in the east to the Wellpark Retail Centre on the R338 in the west. The receiving environment is composed of both visual receptors, such as residents, people travelling along the route and existing pathways, and physical elements of the landscape including open space, and vegetation existing along the transportation route.

Construction of the Proposed Development is expected to temporarily have a significant negative impact on the views from Merlin Meadows and Merlin Woodlands. All other expected impacts are of lower significance. The most important element of the landscape and visual amenity that is expected to be affected as a result of the Proposed Development is the removal of a large number of mature trees at that location. Their removal will instantly expose the otherwise calm open space of Merlin Meadows to the construction activity and traffic.

In the operational phase, no significant negative impacts are expected. The highest negative landscape impacts are expected to be permanent and slight deriving from the removal of the mature trees at Merlin Meadows. This visibility is expected to further reduce as existing and proposed vegetation reach maturity. No significant impacts are expected.

To mitigate the significant impacts at Merlin Meadows, it is suggested that part of the proposed tree planting is carried out in advance of the beginning of the construction. It is also suggested that these trees are larger in size to instantly provide partial screening and better retain the qualities of the site.

No residual impacts are expected to derive from the Proposed Development.

## 8.12 Waste & Resources

This Waste and Resources Assessment (Chapter 17 of this EIAR) included identifying the types of waste that could be generated by the Proposed Development, as well as the potential for reuse of materials. This assessment was informed by a desk-based study including identification of the types of waste that could be

generated by the Proposed Development, a review of existing and proposed waste management facilities as well as the potential reuse of materials.

Sustainable waste and resource management principles have been incorporated into the design of the Proposed Development and these principles will also be applied in line with the Circular Economy Model (see Figure 8-1) throughout the Construction and Operational Phases. This will ensure that waste generation will be minimised.

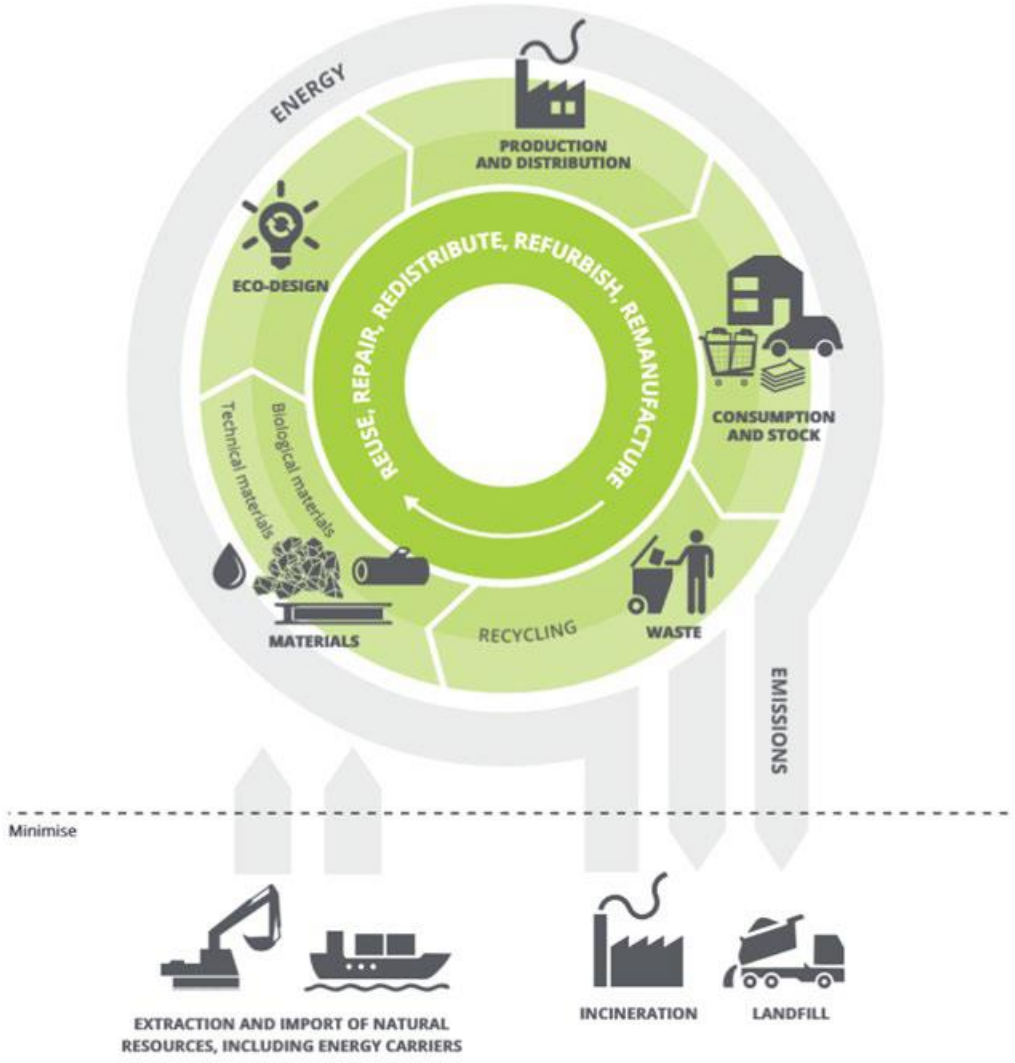


***Figure 8-1 The Circular Economy Model***

In 2022, the latest year for which there are published statistics available, the EPA (EPA 2024a) reported that 8.3 million tonnes of Construction and Demolition waste (C&D) was generated, a decrease of 9% from 2021. Of this waste, 6.7 million tonnes comprised soil and stones, making up 82% of the material waste stream. The EPA waste statics website (last reference year 2022) reports that final treatment of C&D waste in 2022 took place in Ireland (94%) and only 6% was exported abroad for final treatment. Most C&D waste treated in Ireland was recovered by backfilling (81%), while 7% went for disposal and only 10% was recycled (EPA 2024a).

In Ireland, municipal waste (i.e. typical household waste types) is made up of household waste as well as commercial and other waste that, because of its type, is similar to household waste. According to the EPA, Ireland generated 3.17 million tonnes of municipal waste and recycled 41% of this in 2021

Surplus materials are likely to be generated during the following activities:

- Demolition – including waste generated from the removal of features above ground such as kerbs, traffic signs and bus stops;
- Excavation – including waste generated from the excavation of below ground material such as soil and stones and bituminous mixtures etc.; and
- Operation – including waste generated from maintenance activities following completion of the Construction Phase.

Surplus organic materials, including vegetation from shrub, tree or garden clearance or deposits removed from within redundant drainage channels, may generate waste material for treatment at organic waste facilities.

A range of mitigation measures will be implemented to avoid or reduce negative impacts on waste and resources during the Construction Phase, including minimising waste disposal. Opportunities for reuse of materials, byproducts and wastes will be sought throughout the Construction Phase of the Proposed Development. This will be managed through the Construction Phase by implementing a Construction and Demolition Resource and Waste Management Plan.

It is estimated that 1,646 tonnes of demolition waste will be generated from the Proposed Development which is equivalent to 0.08% of the C&D waste management baseline in the Connacht Ulster Waste Region (CUWR). The potential impact of demolition waste during the Construction Phase, prior to mitigation, is Adverse, Not Significant and Short-Term. The total forecast of surplus excavation material from the Proposed Development will be 13,161 tonnes and is equivalent to 0.68% of the C&D waste management baseline for the CUWR. The potential impact of excavation waste during the Construction Phase, prior to mitigation, is Adverse, Slight and Short-Term. The most likely type and quantity of general construction waste from the Proposed Development will be surplus concrete and unusable or damaged pipe segments which may arise on-site. Quantities of these materials are estimated to be small; assumed to be between approximately 5% and 15% of construction material delivered to site. The potential impact of construction waste during the Construction Phase, prior to mitigation, is Adverse, Imperceptible and Short-Term.

The main potential impacts on waste and resources during the Operational Phase will be waste generated from road maintenance activities following completion of the Construction Phase. Maintenance operations will be undertaken under the jurisdiction of GCC and in accordance with their waste management plans. It is envisaged that bituminous material will be reused within new carriageway construction as far as practicable and in accordance with all applicable legislation. No additional mitigation or monitoring measures are considered necessary. The potential impact of operational construction and demolition waste will be Adverse, Not Significant and Long-Term.

With the implementation of the proposed mitigation and control measures, it is expected that there will be no residual significant impacts on waste and resources during the Construction and Operational Phase of the Proposed Development.

## 8.13 Material Assets

The Material Assets Assessment (Chapter 18 of this EIAR) was considered in terms of:

- Major infrastructure and utilities; and
- Imported material, excluding the materials which are covered in Chapter 17 (Waste & Resources).

Major infrastructure includes items such as canals and railway lines interacting with the Proposed Development. Existing utility information has been collated from the utility service providers and utility (ground penetrating radar (GPR)) surveys have been carried out, as required. This assessment involved a desk-based review of these material assets.

There are several utilities in place along and crossing the Proposed Development, the majority of which are buried within and along the roadways. These utilities include:

- ESB electricity lines (medium and low voltage) and associated infrastructure;
- Gas Networks Ireland gas mains (medium and low pressure) and associated infrastructure;
- Uisce Éireann potable water mains and associated infrastructure;
- Uisce Éireann sewer lines (foul and combined sewers) and associated infrastructure;
- Local Authority surface water drainage network and associated infrastructure;
- Titan, Siro, Aurora, EIR, ENET, BT, Virgin Media and National Broadband Ireland telecommunications lines and associated infrastructure; and
- Local Authority traffic signal ducting.

Within the site of the Proposed Development, the quantities of material which are currently imported are low. This material is only imported as part of regular maintenance activities which are undertaken on the existing roads, cycle lanes, footpaths, utilities and verges.

The main construction elements that are likely to result in potential impacts on material assets will include:

- The Construction Compound will require electricity to power any temporary office and welfare facilities and for temporary lighting which will be required to be supplied via a connection to the grid network or a generator;
- The Construction Compound and construction areas will require a water supply for welfare facilities and spraying for dust suppression;
- The Construction Compound will require telecommunications access;
- The diversion of underground watermains where there will be interfaces with the Proposed Development works;
- The diversion of telecommunications infrastructure where there will be interfaces with the Proposed Development works;
- Upgrade works required to the surface water drainage network to accommodate for new road layouts and increased hardstanding;
- The diversion of gas infrastructure where there will be interfaces with the Proposed Development works; and
- Importation of construction materials including concrete, metals, cement, road surface materials and landscaping materials. The amount of materials required for the Proposed Development will represent less than 1% of the Irish quantities manufactured per year.

The Proposed Development has been designed to minimise the impact on utility infrastructure. This includes avoiding interactions with major utility infrastructure, wherever possible. Where there are interfaces with existing utility infrastructure, these will be protected in place or diverted as necessary to prevent long-term disruption to affected services. Diversions and changes to the location or layout of any utility infrastructure have been accounted for in the overall design of the Proposed Development.

All possible precautions will be taken to avoid unplanned disruptions to any infrastructure or services during the Construction Phase. Proposed utility works are based on available records, and preliminary site investigations. Prior to excavation works being commenced, localised confirmatory surveys will be undertaken to verify the results of the pre-construction assessments undertaken and reported in this EIAR.

Consultation has taken place with the major utility companies, and the appointed contractor will continue to consult these companies. Where diversions are required and service disruptions to the surrounding properties are unavoidable, this will be planned with prior notification given to the impacted property owners.

The Proposed Development has also been designed to minimise the amount of major construction works required. Consideration will be given to the sustainability of material being sourced for the construction of the Proposed Development by the appointed contractor. Materials required will be sourced locally to reduce the amount of travelling required to get the material to the site. Key issues to be considered when sourcing materials for the Construction Phase will include the source, the material specification, production and transport costs, and the availability of the material. Only quarries which are included in Local Authority quarry registers will be used by the appointed contractor to source any quarried material.

With the implementation of the proposed mitigation measures there will be no significant residual impacts on material assets as a result of the construction of the Proposed Development.

The main operational elements that are likely to result in potential impacts on material assets will include:

- The requirement for electricity connections for new lighting, for bus stop information and for junction signalling; and
- The requirement for telecommunications connections at bus stops which contain real time passenger information, to allow the buses and the real time information to sync up with each other.

There will be no significant Operational Phase impacts on utility infrastructure. Due to the measures which are included within the design and the fact that impacts are anticipated to be minimal, there are no specific mitigation measures necessary during the Operational Phase.

No significant residual impacts have been identified either in the Construction or Operational Phases of the Proposed Development.

## 8.14 Risk of Major Accidents and/or Disasters

The Risk of Major Accidents and/or Disasters Assessment (Chapter 19 of this EIAR) considered the potential significant impacts of the Proposed Development on the environment, resulting from its vulnerability to risks of major accidents and/or disasters during the Construction Phase and Operational Phase.

The risk assessment:

- Identified major accidents and/or disasters (i.e. unplanned incidents) that the Proposed Development may be vulnerable to; and
- Assessed the likely impacts and consequence of such incidents in relation to the environmental, social and economic receptors that may be affected.

A register of all potential risks and the associated potential impacts was developed for the Construction and Operational Phases of the Proposed Development. This register assumed a worst-case scenario, before any mitigation measures or emergency plans would be put in place to reduce the likelihood and potential impact of any major accidents and / or disasters.

Risks are rated by multiplying the likelihood rating (likelihood of a risk happening which ranges from extremely unlikely to very likely) with the consequence rating (level of consequences if a major accident and / or disaster occurred, which ranges from minor to catastrophic). This gives a risk score of low, medium, or high. Low risk scores do not meet the definition of a major accident and / or disaster and high-risk scores would be considered high risk and unacceptable for the development of the Proposed Development and would need to be designed out. Medium risk scores would require a level of mitigation that would reduce the level of impact.

For the Construction Phase, there were several risks that were deemed low and were not considered further. No high risks were identified for the Construction Phase of the Proposed Development. The following medium level risks were identified for the Construction Phase:

- Risk of gas explosion due to the strike of a gas mains during excavation works;
- Risk of a pollution event leading to environmental damage to watercourses or groundwater, particularly associated with the potential release of silt to the aquatic environment; and
- Risk of spread of invasive species during construction works, particularly during site clearance works.

The Proposed Development complies with relevant design standards, which include measures to reduce the likelihood of risk events occurring.

Appropriate mitigation measures will be implemented during the Construction Phase, including the implementation of plans such as CEMP, Construction Traffic Management Plan, and Environmental Incident Response Plan. Once these mitigation measures are applied, there are no remaining identified incidents or major accidents and / or disasters risk events that present a level of risk that would lead to significant impacts or environmental effects.

No significant risks were identified as likely to occur during the Operational Phase. No significant residual impacts have been identified either in the Construction or Operational Phases of the Proposed Development

## 8.15 Cumulative Impacts and Impact Interactions

This Cumulative Impact Assessment (Chapter 20 of this EIAR) considers the potential for cumulative impacts and impact interactions as a result of potential impacts from other schemes in combination with the predicted impacts of the Proposed Development, and interactions between environmental aspects. The assessment included a consideration of the potential effects of other projects.

Impact interactions between environmental aspects are generally addressed as part of the individual topic assessments, so for example the Population assessment included effects on community amenity, which relates to the interaction of impacts on air quality, visual amenity, traffic and transport, and noise and vibration.

The following sources were considered in identifying other relevant developments for the assessment of cumulative impacts:

- An Bord Pleanála (ABP) website– for details of Strategic Infrastructure Developments (SIDs) and Strategic Housing Developments (SHDs);
- Local authority websites and the development plans for Galway City for details of allocations and areas for regeneration;
- National Planning Application Database– for downloadable list of planning applications sent from Local Authorities;
- National Transport Authority website – for details of major transport programmes. This included a review of the Galway Transport Strategy (2016);
- Project Ireland 2040, which combines the National Development Plan and National Planning Framework. and its interactive mapper; Transport Infrastructure Ireland website (– for details of major transport projects and programmes;
- The EIA maintained by the Department of Housing, Planning and Local Government – for applications for development consent accompanied by an EIAR; and
- Uisce Éireann website, which includes a page on its projects.

No likely significant cumulative effects relating to Traffic and Transport are predicted, over and above the effects of the Proposed Development assessed in isolation.

With regard to Air Quality, as the cumulative construction traffic effects will be broadly in line with those of the Proposed Development in isolation and the associated cumulative air quality effects will not be significant. Dust mitigation at the Construction Phase for the Proposed Development, with similar measures in place for other projects, will mean that overall cumulative effects of construction dust will be direct, short-term, negative and not significant, which is overall not significant in EIA terms.

In respect of Climate, by presenting the GHG impact of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. Therefore, the assessment approach is considered to be inherently cumulative.

In terms of Noise Assessment, with the implementation of the mitigation measures to reduce construction noise levels associated with the Proposed Development and due to the separation from the nearest adjacent Bus Connects Galway Cross-City Link Scheme, there are no significant cumulative impacts predicted to occur from concurrent construction of the Proposed Development in combination with the other Bus Connects Galway Scheme and other projects identified.

With regard to Biodiversity, given the inclusion of best practice construction management measures to be employed, and additional measures to reduce or minimise effects on biodiversity, there is no potential for in-combination effects to occur. There are no predicted cumulative construction effects given that it is predicted that the Proposed Development will have no significant effects on biodiversity.

The Landscape and Visual assessment found that during construction, no significant cumulative effects are expected to occur once the proposed mitigation, part of this EIAR is implemented. The proposed residential developments, which are adjacent to the Proposed Development, will contribute to the negative visual impact due to tree removal. The removal of trees during construction will have a negative impact on visual amenity and landscape in the area, resulting in heightened negative cumulative effects. These are expected to be temporary, moderate, negative.

No other significant construction related cumulative effects were identified from the Proposed Development in combination with other projects over and above those identified in the standalone assessments.

For Operational Effects, the Traffic Assessment found that in general, total trip demand (combining all transport modes) will increase into the future in line with projected population and employment growth. The analysis indicates that once the Galway City Ring Road is in place, there will be a decrease in the number of bus passengers travelling through the corridor in both the Do Minimum and Do Something Design year (2043) scenarios (between 3% - 16%), while the general level of delay across the city will decrease (by approx. 25%) and the average speed for all modes will increase (by between 20% - 50%), as a result of the reduction in traffic in the city, brought about by the Galway City Ring Road.

The Climate Impact Assessment reviewed the traffic data supplied for the Operational Phase assessment, and a detailed air quality assessment of vehicle exhaust emissions was carried out. The effect of the greenhouse gas emissions associated with the lifetime of the Proposed Development (Construction and Operational Phases), after mitigation, is predicted to be positive, long-term and not significant.

The LVIA identified the potential for reversible, short-term, moderate to slight, negative effects to residential receptors and users of the footpaths, cycleways and carriageway situated adjacent to the Proposed Development. The selection of species in line with the All-Ireland Pollinator Project is expected to have a potential positive impact in the long term. The long-term effect will be temporary slight to permanent, imperceptible to neutral once the proposed replacement tree planting reaches full growth.

For all other disciplines, no significant cumulative impacts are predicted.

Significant environmental interactions occur between the topics of population, human health, air quality, noise and vibration, landscape (townscape) and visual, and traffic and transport. The assessments made for each of those topics consider those interactions both directly and indirectly. Some are direct relationships, e.g. population and visual impacts; biodiversity and landscape; land, soils and water and landscape; or the setting around features of cultural heritage etc. Others may be indirect, e.g. human health, air quality and landscape, material assets and landscape and visual aspects. Wherever possible these potential interactions have been incorporated into the relevant assessments.

In brief, the Proposed Development will address sustainable mode transport infrastructure deficits while contributing to an overall integrated sustainable transport system as proposed in the GTS. It will increase the effectiveness and attractiveness of bus services operating along the corridor and will result in more people availing of public transport due to the faster journey times and reliability improvements which the Proposed Development will provide. This in turn will support the potential to increase the bus network capacity of services operating along the corridor and thereby further increasing the attractiveness of public transport. In addition, the significant segregation and safety improvements to walking and cycling infrastructure that is a key feature of the Proposed Development will further maximise the movement of people travelling sustainably along the corridor and will therefore cater for higher levels of future population and employment growth.

# 9 WHAT HAPPENS NEXT?

The application for consent/approval, this EIAR and the Natura Impact Statement (NIS) may be viewed / downloaded on the following website: (www.bcgdublinroad.ie).

This application may also be inspected free of charge or purchased on payment of a specified fee (this fee shall not exceed the reasonable cost of making such a copy) for a period of 8 weeks commencing on the date of publication of the Proposed Development. Further details of these arrangements can be found at (www.bcgdublinroad.ie).

Submissions or observations may be made to An Bord Pleanála (Strategic Infrastructure Division), 64 Marlborough Street, Dublin 1, D01 V902 for a period of 8 weeks commencing on the date of publication of the Proposed Development relating to:

- The likely effects on the environment of the Proposed Development;
- The implications of the Proposed Development for proper planning and sustainable development in the area in which it is proposed to situate the Proposed Development; and
- The likely adverse effects of the Proposed Development on a European Site.

An Bord Pleanála may, in relation to an application submitted for approval under Section 51 of the Roads Act 1993 (as amended), by order, approve the Proposed Development, with or without modifications and subject to whatever environmental conditions it considers appropriate, or may refuse to approve the Proposed Development.

NTA

Údarás Náisiúnta Iompair
National Transport Authority

National Transport Authority
Dún Scéine
Harcourt Lane
Dublin 2
D02 WT20

Project Ireland 2040
*Building Ireland's Future*