



Chapter 01
Introduction

Contents

1.	Introduction.....	1
1.1	Introduction.....	1
1.2	Aim and Objectives.....	4
1.3	Delivery of Project	5
1.4	Role of the National Transport Authority	5
1.5	EIAR – Process, Screening, Content and Methodology	6
1.5.1	Statutory Requirements.....	6
1.5.2	Relevant Legislation, Policy and Guidelines	6
1.5.3	EIA Process.....	8
1.5.4	Screening and the Legislative Requirement for EIA	8
1.5.5	Consideration of the EIAR’s Scope	9
1.5.6	Contents of the EIAR.....	9
1.5.7	EIAR Structure.....	11
1.5.8	Assessment Scenarios.....	12
1.5.9	Assessment Criteria	13
1.5.10	Details of Competent Experts.....	15
1.6	Consultation.....	23
1.6.1	Consultation Objectives.....	23
1.6.2	Emerging Preferred Route Option Consultation.....	23
1.6.3	Preferred Route Option Consultations	26
1.7	Consultation with Prescribed Bodies and Other Consultees	30
1.7.1	Prescribed Bodies and Interested Parties	31
1.7.2	Landowners	32
1.8	Difficulties Encountered During the Preparation of the EIAR.....	32
1.9	References	34

1. Introduction

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared in respect of the Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme (hereafter referred to as the “Proposed Scheme”).

The Proposed Scheme comprises infrastructure improvements for active travel (both walking and cycling) and the provision of enhanced bus priority measures for existing (both public and private) and future service users, in a manner which is consistent with, and will help attain, sustainable transport policies and objectives.

This Chapter of the EIAR introduces the Proposed Scheme, summarises the Environmental Impact Assessment (EIA) process, describes the methodology used to prepare this EIAR and outlines the consultation activities that have been carried out to date.

The route of the Proposed Scheme is presented in Image 1.1.

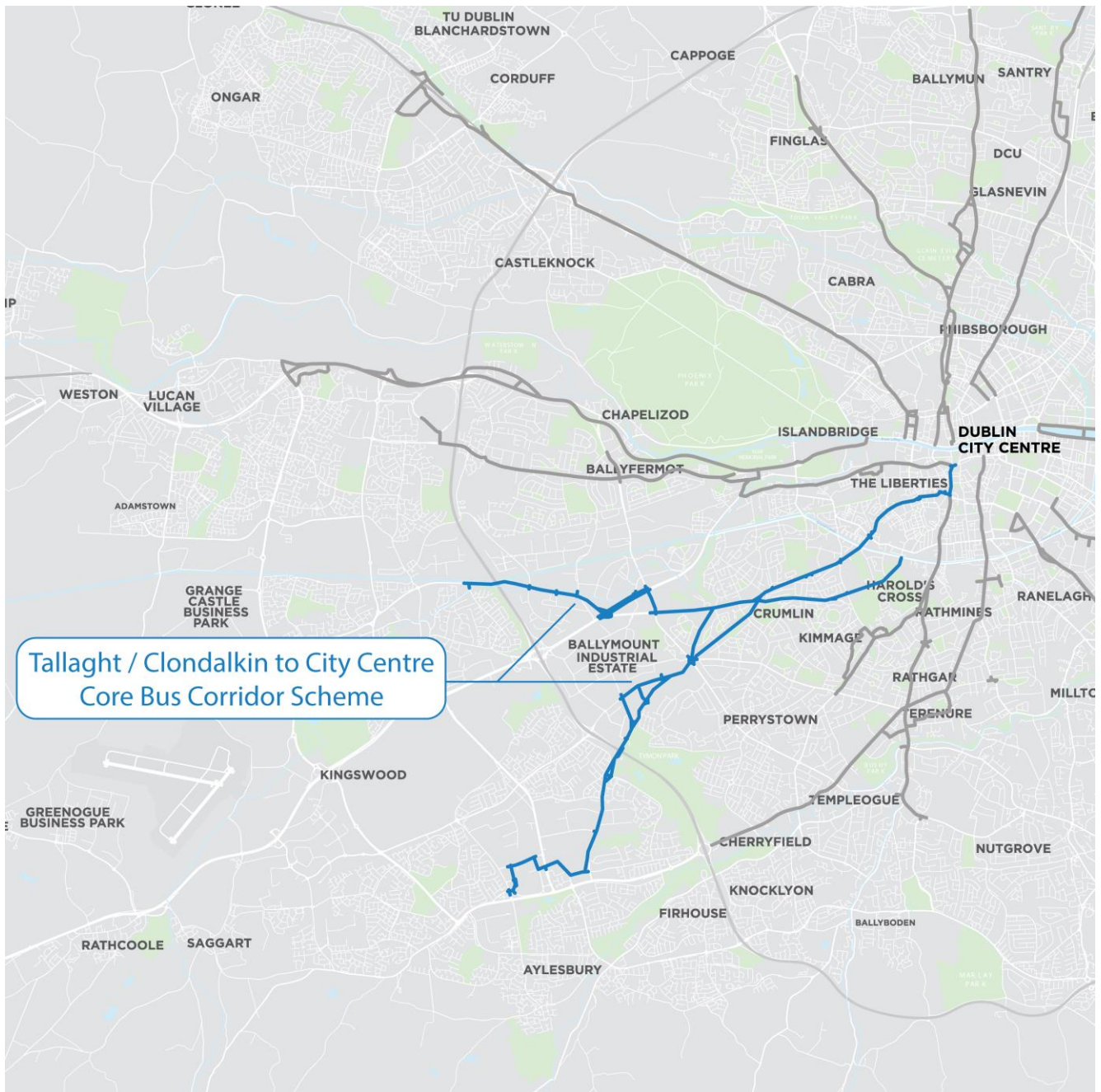


Image 1.1: Route of the Proposed Scheme

The Proposed Scheme is comprised of two main sections in terms of the route it follows, namely:

- Tallaght to City Centre; and
- Clondalkin to Drimnagh.

The Proposed Scheme has an overall length of approximately 15.5km, with an additional offline cycling facility of approximately 3.9 km.

The Tallaght to City Centre section commences at the junction of Old Blessington Road / Cookstown Way and is routed along Belgard Square West, Belgard Square North, Belgard Square East and Blessington Road to the junction of R819 Greenhills Road and Bancroft Park. From here the Proposed Scheme is routed along the R819 Greenhills Road to Walkinstown Roundabout via new transport link roads; in the green area to the east of

Birchview Avenue / Treepark Road, in the green area to the south of Ballymount Avenue and in the green area to the east of Calmount Road. From Walkinstown Roundabout the Proposed Scheme is routed along the R819 Walkinstown Road to the junction with R110 Long Mile Road and Drimnagh Road. The shared spine with the Clondalkin to Drimnagh section commences at this junction and the Proposed Scheme is routed along the R110 to the junction of Dean Street and Patrick Street via Drimnagh Road, Crumlin Road, Dolphins Barn, Cork Street, St. Luke's Avenue and Dean Street. From here the Proposed Scheme is routed along the R137 via Patrick Street to the junction at Winetavern Street and Christchurch Place where the Proposed Scheme terminates within the City Centre. An offline cycle provision is proposed to facilitate cycling between Walkinstown Roundabout and Parnell Road (Grand Canal) where end to end cycle facilities are not feasible along the main corridor and provides a more direct route towards the City Centre. This offline section of the Proposed Scheme is routed via Bunting Road, Kildare Road and Clogher Road.

The Clondalkin to Drimnagh section commences at the junction of New Nangor Road and Woodford Walk and is routed along the R134 New Nangor Road, R810 Naas Road, R112 Walkinstown Avenue and the R110 Long Mile Road to the junction of Walkinstown Road and Drimnagh Road where it is routed towards the City Centre along the shared spine section as described above.

The Proposed Scheme will significantly enhance travel by public transport by providing bus priority as well as improved pedestrian and cycling infrastructure on both the Tallaght to City Centre section and the Clondalkin to Drimnagh section. Currently, these access corridors are characterised by traffic congestion along certain sections, and bus lanes and cycling infrastructure are only provided intermittently. As such, buses and cyclists are competing for space with the general traffic, impacting on the attractiveness for pedestrians, cyclists and bus users of these sustainable transport modes.

The Proposed Scheme will improve both the overall journey times for buses along the route and their journey time reliability, by providing increased bus priority infrastructure. The result will be increased journey reliability, by largely removing interaction between bus traffic and general traffic, thereby delivering significant benefits to the travelling public and to the environment.

In addition to the improvements to bus journey times and journey time reliability, the Proposed Scheme will provide significant benefits for cyclists and pedestrians. 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, and the provision of side road ramps.

The provision of dedicated cycling infrastructure along the Proposed Scheme, as well as on parallel routes in some cases, will improve the level of service provided for cyclists along the route, making cycling trips safer and more attractive. In this regard, the Proposed Scheme delivers substantial elements of the National Transport Authority (NTA) Greater Dublin Area Cycle Network Plan 2013 (and the revised Cycle Network Plan updated as part of the Greater Dublin Transport Strategy 2022 – 2042), much of which does not currently have adequate provision - as well as linking with other existing and proposed cycling schemes and sustainable transport modes, contributing towards the development of a comprehensive cycling network for Dublin.

As noted above, in addition to the primary corridor, a parallel alternative cycle route of approximately 3.9km in length is proposed offline to the main bus corridor along Bunting Road, Kildare Road and Clogher Road to link into the Grand Canal cycle route at Parnell Road. The Proposed Scheme will deliver an overall increase in bus priority and segregated and non-segregated cycling facilities (as further described in Chapter 4 (Proposed Scheme Description)).

Several urban realm upgrades, including widened footpaths, high quality hard and soft landscaping and street furniture will be provided in areas of high activity, which will contribute towards a safer, more attractive environment of pedestrians.

The primary objective of the Proposed Scheme, 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.

The Proposed Scheme is one of 12 schemes to be delivered under the BusConnects Dublin - Core Bus Corridors Infrastructure Works (hereafter called the CBC Infrastructure Works). The CBC Infrastructure Works is one of the initiatives within the NTA's overall BusConnects programme.

The BusConnects Programme seeks to greatly improve bus services in Irish cities, including Dublin, so that journeys by bus will be fast, reliable, punctual, convenient and affordable.

Further information is provided in Chapter 2 (Need for the Proposed Scheme), while Chapter 3 (Consideration of Reasonable Alternatives) outlines the alternatives considered.

It is envisaged that the CBC Infrastructure Works, once completed, will deliver the radial Core Bus Corridors identified in the current Transport Strategy for the Greater Dublin Area 2016 - 2035 and the replacement Transport Strategy (2022 – 2042).

A full description of the Proposed Scheme is provided in Chapter 4 (Proposed Scheme Description), which is accompanied by the scheme design drawings in Volume 3 (Figures) of this EIAR, while the assessment of cumulative impacts and interactions are presented in Chapter 21 (Cumulative Impacts & Environmental Interactions) of this volume of the EIAR.

The EIAR is defined by the Environmental Protection Agency (EPA) "*Guidelines on the Information to be contained in Environmental Impact Assessment Reports*" as 'a report or *statement of the effects, if any, that the proposed project, if carried out, would have on the environment*' (EPA 2022). The EIAR details the consideration of reasonable alternatives, consideration and assessment of likely significant impacts, mitigation and avoidance measures to reduce significant adverse impacts, and an assessment of residual impacts. This EIAR has been completed in accordance with all applicable legislation and all relevant guidance documents and will facilitate An Bord Pleanála (ABP) in undertaking an EIA for the Proposed Scheme under the EIA Directive¹ and Section 50 of the Roads Act 1993, as amended by S.I. No. 279/2019 - European Union (Roads Act 1993) (Environmental Impact Assessment) (Amendment) Regulations 2019) (hereafter referred to as the "Roads Act").

1.2 Aim and Objectives

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

¹ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the 2011 EIA Directive), as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (hereafter referred to as the 2014 EIA Directive, which collectively are referred to as the EIA Directive).

The planning and design of the Proposed Scheme has been guided by these aims and objectives, with the need for the Proposed Scheme described in detail in Chapter 2 (Need for the Proposed Scheme) of this EIAR.

The outcomes achieved from delivering the Proposed Scheme will be:

- An attractive, resilient, equitable public transport network better connecting communities and improving access to work, education and social activity;
- To facilitate a transport infrastructure network that prioritises walking and cycling and a mode shift to public transport; and
- To support increased economic and social potential through integrated land-use and transport planning to reduce the time burden of travel.

1.3 Delivery of Project

In the event that approval is granted in respect of the Proposed Scheme, it is proposed to deliver the CBC Infrastructure Works over the period from 2023 to 2028. In the event of approval by ABP under Section 51 of the Roads Act and confirmation of the Compulsory Purchase Order (CPO) to allow property acquisition to facilitate the delivery of the Proposed Scheme, it is envisaged that construction would commence during 2024, with an expected construction programme to completion of approximately 36 months.

1.4 Role of the National Transport Authority

The National Transport Authority (NTA) is a statutory non-commercial body, which operates under the aegis of the Department of Transport. The NTA was established on foot of the Dublin Transport Authority Act 2008, as amended (“the 2008 Act”).

The NTA has some specific additional functions in respect of infrastructure and the integration of transport and land use planning in the GDA, reflecting the particular public transport and traffic management needs of the Eastern region of the country comprising approximately 40% of the State’s population and economic activity.

The NTA is responsible for the development and implementation of strategies to provide high quality, accessible and sustainable transport across Ireland. The NTA has a number of statutory functions including the following which are relevant to the Proposed Scheme:

- Develop an integrated, accessible public transport network;
- Provide bus infrastructure and fleet and cycling facilities and schemes; and
- Invest in all public transport infrastructure.

Specifically, under Section 44(1) of the 2008 Act (as amended), ‘*in relation to public transport infrastructure in the GDA, the Authority shall have the following functions:*

- (a) to secure the provision of, or to provide, public transport infrastructure;*
- (b) to enter into agreements with other persons in order to secure the provision of such public transport infrastructure, whether by means of a concession, joint venture, public private partnership or any other means; and*
- (c) to acquire and facilitate the development of land adjacent to any public transport infrastructure where such acquisition and development contribute to the economic viability of the said infrastructure whether by agreement or by means of a compulsory purchase order made by the Authority in accordance with Part XIV of the Act of 2000’.*

The Board of the NTA, at its meeting on 18 October 2019, considered whether the function of providing the public transport infrastructure comprising of the CBC Infrastructure Works should be performed by the NTA itself under the provisions of section 44(2)(b) of the 2008 Act. Following consideration, the Board of the NTA decided that the functions in relation to securing the provision of public transport infrastructure falling within section 44(2)(a) of the 2008 Act (as amended) in relation to the CBC Infrastructure Works, should be performed by the NTA.

The NTA established a dedicated BusConnects Infrastructure team to advance the planning and construction of the CBC Infrastructure Works, including technical and communications resources and external service providers procured in the planning and design of the 12 Proposed Schemes.

In the case of the Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme, the functions of the BusConnects Infrastructure team include undertaking the design and planning process, seeking (and obtaining) all development consents including related compulsory acquisition approvals from ABP, and constructing the Proposed Scheme (if approved).

1.5 EIAR – Process, Screening, Content and Methodology

1.5.1 Statutory Requirements

As set out in the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (August 2018) (hereafter referred to as the “2018 Guidelines”), the 2014 EIA Directive requires that public and private projects that are likely to have significant effects on the environment shall be made subject to an assessment prior to development consent being given. As set out in the 2018 Guidelines, Environmental Impact Assessment (EIA) is a process to be undertaken in respect of applications for specified classes of development listed in the EIA Directive before a decision in respect of development consent is made. The process involves the preparation of an Environmental Impact Assessment Report (EIAR) by the applicant, consultations with the public, relevant prescribed bodies and any other affected Member States, and an examination and analysis of the EIAR and other relevant information leading to a reasoned conclusion by the competent authority on the likely significant effects of the proposed development on the environment. Again, as observed in the 2018 Guidelines, the provisions of the 2014 EIA Directive are aimed at enhancing the EIA process through ensuring the completeness and quality of the EIAR submitted by the applicant and the examination undertaken by the competent authority and by providing for early and effective public participation before the development consent decision is made.

The EIA Directive requires that public and private projects that are likely to have significant effects on the environment be made subject to an assessment prior to development consent being given. The requirements of the 2014 EIA Directive were transposed into Irish law with the enactment of a number of implementing legislative measures, including S.I. No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (hereafter referred to as the 2018 EIA Regulations), with effect from 1 September 2018. Further, S.I. No. 279/2019 – European Union (Roads Act 1993) (Environmental Impact Assessment) (Amendment) Regulations 2019 amended the provisions of the Roads Act and the Roads Regulations 1994 (S.I. No. 119/1994).

It is pursuant to the provisions of the amended Roads Act and Roads Regulations 1994 that this EIAR has been prepared in respect of the Proposed Scheme. Article 5 of and Annex IV to the EIA Directive and Section 50(2) of the Roads Act specify the information to be contained in an EIAR in relation to this Proposed Scheme.

Accordingly, this EIAR contains all of the information prescribed by the relevant provisions of Article 5 of and Annex IV to the EIA Directive, and Section 50(2) of the Roads Act.

1.5.2 Relevant Legislation, Policy and Guidelines

This EIAR has been prepared in accordance with, but not limited to, the following legislation and guidance:

- The EIA Directive;
- Roads Act 1993 (as amended);
- Roads Regulations 1994 (as amended);
- Planning and Development Act 2000 (No. 30 of 2000) (as amended);
- Planning and Development Regulations 2001 (S.I. No. 600 of 2001) (as amended);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA 2022);

- Environmental Impact Assessment of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission 2017);
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission 1999);
- The Department of Housing, Planning and Local Government (DHPLG) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG 2018);
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission 2013);
- National Roads Authority (NRA) Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA 2008); and
- Advice Note 17: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects (The Planning Inspectorate 2019).

Where necessary, the impact assessment chapters refer to policy documents that are specifically relevant to their assessment.

Key policy documents that inform the examination of all environmental topic areas include:

- Project Ireland 2040 National Planning Framework (Government of Ireland 2018a);
- Project Ireland 2040 National Development Plan 2018 – 2027 (Government of Ireland 2018b);
- Project Ireland 2040 National Development Plan 2021 – 2030 (Government of Ireland 2021a);
- Climate Action Plan 2021 (Government of Ireland 2021b);
- Smarter Travel: A Sustainable Transport Future: A New Transport Strategy for Ireland 2009 – 2020 (DTTAS 2009);
- Eastern and Midlands Regional Assembly (EMRA) Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019 – 2031 (EMRA 2019);
- Greater Dublin Area Transport Strategy 2016 – 2035 (NTA 2016);
- Greater Dublin Area Transport Strategy 2022 – 2042 (NTA 2023);
- National Investment Framework for Transport in Ireland (NIFTI) (DoT 2021);
- Greater Dublin Area Cycle Network Plan (NTA 2013);
- Dublin City Development Plan 2022-2028 (DCC 2022);
- South Dublin County Development Plan 2022-2028 (SDCC 2022);
- Tallaght Town Centre Local Area Plan 2020 (SDCC 2020);
- The Liberties Local Area Plan (DCC 2009);
- The Liberties Greening Strategy (DCC 2015);
- Dolphin's Barn Public Realm Improvement Plan (DCC 2018); and
- Naas Road Lands Local Area Plan (DCC 2013).

Where necessary, the impact assessment chapters refer to legislation and guidance documents that are specifically relevant to their assessment.

In addition to the applicable EIA legislation and guidance, all relevant provisions of European Union (EU) Directives and national legislation relating to the specialist areas have also been considered as part of the process and are addressed in the relevant assessment chapters.

The Proposed Scheme is supported by an extensive policy framework of International, European, National, Regional and Local policies, planning strategies and plans. Refer to Chapter 2 (Need for the Proposed Scheme) for further information.

1.5.3 EIA Process

EIA is a systematic and an iterative process that examines the potential environmental impacts of a proposed development or project and establishes appropriate design and mitigation measures to avoid, reduce or offset impacts. The assessment of potential environmental impacts arising from the Proposed Scheme has been conducted in accordance with best practice as detailed in the chapters and associated appendices prepared in respect of each relevant environmental topic.

The EIA process can generally be summarised as follows:

- **Screening** – Determining whether or not an EIA is required for the Proposed Scheme. This included a review of the Proposed Scheme and understanding the legislative requirement for EIA under the Roads Act;
- **Consideration of the EIAR's Scope** – the EIA team considered the characteristics of the Proposed Scheme and the likely relevant issues which could arise due to its construction and operation;
- **Baseline Data Collection** – Establishment of a robust baseline of the existing environment in the study area of the Proposed Scheme, including a review of existing available information and undertaking any surveys identified as required during the Scoping phase;
- **Impact Assessment** – Assessment of the potential environmental impacts of the Proposed Scheme with and without mitigation measures, and an iterative process of informing design to avoid impacts;
- **Mitigation** – Formulation of mitigation measures to ameliorate the potential impacts of the Proposed Scheme which cannot be avoided through design;
- **Consultation** – With Statutory Authorities, Stakeholders, the public and other bodies;
- **Decision** – The competent authority, in this case ABP, will decide if the Proposed Scheme can be authorised, and if so, may specify conditions that must be adhered to;
- **Announcement** – The public is informed of the decision; and
- **Monitoring** – When required, monitoring of the effectiveness of implemented mitigation measures during construction and operation.

1.5.4 Screening and the Legislative Requirement for EIA

Screening is the first stage of the EIA process, whereby a decision is made on whether or not an EIA is required.

Section 50 of the Roads Act 1993 is concerned with the requirement for EIA of road development. Section 50(1)(a) states that: '*A road development that is proposed that comprises any of the following shall be subject to an environmental impact assessment:*

- (i) The construction of a motorway;*
- (ii) The construction of a busway;*
- (iii) The construction of a service area;*
- (iv) Any prescribed type of road development consisting of the construction of a proposed public road or the improvement of an existing public road'.*

Under Article 8 of S.I. No. 119/1994 - Road Regulations 1994 (as amended) the prescribed type of road development for the purposes of section 50(1)(a)(iv) of the Roads Act are:

- '(a) The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area'; and*
- '(b) The construction of a new bridge or tunnel which would be 100 metres or more in length.'*

The Proposed Scheme meets the threshold as set out in Article 8 of the Road Regulations 1994, in that it includes the realignment and/or widening of an existing road so as to provide four or more lanes, where such realigned and/or widened road is more than 500 metres in length and is in an urban area.

1.5.5 Consideration of the EIAR's Scope

As referenced above, the scope of the EIA was developed having regard to the characteristics of the Proposed Scheme and all likely significant environmental effects which could arise due to its construction and operation.

In addition, during the development of the EIAR, prescribed bodies and relevant non-statutory consultees (refer to Section 1.6 of this Chapter) were consulted to apprise them of the proposed approach to the EIAR and they were afforded the opportunity to provide comment on the approach.

Comments received during this pre-application consultation process with prescribed bodies and non-statutory bodies were reviewed and considered in the preparation of this EIAR.

Moreover, as a result of the three phases of extensive public consultation in respect of the Proposed Scheme, submissions and observations received from the public and public concerns were considered and, where appropriate, issues raised in those submissions and observations are included in the EIAR.

1.5.6 Contents of the EIAR

As set out in the European Commission's *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (2017)*, 'the EIAR is the document prepared by the developer [of a project] that presents the output of the assessment. It contains information regarding:

- the Project,
- the likely significant effect of the Project,
- the Baseline scenario,
- the proposed Alternatives,
- the features and Measures to mitigate adverse significant effects,
- as well as a Non-Technical Summary and,
- any additional information specified in Annex IV of the EIA Directive.'

Article 5 of and Annex IV to the EIA Directive, as well as and Section 50(2) of the Roads Act specify the information to be contained in an EIAR in relation to this Proposed Scheme.

For clarity on the information to be contained in the EIAR, the relevant sections of the legislation are reproduced in Table 1.1.

Table 1.1: Annex IV of the EIA Directive

Annex IV – Information Referred to in Article 5(1) (Information for the EIAR)
<p>1. Description of the project, including in particular:</p> <ul style="list-style-type: none"> (a) A description of the location of the project; (b) A description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases; (c) A description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and (d) An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases
<p>2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.</p>
<p>3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge</p>

Annex IV – Information Referred to in Article 5(1) (Information for the EIAR)
<p>4. A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydro morphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.</p>
<p>5. A description of the likely significant effects of the project on the environment resulting from, inter alia:</p> <ul style="list-style-type: none"> (a) The construction and existence of the project, including, where relevant, demolition works; (b) The use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) The risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e) The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f) The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g) The technologies and the substances used. <p>The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.</p>
<p>6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.</p>
<p>7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.</p>
<p>8. A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.</p>
<p>9. A non-technical summary of the information provided under points 1 to 8.</p>
<p>10 A reference list detailing the sources used for the descriptions and assessments included in the report.</p>

Section 50(2) of the Roads Act specifies the information to be contained in an EIAR and is reproduced in Table 1.2.

Table 1.2: Section 50(2) of the Roads Act

Section 50(2) of the Roads Act
<p>'50(2) The road authority or the Authority, as the case may be, shall ensure that an environmental impact assessment report referred to in subsection (1B) —</p> <ul style="list-style-type: none"> a) is prepared by competent experts, b) subject to subsection (3), contains the following information: <ul style="list-style-type: none"> (i) a description of the proposed road development comprising information on the site, design, size and other relevant features of the development; (ii) a description of the likely significant effects of the proposed road development on the environment; (iii) a description of any features of the proposed road development and of any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment; (iv) a description of the reasonable alternatives studied by the road authority or the Authority, as the case may be, which are relevant to the proposed road development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed road development on the environment; (v) a non-technical summary of the information referred to in subparagraphs (i) to (iv);

Section 50(2) of the Roads Act

(vi) any additional information specified in Annex IV that is relevant to the specific characteristics of the particular proposed road development or type of proposed road development and to the environmental features likely to be affected,

and

c) takes into account the available results of other relevant assessments carried out pursuant to any Act of the Oireachtas or under European Union legislation with a view to avoiding duplication of assessments.'

1.5.7 EIAR Structure

The EIAR for the Proposed Scheme is presented in four volumes as follows:

- **Volume 1 – Non-Technical Summary:** This summarises the findings of the EIAR in a clear, accessible format that uses non-technical language and supporting graphics. The Non-Technical Summary describes the Proposed Scheme, summarises the baseline environment, potential impacts and mitigation measures, and relevant topics of the EIAR in a manner that can be easily understood by the general public;
- **Volume 2 – Main Report:** This includes introductory chapters in addition to ‘assessment’ chapters for each environmental topic in accordance with Annex IV of the EIA Directive. The front-end chapters provide the relevant Proposed Scheme context whilst the assessment chapters provide a description of the relevant environmental aspects and likely significant impacts with cumulative impacts from other schemes in combination with the predicted impacts of the Proposed Scheme, and summary chapters provided thereafter;
- **Volume 3 – Figures:** This provides drawings, maps and graphics (including photomontages) that support and are referenced within Volume 2; and
- **Volume 4 – Appendices:** This provides the technical reports that support and are cross-referenced within Volume 2. This includes modelling data, background reports and / or other relevant documents.

The EIAR chapter structure is presented in Table 1.3.

Table 1.3: EIAR Structure

EIAR Chapter	Description
Volume 1: Non-Technical Summary	
NTS	Summary of the EIAR in non-technical language.
Volume 2: Main Report	
Chapter 1	Introduction
Chapter 2	Need for the Proposed Scheme
Chapter 3	Consideration of Reasonable Alternatives
Chapter 4	Proposed Scheme Description
Chapter 5	Construction
Chapter 6	Traffic & Transport
Chapter 7	Air Quality
Chapter 8	Climate
Chapter 9	Noise & Vibration
Chapter 10	Population
Chapter 11	Human Health
Chapter 12	Biodiversity
Chapter 13	Water
Chapter 14	Land, Soils, Geology & Hydrogeology
Chapter 15	Archaeological & Cultural Heritage
Chapter 16	Architectural Heritage
Chapter 17	Landscape (Townscape) & Visual

EIAR Chapter	Description
Chapter 18	Waste & Resources
Chapter 19	Material Assets
Chapter 20	Risk of Major Accidents and / or Disasters
Chapter 21	Cumulative Impacts & Environmental Interactions
Chapter 22	Summary of Mitigation & Monitoring Measures
Chapter 23	Summary of Significant Residual Impacts
Volume 3: Figures	
Figures	Graphics and plans supporting the EIAR chapters, illustrating the Proposed Scheme and environmental information.
Volume 4: Appendices	
Appendices	Technical reference information supporting the EIAR chapters, such as technical reports compiling calculations and detailed background data.

While the EIAR has been prepared in compliance with the EIA Directive, it has also been written to make it accessible to a wider, non-specialist audience. Where technical terminology is used, an explanation is provided in the text, and / or in the glossary of terms which is provided at the beginning of Volume 2 of the EIAR.

Generally, the structure of the Chapters in Volume 2 (Main Report) of this EIAR aligns with both the European Commission EIAR Guidance (2017) and EPA Guidelines (EPA 2022), and include the following headings:

- **Introduction:** Provides an overview of the aims and objectives of the specific chapter in assessing the Proposed Scheme and outlines the scope of the assessment;
- **Methodology:** Describes the forecasting methods and evidence used to identify and assess the significant impacts on the environment;
- **Baseline Environment:** The baseline refers to the current state of environmental characteristics. It involves the collection and analysis of information on the condition, sensitivity and significance of relevant environmental topics which are likely to be significantly impacted by the Proposed Scheme;
- **Potential Impacts:** Reporting in the EIAR is structured to ensure that criteria and standards of significance, sensitivity and magnitude used as part of the assessment are identified and documented and that the level of certainty of data is recorded. An explanation is provided for the assessment criteria that have been applied within each environmental topic area, including reference to the appropriate published guidance;
- **Mitigation and Monitoring Measures:** This section sets out measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse impacts on the environment and, where appropriate, identifies any proposed mitigation and monitoring arrangements. This section covers both the Construction and Operational Phases; and
- **Residual Impacts:** Any impacts that are predicted to remain after all mitigation measures have been implemented are referred to as 'Residual Impacts'. These are the remaining environmental impacts of the Proposed Scheme that could not be reasonably avoided.

1.5.8 Assessment Scenarios

1.5.8.1 Do Nothing Scenario

The EIAR chapters consider a 'Do Nothing' scenario (with the exception of Air Quality / Noise & Vibration / Climate which assess the Do Minimum and Do Something scenarios described below). The Do Nothing scenario outlines what is likely to happen to the environment should the Proposed Scheme and other GDA strategic projects (including the other 11 Core Bus Corridor Schemes) not be implemented, taking account of the continuation or change of current management regimes as well as the continuation or change of trends currently evident in the environment.

1.5.8.2 Traffic and Transport Assessment Scenarios

The impact assessments that have been carried as part of Chapter 6 (Traffic & Transport) using the following scenarios:

- **‘Do Nothing’** – The ‘Do Nothing’ scenario is the same as set out above and it represents the current baseline traffic and transport conditions of the direct and indirect study areas **without** the Proposed Scheme in place and other GDA Strategy projects, which is outlined in Chapter 6 (Traffic & Transport). This scenario forms the reference case by which to compare the Proposed Scheme (‘Do Something’) for the qualitative assessments only.
- **‘Do Minimum’** – The ‘Do Minimum’ scenario (Opening Year 2028, Design Year 2043) represents the likely traffic and transport conditions of the direct and indirect study areas including for any transportation schemes which have taken place, been approved or are planned for implementation, **without** the Proposed Scheme in place – refer to Section 1.5.8.3. This scenario forms the reference case by which to compare the Proposed Scheme (‘Do Something’) for the quantitative assessments. Further detail on the scheme and demand assumptions within this scenario is included in Chapter 6 (Traffic & Transport).
- **‘Do Something’** – The ‘Do Something’ scenario represents the likely traffic and transport conditions of the direct and indirect study areas including for any transportation schemes which have taken place, been approved or are planned for implementation, **with** the Proposed Scheme in place (i.e., the Do Minimum scenario with the addition of the Proposed Scheme).

1.5.8.3 Do Minimum Transport Schemes

The core reference case (Do Minimum) modelling scenarios (Opening year - 2028 and Design year - 2043) are based on the progressive roll-out of the Greater Dublin Area (GDA) Transport Strategy 2022 – 2042 (GDA Strategy), with a partial implementation by 2028, in line with National Development Plan (NDP) investment priorities and the full implementation by 2043.

The Do Minimum scenarios (in both 2028 and 2043) include all other elements of the BusConnects Programme of projects (apart from the CBC Infrastructure Works elements) i.e., the new BusConnects routes and services (as part of the revised Dublin Area bus network), new bus fleet, the Next Generation Ticketing and integrated fare structure proposals are included in the Do Minimum scenarios.

In 2028, other notable Do Minimum transport schemes include; the roll out of the DART+ Programme, LUAS Green Line capacity enhancement and the Greater Dublin Area Cycle Network Plan implementation (excluding BusConnects CBC elements).

As outlined above, the 2043 Do Minimum scenario assumes the full implementation of the GDA Strategy schemes, so therefore assumes that proposed major transport schemes such as MetroLink, LUAS line extensions to Lucan, Finglas, Poolbeg and Bray are all fully operational.

1.5.9 Assessment Criteria

The assessments evaluate the Construction and Operational Phases of the Proposed Scheme, with the likelihood, extent, magnitude, duration and significance of potential impacts described. The interactions in impacts between different environmental aspects and the potential for cumulative impacts to arise are also considered. For all environmental topics, the significance of any residual impacts remaining are assessed and presented.

The assessment criteria used generally follow the European Commission EIAR Guidance (2017) and EPA EIAR Guidelines (EPA 2022), as reproduced in Table 1.4, unless otherwise stated and described within the relevant EIAR chapter.

Table 1.4: Description of Effects from the EPA Guidelines (EPA 2022)

Assessment Criteria	
Quality of Effects	
It is important to inform the non-specialist reader whether the effect is positive, negative or neutral.	<p>Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity or improving the reproductive capacity of an ecosystem; or by removing nuisances; or improving amenities)</p>
	<p>Neutral Effects No effects or effects that are imperceptible, within normal bound of variation or within the margin of forecasting error</p>
	<p>Negative / Adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing a nuisance)</p>
Significance of Effects	
'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for the different topics the following definitions may be useful.	<p>Imperceptible An effect capable of measurement but without noticeable consequences</p>
	<p>Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences</p>
	<p>Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities</p>
	<p>Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends</p>
	<p>Significant Effects An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment</p>
	<p>Very Significant Effects An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment</p>
	<p>Profound Effects An effect which obliterates sensitive characteristics</p>
Extent and Context of Effects	
Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	<p>Extent Describe the size of the area, the number of sites, and the proportion of a population affected by an effect</p>
	<p>Context Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)</p>
Probability of Effects	
Descriptions of effects should establish how likely it is that the predicted effects will occur so that the competent authority can take a view of the balance of risk over advantage when making a decision.	<p>Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented</p>
	<p>Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented</p>
Duration and Frequency of Effects	
'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	<p>Momentary Effects Effects lasting from seconds to minutes</p>
	<p>Brief Effects Effects lasting less than a day</p>
	<p>Temporary Effects Effects lasting less than a year</p>
	<p>Short-term Effects</p>

Assessment Criteria	
	Effects lasting one to seven years
	Medium-term Effects Effects lasting seven to fifteen years
	Long-term Effects Effects lasting fifteen to sixty years
	Permanent Effects Effects lasting over sixty years
	Reversible Effects Effects that can be undone, for example through remediation or restoration
	Frequency of Effects Describe how often the effect will occur. (Once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

1.5.10 Details of Competent Experts

The BusConnects Infrastructure team has engaged an environmental team led by Jacobs to undertake the preparation of this EIAR for the Proposed Scheme, in collaboration with the Engineering Design Team led by Aecom. The responsible competent expert(s) and details of their expertise are provided in Table 1.5.

Table 1.5: Details of Competent Experts

Topic	Responsible Competent Expert – Competency Details
Chapter 1 (Introduction)	<p>David King BEng MEng Certified Project Manager, Jacobs David is the Divisional Director for Transport Planning in Ireland for Jacobs. He has over 20 years’ professional experience in policy derivation, transport strategy preparation, modelling, traffic impact, multi-modal scheme appraisal, business case development, planning applications, Environmental Impact Statement (EIS) preparation, Compulsory Purchase Order (CPO), and Oral Hearings for all modes of transport including heavy rail, light rail, bus and BRT, and Metro. He holds an honours degree and Master’s Degree in Engineering from Technological University Dublin (formerly IT Tallaght) and is a certified Project Manager. David has excellent experience in all aspects of transportation planning, project appraisal and project management of public transport and urban planning schemes, and his areas of expertise include:</p> <ul style="list-style-type: none"> Professional witness at several Oral Hearings for key infrastructure development proposals in Ireland such as Metro North, LUAS Cross City, LUAS Citywest, and LUAS Docklands. Oral Hearing evidence included presenting the Business Case for the Scheme, and environmental evidence in relation to planning and policy, traffic, socioeconomics, and land-use. Wide-ranging experience in the preparation of Railway Orders, including Metro North, Metro West, and LUAS Cross City. <p>David has overall responsibility for coordinating all services relating to the identification and mitigation of environmental impacts associated with the 12 Schemes (including the Proposed Scheme) that comprise the CBC Infrastructure Works.</p> <p>Eddie Feely BSc MIES CEnv, Arup Eddie is an Associate with Arup and has over 21 years’ experience as an Environmental Consultant. He holds a BSc in Environmental Pollution Science from the University of Glamorgan, UK and is a Member of the Institution of Environmental Sciences and is a Chartered Environmentalist. Eddie has managed the preparation of Environmental Impact Assessment Reports Statements for a number of infrastructure projects including High Speed Two Phase 2a (West Midlands to Crewe) in the UK, Curragh Racecourse Redevelopment, DART Underground, Dublin Airport Visual Control Tower and Wicklow Port Access and Town Relief Road. Eddie presented expert witness evidence at the DART Underground and Wicklow Port Access and Town Relief Road oral hearings. Eddie is the overall EIAR coordinator for the 12 Schemes (including the Proposed Scheme) that comprise the CBC Infrastructure Works.</p> <p>Dan Garvey BA(Hons) MSc CEnv MIEEnvSc CGeog FRGS, Arup Dan Garvey is an Associate with Arup and has over 20 years’ experience as an environmental consultant. He holds an MSc in Environmental Protection and is a Chartered member of the Institution of Environmental Sciences. He has managed or supervised the preparation of more than thirty environmental impact statements / assessment reports and has presented expert witness evidence at Oral Hearings for infrastructural developments such as the Shannon Pipeline, the Mungret to Inchmore Gas Pipeline, the Great Island Gas Pipeline and the Belview Gas Pipeline. Dan was the lead co-ordinator for the Proposed Scheme EIAR.</p> <p>Alan Duggan BEng (Hons), AEng, MIEI, AECOM Alan Duggan is a Principal Infrastructure Engineer with AECOM and has over 30 years’ experience as a civils infrastructure professional. He has extensive experience in road design and utilities interface for both major and minor infrastructure projects having worked on Dublin Port Tunnel, LUAS light rail and various road schemes throughout Ireland as well as road and residential projects in the Middle East as an Engineering Manager and Infrastructure Lead. Alan Duggan was the Project Manager for the design of the Proposed Scheme.</p>
Chapter 2 (Need for the Proposed Scheme)	<p>David King Dan Garvey Alan Duggan See above</p>
Chapter 3 (Consideration of	<p>Dan Garvey</p>

Topic	Responsible Competent Expert – Competency Details
Reasonable Alternatives)	<p>Alan Duggan See above</p>
Chapter 4 (Proposed Scheme Description)	<p>Dan Garvey Alan Duggan See above</p>
Chapter 5 (Construction)	<p>Dan Garvey Alan Duggan See above</p> <p>Michael Mitchell BEng (Hons), CEng, MICE, MStructE, MAPM, Arup Michael Mitchell is an Associate Director with ARUP. He holds an honours degree in Civil Engineering from University of Strathclyde. Michael has 25 years' relevant experience and in particular, managed the planning and design for various road schemes including A2 Buncrana Road, A6 Randalstown to Castledawson, Busway Bridge & Ramps at Belfast Transport Hub and Dunleer-Dundalk Motorway.</p> <p>Aaron Dougan BEng (Hons), CEng, MIEI Aaron Dougan is a Senior Engineer with ARUP. He holds an honours degree in Civil Engineering from Queens University Belfast. Aaron has over 14 years' relevant experience and in particular, managed the scheme design and assessment phase of the 4.4km long A2 Buncrana Road improvement scheme in Derry/Londonderry, and delivered the detailed highways design for various road schemes including the 14km long A6 Randalstown to Castledawson dualling scheme, the Busway Bridge & Ramps at Belfast Transport Hub, as well as other minor works and private development projects.</p>
Chapter 6 (Traffic & Transport)	<p>Ian Byrne BEng MSc, Systra Ian Byrne is a Business Director of the Data, Modelling and Analytics Sector within SYSTRA and has over 23 years' experience as a Transport Planning Consultant. He holds an honours degree in Civil Engineering and a Master's Degree in Transportation Engineering from Trinity College Dublin. Ian is a Fellow in the Chartered Institute of Highways and Transportation. Ian has prepared transport assessments for many strategies and multi-modal schemes across Ireland and has been a professional witness at a number of Oral Hearings for key infrastructure development proposals in Ireland including Port of Cork Ringaskiddy Development, Metro North, Adamstown SDZ, N4 Upgrade Scheme and Cork Docklands Infrastructure amongst others.</p> <p>Paul Hussey BEng, Systra Paul Hussey is an Associate Director with Systra and has over 14 years' experience as a Transport Planning Consultant. He holds an honours degree in Civil Engineering from University College Dublin. Paul has 13 years' relevant experience in a wide range of transportation planning, policy and engineering projects. Through his work Paul has gained a broad knowledge of transport scheme appraisal in Ireland and has successfully delivered a number of challenging transport assessment and appraisal projects such as the MetroLink Cost Benefit Analysis (CBA), the Greater Dublin Area (GDA) Transport Strategy, Cork Metropolitan Area Transport Strategy (CMATS), DART Expansion Options Assessment and the Metro North Route Alignment Options Appraisal.</p> <p>Stuart Gibb BEng (Mech) (Hons), Jacobs Stuart is a Senior Associate Director and technical expert with over 15-years' professional experience who leads Jacobs simulation modelling capability in the UK and Europe. In recent years Stuart has led on the development of a number of major, multi-modal microsimulations models including those for the Dublin BusConnects and Metrolink major projects as well as those for other key clients including Transport for London, Highways England, the Department for Transport and a host of UK local authorities. Stuart holds an honours degree in Mechanical Design Engineering.</p>

Topic	Responsible Competent Expert – Competency Details
<p>Chapter 7 (Air Quality)</p> <p>Chapter 8 (Climate)</p>	<p>Edward Porter, BSc (Hons) PhD C Chem MRSC MIAQM MIEEnvSc, AWN Consulting Edward Porter is a Director (Air Quality) with AWN Consulting. He holds an honours degree in Chemistry from University of Sussex and is a Chartered Chemist and a Full Member of the Institute of Environmental Sciences (IES). Edward has 25 years' relevant experience and in particular, has prepared numerous Air Quality and Climate Impact Assessments for infrastructural developments including the M3 Navan Bypass and Kells Bypass, M7/M8 Motorway and the M1 Dundalk Western Bypass. Edward presented expert witness evidence at the An Bord Pleanála oral hearings into these developments.</p> <p>Jovanna Arndt, BSc (Hons) PhD AMIAQM AMIEnvSc, AWN Consulting Jovanna Arndt is a Senior Environmental Consultant with AWN Consulting. She holds a BSc (Hons) in Environmental Science (2010) and a Ph.D. in Atmospheric Chemistry from University College Cork (2016) and is a member of the Institute of Air Quality Management. Jovanna has specialised in air quality for 10 years, 5 of which have been spent preparing Air Quality Impact Assessments for UK-based infrastructural developments such as HS2 and numerous Highways England road schemes, as well as assessing impacts from traffic management schemes such as the Liverpool and Newcastle/Gateshead Clean Air Zones.</p> <p>Dr. Avril Challoner, BEng, MIAQM, MIEEnvSc CSci, AWN Consulting Dr. Avril Challoner is a Senior Environmental Consultant with AWN Consulting. She holds a BSc (Hons) in honours degree in Environmental Engineering from National University of Ireland Galway (2009) and a Ph.D. in Air Quality from Trinity College Dublin (2013). She is a member of the Institute of Air Quality Management and a Chartered Scientist (CSci). Avril has specialised in air quality for 11 years, 8 of which have been spent in consultancy working on Air Quality and Climate Impact Assessments for infrastructural developments. Avril presented expert witness evidence at the An Bord Pleanála oral hearings at developments including the N5 Ballaghaderreen to Scramoge upgrade.</p> <p>Ian Byrne / Paul Hussey – see above Ian and Paul have provided transport planning inputs for the preparation of the Climate assessment.</p>
<p>Chapter 9 (Noise & Vibration)</p>	<p>Jennifer Harmon BSc, MIOA, AWN Consulting Jennifer Harmon is the Principal Acoustic Consultant with AWN Consulting. She holds a BSc in Environmental Science, a Diploma in Acoustics and Noise Control and is a full member of the Institute of Acoustics (IOA). She has worked as a consultant since 2000, specialising in acoustics since 2001, and possesses extensive experience in the field of environmental noise and vibration impact assessment, noise control engineering, building and room acoustics. Jennifer has prepared noise and vibration impact assessments for a wide range of transport projects across Ireland, including new road schemes, road realignment and upgrade projects as well as light and heavy rail projects as landside air-noise. Her experience in road traffic noise impact assessment includes extensive baseline studies, detailed transport noise models, noise mitigation design and construction impact assessments.</p>
<p>Chapter 10 (Population)</p>	<p>Gareth Walters BEng MSc CMILT MCIHT, Jacobs Gareth Walters is a Transport Planner with Jacobs with almost 30 years' experience. He holds a masters in Transport Planning and an honours degree in Civil Engineering and has been a Chartered Member of the Chartered Institute of Logistics and Transport for over 20 years. Gareth has carried out numerous demand forecasting and economic analyses, including preparing socio-economic impact assessments and business cases for transport infrastructure developments, in particular including MetroWest Phases 1 and 2 (reopening closed rail lines and new stations), various other new rail stations in the West of England, and several road schemes in Worcestershire and the West of England. Gareth recently participated in Issue Specific Hearings as part of examination of the Development Consent Order (DCO) for the Portishead Branch Line (MetroWest Phase 1).</p> <p>Siobhan Fisher BSc ICTTech, Jacobs Siobhan Fisher is a Transport Planning Consultant with Jacobs and has 4 years' experience of working on a wide variety of projects. She holds an honours degree in Mathematics and holds accreditation of ICTTech with the Institute of Highway Engineers. Siobhan has worked on a wide range of projects, including authoring of the NTA Greater Dublin Area Naas Road Study, Transport Assessment originator for the Southampton to London Pipeline, and originator of local council and National Highways</p>

Topic	Responsible Competent Expert – Competency Details
	business cases and Transport Assessments and junction models.
Chapter 11 (Human Health)	<p>Dr Martin Hogan, EHA Occupation Health Hygiene Consultants – Health Dr Martin Hogan is a medical doctor, registered with the Irish Medical Council as a Specialist in Occupational Medicine since 1997. He has 20 years' experience in assessing Human Health impacts of proposed developments and has contributed to many Environmental Impact Statements. He has given evidence in over 20 Oral Hearings including transport infrastructure such as road, rail and airport development, as well as waste management including landfills and incinerators. His specialist interests include Occupational Medicine in the Pharmaceutical and Chemical industry and Environmental Medicine. He lectures in Toxicology in University College Cork. He is a past National Speciality Director of Occupational Medicine in Ireland and a past Dean of the Faculty of Occupational Medicine of the Royal College of Physicians of Ireland. He is the President of the Organising Committee for ICOH 2018 and a member of the Board of ICOH (International Commission on Occupational Health).</p> <p>Jenny Wade MSc C.Env MIEMA, Jacobs Jenny Wade is an Associated Director with Jacobs. She holds a Master's degree in Environmental Management from Imperial College, London and is currently completing a Masters in Public Health part-time through Cardiff University. Jenny has over 18 years' relevant experience in environmental impact assessment and strategic environmental assessment.</p>
Chapter 12 (Biodiversity)	<p>Aebhín Cawley CEnv MCIEEM, Scott Cawley Ltd. Aebhín Cawley is Managing Director with Scott Cawley. She holds an honours degree in Zoology from Trinity College, Dublin and a postgraduate diploma in Physical Planning at Trinity. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env) and a Full Member of the CIEEM. Aebhin Cawley is an experienced ecological consultant with extensive experience in public and private sector projects including complex development types including infrastructure, renewable energy and ports. Aebhín has delivered lectures and training on Appropriate Assessment to a range of organisations and professional institutes and regularly provides Appropriate Assessment training to local authorities and other public sector organisations. She authored guidelines on Appropriate Assessment for the EPA and delivered training on its application to its inspectorate. Aebhín was the project director for the Biodiversity chapter of the EIAR and the NIS with overall responsibility for the delivery of those reports as well as for high-level input to the survey methodologies, assessment of impacts and development of the mitigation strategy.</p> <p>Caroline Kelly MSc, Scott Cawley Ltd. Kristie Watkin-Bourne is a Senior Consultant Ecologist at Scott Cawley Ltd. She holds an honours degree in Environmental Biology from University College Dublin and a Masters in Applied Ecological Assessment from University College Cork. Caroline has experience in habitat survey and assessment (including Annex I habitats and legally protected sites) in a range of terrestrial, freshwater and coastal environments, surveys for protected species (e.g., bats, badger, otter), bird surveys (both breeding and overwintering), and surveys for invasive species. Whilst working at Scott Cawley Ltd., Caroline has managed ecological assessments for a wide range of projects including tourism, recreational, industrial, commercial, residential, transport and renewable energy developments.</p> <p>Kristie Watkin Bourne MSc, Scott Cawley Ltd. Kristie Watkin-Bourne is a Senior Consultant Ecologist at Scott Cawley Ltd. She holds a first-class honours degree in Physical Geography from Swansea University, and a first-class Master's degree in Applied Environmental Science from University College Dublin. She is a CIEEM Member (Qualifying) and is experienced in conducting a range of terrestrial and aquatic ecological surveys for habitat and site appraisals, species monitoring, and impact assessment. With five years consultancy experience, Kristie has a wide range of experience in Appropriate Assessment, Ecological Impact Assessment, Cumulative Impact Assessment, and Strategic Environmental Assessment of plans and projects within the Irish planning environment. Kristie has worked on behalf of public sector bodies including Irish Water, The National Transport Authority, and several County Councils in addition to private developers across infrastructure, renewable energy, and residential development projects. Kristie undertook specific elements of the field survey work.</p> <p>Tim Ryle Ph.D. MIEEnvSc, Scott Cawley Ltd. Tim Ryle is a Principal Ecologist with Scott Cawley Ltd. He holds an honours degree in Botany from University College Dublin and was later awarded a Ph.D. from the same institution. He is a full Member of the Institute of Environmental Scientists. Tim is an experienced ecological consultant with twenty years' experience in private consultancy in designing, undertaking and managing a wide range of ecological survey and in assessing impacts and designing mitigation measures and biodiversity enhancements, in</p>

Topic	Responsible Competent Expert – Competency Details
	<p>particular for protected species including badgers, otters, bats, birds, amphibians as well as habitats of conservation importance. He is also experienced in undertaking appropriate Assessment for small scale development projects and larger infrastructural projects, land plans as well as national/government plans.</p>
Chapter 13 (Water)	<p>Rebecca Westlake BSc (hons), MSc, LLM, PhD, CSci, CMarSci, MIMarEST, Jacobs</p> <p>Rebecca is Head of Discipline for Water Science and Hydromorphology at Jacobs. She holds an honours degree in physical geography from Plymouth University, an MSc in coastal and marine resource management, an LLM in environmental law and practice, and a PhD in geomorphology. Rebecca is chartered with Institute of Marine Engineering, Science and Technology, and has approximately 25 years' relevant experience in water science and environmental assessment. Rebecca is highly experienced in many aspects of legislation and regulation, in addition to specific technical specialism in Water Framework Directive, and all stages of the EIA process, including Development Consent Orders. Rebecca is a technical lead for water chapters for major infrastructure projects including DCO for roads, rail and water sectors, often undertakes peer reviewer roles. She is currently lead technical reviewer for the Water Supply Project water chapter and associated technical appendices.</p>
Chapter 14 (Land, Soils, Geology & Hydrogeology)	<p>Marie Fleming BSc (Hons), MSc. Arup</p> <p>Marie is an Associate working in the Ground Engineering team in Arup and has a Bachelor of Science (Earth Sciences) honours degree from University College Cork and a Masters Degree in Engineering Geology from Imperial College London. Marie has over 18 years professional experience on large infrastructure projects and is a Professional Geologist (PGeo) with the Institute of Geologists of Ireland (IGI), a Chartered European Geologist (EurGeol) with the European Federation of Geologists and a Fellow of the Geological Society of London (GSL). She has prepared numerous Land, Soils, Geology & Hydrogeology Impact Assessments for infrastructural developments including DART Underground and the M7 Osberstown Interchange and R407 Sallins Bypass.</p>
Chapter 15 (Archaeological & Cultural Heritage)	<p>Lisa Courtney BA (Hons) MSc (Ag) Dipl. Bus. Mgt., Adv. Dipl. In Planning & Env. Law, MIAI. Courtney Deery Heritage Consultancy Ltd</p> <p>Lisa is a director of Courtney Deery Heritage Consultancy and has over 26 years of field and research experience in environmental impact assessment reporting. Lisa holds a BA (Hons) in Archaeology and Economics and a MSc (Ag) in Environmental Resource Management from University College Dublin and has obtained certificates from the University of Oxford in Condition Surveys of Historic Buildings (2017) and the assessment of setting of heritage assets (2013). Lisa has lectured in EIA and archaeology at UCD and holds a higher diploma in Planning and Environmental Law (2020). Lisa is a member of the Institute of Archaeologists of Ireland (IAI) and a member of the International Council of Monuments and Places (ICOMOS). Lisa has carried out reports for large scale infrastructural projects including N5 Ballaghaderreen to Scramoge EIAR and Kildare Rail Route and conservation initiatives, her experience demonstrates a capability of characterising and the existing historic and archaeological environment and evaluating its significance. Lisa presented expert witness evidence at the An Bord Pleanála oral hearings into the above mentioned developments.</p> <p>Dr Clare Crowley BA (Hons), PhD. Courtney Deery Heritage Consultancy Ltd</p> <p>Clare, a Senior Heritage Consultant, has more than 20 years' experience in the field and holds a PhD in Archaeology (Dublin Institute of Technology, 2009), a BA (Hons) in Ancient History, Archaeology & French (Trinity College Dublin, 1996), a Certificate in Repair and Conservation of Historic Buildings (Dublin Civic Trust, 2004) and a Certificate in Condition Surveys of Historic Buildings (University of Oxford, 2017). Clare has carried out numerous surveys and evaluations of archaeological monuments, buildings, sites and historic landscapes and streetscapes for the purposes of conservation and environmental impact assessment and has presented expert witness evidence for the M28 Cork to Ringaskiddy EIAR.</p>
Chapter 16 (Architectural Heritage)	<p>Cathal Crimmins B.Arch, MArch Sc (Conservation of Towns and Buildings), RIAI Grade 1 Accredited Conservation Architect, FRIAI, MRIBA,</p> <p>Cathal Crimmins is a conservation architect with over thirty years' experience researching, recording and assessing historic structures, and landscapes. He is a fellow of the RIAI and member of RIBA. He is an RIAI Grade 1 accredited Conservation Architect. Cathal has tutored in architecture and in architectural conservation.</p> <p>Relevant experience includes the preparation of inventories of Tullamore, Carlow, Chapelizod, Henrietta Street, O'Connell Street and Dundrum for the OPW, the Irish Architectural Archive, The Dublin Civic Trust, UCD and private clients, advising on additions and deletions to the Record of Protected Structures to Dublin City Council & Galway City Council.</p> <p>Julia Crimmins, BA (Hons), MUBC, MSc (Sp)</p> <p>Julia Crimmins is a built heritage consultant with Cathal Crimmins Architect, RIAI Grade 1 Accredited Practice. Julia holds a BA in Archaeology University College Dublin, a MUBC Master's in Urban and Building conservation University College Dublin (2006) and a MSc (Sp) in Spatial Planning from the Technical University of Dublin. Julia is a member of the Institute of Archaeologists of Ireland (IAI), The Irish Planning Institute (IPI) and a member of the International Council of Monuments and Places (ICOMOS). Julia has over 15 years of experience working on buildings and sites of architectural heritage interest, preparing Conservation Reports, Architectural Heritage Impact</p>

Topic	Responsible Competent Expert – Competency Details
Chapter 17 (Landscape (Townscape) & Visual)	<p>Assessments and Architectural Heritage Chapters of EIARs.</p> <p>Thomas Burns B Agr. Sc. Dip. EIA Mgmt MILI EFLA., Brady Shipman Martin Thomas Burns is a Partner and landscape planner with Brady Shipman Martin. He holds an honours degree in Agricultural Science and a post-graduate Diploma in Environmental Impact Assessment Management (1994) from University College Dublin. Thomas has a strong background in environmental, landscape and planning issues across a wide range of disciplines, including assessment and master-planning. For over 20 years, Thomas has been involved in the masterplanning, planning, environmental assessment and construction of a diverse range of projects, and as part of his involvement, has regularly given expert evidence at planning hearings and other public inquiries. Thomas has been directly involved in the environmental and landscape and visual assessments of many key national infrastructure projects, including over 750km of the national roads programme including the M20 Cork to Limerick Motorway Scheme, the M7 Osberstown Interchange and R407 Sallins Bypass, the Shannon LNG Facility, the Corrib Gas Terminal, T2 Terminal at Dublin Airport and the DART Underground project. Given his experience on National Roads, Thomas was commissioned by the TII to raft Guidelines for Landscape Treatments on National Roads in Ireland. He has also brought his environmental and landscape planning experience to projects such as the Strategic Environmental Assessment aspect of various statutory plans and programmes, including County Meath Development Plan 2013-2019; the Department of Environment IOSEA 5 and as well being part of the wider team that carried out the Environmental Assessment of Food Harvest 2020. Thomas is an active member of the Irish Landscape Institute (ILI), where he was Chairperson of the Professional Practice Committee since its inception in 1995 until 2011. Thomas also previously served as the ILI Representative on the Council of the European Foundation of Landscape Architecture (EFLA) from 1997 to 2000.</p> <p>Alex Craven BSc (Hons) MLA - Brady Shipman Martin Alex Craven is an LVIA Specialist and landscape architect with Brady Shipman Martin. He holds an honours degree in Landscape Architecture with Ecology and a Master's degree in Landscape Architecture from the University of Sheffield. Alex has 8 years' relevant experience and has been involved with landscape and visual assessment throughout that time for a range of project types including infrastructural projects. He has worked on a wide range of landscape and visual impact assessments for renewable energy, residential, infrastructure and leisure development projects. He has been involved in all stages of the process from report writing to generating Zones of Theoretical Visibility, on site viewpoint and receptor assessments, verified viewpoint photography and production of a range of report-based figures. He has been involved with managing the detailed design of a section of the N25 in Co. Waterford, and also landscape and visual assessment for the Knock to Collooney N17 (Atlantic Economic Corridor) Upgrade. Alex Craven assisted in the preparation of Chapter 17 (Landscape (Townscape) & Visual) of the EIAR.</p>
Chapter 18 (Waste & Resources)	<p>Janet Lynch BEng, MCTWM, MIEI CEng, Arup Janet Lynch is an Associate with Arup with over 20 years' experience in circular economy, resource and waste management, EIAR and Industrial Emissions Licensing. Skills include Construction and operational resource and waste management strategies and plans, material reuse, recycling and disposal technologies. Planning and EIA project management includes energy, renewables, industrial and infrastructure Projects; Industrial Emissions (IE) License applications & review includes waste, biomass, oil and gas, energy, cement and the pharmaceutical sector. Janet holds an honours degree in Civil and Environmental Engineering from University College Cork, a FETAC Certificate in Waste Facility Management and a Certificate in Applied Project Management from the IEI and University Limerick. She is a Chartered member of the Chartered Institution of Wastes Management (MCTWM) and a Chartered Member of Engineers Ireland.</p> <p>Hannah Lesbirel MEnvSci, GradiEMA, Arup Hannah Lesbirel is a Consultant with ARUP. She holds an honours Master's degree in Environment Science from University of Southampton. Hannah has 4 years' relevant experience and in particular, develops technical and operational solutions for waste management for strategic reporting. Hannah develops strategic solutions for waste management across a variety of types of projects, from small to large and city scale developments. Hannah has experience as waste and resource specialist for several environmental planning and permitting works, contributing to the generation of baseline reports and environmental statement chapters for waste and resource management, reviewing planning applications and discharge of conditions including London Legacy Development Corporation, confidential mixed used skyscraper, London and Thames Water Upgrade Works.</p>
Chapter 19 (Material Assets)	<p>Hannah Cullen BA MSc C.WEM CEnv MCIWEM, Jacobs Hannah Cullen is a Principal Environmental Scientist with Jacobs Engineering Ireland and has eight years of professional experience in the environmental sector. She holds a</p>

Topic	Responsible Competent Expert – Competency Details
	<p>BA in Geology from Trinity College Dublin and an MSc in Environmental Science from University College Dublin. She is a Chartered Environmentalist (CEnv) with the Society of the Environment and is a Chartered Water and Environmental Manager (C.WEM) with the Chartered Institute of Water and Environmental Management (CIWEM). Hannah has experience in Environmental Impact Assessment, environmental monitoring, environmental auditing, and environmental site constraints assessment and due diligence work. She has worked on a range of both public and private sector Environmental Impact Assessment Reports of varying scales over the past six years since joining Jacobs.</p>
Chapter 20 (Risk of Major Accidents and / or Disasters)	<p>Dan Garvey See above</p>
Chapter 21 (Cumulative Impacts & Environmental Interactions)	<p>Peter Gambrill C.Env MIEMA, Jacobs Peter is a Technical Director in Jacobs and is a Chartered Environmentalist (CEnv) and Full Member of the Institute of Environmental Management and Assessment (IEMA), with over 20 years' experience as an environmental consultant, technical lead and project manager on a wide variety of projects and for different sectors. He has experience and knowledge working on projects of differing sizes and complexity, managing and coordinating multidiscipline teams on projects for a variety of clients. Peter has had a varied background, starting his career as a geotechnical and geoenvironmental engineer and moving on to more holistic environmental management and impact assessment, delivery and project management. He has developed a breadth of experience and knowledge including; EIA (including DCO in the UK), SEA, permitted development and planning requirements; compliance auditing and environmental management systems; waste management; environmental permitting and regulation; protected species mitigation; contaminated land assessment and remediation; stakeholder and contractor liaison and construction supervision.</p> <p>Isabelle Barnard BSc PIEMA, Jacobs Isabelle is an Environmental Consultant at Jacobs, currently working towards Practitioner Membership of the Institute of Environmental Management and Assessment (IEMA). Isabelle graduated from the University of Southampton in 2019 with a First-Class Honours in Environmental Science and prior to joining Jacobs, gained experience working for a small engineering consultancy. Isabelle has just under three years' experience at Jacobs and has developed a clear understanding of the EIA process through work on various projects for different clients (i.e., highways, rail, utilities, nuclear). Isabelle's experience includes the coordination of and contribution to three EIAs to support planning application submissions and planning application addendum submissions. Contributions include authoring chapters of Scoping Reports and Environmental Statements, and preparation of Non-Technical Summaries and Environmental Management Plans. Isabelle has also assessed numerous smaller-scale schemes across different sectors, most notably highways and utilities.</p> <p>Dan Garvey See above</p> <p><i>Note: the cumulative impact and environmental interactions assessment for each environmental topic has been developed by the relevant competent responsible experts listed above</i></p>
Chapter 22 (Summary of Mitigation & Monitoring Measures)	<p>Dan Garvey See above</p>
Chapter 23 (Summary of Significant Residual Impacts)	<p>Dan Garvey See above</p>

1.6 Consultation

1.6.1 Consultation Objectives

Public participation has been an integral part of the iterative development of the Proposed Scheme from the outset. Pre-application public consultation was carried out in three phases (one in relation to Emerging Preferred Route consultation and two in relation to the Preferred Route Option consultation) to inform the public and stakeholders of the development of the Proposed Scheme from an early stage and to seek feedback and participation throughout its development. The BusConnects Infrastructure team has undertaken a comprehensive consultation and engagement process with stakeholders, landowners and members of the public throughout the development of the Proposed Scheme.

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

The early involvement of the public and stakeholders ensured the views of various groups, individuals and stakeholders were taken into consideration throughout the development of the Proposed Scheme and in the preparation of this EIAR.

The non-statutory consultation process assisted in:

- The establishment of a sufficiently robust environmental baseline for the Proposed Scheme and its surroundings;
- The identification, early in the process, of specific concerns and issues relating to the Proposed Scheme 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.

The consultation process involved engagement from:

- Emerging Preferred Route (EPR) Option Consultations; through
- Preferred Route Option (PRO) Consultations.

More specific information relating to the pre-application phases of public consultation, issues which emerged and the manner in which they informed the iterative development of the Proposed Scheme are outlined in the sections which follow.

1.6.2 Emerging Preferred Route Option Consultation

1.6.2.1 EPR Consultation Overview

The first non-statutory public consultation on the BusConnects CBCs took place on a phased basis. The first phase of consultation occurred from 14 November 2018 to 29 March 2019. The second phase ran from 23 January 2019 to the 30 April 2019 and the final phase ran from 26 February 2019 until the 31 May 2019.

During the public consultation phase and the route selection process (from establishment of the EPR Option up to the choice of the PRO), there were two sections which were considered separately: (i) the Tallaght to City Centre section and (ii) the Clondalkin to Drimnagh section. However, as a result of careful consideration of the alternative route options, these two sections have now been combined in a single route as the Proposed Scheme. The principal reasons for combining the Tallaght to City Centre section and the Clondalkin to Drimnagh section into the Proposed Scheme include their geographical association, functional interdependence and the fact that the Clondalkin to Drimnagh section joins the Tallaght to City Centre section at the junction of

the R110 Long Mile Road and R189 Walkinstown Road and shares the remaining section of the route from that junction to the City Centre.

The public were invited to make written submissions in relation to the published proposals to the BusConnects Infrastructure team either through an online form, by email or by post. There were five consultation events held in which the public were able to view the proposals and discuss them directly with members of the BusConnects Infrastructure team. For the Tallaght to City Centre section, these were held at the Red Cow Moran Hotel, Naas Road on 26 February 2019 and the Dublin City Council Civic Office on 12 March 2019. For the Clondalkin to Drimnagh section, these were held at Our Lady's Hall, Mourne Road, Dublin 12 on 19 February 2019, at the Clayton Hotel, Liffey Valley on 28 February 2019 and at the Dublin City Council Civic Office on 12 March 2019.

In addition to the open public consultation, a Community Forum was established with the aim of facilitating two-way communication between local communities and the BusConnects Infrastructure team.

A Community Forum meeting took place on 12 February 2019 at Our Lady's Hall, Drimnagh. The meeting involved the presentation of an overview of the design for the Proposed Scheme and, with the use of an independent chairperson, the representatives were given the opportunity to ask questions of the BusConnects Infrastructure team and provide feedback.

In addition, there have been meetings held with residents' groups to provide updates on aspects of the Proposed Scheme. The BusConnects Infrastructure team has made the presentations given at the Community Forum and Residents Group meetings available to the public on the BusConnects website (www.busconnects.ie).

Letters were delivered to each individual potentially impacted property affected by the Proposed Scheme that, in addition to providing information about the Proposed Scheme, offered a one-to-one meeting to discuss the likely impact, issues and concerns. Each potentially impacted property was also sent a copy of the Emerging Preferred Route brochure for the Tallaght to City Centre Section and the Clondalkin to Drimnagh section. Approximately 285 letters were delivered on 18 January 2019 along the two proposed sections, with 36 property owners availing of the one-to-one meetings.

There was a total of 100 submissions made in respect of the Proposed Scheme during the Emerging Preferred Route public consultation phase.

1.6.2.2 Tallaght to City Centre Section – Key Issues Emerging from the EPR Non-Statutory Consultation Process

The key issues emerging from the consultation process relating to the Tallaght to City Centre section were as follows:

- Rerouting of existing bus services – concerns for the loss of some existing services due to the proposed route not encompassing all of the areas that previous services covered. Also, some locations may require passengers to change buses where a single bus would have served these locations;
- Environmental issues – potential negative impact the Proposed Scheme may have during construction and operation. Potential increase in noise levels, air quality and light pollution and lack of published information in relation to these issues. Unnecessary loss of existing trees and green spaces;
- Issues during construction – possible structural damage and subsidence to properties, disruption of existing utility services and vermin habitats. Increased flooding due to increased hardstanding areas and reduced green spaces. Restricted and reduced access to properties;
- Cyclist safety – removal of dedicated cycle lanes on Crumlin Road, protection of cyclists at junctions, lack of cyclist segregation at Christchurch. Poor quality cycling level of service for alternative cycle route via Kildare Road;
- Pedestrian safety – concerns relating to safety of proposed shared spaces. Cycle lanes may negatively affect pedestrian safety. No proposed illegal parking deterrents. Road widening increases time required for pedestrians to safely crossroads;

- Security – insufficient public lighting provision, concern of anti-social behaviour at bus stops, general security concerns relating to proximity of pedestrians to properties, loss of driveway car parking and lack of natural public surveillance;
- Impact on local businesses – concerns for deliveries and access to businesses, lack of frequent and accessible bus stops, loss of on-street parking, particularly at Walkinstown Roundabout and Crumlin Road / Windmill Road junction;
- Integration – the Proposed Scheme should consider the Greater Dublin Area Cycle Network Plan and the link road at Belgard Square North;
- Non-compliance with design standards and planning documentation – removal of existing cycle track and scheme does not promote reduction of car usage or encourage cycling. Poor design of cycle routes where cycle lanes share with buses. Left turn slip lanes should be removed. Prioritisation of buses and cyclists over pedestrians contravenes the Design Manual for Urban Roads and Streets (DMURS);
- Walkinstown Cross design issues – proposed design does not improve on existing layout and pedestrians and cyclists should not share space. Additional traffic calming measures should be implemented. Unclear if Electric Vehicle charging stations are to be maintained;
- Loss of parking facilities – loss of on-street parking spaces and residential frontage loss is a concern for residents, particularly for those requiring carer and health professional visits;
- Route and design issues – lack of right-turn lanes, proposed no-right turn at Kilnamanagh Road. Slane Road cycle track queried;
- Loss (property value, revenue, loss of function, privacy, etc.) – loss of parts of residents' front gardens, increased noise and loss of privacy due to proximity of traffic lanes to properties, CPO agreements;
- Traffic calming issues – Tallaght Square and village should have 20kph posted speed limit. General lack of traffic calming, and speed enforcement measures queried;
- Disability issues – bus stop locations and intervals, uncontrolled junctions, footpath materials, tactile paving, footpath obstructions;
- Financing the Scheme – projected cost comparison with proposed LUAS Green and Red lines; and
- Suggestions and New ideas – provide connection through Limekiln Road to Kingswood LUAS Stop, closure of entrances to Hibernian Industrial Estate and introduction of contraflow and congestion charging around the Grand Canal.

1.6.2.3 Clondalkin to Drimnagh Section – Key Issues Emerging from the EPR Consultation Process

The key issues emerging from the consultation process relating to the Clondalkin to Drimnagh section were as follows:

- Cyclist safety – lack of cycle track segregation in some areas, unclear cycle lane transition onto road space, request to provide bus stop bypass at all bus stops;
- Left turn slip lanes – remove left turn slip lanes as unsafe for cyclists;
- Accessibility and disability requirements – difficulties with disability access when transferring between buses, uncontrolled junctions and proposed kerb upstand height may pose a trip hazard, concern for shared space interface for users with disabilities;
- Pedestrian safety – shared space interface for pedestrians and cyclists, Toucan crossing risk, proposed design does not put pedestrians above cyclists and public transport, design will stop vulnerable pedestrians using public transport;
- Bus route issues – proposals will disrupt the extensive reach of the Dublin Bus Network, loss of direct route to the City Centre;
- Predominance of Heavy Goods Vehicles (HGVs) – provide fully segregated cycle tracks and raised priority junctions to protect cyclists from HGVs, provide pedestrian and cycle bridge on the Naas Road;
- Environmental Impacts – concern at proposed removal of trees, green spaces and gardens, inadequate provision of new trees, Sustainable Drainage Systems (SuDS) should be provided where possible; and

- Suggestions and New ideas – add congestion charge, provide Dutch style junctions and additional cycle parking.

The issues raised during the first phase of public consultation were considered as part of the route options assessment process and in determining the preferred route. The EPR proposals were amended to address the issues raised in submissions where practicable, including incorporating suggestions and recommendations from local residents, community groups and stakeholders, where appropriate. These amendments were incorporated into the designs and informed the PRO design development which was subsequently also published for non-statutory public consultation.

Following the first non-statutory public consultation, a review was undertaken of the scheme proposals along the route based on the following new information which was available for consideration:

- Detailed topographical survey along the route corridor;
- Submissions received during the first non-statutory public consultation; and
- Issues raised during meetings with community forum, resident groups and meetings with directly impacted landowners.

As part of this review, a number of new design options were developed for consideration in specific areas where issues were identified. These new design options were subject to further options assessment. The key route developments between the first and the second round of non-statutory public consultation are summarised below.

- Route amended to exclude use of Technology University of Dublin (Tallaght) campus roads;
- Continued use of R819 Greenhills Road for southbound buses at Parkview;
- The addition of a second bridge over the M50 at R819 Greenhills Road to maintain continuity of bus priority;
- The use of bus priority signals and a bus lane in one direction only on R110 Crumlin Road;
- Extension of cycle facilities along Clogher Road and join into the Canal Way Cycle Route (rather than using Sundrive Road);
- Provision of a pedestrian / cyclist overbridge at the R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road junction, greatly reducing conflicts with traffic;
- Modification of the bus stop facilities on the eastbound carriageway at the junction of R112 Kylemore Road / R810 Naas Road to improve the interchange between buses and the LUAS Red Line at this location. This will require the diversion of left-turning traffic to John F. Kennedy Drive; and
- Confirmation of the route selection between the R134 New Nangor Road and R110 Long Mile Road which was not identified as the EPR Option in the Options and Feasibility Study but was added later to improve interchange between buses and the LUAS Red Line and also to pass through one of the key development zones in this Regeneration Area.

1.6.3 Preferred Route Option Consultations

1.6.3.1 Community Forum

A second Community Forum meeting took place online on 25 November 2020 for community representatives and public representatives. The meeting involved the presentation of an updated overview of the design for the Proposed Scheme, outlining several new design options being developed for consideration in specific areas where issues were identified following review of the submissions from the first and second non-statutory public consultations. Again, with the use of an independent chairperson, the community and public representatives were given the opportunity to ask questions of the BusConnects Infrastructure team and provide feedback.

1.6.3.2 Preferred Route Option Consultation Overview

The draft PRO second round of public consultation took place from 4 March 2020 to 17 April 2020. The public were invited to make written submissions in relation to the published proposals to the BusConnects

Infrastructure team either through an online form, by email or by post. Due to the COVID-19 pandemic, all planned events scheduled after 12 March 2020 were cancelled. In deference to the submissions which had already been received, the decision was made not to cancel this non-statutory consultation phase. However, due to the introduction of COVID-19 public health restrictions, further on-site or face-to-face public engagement was cancelled.

Following the EPR submissions review of the proposals, there were some changes to the number of properties that were potentially impacted, and letters were prepared and delivered to properties either continuing to be potentially impacted; newly potentially impacted; or no-longer potentially impacted, with recipients invited to schedule meetings with the BusConnects Infrastructure team if they wished to discuss the proposals on an individual basis.

Consequently, presumably due to the COVID-19 impacts, there were just 12 submissions received relating to the Proposed Scheme, and no landowner meetings were possible. The submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from various associations and private sector businesses.

Design development and planning for the Proposed Scheme continued and, the BusConnects Infrastructure team were determined to run an additional round of public consultation in November 2020 to complete the non-statutory public engagement prior to finalising the PRO. The third round of public consultation took place from 4 November 2020 to 16 December 2020.

With the continuing effect of the COVID-19 pandemic and associated restrictions, the third Public Consultation was held largely virtually. An online virtual consultation room for the Proposed Scheme was developed and virtual access to the room was facilitated. Along with offering a call back facility, the room provided a description of the Preferred Route from start to finish with supporting maps and included information of all revisions made since the previous rounds of public consultation as well as other supporting documents. Over the six weeks of the consultation, 223 users visited the virtual consultation room for the Tallaght to City Centre section of the Proposed Scheme and 140 users visited the virtual consultation room for the Clondalkin to Drimnagh section of the Proposed Scheme. A further Community Forum virtual consultation call was also held on 25 November 2020 as part of the third round of non-statutory consultation.

As per the previous rounds, those properties continuing to be either potentially impacted; newly potentially impacted; or no-longer potentially impacted were written to directly to receive information on the consultation in advance of any wider publication of the proposals. One-to-one meetings were offered via Zoom or over the phone for those who wished to discuss the proposals further in relation to their own property with the minutes being recorded as part of the consultation process. Approximately 130 letters were sent in July 2020 and approximately 49 one to one meetings took place during the second phase of public consultation. In addition, approximately 140 letters were sent in November 2020 during the third phase of public consultation.

As per the previous rounds, the public were invited to make written submissions in relation to the published proposals to the BusConnects Infrastructure team either through an online form, by email or by post.

In addition, virtual meetings were resumed with residents' groups to provide updates on aspects of the Proposed Scheme.

There were 502 submissions received over the second and third phases of public consultation (March / April 2020 and November / December 2020). Key issues raised are presented in the following sections.

1.6.3.3 Tallaght to City Centre – Key Issues Emerging from the PRO Consultation Process

The key issues emerging from the two phases of pre-application PRO public consultation relating to the Tallaght to City Centre section were as follows:

- Cyclist issues:
 - Provide parking protected cycle tracks on Cork Street.
- Keep Old Greenhills Road open to cyclists.

- Bus stop conflicts:
 - Provide bus stop cycle bypasses wherever possible; and
 - Space of bus stops to better serve users.
- Pedestrian crossings:
 - Shared spaces dangerous for vulnerable pedestrians.
- Impact on businesses:
 - Concern for hospitality business at Cuckoo's Nest Public House site:
- Reduced road capacity:
 - Access through Crumlin area will be made more difficult for residents due to traffic interventions.
- Suggestions and New Ideas:
 - Relocate pedestrian and cyclist crossings closer to Walkinstown Roundabout;
 - Remove perpendicular parking on Bunting Road;
 - Revise design proposals for Patrick Street / Dean Street junction;
 - Provide Dutch-style protected junctions at Dolphin Road / Crumlin Road junction; and
 - Consider reducing carriageway widths, provide buildouts and offline bus stops for "Quiet Streets" Bunting Road / Kildare Road / Clogher Road.
- Quietway operation issues on Kildare Road / Clogher Road particularly with regard to local access:
 - Traffic will increase on smaller roads and adjoining streets due to this proposal.
- Cycle safety and cycle infrastructure provision:
 - Provide segregated cycle tracks; and
 - Place cycle tracks behind parking bays on Cork Street.
- Junction layout:
 - Provide Dutch-style protected cycle junctions.
- Public realm concerns and suggestions:
 - Provide additional trees; and
 - Provide enhanced public realm areas.
- Air and noise, particularly around the Parkview new road alignment of the Greenhills Road; and
- Cumulative traffic modelling of adjoining corridors:
 - Updated traffic modelling is necessary to determine resulting air quality, health and safety and rat-running issues.

1.6.3.4 Clondalkin to Drimnagh – Key Issues Emerging from the PRO Consultation Process

The key issues emerging from the two phases of pre-application PRO public consultation relating to the Clondalkin to Drimnagh section were as follows:

- Cyclist safety:
 - Safety of cyclists crossing the road at Walkinstown Avenue junction towards Long Mile Road;
 - Raised continuous cycle track and footpath at private entrances and minor side roads;
 - Provide Dutch-style protected junction at Woodford Walk junction;
 - Concern with termination of outbound two-way cycle track on New Nangor Road;
 - Concern with two-way cycle track on New Nangor Road / Naas Road where cyclists are required to travel in the right side lane;
 - Parking to be provided on Long Mile Road alongside the proposed protected cycle track;
 - Increase green infrastructure and maximise potential for sustainable mobility; and
 - Public may not be in favour of and may not use the proposed pedestrian / cycle bridge structure at Long Mile Road / Naas Road junction.

- Pedestrian safety:
 - Greenway pedestrian crossing connection should be reinstated; and
 - Pedestrians may not accept or use the proposed bridge structure at Long Mile Road / Naas Road.
- Bus stop conflicts:
 - Reinstatement of bus stops removed from Walkinstown Avenue; and
 - Proposed relocation of bus stops – provide for bus stop bypass arrangement, where feasible.
- Disability access.
- Pedestrian priority zones:
 - Shared spaces may cause user conflicts.
- Suggestions and New Ideas:
 - Vehicle tracking should be undertaken for Oak Road junction due to high volumes of HGVs using this junction;
 - General speed limit of 30kph for whole of Proposed Scheme suggested;
 - Consider planning applications on Walkinstown Avenue; and
 - Increase bus capacity for residents of Bluebell residential development.
- Woodford Walk congestion:
 - Concern that removal of slip lanes may result in increased traffic congestion in the Woodford Estate.
- South West quadrant traffic:
 - Consolidated scheme traffic modelling not available, single corridor traffic modelling data insufficient for traffic impact assessment.
- Cyclist / pedestrian facilities:
 - Increase cycle track segregation;
 - Protect cyclists at parking spaces;
 - Provide secure cycle parking;
 - Upgrade junctions to CYCLOPS or Dutch-style junctions;
 - Extend cycle facilities on Woodford Walk; and
 - Provide cycle route on Long Mile Road.
- Pedestrian crossings:
 - Shared spaces at crossings a concern with footways not wide enough to accommodate cyclists and pedestrians.
- Bus stops:
 - Provide bypasses for bus stops on New Nangor Road; and
 - Query as to reason for removal of southbound bus stop on Walkinstown Avenue.
- Land Take:
 - Objections to land take from front gardens.
- Future development:
 - Clonburris Strategic Development Zone was not considered in proposals; clarification was requested as to how this new town will be accommodated.

The issues raised during the second round of public consultation in March / April 2020 and the additional (third) public consultation phase in November / December 2020 have been considered in the iterative Proposed Scheme development.

The PRO proposals were further amended where appropriate while still ensuring attainment of the Proposed Scheme objectives, to address the issues raised in submissions, including incorporating suggestions and recommendations from local residents, community groups and stakeholders where appropriate. These

amendments were incorporated into the designs and formed the Preferred Route which has been developed for statutory public consultation in relation to the Proposed Scheme.

Design changes which were adopted as part of the final PRO include:

- A bus interchange is proposed on Belgard Square West to facilitate interchange between bus, LUAS and the town centre;
- On Belgard Square North, it is proposed to provide a segregated cycle lane in each direction. This will provide improved cycle access to the hospital from Belgard Road;
- The route of the Proposed Scheme has been altered and now passes through Tallaght Village rather than the Technology University Dublin (TUD), Tallaght. This will require the reopening of Old Greenhills Road to form a new bus-only junction with R819 Greenhills Road;
- At Parkview, the proposed alignment has been altered to allow general traffic to remain on the existing R819 Greenhills Road with a dedicated bus link road proposed in the green area parallel to Birchview Avenue and Treepark Road for both inbound and outbound bus services;
- Over the M50, two new single span pedestrian/cycle bridges are proposed to provide continuous bus lanes and higher quality cycle lanes on R819 Greenhills Road;
- At Ballymount, the new link road connecting Ballymount Avenue and R819 Greenhills Road will be provided with a junction on the southern end of Ballymount Avenue which will allow direct access to the eastern section of R819 Greenhills Road from Ballymount Avenue;
- The proposals for Walkinstown Roundabout have been altered to include a segregated two-way cycle track around the junction. This will reduce conflicts with pedestrians and allow the cyclists to take the shortest route around;
- A three-lane option with signal-controlled priority is proposed along R110 Crumlin Road between Raphoe Road and the Health Centre, to reduce the impact on properties. To facilitate this arrangement, it is proposed to restrict access at the Crumlin Road junctions with both Clonard Road and Bangor Drive to be one-way only southbound. Urban Realm improvements will be provided along this section;
- On R137 Patrick Street, the design has been altered to retain the tree-lined median. In addition, the junction of R137 Nicholas Street and R810 High Street is to be remodelled to provide improved facilities for buses, cyclists and pedestrians;
- The proposed alternative cycle route on Kildare Road is now redirected towards the Grand Canal via Clogher Road, along which cycle lanes are to be provided;
- Confirmation was provided of the routing of the Proposed Scheme direct via the Kylemore LUAS Station (R810 Naas Road and R112 Walkinstown Avenue);
- A grade-separated pedestrian and cyclist crossing is proposed at the R134 New Nangor Road / R110 Long Mile Road / R810 Naas Road junction in order to reduce conflicts with vehicular traffic;
- The layout of all bus stops along the route have been enhanced to the latest design guidance;
- Some bus stop locations have been optimised to allow better connectivity for bus passengers;
- Bus stop locations have been optimised to allow better connectivity for bus passengers; and
- Cycle facilities have been updated to latest design guidance.

The resulting Proposed Scheme is as described within Chapter 4 (Proposed Scheme Description).

1.7 Consultation with Prescribed Bodies and Other Consultees

In addition to the extensive non-statutory public consultation on the Proposed Scheme, as outlined in Section 1.6, the BusConnects Infrastructure team undertook consultation on the EIAR with certain prescribed bodies and relevant non-statutory consultees.

Consultations were also conducted with organisations such as the National Parks and Wildlife Services (NPWS), Transport Infrastructure Ireland (TII) and relevant local authorities, and these are considered in the development of the relevant impact assessment chapters in Volume 2 of this EIAR.

1.7.1 Prescribed Bodies and Interested Parties

In addition to meaningful consultation with the public concerned, including affected landowners (see Section 1.7.2) consultations were also undertaken with Dublin City Council (DCC), South Dublin County Council (SDCC) and the prescribed bodies and interested parties outlined in Table 1.6 with regard to the approach to the EIAR.

Table 1.6: Prescribed Bodies and Interested Parties

Prescribed Bodies and Interested Parties	
An Chomhairle Ealaíon	Health Service Executive (HSE)
An Taisce	The Heritage Council
Dublin City Council (DCC)	Inland Fisheries Ireland (IFI)
Department of the Environment, Climate and Communications	Irish Water
Development Applications Unit (DAU) - Department of Housing, Local Government and Heritage	Office of Public Works (OPW)
Department of Transport	South Dublin County Council (SDCC)
National Tourism Development Authority trading as Fáilte Ireland	Transport Infrastructure Ireland (TII)
Geological Survey Ireland (GSI)	Waterways Ireland

Where practicable, the information and advice received during the consultation process was subsequently incorporated into the design of the Proposed Scheme and addressed in the relevant chapters of the EIAR. Issues raised during the consultation process with the prescribed bodies and interested parties included the following:

- Development Applications Unit (DAU) – Department of Housing, Local Government and Heritage. Consultation meeting held 5 February 2020 to apprise the DAU of BusConnects and the envisaged approach with regard to EIA / AA;
- Development Applications Unit (DAU) - Department of Culture, Heritage and the Gaeltacht: Comments provided related to the assessment of the impacts of the Proposed Scheme on biodiversity, the completion of ecological surveys (such as trees, hedgerows, bats, birds etc.), alien invasive species, mitigation and monitoring measures and Construction Environmental Management Plans (CEMP);
- Dublin City Council (DCC) comments in relation to the BusConnects Dublin - Core Bus Corridors Infrastructure Works related to transport, air quality, noise, built heritage, street lighting, utility infrastructure, surface water management / flood risk, landscaping, biodiversity and integration with other transportation projects. Specifically, DCC requested that the EIAR should address alternatives, cumulative impacts and mitigation. In relation to the Proposed Scheme, DCC identified protected structures, Conservation Areas, historic pavings and gateways etc. which have the potential to be impacted due to the Proposed Scheme;
- South Dublin County Council (SDCC) comments in relation to the BusConnects Dublin - Core Bus Corridors Infrastructure Works related to traffic flow maintenance, existing traffic speed controls, car parking, construction compounds, work time restrictions, active travel protection, drainage / flood risk, dirt and dust controls, noise, air quality, protection of public realm infrastructure and emerging cycle routes. In relation to the Proposed Scheme, SDCC provided comments on the bridge design at the Nangor Road / Naas Road / Long Mile Road junction, the public realm works and mobility hub at Tallaght Village, junction design at the Walkinstown Roundabout and design proposals along Greenhills Road;
- Health Service Executive (HSE) comments related to the assessment of likely significant impacts on sensitive receptors, surface water, groundwater, air, noise, vibration, dust and on content of Construction Environmental Management Plans (CEMPs);
- Inland Fisheries Ireland (IFI)'s submission identified each of the rivers to be crossed as part of the BusConnects Dublin - Core Bus Corridors Infrastructure Works and provided a brief summary of their importance. Additionally, IFI provided comments on the design, in-stream works and mitigation measures to be implemented;

- The Environmental Health office of the Health Service Executive provided recommendations in relation to the management of potential pollutants and discharge entering surface waters, the design of suitable drainage systems and storage of fuels and chemicals; and
- Geological Survey Ireland (GSI) were consulted on 21 May 2021 to discuss the BusConnects proposals, and the proposed approach to the assessment of Land, Soils, Geology and Hydrogeology.

1.7.2 Landowners

Since the initiation of the pre-application public consultation process in November 2018 there has been ongoing engagement with landowners, and / or anyone with an interest in potentially impacted properties or lands along the corridor of the Proposed Scheme, as the design development has progressed.

As set out in the Consultation Section (Section 1.6), during each round of public consultation those landowners identified as being either potentially impacted or no-longer potentially impacted were written to directly to receive information on the consultation in advance of any wider publication of the proposals. One-to-one meetings were offered on a face-to-face basis pre-COVID-19, and via Zoom or over the phone since March 2020, for those who wished to discuss the proposals further in relation to their own property with the minutes being recorded as part of the consultation process. Over the three rounds of consultation, approximately 270 letters of this kind were issued.

In addition, approximately 76 letters were issued in July 2020 to request access to properties to undertake more detailed noise or topographical surveys. In November 2020, approximately 116 further letters were issued which offered a meeting to those affected property owners. However, due to COVID-19 restrictions these meetings took the form of telephone calls.

Throughout the planning process any requests for meetings, phone conversations, or other requests for information have been accommodated where possible. Many of the submissions received during consultations have included those from potentially impacted owners and as with all other submissions they have been considered in the design development.

During June and July 2021, approximately 190 letters (registered) were issued with a further 235 letters issued during December 2022 and January 2023 to properties likely to be the subject of the Proposed Scheme Compulsory Purchase Order (CPO) process seeking to engage with them to ascertain ownership details (or to confirm ownership details based on Property Registration Authority – Registry of Deeds referencing research), or to ascertain any others with an interest in the property / lands. Follow-up conversations have been facilitated as a result of these letters on request.

Over the course of the engagements, affected property owners have had the opportunity to discuss, among other things, the following aspects with the BusConnects Infrastructure team:

- Overall scheme proposals and potential impacts;
- Timelines for the scheme design development and associated EIAR assessment;
- Procedural matters such as planning and CPO process;
- Specific details of impact of scheme on landowner property including approximate extent of encroachment; and
- General information around reinstatement and accommodation works.

1.8 Difficulties Encountered During the Preparation of the EIAR

The primary difficulty encountered during the preparation of the EIAR was the onset of the COVID-19 pandemic in March 2020 and the ensuing restrictions which continued into 2021. On site and face-to-face consultations for the PRO non-statutory public consultation (which had commenced on 4 March 2020) were suspended when it was underway with all remaining planned events cancelled. However, the consultation remained open and continued to accept written submissions.

The third round of public consultations (November / December 2020) was largely virtual (either by virtual consultation rooms / Zoom meetings or telephone contact). Subsequent engagement with interested parties and landowners continued via virtual means.

It is considered that in spite of the COVID-19 restrictions comprehensive consultations were undertaken to inform design development and EIAR preparation.

With regard to EIAR baseline surveys, they were either undertaken prior to COVID-19 restrictions coming into force or were undertaken within the requirements of the Governments COVID-19 guidelines. The restrictions did not give rise to any substantive effects on data gathering and consequently it is considered that the EIAR prepared is sufficiently robust in nature.

1.9 References

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- Government of Ireland (2018a). Project Ireland 2040 National Planning Framework.
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- NTA (2013). GDA Cycle Network Plan.
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- SDCC (2020). Tallaght Town Centre Local Area Plan 2020.
- SDCC (2022). South Dublin County Development Plan 2022-2028.

The Planning Inspectorate (2019). Advice Note 17: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects.

Directives and Legislation

Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment.

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU.

No.30 of 2000 – Planning and Development Act 2000 (as amended).

S.I. No. 600 of 2001 – Planning and Development Regulations 2001 (as amended).

Roads Act 1993 (as amended).

S.I. No 119 of 1994 - Roads Regulations 1994 (as amended).

Dublin Transport Authority Act 2008 (as amended).

S.I. No. 279/2019 – European Union (Roads Act 1993) (Environmental Impact Assessment) (Amendment) Regulations 2019.