



Chapter 01
Introduction

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1. Introduction

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared in respect of the Liffey Valley 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.

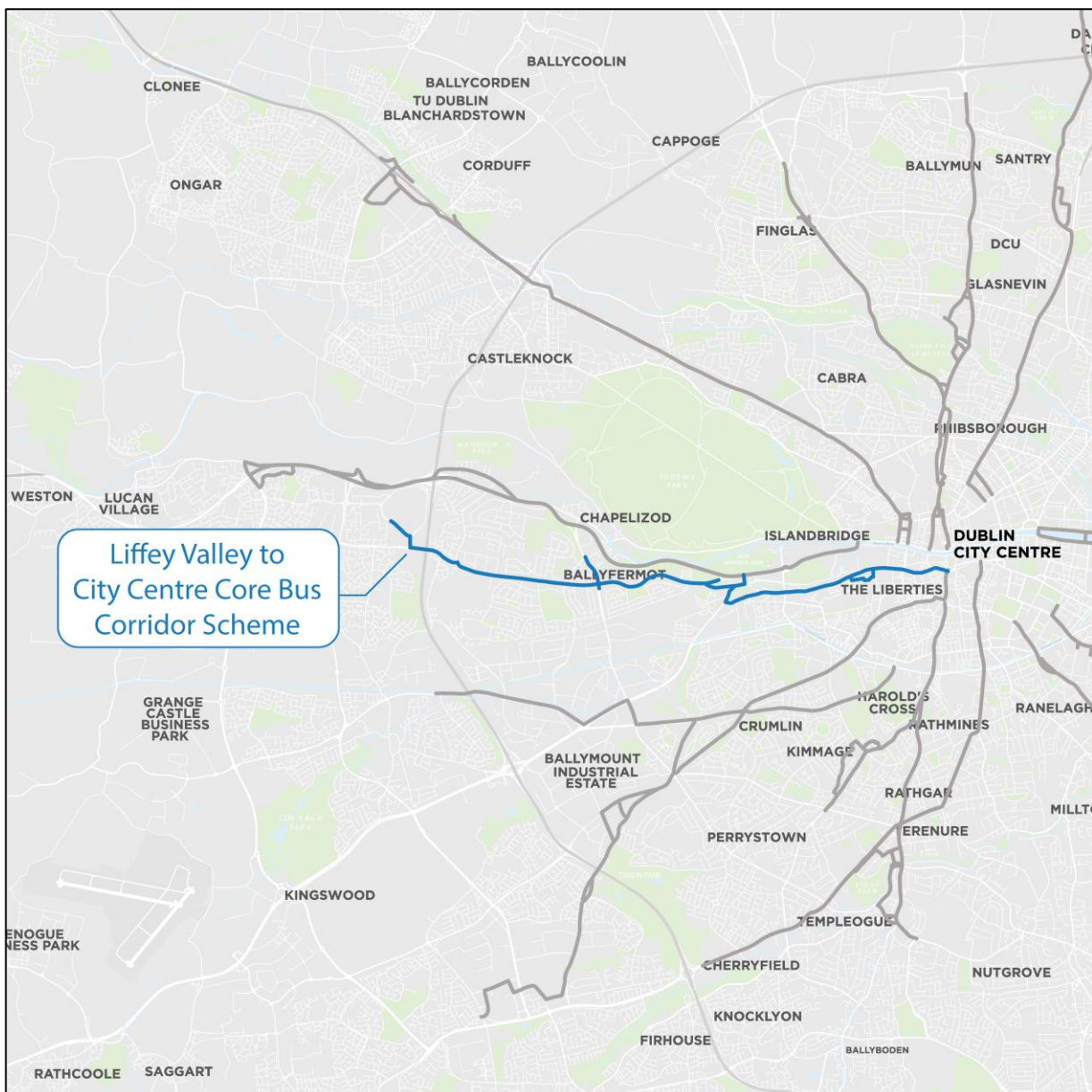


Image 1.1 Route of the Proposed Scheme

The Proposed Scheme has an overall length of approximately 9.2km and commences on the Fonthill Road. The start of the Proposed Scheme ties in with the new Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme, which provides a new bus interchange facility within the shopping centre car park as well as improved bus and cycle facilities along the Fonthill Road to the start of the Proposed Scheme. The route continues along the Fonthill Road to the west and south of Liffey Valley Shopping Centre in a southerly direction towards Coldcut Road. From here it joins the R833 Coldcut Road and continues to the bridge over the M50, subsequently turning onto the R833 Ballyfermot Road. The Proposed Scheme then travels through Ballyfermot Village and continues onto the Sarsfield Road, whilst city bound general traffic is diverted via Le Fanu Road and Kylemore Road back to Ballyfermot Road.

The Proposed Scheme continues along Ballyfermot Road and Sarsfield Road, turning right at the junction with Con Colbert Road before turning right again onto Grattan Crescent. At the intersection of Grattan Crescent and Emmet Road the Proposed Scheme turns left onto Emmet Road, where it continues along Old Kilmainham, Mount Brown, James's Street and Thomas Street. At Cornmarket, the Proposed Scheme turns right onto High Street and continues to the junction with Nicholas Street and Winetavern Street where it will join the existing traffic management regime in the City Centre.

The Proposed Scheme will significantly enhance travel by public transport by providing bus priority as well as improved pedestrian and cycling infrastructure. Currently this access corridor is 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 (hereafter referred to as the GDA Cycle Network Plan) (NTA 2013), 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.

Several public 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 for 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 referred to as 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 (hereafter referred to as the GDA Transport Strategy).

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.

The planning and design of the Proposed Scheme has been guided by this aim and these 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

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).

- 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 2026, with an expected construction programme to completion of approximately 30 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) (hereafter referred to as 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, *'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 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 Liffey Valley to City Centre Core Bus Corridor Scheme, the functions of the BusConnects Infrastructure team included 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 Introduction

As set out in the 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment' (August 2018) (Department of Housing, Planning and Local Government 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 2021);
- Climate Action Plan 2019 (Government of Ireland 2019);
- 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);
- Transport Strategy 2016 - 2035 (NTA 2016);
- National Investment Framework for Transport in Ireland (NIFTI) (DoT 2021);
- Greater Dublin Area Cycle Network Plan (NTA 2013);
- Transport Strategy for the Greater Dublin Area 2016 – 2035 (NTA 2016);
- Draft Transport Strategy for the Greater Dublin Area 2022 – 2042 (NTA 2021);
- Dublin City Council (DCC) Dublin City Development Plan 2016 – 2022 (DCC 2016);
- South Dublin County Council (SDCC) South Dublin County Council Development Plan (2016 – 2022) (SDCC 2016); and
- Relevant Local Area Plans (LAP). Strategic Development Zones and Public Realm Plans including Dublin City Public Realm Strategy (DCC 2012) and the Liberties LAP (DCC 2009).

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 and also to the Planning Compliance Report which is included in the planning application

1.5.3 EIA Process

EIA is a systematic and 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 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 - Roads 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 Roads Regulations 1994, (as amended), 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 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 (EC) ‘Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report’ (EC 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 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; (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>
<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>

Annex IV – Information Referred to in Article 5(1) (Information for the EIAR)
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.
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 (*) ⁶ or Council Directive 2009/71/Euratom (**) ⁷ 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.
9. A non-technical summary of the information provided under points 1 to 8.
10 A reference list detailing the sources used for the descriptions and assessments included in the report ⁸ .

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><i>'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) —</i></p> <p><i>a) is prepared by competent experts,</i></p> <p><i>b) subject to subsection (3), contains the following information:</i></p> <p><i>(i) a description of the proposed road development comprising information on the site, design, size and other relevant features of the development;</i></p> <p><i>(ii) a description of the likely significant effects of the proposed road development on the environment;</i></p> <p><i>(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;</i></p> <p><i>(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;</i></p> <p><i>(v) a non-technical summary of the information referred to in subparagraphs (i) to (iv);</i></p> <p><i>(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,</i></p> <p><i>and</i></p> <p><i>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.'</i></p>

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 while 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
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 (EC 2017) and EPA Guidelines (EPA 2022), and includes 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 considers 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 Strategy 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 and Transport) use 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 2016-2035 (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 projects, so therefore assumes that proposed major transport schemes such as MetroLink, DART+ Tunnel, Luas line extensions to Lucan, Finglas 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 (EC 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 an 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 bounds 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 nuisance).</p>
Significance of Effects	
'Significance' 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>Imperceptible An effect capable of measurement but without significant 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>

Assessment Criteria	
Probability of Effects	
Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.	Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented
Describing the 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.	Momentary Effects Effects lasting from seconds to minutes
	Brief Effects Effects lasting less than a day
	Temporary Effects Effects lasting less than a year
	Short-term Effects 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 Engineering to undertake the preparation of this EIAR for the Proposed Scheme, in collaboration with the Engineering Design Team led by Jacobs Engineering. The responsible competent expert(s) and details of their expertise are provided in Table 1.5.

Table 1.5: Details of Competent Experts

Topic	Main Author – Competency Details
Chapter 1 (Introduction & Environmental Impact Assessment Process)	<p>David King BE 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 co-ordinating all services relating to the identification and mitigation of environmental impacts associated with the 12 Schemes (including the Proposed Scheme) that comprise the BusConnects Programme.</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, 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 co-ordinator 12 Schemes (including the Proposed Scheme) that comprise the BusConnects Programme.</p> <p>Sarah Kiernan BSc., MSc, MCIWEM C.WEM CEnv, Jacobs Sarah Kiernan is a Senior Associate Director with Jacobs and has over 16 years' experience as an Environmental Consultant. She holds an honours degree in Geography from Lancaster University as well as a Master of Science in Environmental Consultancy from Newcastle University. 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). Sarah has managed the preparation of Environmental Impacts Assessments for a number of road and linear infrastructure schemes including Dunkettle Interchange Improvement Scheme, Greater Dublin Drainage Project, N69 Listowel Bypass, and N60 Balla to Claremorris, and has presented expert witness evidence at Oral Hearings. Sarah was the lead co-ordinator for the Proposed Scheme EIAR.</p> <p>James Burke BEng, MSc, CEng Jacobs James Burke is an Associate Director with Jacobs. James is the Project Manager and lead engineer responsible for the design of the Proposed Scheme. for the Engineering Design of the Liffey Valley to City Centre Scheme. He holds an honours degree in Civil Engineering from NUI Galway, a Master of Science in Civil Engineering from Trinity College Dublin and is a Chartered Engineer with the Institute of Engineers Ireland. James has over 10 years' relevant experience in planning and design of major infrastructure projects. James has a strong technical background and experience in the delivery of large-scale transportation projects, from concept through design and construction completion</p>
Chapter 2 (Need for the Proposed Scheme)	<p>Sarah Kiernan David King James Burke See above</p>

Topic	Main Author – Competency Details
Chapter 3 (Consideration of Reasonable Alternatives)	<p>Sarah Kiernan James Burke See above</p>
Chapter 4 (Proposed Scheme Description)	<p>Sarah Kiernan James Burke See above</p>
Chapter 5 (Construction)	<p>Sarah Kiernan James Burke 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>
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 with Systra and has over 13 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>David King See above</p>

Topic	Main Author – 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 Ballaghadereen 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>Karan Monga BA Hons Economics MSc BIT, Jacobs Karan is an economist and a Senior Associate Director at Jacobs with more than 20 years' experience in providing economic advisory services to a range public and private sector clients globally. His experience includes social and economic impact assessments for various infrastructure and development projects, including different forms of transport assets. His recent experience includes economic appraisal of SPRINT (new express bus service) in West Midlands, active mode impact assessment of Ten-T proposals in Donegal, financial appraisal of new ferry routes in Qatar, economic evaluation of Millennium Challenge Corporation's grant in highway infrastructure Senegal. He is currently working on economic evaluation of UK Department for Transport's ZEBRA (Zero Emission Bus Regional Area) programme.</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 business cases and Transport Assessments and junction models.</p>

Topic	Main Author – Competency Details
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 Master’s 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. Aebhín 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>Eoin Cussen MSc BSc, Scott Cawley Ltd. Eoin Cussen is a Senior Consultant Ecologist with Scott Cawley Ltd. Eoin holds a BSc (Hons) in Zoology from University College Cork and an MSc (Hons) in Ecological Assessment from the same institution. Eoin is an experienced ecologist with over 4 years of professional postgraduate experience in ecological consultancy including planning related casework for state and non-governmental organisations within Ireland and the UK, input to and preparation of Appropriate Assessment (AA) screenings, Natura Impact Statements, Preliminary Ecological Assessments and Ecological Impact Assessments, and a wide range of experience of ecological surveys for protected habitats and species including otters, bats, birds.</p>
Chapter 13 (Water)	<p>Heidi Sewnath BSC, DIPWEM, CEnv, MIEMA, Jacobs Heidi Sewnath is a Principal Consultant with Jacobs. She holds an honours degree in Environmental Biology from the University of Liverpool and is a Chartered Environmentalist and Full member of the Institute of Environmental Management and Assessment (IEMA). Heidi has 29 years’ relevant experience and in particular, specialised in freshwater biology during her degree, working as a regulatory enforcement officer for the Environment Agency and for the past 6 years, an EIA coordinator and lead author for water chapters within EIAs for major infrastructure projects in the energy, rail and water sectors. She is currently lead author for the water chapter on Irish Water’s Water Supply Project, which is a 171km pipeline and has over 400 crossings of waterbodies on its route.</p>
Chapter 14 (Land, Soils, Geology & Hydrogeology)	<p>Marie Fleming BSc (Hons), MSc. Arup 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 Master’s 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>

Topic	Main Author – Competency Details
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 Scramogoe 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 Assessments and Architectural Heritage Chapters of EIARs.</p>
Chapter 17 (Landscape (Townscape) & Visual)	<p>Thomas Burns B Agr. Sc. Dip. EIA Mgmt MILI EFLA, Brady Shipman Martin</p> <p>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.</p> <p>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.</p> <p>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 draft 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 project 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>

Topic	Main Author – Competency Details
	<p>Alex Craven BSc (Hons) MLA - Brady Shipman Martin</p> <p>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.</p> <p>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</p> <p>Janet Lynch is a Senior Project Engineer with Arup with over 17 years' experience in Industrial Emissions licensing, EIA and planning including, Resource and Waste Management: Construction and operational waste management plans, Energy from Waste, waste re-use, recycling and landfill, Innovative waste treatment technologies; Planning and EIA project management (energy, renewables, industrial, infrastructure); Industrial Emissions (IE) License applications & review (waste, biomass, oil and gas, energy, cement, pharmaceutical); Circular Economy; Water: Tender Assessments for Irish Water and Dublin City Council; Assistant Project Manager for the expansion of Irelands largest water treatment plant at Ballymore Eustace, Co. Kildare in 2006.</p> <p>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</p> <p>Hannah Lesbirel is an Consultant with ARUP. She holds a honours Master's Degree in Environment Science from University of Southampton.</p> <p>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</p> <p>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 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>Sarah Kiernan</p> <p>See above</p>
Chapter 21 (Cumulative Impacts & Environmental Interactions)	<p>Peter Gambrill CEnv, MIEMA, Jacobs</p> <p>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.</p> <p>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), 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>

Topic	Main Author – Competency Details
	<p>Isabelle Barnard BSc GradIEMA, Jacobs</p> <p>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.</p> <p>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><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>Sarah Kiernan See above</p>
Chapter 23 (Summary of Significant Residual Impacts)	<p>Sarah Kiernan 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 (EPR) consultation and two in relation to the Preferred Route Option (PRO) 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 assessment and design process.

The consultation process involved engagement from:

- Emerging Preferred Route (EPR) Option Consultation; and
- 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 EPR public consultation phase for the Proposed Scheme occurred from 23 January 2019 to 30 April 2019.

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 was a consultation event held in which the public were able to view the proposals and discuss them directly with members of the BusConnects Infrastructure team. It was held at the Clayton Hotel, Liffey Valley on Thursday 28 February 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 13 February 2019 at the Hilton Hotel, Kilmainham, Dublin for community representatives and elected representatives. 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 Liffey Valley to City Centre Core Bus Corridor. In total, 63 letters were delivered on the 18 January 2019 along the Liffey Valley to City Centre Core Bus Corridor, with 11 property owners availing of the one-to-one meetings.

There were a total of 135 submissions made in respect of the Proposed Scheme during the Emerging Preferred Route public consultation phase.

1.6.2.2 Liffey Valley to City Centre – Key Issues Emerging from the EPR Consultation Process

The key issues emerging from the EPR consultation process were as follows:

- Grattan Crescent design – mainly regarding the removal of mature trees and the narrowing of the footpath outside the Inchicore National School gates. Submissions also raised safety issues and the issue of the removal of existing disabled parking spaces in front of the school;
- Access and parking – issues raised in relation to parking (particularly the impacts on on-street parking and access for local businesses), as well as turning restrictions at some locations and one-way systems requiring users to take long detours;
- Safety and speed – concerns regarding increased traffic speeds due to additional lanes and wider carriageways, concerns for cyclist safety at junctions and pedestrian safety at island bus stops, and concerns at the lack of integration of safe pedestrian facilities for disabled users;
- Anticipated increase in traffic volumes – concerns around anticipated increased traffic volumes and congestion, increased commuting times, and redistribution of traffic to other areas;
- Heritage and conservation – concerns for protection of heritage elements and loss of trees along the route;
- Community – issues around loss of community and severance of communities due to the wider carriageways, and a resulting loss in access to certain areas and business viability;
- Cyclists and cycling provision – issues raised around shared bus and cycling areas, and concerns around safety at junctions and at bus stops;
- Land acquisition and accommodation works – general issues around the impact on property frontage and front gardens and loss of parking, as well as potential for structural damage to older properties as a result of bringing traffic closer to the property;
- Air pollution, noise and vibration – issues around increased air pollution, noise and vibration from an increase in bus traffic along the route, as well as from private cars 'rat running' or diverting through residential areas;
- One-way system – issues with proposed one-way systems impacting on car access to certain residential areas and causing additional delays to commutes; and
- Construction stage issues – impacts associated with construction works, particularly around Inchicore National School.

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 possible, 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.

The design-development of the scheme proposals took on board:

- Additional detailed topographical survey information 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, several new design options were developed for consideration in specific areas where issues were identified. The key route changes between the first and the second rounds of consultation are summarised below:

- A three-lane option and one-way system for general traffic on Grattan Crescent which retained the existing mature trees;
- The removal of the proposed right turn ban from Emmet Road to Grattan Crescent to maintain access from both directions to the CIÉ Inchicore Works;
- A three-lane option to reduce the impacts on the properties between Markievicz Park and St Laurence's Road; and
- The inclusion of raised tables along Ballyfermot Road to act as a traffic calming measure.

1.6.3 Preferred Route Option Consultations

1.6.3.1 Community Forum

A second Community Forum meeting took place on 2 October 2019 at the Hilton Hotel, Kilmainham, Dublin for community representatives and public representatives. This Community Forum was held in advance of the launch of a second round of public consultation, with the aim of keeping the public and their representatives updated on the design process between the first and second consultation. 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 non-statutory public consultation. 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 PRO, or second round of public consultation, took place from 04 March 2020 to 30 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 further planned consultation events scheduled after 12 March 2020 were postponed. This includes the planned public information event relating to the Proposed Scheme which was to be held in the Clayton Valley Hotel Liffey Valley on Thursday 26 March 2020 from 11:30am to 7:30pm. In deference to the submissions which had already been received, the decision was made not to cancel the consultation. However, due to the introduction of COVID-19 public health restrictions, further on-site or face-to-face public engagement was restricted.

Following the EPR submissions review of the proposals, there were some changes to the number of properties that were potentially impacted. 77 letters were prepared and delivered on 02 March 2020 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 39 submissions received relating to the Proposed Scheme, and no landowner meetings were requested. 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 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 04 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. A 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, 234 unique users visited the virtual information room for the Proposed Scheme. A third Community Forum virtual consultation call was also held on 23 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. 71 letters were sent between 01 and 03 November 2020 and five meetings took place.

As per 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 125 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 Liffey Valley to City Centre – Key Issues Emerging from the PRO Consultation Process

The key issues from the non-statutory PRO consultation process were as follows:

- Mount Brown Bus Gate – concerns about impacts on local access as well as access to the St James's Hospital campus for staff and visitors. Also concerns raised about the suitability of other local roads as alternative routes and the potential increase in traffic on surrounding roads;
- Traffic issues – issues raised regarding one-way system on Grattan Crescent, congested junctions, increased congestion on neighbouring roads, closure of O'Hogan Road, and junction redesigns;
- Landscaping and trees – impact of mature trees in general, impact on trees due to removal of the Ballyfermot Road / Kylemore Road roundabout and along Mount Brown and Memorial Road, and request for additional tree planting along Colbert Road and Emmet Road;
- Land Acquisition / Accommodation Works – concern about impact on Markievicz Park, and issues relating to the reconstruction of boundary walls particularly concerning the quality of materials to be used;
- Cycling provision – issue raised regarding lack of cycling provision for cyclists to and from St. Laurence's Road and from Bridge Street to Thomas Street, also concerns of anti-social behaviour on the offline cycle route between James's Street and the St James's Hospital campus, and concerns regarding safety of cyclists at areas along the route;
- Bus stops / service / network – requests for bus shelters at all stops, concerns around the safety of island bus stops for less able pedestrians, and issues with the location of the citybound bus stop at the St Laurence's Wood apartments, concerns that the Proposed Scheme would not improve reliability of bus services, and concern about the lack of bus service onto Tyrconnell Road;
- Impact on local business – issues regarding the impact on street vendors on Thomas Street, and concerns regarding access to shops on Decies Road for delivery drivers due to the closure of the O'Hogan Road / Ballyfermot Road junction;
- Access / Parking – impacts on local residents from the reduction in on-street parking along Emmet Road, and a proposal for restrictions on Kilmainham Lane to reduce 'rat running' in the area; and
- Noise, air and vibration – concerns about increased pollution and noise in the area around the bus gate in Mount Brown from an increase in the number of buses on the route and from diverted traffic. Also concerns were raised about structural damage to properties along Emmet Road due to increases in bus numbers and the roadway being brought closer to houses.

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 were broadly the same. These issues 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 included:

- The starting point of the scheme was amended to tie into the Liffey Valley Bus Interchange and Road Improvement Scheme;
- Two existing roundabouts on the Fonthill Road were redesigned to signalised junctions to provide improved bus priority, walking and cycling facilities;
- The scheme design was refined on Coldcut Road to remove the land take requirement from Coldcut Park;
- At the Le Fanu Road Junction, it is proposed to divert citybound traffic via Le Fanu Road and Kylemore Road. The section of Ballyfermot Road between Le Fanu Road and Kylemore Junction will be restricted to one bus lane in each direction and one outbound general traffic lane. Local access on Ballyfermot Road between La Fanu Road and Colepark Road is maintained;
- The area outside Ballyfermot church was refined to enhance the urban realm and to retain vehicular access;
- The design along Ballyfermot Road between Markievicz Park and St Laurence's Road was amended to reduce land take following concerns raised by the public in relation to the impact on the park boundary, existing trees and residential properties;
- The design of Landen Road junction was refined to remove land take from the residential properties. A short section of westbound bus lane was removed and signal controlled priority was used to provide bus priority;
- Improvements were made to the cycling provision at junctions along Sarsfield Road, Grattan Crescent and Inchicore Road to provide a better connection with the 7A primary cycle route which run along Inchicore Road, Kilmainham Lane and Bow lane then re-joins the route at James's Street;
- The design along Grattan Crescent was amended following concerns raised by the public in relation to the impact on the mature trees. This design modification resulted in the retention of the mature trees, while also providing bus priority along this section, improved footways and a new pedestrian crossing;
- Following concerns raised during the Non-Statutory Public Consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the design was refined to reduce these impacts. The Bus Gate on Mount Brown was amended with the eastbound Bus Gate being relocated to the James's Street entrance to the hospital campus. The westbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceannt Fort, the Children's Hospital, Adult hospital, and local area from all directions;
- Following further engagement with local community in the Mount Brown and Brookfield Road area, the proposed reversal of the existing one-way system on Brookfield Road will not be progressed and the existing one-way system will remain unchanged. This will reduce the amount of traffic that would travel along Brookfield Road;
- The design along James's Street and Thomas Street was amended following concerns raised by the public in relation to the stop start nature of the cycling provision. The design was refined to provide continuous cycle tracks on both sides of the road along this section;
- A quiet street cycle route is proposed for westbound cyclists to avoid the Luas tracks via Echlin Street to connect St James's Hospital and James's Street;

- The junction layouts were modified over the course of the design process to provide more protection for cyclists along the length of the Proposed Scheme, including the addition of separately signalised stages for cyclists at large junctions such as Kylemore Road and Fonthill Road;
- 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; and
- Cycle facilities have been updated to the latest design guidance.

The resulting Proposed Scheme is described in 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 Service (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 with 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 (Arts Council)	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 from 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 / Appropriate Assessment (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, Conservations Areas, historic pavings and gateways etc. which have the potential to be impacted due to the Proposed Scheme;
- South Dublin County Council (SDCC) comments specific to the Proposed Scheme were about the need for additional soft landscaping and green infrastructure in parts of the Proposed Scheme, as well as a need to include bus shelter facilities and junction upgrades to provide capacity and improve safety. Additionally the submission outlined items that the EIAR should include, particularly regarding traffic flows and measures to mitigate construction impacts, as well as some general observations, particularly regarding walking and cycling;
 - 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 the CEMPs;
 - Inland Fisheries Ireland's (IFI) submission identified each of the rivers to be crossed as part of the CBC 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 January 2019 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 211 letters of this kind were issued.

In addition 49 letters were issued between July to September 2020 to request access to properties to undertake more detailed noise or topographical surveys.

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 from potentially impacted owners and as with all other submissions they have been considered in the design development.

Between June to October 2021, 262 letters (registered) have been issued 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. In addition, a further attempt was made to contact those occupiers that had yet to make contact by visiting each property during September 2021. Where no one answered the door a letter was placed through the letterbox again requesting the occupiers to make contact with the NTA.

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 have continued into 2022. On site and face-to-face consultations for the PRO non-statutory public consultation (which had commenced on 4 March 2020) was 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 Government's 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

DCC (2012). Dublin City Public Realm Strategy

DCC (2016). Dublin City Development Plan 2016 – 2022

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DHPLG (2018). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

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NRA (2008). Environmental Impact Assessment of National Road Schemes – A Practical Guide.

NTA (2013). GDA Cycle Network Plan

NTA (2016). Transport Strategy for the Greater Dublin Area 2016 – 2035

NTA (2021). Draft Transport Strategy for the Greater Dublin Area 2022 – 2042

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

SDCC (2016) South Dublin County Council Development Plan (2016 – 2022)

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 on the assessment of the effects of certain public and private projects on the environment

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

S.I. No. 296/2018 – European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018