

**Liffey Valley to City  
Centre Core Bus  
Corridor Scheme**  
June 2022

**Environmental  
Impact  
Assessment  
Report**

**Volume 2  
Main Chapters**

**BUS  
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

## **Preface**

The structure of this Environmental Impact Assessment Report (EIAR) for the Liffey Valley to City Centre Core Bus Corridor Scheme (hereafter referred to as the Proposed Scheme) is summarised as follows:

### **Volume 1: Non-Technical Summary**

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

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

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

### **Volume 3: Figures**

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

### **Volume 4: Appendices**

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

## Table of Contents - Volume 2

Section	Title	Page Number
<b>Glossary</b>		
N/A	Glossary of Terminology, Abbreviations and Acronyms	1
<b>Chapter 1: Introduction</b>		
1.1	Introduction	1
1.2	Aim and Objectives	3
1.3	Delivery of Project	4
1.4	Role of the National Transport Authority	4
1.5	EIAR Process, Screening, Content and Methodology	5
1.5.1	Introduction	5
1.5.2	Relevant Legislation, Policy and Guidelines	5
1.5.3	EIA Process	6
1.5.4	Screening and the Legislative Requirement for EIA	7
1.5.5	Consideration of the EIAR Scope	7
1.5.6	Contents of the EIAR	8
1.5.7	EIAR Structure	9
1.5.8	Assessment Scenarios	11
1.5.9	Assessment Criteria	12
1.5.10	Details of Competent Experts	13
1.6	Consultation	21
1.6.1	Consultation Objectives	21
1.6.2	Emerging Preferred Route Option Consultation	21
1.6.3	Preferred Route Option Consultations	23
1.7	Consultation with Prescribed Bodies and Other Consultees	26
1.7.1	Prescribed Bodies and Interested Parties	26
1.7.2	Landowners	27
1.8	Difficulties Encountered During the Preparation of the EIAR	28
1.9	References	28
<b>Chapter 2: Need for the Proposed Scheme</b>		
2.1	Introduction	1
2.2	The Transport Need for the Proposed Scheme	2
2.2.1	The Regional Transport Need	2
2.2.2	The Local Transport Need	13
2.3	Policy Context	16
2.3.1	International Policy	16
2.3.2	European Union Law & Policy	17
2.3.3	National Policy	18
2.3.4	Regional Policy	33
2.3.5	Local Policy	42
2.4	The Benefits of the Proposed Scheme	50
2.5	References	54
<b>Chapter 3: Consideration of Reasonable Alternatives</b>		
3.1	Environmental Impact Assessment Requirements	1
3.2	Strategic Alternatives	1
3.2.1	GDA Transport Strategy	1
3.2.2	'Do Nothing' Alternative	4
3.2.3	Bus Rapid Transit (BRT) Alternative	5
3.2.4	Light Rail Alternative	6
3.2.5	Metro Alternative	6

Section	Title	Page Number
3.2.6	Heavy Rail Alternative	7
3.2.7	Demand Management Alternative	8
3.2.8	Technological Alternatives	9
3.3	Route Alternatives	10
3.3.1	Initial High Level Route Alternatives	11
3.3.2	Stage 2 – Route Options Assessment	14
3.4	Design Alternatives	24
3.4.1	Development of the Draft Preferred Route Option	24
3.4.2	Consideration Following Preferred Route Option Consultation (March 2020)	28
3.4.3	Further Consideration Following Updated Draft Preferred Route Option Consultation (November 2020)	28
3.5	Conclusion	29
3.6	References	30
<b>Chapter 4: Proposed Scheme Description</b>		
4.1	Introduction	1
4.2	Proposed Scheme Overview	1
4.3	Design Iteration	3
4.4	Design Principles	3
4.5	Description of the Proposed Scheme by Section	4
4.5.1	Section 1: Liffey Valley to Le Fanu Road	4
4.5.2	Section 2: Le Fanu Road to Sarsfield Road	12
4.5.3	Section 3: Sarsfield Road to City Centre	19
4.6	Key Infrastructure Elements	29
4.6.1	Mainline Cross-section	29
4.6.2	Pedestrian Provision	30
4.6.3	Cycling Provision	31
4.6.4	Bus Priority Provision	33
4.6.5	Accessibility for Mobility Impaired Users	38
4.6.6	Integration	38
4.6.7	Junctions	46
4.6.8	Structures	46
4.6.9	Other Street Infrastructure	47
4.6.10	Pavement	48
4.6.11	Parking and Loading	50
4.6.12	Landscape and Urban Realm	50
4.6.13	Lighting	56
4.6.14	Utilities	57
4.6.15	Drainage	57
4.6.16	Maintenance	61
4.6.17	Safety and Security	61
4.6.18	Land Use and Accommodation Works	61
4.7	References	62
<b>Chapter 5: Construction</b>		
5.1	Introduction	1
5.2	Construction Phasing	2
5.3	Overview of Construction Works	2
5.3.1	Section 1: Liffey Valley to Le Fanu Road	3
5.3.2	Section 2: Le Fanu Road to Sarsfield Road	4
5.3.3	Section 3: Sarsfield Road to City Centre	5
5.4	Construction Programme	6

Section	Title	Page Number
5.5	Construction Methodology	6
5.5.1	Pre-Construction	6
5.5.2	Preparatory and Site Clearance Works	7
5.5.3	Road and Street Upgrades	9
5.5.4	Structural Works	12
5.5.5	Construction Site Decommissioning	12
5.6	Construction Plant and Equipment	13
5.7	Construction Compounds	13
5.7.1	Construction Compound Locations	13
5.7.2	Construction Compound Activities	16
5.7.3	Construction Compound Services	16
5.8	Construction Traffic Management	17
5.8.1	Pedestrian and Cyclist Provisions	17
5.8.2	Public Transport Provisions	17
5.8.3	General Traffic Provisions	18
5.9	Interface with Other Projects	21
5.10	Construction Environmental Management	21
5.10.1	Construction Environmental Management Plan	21
5.10.2	Mitigation Measures	22
5.10.3	Construction Working Hours	22
5.10.4	Personnel Numbers	22
5.10.5	Construction Health and Safety	23
5.11	Monitoring Measures	23
5.12	References	23
<b>Chapter 6: Traffic &amp; Transport</b>		
6.1	Introduction	1
6.1.1	Aim and Objectives of the Proposed Scheme	2
6.1.2	Iterative Design Process and Mitigation by Design	4
6.2	Methodology	5
6.2.1	Study Area	5
6.2.2	Relevant Guidelines, Policy and Legislation	6
6.2.3	Proposed Scheme Impact Assessment Modelling Tools	8
6.2.4	Appraisal Method for the Assessment of Impacts	10
6.2.5	Data Collection and Collation	13
6.3	Baseline Environment	16
6.3.1	Overview	16
6.3.2	Section 1 – Liffey Valley to Le Fanu Road	16
6.3.3	Section 2 – Le Fanu Road to Sarsfield Road	27
6.3.4	Section 3 – Sarsfield Road to City Centre	33
6.4	Potential Impacts	49
6.4.1	Characteristics of the Proposed Scheme	49
6.4.2	'Do Nothing' Scenario	49
6.4.3	'Do Minimum' Scenario	49
6.4.4	'Do Something' Scenario	51
6.4.5	Construction Phase	51
6.4.6	Operational Phase	57
6.5	Mitigation and Monitoring Measures	129
6.5.1	Construction Phase	129
6.5.2	Operational Phase	130
6.6	Residual Impacts	131

Section	Title	Page Number
6.7	References	132
<b>Chapter 7: Air Quality</b>		
7.1	Introduction	1
7.2	Methodology	1
7.2.1	Study Area	1
7.2.2	Relevant Guidelines, Policy and Legislation	3
7.2.3	Data Collection and Collation	6
7.2.4	Appraisal Method for the Assessment of Impacts	7
7.3	Baseline Environment	20
7.3.1	Meteorological Conditions	20
7.3.2	Baseline Ambient Air Quality	20
7.3.3	Existing Modelled Baseline Scenario	26
7.4	Potential Impacts	27
7.4.1	Characteristics of the Proposed Scheme	28
7.4.2	Construction Phase	28
7.4.3	Operational Phase	38
7.5	Mitigation and Monitoring Measures	46
7.5.1	Construction Phase	47
7.5.2	Operational Phase	47
7.6	Residual Impacts	48
7.6.1	Construction Phase	48
7.6.2	Operational Phase	48
7.7	References	49
<b>Chapter 8: Climate</b>		
8.1	Introduction	1
8.2	Climate Assessment Considerations	2
8.3	Methodology	3
8.3.1	Study Area	3
8.3.2	Relevant Guidelines, Policy and Legislation	4
8.3.3	Data Collection and Collation	8
8.3.4	Appraisal Method for the Assessment of Impacts	8
8.4	Baseline Environment	12
8.4.1	Climate Pollutants	12
8.4.2	Vulnerability of the Proposed Scheme to Climate Change	12
8.4.3	Existing GHG Emissions Baseline	16
8.5	Potential Impacts	18
8.5.1	Construction Phase	18
8.5.2	Operational Phase	21
8.6	Sensitivity Analysis	30
8.6.1	Introduction	30
8.6.2	Sensitivity Test	31
8.7	Mitigation and Monitoring Measures	33
8.7.1	Construction Phase	33
8.7.2	Operational Phase	34
8.8	Residual Impacts	34
8.8.1	Construction Phase	34
8.8.2	Operational Phase	35
8.9	References	35
<b>Chapter 9: Noise &amp; Vibration</b>		
9.1	Introduction	1

Section	Title	Page Number
9.2	Methodology	1
9.2.1	Study Area	2
9.2.2	Relevant Guidelines, Policy and Legislation	3
9.2.3	Data Collection and Collation	4
9.2.4	Appraisal Method for the Assessment of Impacts	7
9.3	Baseline Environment	17
9.3.1	Desk Study of Published Noise Data	17
9.3.2	Baseline Noise Surveys	19
9.3.3	Baseline Vibration Surveys	23
9.4	Potential Impacts	24
9.4.1	Characteristics of the Proposed Scheme	24
9.4.2	'Do Minimum' Scenario	25
9.4.3	Construction Phase	25
9.4.4	Operational Phase	41
9.5	Mitigation and Monitoring Measures	48
9.5.1	Construction Phase	48
9.5.2	Operational Phase	54
9.6	Residual Impacts	55
9.6.1	Construction Phase	55
9.6.2	Operational Phase	56
9.7	References	57
<b>Chapter 10: Population</b>		
10.1	Introduction	1
10.2	Methodology	2
10.2.1	Study Area	2
10.2.2	Relevant Guidelines, Policy and Legislation	3
10.2.3	Data Collection and Collation	3
10.2.4	Appraisal Method for the Assessment of Impacts	4
10.3	Baseline Environment	10
10.3.1	Overview	10
10.3.2	Community Baseline	11
10.3.3	Economic Baseline	13
10.4	Potential Impacts	14
10.4.1	Characteristics of the Proposed Scheme	14
10.4.2	'Do Nothing' Scenario	15
10.4.3	Construction Phase	15
10.4.4	Operational Phase	21
10.5	Mitigation and Monitoring Measures	26
10.6	Residual Impacts	26
10.6.1	Construction Phase	26
10.6.2	Operational Phase	27
10.7	References	29
<b>Chapter 11: Human Health</b>		
11.1	Introduction	1
11.2	Methodology	1
11.2.1	Study Area	2
11.2.2	Relevant Guidelines, Policy and Legislation	2
11.2.3	Data Collection and Collation	6
11.2.4	Appraisal Method for the Assessment of Impacts	6
11.3	Baseline Environment	10

Section	Title	Page Number
11.3.1	General Health	10
11.3.2	Deprivation, Disability and Health Inequalities	13
11.3.3	Air Quality, Noise and Other Pollutants	17
11.3.4	Traffic, Travel Behaviour and Health	19
11.3.5	Access to Healthcare, Employment and Education	21
11.3.6	Communicable Diseases	22
11.3.7	Summary of Key Baseline Health Issues	22
11.4	Potential Impacts	23
11.4.1	Characteristics of the Proposed Scheme	23
11.4.2	Do Nothing Scenario	24
11.4.3	Construction Phase	24
11.4.4	Operational Phase	28
11.5	Mitigation and Monitoring Measures	35
11.5.1	Construction Phase	35
11.5.2	Operational Phase	35
11.6	Residual Impacts	36
11.6.1	Construction Phase	36
11.6.2	Operational Phase	36
11.7	References	37
<b>Chapter 12: Biodiversity</b>		
12.1	Introduction	1
12.2	Methodology	1
12.2.1	Ecological Survey Study Area	2
12.2.2	Relevant Guidelines, Policy and Legislation	2
12.2.3	Data Collection and Collation	4
12.2.4	Appraisal Method for the Assessment of Impacts	7
12.3	Baseline Environment	9
12.3.1	Zone of Influence (Zol)	10
12.3.2	Desk Study	12
12.3.3	Local Biodiversity Areas	12
12.3.4	Designated Areas for Nature Conservation	12
12.3.5	Habitats	21
12.3.6	Rare and Protected Plant Species	27
12.3.7	Non-Native Invasive Plant Species	28
12.3.8	Mammals	28
12.3.9	Birds	33
12.3.10	Reptiles	38
12.3.11	Amphibians	38
12.3.12	Fish	39
12.3.13	Invertebrates	40
12.3.14	Summary Ecological Valuation and Identification of KERs	41
12.4	Potential Impacts	44
12.4.1	Characteristics of the Proposed Scheme	44
12.4.2	'Do Nothing' Scenario	45
12.4.3	Construction Phase	45
12.4.4	Operational Phase	67
12.5	Mitigation and Monitoring Measures	79
12.5.1	Construction Phase	79
12.5.2	Operational Phase	88
12.6	Residual Impacts	90



Section	Title	Page Number
12.6.1	Construction Phase	90
12.6.2	Operational Phase	93
12.7	References	95
<b>Chapter 13: Water</b>		
13.1	Introduction	1
13.2	Methodology	1
13.2.1	Study Area	1
13.2.2	Relevant Guidelines, Policy and Legislation	2
13.2.3	Data Collection and Collation	4
13.2.4	Appraisal Method for the Assessment of Impacts	5
13.3	Baseline Environment	9
13.3.1	WFD Catchment Overview	9
13.3.2	EPA Surface Water Monitoring	10
13.3.3	Surface Water WFD Status	10
13.3.4	Field Survey	11
13.3.5	Designated Sites	12
13.3.6	Drinking Water Supply (Surface Water)	13
13.3.7	Known Pressures	13
13.3.8	Existing Drainage	13
13.3.9	Surface Water Features	13
13.3.10	Flood Risk	19
13.4	Potential Impacts	20
13.4.1	Characteristics of the Proposed Scheme	20
13.4.2	Do Nothing Scenario	21
13.4.3	Do Minimum	23
13.4.4	Construction Phase	23
13.4.5	Operational Phase	26
13.5	Mitigation and Monitoring Measures	29
13.5.1	Introduction	29
13.5.2	Construction Phase	29
13.5.3	Operational Phase	30
13.6	Residual Impacts	30
13.6.1	Construction Phase	30
13.6.2	Operational Phase	31
13.6.3	Summary of WFD Assessment	31
13.7	References	33
<b>Chapter 14: Land, Soils, Geology &amp; Hydrogeology</b>		
14.1	Introduction	1
14.2	Methodology	1
14.2.1	Study Area	1
14.2.2	Relevant Guidelines, Policy and Legislation	2
14.2.3	Data Collection and Collation	2
14.2.4	Appraisal Method for the Assessment of Impacts	4
14.3	Baseline Environment	8
14.3.1	Introduction	8
14.3.2	Regional Overview	8
14.3.3	Site Specific Environment	16
14.3.4	Summary of Features of Importance	25
14.3.5	Conceptual Site Model	29
14.4	Potential Impacts	32

Section	Title	Page Number
14.4.1	Characteristics of the Proposed Scheme	32
14.4.2	'Do Nothing' Scenario	33
14.4.3	Construction Phase	33
14.4.4	Operational Phase	39
14.5	Mitigation and Monitoring Measures	39
14.5.1	Construction Phase	39
14.5.2	Operational Phase	40
14.6	Residual Impacts	40
14.6.1	Construction Phase	40
14.6.2	Operational Phase	44
14.7	References	44
<b>Chapter 15: Archaeology &amp; Cultural Heritage</b>		
15.1	Introduction	1
15.2	Methodology	1
15.2.1	Introduction	1
15.2.2	Study Area	3
15.2.3	Relevant Guidelines, Policy and Legislation	3
15.2.4	Data Collection and Collation	4
15.2.5	Appraisal Method for the Assessment of Impacts	5
15.3	Baseline Environment	7
15.3.1	Archaeological and Historical Background	7
15.3.2	Archaeological Heritage: Liffey Valley to Le Fanu Road	18
15.3.3	Archaeological Heritage: Le Fanu Road to Sarsfield Road	19
15.3.4	Archaeological Heritage: Sarsfield Road to City Centre	20
15.3.5	Proposed Construction Compounds and Attenuation Ponds	30
15.4	Potential Impacts	31
15.4.1	Characteristics of the Proposed Scheme	32
15.4.2	Do Nothing Scenario	32
15.4.3	Construction Phase	32
15.4.4	Operational Phase	37
15.5	Mitigation and Monitoring Measures	37
15.5.1	Construction Phase	37
15.5.2	Operational Phase	41
15.6	Residual Impacts	42
15.6.1	Construction Phase	42
15.6.2	Operational Phase	42
15.7	References	42
<b>Chapter 16: Architectural Heritage</b>		
16.1	Introduction	1
16.2	Methodology	1
16.2.1	Definitions	1
16.2.2	Approach	3
16.2.3	Study Area	4
16.2.4	Relevant Guidelines, Policy and Legislation	4
16.2.5	Data Collection and Collation	6
16.2.6	Assessment Methodology	7
16.2.7	Appraisal Method for the Assessment of Sensitivity	7
16.3	Baseline Environment	13
16.3.1	Results and Analysis	16
16.4	Potential Impacts	35

Section	Title	Page Number
16.4.1	Characteristics of the Proposed Scheme	35
16.4.2	'Do Nothing' Scenario	35
16.4.3	Construction Phase	35
16.4.4	Operational Phase	42
16.5	Mitigation and Monitoring Measures	46
16.5.1	Construction Phase	46
16.5.2	Operational Phase	53
16.6	Residual Impacts	53
16.6.1	Construction Phase	53
16.6.2	Operational Phase	53
16.7	References	54
<b>Chapter 17: Landscape (Townscape) &amp; Visual</b>		
17.1	Introduction	1
17.2	Methodology	1
17.2.1	Study Area	1
17.2.2	Relevant Legislation, Policy and Guidelines	2
17.2.3	Data Collection and Collation	3
17.2.4	Appraisal Method for the Assessment of Impacts	4
17.3	Baseline Environment	13
17.3.1	City Context	13
17.3.2	Overview of Route of the Proposed Scheme	13
17.3.3	Landscape, Townscape and Visual Planning Policy	13
17.3.4	Townscape / Streetscape Character	15
17.4	Potential Impacts	17
17.4.1	Characteristics of the Proposed Scheme	17
17.4.2	Do Nothing Scenario	22
17.4.3	Construction Phase	22
17.4.4	Operational Phase	27
17.5	Mitigation and Monitoring Measures	32
17.5.1	Construction Phase	32
17.5.2	Operational Phase	34
17.6	Residual Impacts	42
17.6.1	Construction Phase	42
17.6.2	Operational Phase	43
17.7	Conclusion	43
17.8	References	44
<b>Chapter 18: Waste &amp; Resources</b>		
18.1	Introduction	1
18.2	Sustainable Resource and Waste Management Principles	2
18.2.1	Circular Economy	2
18.2.2	The Waste Hierarchy	3
18.3	Methodology	4
18.3.1	Study Area	4
18.3.2	Relevant Guidelines, Policy and Legislation	4
18.3.3	Appraisal Method for the Assessment of Impacts	5
18.3.4	Data Collection and Collation	6
18.3.5	Waste Management Principles	8
18.4	Baseline Environment	9
18.4.1	Construction Waste	10
18.4.2	Municipal Waste	12

Section	Title	Page Number
18.5	Potential Impacts	13
18.5.1	Characteristics of the Proposed Scheme	13
18.5.2	Do Nothing Scenario	13
18.5.3	Construction Phase	13
18.5.4	Operational Phase	17
18.6	Mitigation and Monitoring Measures	18
18.6.1	Construction Phase	18
18.6.2	Operational Phase	20
18.7	Residual Impacts	20
18.7.1	Construction Phase	20
18.7.2	Operational Phase	20
18.8	References	21
<b>Chapter 19: Material Assets</b>		
19.1	Introduction	1
19.2	Methodology	2
19.2.1	Study Area	2
19.2.2	Relevant Guidelines, Policy and Legislation	2
19.2.3	Data Collection and Collation	3
19.2.4	Appraisal Method for the Assessment of Impacts	3
19.3	Baseline Environment	5
19.3.1	Major Infrastructure and Existing Utilities	5
19.3.2	Imported Material	6
19.4	Potential Impacts	7
19.4.1	Characteristics of the Proposed Scheme	7
19.4.2	Do Nothing Scenario	7
19.4.3	Construction Phase	8
19.4.4	Operational Phase	13
19.5	Mitigation and Monitoring Measures	15
19.5.1	Construction Phase	15
19.5.2	Operational Phase	16
19.6	Residual Impacts	17
19.6.1	Construction Phase	17
19.6.2	Operational Phase	17
19.7	References	17
<b>Chapter 20: Risk of Major Accidents and / or Disasters</b>		
20.1	Introduction	1
20.2	Risk of Major Accidents and / or Disasters	1
20.2.1	Definitions	2
20.3	Methodology	3
20.3.1	Scope and Context	3
20.3.2	Legislation, Guidelines and Reference Material	3
20.3.3	Risk Assessment Methodology	4
20.4	Potential Impacts	6
20.4.1	Do Nothing Scenario	6
20.4.2	Risk Evaluation	6
20.4.3	Seveso Sites	12
20.5	Mitigation and Monitoring Measures	12
20.5.1	Inherent Design	12
20.5.2	Plans and Procedures	13
20.6	Residual Impacts	16

Section	Title	Page Number
20.7	References	17
<b>Chapter 21: Cumulative Impacts &amp; Environmental Interactions</b>		
21.1	Introduction	1
21.1.1	Cumulative Impacts	1
21.1.2	Environmental Interactions	1
21.1.3	Guidance	2
21.2	Methodology for Cumulative Impacts Assessment	2
21.2.1	Introduction	2
21.2.2	Stage 1: Establishing the Long List of 'Other Projects'	2
21.2.3	Stage 2: Establishing the Shortlist of 'Other Projects'	6
21.2.4	Stage 3: Information Gathering for the Shortlist of 'Other Projects'	7
21.2.5	Stage 4: Assessment	7
21.2.6	Traffic Related Cumulative Impacts: Construction Scenarios for Assessment	7
21.2.7	Operational Scenario for Assessment	9
21.2.8	Summary of Assessment Methodology for CEA	10
21.3	Assessment of Cumulative Impacts and Environmental Interactions	10
21.3.1	Construction Impacts	10
21.3.2	Operational Impacts	35
21.4	Environmental Interactions	58
21.5	Mitigation	65
21.5.1	Construction Phase	65
21.5.2	Operational Phase	65
21.6	Summary of Residual Cumulative Impacts and Environmental Interactions	66
21.7	References	68
<b>Chapter 22: Summary of Mitigation &amp; Monitoring Measures</b>		
22.1	Introduction	1
22.2	Mitigation and Monitoring Schedules	1
22.3	General Mitigation Requirements	2
22.4	Traffic and Transport	2
22.5	Air Quality	3
22.6	Climate	3
22.7	Noise and Vibration	4
22.8	Population	5
22.9	Human Health	6
22.1	Biodiversity	6
22.11	Water	14
22.12	Land, Soils, Geology and Hydrogeology	14
22.13	Archaeological and Cultural Heritage	16
22.14	Architectural Heritage	19
22.15	Landscape (Townscape) and Visual	24
22.16	Waste and Resources	25
22.17	Material Assets	26
22.18	Major Accidents and/or Disasters	27
22.19	Cumulative Impacts	27
22.20	References	28
<b>Chapter 23: Summary of Significant Residual Impacts</b>		
23	Summary of Significant Residual Impacts	1

## Glossary of Terminology, Abbreviations and Acronyms

Term, Abbreviation or Acronym	Description
A	Alluvium
AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
ABP	An Bord Pleanála
ACA	Architectural Conservation Areas
AcEsk	Eskers comprised of gravels of acidic reaction
AD	Anno Domini
ADEPT	Association of Directors of Environment, Economy, Planning and Transport
ADMS	Atmospheric Dispersion Modelling System
A & E	Accident and Emergency
AeoUND	Aeolian undifferentiated
AEP	Annual Exceedance Probability
Ag	Alluvium (gravelly)
AIA	Arboricultural Impact Assessment
AlluvMin	Alluvial (min)
AminDW	Deep well drained mineral soil (mainly acidic)
AminPD	Mineral poorly drained (mainly acidic)
AminPDPT	Peaty Gleys Acidic
AminSP	Surface water gleys / Ground water gleys shallow
AminSRPT	Shallow rocky peaty, non-peaty mineral complexes (mainly acidic)
AminSW	Shallow well drained mineral soil (mainly acidic)
Annex I Habitats	Habitat types whose conservation requires the designation of Special Areas of Conservation. Priority habitats, which are in danger of disappearing within the EU territory, are highlighted with an asterisk.
Annex I Species	Annex I of the Birds Directive lists 193 bird species and sub-species which are: i) in danger of extinction, ii) vulnerable to specific changes in their habitat, iii) considered rare because of small populations or restricted local distribution and / or iv) require particular attention for reasons of the specific nature of habitat. Article 4 of the Birds Directive has classified a number of Special Protection Areas (SPAs) for regularly occurring migratory birds and those birds listed on Annex I of the directive.
Annex II Species	Animal and plant species whose conservation requires the designation of Special Areas of Conservation.
Annex IV	Animal and plant species in need of strict protection.
Annex V	Animal and plant species whose taking in the wild and exploitation may be subject to management measures.
AQG	Air Quality Guideline
As	Alluvium (sandy)
ASD	Autism Spectrum Disorder
Asi	Alluvium (silty)
ASL	Advance Stacking Location
ASR	Air sensitive receptor
ATCs	Automatic Traffic Counts
AVL	Automatic Vehicle Location
AWB	Artificial Surface Waterbodies
AWQR	Annual Water Quality Rating
BCFE	Ballyfermot College of Further Education
BCI	Bat Conservation Ireland
Birds of Conservation Concern in Ireland	BirdWatch Ireland and the Royal Society for the Protection of Birds (RSPB) in Northern Ireland provided a list of priority bird species for conservation action on the island of Ireland. These Birds of Conservation Concern in Ireland are published in a list known as the BoCCI List. In this BoCCI List, birds which breed and / or winter in Ireland are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority.

Term, Abbreviation or Acronym	Description
Bq / m <sup>3</sup>	Bequerel per cubic metre
BktPt	Blanket Peat
BminDW	Deep well drained mineral soil (mainly basic)
BminPD	Mineral poorly drained (mainly basic)
BminPDPT	Peaty gleys basic parent materials basic
BminSP	Surface water gleys / groundwater gleys shallow
BminSPPT	Peaty gleys shallow
BminSRPT	Lithosols peats
BminSW	Renzinas / Lithosols
BMW	Biodegradable Municipal Waste
BoCCI	Birds of Conservation Concern in Ireland
BRE	Building Research Establishment Group
BRT	Bus Rapid Transport
BS	British Standard
BSBI	Botanical Society of Britain and Ireland
BSI	British Standard Institute
BTH	Built Heritage
BTO	British Trust for Ornithology
BusConnects Dublin - Core Bus Corridor Infrastructure Works	The BusConnects Dublin - Core Bus Corridor Infrastructure Works are the works for Dublin and includes all 12 Proposed Schemes.
Bus Gate	A Bus Gate is a sign-posted short length of stand-alone bus lane. This short length of road is restricted exclusively to buses, taxis and cyclists plus emergency vehicles. It facilitates bus priority by removing general through traffic along the overall road where the bus gate is located. General traffic will be directed by signage to divert away to other roads before they arrive at the Bus Gate.
Bus Lane	An on-road carriageway reserved primarily for the use of buses. A bus lane forms part of a road link and it is located within the contiguous road surface.
BWD	Bathing Water Directive
CA	Conservation Area
CaCO <sub>3</sub>	Calcium Carbonate
CAFE Directive	Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe
CAP	Climate Action Plan
CARO	Climate Action Regional Office
Catchment	The area of land bounded by watersheds draining into a river, basin or reservoir.
CBA	Cost Benefit Analysis
CBC	Core Bus Corridor
CBD	Convention of Biological Diversity
CC	Construction Compound
CCTV	Close-circuit television
CDP	County Development Plan
CDRWMP	Construction and Demolition Resource and Waste Management Plan
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants
CESSM	Civil Engineering Standard Model of Measurement
CGS	County Geological Sites
CH <sub>4</sub>	Methane
CIE	Córas Iompair Éireann
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association

Term, Abbreviation or Acronym	Description
CMATS	Cork Metropolitan Area Transport Strategy
CNL	Construction Noise Levels
CNOSSOS	Common Noise Assessment Methods in Europe
CNT	Construction Noise Threshold
CO	Carbon Monoxide
COMAH	Control of Major Accident Hazards Involving Dangerous Substances
Construction Phase	The processes and activities on or off site that contribute or are instrumental to the construction of the Proposed Scheme towards, and finally to, the Operational Phase.
Construction Year (2024)	For the purposes of modelling, a Construction Year of 2024 is assumed.
CORINE	Co-ordinated Information on the Environment
CP	Communications Plan
CPO	Compulsory Purchase Order
CPP	Campus Pollinator Plan
CRTN	Calculation of Road Traffic Noise
cSAC	Candidate Special Area of Conservation
CSM	Conceptual Site Model
CSMMP	Construction Stage Mobility Management Plan
CSO	Central Statistics Office
CSZ	Core Sustainance Zone
CTMP	Construction Traffic Management Plan
Cut	Cut over raised peat
Cycle Lane	A cycle lane is a lane on the carriageway that is reserved either exclusively or primarily for cycling and is separated from general traffic or bus lanes by road markings.
Cycle Track	A cycle track is a separate section of the road dedicated for cycling only. This space will generally be isolated from other vehicular traffic by a physical kerb.
DAHG	Department of Arts, Heritage and the Gaeltacht
DAHGI	Department of Arts, Heritage, Gaeltacht and the Islands
DART	Dublin Area Rapid Transport
DAU	Development Applications Unit
dB	Decibel
DCC	Dublin City Council
DCCAE	Department of Communications, Climate Action and Environment
DCDP	Dublin City Development Plan 2016 - 2022
DCENR	Department of Communications, Energy and Natural Resources
DCHG	Department of Culture, Heritage and the Gaeltacht
DCIHR	Dublin City Industrial Heritage Record
DECC	Department for Environment, Climate & Communications
DECLG	Department of the Environment, Community and Local Government
DEFRA	Department of Environment, Food and Rural Affairs
DEHLG	Department of the Environment, Health and Local Government.
DELG	Department of the Environment and Local Government
Designated sites	Selected sites designated with the aim to conserve habitats and species of conservation concern.
Design Year (2043)	For the purposes of modelling, a Design Year of 2043 is assumed.
DFI	Disability Federation Ireland
DHLGH	Department of Housing, Local Government and Heritage
DHPLG	Department of Housing, Planning and Local Government
DLRCC	Dún Laoghaire Rathdown County Council
DM	Do Minimum
DMRB	Design Manual for Roads and Bridges
DMURS	Design Manual for Urban Roads and Streets



Term, Abbreviation or Acronym	Description
DN	Do Nothing
DOD	Military Archive
DoT	Department of Transport
DS	Do Something
DTTAS	Department of Transport, Tourism and Sport
DUTC	Dublin United Tramway Company
EC	European Commission
ED	Engineering Designers
EEA	European Environment Agency
EFLA	European Foundation of Landscape Architecture
EFT	Emission Factor Toolkit
EGD	European Green Deal
EIA	Environmental Impact Assessment – refers to the assessment process and the assessment that An Bord Pleanála will carry out.
EIAR	Environmental Impact Assessment Report – refers to the EIA report document.
EIRP	Environmental Incident Response Plan
EIS	Environmental Impact Statement
EMRA	Eastern and Midlands Regional Assembly
EMWR	Eastern-Midlands Waste Region
ENEVAL	Environmental Evaluation Model
EPA	Environmental Protection Agency
EPR	Emerging Preferred Route
ERBD	Eastern River Basin District
ERM	East Regional Model
ESB	Electricity Supply Board
ESD	Effort Sharing Decision
ETS	Emission Trading Scheme
EU	European Union
EUPHA	European Public Health Association
EVs	Electric Vehicles
FCC	Fingal County Council
FD	Filter Drains
FenPT	Fenpeat
FHWA	Federal Highway Administration (US)
FRA	Flood Risk Assessment
FRM	Flood Risk Management
GAA	Gaelic Athletic Association
GGBFS	Ground Granulated Blast Furnace Slag
GCh	Gravels derived from chert
GCSAI	Golf Course Superintendents Association of Ireland
GDA	Greater Dublin Area
GDACNP	Greater Dublin Area Cycle Network Plan
GDATS	Greater Dublin Area Transport Strategy
GDRCoP	Greater Dublin Regional Code of Practice
GSDSDS	Greater Dublin Strategic Drainage Study
GEIA	Guidelines for planning authorities and An Bord Pleanála on carrying out Environmental Impact Assessment
GEP	Good Ecological Potential
GES	Good Ecological Status
GGr	Gravels derived from granite
GGBFS	Ground granulated blast-furnace slag

Term, Abbreviation or Acronym	Description
GHG	Greenhouse Gas
GIS	Geographic Information System
GLs	Gravel derived from limestone
GLC	Ground level concentrations
GLPSsS	Gravels derived from Lower Palaeozoic sandstones and shales
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GMP	Gravels derived from metamorphic rocks
GNI	Gas Networks Ireland
GPO	General Post Office
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GSI	Geological Survey Ireland
GSWR	Great Southern and Western Railway
GWB	Groundwater Bodies
GWP	Global Warming Potential
ha	Hectares
HA	Hydrometric Area
HAWRAT	Highways Agency Risk Assessment Tool (UK)
HCL	Heritage, Conservation and Landscapes
HDV	Heavy Duty Vehicle
HM	Heavy Metals
HMWB	Highly Modified Water Bodies
HEV	Historic Environment Viewer
HEVs	Hybrid Electrical Vehicles
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HLC	Historic Landscape Character
hPa	Hectopascals
HSA	Health and Safety Authority
HSE	Health Service Executive
Hydromorphology	Hydromorphology is a term used in river basin management to describe the hydrological (water flow, energy etc.) and geomorphological (surface features) processes and attributes of rivers, lakes, estuaries and coastal waters.
Hz	Hertz
IAA	Irish Architectural Archive
IAIA	International Association for Impact Assessment
IAQM	Institute of Air Quality Management
ICE	Internal Combustion Engine
ICOMOS	International Council of Monuments and Sites
IEL	Industrial Emissions License
IEMA	Institute of Environmental Management and Assessment
IES	Institute of Environmental Sciences
IFI	Inland Fisheries Ireland
IGI	Institute of Geologists of Ireland
INDCs	Intended Nationally Determined Contributions
Invasive species	An invasive species is a plant, fungus, or animal species that is not native to a specific location.
IPCC	Intergovernmental Panel on Climate Change
IPH	Institute of Public Health in Ireland
IPI	Irish Planning Institute
IPPC	Integrated Pollution Prevention and Control
IrSTCSsS	Irish sea till derived from Cambrian sandstones and shales

Term, Abbreviation or Acronym	Description
IrSTLPSsS	Irish Sea Till derived from Lower Palaeozoic sandstones and shales
IrSTLs	Irish sea till derived from limestones
ISMP	Invasive Species Management Plan
IOA	Institute of Acoustics
IRRS	Irish Railways Record Society
ISO	International Organization for Standardization
ITM	Irish Transverse Mercator
IUCN	International Union for Conservation of Nature
IW	Irish Water
IWA	Irish Wheelchair Association
JTCs	Junction Turning Counts
KER	Key Ecological Receptors – Ecological receptors include any living organisms (other than humans), the habitat which supports such organisms, or natural resources which could be adversely affected by the Proposed Scheme
KFPA	Kerbs, Footways and Paved Areas
kHz	Kilohertz
km	Kilometre
kt	Kilotonnes
kV	Kilovolt
Lac	Lacustrine sediments
LAM	Local Area Model
LAP	Local Area Plan
LAQM	Local Air Quality Management Policy Guidance
LAWPRO	Local Authority Water Programme
LEBM	Low Energy Bound Mix
LED	Light Emitting Diode
LEVs	Low Emission Vehicles
LGV	Light Goods Vehicle
LI	Locally Important Aquifer
LoS	Level of Service
LoW	List of Waste
LP	Lamp Post
m	Metres
made	Made ground
MarSands	Marine sands and gravels
MarSed	Marine / Estuarine sediments
MASP	Metropolitan Area Strategic Plan
mBGL	Metres Below Ground Level
Mbs	Marine beach sands
MCA	Multi-Criteria Analysis
Mesc	Estuarine silts and clays
mg / m <sup>3</sup>	Milligrams per cubic metre
mOD	Metres above Ordnance Datum
MRF	Materials Recovery Facility
MS	Mile Stones
MSA	Million Standard Axles
MSW	Municipal Solid Waste
NAI	National Archives of Ireland
NAP	Noise Action Plan
NAF	National Adaptation Framework
NaPTAN	National Public Transport Access Nodes

Term, Abbreviation or Acronym	Description
Natura Impact Statement	Statement for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites prepared to enable the carrying out by the competent authority of an Appropriate Assessment as required under the Habitats Directive.
NBDC	National Biodiversity Data Centre
NCAD	National College of Art and Design
NCM	National Cycle Manual
NCPF	National Cycle Policy Framework
NCRI	National Cancer Registry Ireland
NDA	National Disability Authority
NDP	National Development Plan
NFGWS	National Federation of Group Water Schemes
NH <sub>3</sub>	Ammonia
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NIFTI	National Investment Framework for Transport in Ireland
NIS	Natura Impact Statement
NLI	National Library of Ireland
NM	National Monument
NMI	National Museum of Ireland
NMS	National Monuments Service
NMVOG	Non-methane volatile organic compounds
NO <sub>x</sub>	Nitrogen oxides
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
N <sub>2</sub> O	Nitrous oxide
NPF	National Planning Framework
NPWS	National Parks and Wildlife Services
NRA	National Roads Authority
NS	National School
NSA	Nutrient Sensitive Area
NSLs	Noise Sensitive Locations
NSO	National Strategic Outcome
NTA	National Transport Authority
NTM	National Transport Model
O <sub>3</sub>	Ozone
OBI	O'Brien Institute
Opening Year (2028)	For the purposes of modelling, an Opening Year of 2028 is assumed
Operational Phase	This phrase refers to the processes and activities implemented following the Construction Phase to ensure the appropriate environmental management of the Proposed Scheme over time.
OPW	Office of Public Works
OS	Ordnance Survey
OSI	Ordnance Survey Ireland
OSP	Oversized Pipes
OSM	Ordnance Survey Mapping
Pb	Lead
PB	Post Box
PC	Process contribution
PDGB	Preliminary Design Guidance Booklet for BusConnects Core Bus Corridors
PEC	Predicted Environmental Concentration

Term, Abbreviation or Acronym	Description
Pedestrian Link	A stretch of footpath that facilitates the movement of pedestrian traffic which can be located immediately adjacent to or segregated from a road link.
PINS	UK Planning Inspectorate
PM	Particulate matter
PM <sub>2.5</sub>	Particulate matter of less than 2.5 microns
PM <sub>10</sub>	Particulate matter of less than 10 microns
PMSC	People Movement at Signals Calculator
pNHA	Proposed Natural Heritage Area
PPE	Personal Protective Equipment
PPV	Peak Particle Velocity
PRO	Preferred Route Option – this is the route option chosen, and the subject of the EIA.
PRFs	Potential Roost Features
ProPG	Professional Practice Guidance on Planning and Noise
Protected Cycle Lane	This refers to a cycle lane that is protected intermittently with pencil bollards or armadillos between the cycle lane and the traffic lane.
PSCI	Pavement Surface Condition Index
PSO	Public Service Obligation
PSZ	Public Safety Zone
PT	Public Transport
QBC	Quality Bus Corridor
QI	Qualifying Interest
QoS	Quality of Service
Quiet Street Treatment	Quiet Streets are called so due to the low amount of general traffic and are deemed suitable for cyclists sharing the roadway with general traffic without the need for segregated cycle tracks. The Quiet Street Treatment would involve appropriate advisory signage for both general road users and cyclists.
RBD	River Basin District
RBMP	River Basin Management Plan
rBWD	Revised Bathing Water Directive
RC	Reinforced Concrete
Rck	Bedrock outcrop or subcrop
RMP	Record of Monuments and Places
RMS	Root mean squared
RMSE	Root mean square error
Road Link	A stretch of national, regional or local road network that predominantly facilitates the movement of vehicular traffic along a carriageway.
RPA	Root Protection Area
RPO	Regional Policy Objectives
RPS	Record of Protected Structures
RSA	Road Safety Authority
RSES	Regional Spatial and Economic Strategy
RTPI	Real-time Passenger Information
SAAO	Special Amenity Area Order
SAC	Special Area of Conservation
Salmonid	Any species of the family (Salmonidae) of elongate bony fishes (such as a salmon or trout) that have the last three vertebrae upturned (i.e. ray-finned fish).
SCATS	Sydney Coordinated Adaptive Traffic System
SCI	Special Conservation Interest
SCP	Signal Control Priority
SDCC	South Dublin County Council
SDCCDP	South Dublin County Council Development Plan
SDG	Sustainable Development Goal

Term, Abbreviation or Acronym	Description
SDR	Standardised Death Rate
SDZ	Strategic Development Zone
SEA	Strategic Environmental Assessment
SFPA	Sea Fisheries Protection Authority
SFRA	Strategic Flood Risk Assessment
Shared Surface	Part of a carriageway that facilitates more than one mode of transport e.g. Shared Surface Pedestrian / Cycle Lane, Shared Surface Bus / Cycle Lane etc.
SHD	Strategic Housing Development
SIFLT	Strategic Investment Framework for Land Transport
Signal Controlled Priority	Signal Controlled Priority uses traffic signals to enable buses to get priority ahead of other traffic on single road sections and is only effective for short distances.
SLR	Single-lens Reflex
SMR	Sites and Monuments Record
SO <sub>x</sub>	Sulphur oxides
SO <sub>2</sub>	Sulphur dioxide
SPA	Special Protection Area
SPW	Specification for Road Works
SPZ	Source Protection Zone
SUDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
SWO	Storm Water Overflow
TCA	Townscape Character Assessment
TCD	Trinity College Dublin
TCSsS	Till derived from Cambrian sandstones and shales
TdIMr	Tidal Marsh
TGr	Till derived from granites
The Birds Directive	The Birds Directive (formally known as Council Directive 2009/147/EC on the conservation of wild birds) is a European Union directive adopted in 2009. It replaces Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds. It aims to protect all European wild birds and the habitats of listed species, in particular through the designation of Special Protection Areas.
The Habitats Directive	EU Directive on the Conservation of Habitats, Flora and Fauna (92/43/EEC), commonly known as "the Habitats Directive", was adopted in 1992, came into force in 1994 and was transposed into Irish law in 1997.
TIA	Transport Infrastructure Assessment
TICCIH	The International Committee for the Conservation of the Industrial Heritage
TII	Transport Infrastructure Ireland
TLPSsS	Till derived from Lower Palaeozoic sandstones and shales
TLs	Till derived from limestones
TMp	Till derived from metamorphic rock
TMp	Till derived from metamorphic rocks
Toucan Crossing	A Toucan Crossing is a roadway crossing designed to enable both pedestrians and cyclists to cross the road with purposefully designed signal controls.
TPO	Tree Preservation Order
TQz	Till derived from quartzites
TRB	Transportation Research Board
TSM	Traffic Signs Manual
TTM	Temporary Traffic Management
UAT	Underground Attenuation Tanks
UCD	University College Dublin
UITP	International Association of Public Transport
UK	United Kingdom
UKAS	United Kingdom Accreditation Service

Term, Abbreviation or Acronym	Description
UKHA	United Kingdom Highways Agency
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
Urban	Urban (ground made)
Urban Realm	Urban Realm is the term for everyday street spaces that are used by the public to cross, shop, socialise, play and use for activities including walking, exercising and commuting.
US	United States
UV	Ultra Violet
UWWT	Urban Waste-Water Treatment
VDI	Verein Deutscher Ingenieure
VDV	Vibration Dose Value
VO	Vocations Office
VOCs	Volatile Organic Compound
VRDP	Visual Representation of Development Proposals
VSLs	Vibration Sensitive Locations
WCP	Waste Collection Permit
WEEE	Waste Electrical and Electronic Equipment
WFD	Water Framework Directive
WHO	World Health Organization
Ws	Windblown sands
Wsd	Windblown sands and dunes
WWTP	Waste Water Treatment Plant
ZAP	Zone of Archaeological Potential
ZoI	Zone of Influence
µg / m <sup>3</sup>	Micrograms per cubic metre