

STRATEGIC ENVIRONMENTAL ASSESSMENT STATEMENT

FOR THE

DUBLIN CITY CENTRE TRANSPORT PLAN 2023

for: National Transport Authority/Dublin City Council



by: CAAS Ltd.



JULY 2024

Table of Contents

Section 1	Introduction	1
1.1	Introduction and Legislative Context	1
1.2	Content of the SEA Statement	1
1.3	Implications of SEA for the Plan.....	1
Section 2	Integration of Environmental Considerations into the Plan.....	2
2.1	Overview	2
2.2	Early work undertaken to ensure contribution towards environmental protection and sustainable development.....	2
2.3	Consideration of alternatives	2
2.4	Communication of environmental sensitivities	2
2.5	Integration of individual measures into the Plan.....	3
Section 3	Environmental Report and Submissions/ Observations.....	14
Section 4	Reasons for choosing the selected alternative in light of other alternatives considered.....	23
4.1	Description of Alternatives Considered	23
4.2	Summary of Assessment of Alternatives	23
4.3	Reasons for Choosing the Selected Alternative in light of Other Reasonable Alternatives Considered.....	26
Section 5	Monitoring Measures	27
5.1	Introduction.....	27
5.2	Indicators and Targets.....	27
5.3	Sources	27
5.4	Reporting	27
5.5	Thresholds.....	28

Section 1 Introduction

1.1 Introduction and Legislative Context

This is the Strategic Environmental Assessment (SEA) Statement for the Dublin City Centre Transport Plan 2023 (referred to hereafter as the Plan).

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including transport.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011).

1.2 Content of the SEA Statement

Where SEA is undertaken, the Regulations require that a Statement is made available to the public and the competent environmental authorities after the making of the Plan.

This Statement is referred to as an SEA Statement.

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Plan;
- b) how the following have been taken into account during the preparation of the Plan:
 - the environmental report,
 - submissions and observations made to the planning authority on the Draft Plan and Environmental Report, and
 - any transboundary consultations.
- c) the reasons for choosing the Plan in the light of the other reasonable alternatives dealt with; and
- d) the measures decided upon to monitor the significant environmental effects of implementing the Plan.

1.3 Implications of SEA for the Plan

SEA identifies the likely significant environmental effects of implementing the Plan. The findings of the SEA are expressed in this Environmental Report, an earlier version of which accompanied the Draft Plan on public display and has been updated following consultation, and identifies how environmental considerations were integrated into the Plan and how alternatives for the Plan were considered.

The planning authority has taken into account the findings of this report and other related SEA output during the Plan preparation process.

Following adoption of the Plan, an SEA Statement is prepared that summarises, inter alia, how environmental considerations have been integrated into the Plan.

Section 2 Integration of Environmental Considerations into the Plan

2.1 Overview

Environmental considerations were integrated into the Plan through:

- Early work undertaken to ensure contribution towards environmental protection and sustainable development;
- Consideration of alternatives;
- Communication of environmental sensitivities; and
- Integration of individual measures into the Plan.

2.2 Early work undertaken to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Plan (and associated SEA and AA) on public display, early work was undertaken that has helped to ensure that the Plan contributes towards environmental protection and sustainable development.

Many proposals included within the Plan have already been included within the Dublin City Development Plan and the Transport Strategy for the Greater Dublin Area, which are already in force across the Transport Plan area.

The Plan's Vision¹ and Objectives² to which sustainable development and environmental protection and management are central, provide the basis for its detailed provisions.

¹ A thriving, active City Centre with sustainability and facilitation of emissions reduction as fundamental goals, where the transport system enhances freedom of movement and meets the environmental, social, cultural and economic needs of the people it serves.

² To provide a significantly enhanced city centre environment; to facilitate the delivery of a net-zero city centre transport system; and to improve the city centre's economy and liveability.

2.3 Consideration of alternatives

Although strategic alternatives in relation to the content of the Plan were considerably limited for the Plan (see Section 6), as part of the Plan preparation/SEA process, alternatives for the Plan were considered.

These alternatives and their assessment is summarised in Section 4 of this report.

2.4 Communication of environmental sensitivities

Environmental considerations were integrated into the Draft Plan before it was placed on public display. Individual sensitivities which were mapped by the SEA and considered by the Team preparing the Transport Plan included the following:

- Noise Mapping L_{den} (day, evening, night)
- Population Density
- Ecological designations, including European Sites³
- City Geological Sites
- Landslide Susceptibility
- WFD Surface Water Status
- WFD Groundwater Status
- WFD Register of Protected Areas
- Groundwater Vulnerability
- Groundwater Productivity
- Archaeological Heritage
- Architectural Heritage

Some of these are indicated on Figure 2.2.

³ A Stage 2 Appropriate Assessment (AA) has been undertaken alongside the preparation of the Plan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The conclusion of the AA is that the Plan will not affect the integrity of the Natura 2000 network of European sites (except as provided for in Article 6(4) of the Habitats Directive).

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed both the Plan and the SEA. All recommendations made by the AA have been integrated into the Plan.

2.5 Integration of individual measures into the Plan

The SEA and AA processes that have been undertaken alongside the preparation of the Plan have brought about changes to the emerging Plan thereby enabling the mitigation of any potentially adverse environmental effects. Recommendations made by the SEA and AA processes have been integrated into the Plan. All recommendations made by the SEA and AA processes are identified on Tables 2.1 and 2.2 below and have been integrated into the Plan.

These tables also link the various mitigation measures to specific environmental components and the potential adverse effects that would be present if the changes were not made. The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

In addition to the individual provisions integrated into the text of the Transport Plan, individual provisions relating to environmental protection and management have been integrated into the existing Dublin City Development Plan and Transport Strategy for the Greater Dublin Area, which are already in force across the Transport Plan area. It is a specific provision of the Transport Plan to ensure that all of the provisions from the Dublin City Development Plan and the Transport Strategy for the Greater Dublin Area identified as mitigation in the SEA Environmental Report and Natura Impact Statement that accompany the Plan shall be complied with throughout the implementation of the Plan. These measures include:

Dublin City Development Plan

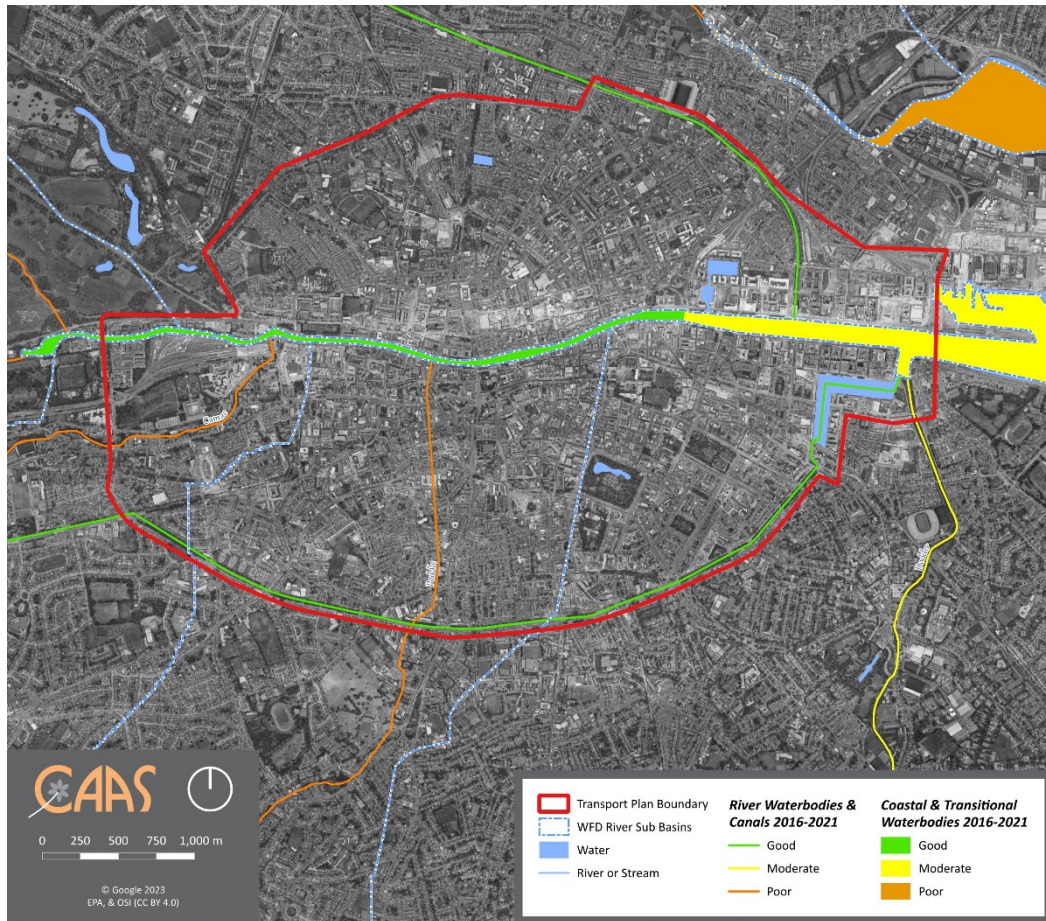
- Chapter 1: Section 1.5
- CA1 National Climate Action
- CA23 The Circular Economy
- SI2 Integrating Water Services with Development
- SI4 Drainage Infrastructure Design Standards
- SI7 Water Quality Status
- SI9 Groundwater Pollution
- SIO4 River Basin Management Plan
- SIO9 Planning for Surface Water Management
- SI14 Strategic Flood Risk Assessment
- SI15 Site-Specific Flood Risk Assessment
- SI22 Sustainable Drainage Systems
- SI25 Surface Water Management
- SI27 Sustainable Waste Management
- SIO16 Eastern-Midlands Region Waste Management Plan
- SIO19 Consultation with Regional Waste Management Office
- SI34 Management of Air Quality
- SIO21 Air Quality Data Collection
- SIO22 City Ambient Air Quality Monitoring Network
- SI35 Ambient Noise Quality
- SI36 Noise Management
- SI37 Noise Sensitive Development
- SI39 Protection of Designated Quiet Areas
- SIO23 Dublin Agglomeration Environmental Noise Action Plan
- SIO24 Noise Monitoring and Enforcement
- SI42 Light Pollution
- GI7 Connecting Greening Elements in Site Design
- GIO3 Current and Future Greening Strategies
- GIO5 Design Guide for Public Open Space
- GI9 European Union Natura 2000 Sites
- GI10 Flora and Fauna Protected under National & European Legislation Located Outside Designated Areas
- GI11 Proposed Natural Heritage Areas
- GI13 Areas of Ecological Importance for Protected Species
- GI14 Ecological/Wildlife Corridors
- GI15 Inland and Sea Fisheries
- GI18 Minimise Impact – Light and Noise
- GIO7 National Biodiversity Action Plan 2017-2021
- GIO8 Dublin City Biodiversity Action Plan 2021 - 2025
- GIO10 All Ireland Pollinator Plan 2021 - 2025
- GI19 Protect and Enhance Landscapes
- GI20 Views and Prospects
- GI21 Promote City Landscape
- GI30 Maintain and Improve Connectivity of Freshwater and Estuarine Habitats/EU Birds & Habitats Directives
- GI31 Protect and Improve Ecological Status of Rivers under the EU Water Framework Directive
- GI37 Protection and Management of Dublin Bay
- GI41 Protect Existing Trees as Part of New Development
- GI42 Tree Management
- GIO42 Trees as Wildlife Corridor or 'Stepping Stones'
- GIO43 Urban Tree Canopy Plan
- BHA1 Record of Protected Structures
- BHA2 Development of Protected Structures
- BHA3 Loss of Protected Structures
- BHA01 Buildings-at-Risk Register
- BHA7 Architectural Conservation Areas
- BHA02 Designation of ACAs
- BHA9 Conservation Areas
- BHA12 Industrial, Military and Maritime, Canal-side and Rural Heritage
- BHA15 Twentieth Century Buildings and Structures
- BHA06 Twentieth Century Buildings, Structures and the RPS
- BHA16 Industrial Heritage
- BHA08 Industrial Heritage and the RPS
- BHA18 Historic Ground Surfaces, Street Furniture and Public Realm
- BHA19 Historic Street Furniture and the RPS
- BHA23 Climate Action
- BHA26 Archaeological Heritage

Transport Strategy for the Greater Dublin
Area:

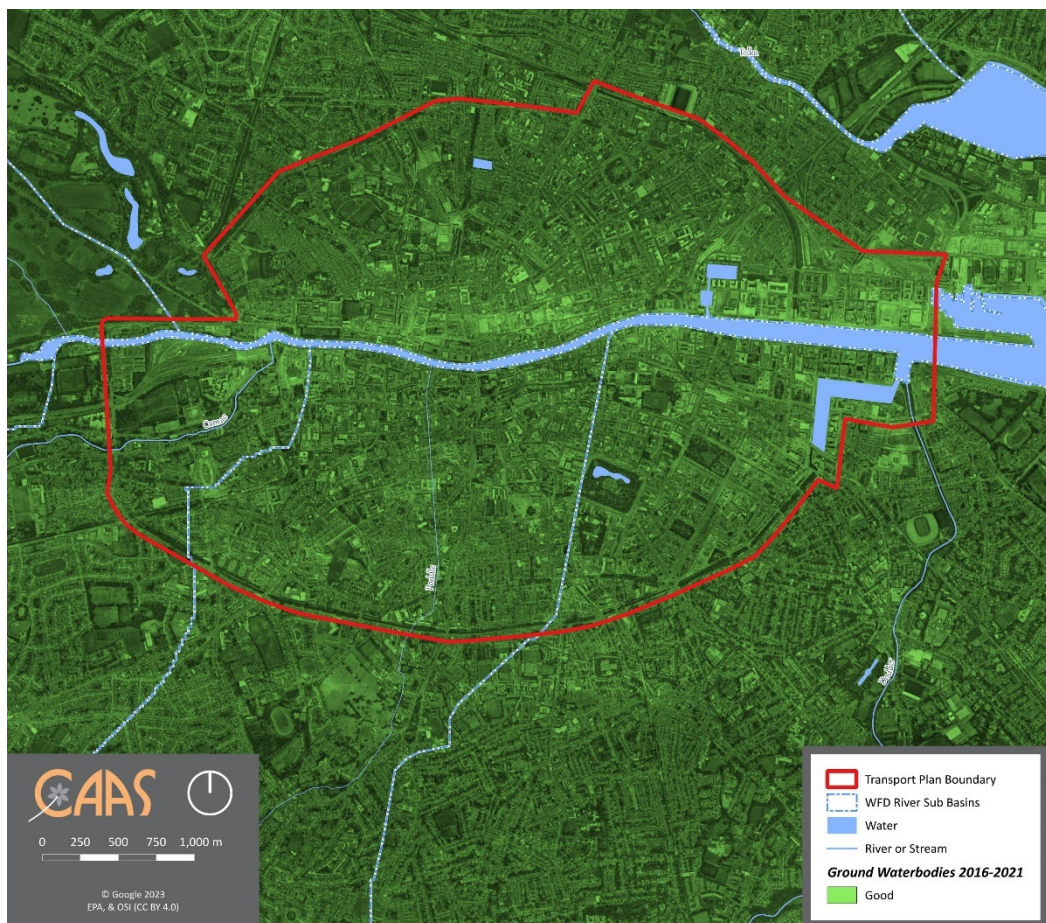
- Strategy Section 7.4.1 Environmental Assessment
- Strategy Section 16. Climate Action Management
- Strategy Section 18. Environmental Protection and Management

Map of Dublin showing the Transport Plan Boundary, WFD River Sub Basins, Water, River or Stream, and Proposed Natural Heritage Area. The map includes labels for Royal Canal pNHA (002103), North Dublin Bay pNHA (000205), and Grand Canal pNHA (002104). A scale bar and CAAS logo are in the bottom left.

CAAS for the NTA/DCC



WFD Surface Water Status (2016-2021)



WFD Groundwater Status (2016-2021)

Figure 2.2 Selection of Environmental Sensitivities from Environmental Report (2 of 2)

Table 2.1 Integration of individual provisions relating to environmental protection and management into the Plan

Plan Reference	Plan Text
8. City Centre Traffic Management Proposals	DCC and the NTA will monitor these effects ⁴ on a regular basis in the context of the wider benefits which are forecast to accrue from this plan, and mitigate any negative impacts that may emerge, as appropriate.
21.1 Wider Planning Framework and the Regulatory Framework for Environmental Protection and Management	As detailed earlier, the plan will complement, and support, the implementation of the Dublin City Development Plan 2022-2028 and the Transport Strategy for the Greater Dublin Area 2022-2042 by providing a more detailed framework for improving the transportation system within the City Centre. In order to be realised, projects identified in this plan (in a similar way to other projects from any other sectors) will have to comply, as relevant, with various legislation, policies, plans and programmes (including requirements for lower-tier Appropriate Assessment, Environmental Impact Assessment and other licencing requirements as appropriate) that form the statutory decision-making and consent-granting framework. It is a specific provision of this plan to ensure that all of the provisions from the Dublin City Development Plan and the Transport Strategy for the Greater Dublin Area identified as mitigation in the SEA Environmental Report and Natura Impact Statement that accompany the Study shall be complied with throughout the implementation of this Study. In implementing this plan, the City Council will cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management and will ensure that plans, programmes and projects comply with EU Directives – including the Habitats Directive (92/43/EEC), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.
21.2 Lower-level Decision Making	Lower levels of decision making and environmental assessment should consider the environmental sensitivities identified in Section 4 of the SEA Environmental Report, including the following: • Special Areas of Conservation and Special Protection Areas; • Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses and areas of semi-natural habitat, such as linear woodlands); • Salmonid Waters; • Shellfish Waters; • Nature Reserves; • Natural Heritage Areas; • Areas likely to contain a habitat listed in Annex 1 of the Habitats Directive; • Entries to the Record of Monuments and Places and Zones of Archaeological Potential; • Entries to the Record of Protected Structures; • Un-designated sites of importance to wintering or breeding bird species of conservation concern; • Architectural Conservation Areas; and • Special Amenity Area Order sites and other relevant landscape designations.
21.3 Corridor and Route Selection Process	The following Corridor and Route Selection Process will be undertaken for relevant new infrastructure: Stage 1 – Route Corridor Identification, Evaluation and Selection; and Stage 2 – Route Identification, Evaluation and Selection. In both stages, environmental constraints and opportunities will be key factors and the advice of relevant specialists will be sought. Site-specific field data will also be used. The need to consider other planning and transport matters is also recognised.
21.4 Appropriate Assessment	All projects and plans arising from this plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and subsequent Appropriate Assessment where necessary, that: • The plan or project will not give rise to adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or • The plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or • The plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial

⁴ Potential adverse effects relating primarily to Air Quality and Noise due to the displacement of traffic arising out of Plan measures.

SEA Statement for the Dublin City Centre Transport Plan 2023

Plan Reference	Plan Text
	consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.
21.5 Protection of Natura 2000 Sites	No projects giving rise to adverse effects on the integrity of European sites (cumulatively, directly or indirectly) arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this plan (either individually or in combination with other plans or projects), except as provided for in Article 6(4) of the Habitats Directive, viz. there must be: a) no alternative solution available; b) imperative reasons of overriding public interest for the project to proceed; and c) adequate compensatory measures in place.
21.6 Climate Change, Emissions and Energy	As identified in the SEA Environmental Report that accompanies this plan, the plan facilitates sustainable mobility and associated positive effects, including those relating to: • Reductions in greenhouse gas emissions and associated achievement of legally binding targets; • Reductions in emissions to air and associated achievement of air quality objectives, thereby contributing towards improvement of air quality and protection of human health; • Reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets; and • Energy security. In implementing the plan, the City Council will support, in addition to the provisions of the Dublin City Development Plan and the Transport Strategy for the Greater Dublin Area, relevant provisions contained in the National Energy and Climate Plan, the Climate Action Plans (2023 & 2024), National Climate Change Adaptation Framework (2018), the National Mitigation Plan (2017), the Dublin City Council Climate Action Plan 2019-2024 and the Department of Transport's Sectoral Adaptation Plan for Transport Infrastructure, which builds on the 2017 "Adaptation Planning – Developing Resilience to Climate Change in the Irish Transport Sector". Cognisant of the imperative to reduce emissions, DCC and the NTA will seek to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available. During the preparation and/or review of policies and plans relating to climate change, carbon emissions and energy usage, DCC and the NTA will seek to integrate plan objectives, as appropriate. By contributing towards a reduction in the use of the private car for trips, the plan provides for an overall reduction in the numbers of people exposed to pollution from emissions to air, including unacceptable noise levels from traffic, in particular within the City Centre. The plan has considered the potential for displacement of traffic to lead to localised potential impacts in terms of increased population exposure to air pollutants and/or elevated noise levels and identified that such impacts are unlikely to be significant. Proposed interventions will be required to demonstrate that they are consistent with all relevant legislative requirements.
21.7 Other SEA and AA Recommendations	In implementing the Plan, the City Council will ensure that the measures included in Table 9.2 of the SEA Environmental Report and the Natura Impact Statement are complied with.
22. Monitoring	As part of this plan, the NTA and DCC will implement an expanded annual monitoring of the following inside the Canals: • Canal Cordon counts of travel by all modes; • Liffey Bridge counts of travel by all modes; • Air Quality monitoring; • Noise monitoring; • Public transport journey times through the City Centre; • Public transport passenger numbers; • Progress in implementing City Centre Plan measures

Table 2.2 Provisions referred to in the Plan under “21.7 Other SEA and AA Recommendations”

Environmental component benefitting	Potentially Significant Adverse Effect, mitigated	Requirement
Various	Various – see below	Construction and Environmental Management Plans Construction Environment Management Plans (CEMPs) shall be prepared in advance of the construction of relevant projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Plan and any lower tier Environmental Impact Statement or Appropriate Assessment. CEMPs typically provide details of intended construction practice for the proposed development, including: - location of the sites and materials compound(s) including area(s) identified for the storage of construction refuse, - location of areas for construction site offices and staff facilities, - details of site security fencing and hoardings, - details of on-site car parking facilities for site workers during the course of construction, - details of the timing and routing of construction traffic to and from the construction site and associated directional signage, - measures to obviate queuing of construction traffic on the adjoining road network, - measures to prevent the spillage or deposit of clay, rubble or other debris, - alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public right of way during the course of site development works, - details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels, - containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater, - disposal of construction/demolition waste and details of how it is proposed to manage excavated soil, - a water and sediment management plan, providing for means to ensure that surface water runoff is controlled such that no silt or other pollutants enter local water courses or drains, - details of a water quality monitoring and sampling plan. - if peat is encountered - a peat storage, handling and reinstatement management plan. - measures adopted during construction to prevent the spread of invasive species (such as Japanese Knotweed). - appointment of an ecological clerk of works at site investigation, preparation and construction phases. - details of appropriate mitigation measures for lighting specifically designed to minimise impacts to biodiversity and ecological functioning.
Various	Various – see below	Maintenance Plan Lower tier assessments should examine the need for Maintenance Plans informed by environmental considerations to be prepared and implemented.
Air and Climatic Factors	Localised emissions to air and associated interactions with human health.	Please refer to the overall approach and detail provided for by the Plan, which focusses significant levels of investment in sustainable transport modes and addresses Climate Change, Emissions and Energy at Section 21.7. Air and Energy Contribute towards: compliance and consistency with air quality legislation and the Air Quality Plan for Dublin; greenhouse gas emission targets; management of noise levels, including taking into account available noise maps and Noise Action Plans for the Dublin Agglomeration (including provisions relating to the preservation of Quiet Areas); and reductions in energy usage. Climate Adaptation and Resilience Improve resilience and adaptation to climate change by taking into account issues including the following in the siting and design of projects: - Extreme precipitation and risk of high river flows and associated implications including those relating to pluvial and fluvial flooding, bridge scour, soil erosion and landslides; - Sea level rise and storm surge and associated implications; and - Extreme temperatures and associated implications including those relating to the operation of transport and ancillary infrastructure and services.
Population and human health	Potential interactions if effects upon environmental vectors such as air are not mitigated	Human Health Assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, mitigation measures shall be introduced in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level. Green and Existing Green Infrastructure Proposals for greenway development should contribute towards the protection or enhancement of existing green infrastructure and have regard to the EPA and HSE research and associated toolkits into the benefits of blue and green spaces.

Environmental component benefitting	Potentially Significant Adverse Effect, mitigated	Requirement
Biodiversity and flora and fauna	- In combination with the wider planning framework, arising from both construction and operation of transport infrastructure and services and associated facilities/ infrastructure: loss of/damage to biodiversity in designated sites, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. - In combination with the wider planning framework, habitat loss, fragmentation and deterioration, including patch size and edge effects. - In combination with the wider planning framework, disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species. - In combination with the wider planning	Protection of Biodiversity including Natura 2000 Network Contribute, as appropriate, towards the protection of designated ecological sites. Contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents): • EU Directives, including the Habitats Directive (92/43/EEC, as amended)⁵, the Birds Directive (2009/147/EC)⁶, the Environmental Liability Directive (2004/35/EC)⁷, the Environmental Impact Assessment Directive (2011/92/EU, as amended by 2014/52/EC), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). • National legislation, including the Wildlife Acts 1976 and 2010 (as amended), the Planning and Development Act 2000 (as amended) and associated Regulations, Environmental Impact Assessment Regulations, the European Union (Water Policy) Regulations 2003 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), the European Communities (Environmental Liability) Regulations 2008 (as amended)⁸ and the Flora Protection Order 2015. • National policy guidelines (including any clarifying Circulars or superseding versions of same), including the "Landscape and Landscape Assessment" Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. • Catchment and water resource management Plans, including the relevant River Basin Management Plan and Flood Risk Management Plan (including any superseding versions of same). • Biodiversity Plans and guidelines, including the 3rd National Biodiversity Plan 2017-2023 (including its measures relating to ecological corridors and any superseding version of same) and the All Ireland Pollinator Plan. • Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans). • Ireland's Environment 2020 - An Assessment (EPA, 2020, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges. Where developments, arising from this Plan, do not require Environmental Impact Assessment, a non-statutory Ecological Impact Assessment may be required to assess potential impacts on biodiversity.
		NPWS & Integrated Management Plans Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for European sites involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans. The NPWS's current priority is to identify site specific conservation objectives; management plans may be considered after this is done. Where Integrated Management Plans are being prepared for European sites (or parts thereof), the National Parks and Wildlife Service shall be engaged with in order to ensure that plans are fully integrated with the Strategy and other plans and programmes, with the intention that such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations, including those of local communities.
		Biodiversity and Ecological Networks Contribute towards the protection and enhancement of biodiversity and ecological connectivity including corridors or stepping stones in the context of Article 10 of the Habitats Directive.
		Protection of Riparian Zone and Waterbodies and Watercourses Help to ensure that waterbodies and watercourses are protected from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include the preservation habitat features/structure, such as treeline density, and protection buffers in riverine areas, as appropriate.

⁵ Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).

⁶ Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).

⁷ Including protected species and natural habitats.

⁸ Including protected species and natural habitats.

Environmental component benefitting	Potentially Significant Adverse Effect, mitigated	Requirement
	framework, effects in riparian zones where new crossings of waters, if any, are progressed. - In combination with the wider planning framework, potential effects on vegetation from transport emissions.	Biodiversity including non-designated biodiversity Ensure the undertaking of appropriately detailed surveying and assessment at project/EIA level and minimisation of loss of biodiversity, including old trees or tree lines or areas of vegetation, as a result of the development of new or widened infrastructure. Help to ensure the appropriate protection of non-designated habitat features, landscapes and biological diversity. Where possible, to strive to achieve no net loss of these features as a result of new development granted permission under the Plan. Contribute towards the protection and management of fisheries⁹ as appropriate and take into account Inland Fisheries Ireland's "Planning for Watercourses in the Urban Environments" (2020) for developments along watercourses. Non-native invasive species Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control and manage the spread of non-native invasive species on land and water. Where the presence of non-native invasive species is identified at the site of any proposed development or where the proposed activity has an elevated risk of resulting in the presence of these species, details of how these species will be managed and controlled will be required.
Material Assets	- In combination with the wider planning framework, generation of construction waste. - In combination with the wider planning framework, loss or damage to built/amenity assets and infrastructure including as a result of new or widened transport infrastructure.	Also see Construction and Environmental Management Plans provision above Construction Waste Demonstrate that all waste arising during construction phase will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and regulations and any of the relevant Local Authorities Waste Management Plans. Construction Waste Management Plans will be implemented to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006. Waste Creation Support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible. Waste Disposal Safeguard the environment by seeking to ensure that residual waste is disposed of appropriately. Public Assets and Infrastructure Contribute towards the protection of public assets and infrastructure including resources such as: public open spaces, parks and recreational areas; public buildings and services; and utility infrastructure (electricity, gas, telecommunications, water supply, wastewater infrastructure etc.)
Water	- In combination with the wider planning framework, adverse impacts upon the status of water bodies and entries to the WFD Register of Protected Areas, arising from changes in quality, flow and/or morphology. - In combination with the wider planning framework, increase in the risk of flooding.	Also see Construction and Environmental Management Plans provision above and measures under soil above and material assets below Water Framework Directive and associated legislation Contribute towards, as appropriate, the protection of existing and potential water resources, and their use by humans and wildlife, in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development. River Basin Management Plan Support the implementation of the relevant recommendations and measures as outlined in the most up to date River Basin Management Plan, and associated Programme of Measures. Proposed plans, programmes and projects shall not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 and 36 which provide guidance on exemptions to the environmental objectives of the Water Framework Directive. Flood Risk Management Guidelines Comply with the Planning System and Flood Risk Management Guidelines (2009, DEHLG/OPW) (including any clarifying Circulars or superseding versions of same) and relevant outputs of the Catchment and Flood Risk Assessment and Management Studies. Surface Water Drainage and Sustainable Drainage Systems (SuDs) Ensure that new development is adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems as appropriate.

⁹ Including with regard to water quality, surface water hydrology, fish spawning and nursery areas, passage of migratory fish, ecosystem structure and functioning and sport and commercial fishing and angling resources.

Environmental component benefitting	Potentially Significant Adverse Effect, mitigated	Requirement
Landscape	- In combination with the wider planning framework, occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape.	Landscape Designations Contribute, as appropriate, towards the protection of landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.
		Amenity Contribute towards the protection of areas of amenity value and minimise losses, as a result of the development of new or widened infrastructure.
Cultural Heritage	- In combination with the wider planning framework, potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	Archaeological Heritage Contribute, as appropriate, towards the protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended). Any alterations to archaeological heritage or its context, including that which may arise as a result of the development of new or widened infrastructure, shall be in compliance with relevant legislation.
		Protection of Archaeological Sites Contribute, as appropriate, towards the protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are the subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.
		Consultation Consult with the National Monuments Service of the Department of Housing, Local Government and Heritage in relation to proposed developments adjoining archaeological sites.
		Underwater Archaeological Sites Contribute, as appropriate, towards the protection and preservation of underwater archaeological sites in riverine, intertidal and sub-tidal locations.
		Architectural Heritage Contribute towards the protection of architectural heritage by complying, as appropriate, with the legislative provisions of the Planning and Development Act 2000 (as amended) in relation to architectural heritage and the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document). Any alterations to architectural heritage or its context, including that which may arise as a result of the development of new or widened infrastructure, shall be in compliance with relevant legislation.

Environmental component benefitting	Potentially Significant Adverse Effect, mitigated	Requirement
Soil	- In combination with the wider planning framework, adverse impacts on the hydrogeological and ecological function of the soil resource as a result of construction of transport and associated transport facilities/infrastructure. - In combination with the wider planning framework, adverse impacts on features or areas of geological/geomorphological interest as a result of construction of transport and associated transport facilities/infrastructure. - In combination with the wider planning framework, potential for increase in river bank erosion.	Also see requirements under other heading of water above.
		Soil Protection and Contamination Ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.
		Areas of geological interest and GSI Datasets Contribute towards the appropriate protection and maintenance of the character, integrity and conservation value of features or areas of geological interest. Take GSI datasets into account as appropriate, including those relating to geoheritage, groundwater, geohazards, natural resources and coastal vulnerability.
		Land Take Contribute towards the target of the National Planning Framework's (2018) SEA to "Maintain built surface cover nationally to below the EU average of 4%."

Section 3 Environmental Report and Submissions/ Observations

This section details how both the Environmental Report and submissions and observations made to the NTA/DCC on the Environmental Report and the SEA process have been taken into account during the preparation of the Plan and SEA.

The Draft Dublin City Centre Transport Plan was presented to the Dublin City Council Traffic and Transport Strategic Policy Committee and published for public consultation on the 13th September 2023. The period of consultation was 11 weeks. Within those 11 weeks, meetings between the City Council executive, the NTA and various City Centre business groups were also held.

The main method used to garner public feedback was by means of an online survey which also facilitated written submissions.

There were 3,491 responses to the survey, of which over 2,000 included a written response. Additionally, there were 79 written submissions sent in by email.

In terms of the survey responses, there was generally strong support across the substantive questions asked. The results are shown in Figure 1.2.

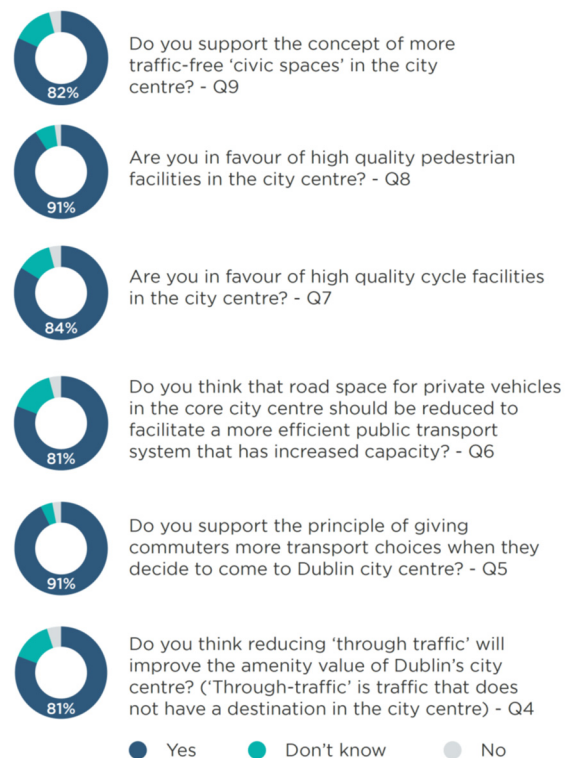


Figure 3.1 Summary of Survey Response

Relevant environmental authorities¹⁰ identified under the European Communities (Environmental Assessment of Certain Plans and Programmes), as amended, were sent SEA scoping notices by the project team indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the NTA/DCC.

Submissions were made by the following environmental authorities:

- Environmental Protection Agency; and
- Department of Environment, Climate and Communications (Geological Survey of Ireland).

The issues raised in these submissions and how these issues have been taken into account during preparation of the Plan and the SEA are provided on Table 3.1 overleaf. Taking into account these submissions included integrating environmental considerations into the Plan, including through the selection of Plan provisions identified on Table 2.1 and Table 2.2 earlier in this report.

The Draft Plan and accompanying documents (including SEA Environmental Report and AA and SFRA documents) were subject to public consultation, having integrated various recommendations arising from the SEA and AA.

The findings of the SEA are expressed in an Environmental Report, the first published version of which accompanied the Draft Plan on public display.

Submissions were made on the Draft Plan and associated documents during public display resulted in minor modifications being made to the Plan. Updates made to the Draft Plan included, but were not limited to:

- To include reference to the emerging Climate Action Plan 2024 in the documents as relevant.
- Additional information included in the Plan on the public consultation process, including that detailed at Figure 3.1.

¹⁰ Environmental authorities sent scoping notices as part of this process comprised: Environmental Protection Agency; Department of Environment, Climate and Communications; Department of Agriculture, Food and the Marine; and Department of Housing, Local Government and Heritage.

- Updates to context setting text and text summarising Plan provisions.
- Updates to two Overarching Objectives of the Plan (text deleted in strikethrough ~~like this~~; text added in bold **like this**): "Remove ~~unnecessary~~ through private car traffic **in order to provide more space for a growing number of City Centre residents, workers, shoppers and visitors from the City Centre**" and "Allow ~~limited~~ **Manage** vehicular access to the City Centre".
- Under Section 9 "Public Realm Opportunities" of the Plan under "Bachelor's Walk" (text added in bold **like this**): "Access to car parks in the local area will be maintained via alternative routes."
- Under Section 9 "Public Realm Opportunities" of the Plan under "Liberty Place" (text added in bold **like this**): "Access to car parks in the local area will be maintained via alternative routes."
- Under Section 9 "Public Realm Opportunities" of the Plan under "Custom House Quay" (text added in bold **like this**): "A coherent plan for the active use of this plaza will be developed by Dublin City Council with stakeholders such as the OPW and DHLGH as part of the scheme's planning and design."
- Under Section 9 "Public Realm Opportunities" of the Plan under "Lincoln Place" (text deleted in strikethrough ~~like this~~; text added in bold **like this**): "A high quality, levelled public realm will provide vehicular access to Trinity College." "Access to Trinity College and Leinster House will be maintained."
- Under Section 9 "Public Realm Opportunities" of the Plan under "Christchurch Junction" (text deleted in strikethrough ~~like this~~): "The northern interface of Peace Park opened up to engage with an improved Christchurch Place."
- Under Section 10 "The City and Traffic" of the Plan (text deleted in strikethrough ~~like this~~; text added in bold **like this**): "Access into the Inner Core will be maintained for necessary trips;" "Recognising their importance in facilitating business in the City Centre, aAccess to City Centre Car Parks will be maintained, as required, and will be managed to ensure that sustainable transport and public realm objectives can be realised" "Facilitate the reallocation of parts of city centre car parks for other uses, including car rental, taxi holding areas, cycle parking, or their full redevelopment The redevelopment or repurposing of the most centrally-located multi-storey car parks will be pursued."
- Under Section 15 "The City of Future Mobility" of the Plan (text deleted in strikethrough ~~like this~~; text added in bold **like this**): "Shared transport systems such as car-sharing, will be facilitated as

- an alternative **to private car ownership where appropriate** ~~to the private car where no sustainable transport option is available~~"
- Under Section 16 "The City of Equality" of the Plan (text added in bold **like this**): **"Dublin City Council and the NTA will continue develop and/or support, in conjunction with the Department of Transport and other stakeholders, communications campaigns in relation to the benefits of sustainable transport and appropriate road user behaviour"**
 - Under Section 18 "The City for Business" of the Plan (text deleted in strikethrough ~~like this~~; text added in bold **like this**): **"Existing Loading bays will be enforced and cleared of non-delivery related obstructions" "The provision of loading bays throughout the City Centre will be reviewed"**
 - Under Section 20 "The City of Public Space" of the Plan (text deleted in strikethrough ~~like this~~; text added in bold **like this**): **"The River Liffey, the Canals, and other major features, such as Parnell Square North, will be the focus of high quality public realm measures" "Biodiversity, the planting of trees, and nature-based solution will be central considerations will be a central consideration in the development and maintenance of green spaces in the city, and new hard open spaces" "Play spaces and facilities for children will be considered in public realm schemes"**
 - Under Section 23 "Benefits of the Plan" of the Plan (text added in bold **like this**): **"Reduced economic inequality by enhancing public transport, walking and cycling thereby reducing the requirement to own a car"**

Minor modifications were subject to Screening for SEA and AA and it was determined that, taking into account the measures that have already been integrated into the Draft Plan, modifications would not be likely to result in either significant environmental effects or likely significant effects on any European site.

The SEA Environmental Report and AA Natura Impact Statement were updated as relevant in order to take account of minor modifications made to the Draft Plan that were made on foot of submissions.

The NTA and DCC have taken into account the findings of all relevant SEA output during their consideration of the Draft Plan and before the Plan was adopted.

Table 3.1 Taking into account SEA Scoping Submissions

Ref.	Suggestion/Recommendation	Response
1	Submission from the Department of the Environment, Climate and Communications	
A	Geological Survey Ireland is the national earth science agency and is a division of the Department of the Environment, Climate and Communications. We provide independent geological information and gather various data for that purpose. Please see our website for data availability. We recommend using these various data sets, when conducting the EIAR, SEA, planning and scoping processes. Use of our data or maps should be attributed correctly to 'Geological Survey Ireland'. The publicly available data referenced/presented here, should in no way be construed as Geological Survey Ireland support for or objection to the proposed development or plan. The data is made freely available to all and can be used as independent scientific data in assessments, plans or policies. It should be noted that in many cases this data is a baseline or starting point for further site specific assessments. With reference to your email received on the 09 June 2023, concerning the Dublin City Centre Transport Study - SEA Scoping, Geological Survey Ireland would encourage use of and reference to our datasets. This data can add to the content and robustness of the SEA process. With this in mind please find attached a list of our publicly available datasets that may be useful to the environmental assessment and planning process. We recommend that you review this list and refer to any datasets you consider relevant to your assessment. The remainder of this letter and following sections provide more detail on some of these datasets. Geoheritage Geological Survey Ireland is in partnership with the National Parks and Wildlife Service (NPWS) in the Department of Culture, Heritage and the Gaeltacht to identify and select important geological and geomorphological sites throughout the country for designation as geological NHAs (Natural Heritage Areas). This is addressed by the Geoheritage Programme in Geological Survey Ireland, under 16 different geological themes, in which the minimum number of scientifically significant sites that best represent the theme were rigorously selected by a panel of theme experts. County Geological Sites (CGSs) have been adopted in the National Heritage Plan, and will form a major strand of geological nature conservation to complement the various ecological and cultural conservation measures. It is important to note however, that management issues for the majority of geological heritage sites may differ from ecological sites. County Geological Sites are the optimal way of addressing the responsibility of each authority under the Planning and Development Act 2000 and its amendments, to protect sites of geological interest. The audit for Dublin City was published in 2014. The full report details and 12 individual CGS Reports can be found here. Groundwater Geological Survey Ireland's Groundwater and Geothermal Unit, provides advice, data and maps relating to groundwater distribution, quality and use, which is especially relevant for safe and secure drinking water supplies and healthy ecosystems. Proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources in general. We recommend using the groundwater maps on our Map viewer which should include: wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps. For areas underlain by limestone, please refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie)). Background information is also provided in the Groundwater Body Descriptions. Please read all disclaimers carefully when using Geological Survey Ireland data. GWClimate is a groundwater monitoring and modelling project that aims to investigate the impact of climate change on groundwater in Ireland. This is a follow on from a previous project (GWflood) and the data may be useful in relation to Flood Risk Assessment (FRA) and management plans. Maps and data are available on the Map viewer. Geological Survey Ireland has completed Groundwater Protection Schemes (GWPSs) in partnership with Local Authorities, and there is now national coverage of GWPS mapping. A Groundwater Protection Scheme provides	The information provided in the submission and available GSI data and resources will be considered when preparing the Plan and undertaking the SEA. Aquifer vulnerability mapping and Geohazard (such as Landslide Events and Landslide Susceptibility) mapping will be included in the SEA Environmental Report and the SEA will reference datasets available from GSI that may be useful to lower-tier project planning, including those relating to Aquifer Productivity, Aquifer Vulnerability, Bedrock Geology, Quaternary Geology, Mineral deposits, Aggregate Potential, Groundwater Resources and GWflood datasets.

Ref.	Suggestion/Recommendation	Response
	guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. The Groundwater Protection Response overview and link to the main reports is here: https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/projects/protecting-drinking-water/what-is-drinking-water-protection/country-groundwater-protection-schemes/Pages/default.aspx Geological Mapping Geological Survey Ireland maintains online datasets of bedrock and subsoils geological mapping that are reliable and accessible. We would encourage you to use these data which can be found here, in your future assessments. Please note we have recently launched QGIS compatible bedrock (100K) and Quaternary geology map data, with instructional manuals and videos. This makes our data more accessible to general public and external stakeholders. QGIS compatible data can be found in our downloadable bedrock 100k .zip file on the Data & Maps section of our website. Our 3D models can help stakeholders visualize, understand and characterise geology, for deposit and resource mapping, for flooding and for urban geology applications including basement impact assessment, Sustainable Drainage Systems (SuDS), and subsurface management. Our 3D models offer a key element of geotechnical risk management by identifying areas requiring further site investigation. Further information on the bedrock and Quaternary 3D models of Dublin is available here and here. Geotechnical Database Resources Geological Survey Ireland continues to populate and develop our national geotechnical database and viewer with site investigation data submitted voluntarily by industry. The current database holding is over 7,500 reports with 134,000 boreholes; 31,000 of which are digitised which can be accessed through downloads from our Geotechnical Map Viewer. We would encourage the use of this database as part of any baseline geological assessment of the proposed development as it can provide invaluable baseline data for the region or vicinity of proposed development areas. This information may be beneficial and cost saving for any site-specific investigations that may be designed as part of the project. Geohazards Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. In Ireland, landslides, flooding and coastal erosion are the most prevalent of these hazards. We recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so. Geological Survey Ireland has information available on landslides in Ireland via the National Landslide Database and Landslide Susceptibility Map both of which are available for viewing on our dedicated Map Viewer. Associated guidance documentation relating to the National Landslide Susceptibility Map is also available. Geological Survey Ireland also engaged in a national project on Groundwater Flooding. The data from this project may be useful in relation to Flood Risk Assessment (FRA) and management plans, and is described in more detail under 'Groundwater' above. Coastal Vulnerability while seen as a potential geohazard, is discussed in more detail under our marine and coastal unit information below. Natural Resources (Minerals/Aggregates) Geological Survey Ireland provides data, maps, interpretations and advice on matters related to minerals, their use and their development in our Minerals section of the website. The Active Quarries, Mineral Localities and the Aggregate Potential maps are available on our Map Viewer. We would recommend use of the Aggregate Potential Mapping viewer to identify areas of High to Very High source aggregate potential within the area. In keeping with a sustainable approach we would recommend use of our data and mapping viewers to identify and ensure that natural resources used in the proposed transport developments are sustainably sourced from properly recognised and licensed facilities, and that consideration of future resource sterilization is considered. Geochemistry of soils, surface waters and sediments Geological Survey Ireland provides baseline geochemistry data for Ireland as part of the Tellus programme. Data is available at https://www.gsi.ie/en-ie/data-and-maps/Pages/Geochemistry.aspx. This page also hosts urban geochemistry mapping (Dublin SURGE project) which may be useful to the project.	

Ref.	Suggestion/Recommendation	Response
	Geological Survey Ireland has completed a geochemical characterization of the subsoil beneath large parts of Dublin, known colloquially as the Dublin Boulder Clay. The report documents the analysis completed on a third-party geochemical dataset obtained from the private sector and is accompanied by an excel spreadsheet containing the database of geochemical observations. Further details can be found at: https://www.gsi.ie/en-ie/publications/Pages/Geochemical-characterization-of-the-Dublin-Boulder-Clay.aspx Geophysical data Geological Survey Ireland produces high-resolution geophysical data (Magnetic field, electrical conductivity, natural gamma-ray radiation) of soils & rocks as part of the Tellus programme. These data currently cover approximately 75% of the country and provide supporting geological information on a regional scale useful for assessing environmental impact and risk. Marine and Coastal Unit Our marine environment is hugely important to our bio-economy, transport, tourism and recreational sectors. It is also an important indicator of the health of our planet. Geological Survey Ireland's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages INFOMAR, Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector. The programme delivers a wide range of benefits to multi-sectoral end-users across the national blue economy with an emphasis on enabling our stakeholders. Demonstrated applications for the use of INFOMAR's suite of mapping products include Shipping & Navigation, Fisheries Management, Aquaculture, Off-shore Renewable Energies, Marine Leisure & Tourism and Coastal Behaviour. INFOMAR also produces a wide variety of seabed mapping products that enable public and stakeholders to visualize Ireland's seafloor environment https://www.infomar.ie/maps/downloadable-maps/maps Story maps have also been developed providing a different perspective of some of the bays and harbours of the Irish coastline. We would therefore recommend use of our Marine and Coastal Unit datasets available on our website and Map Viewer. The Marine and Coastal Unit also participate in coastal change projects such as CHERISH (Climate, Heritage and Environments of Reefs, Islands, and Headlands) and are undertaking mapping in areas such as coastal vulnerability and coastal erosion. Further information on these projects can be found here. National Coastal Change Assessment Geological Survey Ireland is undertaking a National Coastal Change Assessment. As part of this initiative two mapping products will be delivered for the entire Irish coastline: coastal vulnerability mapping and shoreline change. Coastal vulnerability maps will provide an insight into the relative susceptibility of the Irish coast to adverse impacts of sea-level rise through the use of a Coastal Vulnerability Index (CVI). Currently the project is being carried out on the east coast and will be rolled out nationally over the next couple of years, detailed information and maps are available here. Shoreline change rates for the period 2000 to 2023 are being prioritised and will be released by county on a rolling basis over the next 12 months. Shoreline change rates database and reports will be accessible from GSI web mapping viewers. These suite of coastal mapping products are aimed at coastal managers to prioritise or concentrate efforts on adaptation. Guidelines The following guidelines may also be of assistance: Institute of Geologists of Ireland, 2013. Guidelines for the Preparation of the Soils, Geology and Hydrogeology Chapters of Geology in Environmental Impact Statements. EPA, 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) National Roads Authority, 2009. Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.	

Ref.	Suggestion/Recommendation	Response
2	Submission from the Environmental Protection Agency	
A	We acknowledge your notice, dated 7th June 2023, in relation to Dublin City Centre Transport Study (the 'Study'). The EPA is one of the statutory environmental authorities under the SEA Regulations. In our role as an SEA environmental authority, we focus on promoting the full and transparent integration of the findings of the Environmental Assessment into the Study and advocating that the key environmental challenges for Ireland are addressed as relevant and appropriate to the Study. Our functions as an SEA environmental authority do not include approving SEAs or plans. Where we provide specific comments on plans and programmes, our comments will focus on the EPA's remit and areas of expertise (in particular water, air, climate change, waste, resource efficiency, noise, radon and the inter-relationships between these and other relevant topics e.g. biodiversity), as appropriate and relevant to the particular plan or programme. This submission highlights a number of key environmental issues to consider in undertaking the Study and the SEA. In the absence of a SEA Scoping Report, Appendix I includes comments on the scoping stage of the SEA process. Appendix II provides a list of some relevant plans and Programmes to be taken into account. We will provide additional comments on the SEA Environmental Report and the Study at the next stage of the SEA process. Our heavily fossil fuel-dependent transport sector poses a number of challenges, including greenhouse gas emissions, air pollutant emissions, serious traffic congestion and noise pollution. With continued population growth, economic expansion and urbanisation expected over the lifetime of the National Planning Framework, it is vital that spatial and transport planning are more closely aligned to ensure that development is underpinned by the necessary transport and other critical infrastructure needed to protect the environment and public health. We need to rapidly decarbonise our transport system, reduce air pollution and transition to more sustainable modes of transport. Achieving this will require a refocusing of priorities and investment in decision making. Designing a sustainable transport and mobility system needs a managed policy-driven transformation, a path in which the driving forces behind the environmental pressures are avoided, shifted and improved. The current path presents great challenges, with increased travel demand, congestion and environmental pressures, affecting quality of life, economic competitiveness and the environment. Continuing on this path risks deepening lock-in of undesirable outcomes long into the future. A sustainable path is characterised not only by lower environmental pressures, but also by win-win outcomes, for human health and wellbeing, for cleaner and quieter town and city centres, and for the economy.	The information provided in the submission, including Appendix I and II, and available EPA data and resources will be considered when preparing the Plan and undertaking the SEA. The Plan will seek to contribute towards addressing transport sector challenges in line with higher level objectives such as alignment of land use and transport planning, climate mitigation and maintenance and improvement of air quality.
B	Governance and implementation Regarding governance and implementation considerations, the Study should clearly set out the implementation arrangements and governance structures, including lines of responsibility for implementation and delivery as well as provisions for interim review and progress reporting. The relationship between the Study, the National Planning Framework, the Regional Spatial and Economic Strategies and Dublin City Development Plan should be clarified. Implications of the Study in the context of existing relevant Local Authority plans/programmes should also be clarified (e.g. will these be required to be reviewed and updated?). Synergies with key national plans It will be important that the Study documents the synergies between it and other key national plans, the relevant actions of the Climate Action Plan 2023 and the objectives and policy commitments of the National Planning Framework, Transportation Strategy for the Greater Dublin Area, Dublin City Council Climate Action Plan 2019-2024, Dublin City Development Plan, Eastern CFRAMS and Dodder CFRAMS and the Regional Spatial and Economic Strategy for the Eastern and Midlands Region should be aligned with and considered, as appropriate.	The Plan will set out details on its relationship with the existing policy and planning framework (to which it will align and contribute towards), implementation, responsibilities and review and progress reporting.
C	Integration of the SEA and the Study The integration of the SEA process into the Study should reflect the overall objective of the SEA Directive "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes". All recommendations from the SEA and AA processes, including mitigation measures and monitoring proposals, should be integrated into the Study. We recommend that the Study includes summary tables outlining the key findings of	The findings of the SEA process will be fully integrated into the Plan and mitigation will be identified for any potential significant adverse effects of implementing the Plan. The SEA Environmental Report

Ref.	Suggestion/Recommendation	Response
	the SEA and linking the significant environmental effects identified to the proposed mitigation measures, monitoring programme and Study policies/measures. There may also be merit in considering whether a strategic flood risk assessment is required, as appropriate, to help inform the transport study. Fully integrating the findings and recommendations of the SEA into the Study will be key to strengthening its overall environmental commitments while ensuring that any potential significant adverse effects of implementing the Study are mitigated. The SEA Environmental Report and the Study should include a chapter outlining how the recommendations and mitigation measures from the SEA have been incorporated into the Study. We recommend that the SEA Environmental Report includes summary tables outlining the key findings of the SEA and linking the significant environmental effects identified to the proposed mitigation measures, monitoring programme and, where relevant, Study policies/measures/ actions. Considering incorporating the findings of the Study into a management plan / action plan for transport for Dublin City Centre would be beneficial. Additionally, incorporating the relevant aspects into the Dublin City Development Plan as appropriate is also recommended, as appropriate and where relevant.	and the Plan will include a chapter outlining how the recommendations and mitigation measures from the SEA have been incorporated into the Plan. The SEA Environmental Report will outline the key findings of the SEA and will link significant environmental effects to the mitigation and monitoring measures. Flood risk management issues will be covered in the SEA Environmental Report. If a potential need to amend the City Development Plan emerges, this will be identified.
	State of the Environment Report Our State of Environment Report, Ireland's Environment - An Integrated Assessment 2020 (SOER2020) identifies thirteen Key Messages for Ireland. Delivering Ireland's long-term sustainable development and environmental protection goals will require a concerted effort by government departments to address these key actions. The report recognises the need for full implementation of existing environmental legislation and review of governance/coordination on environmental protection across public bodies. Chapter 11 of the SOE Report focuses on environmental pressures from transport, understanding the drivers for these pressures and looking at the transformation towards sustainable mobility within the sector. The transport sector has a significant impact on the environment, including being responsible for 20 per cent of Ireland's greenhouse gas emissions. A sustainable mobility transformation is required, with the next decade crucial, whereby necessary journeys are made by sustainable modes such as walking, cycling and public transport, followed by using electric vehicles. For this transformation to happen the measures relating to transport in the Climate Action Plan, and other necessary measures, must be fast tracked. Long-term, integrated spatial and transport planning can achieve compact development and move trips to other modes of transport, including cycling and should be supported in the Study. Shifting to these modes will be an essential part of a sustainable and climate-neutral transition for the transport sector. The Study should take account of available and relevant air quality and noise information, in addition to greenhouse gas emissions data and projections for the transport sector. The Study should support the internationally recognised 'Avoid-Shift-Improve' hierarchy approach to changing our transport systems to being more environmentally sustainable. Additionally, long-term, integrated spatial and transport planning can achieve compact development and move trips to rail, bus, cycling and walking. Ensuring that a long-term systematic approach to sustainable transport planning is established, implementation is carried out by the relevant stakeholders and that it is supported by appropriate policies and measures are important aspects to consider in preparing the Study. The relevant objectives and policy commitments of the National Planning Framework, the Regional Spatial and Economic Strategy for the Eastern and Midlands Region and Dublin City Development Plan should be aligned with the Study and considered, as appropriate. The relevant aspects of the SEAs, Appropriate Assessments and Strategic Flood Risk Assessments, for these should also be considered. Chapter 12 of the SOER2020 relates to energy and describes that almost 90% of our total energy use is provided by combustion of, mostly imported, fossil fuels, which is unsustainable and we need to begin fast tracking the relevant measures within the Climate Action Plan and other necessary solutions. This will involve strategic planning to transform this situation by 2050, if not before. Transitioning to using clean energy is essential for the protection of human health, our climate and the wider environment and will help support sustainable development of our society and economy. Chapter 2 of the SOER2020 relates to Climate and highlights the clear need for systemic change in Ireland to ensure the country will become the climate neutral and climate resilient society it aspires to be. The report states that more urgency is needed to deliver actions on climate mitigation and adaptation and to	Information contained in the EPA's State of Environment Report and available EPA data and resources on issues identified in that report will be considered when preparing the Plan and undertaking the SEA.

Ref.	Suggestion/Recommendation	Response
	ensure that Ireland meets its international obligations to reduce greenhouse gas (GHG) emissions. While Ireland's GHG emissions, with full implementation of the Climate Action Plan, are projected to decrease by an annual average reduction of 3% between 2021 and 2030, further measures are required to meet national and EU ambitions to keep the global temperature increase to 1.5°C (EPA, 2020). These measures will contribute to Ireland achieving climate neutrality by 2050. Chapter 14 of the report relates to Environment, Health and Wellbeing. Providing health-promoting environments is an essential requirement for healthy, thriving and inclusive communities. Providing integrated health-promoting environments in urban planning can promote more active travel, reduce air pollution through using fewer private vehicles journeys, act as quiet areas buffered from environmental noise and also improve physical and mental health. We note that Dublin City council has designated quiet zones, which should be taken into account in preparing the Study and SEA. Other chapters of the SOER2020, include relevant issues, challenges and recommendations, that should also be considered, in preparing the Plan/Programme and SEA. These include: • Chapter 5 – Land and Soil, Chapter 6 – Nature, Chapter 7 – Water and Chapter 8 – The Marine Environment. The SOER2020 messages are also linked to a number of the UN's Sustainable Development Goals, in particular Climate Action, Life on Land, Life below Water and affordable and clean energy. Addressing and implementing these actions will be important in delivering environmental protection and promoting sustainable development. In finalising the Study and integrating the findings of the SEA into the Study, the relevant recommendations, key issues and challenges described in the EPAs SOER2020 should be taken into account.	
D	Environmental Authorities Under the SEA Regulations, you should consult with: • Environmental Protection Agency; • Minister for Housing, Local Government and Heritage; • Minister for Environment, Climate and Communications; • Minister for Agriculture, Food and the Marine.	These environmental authorities have been consulted with.

Section 4 Reasons for choosing the selected alternative in light of other alternatives considered

As per the requirements of the SEA Directive, the SEA considered reasonable alternatives, which are capable of being implemented for the Plan.

4.1 Description of Alternatives Considered

Taking into account the objectives and geographical scope of the Plan, alternatives were considered under two tiers as follows:

4.1.1 Tier 1 Alternatives: Overall Approach

Alternative A - Congestion Charging

As a means of reducing the number of cars driving in Dublin City Centre, the introduction of a zone within which motorists would be required to pay a charge to drive.

The zone could encompass the Inner Core or the Study Area as a whole and would be monitored and enforced by means of cameras. The cost of the scheme would be subject to detailed analysis but would be set at a rate to discourage driving.

Specific arrangements would be considered for blue badge holders as would reduced rates for Low and Zero Emissions vehicles.

Alternative B - Traffic Management

As a means of reducing the number of cars driving in Dublin City Centre, introduce a number of traffic management interventions that would reduce the potential for vehicles to travel through the Inner Core, but would facilitate travel into the area, and access to car parks.

4.1.2 Tier 2 Alternatives: Traffic Management

Alternative A - Urban Design/ Planting / Amenity/ Plaza

This approach would provide for the traffic management measures to reduce through traffic alongside significant investment in the public realm in the form of new civic plazas, wider footpaths, high-quality segregated cycle tracks, lighting, greening etc.

It would capitalise on the opportunities provided by the traffic management interventions to deliver a more attractive City Centre.

Alternative B – Minimalist traffic management measures only

This approach would provide for the traffic management measures only and would effectively leave the traffic-free streets and spaces as they are today.

4.2 Summary of Assessment of Alternatives

A strategic multi-criteria analysis under the headings of Economy, Safety, Integration, Accessibility and Social Inclusion and Environment is provided below as is a summary of the assessment.

4.2.1 Tier 1 Alternatives: Overall Approach

Both Tier 1 alternatives (Alternative A “Congestion Charging” and Alternative B “Traffic Management”) would facilitate improvements in sustainable mobility and overall reductions in traffic

flows, including a shift from car to more sustainable and non-motorised transport modes. Improvements in sustainable mobility would result in the following significant positive effects:

- Reductions in greenhouse gas emissions and associated achievement of legally binding greenhouse gas emissions targets;
- Reductions in all emissions to air, including noise, and associated achievement of air quality objectives, thereby contributing towards improvement of air quality and protection of human health;
- Reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets; and
- Energy security.

Both Tier 1 alternatives could facilitate significant investment in the public realm in the form of new civic plazas, wider footpaths, high-quality segregated cycle tracks, lighting, greening etc., allowing the opportunities provided by the traffic management interventions to deliver a more attractive City Centre. This enhancement of the public realm would both result in spaces where people wish to congregate and where movement is safer and more convenient and benefit cultural heritage (including archaeological and architectural heritage) and its context. It would also provide for enhanced biodiversity and potentially contributes towards urban climate adaptation objectives.

Both Tier 1 alternatives would contribute towards the achievement of a transport system that is capable of accommodating a significant growth in population. By facilitating a significant growth in population in well serviced, well connected and generally less environmentally sensitive areas, both alternatives would help to facilitate a higher efficiency of land utilisation, increases in sustainable mobility and a reduction in the need to develop areas (including greenfield areas) that are less well serviced, less well connected and generally more environmentally sensitive. This avoids potential significant adverse environmental effects that would otherwise occur beyond the city centre. The reduced need to develop areas that are less well serviced, less well connected and generally more environmentally sensitive would result in lower adverse effects upon environmental components, including air and climatic factors (emissions), ecology, landscape designations, water and soil.

Although there would be an overall reduction in traffic flows and associated interactions with air, noise and human health, there would be potential for displacement of traffic to lead to localised increases traffic flows and associated localised potential impacts in terms of increased population exposure to air pollutants and/or elevated noise levels, both within the City Centre Transport Plan area and beyond. Potential effects, before mitigation is applied, would have the potential to be less significant under **Alternative A**. Potential effects, before mitigation is applied, would have the potential to be more significant under **Alternative B**.

In combination with the wider planning framework, the potential construction and operational effects of physical works would be mitigated so that adverse effects would not be significant. Potential effects, before mitigation is applied, would have the potential to be less significant under **Alternative A**, as less physical works would be required under this alternative. Potential effects, before mitigation is applied, would have the potential to be more significant under **Alternative B**, as more physical works would be required under this alternative.

Table 4.1 Comparative Multi-Criteria Analysis of Tier 1 Alternatives

Tier 1 Alternative (selected alternative in bold)	Economy	Safety	Integration	Accessibility and Social Inclusion	Environment (Refer also to text summarising assessment above)
Alternative A – Congestion Charging	Payments could be ring-fenced for better PT and Cycling	Potential reduced collisions due to reduced traffic	Would support wider transport, public realm and environment objectives	May lead to a situation where those who can afford it simply pay it, excluding those who cannot. May be perceived as unjust for people with disabilities who may have to drive.	Reduced air and noise pollution Reduced carbon emissions Potentially enhanced public realm Lower potential for displacement effects and associated interactions as

Tier 1 Alternative (selected alternative in bold)	Economy	Safety	Integration	Accessibility and Social Inclusion	Environment (Refer also to text summarising assessment above)
					some traffic with no economic or commercial justification for being there more likely to be removed
Alternative B - Traffic Management	Removes traffic with no economic or commercial justification for being there, freeing up the space for those who need to be there. Less impact on retail etc.	Potential reduced collisions due to reduced traffic	Would support wider transport, public realm and environment objectives.	More equitable than congestion charging in that physical traffic measures apply to all motorists equally. Without specific arrangements, it may be perceived as exclusionary for people with disabilities who may have to drive.	Reduced air and noise pollution Reduced carbon emissions Potentially enhanced public realm Higher potential for displacement effects and associated interactions as some traffic with no economic or commercial justification for being there less likely to be removed

4.2.2 Tier 2 Alternatives: Traffic Management

Both Tier 2 alternatives (Alternative A “Urban Design/ Planting / Amenity/ Plaza” and Alternative B “Minimalist traffic management measures only”) would facilitate improvements in sustainable mobility and overall reductions in traffic flows, including a shift from car to more sustainable and non-motorised transport modes. Improvements in sustainable mobility would result in the following significant positive effects:

- Reductions in greenhouse gas emissions and associated achievement of legally binding greenhouse gas emissions targets;
- Reductions in all emissions to air, including noise, and associated achievement of air quality objectives, thereby contributing towards improvement or air quality and protection of human health;
- Reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets; and
- Energy security.

Alternative A would facilitate significant investment in the public realm in the form of new civic plazas, wider footpaths, high-quality segregated cycle tracks, lighting, greening etc., allowing the opportunities provided by the traffic management interventions to deliver a more attractive City Centre. This enhancement of the public realm will both result in spaces where people wish to congregate and where movement is safer and more convenient and benefit cultural heritage (including archaeological and architectural heritage) and its context. It would also provide for enhanced biodiversity and potentially contributes towards urban climate adaptation objectives.

Both Tier 2 alternatives would contribute towards the achievement of a transport system that is capable of accommodating a significant growth in population. By facilitating a significant growth in population in well serviced, well connected and generally less environmentally sensitive areas, both alternatives would help to facilitate a higher efficiency of land utilisation, increases in sustainable mobility and a reduction in the need to develop areas (including greenfield areas) that are less well serviced, less well connected and generally more environmentally sensitive. This avoids potential significant adverse environmental effects that would otherwise occur beyond the city centre. The reduced need to develop areas that are less well serviced, less well connected and generally more environmentally sensitive would result in lower adverse effects upon environmental components, including air and climatic factors (emissions), ecology, landscape designations, water and soil.

Although there would be an overall reduction in traffic flows and associated interactions with air, noise and human health, there would be potential under **both Tier 2 alternatives** for displacement

of traffic to lead to localised increases traffic flows and associated localised potential impacts in terms of increased population exposure to air pollutants and/or elevated noise levels, both within the City Centre Transport Plan area and beyond.

In combination with the wider planning framework, the potential construction and operational effects of physical works would be mitigated so that adverse effects would not be significant. Potential effects, before mitigation is applied, would have the potential to be more significant under **Alternative A**, as more physical works would be required under this alternative. Potential effects, before mitigation is applied, would have the potential to be less significant under **Alternative B**, as less physical works would be required under this alternative.

Table 4.2 Comparative Multi-Criteria Analysis of Tier 2 Alternatives

Alternative (selected alternative in bold)	Economy	Safety	Integration	Accessibility and Social Inclusion	Environment (Refer also to text summarising assessment above)
Alternative A - Urban Design/ Planting/ Amenity/ Plaza	This would be a higher-cost alternative but, by significantly enhancing the attractiveness of the City Centre, would be likely to draw more people into the area, increasing footfall for retail and hospitality.	Higher levels of pedestrian activity and supporting activities could enhance the perception of the City Centre from a personal security point of view.	Introduction of new spaces, enhanced footpaths etc. would meet a range of urban design and environmental objectives.	The decision to pursue Traffic Management may be perceived as exclusionary for those with disabilities and the relative differences within Tier 2 are not significant.	Provides for enhanced biodiversity and potentially contributes towards urban climate adaptation objectives. Provides for an enhanced public realm, including enhancement of cultural heritage and its context.
Alternative B - Minimalist traffic management measures only	Cheaper to implement but would not provide the attractive environment of Alternative A.	This alternative would still likely attract a higher number of pedestrians but less likely to attract the investment in active land uses, therefore may be less advantageous in terms of safety and personal security.	Built environment would be left unchanged; urban design and environmental objectives would not be significantly be contributed towards.	The decision to pursue Traffic Management may be perceived as exclusionary for those with disabilities and the relative differences within Tier 2 are not significant.	Does not provide for enhanced biodiversity or contribute towards urban climate adaptation objectives. Does not provide for an enhanced public realm, including enhancement of cultural heritage and its context.

4.3 Reasons for Choosing the Selected Alternative in light of Other Reasonable Alternatives Considered

The alternatives selected for the Plan are selected having regard to both:

1. The environmental effects that are identified by the SEA and are summarised above; and
2. Other effects (under the headings of Economy, Safety, Integration and Accessibility and Social Inclusion) that are also summarised above.

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures which will be used in order to monitor the likely significant effects of implementing the Plan. It has been guided by the EPA guidance on this issue, "Guidance on SEA Statements and Monitoring" (2020).

Monitoring can both demonstrate the positive effects facilitated by the Plan and can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

The occurrence of significant adverse environmental effects not predicted and mitigated by this assessment, which are directly attributable to the implementation of the Plan, would necessitate consideration of these effects in the context of the Plan and potential remediation action(s) and/or review of part(s) of the Plan.

5.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions. Monitoring measures chosen for the SEA of the Plan align with those used in the SEA of the Transport Strategy for the Greater Dublin Area and in the SEA of the Dublin City Development Plan. This consistency across the hierarchy of land use/transport planning will improve the efficiency and effectiveness of future monitoring.

Table 5.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

Monitoring is an ongoing process and the programme allows for flexibility and the

further refinement of indicators and targets. The Monitoring Programme may also be updated to deal with specific environmental issues - including unforeseen effects - as they arise.

5.3 Sources

The Plan forms part of the wider land use planning framework comprising a hierarchy of policies, plans, programmes, etc. This wider framework, including the City Development Plan, the Transport Strategy for the Greater Dublin Area, the Eastern and Midland RSES, and the National Planning Framework, is subject to its own SEA (and associated monitoring) requirements. At lower tiers of the hierarchy, individual projects will be subject to their own monitoring requirements, as relevant. In implementing the Monitoring Programme, this hierarchy of planning and environmental monitoring will be taken into account.

Sources for indicators may include existing monitoring databases (including those maintained by planning authorities and national/regional government departments and agencies) and the output of lower-tier environmental assessment and decision making (including a review of project approvals granted and associated documents and the output of any EIA monitoring programmes).

5.4 Reporting

A stand-alone Monitoring Report on the significant environmental effects of implementing the Plan will be prepared in advance of the beginning of the review of the Plan. This report will address the indicators set out on Table 5.1. DCC and the NTA are responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of remedial action.

5.5 Thresholds

Thresholds at which corrective action will be considered include:

- Impacts on the integrity of European sites as a result of Plan projects that have not been granted permission following an assessment of imperative reasons of overriding public interest;
- Complaints received from statutory consultees regarding avoidable impacts on any environmental components resulting from development which is granted permission under the Plan;
- Court cases taken by the Department of Housing, Local Government and Heritage regarding impacts upon archaeological heritage from development which is provided for by the Plan;
- Fish kills directly attributable to development which is provided for by the Plan; and
- The occurrence of flood events which are directly attributable to development which is provided for by the Plan.

Table 5.1 Indicators, Targets, Sources and Remedial Action

Environmental Component	SEO Code	Indicators	Targets	Selection of Sources that may be used	Remedial Action
Air	A	- Proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels - NO_x, SO_x, PM₁₀ and PM_{2.5} as part of Ambient Air Quality Monitoring	- Decrease in proportion of journeys made by private fossil fuel-based car compared to previous National Travel Survey levels - Improvement in Air Quality trends, particularly in relation to transport related emissions of NO_x and particulate matter	- CSO data - Data from the National Travel Survey - EPA Air Quality Monitoring - Internal review of Plan implementation. As part of the Plan, the NTA and DCC will implement an expanded annual monitoring inside the Canals of Air Quality and Noise. DCC and the NTA will monitor potential adverse effects relating primarily to Air Quality and Noise due to the displacement of traffic arising out of Plan measures on a regular basis in the context of the wider benefits that are forecast to accrue from the Plan, and mitigate any negative impacts that may emerge, as appropriate.	Where proportion of population shows increase in private car use above previous CSO figures, the Authority will coordinate with the Authorities (and the Regional Assembly, DHLGH and DECC as relevant) to develop a tailored response.
Climatic Factors ¹¹	C	- Implementation of the Plan, which will contribute towards and facilitate climate action - Carbon dioxide (CO₂) emissions	- To implement the Plan, which will contribute towards and facilitate climate action - To demonstrate successful implementation of measures relating to climate reduction targets – including the legally binding targets of the Climate Action and Low Carbon Development Act 2015, as amended, for Ireland to reach a target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels).	- Internal review of Plan implementation - EPA Annual National Greenhouse Gas Emissions Inventory reporting - Climate Action Regional Office - Consultations with Department of Environment, Climate and Communications - CSO data - As part of the Plan, the NTA and DCC will implement an expanded annual monitoring inside the Canals of: Canal Cordon counts of travel by all modes; Liffey Bridge counts of travel by all modes; Public transport journey times through the City Centre; and Public transport passenger numbers.	- Review internal systems - Where targets are not achieved, the Authority will liaise with the Authorities (and the Regional Assembly, the Dublin Climate Action Regional Office, DHLGH and DECC as relevant) to establish reasons and develop solutions. - Where trends toward carbon reduction are not recorded, the Authorities will liaise with the Regional Assembly, the Dublin Climate Action Regional Office, DHLGH and DECC, as relevant, to establish reasons and develop solutions.
		A competitive, low-carbon, climate-resilient and environmentally sustainable economy	Contribute towards transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy by 2050		
		Share of renewable energy in transport	Contribute towards the target of the Renewable Energy Directive (2009/28/EC), for all Member States to reach a 10% share of renewable energy in transport by facilitating the development of electricity charging and transmission infrastructure, in compliance with the provisions of the Plan		
		Energy consumption, the uptake of renewable options and solid fuels for residential heating	To promote reduced energy consumption and support the uptake of renewable options and a move away		

¹¹ Please also refer to relevant legislation and requirements under Section **Error! Reference source not found.**, Section 8, Section 9 and Appendix I.

Environmental Component	SEO Code	Indicators	Targets	Selection of Sources that may be used	Remedial Action
		- Proportion of journeys made by private fossil fuel-based car compared to previous levels - Proportion of people reporting regular cycling / walking to school and work above previous CSO figures	from solid fuels for residential heating - Decrease in the proportion of journeys made by residents of the County using private fossil fuel-based car compared to previous levels - Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures		
Population and Human Health	PHH	Implementation of the Plan, which will contribute towards and facilitate economic growth	To implement the Plan, which will contribute towards and facilitate economic growth	- Consultations with the Health Service Executive and EPA - CSO data - Internal review of Plan implementation. - As part of the Plan, the NTA and DCC will implement an expanded annual monitoring inside the Canals of Air Quality and Noise. DCC and the NTA will monitor potential adverse effects relating primarily to Air Quality and Noise due to the displacement of traffic arising out of Plan measures on a regular basis in the context of the wider benefits that are forecast to accrue from the Plan, and mitigate any negative impacts that may emerge, as appropriate. - As part of the Plan, the NTA and DCC will implement an expanded annual monitoring inside the Canals of: Canal Cordon counts of travel by all modes; Liffey Bridge counts of travel by all modes; Public transport journey times through the City Centre; and Public transport passenger numbers.	- Review internal systems - Consultations with the Health Service Executive and EPA - Where proportion of population shows increase in private car use above previous CSO figures, coordinate with the Regional Assembly, the Dublin Climate Action Regional Office, DHLGH and DECC, as relevant to develop a tailored response
		Number of spatial concentrations of health problems arising from environmental factors resulting from development permitted under the Plan	No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan		
		- Proportion of people reporting regular cycling / walking to school and work above previous CSO figures - Access to sustainable modes of transport	- Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures - To improve access to sustainable modes of transport		
Biodiversity, Flora and Fauna	BFF	Condition of European sites	- Relevant projects to integrate considerations relating to European sites, other nature conservation sites, ecological networks, protected species and ecosystem services - Relevant projects to have regard to the heritage and biodiversity plans of planning authorities	- Department of Housing, Local Government and Heritage report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). - Department of Housing, Local Government and Heritage's National Birds Directive Monitoring Report for the under Article 12 (every 6 years) - Consultations with the NPWS - Internal review of new projects	- Review internal systems - Where condition of biodiversity and flora and fauna is found to be deteriorating this will be investigated with the DHLGH to establish if the pressures are related to Plan actions / activities. A tailored response will be developed in consultation with these stakeholders in such a circumstance.
		Number of projects that have integrated ecosystem services considerations	Relevant projects to integrate considerations relating to ecosystem services		
		EIAs and AAs as relevant for new projects	Screen for and undertake EIA and AA as relevant for new projects		

Environmental Component	SEO Code	Indicators	Targets	Selection of Sources that may be used	Remedial Action
		Compliance of planning permissions with Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 21 of the Plan	For new projects only to be progressed where they demonstrate that they comply with all Plan measures providing for the protection of biodiversity and flora and fauna – see Chapter 21 of the Plan		
Material Assets	MA	- See also indicator relating to the existing built-up footprint of the City under Soil - Proportion of people reporting regular cycling / walking to school and work above previous CSO figures - Access to sustainable modes of transport	- See also target relating to the existing built-up footprint of the City under Soil - Increase in the proportion of people reporting regular cycling / walking to school and work above previous CSO figures - To improve access to sustainable modes of transport	- Internal review of Plan implementation - CSO data - As part of the Plan, the NTA and DCC will implement an expanded annual monitoring inside the Canals of: Canal Cordon counts of travel by all modes; Liffey Bridge counts of travel by all modes; Public transport journey times through the City Centre; and Public transport passenger numbers.	- Review internal systems - Where targets are not achieved, the Authorities will liaise with the Regional Assembly, the Dublin Climate Action Regional Office, DHLGH and DECC, as relevant, to establish reasons and develop solutions.
Soil (and Land)	S	- To facilitate population growth occurring within the existing built-up footprint of the City (also relevant to Material Assets) - Instances where contaminated material generated from brownfield and infill must be disposed of	- To facilitate compliance with growth targets for delivery of housing within the existing built-up footprint of the City - Dispose of contaminated material in compliance with EPA guidance and waste management requirements	- Internal review of Plan implementation - Landcover data - CSO data	- Review internal systems - Where targets are not achieved, the Authorities will liaise with the Regional Assembly, the Dublin Climate Action Regional Office, DHLGH and DECC, as relevant, to establish reasons and develop solutions

Environmental Component	SEO Code	Indicators	Targets	Selection of Sources that may be used	Remedial Action
Water	W	• Status of water bodies as reported by the EPA Water Monitoring Programme for the WFD • Number of incompatible developments permitted within flood risk areas • Integration of sustainable water management solutions (such as SuDS, porous surfacing, etc.) into new projects	• Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' • Implementation of the objectives of the River Basin Management Plan • Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk • Integrate sustainable water management solutions (such as SuDS, porous surfacing, etc.) into new projects as relevant	• EPA Monitoring Programme for WFD compliance • Internal review of Plan implementation	• Where water bodies are failing to meet at least good status as a result of development under the Plan, this will be investigated with the DHLGH Water Section, the EPA Catchment Unit, the Regional Assembly and, as relevant, Irish Water. A tailored response will be developed in consultation with these stakeholders in such a circumstance • Where marine water bodies are failing to meet good ecological status as a result of development under the Plan, this will be interrogated with the Marine Institute and the DHLGH. A tailored response will be developed in consultation with the Marine Institute and DHLGH in such a circumstance • Where new projects are on flood zones, these should be implemented in compliance with the Flood Risk Management Guidelines and include appropriate flood risk mitigation and management measures
Landscape	L	• Number of developments permitted that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in the City Development Plan, resulting from development which is granted permission under the Plan	• No schemes progressed that result in avoidable adverse visual impacts on the landscape, especially with regard to landscape and amenity designations included in the City Development Plan, resulting from development which is granted permission under the Plan	• Internal review of Plan implementation	• Where monitoring reveals developments permitted that result in avoidable adverse visual impacts on the landscape, the Authorities will re-examine Plan provisions and the effectiveness of their implementation
Cultural Heritage	CH	• Percentage of entries to the Record of Monuments and Places, and the context these entries within the surrounding landscape where relevant, protected from adverse effects resulting from development which is granted permission under the Plan	• Protect entries to the Record of Monuments and Places, and the context of these entries within the surrounding landscape where relevant, from adverse effects resulting from development which is granted permission under the Plan	• Internal review of Plan implementation • Consultation with Department of Housing, Local Government and Heritage	• Review internal systems • Find solutions, in consultation with the DHLGH as relevant