

Extension to N40 (South Ring Road) off-ramp at westbound approach to Mahon, J10

Part 8 Report
Cork City Council

March 2023



Notice

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Document history

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Client signoff

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1. Introduction

Cork City Council has identified a need to carry out upgrade and improvement works to the South Ring Road (N40) off-ramp at the westbound approach to Mahon, J10.

The proposed targeted improvement works will result in improved road safety by converting a section of the existing hard shoulder into an enhanced off-ramp for westbound vehicles exiting at the Mahon Junction (J10) along the South Ring Road.

The project will involve the reallocation of road space with all improvement works being carried out within the existing carriageway boundary.

1.1. Purpose of Report

The purpose of this report is to outline the proposals associated with the project “Extension to South Ring Road (N40) off-ramp at westbound approach to Mahon,”, in compliance with the requirements of Article 83 of the Planning and Development Regulations 2001-2022 - hereafter referred to as “the Regulations”.

A development carried out by a Local Authority is often referred to as ‘Part 8’ development. This is a reference to Part 8 of the Planning and Development Regulations 2001, as amended, which sets out the procedure for carrying out such developments.

Public consultation is a fundamental element of the ‘Part 8’ planning application process. This consultation procedure requires that notice of the proposed development be given in an approved newspaper and that a site notice is erected on the land on which the proposed development would be situated.

After the expiration of the period during which submissions or observations may be made, a report is presented to the members of the Council. This report contains, amongst other items, a list of the persons or bodies who made submissions, along with a summary of the issues raised by them and the Chief Executive’s response. This report recommends whether or not the proposed development should be proceeded with as proposed or should not be proceeded with.

Following consideration of the Report, the proposed development may be carried out as recommended in the Report, unless the local authority, by resolution, decides to vary or modify the development, otherwise than as recommended in the Report, or decides not to proceed with the development.

1.2. Need for Project

At peak times, the hard shoulder is currently used as an informal off-ramp for traffic queuing to exit at the westbound approach Mahon Junction (J10). This practise is undesirable both for motorists queuing on the hard shoulder and motorists continuing westbound along the South Ring Road. The hard shoulder was not designed for this purpose, and it is anticipated that traffic queuing may become more frequent after the Dunkettle Interchange is fully operational if the proposed safety interventions are not carried out.

To address this safety issue, it is proposed to convert a section of the existing hard shoulder into a formal purpose-built off-ramp. This will involve a reallocation of road space, but all works will be contained within the existing road footprint limiting the environmental impact.

The proposed scheme will have the following benefits:

- Increased road safety for westbound motorists exiting at the Mahon Junction (J10)
- Increased road safety for motorists continuing westbound along the Cork South Ring Road N40
- Improved traffic flow
- Improved road surfacing and associated drainage

1.3. Structure of the Part 8 Documentation

The Part 8 application includes the following documentation listed within Table 1.1 below. Additionally, all documentation is available for review and download on CCC’s consultation portal <https://consult.corkcity.ie>.

Table 1.1: Structure of Part 8 Documentation

Item No.	Document Type	Document Name
1	Statutory Particulars	Site Notice
		Newspaper Notice
		Schedule of Drawings
2	Drawings	Part 8 Drawings
3	Planning and Environmental Reports	Part 8 Report
		Screening: Environmental Impact Assessment
		Screening: Appropriate Assessment

2. Description of Development

2.1. Project Description

The South Ring Road (N40) in Cork City has 11 junctions along its length. It extends from the Ballincollig / Poulavone (Ballincollig) Interchange to the Jack Lynch Tunnel, Westbound. The N40 Junction Interchange at Mahon (J10) provides connectivity to Blackrock, Mahon, and Jacob's Island. Average traffic on this section of the South Ring Road (N40) comprises of 32,040 for Eastbound movement and 31,662 for westbound movement. The project is just over 0.7km long and involves widening the existing N40 westbound carriageway into the central median to enable the lengthening of the westbound off-ramp, this will make it safer for all road users of this junction.

The current westbound off-ramp at Mahon Junction (J10) is relatively short and this sometimes results in traffic (heading to Mahon) spilling onto the adjacent hard shoulder, an issue that is anticipated to become more frequent after the Dunkettle Interchange is fully operational. A site location map and site plan is provided in Figure 1 and 2 below.

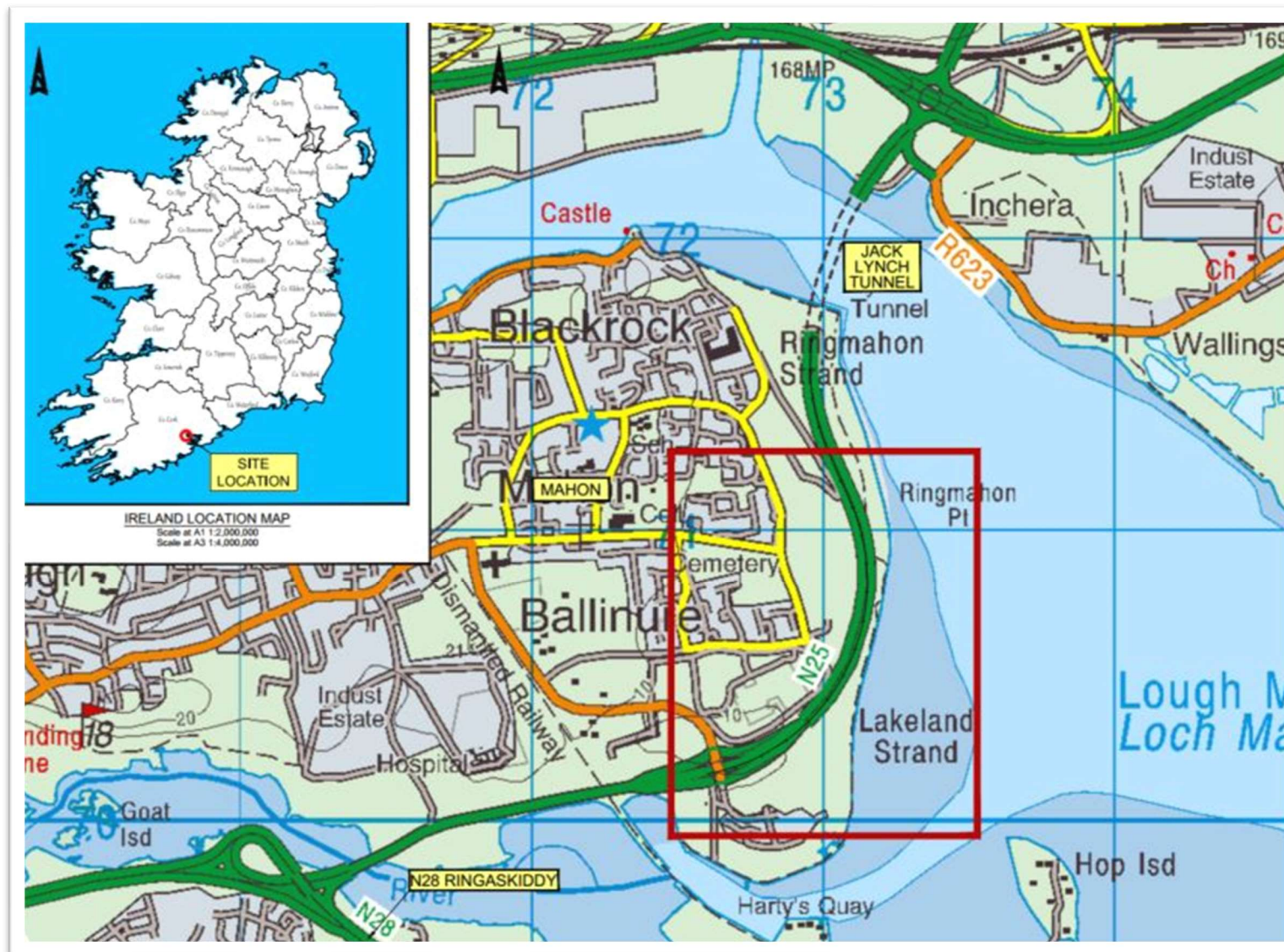


Figure 1 - Site Location Map

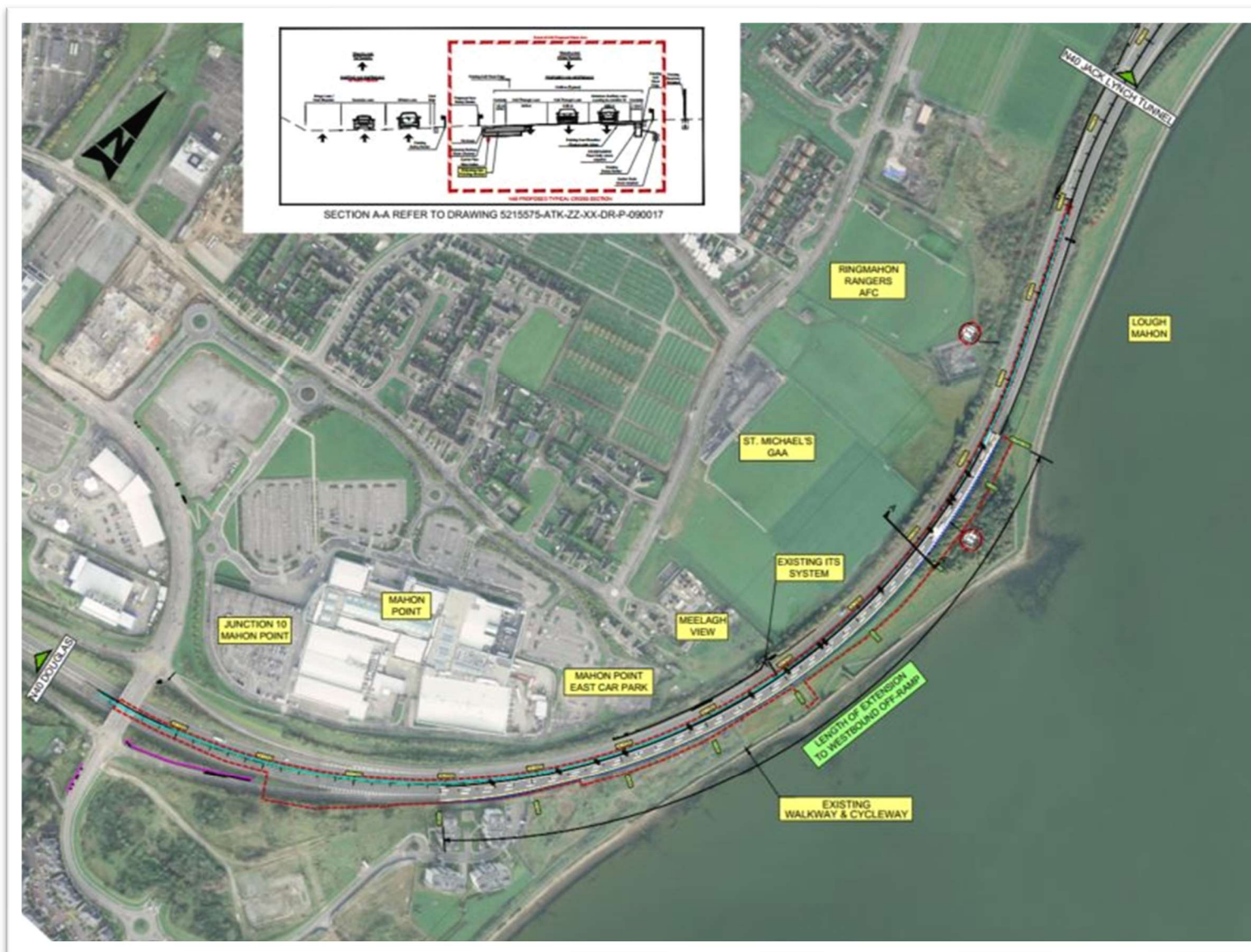


Figure 2 – Plan Layout

2.2. Geometric Alignment (Road Design)

2.2.1. Introduction to TII Standards

The TII's primary function is to provide an integrated approach to the future development and operation of the national roads network and light rail infrastructure throughout Ireland

TII have a suite of technical documentation relating to National Road, Greenway and Light Rail schemes. All documentation for implementation on National Road and Greenway schemes is collectively referred to as TII Publications (Standards).

TII Standards will apply to the N40 as it forms part of the National Primary Road Network.

2.2.2. Road Horizontal Alignment

The proposed horizontal curve feature maintains the same high-quality alignment as per the existing layout and provides a smooth transition upstream and downstream of the proposed works.

2.2.3. Road Vertical Alignment

The proposed N40 project replicates the existing South Ring Road (N40) vertical profile. Maintaining the existing vertical profile ensures that the existing drainage strategy is maintained.

2.3. Cross Section & Superelevation (Road Design)

2.3.1. Road Cross Section

The proposed extension to the N40 (South Ring Road) off-ramp at the westbound approach to Mahon will provide a Dual Carriageway cross section with an extended auxiliary lane of equal width to the mainline. The overall proposed cross section is 12.5m, with the nearside verge remaining the same and with the central median reduced in width by 1.35m typical.

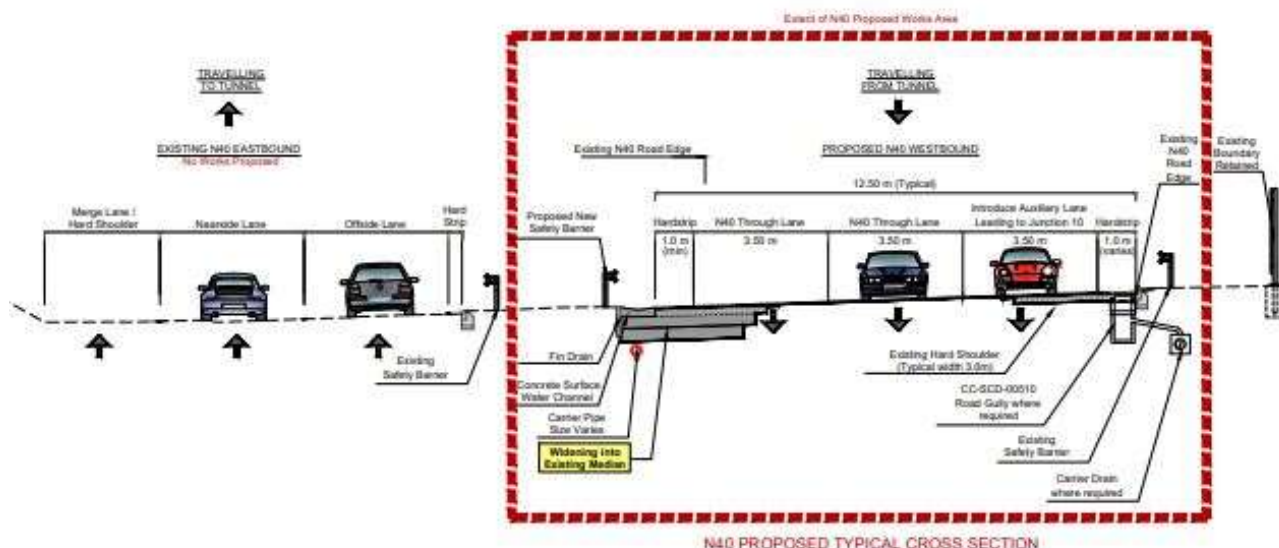


Figure 3 - Proposed Cross Section

2.3.2. Road Crossfall (Superelevation)

As the proposed project aims to maintain the existing superelevation; therefore, the superelevation design aims to reflect the existing design which varies between 3% and 3.75%.

2.4. Safety Barrier

The existing central median safety barriers comprise of an Open Box Beams (OBB). It is proposed that the existing safety barrier is replaced with an upgraded safety barrier system. The extent of the Safety Barrier will extend for a length of approximately 1.3km and will be setback so not to obscure the stopping sight distance for N40 drivers.

2.5. Traffic Signs and Road Markings

Traffic signs and road markings will be designed in accordance with the Traffic Signs Manual. Variable, regulatory and warning signs will be retained and reinstalled. A new Exit Taper Gantry Sign is required at the start of the off-ramp taper.

2.6. Lighting

The existing N40 through the subject area does not include public lighting. There are no public lighting works proposed for the Extension to the N40 (South Ring Road) off-ramp at westbound approach to Mahon, J10.

2.7. Drainage

The N40 Junction 10 Westbound Auxiliary Lane Extension drainage system utilises the existing network. A contributing area analysis for the proposed drainage networks has been undertaken to compare the existing hardstanding area contributing to the catchments with the proposed contributing areas of the catchments. There is only a marginal increase in the level of hardstanding area. Online storage can be provided in the network to ensure that there is no worsening of flow rates up to and including the design storm event.

2.8. Traffic Management Construction Methodology

Traffic Management during the construction works will be addressed prior to mobilising onsite. At this stage in the project it is envisaged that two N40 westbound through lanes will be maintained under traffic speed restrictions while works are undertaken in the central median. Ingress and egress to the works area will be controlled through designated entry points along the westbound carriageway.

The works will commence with the establishment of the traffic management system, agreed with the Contracting Authority.

Overall, the works are anticipated to take approximately 4 months to complete.

3. Planning Policy Compliance

3.1. Introduction

This chapter sets out the sectoral and planning policy context at a national, regional, and local level, demonstrating that the need for the proposed development is consistent with the objectives of these policies especially in terms of providing enhanced safety measure along existing infrastructure.

3.2. National, Regional and Local Strategic Context

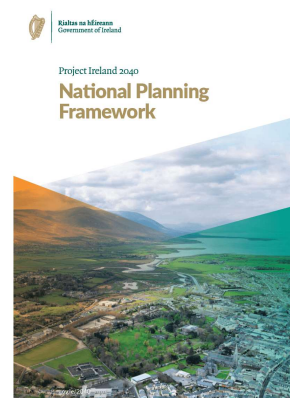
The N40 is a key strategic link which seeks to deliver the national, regional and local strategic policy in the Cork Metropolitan Area. The N40 links the southwestern transport corridors and inter-regional routes with the inter-urban transport corridors to Dublin, Waterford and Limerick.

3.2.1. National Policy Context

3.2.1.1. National Planning Framework – Project Ireland 2040

The National Planning Framework (NPF) sets out the Strategic Investment Priorities which includes the national road network to achieve its National Strategic Outcomes (NSO). The NPF seeks to achieve Enhanced Regional Accessibility as a NSO through maintaining the strategic capacity and safety of national roads network including planning for future capacity enhancements and advancing orbital traffic management solutions including the M8/N25/N40 Dunkettle Interchange upgrade.

The NPF outlines the key future growth enablers for Cork including improved traffic flow around the City which subject to assessment could include upgrade of the N40.



3.2.1.2. National Development Plan 2021-2030

The National Development Plan outlines the National Roads: Protection and Renewal Scheme which sets out the maintenance of Ireland’s existing national road network to a robust and safe standard for users as a key sectoral priority. Significant funding will be provided for capital maintenance works, to maintain and ensure resilience of the existing national road assets and augmented by improving some national road assets to provide greater use by public transport adoption of Intelligent Transport Systems and other measures to improve the efficiency and capacity of the existing road network.

The M8/N40/N25 Dunkettle Interchange is outlined as a strategically important intersection. The Dunkettle Interchange is currently being upgraded with an estimated completion date in early 2024. The project will seek to promote enhanced regional accessibility by improving connectivity between Cork, Dublin and Waterford. The project will provide improved access to Little Island which a strategic resource of national importance for manufacturing, jobs and exports and provide a bus corridor along this route to promote road-based public transport. The project also seeks to facilitate economic growth and improved journey times for road users.



3.2.1.3. National Investment Framework for Transport in Ireland (NIFTI)

The National Investment Framework for Transport in Ireland (NIFTI) is the Department of Transport’s framework for prioritising future investment in the land transport network to support the delivery of the National Strategic Outcomes. The departments intervention hierarchy sets out four high-level categories of investment to inform intervention decisions. The proposed ‘Extension to N40 (South Ring Road) off-ramp at westbound approach to Mahon, J10’ project aligns with the intervention hierarchy by maximising the value of the network through optimising its use by upgrading subject area within the existing N40 boundary.



3.2.2. Regional Policy Context

3.2.2.1. Regional, Spatial and Economic Strategy

Transport Priorities for the Cork Metropolitan Area:

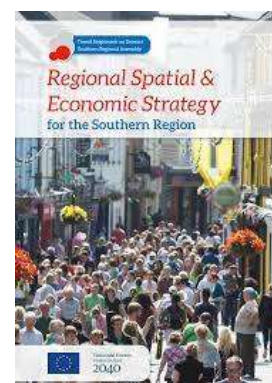
- Advance orbital traffic management solutions through the implementation of appropriate demand management measures on the N40 and provision of alternative local roads. Specific measures should only be introduced after due consideration of the impacts on the access and movement across the city and suburbs and in parallel with the introduction of appropriate alternatives to cater for alternative traffic movements.

National Enablers:

- Improved transport offer around the City through a package of measures, including improvements to the radial and orbital distributor road network, improvements to and more effective management of the strategic road network, including the existing N40 and a future Northern orbital route, delivery of strategic bus network, delivery of the Metropolitan Area Cycle Network and provision for cycling/walkability/permeability/accessibility in the planning, design, and delivery of new development.

Strategic Roads Network Improvements:

- Advance investment in orbital transport corridors through the implementation of appropriate demand management measures on the N40 and provision of alternative local roads as deemed necessary.

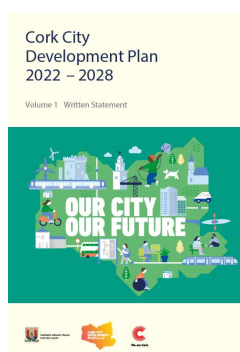


3.2.3. Local Policy Context

3.2.3.1. Cork City Development Plan 2022-2028

The Cork City Development Plan outlines the N40 Demand Management Study under the Transport and Mobility objectives for Cork City, which recognises that the future traffic demand on the N40 will need to be managed efficiently to avoid the route acting as a constraint on development in the Cork Metropolitan Area. The study identified a number of proposed interventions under the broad headings including:

- Integrated Land use and Transportation,
- Targeted Upgrades,
- Smart Motorway Interventions.
- Alternative Complementary Routes; and
- Fiscal Measures.



The upgrade of the N40 Junction 10 westbound off-ramp is a targeted upgrade that will improve road safety.

3.2.3.2. Cork Metropolitan Area Transport Strategy (CMATS)

CMATS outlines the current challenges in the Cork Metropolitan Area that were considered in to prepare the strategy. The current challenges in the context of the N40 South Ring Road are the following:

Land Use and Physical Constraints:

- High-capacity roads such as the N40 cause community severance and hinder pedestrian and cyclist movement.

Congestion and Economy:

- Traffic congestion and delays at key locations on the national road network during peak periods such as at the Dunkettle Interchange and on sections of the N40.
- Over-provision of junctions along the N40 resulting in motorists using the strategic road network for local trips and a lack of alternative orbital routes or public transport options for movement along this corridor.



CMATS outlines the Existing Transport Context of the N40 South Ring Road:

- There is major reliance on strategic roads such as the N40 for national, regional, and local connectivity. Maintaining its capacity of the road with optimum levels of service of critical importance for growing the economy of Cork.

3.3. N40 Relevant Planning History

The Jack Lynch Tunnel was first identified in the 1978 Cork Land Use and Transportation Study and the tunnel opened in May 1999. The Jack Lynch Tunnel connected the Cork South Ring Road with the N25 and N8, and the National Routes to the north of the River Lee. The N25 South Ring Road terminated at the Bandon Road Roundabout at its western extent until 2004, prior to the extension to the Ballincollig Bypass. Between 1999 and the present there have been various upgrades to the South Ring Road, including the following:

- **Mahon Interchange:** This upgrade involved the construction of a two-lane overbridge to accommodate the commercial development in the Mahon Point area,
- **Mahon Interchange to Bloomfield Interchange:** This section was widened from two lanes to three lanes to accommodate increased traffic associated with the development in the Mahon area,
- **Dunkettle Interchange, Kinsale Road Roundabout, Bandon Road Roundabout and Sarsfield Road Roundabout Signalisation:** These junctions were upgraded over a number of years from priority controlled roundabouts to signalised at-grade roundabout junctions though carriageway widening, the introduction of spiral markings and the signalisation of the entry arms,
- **Kinsale Road Roundabout:** This upgrade was completed in August 2006. It involved the construction of an east-west mainline flyover the Kinsale Road Roundabout,
- **N22 Ballincollig Bypass:** This section was completed in 2004 connecting to the western end of the N40 at the Bandon Road Roundabout. The N40 now extends to the Poulavone Interchange with the N22 Ballincollig Bypass extending beyond Ovens; and
- **Bandon Road Roundabout and Sarsfield Road Roundabout Grade Separation:** This upgrade was completed in 2013. It involved the construction of the east-west mainline flyovers over the Bandon Road Roundabout and the Sarsfield Road Roundabout along with the construction of parallel lanes and slip roads to cater for N71 and local traffic.

The N25 South Ring Road section was redesignated to the N40 in February 2012. The N40 South Ring Road is now fully grade separated except for the Dunkettle Interchange where it joins the M8, N8 and N25. The Dunkettle Interchange Upgrade will convert the existing traffic signal-controlled roundabout to a free-flow, grade separated interchange.

4. Supporting Assessments

4.1. Appropriate Assessment

The Appropriate Assessment Screening Report has examined the details of the proposed works on the Extension to the N40 (South Ring Road) off-ramp at westbound approach to Mahon (J10) and the Natura 2000 sites in their Zone of Influence. It has analysed the potential impacts of the proposed works on the receiving natural environment and evaluated their effects, both individually and in combination with other plans and projects, in view of the conservation objectives of the relevant Natura 2000 sites.

Following the assessment, it can be concluded beyond reasonable scientific doubt that the proposed development will not, either individually or in combination with other plans or projects, give rise to any impacts which would constitute significant effects on Cork Harbour SPA (site code: 004030), Great Island Channel SAC (site code: 001058) or any other Natura 2000 site, in view of their conservation objectives. Therefore, it is the recommendation of the authors of this report that Cork City Council, as the competent authority in this case may determine that Appropriate Assessment is not required in respect of the proposed works.

4.2. Environment Impact Assessment

The EIA screening assessment has been carried out in accordance with the Planning and Development Regulations as amended 2001- 2022 (which give effect to the provisions of EU Directive 2014/52/EU), and the Roads Acts 1993-2021. The assessment reviewed the impact of the Extension to the N40 (South Ring Road) off-ramp at westbound approach to Mahon (J10) in conjunction with committed developments in the surrounding area.

Based on all available information, and taking account of the scale, nature and location of the proposed project it concluded that the preparation of an EIAR is not a mandatory requirement (under Section 50 of the Roads Acts 1993-2021). The proposed project is deemed a sub-threshold development; hence the potential for significant environmental effects arising as a result of the proposed project has been evaluated, in accordance with the requirements of Schedule 7A and Schedule 7 of the Planning and Development Acts 2001-2022.

5. Conclusion

The proposed project will bring about a significant improvement in road safety and will provide clearer delineation for all users in the subject area. This targeted intervention will reduce the risk of collisions and will provide enhanced interface between N40 through traffic and off-ramp traffic all within the existing road environment.

The project, being focused on improving road safety and providing a better-quality layout that is consistent with the objectives of the National, Regional and Local Policy.

Appropriate Assessment (AA) Screening and Environmental Impact Assessment (EIA) Screening determinations have been carried out in relation to any potential impacts the project may have on Special Protection Areas, Natura 2000 sites, and the environment in general. The findings of the screening exercises noted that no significant effects on any Natura 2000 sites are likely and there will be no real likelihood of significant effects on the environment arising from the proposed development.

In conclusion, the proposed scheme is consistent with proper planning and sustainable development of the area.

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