CELBRIDGE HAZELHATCH MOBILITY CORRIDOR

CPO Engineer's Report

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1 INTRODUCTION

1.1 Project Background

Celbridge, located on the River Liffey in northern Kildare, is a key regional and commuter town for Dublin. Since the mid-20th century, its population has more than doubled, with over 70% living north of the river. The town is connected by a narrow, historic bridge, which creates traffic congestion, especially during peak hours.

To support ongoing development, particularly housing, a second crossing of the River Liffey and a link road to Hazelhatch Train Station are needed. The existing road infrastructure is inadequate, leading to severe congestion and potential air pollution. Hazelhatch Station is set to expand its capacity significantly under the DART+ Expansion Programme.

In 2018, Kildare County Council (KCC) secured funding for the Celbridge to Hazelhatch Link Road project, now known as the Celbridge Hazelhatch Mobility Corridor, to enhance connectivity and support local development.

The approximate site location for the project is shown in **Figure 1-1** below.

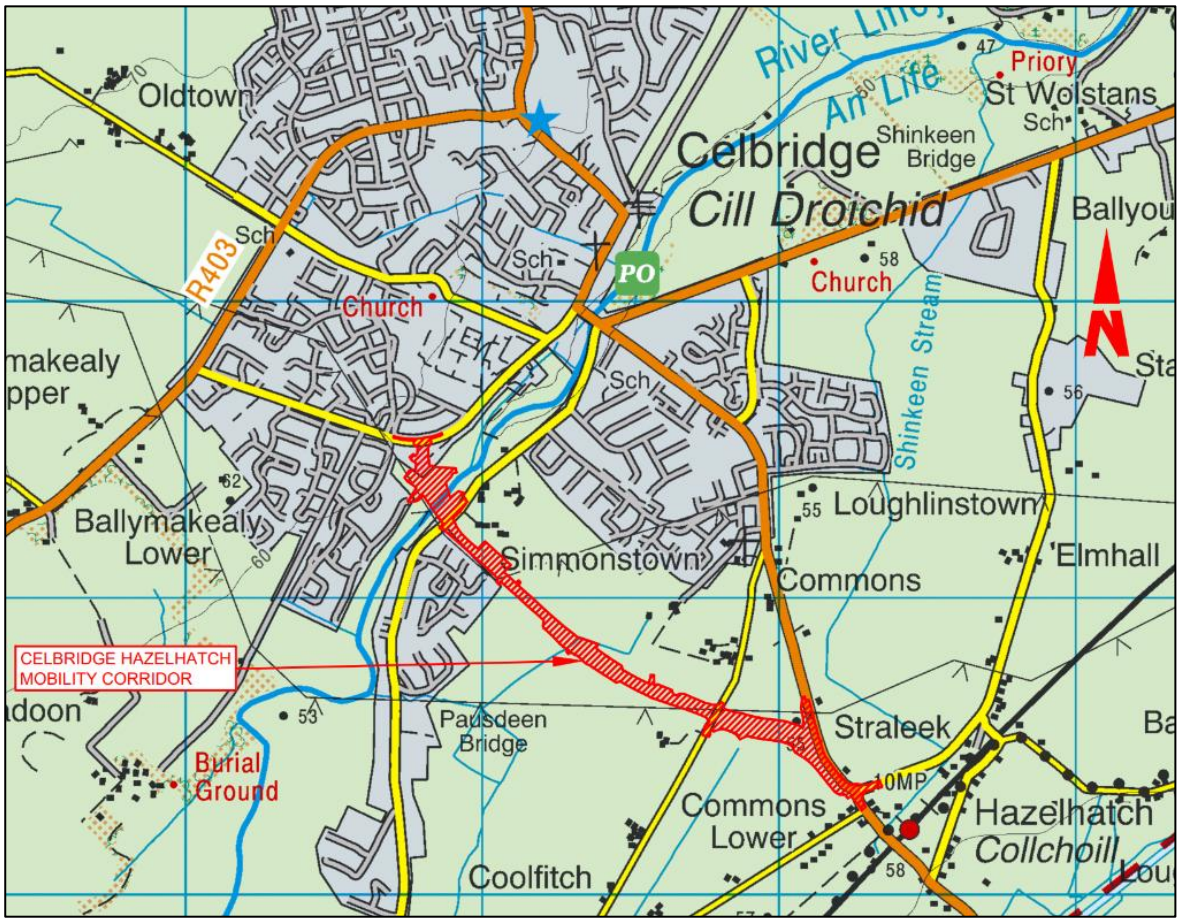

Figure 1-1: Site Location

KCC has commissioned RPS to provide engineering and consultancy services for the Celbridge Hazelhatch Mobility Corridor scheme, adhering to the TII Project Management Guidelines. The project is currently in Phase 3, which encompasses Design and Environmental Evaluation.

This project entails the construction of a new roadway, inclusive of cycling and pedestrian facilities, designed to connect Celbridge town with Hazelhatch Train Station. Additionally, a new bridge will be constructed over the River Liffey. The proposed roadway will facilitate access to Key Development Areas and educational lands situated south of the river, incorporating suitable junctions to interface with existing regional and local road networks.

1.2 Project Development to Date

Following their appointment in March 2020, RPS advanced the Celbridge to Hazelhatch Link Road Scheme through Phase 1 (Concept and Feasibility) and Phase 2 (Options Selection) as outlined in TII Project Management Guidelines.

At the onset of Phase 3, the project was rebranded as the Celbridge Hazelhatch Mobility Corridor.

1.3 Project Operational Goals

The operational goals of the project can be summarised as follows:

- Improve connectivity between Celbridge Town and Hazelhatch Train Station.
- Remove unnecessary through traffic from the town centre.
- Improve facilities for vulnerable road users.
- Enable the development of Key Development Area's in Celbridge.

2 LAND ACQUISTION

2.1 Deposit Map

Deposit Map reference MDT0902-RPS-01-XX-DR-Z-DP0001 has been prepared for the Celbridge Hazelhatch Mobility Corridor. This map is contained in **Appendix A** of this report.

2.2 Proposed Land Acquisition

The Deposit Map illustrates both lands to be permanently acquired, as described in Part I of the Compulsory Purchase Order (CPO) Schedule, and lands to be acquired with the intention of returning to the landowners upon completion of the construction (temporary acquisition), as described in Part II of the CPO Schedule. Refer to **Appendix B** for the CPO Schedule.

In total 32 no. land plots are identified to be permanently acquired, and 12 no. land plots are identified to be temporarily acquired.

Approximately 15 no. landowners are impacted by the required land acquisition.

It is proposed to permanently acquire approximately 12.4ha of land (including roadbed), as described in Part I of the CPO Schedule.

It is proposed to temporarily acquire approximately 0.7ha of land, as described in Part II of the CPO Schedule.

It is proposed to permanently extinguish 3 no. public rights of way and temporarily extinguish 1 no. public right of way, as described in Part III of the CPO Schedule.

It is proposed to permanently extinguish 1 no. private right of way, as described in Part IV of the CPO Schedule.

Existing buildings and polytunnels, currently used for horticulture purposes, will be acquired and demolished between approximately Ch. 0+050 to Ch. 0+150.

Kildare County Council have engaged in an extensive process of public consultation in relation to the proposed scheme. In particular, relevant landowners, who are directly affected by the scheme, have received communications regarding scheme progress.

A Compulsory Purchase Order for the acquisition of the land for the scheme is sought for the following reasons:

- It will secure the acquisition of all the lands required.
- It will provide objectors to the project (both compulsory acquisition of land and extinguishments of rights-of-way) with a forum at which they can outline their objections.
- It shall facilitate the acquisition of the lands within a reasonable timescale;
- It will afford an arbitration forum to assess compensation payable.
- It shall permit the local authority to plan a programme for the project confident in the knowledge that the lands required shall be available.
- It shall permit the local authority to acquire proper title to unregistered lands.

The lands as outlined in the CPO documentation are necessary, sufficient, and suitable for the provision of the proposed Celbridge Hazelhatch Mobility Corridor.

3 SUPPORTING PROJECT DOCUMENTATION

3.1 Policy Context

The need for the Celbridge Hazelhatch Mobility Corridor is outlined or in line with the following national, regional, and local policy documents:

- National Policy Context:
    - Project Ireland 2040 National Planning Framework (NPF)
    - National Development Plan (2021-2030)
    - National Investment Framework for Transport in Ireland (NIFTI) 2021
    - National Sustainable Mobility Policy 2022
    - Climate Action plan 2024
    - Housing for All – a New Housing Plan for Ireland 2021
- Regional Policy Context:
    - The Regional Spatial and Economic Strategy 2019-2031 for the Eastern and Midland Region (RSES)
    - The Transport Strategy for the Greater Dublin Area 2022 -2042
    - Greater Dublin Area Cycle Network Plan 2022
- Local Policy Context:
    - Kildare County Development Plan 2023 – 2029
    - Celbridge Local Area Plan 2017 – 2023

This project aims to enhance multi-modal transport integration by decreasing travel times for cars between Celbridge town centre and Hazelhatch Train Station. It promotes a shift in transportation modes by creating a high-quality pedestrian and cycling route to the station, thereby improving access to the rail services for those without cars and reducing social exclusion.

Additionally, the project seeks to support national, regional, and local policies by enabling the development of designated Key Development Areas outlined in the Celbridge Local Area Plan (2017-2023). Simultaneously, it enhances active travel options in the area by improving the overall experience for pedestrians and cyclists.

3.2 Existing Conditions

The key link roads that lead to and from the existing River Liffey bridge in Celbridge are the R403, R405 and the L1016. The speed limits reduce from 60km/h to 50km/h as they approach Celbridge. The Maynooth Road has a speed limit of 50km/h from its starting point at the northern roundabout. These legacy roads are reflecting their origins, era of construction and the staged nature of road improvements over the years. The existing cross sections vary from narrow carriageway lanes bound by kerbed footpaths to wider lanes with hard strips and advisory cycle lanes in places. Pedestrian facilities are also inconsistent in width and finish, often pinch pointed by the historic boundary walls. The existing Celbridge road network is illustrated in **Figure 3-1** below.

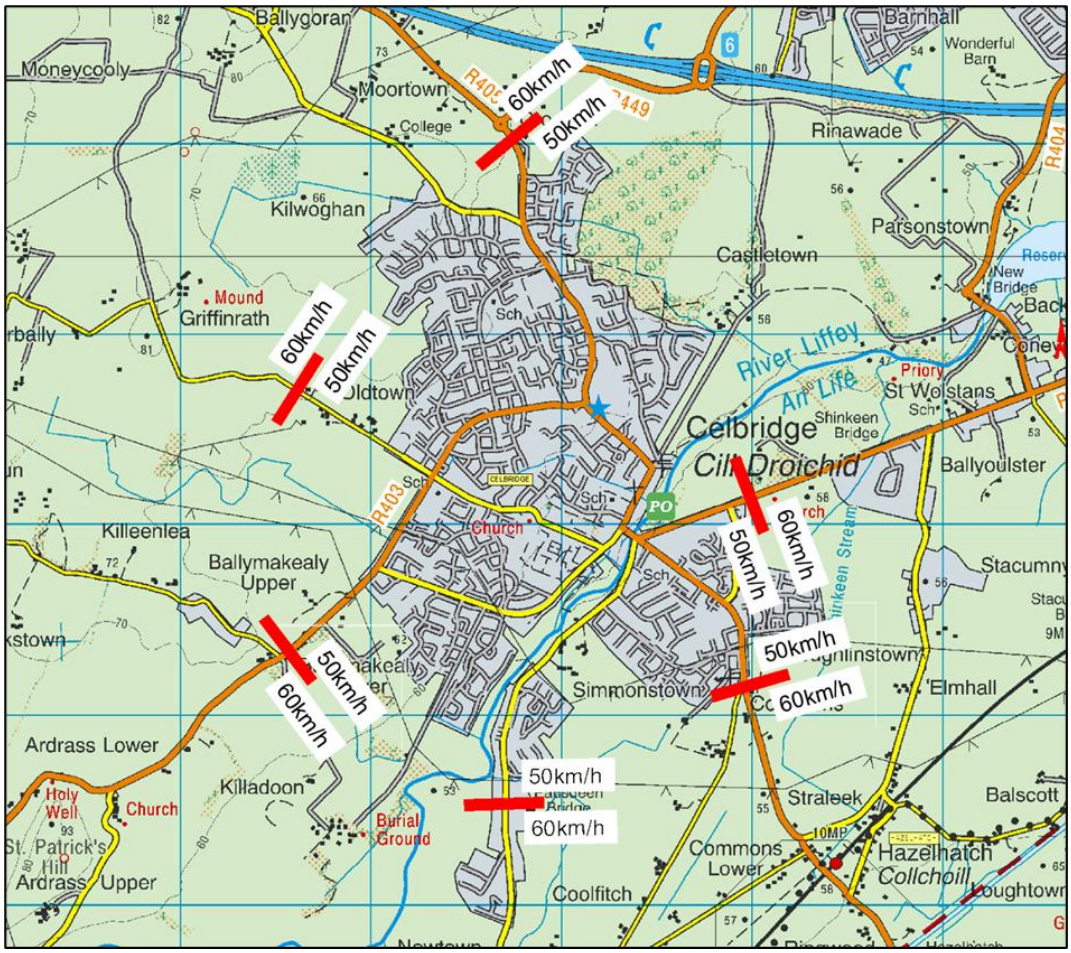

Figure 3-1: Existing Road Network in Celbridge

The existing River Liffey bridge is a protected structure and the views upstream and downstream are protected views and therefore the improvements that can be undertaken are limited. The bridge is substandard in terms of cross-sectional width, vertical geometry and junction layout on both the north and south sides. Traffic counts undertaken in May 2019 show that the existing bridge carries over 15,500 vehicles per day and generates significant queuing in the AM and PM peak periods. Celbridge's single river crossing point results in a lack of circulation and permeability within the town centre and throughout the general road network in the study area.

The general topography of Celbridge is flat to undulating and hence the vertical geometry of the road network is largely of a high standard. The horizontal geometry is sub-standard at numerous points throughout the existing road network but particularly along R405 Main Street / Maynooth Rd and L1016 Newtown Road. The combination of high existing traffic flows and sub-standard existing road layout results in delays for road users within Celbridge. This affects both traffic commuting to areas outside of Celbridge and local traffic. With traffic flows continuing to increase, Celbridge traffic will continue to experience worsening conditions.

3.1 Project Specific Need

This project addresses the objective to improve multi-modal transport integration by reducing car journey times between Celbridge town centre and Hazelhatch Train Station. It encourages a transport modal shift by providing a high-quality pedestrian and cycle link to the train station as well as reduce social exclusion by enhancing accessibility to rail services for non-car-owners.

The project also aims to facilitate national, regional and local policy by opening up and making viable development of designated Key Development Areas as specified in the Celbridge Local Area Plan (2017-2023). At the same time it improves options for active travel within the study area by improving journey ambience for pedestrian and cycle journeys.

The project addresses the objective of improving the strategic transport network in Celbridge. Provision of a second river crossing will facilitate future reduction in traffic congestion and improve the road safety performance of Celbridge.

The project objectives are aligned and strongly supported by policy at national, regional and local level. **Figure 3-2** below shows a map extract from the Celbridge LAP, illustrating that movement and transport objectives MTO3.7 and MTO3.12 directly relate to the proposals in this project.

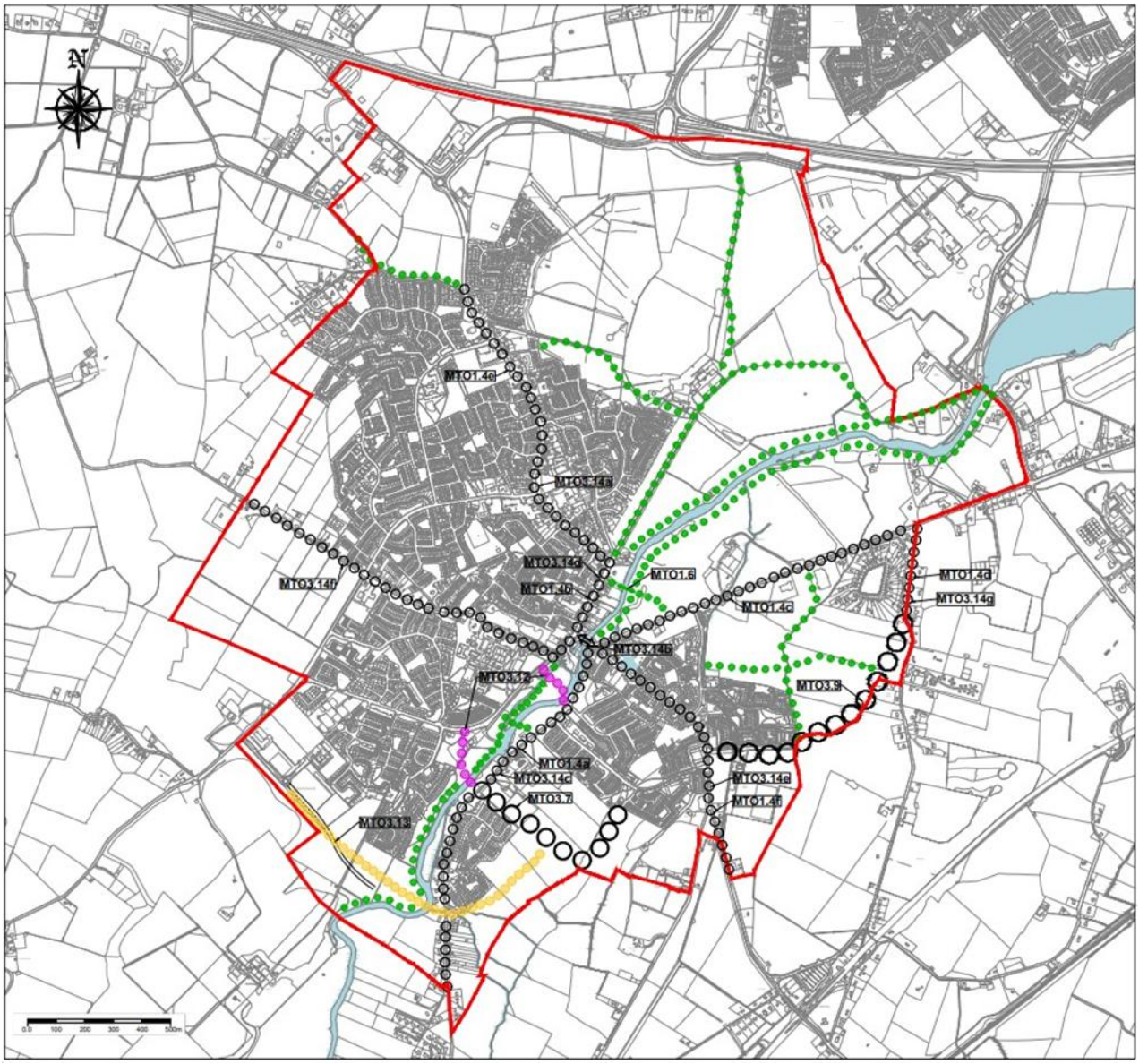

Figure 3-2: Celbridge LAP Map 8.1

3.2 Summary of Option Selection Process

At Stage 1, a total of ten do-something route options were considered, along with do-nothing, do-minimum and traffic management alternatives. It was determined that a do-something option was required for the project. All options were assessed under the criteria of engineering, economy and environment.

Five out of the total of ten route corridor options were shortlisted at Stage 1 Preliminary Option Assessment and were brought forward to Stage 2 assessment. These were Options A, A1, B, C and E, shown in **Figure 3-3** below. Subsequent to this, a feasible combination route corridor was identified by combining part of Option C with part of Option E (Now referred as Option C-E). These six options were assessed in Stage 2. All of the options are an urban link road with 7.0m wide carriageway, green verges and dedicated off road cycle and pedestrian facilities.

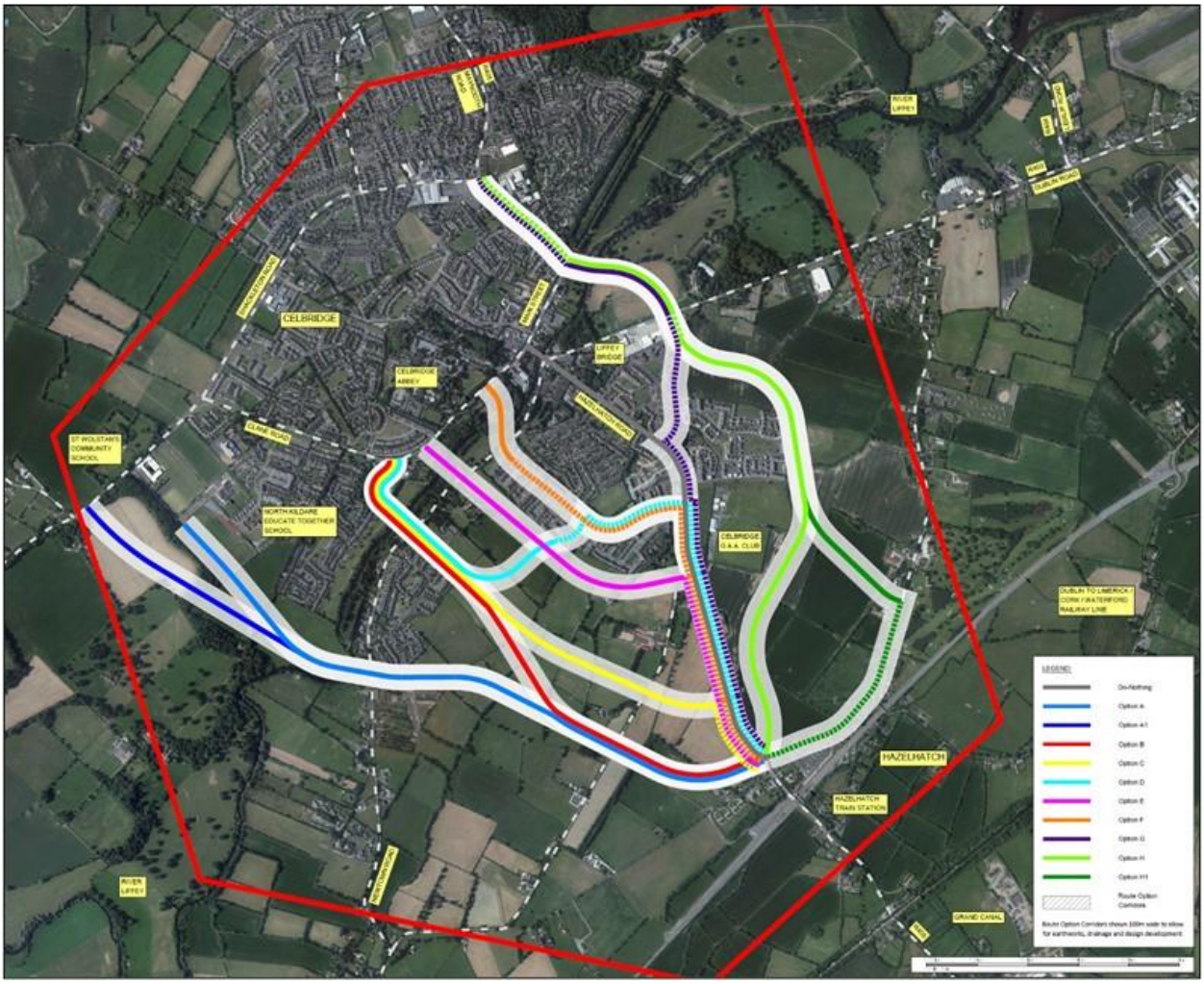

Figure 3-3: Stage 1 Preliminary Option Route

In accordance with PAG Unit 7.0, the approach adopted to appraising the options was a Project Appraisal Matrix with the following headline criteria:

- Economy
- Safety
- Environment
- Accessibility & Social Inclusion
- Integration
- Physical Activity

Appraised do-something options scored similarly for 4 out of 6 options in the Stage 2 criteria. The major difference in the selection of Preferred Route Option came from the environmental impact and economic assessment.

The overall qualitative assessment ratings for each option under all Stage 2 appraisal headings are summarised in **Table 3-1**. Taking account of these assessments carried out by our specialists and having regard for the quantitative scoring assessment, the Emerging Preferred Option put forward for the project was Option C, as it avoided the significant known sites and areas of environmental sensitivity. It was recommended that further development of this option take place at preliminary design stage.

Table 3-1: Overall Qualitative Assessment of Route Options

Route	Option A	Option A1	Option B	Option C	Option C-E	Option E
Economy	Preferred	Preferred	Preferred	Preferred	Preferred	Preferred
Safety	Good	Good	Preferred	Preferred	Preferred	Preferred
Environment	Intermediate	Intermediate	Good	Preferred	Least Preferred	Least Preferred
Accessibility & Social Inclusion	Good	Good	Preferred	Preferred	Preferred	Preferred
Integration	Good	Good	Preferred	Preferred	Preferred	Preferred
Physical Activity	Good	Good	Preferred	Preferred	Preferred	Preferred
Overall Preference Rating	**Intermediate**	**Intermediate**	**Good**	**Preferred**	**Least Preferred**	**Least Preferred**

The Emerging Preferred Option was presented to the public during Public Consultation No.2 event. Taking into consideration the feedback received from the members of the public, the presented Route Corridor Option C was subsequently adjusted on the northern end of the route between the service station and the Saint John of Gods facilities next to Celbridge Abbey. The adjustment allowed for a greater separation between the proposed road and the existing residential dwellings of the Abbeyfarm housing estate.

The Final Preferred Option scores the same for all the criteria of Stage 2 Assessment with the exception of Economy due to difference in the cost estimate between Option C and adjusted Option C.

The Final Preferred Option (adjusted Option C) had an estimated scheme cost of €25.99m (excluding Programme Risk and Inflation), based on the 2020 construction rates used throughout this phase. The Cost Benefit Ratio for the Preferred Option was 5.29.

It was recommended that further development of the Final Preferred Option, adjusted Option C, be authorised.

3.3 Transport Modelling

3.3.1 Summary of Traffic Modelling Report

Phase 3 of the strategic transport model was developed using VISSUM, with adjustments made to the base year based on POWSCAR data and validated against 2019 benchmarks. Future models were created for 2025, 2040, and 2050.

By 2040, the link road is projected to handle about 5,000 vehicles daily, which should alleviate traffic on main roads like the southern R403 and Newtown Road as drivers shift to the new route. The Average Annual Daily Traffic (AADT) results indicate lower traffic in the central Simmonstown area compared to the ends, suggesting that local traffic significantly contributes to overall volumes.

3.3.2 Road Type

Based on the highest predicted Average Annual Daily Traffic (AADT), a Type 2 single carriageway is deemed suitable for the rural setting. Considering the road's classification as a link to Hazelhatch Train Station and its role in promoting cycling and pedestrian activity, it is expected to function as an arterial / link road according to DMURS guidelines. To align with TII design standards and DMURS requirements, the proposed road will feature a 7.0-meter-wide single carriageway, along with appropriately sized cycle tracks, footpaths, and grassed verges.

3.4 Summary of Proposed Design

3.4.1 Route Description

The proposed route is approximately 2km long, beginning at a proposed junction with Clane Road and routing in a south easterly direction through predominantly greenfield lands until it joins the existing R405 Hazelhatch Road, before terminating at the existing Loughlinstown Road Roundabout near Hazelhatch and Celbridge Train Station. The route also includes proposed junctions with Newtown Road, Simmonstown Manor Road and R405 Hazelhatch Road. A new bridge crossing over the River Liffey is also proposed, located approximately 200m south of the beginning of the route at Clane Road.

3.4.2 Road Cross-Section

The proposed road cross-section for the project's mainline is a single carriageway with 3.5m wide lanes in each direction with a total pavement width of 7.0m.

Pedestrian and cyclist facilities are proposed alongside the new road as follows:

- Ch. 0+000 to Ch. 1+720: 2.0m wide footpaths and 2.0m wide one-way cycle tracks and 2.0m wide footpaths on both sides of the road.
- Ch. 1+720 to Ch. 1+1959: A 2.0m wide footpath and a 3.0m wide two-way cycleway on the northbound side of the road.

On both sides of the mainline, it is typically proposed to provide a 2.0m wide grassed verge between the cycle facility and the carriageway, and 1.0m wide grassed verge between the back of the footpath and adjacent earthwork slopes. The exception to this is across the proposed River Liffey Bridge, where no additional verge width is proposed between the cycle tracks and the carriageway or between the footpaths and bridge parapets.

A proposed typical cross section is shown in **Figure 3-4**.

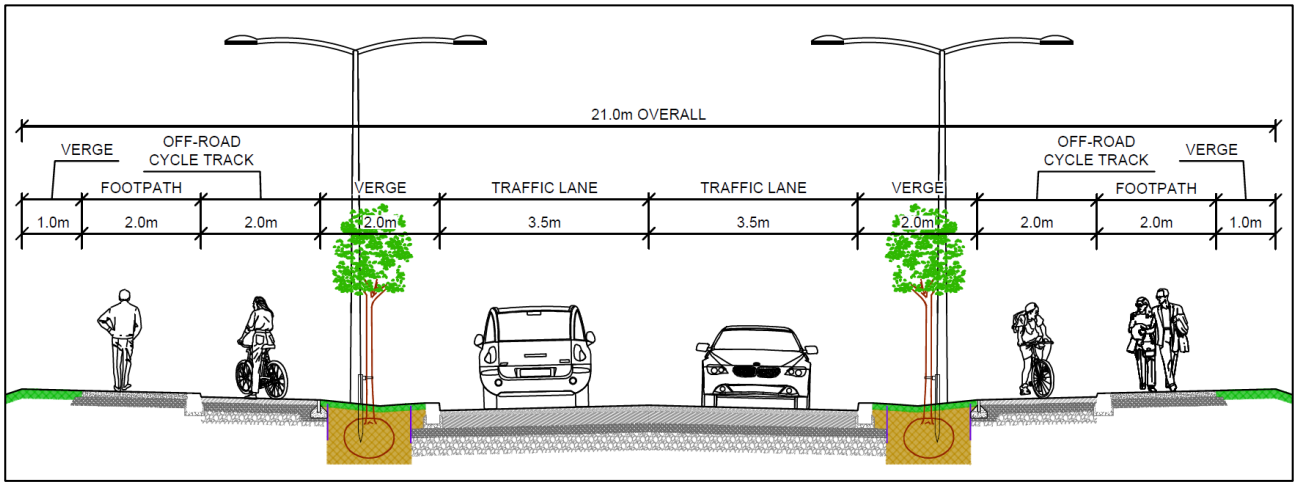

Figure 3-4: Typical Cross Section

3.4.3 Junctions

Junctions are proposed where the new road interfaces with the following existing roads:

- **Clane Road (R403):** At the start of the route, a 3-arm signalised junction is proposed with the existing regional road;
- **Newtown Road (L1016):** A 4-arm signalised junction is proposed with the existing local road;
- **Simmonstown Manor Road (L5062):** A priority junction is proposed with the L5062 on the northbound side of the proposed new road. On the southbound side of the road, it is proposed to terminate the existing road with a turning head to be provided at the end of the cul-de-sac;

- **Hazelhatch Road (R405):** A 3-arm signalised junction is proposed with the existing regional road;
- **Loughlinstown Road (L5061):** At the end of the route, minor improvements are proposed to the existing roundabout junction.

All junctions include dedicated facilities for pedestrians and cyclists.

3.4.4 River Liffey Bridge Crossing

A new bridge crossing over the River Liffey is proposed as part of the CHMC and will be located approximately 200m south of the beginning of the route at Clane Road.

Figure 3-5 below shows a computer-generated image of the northern end of the proposed bridge structure, viewed from west of the proposed road. As the proposed bridge is a single span structure, no works will be required within the river channel.

The CHMC shall help to relieve traffic pressure on the only other existing river crossing in Celbridge, located in the town centre.

Figure 3-5: CGI of the proposed CHMC River Liffey Bridge – Year 10
Source: VP06 Riverview - Abbey Farm Photomontage View (Year 10)

3.5 Preliminary Design Report

The proposed design is described in detail in the Preliminary Design Report (report number **MDT0902-RPS-00-XX-RP-Z-0053**).

3.6 Project Appraisal & Business Case

The proposed Celbridge Hazelhatch Mobility Corridor has been subject to appraisal in accordance with the relevant TII Project Appraisal Guidelines (PAGs) and Transport Appraisal Framework (TAF) guidance.

The Preliminary Business Case for the Celbridge Hazelhatch Mobility Corridor is presented in report number **MDT0902-RPS-00-XX-RP-Z-0035**. This document has been developed in accordance with the requirements of TII PAG Unit 8.0 (Business Case) and applies the guidance set out in the TAF Module 4 (Preliminary Business Case).

Table 3-2 below presents the results of the transport cost-benefit analysis using the standard TUBA disaggregation of benefits. The output is for the central growth scenario and costs are presented for both Target Cost and Total Scheme Budget Scenarios.

This demonstrates that the scheme has a strong economic justification with a Benefit to Cost Ratio (BCR) of above 4.

Table 3-2: TUBA Results (monetary values in units of €1,000)

	Value	
Benefits		
Economic Efficiency	71,354	
Indirect taxation impact	-1,277	
Carbon Benefits	3,057	
Estimated residual value	50,157	
Present Value Benefits (PVB)	**123,291**	
Costs		
	Target Cost Scenario	**Total Scheme Budget Scenario**
Investment Cost	27,876	29,348
Maintenance Cost	573	573
Present Value Costs (PVC)	**28,449**	**29,921**
Economic Performance		
Net Present Value (NPV)	**94,842**	**93,370**
Benefit to Cost Ratio (BCR)	**4.334**	**4.121**

A Transport and Accessibility Appraisal identified that there are no major negative impacts due to the scheme (taking account of mitigation measures developed to address potential environmental impacts).

The impact of the scheme against the TAF criteria included in the TAA are:

Accessibility Impacts	Neutral
Social Impacts	Slight Positive
Land Use Impacts	Slight Positive
Safety Impact	Positive
Climate Change	Neutral
Local Environmental Impact	Neutral

3.7 Summary of Environmental Evaluation

An Environmental Impact Assessment (EIA) Screening Report has been prepared to consider the requirement or otherwise of carrying out an EIA with respect to the proposed scheme. EIA requirements derive from EU Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC, 2011/92/EU) as well as 2014/52/EU on the assessment of the effects of certain public and private projects on the environment. The primary objective of the EIA Directive is to ensure that projects which are likely to have 'significant effects' on the environment are subject to an assessment of their likely impacts. In the context of planning, the EIA Directive is given effect in Ireland through the Planning and Development Act 2000 (as amended).

The legislation relating to the requirement for an EIA for several types of developments is outlined in the Planning and Development Act 2000, as amended, and the Planning and Development Regulations 2001, as amended. Part 1 of Schedule 5 of the Planning and Development Regulations 2001 (as amended) lists

projects included in Annex I of the Directive which require mandatory EIA. No development types listed in Schedule 5 Part 1 would apply to this current proposed scheme. Part 2 Schedule 5 of the Planning and Development Regulations 2001 (as amended) identifies classes of development, per Annex II of the Directive, for which EIA must be carried out where such development would equal or exceed, as the case may be, any relevant quantity, area or other limit specified or, where no quantity, area or other limit is specified in the Part in respect of the development concerned. No development types listed in Schedule 5 Part 2 would apply to this current proposed scheme.

In relation to roads projects, the requirements of the pre 2014 EU Directives have been transposed into Irish legislation by, inter alia, Sections 50 and 51 of the Roads Act (1993 to 2007) and subsequent amendments to this Act. The proposed scheme does not comprise a class of development described under Section 50 (1)(a) of the Roads Act. Accordingly, EIA is not a mandatory requirement for the proposed scheme. While EIA is not mandatory in this instance, KCC intends to undertake a preliminary examination of the nature, size and location of the proposed development, pursuant to section 50(1)(c) and (d) of the Roads Act 1993 (as amended) to consider whether the "project" is likely to have significant effects on the environment, such that an Environmental Impact Assessment Report (EIAR) is required.

In this regard RPS have prepared an EIA Screening Report. The report provides an assessment of whether the development would or would not be likely to have significant effects on the environment by addressing the criteria and information set out in Annex III and II.A of the EIA Directive and Schedules 7 and 7A of the Planning and Development Regulations 2001 (as amended). The report concludes that no significant effects on the environment are considered likely to arise. On this basis it is considered that the development does not require Environmental Impact Assessment and that an EIAR is not necessary.

A number of environmental assessments have been prepared to support the planning application and include an Ecological Impact Assessment (EcIA), Cultural Heritage Impact Assessment (CHIA), Landscape & Visual Impact Assessment (LVIA), Noise & Vibration Assessment, Air Quality Assessment, Climate Assessment, Traffic and Transport Assessment, Agricultural Properties and Non-agricultural Properties Assessment, Flood Risk Assessment (FRA) and a Construction Environmental Management Plan (CEMP). These assessments are considered appropriate to issue to ABP as part of the consent process for the proposed scheme.

3.8 Planning Report

A Section 177AE Planning Application to An Bord Pleanála has been prepared for submission, but this has yet to be submitted for the scheme. Once the planning process has been completed, a Planning Outcome Report will be prepared.

4 CPO RECOMMENDATION & CERTIFICATION

It is hereby certified that the lands illustrated on Deposit Map MDT0902-RPS-01-XX-DR-Z-DP0001 and listed in CPO Schedules Part I and Part II are necessary, sufficient and suitable for the Celbridge Hazelhatch Mobility Corridor.

The public rights of way proposed to be extinguished over the lands to be compulsorily acquired are illustrated on Deposit Map MDT0902-RPS-01-XX-DR-Z-DP0001 and listed in CPO Schedule Part III.

The private rights of way proposed to be extinguished over the lands to be compulsorily acquired are illustrated on Deposit Map MDT0902-RPS-01-XX-DR-Z-DP0001 and listed in CPO Schedule Part IV.

It is hereby recommended, for the reasons outlined in Section 2.2 above, that the lands required for the construction of the Celbridge Hazelhatch Mobility Corridor be acquired by way of statutory Compulsory Purchase Order and that the Deposit Map, CPO Schedule, Section 177AE Planning Application and NIS be submitted to An Bord Pleanála for statutory consent.

Yours sincerely,

for RPS Consulting Engineers Limited

Shane Fanning

Transportation Director

Appendix A
CPO Deposit Map

Refer to separate CPO Depost Maps provided

Appendix B
CPO Order & Schedule

Refer to separate CPO Order & Schedule provided