Ballybrack Valley Pedestrian and Cycle Route, Phase 4

Preliminary Design Report
Cork County Council

Project number: 60578872
Quality information

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Revision History

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1. **Introduction**

Cork County Council commissioned AECOM for a route options assessment and the preliminary design of Ballybrack Valley Pedestrian and Cycle Route, Phase 4.

The purpose of the extension is to connect the existing Ballybrack Pedestrian and Cycle Path with Maryborough Hill and a new proposed residential development on the R609 Carrigaline Road. The long term objective is to provide a cycle link between Carrigaline and the South Environs with the City Centre.

1.1 **Purpose of Report**

The purpose of the report is to consider route options and to outline the design approach for the proposed Ballybrack Pedestrian and Cycle Route Phase 4.

1.2 **Study Area**

The study area runs from the existing Ballybrack Pedestrian and Cycle Path at the estate road serving Berkley Estate at the Cork County Council pump house and extends south-eastwards towards the R609/N28 junction. From here it continues further east to link to Maryborough Hill via Maryborough Ridge. Figure 1 below highlights the study area for the scheme.

![Figure 1.1: Study Area](image-url)
2. Constraints

2.1 Environmental

A separate Appropriate Assessment (AA) Screening report has been produced to inform CCC in relation to Screening for AA required under the legislation. This is included within Appendix B.

2.2 Watercourses

The Moneygurney Stream runs through the study area, it acts as a constraint on the design as crossings would require additional more costly infrastructure.

![Figure 2.1: Watercourse through Study Area](image)

2.3 Flooding

An analysis of the Office of Public Works (OPW) flood hazard maps on the OPW website has been undertaken to identify the history of flooding in vicinity of the proposed scheme. The website indicates that there is no history of flooding within the study area.

2.4 Topographical Constraints

A desktop review of the available topographical survey and a site visit indicate that topography will act as a constraint on the design. A natural valley runs through the centre of the study area which passes through the proposed residential development to the south west of the R609.
2.5 Land Use

The proposed study area comprises a greenfield site between two suburban housing estates. Tie in details at either end of the proposed cycle and pedestrian route will be designed following a review on the existing land use at either end of the route in the residential areas.
2.6 Existing Structures

The R609 Carrigaline Road travels under the N28, within our proposed study area, before merging with the N28 further to the south of the junction.

The under bridge junction acts as a constraint for the proposed design as the pedestrian and cycle route may cross the N28 in close proximity to the bridge/junction.

![Figure 2.4: N28 Under Bridge](image)

2.7 Area Development Plan

The proposed scheme lies in the Ballincollig Carrigaline Municipal District. The Ballincollig Carrigaline Municipal District Local Area Plan (2017) was examined to determine the objectives and policies that may have an impact on the proposed scheme. Highlighted below are the relevant objectives within the local area plan that should be considered.

2.7.1 General Objectives

**SE-GO-07 – Walking and Cycling:**

A network of designated walking and cycling routes shall be established to provide safe, convenient and pleasant routes between the town’s main residential areas, schools and the town centre in line with the Metropolitan Cycling Strategy.

The proposed cycle and pedestrian route will comply with this objective within the development plan.
2.7.2 Residential Objectives:

**SE-R-06:**

The proposed study area for the pedestrian and cyclist route will travel through the 21.1 Ha of land zoned for Medium A density residential development.

The development plan highlights the requirement for a cycleway as part of the residential development and retention of existing trees and hedgerows within the overall development of the site.

**SE-R-08:**

The proposed cyclist and pedestrian route will join with the 16.8 Ha land zoned for Medium A density residential development.

**RY-U-02:**

The M-28 Cork to Ringaskiddy Motorway scheme is proposed to replace the existing N-28. This scheme will need to be considered as part of the design process as it passes through the proposed study area for the cyclist and pedestrian track.

2.7.3 Cork Cycle Network Plan

Figure 2.5 and 2.6 below are extracts from the Cork Cycle Network Plan for Cork City Southeast & Environs and Cork Inter-Urban Route Network. Ballybrack Valley Greenway is identified as future route, **GSE-GW4 - Ballybrack Valley Greenway**. The proposed Greenway connects other primary, secondary and interurban cycle network facilities such as **CSE-U26 - Church Road, CSE-U29 - Donnybrook Hill, CSE-U23 - Carrigaline Road, Douglas Street East** and **IU-3 - N28 and R611**.

Within the wider context, a series of greenways have been developed within Tramore Valley Park **CSW-GW1 Passage West Greenway extension/Monahan Road** and **CSW-GW1 Willow Park to South Douglas Road** which provides connectivity to Cork City. **CSW-GW6 Kinsale Road Roundabout to Alden** is being developed by Cork County Council.
Figure 2.5: Cork Cycle Network Plan, U4 - Cork City Southeast & Environs
Figure 2.6: Cork Cycle Network Plan, Cork Inter-Urban Route Network
2.8 Public Utilities

2.8.1 Irish Water

A 1.2m Irish Water main runs through the study area, it acts as a constraint on the design as it is the main water source for the region. A 15m ‘Wayleave’ is in place either side of the water main.

2.8.2 Other Utilities

Utility companies will be contacted during the detailed design phase to determine their assets in the region. It is envisaged that other public utilities may act as a constraint on the design stage of the project.

2.9 Other Proposals in the Area

2.9.1 Zoned Lands – Local Area Plan (SE-R-06)

The Ballincollig Carrigaline Municipal District Local Area Plan identifies an area of zoned land that the proposed Greenway intersects, the zoning includes:

- Medium A density residential development to cater for a variety of house types and sizes.
- 3 Ha. of additional open space over and above what is normally required in housing areas. This open space should include a fully landscaped and useable public park.
- Retain the existing trees and hedgerows within the overall development of the site.
- A site for a primary school that could be accessed from the R609 and developed by the Department of Education in the short term.
- The timing and provision of appropriate drinking water and waste water disposal services for the development including where necessary the upgrading of off-site infrastructure.
- Provision of a cycleway.
- Consideration will need to be given to the provision of a primary school within this site at the detailed planning application stage.

Figure 2.7 is an extract from the Ballincollig Carrigaline Municipal District Local Area Plan highlighting the zoned land.
2.9.2 M28 Cork to Ringaskiddy Motorway

Cork County Council (CCC), propose to upgrade approximately 12.5km of the N28 National Primary Route, from the N28/N40 South Ring Toad Bloomfield Interchange to the Port of Cork in Ringaskiddy, together with consequential and ancillary works. Transport Infrastructure Ireland (TII) is the funding authority for the project. Phase 4 of the Ballybrack pedestrian and cyclist route is proposed to cross the existing N28 to connect to Maryborough Hill. The design process will monitor the progress of the M28 project and ensure it can be compatible with both the existing and the future alignments. Refer to drawing no: 60578872 – SK-009 for project location.

2.9.3 Maryborough Ridge Residential Development

Permission has been granted for the construction of 200 no. residential units, a crèche and all associated ancillary development works at Maryborough Ridge on the western boundary of the study area. The proposed residential development includes for a connection point to the pedestrian and cycle route. Refer to drawing no: 60578872 – SK-009 for project location.
3. Existing Ballybrack Pedestrian and Cycle Path

The existing Ballybrack Pedestrian and Cycle Path is an off road 4m shared use path with public lighting and CCTV. Cork County Council highlighted the success of the path and are keen to provide a pedestrian and cycle route to a similar standard for Phase 4 of the path.

![Figure 3.1: Existing Path](image)

3.1 Benefits of Existing Pedestrian and Cycle Path

The existing path connects Donnybrook and Maryborough to Douglas Village. The key benefits of the existing path include:

- Connectivity from key residential developments south of Douglas Village to retail, schools and employment areas within Douglas Village and Cork City.
- The connectivity is achieved with a high quality of service as the route is off road and safe.
- The route encourages pedestrians and cyclists to utilise the facility as an alternative to driving. This supports a modal shift away from driving which has a positive impact on the environment.
- Health benefits for people can be attributed to walking and cycling as an alternative to driving.
- The path provides connectivity to other facilities at Tramore Valley Park and as identified in the Cork Cycle Network Plan, will eventually provide connectivity with larger commuter towns such as Carrigaline with the Metropolitan Area.
4. Route Options

As part of the preliminary design of the proposed cycle and pedestrian path, two routes consisting of three potential options have been considered to determine the optimum solution. Drawing 60578872_SK001_Route Options contained in Appendix A highlights the proposed options.

4.1 Option 1

Option 1 consists of the following:

- 3m shared use path adjacent to the R609 connecting to Maryborough Ridge in the south and the existing Ballybrack Pedestrian and Cycle path to the north;
- Existing 2m path on Berkley Road widened to 3m;
- New toucan crossing on the R609;
- New 4m shared use path through the proposed housing estate adjacent to Maryborough Ridge connecting to the L647.

4.2 Option 2

Option 2 consists of the following:

- 4m offline shared use path connecting Berkeley Road in the north to the R609 in the south;
- New toucan crossing on Berkeley Road;
- New toucan crossings on the R609;
- New 4m shared use path through the proposed housing estate adjacent to Maryborough Ridge connecting to the L647.
4.3  Option 3

Option 3 consists of the following:

- 3m segregated path adjacent to the R609 connecting to Maryborough Ridge in the south and the existing Ballybrack Pedestrian and Cycle path to the north;
- Existing pedestrian footway along R609 to be extended to the junction with the N28;
- Existing 2m path on Berkley Road widened to 3m;
- New toucan crossing on the R609;
- New 4m shared use path through the proposed housing estate adjacent to Maryborough Ridge connecting to the L647.

![Diagram of Option 3]

4.4  Objectives

The design objectives for the scheme include the following:

1. To provide a link between the existing Ballybrack Valley Pedestrian and Cycle Route and Maryborough Ridge, consistent with the quality of the previous phases of the route.
2. To provide a primarily recreational facility but one that can also allow for commuting and school trips.
3. To connect with key nodes in the area, existing/new housing developments and schools.
4. To create a high quality environment that can promote tourist, recreational and leisure uses in the study area.
5. **Assessment Methodology**

5.1 **Introduction**

The options assessment methodology was based on community impacts, delivery risks and the principles of sustainable safety (National Cycle Manual), which account for the DTTAS Common Appraisal Framework (CAF) Multi-Criteria Analysis (MCA). The diagram below shows how the proposed criteria match up with the DTTAS CAF MCA.

![Diagram: Proposed Criteria vs DTTAS MCA](image)

The proposed seven criteria above can be grouped into the following categories:

1. Design context;
2. Community context;
3. Delivery context.

The proposed categories and their respective criteria are presented in Table 5.1.
The objective for this scheme, in terms of functionality, is to enhance the place functionality, while still providing safe movement through the area for all road users.

- Attractiveness of space/contribution to urban design;
- Pedestrians and cycle experience;
- Quality of service for cyclists;
- Reducing traffic volumes and speed.

Where any space in the scheme is shared by users of different modes, the design should naturally encourage homogeneity of speed, mass and direction as much as possible.

- Minimising relative speed of users;
- Number of collision points.

The design should ensure that confusion is minimised, and all road users are clear on how to proceed through the area.

- Clarity of how to use space from all users;
- Minimise conflicts between cyclist/pedestrian/traffic on links and crossings;
- Clarity of connection with existing cycle tracks.

The layout of the chosen design should be such that the severity of potential collisions are minimised.

- Proximity of cyclist/pedestrian to general traffic;
- Street furniture position;
- Lighting;
- Cross falls;
- Evasion room.

The space will naturally draw a large variety of users who will expect to use the space safely.

- Accommodation of children/less experienced users;
- Designed for peak and of peak use.

- Property access;
- Loading;
- Parking;
- Change to traffic arrangement and impact.

- Construction Costs;
- Maintenance Costs.

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<th>Categories</th>
<th>Criteria</th>
<th>Considerations</th>
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<td>The objective for this scheme, in terms of functionality, is to enhance the place functionality, while still providing safe movement through the area for all road users.</td>
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<tr>
<td></td>
<td></td>
<td>• Attractiveness of space/contribution to urban design;</td>
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<tr>
<td></td>
<td></td>
<td>• Pedestrians and cycle experience;</td>
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<tr>
<td></td>
<td></td>
<td>• Quality of service for cyclists;</td>
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<tr>
<td></td>
<td></td>
<td>• Reducing traffic volumes and speed.</td>
</tr>
<tr>
<td><strong>Homogeneity</strong></td>
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<td>Where any space in the scheme is shared by users of different modes, the design should naturally encourage homogeneity of speed, mass and direction as much as possible.</td>
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<tr>
<td></td>
<td></td>
<td>• Minimising relative speed of users;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of collision points.</td>
</tr>
<tr>
<td><strong>Legibility</strong></td>
<td></td>
<td>The design should ensure that confusion is minimised, and all road users are clear on how to proceed through the area.</td>
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<td></td>
<td></td>
<td>• Clarity of how to use space from all users;</td>
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<td>• Minimise conflicts between cyclist/pedestrian/traffic on links and crossings;</td>
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<td>• Clarity of connection with existing cycle tracks.</td>
</tr>
<tr>
<td><strong>Forgiveness</strong></td>
<td></td>
<td>The layout of the chosen design should be such that the severity of potential collisions are minimised.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Proximity of cyclist/pedestrian to general traffic;</td>
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<td>• Street furniture position;</td>
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<td>• Evasion room.</td>
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<td><strong>Self-Awareness</strong></td>
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<td>The space will naturally draw a large variety of users who will expect to use the space safely.</td>
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<td></td>
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<td>• Accommodation of children/less experienced users;</td>
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<td>• Construction Costs;</td>
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<tr>
<td></td>
<td></td>
<td>• Maintenance Costs.</td>
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Table 5.1: Proposed Criteria
5.2 Scheme Options Summary Table

An options summary table has been prepared which summarises the appraisal of each option under each of the assessment criterion.

For each individual assessment criterion considered, routes have been relatively compared against each other based on a five point scale, ranging from having significant advantages to having significant disadvantages over other scheme options.

For illustrative purposes, this five point scale is colour coded as presented in Table 5.2 with advantageous options graded to ‘dark green’ and disadvantageous options graded to ‘dark red’.

<table>
<thead>
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<tr>
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<td>Some advantages over other options</td>
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<tr>
<td></td>
<td>Neutral compared to other options</td>
</tr>
<tr>
<td></td>
<td>Some disadvantages compared to other options</td>
</tr>
<tr>
<td></td>
<td>Significant disadvantages compared to other options</td>
</tr>
</tbody>
</table>

Table 5.2: Design Options Colour Coded Ranking Scale

A qualitative appraisal of and conclusions from, the options assessment is then provided, highlighting the key issues considered in determining the recommended option.

All criteria are considered in undertaking the assessment and a lower ranking on one criterion, for example, does not necessarily mean that the option is not suitable.
## 6. Analysis

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
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<tbody>
<tr>
<td><strong>Functionality</strong></td>
<td>The shared space would enhance the attractiveness of scheme area. However, mixing pedestrians with cyclists would reduce the quality of service for cyclists. A 3m shared use path would be provided.</td>
<td>The shared space would enhance the attractiveness of scheme area. However, mixing pedestrians with cyclists would reduce the quality of service for cyclists. A 4m shared use path would be provided.</td>
<td>The segregated space would enhance the attractiveness of scheme area. A 3m segregated cycle path would be provided parallel to a 2m footway.</td>
</tr>
<tr>
<td><strong>Homogeneity</strong></td>
<td>The shared space would encourage reduced cyclist speeds through the scheme area. However, it would increase the likelihood of potential pedestrian/cyclist conflicts.</td>
<td>The shared pedestrian/cyclist facility would encourage reduced cyclist speeds through the scheme area. However, it would increase the likelihood of pedestrian/cyclist conflicts. The width of the facility provided increases its advantage over Option 1.</td>
<td>Segregating cyclists and pedestrian through the R609 section of the route would reduce the number of collision points between pedestrians and cyclists.</td>
</tr>
<tr>
<td><strong>Legibility</strong></td>
<td>The shared space would not provide a consistent link for cyclists through the scheme area i.e. the previous phases provide an offline path. In regard to pedestrian and traffic interaction, Option 1 would have higher interaction due to the location of the path.</td>
<td>The shared pedestrian/cyclist facility would provide a consistent link for cyclists through the scheme area i.e. the previous phases provide an offline path. In regard to pedestrian and traffic interaction, Option 2 would have less interaction due to the offline nature of the path.</td>
<td>The segregated cycle track would provide a consistent link for cyclists through the scheme area. In regard to pedestrian and cyclist interaction with traffic, Option 3 would have more conflict points with traffic due to the number of access along the R609.</td>
</tr>
<tr>
<td><strong>Forgivingness</strong></td>
<td>Lighting would be used in all options to enhance visibility within the scheme area as well as to indicate conflict areas. Similarly, all options would use street furniture, tactile paving and trees/planters to define specific user paths e.g. pedestrian routes, cycle route, vehicular routes. The severity of potential collisions is higher for Option 1 due to the proximity of the carriageway.</td>
<td>Lighting would be used in all options to enhance visibility within the scheme area as well as to indicate conflict areas. Similarly, all options would use street furniture, tactile paving and trees/planters to define specific user paths e.g. pedestrian routes, cycle route, vehicular routes.</td>
<td>Lighting would be used in all options to enhance visibility within the scheme area as well as to indicate conflict areas. Similarly, all options would use street furniture, tactile paving and trees/planters to define specific user paths e.g. pedestrian routes, cycle route, vehicular routes. The severity of potential collisions is higher for Option 1 but lower than Option 2 due to the proximity of the carriageway.</td>
</tr>
<tr>
<td>Self-Awareness</td>
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<tr>
<td>The shared space would be less suitable for inexperienced cyclists during times of high pedestrian activity.</td>
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<tr>
<td>Commuter cyclists would likely use the carriageway rather than a shared use path adjacent to the carriageway.</td>
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</table>

<table>
<thead>
<tr>
<th>Local Impact</th>
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<tbody>
<tr>
<td>The proposed design would enhance the local area as it would provide a walking and cycling facility to connect Maryborough Ridge Development with Douglas and Cork City.</td>
</tr>
<tr>
<td>However, the impact to the property entrances would be significant and land acquisition would be required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Budget and Programme Risks</th>
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<tbody>
<tr>
<td>Option 1 would require land acquisition along the R609. It would represent poor value for money as the land required to construct the route would be more expensive. It would also require more structures to be constructed or replaced along the route to facilitate the pedestrian and cycle route.</td>
</tr>
<tr>
<td>Option 2 would represent good value for money as the majority of the land required is contained within Maryborough Ridge Development; a planning constraint requires the construction of a path for this development and could be constructed with developer contributions.</td>
</tr>
<tr>
<td>Option 3 would require land acquisition along the R609. It would represent worse value for money than the other options as the land required to construct the route would be more expensive. It would also require more structures to be constructed or replaced along the route to facilitate the pedestrian and cycle route.</td>
</tr>
</tbody>
</table>

Option 2 is considered the more favourable option; the off-road route follows the Moneygurney Stream through a natural valley and continues the quality of facility provided in the previous phase of the pedestrian and cycle route. Section 7 of this report describes the route in greater detail.
7. Proposed Design

7.1 Design Route Overview

The proposed route of the Ballybrack Valley Cyclist and Pedestrian Route Phase 4 connects to the existing Ballybrack Valley Phase 2, at Berkley Housing estate, to the proposed new roundabout on the L6477 adjacent to Maryborough Ridge. Refer to drawings SK-001 to SK012 in Appendix A for further details.

The proposed route travels through the Zoned Land SE-R-06 adjacent to the R609, under the existing N28 and through a proposed residential development at Maryborough Ridge before ending at the new proposed roundabout on the L6477.

7.1.1 Section1: Berkley Estate

The Existing Ballybrack Valley Phase 2 scheme connects to Berkley Estate. A toucan crossing is proposed at this location to connect Phase 2 to Phase 4 of the scheme. As the entrance is located on a slight bend, the proposed toucan crossing is located to the north of the existing entrance to Phase 2 in order to achieve the required visibility on approach to the pedestrian crossing.

![Figure 7.1 – Entrance to Ballybrack Valley Phase 2](image)

The proposed route will travel through the Irish Water Pumping Station to the south east of the toucan crossing. A 4m shared use path will be provided through the pumping station. A new pedestrian and cyclist entrance will need to be provided as well as internal fencing to secure the pumping station site.
7.1.2 Section 2: Zoned Land SE-R-06

From the western boundary of the Irish Water Pumping Station the proposed route will proceed through the Zoned Land SE-R-06 following the route of the Moneygurney Stream. Figure 7.3 below shows the undeveloped land available for the proposed route.
7.1.3 Section 3: R609/ N28 Junction

From the south east boundary of the proposed development the route progresses off road to an existing access path which crosses the Moneygurney Stream and joins the R609 at the slip road with the N25. The route proposes to utilise this existing track while maintaining vehicular access to the proposed farm house which the track currently serves.

A toucan crossing will be provided where the access track meets the R609. The toucan crossing will enable pedestrians and cyclists to safely cross the N28 slip road.

![Access Track, R609 and N28 slip road junction where toucan crossing is to be provided](image)

The toucan crossing then connects to a redundant traffic lane which travels underneath the N28. SK-012, Cross Section C-C highlights the proposed design along the redundant traffic lane with a proposed 500mm separation strip.

A toucan crossing is provided on the south eastern side of the N28 underpass to connect the proposed route to an existing access track which runs adjacent to the N28 to Maryborough Ridge.
7.1.4 Section 4: Maryborough Ridge to L6477

The Maryborough Ridge residential development was partly developed circa 2007. It is now subject to a new planning application which looks to develop the remainder of site.
From the existing access track, the proposed route follows the proposed main access road through the housing development. This proposed road is partly constructed and will be completed as part of the new planning application for the site.

The proposed design for the route will widen the existing 2m footpaths on the north side of the road to 4m shared use pedestrian and cycle paths along the route indicated on SK-006, SK-007 and SK-008. Figure 7.6 below shows the existing 2m footways to be widened. As part of the widening, the existing lighting columns will require relocating.

A number of crossing points have been identified along this residential route. Raised uncontrolled crossings are proposed for these locations to maximise the safety for pedestrians and cyclists at these locations. The proposed scheme terminates at the proposed roundabout on the L6477 which is to be constructed as part of the Maryborough Ridge development.

![Figure 7.7 – Maryborough Ridge Footways](image)

7.2 Post M28 Design

The N28/R609 junction is to be upgraded as part of the M28 upgrade scheme which is currently in the planning process. The route of the Ballybrack Valley Phase 4 has been designed to integrate into the future M28 scheme.

The route connects to pedestrian and cycle route proposed as part of the M28 upgrades, the route is located to the west of the existing R609/N28 junction. The M28 cycle and pedestrian facility will route the scheme across the new M28. At this location a new pedestrian and cycle path will need to be
constructed to Maryborough Ridge as the existing path connecting to Maryborough Ridge will be removed as part of the M28 construction.

SK-009 indicates the proposed route of Ballybrack Valley Phase 4 post the M28 construction.

7.3 Proposed Cross Section

Typical cross sections for the scheme are highlighted in drawings SK-011 and SK-012, located in Appendix A. Where possible a 4m wide pedestrian and cycle shared path is provided similar to the cross section provided in Ballybrack Valley Phase 2.

7.4 Connectivity

Connectivity with residential developments and other points of interest in the study area was identified as a key design consideration for the preliminary design. The Ballybrack Phase 4 route passes through Zoned Land SE-R-06 as highlighted in paragraph 2.9.1. Two access ramps have been designed as part of the route through the zoned land to allow access to the greenway. A further access ramp was designed to connect to a potential site for the proposed school site with access from the R609 as per the Zoned Land SE-R-06 requirements.

The proposed route also connects to Maryborough Ridge which currently consists of an existing 362 residential units with a further 219 units in the process of being developed or in the planning system. This proposed route would significantly improve the pedestrian and cyclist access to development.

By continuing the Ballybrack Phase 4 route through to the L6477 it provides the opportunity for pedestrians and cyclists from Maryborough Hill and Broadale to connect to the pedestrian and cycle scheme.
The M28 has received planning permission which will enable an interurban cycle route to be developed along the N28 to be developed as per the Cork Cycle Network Plan. Ballybrack Valley Phase 4 will integrate with this interurban cycle route.

8. Conclusion

A summary of the analysis results is presented in Table 5.1, Table 5.2 and Table 5.3 below.

Table 8.1: Analysis Summary for each Criteria

<table>
<thead>
<tr>
<th>Categories</th>
<th>Criteria</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design context</td>
<td>Functionality</td>
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<td>Homogeneity</td>
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<td>Legibility</td>
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<td>Forgivingness</td>
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<td>Self-Awareness</td>
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<tr>
<td>Community context</td>
<td>Local Impact</td>
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<tr>
<td>Delivery context</td>
<td>Budget and Programme Risks</td>
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Table 8.2: Analysis summary for each category

<table>
<thead>
<tr>
<th>Categories</th>
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<tr>
<td>Community context</td>
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<tr>
<td>Delivery context</td>
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</table>

Table 8.3: Overall average scores

<table>
<thead>
<tr>
<th>Categories</th>
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<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall ranking</td>
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</tbody>
</table>

Based upon the analysis produced, Option 2 has significant advantages over Options 1 and 3. In conclusion, it is recommended that the Option 2 is the preferred route and should progress to the detailed design stage.
8.1 Benefits of the New Pedestrian and Cycle Path

As highlighted in paragraph 3.1 the key benefits of the existing pedestrian and cycle path from Donnybrook and Maryborough to Douglas Village include the following:

- Connectivity from key residential developments south of Douglas Village to retail, schools and employment areas within Douglas Village and Cork City.

- The connectivity is achieved with a high quality of service as the route is off road and safe.

- The route encourages pedestrians and cyclists to utilise the facility as an alternative to driving. This supports a modal shift away from driving which has a positive impact on the environment.

- Health benefits for people can be attributed to walking and cycling as an alternative to driving.

- The path provides connectivity to other facilities at Tramore Valley Park and as identified in the Cork Cycle Network Plan, will eventually provide connectivity with larger commuter towns such as Carrigaline with the Metropolitan Area.

Ballybrack Valley Phase 4 extends the benefits of the existing pedestrian and cycle path to a wider area to include residential developments such as Maryborough Hill, Maryborough Ridge and Broadale, it increases the connectivity from these areas to Douglas Village and Cork City.
Appendix A – Drawings Package
Appendix B – AA Screening