



# Dundrum

## Area Based Transport Assessment

### Appendix B: Options Assessment Report

# DUNDRUM AREA-BASED TRANSPORT ASSESSMENT

## DRAFT OPTIONS ASSESSMENT REPORT

### IDENTIFICATION TABLE

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# 1. INTRODUCTION

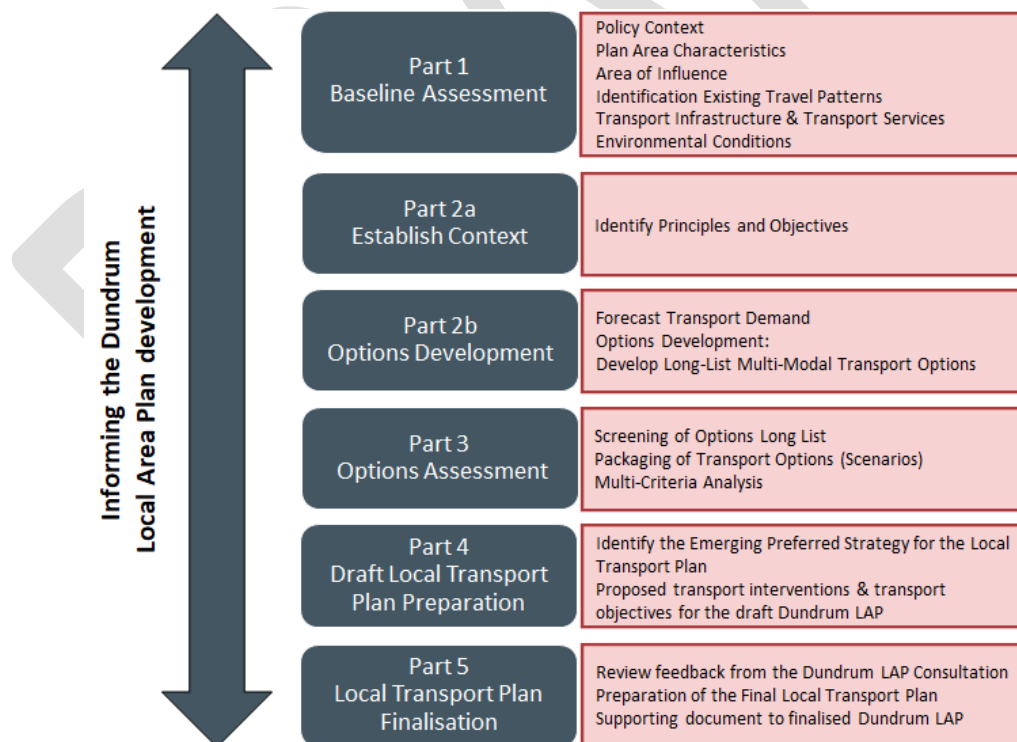
## 1.1 Background to the Dundrum ABTA

SYSTRA Ltd and JB Barry & Partners, have been commissioned by Dún Laoghaire-Rathdown County Council (DLRCC) to assist them in developing an Area Based Transport Assessment (ABTA) for Dundrum and its environs. The key purpose the ABTA is to guide the future transport and mobility needs of the Dundrum Local Area Plan (LAP) area, taking into account the transport demand arising from existing and projected development both within the LAP boundary and the wider area of influence. It is one of a number of complementary assessment processes which will be used in the development of the Dundrum LAP that is currently being prepared by the council.

ABTA's seek to maximise opportunities for the integration of land use and transport planning, with an emphasis on delivering sustainable travel solutions. The Dundrum ABTA will be undertaken to determine the key infrastructure measures, as well as policy and behavioural change measures, required in Dundrum to tackle existing constraints in transport capacity, to plan for appropriate levels of development to facilitate the projected growth in population and employment, and to encourage sustainable mobility.

## 1.2 ABTA Methodology

The Dundrum ABTA has been undertaken following the guidelines set out in TII/NTA's 'Area Based Transport Assessment (ABTA) Guidance Notes – December 2018', and the NTA's ABTA How To Guide Pilot Methodology<sup>1</sup>:



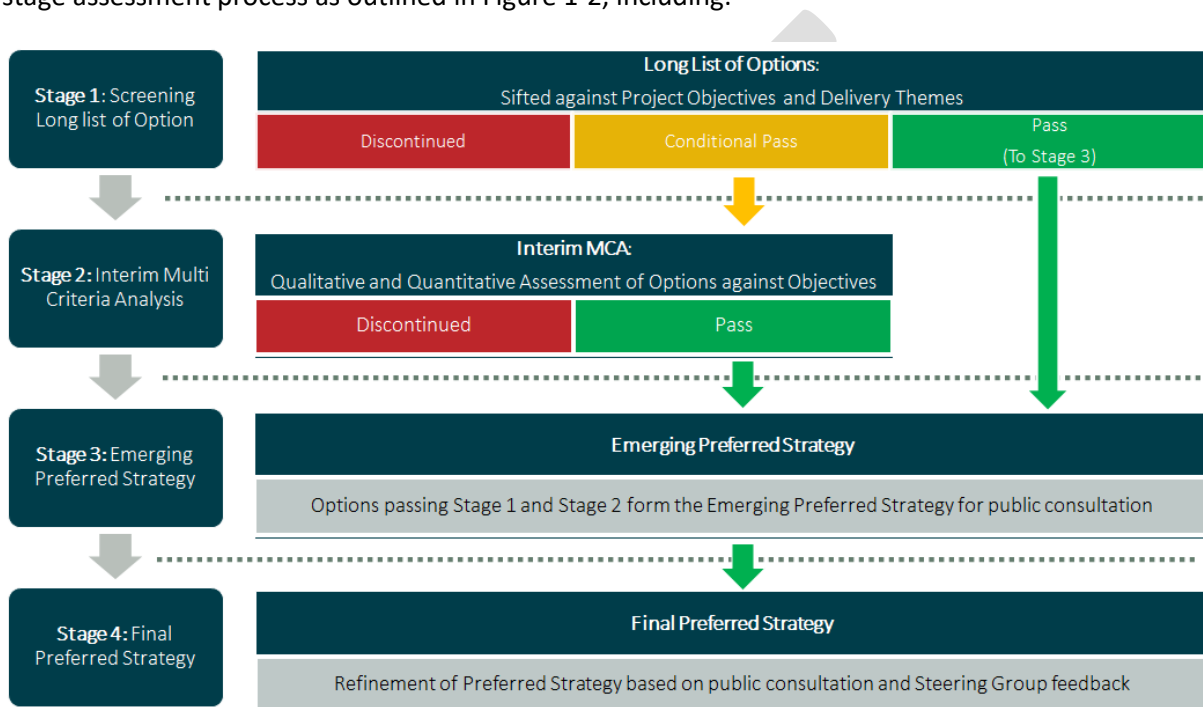
**Figure 1-1 Dundrum ABTA Methodology**

<sup>1</sup> <https://www.nationaltransport.ie/planning-and-investment/strategic-planning/guidance-documents/>

This report covers part 3 of the ABTA methodology, and provides an overview of all tasks undertaken to assess the long-list of transport options and identify the emerging preferred transport strategy for the Dundrum area. The preferred strategy will feed transport interventions and objectives into the draft Dundrum LAP for public consultation. Feedback from the consultation process will then be used to update and inform the finalised Transport Strategy for the Dundrum ABTA study area.

### 1.3 Options Assessment Methodology

To determine the Emerging Preferred Strategy, the long-list of options were passed through a four-stage assessment process as outlined in Figure 1-2, including:



**Figure 1-2 Options Assessment Methodology**

- **Stage 1 Options Screening:** The long-list of options were screened against the overall project objectives and core delivery themes to identify which ones should be discontinued, which could pass directly to the final strategy, and which required further assessment;
- **Stage 2 Interim Multi-Criteria Analysis (MCA):** Options requiring further analysis were passed through a MCA with qualitative and quantitative indicators used to score each option against the study objectives;
- **Stage 3 Emerging Preferred Strategy:** Options passing Stage 1 and Stage 2 form the initial draft Emerging Preferred Strategy for public consultation in conjunction with the Draft Local Area Plan.
- **Stage 4 Final Preferred Strategy:** Feedback from the project steering group and public consultation as part of the Dundrum LAP process will be used to refine the preferred strategy.

The following sections provide a more detailed description of each of the stages outlined above.



- **Chapter Two** outlines the long-list of transport options developed to overcome existing constraints within the study area and assist in achieving the overall ABTA objectives;
- **Chapter Three** sets out the methodology used to assess the long-list of options to identify those passing through to the emerging preferred transport strategy;
- **Chapters Four to Seven** present the results of the screening and interim MCA used to identify the optimal package of measures that inform the Transport Strategy; and
- Finally, **Chapter Eight** provides a general summary of this report.

DRAFT

## 2. OPTIONS DEVELOPMENT

### 2.1 Introduction

The following chapter outlines the long-list of options developed to overcome some of the weaknesses and constraints identified in the baseline assessment, and achieve the defined objectives for the ABTA. The options list was developed in collaboration with the wider project working group including members from DLRC and the NTA, through the following:

- **Data review** to identify proposals from wider policy/strategies for the study area e.g. Draft GDA Transport Strategy, Draft DLRC County Development Plan etc. This included a review of existing and projected future land-use within the study area to determine potential desire lines of travel;
- **Site visits** to review issues identified in the baseline assessment and opportunities for improvement;
- **Workshops** between the project working group to discuss and agree potential options; and
- **Collaborate option refinement** through the use of an online whiteboard platform (MIRO). All members of the project team were given access to the MIRO tool which hosted mapping of proposed options with functionality for drawing new suggestions, providing comments and feedback.

The options development process followed the Department of Transport’s National Investment Framework for Transport in Ireland (NIFTI) modal and intervention hierarchies (Figure 2-1). As such, options for applicable measures were first considered in relation to active modes (walking and cycling), followed by public transport and finally general vehicular traffic. The options were also initially focused on maintaining, optimising and improving existing facilities before considering the construction of new infrastructure.

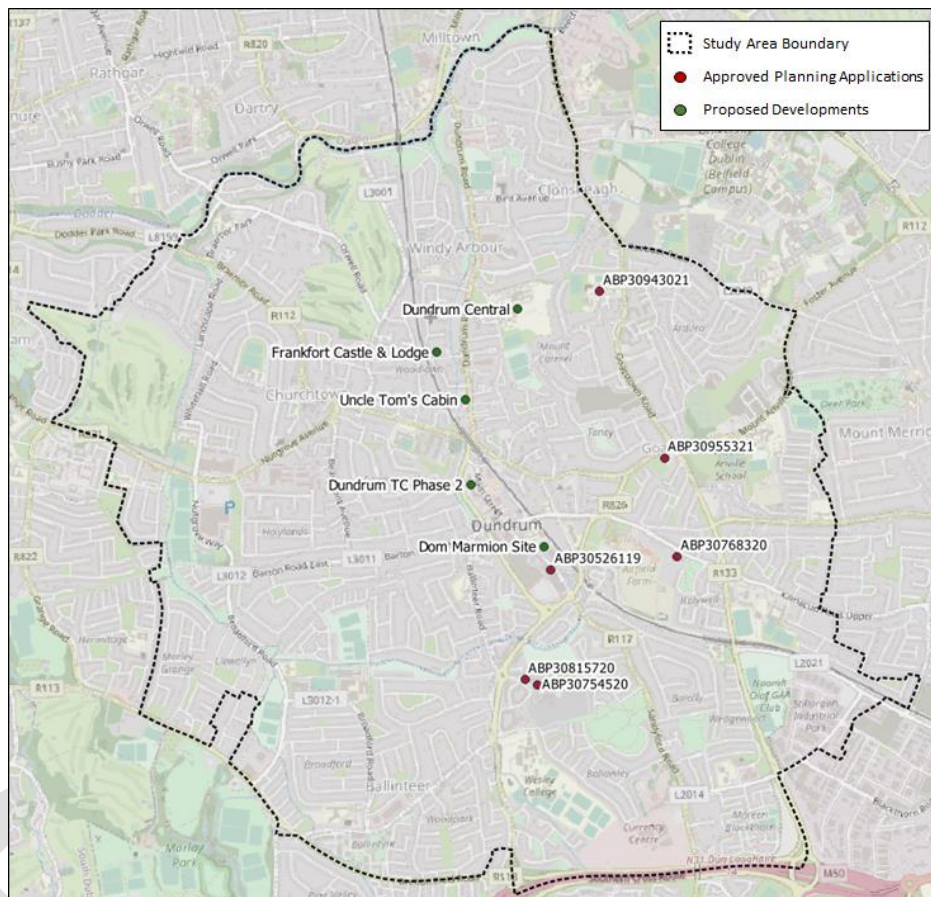


**Figure 2-1 NIFTI Modal and Intervention Hierarchy**

The following section provides an overview of proposed developments which were considered when identifying options to serve future desire lines by sustainable modes. The long-list of options are then presented across active modes, public transport and vehicular traffic with a rationale provided as to why each option has been considered. Finally, a series of options for supporting measures are identified to assist in achieving the overarching ABTA objectives.

## 2.2 Projected Future Land-Use

The baseline assessment provided an overview of the existing land-use within the study area i.e. residential densities, schools, retail, key employment locations etc. However, it's important to also consider future development proposals to ensure that the transport strategy can cater for growth in Dundrum and support future desire lines. Figure 2-2 indicates some of the main developments being proposed within the Dundrum ABTA Study Area.



**Figure 2-2 Study Area Development Proposals**

Two of the most significant proposals within the ABTA study area include the redevelopment of the Dundrum Central Mental Hospital Site and the second phase of the Dundrum Town Centre - the Old Dundrum Shopping Centre site.

### Dundrum Central Mental Hospital Site

The Land Development Agency (LDA) have applied for planning permission for a Strategic Housing Development on lands at the Central Mental Hospital in Dundrum<sup>2</sup>. The development is seeking permission for just under 1,000 residential units and will also include public open space, cycle and pedestrian routes, internal roads and vehicular access off the Dundrum Road.

<sup>2</sup> Further information available at: <http://www.dundrumcentralresidential.ie/>

## Old Dundrum Shopping Centre Site

The Dundrum Retail GP DAC have applied for planning permission for a Strategic Housing Development on the site of the Old Dundrum Shopping Centre, Main Street, Dundrum. The development is seeking permission for just under 900 residential units and will also include just under 4,500sqm of non-residential uses, public open space areas, a cycle and pedestrian link bridge from Sweetmount Park and vehicular access off the Dundrum Bypass.

## 2.3 Walking and Cycling Options

The baseline SWOT analysis identified a number of opportunities for walking and cycling within Dundrum, such as:

- The majority of trips to school are less than 2km in length;
- There are a number of key services within the study area supporting the 10-minute neighbourhood concept; and
- The mode share for active modes within Dundrum is higher than the county average.

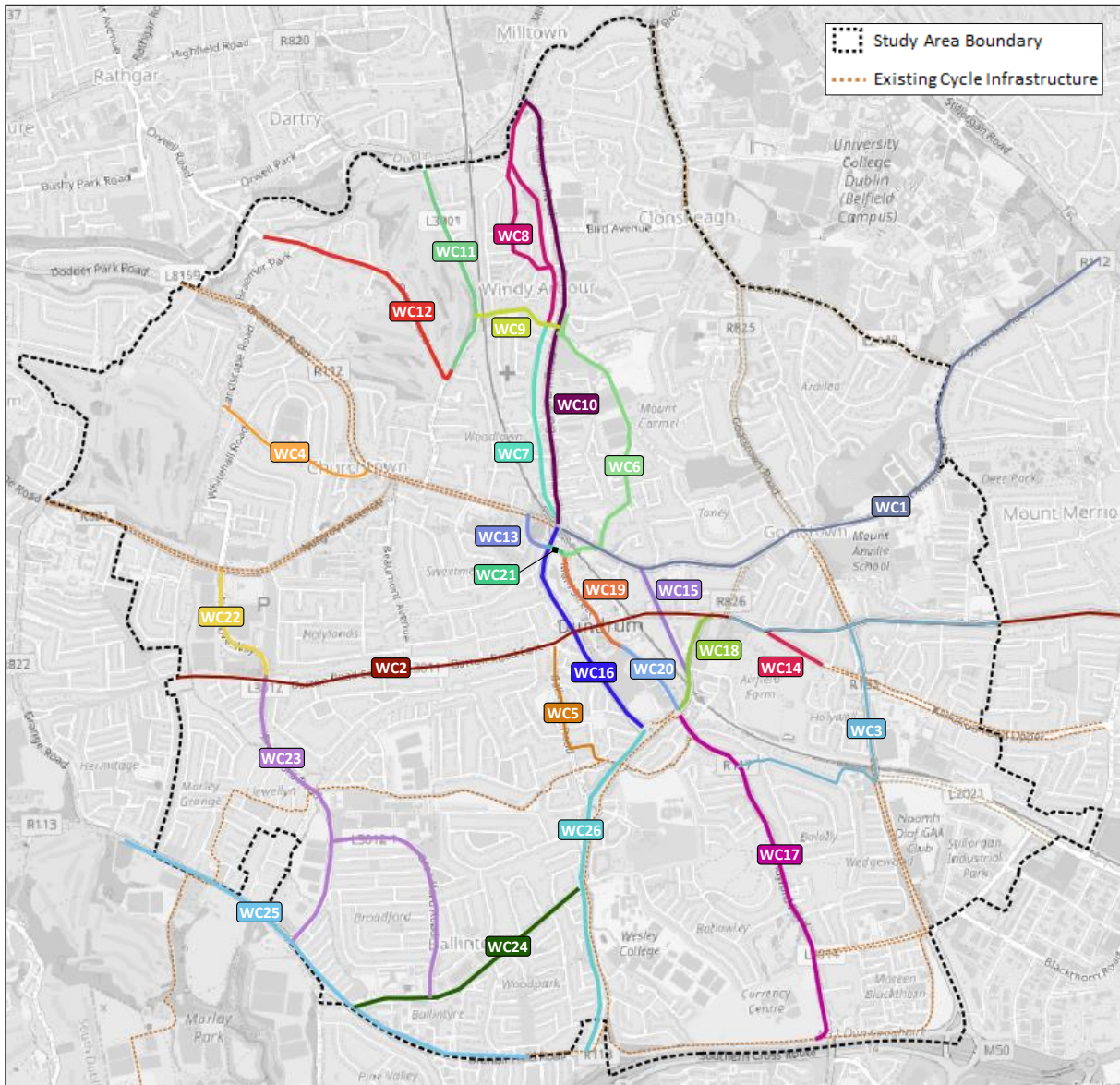
However, there are also many factors inhibiting walking and cycle use including severance due to the Luas line, steep gradients, poor permeability through residential areas and limited cycle infrastructure, particularly through junctions.

One of the key objectives of the ABTA is to provide an integrated walk and cycle network for Dundrum, with an emphasis on improving safety and increasing the use of active modes. The following sections outline the options which have been developed to achieve this objective, grouped into the following categories:

- **Strategic Walk and Cycle Options** which include the upgrade and construction of new infrastructure on key links within the study area; and
- **Permeability Improvement Options** supporting increased accessibility and connectivity to the wider walk and cycle network.

### 2.3.1 Strategic Walk & Cycle Options

Figure 2-3, and Table 2.1 overleaf, outline the various strategic walk and cycle options proposed for Dundrum. In each case, a description of the scheme is provided along with the rationale as to why it has been considered as an option for assessment. A number of the options are focused on upgrading existing advisory cycle lanes to segregated infrastructure to improve safety and promote use. For some routes, different options have been proposed and these will be evaluated in further detail as part of the options assessment process to determine the optimal solution.



**Figure 2-3 Strategic Walk & Cycle Options**

**Table 2.1 Strategic Walk & Cycle Options**

Option	Description	Rationale
WC1	<b>Taney Bridge to N11 Scheme</b> - Segregated cycle tracks from Taney Cross junction to the N11 - Currently at preliminary design stage	- Schemes currently being delivered by DLRCC Active Travel Team. - Further details available at: <a href="https://www.dlrcoco.ie/en/active-travel-0">https://www.dlrcoco.ie/en/active-travel-0</a>
WC2	<b>DLR Connector</b> - Cycle route linking from Barton Rd to Kilmacud Rd Upper through Eden Park Rd eastward - Tenders for design received and currently being assessed	
WC3	<b>DLRCC Active School Travel Scheme</b> - Walk and Cycle upgrades on Eden Park Rd, Kilmacud Rd Lower, Drummartin Link Rd and Balally Drive. - Currently at detailed design, some areas under construction	
WC4	<b>Churchtown Road Upper</b> - Work currently ongoing to deliver cycle lanes along this route past De La Salle College. Currently at Preliminary Design stage	
WC5	<b>Ballinteer Rd</b> - DLRCC Active Travel Team investigating the potential for segregated cycle tracks on Ballinteer Rd linking from Barton Rd East to Lynwood connecting to the Slang River Greenway. Currently at Preliminary Design Stage	
WC6	<b>Main St. to Dundrum Central via Taney Park and Rosemount Estate</b> - Connection between Main St. and Dundrum Central development via existing residential areas in Taney Park and Rosemount Estate - Connection North to St. Columbanus' Rd and Mulvey Park	

Option	Description	Rationale
WC7	<b>Parallel route to Dundrum Rd along stream linking St. Columbanus' Rd to Taney Cross Junction</b> - Off-road walk/cycle link parallel to Dundrum Rd	<ul style="list-style-type: none"> <li>- Provide safe walking and cycling route as an alternative to Dundrum Rd where space constraints limit the additional infrastructure which can be developed</li> <li>- Provide connection for residents of Dundrum Rd with Main St.</li> <li>- Create amenity route which will attract visitors to the area and support local businesses</li> </ul>
WC8	<b>Northern route parallel to Dundrum Rd via Glasson Park and Patrick Doyle Rd</b> - Link from St. Columbanus' Road to Patrick Doyle Rd and connecting to Dodder Greenway at northern end of Dundrum Rd	<ul style="list-style-type: none"> <li>- Alternative route to Dundrum Rd for pedestrians and cyclists</li> <li>- Short term solution to use Patrick Doyle Rd to connect northward</li> <li>- Medium term solution to deliver off-road link via the stream to connect to the Dodder Greenway</li> <li>- Create amenity route particularly when combined with delivery of the southern section linking all residents and businesses along Dundrum Rd with Main St.</li> </ul>
WC9	<b>St. Columbanus' Road</b> - Convert to School Zone in-line with NTA Safe Routes to School Design Guidance - Pavement treatments, raised crossings, planting and seating along route, discourage illegal parking	<ul style="list-style-type: none"> <li>- Provide a safe and attractive environment for children walking and cycling to Our Lady's National School</li> <li>- Tie in the with the access to the Dundrum Central site and the proposed local neighbourhood centre (WC10a) connecting to the Windy Arbour Luas stop</li> </ul>
WC10	<b>Dundrum Road Options</b>	
WC10a	<b>Traffic Management &amp; Urban Realm Enhancements</b> - Creation of neighbourhood street feel with traffic management, public realm improvements and neighbourhood centres	<ul style="list-style-type: none"> <li>- Insufficient space available to introduce segregated cycle infrastructure without purchasing land or altering the road layout</li> <li>- Improve environment for pedestrian and cyclists and support local trip making</li> </ul>

Option	Description	Rationale
		<ul style="list-style-type: none"> <li>- Public realm enhancements and the focus on neighbourhood centres along the route will support local businesses and the 10-minute neighbourhood concept</li> <li>- Public realm and traffic management measures (e.g. increased crossing points, raised pavements at key locations etc.) will reduce traffic speeds and help discourage through traffic</li> </ul>
<b>WC10b</b>	<p><b>1-way contra flow cycle lane</b></p> <ul style="list-style-type: none"> <li>- Remove one lane of traffic on Dundrum Road to create a segregated cycle lane and improve footpath widths</li> </ul>	<ul style="list-style-type: none"> <li>- Improve safety for cyclist by providing a segregated cycle track in one-direction with cyclists sharing the carriageway in the opposite direction</li> <li>- Provide strong link between Dundrum Rd and Main St. for pedestrians and cyclists</li> <li>- Insufficient space available to introduce segregated cycle infrastructure without altering the road layout</li> <li>- Reduction of carriageway can facilitate improved footpath widths along the route which are currently constrained in sections</li> <li>- Remove a significant proportion of traffic from Dundrum Rd improving the pedestrian and cycling environment</li> </ul>
<b>WC10c</b>	<p><b>Purchase land to create space for 2-way cycle lanes</b></p> <ul style="list-style-type: none"> <li>- Compulsory Purchase Order (CPO) land to create enough space for 2-way cycle lanes and improved footpath widths</li> </ul>	<ul style="list-style-type: none"> <li>- Insufficient space available to introduce segregated cycle infrastructure without purchasing land</li> <li>- Improve safety for cyclist, and particularly vulnerable users, by providing a segregated cycle track in both directions</li> <li>- Improve footpath conditions and widths along route</li> <li>- Provide strong link between Dundrum Rd and Main St. for pedestrians and cyclists</li> </ul>
<b>WC11</b>	<b>Churchtown Rd Lower</b>	<ul style="list-style-type: none"> <li>- Alternative northern link connecting to the Windy Arbour Luas Stop, Dodder Greenway and Milltown</li> </ul>



Option	Description	Rationale
	- Introduction of segregated cycle tracks and upgraded footpaths along Churchtown Rd Lower from Woodlawn Park to the Dodder Greenway	- Safe connection to Dundrum Main St. when combined with Quiet Street proposal at Woodlawn Park (Option P4)
<b>WC12</b>	<b>Orwell Rd</b> - Footpath upgrades, additional crossing points and traffic calming measures to reduce vehicle speeds along the route	- Improve environment for pedestrians and cyclists - Insufficient space to provide segregated cycle infrastructure along the route – particularly through residential areas - Strong alternative strategic cycle routes proposed on Braemor Rd and Churchtown Rd Lower (WC11) linking to Terenure, Rathgar and Milltown
<b>WC13</b>	<b>Churchtown Rd Upper Cycle Tracks</b> - Provide cycle tracks on Churchtown Rd Upper on the section east of Fernbank Apartments connecting to Dundrum Bypass	- Provides a safe route for pedestrians and cyclists from Churchtown Rd Upper to Dundrum Main St. - Provides a safe alternative for right turning cyclists from Churchtown Rd Upper at Taney Cross Junction – removes the potential conflict with vehicular traffic at the junction
<b>WC14</b>	<b>Kilmacud Rd Upper</b> - Segregated cycle lanes linking the DLR Connector Scheme with existing segregated cycle lanes to the junction with Drummartin Link Rd	- DLR Connector scheme comes off Kilmacud Rd Upper at Knocknashee - Desire line for cyclists travelling to/from southeast to stay on Kilmacud Rd Upper to the junction with Drummartin Link Road - Existing segregated cycle lanes on Kilmacud Rd Upper west of the Drummartin Link Rd - Option would link these cycle lanes to the DLR Connector scheme providing segregated cycle infrastructure along the Kilmacud Rd Upper creating a safe and attractive environment for cyclists
<b>WC15</b>	<b>Sydenham Rd to Sydenham Villas</b>	- Links proposed cycle facilities along Taney Rd (WC1) with proposed facilities along Kilmacud Rd Upper (WC2, WC14) - Provides safe route to schools – Taney Parish & Holy Cross

Option	Description	Rationale
	- Explore potential for one way traffic flow southbound on Sydenham Road to provide a two-way segregated cycle facility and improved pedestrian facilities.	- Provides a cycle route between the Dundrum Central development and Airfield Estate - Facilitates the reduction of crossing widths at the junction with Kilmacud Rd Upper improving the environment for children travelling to school
<b>WC16</b>	<b>Dundrum Bypass</b> - Upgrade to segregated two way cycle lanes along western side of bypass	- Upgrade to segregated cycle infrastructure will improve safety for cyclists and attract new users - Sufficient space available along each route to introduce segregated infrastructure without the requirement for land acquisition
<b>WC17</b>	<b>Sandyford Road</b> - Upgrade to segregated cycle lanes	
<b>WC18</b>	<b>Overend Ave</b> - Upgrade to segregated cycle lanes	
<b>WC19</b>	<b>Main St. Options</b>	
<b>WC19a</b>	<b>Retention of the existing contra flow segregated cycle lane along North Sandyford Rd. &amp; Dundrum Main St.</b>	- Introduced as temporary COVID measure - Provides safety and priority for cyclist along Main St. - Provides additional space to improve public realm along Main St. including footpath upgrades, planting, outdoor seating areas etc.
<b>WC19b</b>	<b>Revert back to two-way traffic arrangement</b>	- Main St. mobility measures introduced as a temporary measure initially - Alternative is to revert to previous arrangement. This should be assessed to ensure optimal solution is identified for Main St. in the long term
<b>WC19c</b>	<b>Convert to bus only street</b>	- Removal of general traffic from Main St. would improve the environment for pedestrians and cyclists - Bus access required to serve Main St. and support vibrancy of the area - Further space available for public realm improvements

Option	Description	Rationale
<b>WC20</b>	<b>North Sandyford Rd Options</b>	
<b>WC20a</b>	<b>Traffic Management</b> - Reduce vehicle speeds and create a shared surface environment for improved cycle safety	<ul style="list-style-type: none"> <li>- Main link from south connecting to the Dundrum Town Centre and Main St.</li> <li>- COVID Mobility works stop south of the Main St/Kilmacud Rd Upper junction</li> <li>- Vehicles currently travel at relatively high speeds along this route</li> <li>- Currently an unattractive environment for cyclists, particularly vulnerable users or less confident cyclists</li> <li>- Insufficient space available to introduce segregated cycle infrastructure without purchasing land or altering the road layout</li> <li>- Introduction of traffic management and public realm measures will create a 'town centre' feel and encourage reduced vehicular speeds</li> </ul>
<b>WC20b</b>	<b>Contra-flow cycle lane</b> - Remove southbound traffic lane and extend the Main St. cycle lane to the junction with Overend Ave	<ul style="list-style-type: none"> <li>- Continuation of Main St. mobility interventions which have significantly improved the environment for pedestrians and cyclists</li> <li>- Create segregated cycle link from Main St. south towards Sandyford Rd and Wyckham Way</li> <li>- Assist in rationalising the junction with Overend Ave reducing crossing widths and improving safety for pedestrians and cyclists</li> <li>- Provide additional space for footpath and public realm improvements</li> <li>- Attract more walking and cycling trips to Main St.</li> </ul>
<b>WC21</b>	<b>Continue 1-way system on northern section of Main St to junction with Dundrum Bypass</b>	<ul style="list-style-type: none"> <li>- Provide additional space for footpath upgrades and public realm improvements</li> <li>- Segregated cycle track provides a safe link to Main St. and Dundrum Town Centre</li> </ul>

Option	Description	Rationale
		<ul style="list-style-type: none"> <li>- Reduces traffic movements at the junction with Dundrum Bypass allowing more space to be given over to pedestrian and cyclists</li> </ul>
<b>WC22</b>	<b>Nutgrove Way</b> <ul style="list-style-type: none"> <li>- Cycle infrastructure linking to Nutgrove Shopping centre and connection between Barton Rd East and Nutgrove Avenue</li> </ul>	<ul style="list-style-type: none"> <li>- Currently a missing link on the cycle network. Wide carriageways and space available for cycle infrastructure</li> <li>- Connect to proposed upgrade of cycle facilities on Stonemasons Way</li> <li>- Provide safe cycle infrastructure connecting to Nutgrove Shopping Centre from residential areas to the south</li> </ul>
<b>WC23</b>	<b>Stonemasons Way/Broadford Rd</b> <ul style="list-style-type: none"> <li>- Upgrade existing advisory cycle lanes to segregated infrastructure linking Brehon Field Rd, Ballinteer Community School and Nutgrove Shopping centre</li> <li>- Sufficient space available to upgrade existing facilities (segregation)</li> </ul>	<ul style="list-style-type: none"> <li>- Provide a safer and more attractive environment for cyclists</li> <li>- Will support increased cycle trips, particularly for less-confident and vulnerable users</li> <li>- Supports safe routes to local schools such as Ballinteer Community College, St. Attracta's National School and Our Lady's National School</li> </ul>
<b>WC24</b>	<b>Ballinteer Ave</b> <ul style="list-style-type: none"> <li>- Revise junction layouts at either end to discourage through traffic &amp; examine potential bus priority measures at junctions to facilitate PT</li> <li>- Transition Ballinteer Ave to a more residential / neighbourhood street: <ul style="list-style-type: none"> <li>• 30 km/hr speed limit &amp; restrictions on HGVs</li> <li>• Scheme of public realm works to focus on neighbourhood areas and calm traffic</li> <li>• Provide pedestrian crossings at appropriate locations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Significant residential development along Ballinteer Ave</li> <li>- Link to Wyckham Way and Dundrum</li> <li>- Connecting to local schools including Our Lady's National School and Wesley College</li> <li>- No existing cycle facilities. Insufficient space available to introduce segregated cycle infrastructure without purchasing land or altering the road layout</li> <li>- Requirement to support two-way bus movements for BusConnects A-Spine services</li> </ul>

Option	Description	Rationale
		<ul style="list-style-type: none"> <li>- Public realm enhancements and the focus on neighbourhood centres along the route will support local businesses and the 10-minute neighbourhood concept</li> <li>- Public realm and traffic management measures (e.g. increased crossing points, raised pavements at key locations etc.) will reduce traffic speeds and help discourage through traffic</li> </ul>
<b>WC25</b>	<p><b>Brehon Field Road</b></p> <ul style="list-style-type: none"> <li>- Allow 2 way cycling on the Brehon Field Road cycle tracks</li> <li>- Appears to be adequate space and is more convenient for cyclists</li> </ul>	<ul style="list-style-type: none"> <li>- Current cycle tracks on Brehon Field Rd transition from two-way to one-way</li> <li>- Adequate space available to continue two-way cycle track on both sides of the road</li> <li>- Improved safety and convenience for cyclists as they don't need to cross Brehon Field Rd which has a wide cross section and high traffic volumes</li> </ul>
<b>WC26</b>	<p><b>Wyckham Way</b></p> <ul style="list-style-type: none"> <li>- Improve existing cycle facilities along Ballinteer Rd – Wyckham Way.</li> <li>- provide segregated cycle facilities along the west side of the carriageway for the full length (Dundrum Town Centre to Brehon Field Rd).</li> </ul>	<ul style="list-style-type: none"> <li>- Mostly minor but important interventions required on the existing two-way cycle track on the eastern side of Wyckham Way. This includes better defining of the route along certain sections and providing raised platforms consistently at crossing points along the full route.</li> <li>- Section of two-way cycle track missing on the western side of Wyckham Way between Ballinteer Ave and Ballinteer Rd</li> <li>- Providing a continuous two-way cycle track on the western side will be more convenient and safer for cyclists with reduced need to cross the Wyckham Way – wide carriageway and high traffic volumes</li> </ul>

### 2.3.2 Permeability Improvement Options

Figure 2-4, and Table 2.2 overleaf, outline the various permeability improvement options proposed for the ABTA. These measures are focused on strengthening and improving existing links, providing connectivity to the wider network and key services such as schools, parks, shops etc. In combination with the strategic measures outlined above, these options will provide a comprehensive and integrated walk and cycle network supporting increased accessibility and permeability.

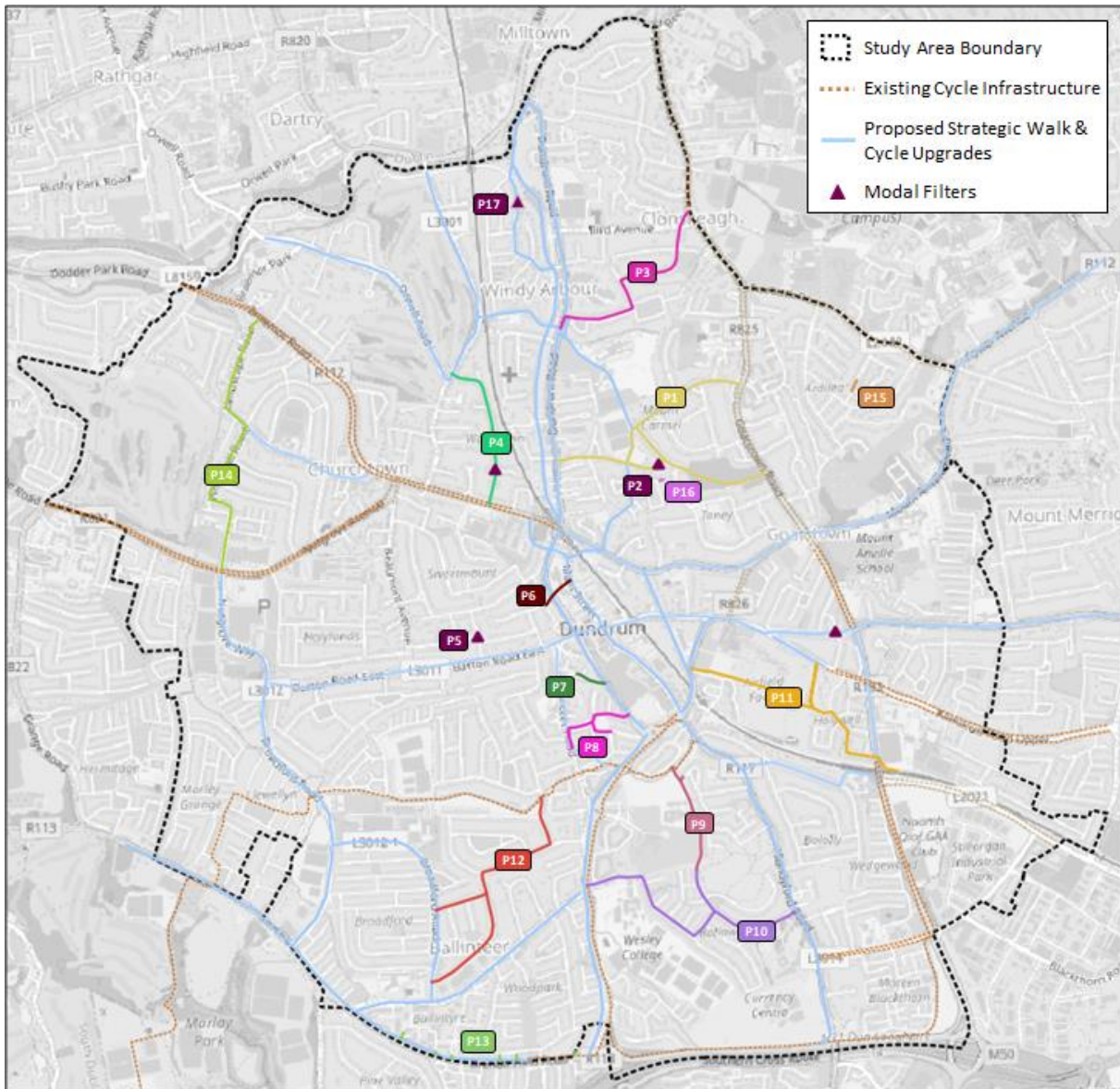


Figure 2-4 Permeability Improvement Options<sup>3</sup>

<sup>3</sup> Please note, the modal filter locations are indicative only. Further assessment and consultation with local residents will be required to determine the optimal locations.

**Table 2.2 Permeability Improvement Options**

Option	Description	Rationale
<b>P1</b>	<b>Rosemount Estate - Larchfield Road - Goatstown Rd</b> - Strengthen connection through existing residential streets with improved way-finding, footpath upgrades and traffic calming measures	<ul style="list-style-type: none"> <li>- Provide safer pedestrian and cycle connection from Dundrum Rd to cycle facilities on Goatstown Road</li> <li>- Potential for additional link via Mount Carmel Rd to a new proposed school improving safe access for local students</li> </ul>
<b>P2</b>	<b>Rosemount Estate/Mount Carmel Avenue Modal Filter</b>	<ul style="list-style-type: none"> <li>- Modal filter would remove unnecessary traffic from the residential area improving safety and environment for local residents</li> <li>- Creation of a 'Quiet Street' will improve safety for pedestrians and cyclists and improve sustainable linkages between Dundrum Rd and Goatstown Rd</li> </ul>
<b>P3</b>	<b>Mulvey Park – Gledswood Park – Clonskeagh Rd</b> - Strengthen route for pedestrian cyclists - improved way finding, traffic calming measures etc.	<ul style="list-style-type: none"> <li>- Provide safer pedestrian and cycle connection between Dundrum Rd, Clonskeagh and UCD</li> <li>- Alternative route to Bird Ave for vulnerable cyclists</li> <li>- Forms part of wider walk and cycle connectivity between the Dundrum Central development, Windy Harbour Luas and UCD</li> </ul>
<b>P4</b>	<b>Woodlawn Park Modal Filter</b> - Create 'Quiet Street' and link from Churchtown Rd Lower and Orwell Rd to Churchtown Rd Upper and Main St. - Potential for Modal filter to remove through traffic	<ul style="list-style-type: none"> <li>- Significant amount of rat-running witnessed during site visit and identified in traffic survey data</li> <li>- Traffic using Woodlawn Park to avoid congestion at the junction with Churchtown Rd Upper</li> <li>- Modal filter would remove unnecessary traffic from the residential area improving safety and environment for local residents</li> </ul>

Option	Description	Rationale
		<ul style="list-style-type: none"> <li>- Creation of 'Quiet Street' will improve safety for pedestrians and cyclists and improve sustainable linkages with Dundrum Main St. via Churchtown Rd upper</li> </ul>
P5	<b>Modal Filter on Sweetmount Drive/Sweetmount Park</b>	<ul style="list-style-type: none"> <li>- Significant amount of rat-running witnessed during site visit and identified in traffic survey data</li> <li>- Traffic using Sweetmount Drive and Churchtown Rd Upper as an alternative to Dundrum Bypass and to avoid congestion at the Taney Cross junction</li> <li>- Modal filter would remove unnecessary traffic from residential areas improving safety and environment for local residents</li> <li>- Creation of 'Quiet Street' will improve safety for pedestrians and cyclists and improve sustainable linkages with Dundrum Main St. and local schools</li> </ul>
P6	<b>Sweetmount Park to Dundrum Town Centre Phase 2</b> - Link over Dundrum Bypass providing connectivity to Phase 2 and Main St.	<ul style="list-style-type: none"> <li>- Assist in alleviating some of the severance issues to the west of Main St caused by steep gradients.</li> <li>- Provide a direct pedestrian connection from residential areas to the west of the bypass with the proposed Phase 2 development and Main St.</li> </ul>
P7	<b>Castle View Estate to Dundrum Bypass</b> - Provide a pedestrian and cycle link from Castle View residential estate to Dundrum Bypass	<ul style="list-style-type: none"> <li>- Assist in alleviating some of the severance issues caused by steep gradients to the west of the bypass</li> <li>- Connection to Dundrum Town Centre (DTC), and bus stops on the bypass</li> <li>- Reduced journey time by active modes for residents in Castle View to Dundrum Town Centre</li> </ul>



Option	Description	Rationale
P8	<p><b>Ballinteer Rd – Lynwood &amp; Castlebrook Estates – Dundrum Town Centre</b></p> <ul style="list-style-type: none"> <li>- Strengthen connection through existing residential streets with improved way-finding, footpath upgrades and traffic calming measures</li> <li>- Include pedestrian crossing facilities on Ballinteer Rd &amp; Dundrum Bypass</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitate a pedestrian / cycle route between Ballinteer Road, adjoining housing estates and Dundrum Bypass &amp; Dundrum Town Centre</li> <li>- Facilitates permeability through residential estates to Dundrum Town Centre and also improves access to bus services on both Ballinteer Rd and Dundrum bypass</li> <li>- Connect with proposed DLRCC cycle track scheme on Ballinteer Rd (See Option WC5)</li> </ul>
P9	<p><b>Ped/Cycle Route from Wesley Heights – St. Tiernan’s Community School – Slang River Greenway</b></p>	<ul style="list-style-type: none"> <li>- Provides direct access to the greenway and improves permeability for a wider residential area to the south of Dundrum</li> <li>- An informal desire line currently exists but it is of poor quality</li> <li>- Recent permitted developments for St Tiernan’s include conditions requiring the provision of this link.</li> </ul>
P10	<p><b>Greenmount lane – Clonard Dr. – Clonard Rd ped/cycle link</b></p> <ul style="list-style-type: none"> <li>- Strengthen route for pedestrian cyclists - improved way finding, footpath upgrades, traffic calming measures etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides an active mode link between Ballinteer Ave/Wyckham Way and Sandyford Rd/Sandyford Business Park</li> <li>- Provides a safe route for local residents to Wesley College</li> <li>- Supports connectivity to the wider strategic pedestrian and cycle infrastructure linking to Dundrum Town Centre and Main St.</li> </ul>
P11	<p><b>Holywell estate to Drummartin Link Rd</b></p> <ul style="list-style-type: none"> <li>- Direct pedestrian &amp; cycle access from Holywell estate to Drummartin Link Rd</li> <li>- Toucan crossing across Drummartin Link Rd to connect with existing facilities</li> <li>- Explore potential for permeability through Airfield estate to serve Greenacres &amp; Holywell – facilitates safe route to/from Dundrum</li> </ul>	<ul style="list-style-type: none"> <li>- Significantly reduces walking and cycling times to Kilmacud Luas &amp; nearby school &amp; sports pitches for residents in Holywell</li> <li>- Route via Airfield Estate would provide a safe off-road connection to Overend Ave. This would reduce travel times by walking and cycling to Taney Parish School and Dundrum Town Centre / Main St.</li> </ul>

Option	Description	Rationale
P12	<b>Ballinteer Grove – Ludford Rd – Slang River Greenway ped/cycle route</b> - Strengthen route for pedestrian cyclists - improved way finding, footpath upgrades, traffic calming measures etc	<ul style="list-style-type: none"> <li>- Provides link between residential areas north of Ballinteer Rd with the Slang River Greenway and Dundrum Town Centre</li> <li>- Improve accessibility for residents with local schools in Ballinteer</li> <li>- Alternative safe pedestrian and cycle route to Ballinteer Ave, particularly for less-comfortable or vulnerable cyclists</li> </ul>
P13	<b>Improved permeability onto Brehon Field Rd ped/cycle facilities</b> - Breakout from residential areas such as Ballintyre Meadows, Ballintyre Grove, The Heights etc. directly onto Brehon Field Rd - Provides alternative connection to Ballinteer Avenue	<ul style="list-style-type: none"> <li>- Facilitates improved connectivity to pedestrian/cycle infrastructure on Brehon Field Rd linking westward toward Marlay Park and northward to Dundrum via cycle tracks on Wyckham Way.</li> </ul>
P14	<b>Whitehall Road – Landscape Road ped/cycle route</b> - Strengthen route for pedestrian cyclists - improved way finding, traffic calming measures etc.	<ul style="list-style-type: none"> <li>- Continues Western link connecting Nutgrove Avenue, Nutgrove Shopping Centre, Good Shephard National School, De La Salle College and Braemor Rd</li> <li>- Ties in with proposed cycle infrastructure upgrades on Nutgrove Way (WC22), Stonemasons Way (WC23) and Churchtown Rd Upper (WC4)</li> </ul>
P15	<b>Permeability in Ardilea between Louvain Glade and The Palms</b> - Break through vegetation to provide link for pedestrians and cyclists	<ul style="list-style-type: none"> <li>- Local permeability schemes to improve accessibility for residents and reduce journey times by walking and cycling to key services</li> </ul>
P16	<b>Permeability in Rosemount Way through to Taney Crescent</b> - Break through wall to provide access for pedestrians and cyclists to Taney Crescent	
P17	<b>Patrick Doyle Road Modal Filter</b>	<ul style="list-style-type: none"> <li>- Modal filter would remove unnecessary traffic from the residential area improving safety and environment for local residents</li> <li>- Creation of ‘Quiet Street’ will improve safety for pedestrians and cyclists connecting to the Dodder Greenway</li> </ul>

## 2.4 Public Transport Options

The baseline assessment highlighted some deficiencies in the public transport offering in Dundrum. Whilst it is served by a high frequency Luas service, trams are often operating close to, or over, capacity during the key peak periods. There are also a number of orbital bus routes in operation, however, these tend to be relatively infrequent and overall bus use for commuting is low.

Table 2.3, overleaf, outlines the key public transport options developed for the Dundrum ABTA area to overcome some of these deficiencies. The options have been informed by local and regional policies and strategies, as well as findings from the baseline assessment. At a more strategic level, the key interventions are derived from the Draft GDA Transport Strategy. These include aspects such as capacity enhancements for the Luas Green Line, rollout of the BusConnects network upgrades (Figure 2-5) and the development of a bus/Luas interchange in Dundrum.

At a local level, options are focused on increasing accessibility to public transport stops, upgrades to stop infrastructure (shelters, RTPI etc.) along with improving priority for buses across the network where possible. An option for a bus gate along Dundrum Rd is also included for assessment. This will facilitate the efficient operation of bus services along this route to Dundrum, whilst also removing through traffic and creating an improved environment for pedestrians and cyclists.



Figure 2-5 Dundrum BusConnects Network

**Table 2.3 Public Transport Options**

Option	Description	Rationale
PT1	<b>BusConnects</b> - Support the delivery of the BusConnects network redesign	<ul style="list-style-type: none"> <li>- The BusConnects network redesign aims to provide a better, more reliable and more efficient bus service.</li> <li>- The Dundrum area will be served by the A-Spine, along with a number of local and orbital services</li> <li>- The baseline assessment highlighted the relatively low use of bus within the study area. The improvement in service offering and frequency will help improve this.</li> </ul>
PT2	<b>New Bus Interchange at northern end of Main St.</b>	<ul style="list-style-type: none"> <li>- Support the integration between bus and Luas in Dundrum</li> <li>- Improve accessibility and connectivity to a wider area via public transport</li> <li>- Improve the vibrancy of North Main St.</li> </ul>
PT3	<b>Bus Priority measures</b> - Examine potential for bus priority measures including use of existing or new bus lanes along Wyckham Way, Ballinteer Road, Sandyford Rd and Churchtown Rd Upper	<ul style="list-style-type: none"> <li>- Review existing bus priority measures and identify where potential improvements could be introduced</li> <li>- Improve the journey time for bus services which could help support a shift away from the private car</li> </ul>
PT4	<b>Bus Gate on Dundrum Rd</b> - Bus Gate along Dundrum Rd restricting vehicular movements	<ul style="list-style-type: none"> <li>- Remove long-distance through traffic from Dundrum Rd, particularly during the peak periods</li> <li>- Support the transition of Dundrum Rd to a neighbourhood street with public realm improvements</li> <li>- Reduce traffic volumes providing a safer and more attractive environment for pedestrians and cyclists</li> <li>- Encourage the use of active modes for residents along Dundrum Rd</li> </ul>
PT5	<b>Improved interchange facilities at Balally Luas Station</b> - bus stops and pedestrian crossing required to connect with the BusConnects L25 route	<ul style="list-style-type: none"> <li>- Improve integration between bus and Luas services, and support the increased attractiveness of public transport</li> </ul>

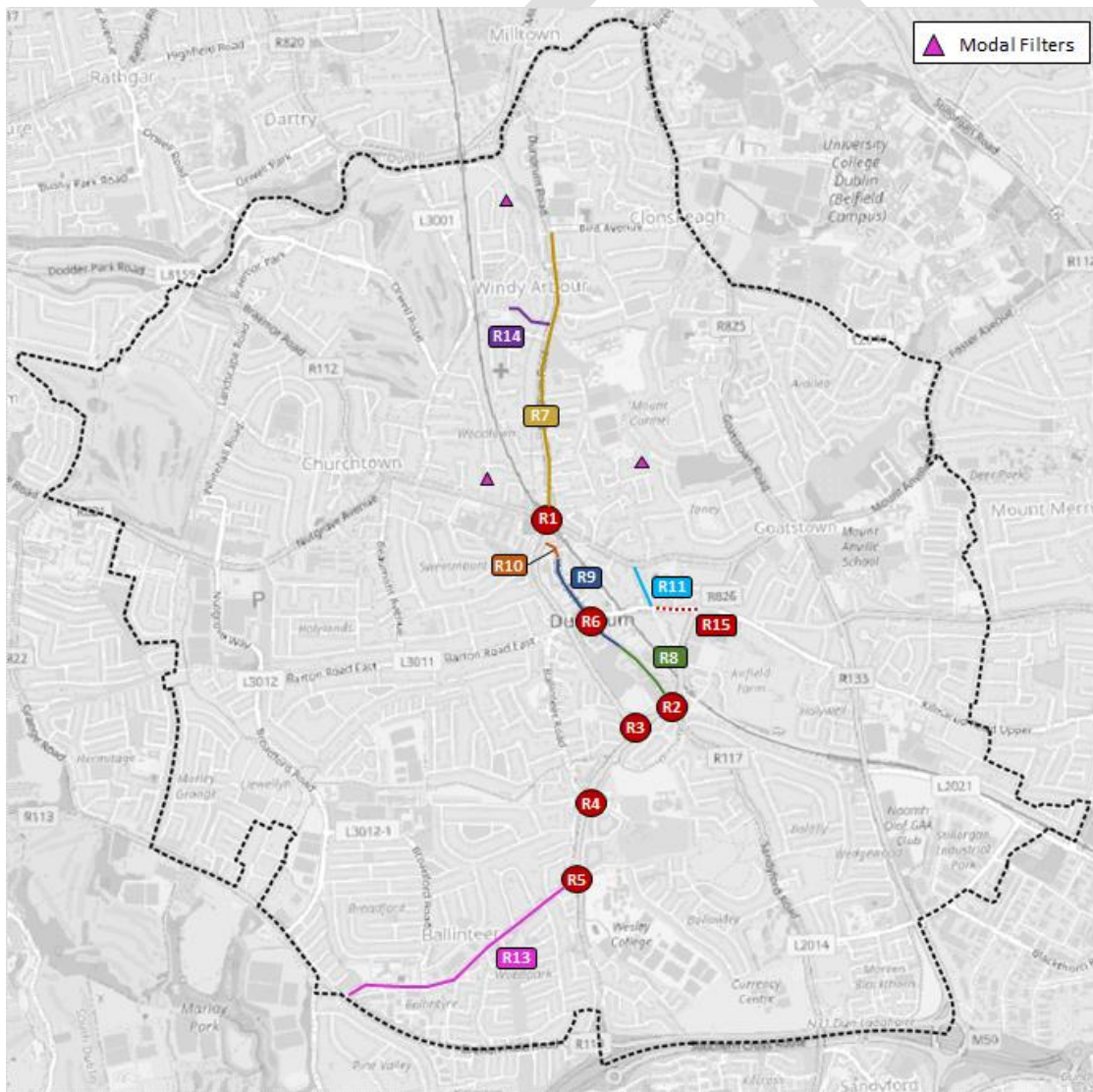
Option	Description	Rationale
PT6	<b>Improved bus stop infrastructure</b> <ul style="list-style-type: none"> <li>- Provide bus shelters where feasible / at high patronage locations</li> <li>- RTPI to be provided in Dundrum at Dundrum Bus Interchange &amp; Ballinteer Rd and assess for other locations</li> </ul>	<ul style="list-style-type: none"> <li>- Support increased usage of bus with improved waiting environments and information on bus arrivals</li> </ul>
PT7	<b>Improve bus stop facilities at Nutgrove Shopping Centre</b> <ul style="list-style-type: none"> <li>- Westbound stop required and bus shelters &amp; RTPI required for both sides of road</li> </ul>	<ul style="list-style-type: none"> <li>- S6 and L35 Orbital Services operate between Dundrum and Nutgrove Shopping Centre</li> <li>- Currently a bus stop in the eastbound direction provided at the shopping centre with the westbound stop located further down Nutgrove Ave</li> <li>- This stop should be moved closer to the Shopping Centre entrance to support accessibility via public transport</li> </ul>
PT8	<b>Luas Green Line Upgrade</b> <ul style="list-style-type: none"> <li>- Additional capacity on the Luas Green Line through the provision of additional fleet and necessary infrastructure to meet forecast passenger demand</li> </ul>	<ul style="list-style-type: none"> <li>- Identified as Measure LRT8 in the DRAFT GDA Transport Strategy 2022-2042</li> <li>- The baseline assessment identified that the current Green Luas line was operating at capacity at Dundrum in the peak hours</li> <li>- Additional capacity will help support increased Luas usage, along with the growth in passenger demand along the line</li> </ul>
PT9	<b>Luas Extension to Bray</b> <ul style="list-style-type: none"> <li>- It is intended to extend the Luas Green Line southwards in order to serve the Bray and Environs area.</li> </ul>	<ul style="list-style-type: none"> <li>- Identified as Measure LRT4 in the DRAFT GDA Transport Strategy 2022-2042</li> <li>- Provide connectivity between Dundrum and the Bray and Environs Area</li> <li>- Unlikely to be delivered within timeline of the Dundrum LAP, however, the ABTA should support its future implementation</li> </ul>
PT10	<b>Ballinteer Road Bus Gate</b> <ul style="list-style-type: none"> <li>- Bus Gate to the West of the Main St/Kilmacud Rd Upper junction to provide additional space for delivery of the 'DLR Connector' cycle route</li> </ul>	<ul style="list-style-type: none"> <li>- Very narrow section of carriageway making it challenging to deliver segregated cycle infrastructure as part of the 'DLR Connector' route</li> <li>- Bus Gate with shuttle signals allows reduction of carriageway to one lane providing space for provision of cycle infrastructure</li> </ul>

## 2.5 Road Network Options

The baseline assessment identified a number key road network issues within the Dundrum ABTA Study Area, in particular:

- A number of key strategic junctions on access to Dundrum are unattractive for pedestrians and cyclists – large carriageway widths, high traffic volumes, slip lanes etc.;
- The road network in Dundrum is operating close to capacity during the peak hours and there is no scope for additional road capacity to be provided; and
- Significant levels of ‘rat-running’ occur in local residential areas as vehicles try to avoid more congested locations.

Figure 2-6, and Table 2.4 overleaf, outline the options identified to address these issues. In-line with NIFTI guidance, the options are focused on optimising and improving existing infrastructure to help achieve the ABTA objectives. A number of junction upgrades are proposed to improve safety and accessibility for active mode users. Other options reflect supporting measures required to deliver on the walking and cycling proposals outlined previously e.g. modal filters, one-way streets etc.



**Figure 2-6 Road Network Options**

**Table 2.4 Road Network Options**

Option	Description	Rationale
R1	Taney Cross Junction upgrade	<ul style="list-style-type: none"> <li>- Key Junctions identified in the baseline assessment which are particularly unattractive for pedestrians and cyclists due to large carriageway widths, high traffic volumes and conflicting movements</li> <li>- Proposed redesign to provide safe/protected pedestrian &amp; cycle facilities</li> <li>- Support the Walking and Cycling measures outlined in Section 4.3 and improve the attractiveness of active modes within the study area</li> <li>- Further details on the different junction types assessed is provided in Section 4.6.2</li> <li>- Option being considered as part of the DLR Connector Route for Bus Gate at Ballinkeer Road arm and upgrade in cycle facilities at junction</li> <li>- Road network changes required to support the delivery of the walking and cycling options outlined in Section 4.3</li> </ul>
R2	Sandyford Rd/Overend Ave junction redesign	
R3	Wyckham Way/Dundrum Bypass Roundabout redesign	
R4	Wyckham Way/Ballinkeer Rd Roundabout redesign	
R5	Wyckham Way/Ballinkeer Avenue Roundabout redesign	
R6	Dundrum Cross junction upgrade	
R7	Dundrum Road 1-way	
R8	Continue 1-way system from Main Street along North Sandyford Rd	
R9	Retention of the existing northbound one-way traffic flow along North Sandyford Rd. & Dundrum Main St	
R10	Continue 1-way system from Main Street north to the junction with Dundrum Bypass	
R11	Sydenham Rd 1-way	
R12	Traffic bans/modal filters at Rosemount Estate, Woodlawn Park and Sweetmount Drive	

Option	Description	Rationale
R13	<b>Reduce traffic speeds on Dundrum Road and Ballinkeer Ave</b> - Reflect neighbourhood street approach with reduced speeds, traffic calming, public realm and additional pedestrian crossings	
R14	<b>Make St. Columbanus' Road 1-Way to Dundrum Road</b>	<ul style="list-style-type: none"> <li>- Provide more space to improve the public realm and support the School Zone initiative</li> <li>- Reduce/calm traffic on St.Columbanus' Road and improve the pedestrian/cyclist environment</li> <li>- Rationalise turning movements required to/from Dundrum Road</li> </ul>
R15	<b>Kilmacud Rd Upper 1-Way Eastbound</b>	<ul style="list-style-type: none"> <li>- Provide space to introduce segregated cycle infrastructure as part of the 'DLR Connector' scheme</li> </ul>

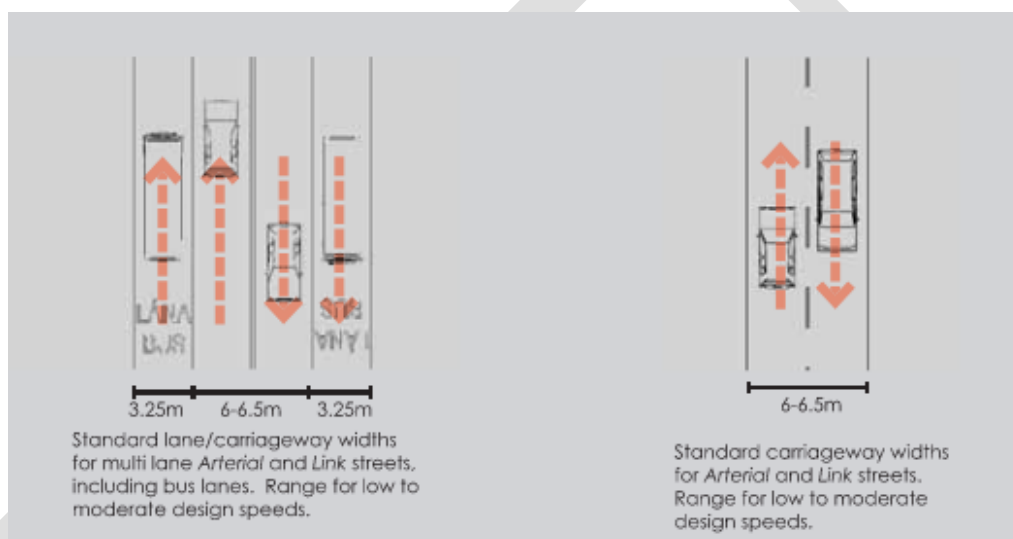


### 2.5.1 Junction Design Principles

Design principles laid out in The Design Manual for Urban Roads (DMURS) and in the National Cycle Manual (NCM) were at the core of the upgrades proposed in the Dundrum ABTA Study Area. DMURS has been developed by the Department of Transport and is promoted by the NTA to replace existing national design standards used throughout all urban areas in Ireland, when designing roads and streets. At its core DMURS promotes safety in design for urban routes specific to their functionality, as is described in section 3.2 “Movement in Place”. The NCM embraces the principles of sustainable safety and offers guidance on integrating the bike in the design of urban areas.

The following is a list of fundamental improvement measures which were investigated for the Dundrum Study Area in accordance with DMURS and the NCM:

- **Reduction in lane widths:** Wide open traffic lanes promote fast and unsafe driving. As an area becomes more densely populated safety should become of paramount importance. Figure 2-7 below shows lane widths most applicable for this Study Area.



**Figure 2-7 Traffic Lane Widths (DMURS Ref - Fig 4.55)**

- **Tightening corner radii** at junctions will significantly improve pedestrian and cyclist safety by lowering the speed at which vehicles can turn corners and by increasing the intervisibility of users.
- **Reduced Crossing Distance for pedestrians** at Junctions and the inclusion of toucan crossings where appropriate. Figure 2-8 below is an example where a left slip lane was removed to reduce pedestrian crossing distance and slow traffic making the turn.



**Figure 2-8 Shortened Pedestrian Crossing Distance (DMURS Ref - Fig 4.40)**

- **Improved segregation for cycle facilities** to provide additional protection for cyclists, in particular vulnerable users.
- **Lengthened bus lanes on approach to junctions** will enable buses to move towards the front of queuing traffic and reduce congestion for the more sustainable mode of transport.

## 2.5.2 Junction Options

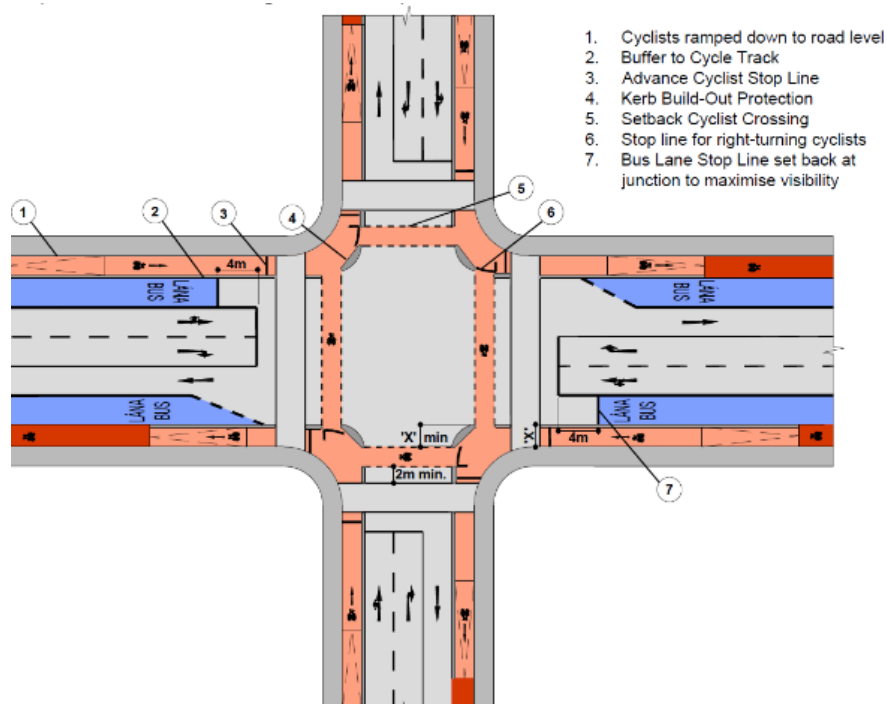
The existing study area is characterised by numerous large roundabouts and car centric junctions which include the following features:

- Wide/Staggered pedestrian crossing points;
- Slip Lanes;
- Large Corner Radii;
- High traffic volumes; and
- Inconsistent cycle infrastructure

Several options were developed for five of the key junctions on access to Dundrum to incorporate the design principles outlined above and improve safety and accessibility for pedestrians and cyclists. The following sections provide a brief overview of the key junction types tested.

### ***Protected Signalised Junction***

Due to the inherently complex nature of mixed mode movements at junctions, the provision for cyclists at junctions is a critical factor in managing conflict and providing safe junctions for all road users. The primary conflict for cyclists is with left-turning traffic. On the basis of international best practice, the preferred layout for signalised junctions is the “Protected junction”, which provides physical kerb buildouts to protect cyclists through the junction. This is a new innovation in addition to the range of junction options in the National Cycle Manual. It is most applicable at larger junctions where there are numerous traffic lanes and extended crossing widths.



**Figure 2-9 Protected Signalised Junction**

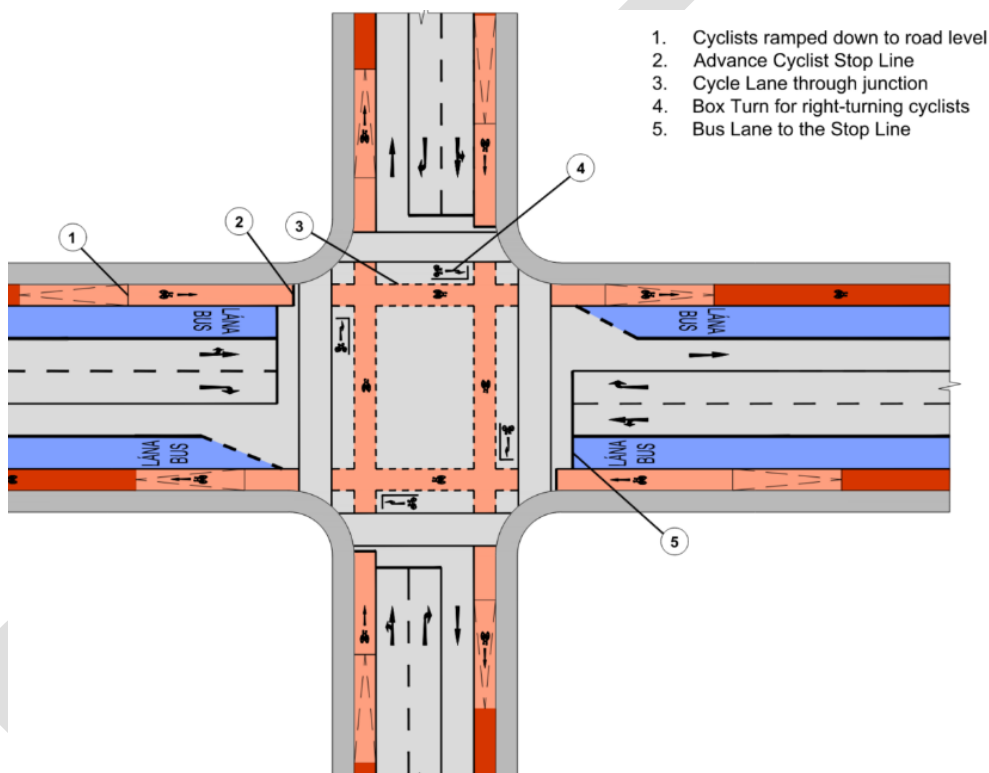
The key design features and considerations relating to this junction type are listed below:

- Cycle tracks are extended all the way to the stop line without the filtering of left-turn traffic across the cycle track in advance of the junction.
- Cycle tracks that are protected behind parking or loading bays, should return to run along the edge of carriageway approaching a junction (removal of localised parking / loading immediately upstream of a junction will be necessary to achieve sufficient visibility).
- The cycle track should be ramped down to carriageway level on approach to the junction and proceed to a forward stop line ahead of the vehicular stop line, placing them within view of traffic waiting at the junction. A raised kerb buffer should be provided between the bus lane and the cycle lane on approach to the junction.
- Kerbed corner islands should be provided to force turning vehicles into a wide turn and remove the risk of vehicles cutting into the cycle route at the corner which has been the cause of serious accidents in various places.
- A secondary stop line and stacking room behind the kerb buildouts should also be provided for right-turning cyclists making a hook-turn manoeuvre. Cycle signals will control the second stage of movement of these cyclists.
- Cyclist and Pedestrian crossings should be kept as close as possible to the mainline desire line, however, cyclist and pedestrian crossings should be separate, with between 2-3m space between them. This is to ensure that motorists infer a clear differentiation between the cycle lane crossing through the junction (which will be green with general traffic in the same direction) and the pedestrian crossing across the same arm (which will be red with general traffic).
- This arrangement requires cyclists and pedestrians to deviate slightly from the direct lines through the junction, but it improves the angle of conflict between straight-ahead cyclists and

left-turning vehicles at the point where their paths cross, and this should reduce the “blind spot” effect for drivers using their wing mirror to check for a cyclist. This visibility improves further if the left-turning vehicle turns from the general traffic line outside the bus lane, in which case the deflection of the cycle lane can be minimised. Designers should consider the cycle track deflection requirements for each approach on a case-by-case basis.

### **On Road Cycle Lane Junction**

The preferred ‘Protected’ junction configuration above may not be implementable in all locations. Where spatial constraints do not allow for the preferred junction arrangement to be implemented, designers should consider a junction arrangement whereby cyclists are brought through the junction on-road without physical kerb/island protection, with box-turns provided for right-turning cyclists.



**Figure 2-10 On Road Cycle Lane Junction**

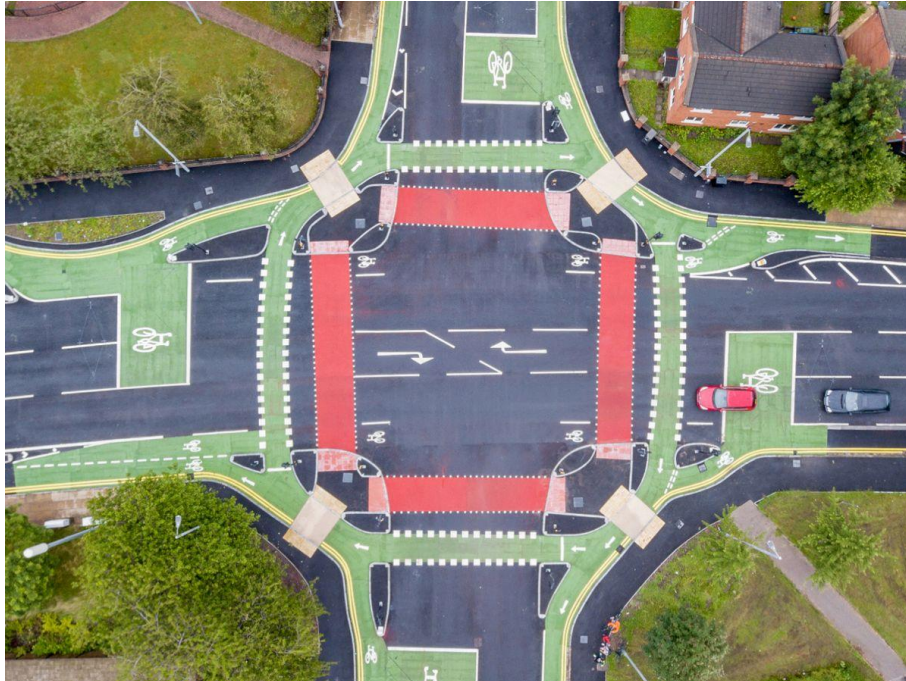
The key design details relating to this junction type are listed below:

- The cycle tracks are ramped down to carriageway level and proceeds to a forward stop line ahead of the vehicular stop line, placing cyclists within view of traffic waiting at the junction.
- Box-turns should be provided for right-turning cyclists.
- This arrangement requires slightly less land take than the protected junction alternative to construct.

### **Cyclops Junction**

An alternative junction option which may be considered by designers in specific circumstances is the CYCLOPS junction layout. CYCLOPS stands for Cycle Optimised Protected Signals, and the principal

feature of this junction type is an external orbital cycle track, separating cyclists from vehicular traffic at the junction.



**Figure 2-11 Cyclops Junction**

The key design features relating to this junction type are listed below:

- An orbital cycle track is provided, with controlled crossing points to allow pedestrians to cross to large islands within a central signal-controlled area.
- Left-turning cyclists can effectively bypass the junction, while giving way to pedestrians crossing as well as cyclists already on the orbital cycle track.
- Signal controlled pedestrian crossing distances are reduced when compared to traditional junction layouts, due to the fact that pedestrians cross the cycle track in a separate unsignalized movement. Pedestrian crossings are also close to the pedestrian desire line. However, the number of crossings for pedestrians is increased as pedestrians must cross the cycle track to access the central signal-controlled area.
- This junction arrangement typically requires a larger footprint to construct than the protected junction discussed, due to the large pedestrian islands.

## 2.6 Complimentary Measures

In addition to the options outlined above, a series of complimentary measures have also been developed to assist in achieving the overarching objectives for the Dundrum ABTA. The following measures are primarily aimed at reducing reliance on the private car and supporting a shift to more sustainable modes of travel.

**Table 2.5 Complimentary Measures**

Option	Description
CM1	<b>Car Parking in future developments to be in accordance with CDP requirements</b> - Parking requirements in-line with CDP Parking Zone standards
CM2	<b>Re-allocation of spaces for council/ public car park and on-street parking</b> - Reallocation of spaces for <ul style="list-style-type: none"> <li>- Dedicated Senior Citizen Parking at appropriate locations</li> <li>- Dedicated Disabled Parking</li> <li>- Car Share</li> <li>- eCar charging points</li> <li>- cycle parking including outsized - cargo bikes &amp; trailers</li> <li>- eMobility rental stands &amp; Mobility Points – for interchange with bus/car share etc</li> </ul>
CM3	<b>Bike Rental Scheme</b> - Introduction of a bike rental scheme in Dundrum – e.g. Bleeper bikes are currently in operation in some areas of DLR
CM4	<b>Community Car Scheme</b> - Develop a Community Car Share Scheme In-line with the pilot scheme currently in operation in the Howth and Skerries areas
CM5	<b>Active Travel Plans for Schools/workplaces</b> - Plans to promote behavioural change and encourage people to travel to work and school by walking and cycling

### 3. OPTIONS ASSESSMENT PROCESS

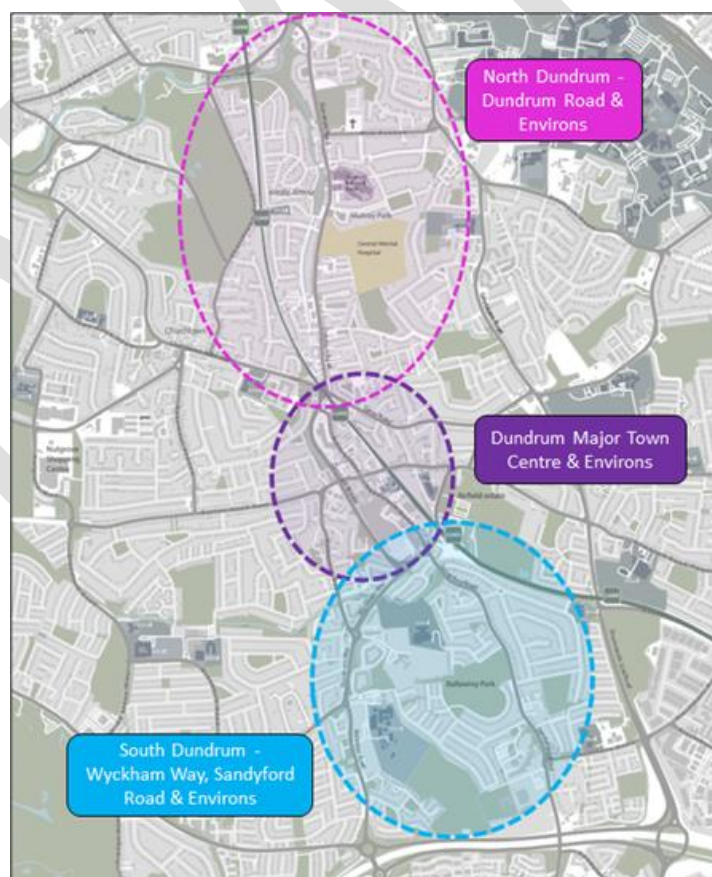
#### 3.1 Introduction

As outlined in Figure 1-2 previously, the long-list of options were passed through two assessment stages before identifying the Emerging Preferred Solution, including:

- Stage 1: Options Screening; and
- Stage 2: Interim Multi-Criteria Analysis (MCA)

The following sections provide further information on analysis undertaken as part of the screening and MCA. For the assessment process, the options outlined in Chapter 2 have been grouped into five key areas outlined in Figure 3-1, namely:

- **North Dundrum - Dundrum Road & Environs:** Covering the area north of Dundrum Major Town Centre focused on Dundrum Road;
- **Dundrum Major Town Centre & Environs:** Covering the area around Main Street and Dundrum Town Centre Shopping Centre including the Taney Rd/Dundrum Rd junction along with the proposed bus interchange;
- **South Dundrum & Environs:** Covering the area to the south/southeast of Dundrum including Sandyford Road, Wyckham Way and Kilmacud Road Upper; and
- **Wider ABTA Study Area:** A final catch-all area including options either falling outside the areas outlined above, or options which generally apply across the entire study area.



**Figure 3-1 Options Assessment Areas**

The purpose of grouping options by area was to ensure that all proposals were assessed across the various modes, ensuring that the optimal solution was identified for the Emerging Preferred Strategy. The Options Screening and Interim MCA was undertaken for each of the assessment areas outlined in Figure 3-1, and the results are presented in the following chapters of this report.

### 3.2 Stage 1: Options Screening

Stage 1 of the Options Assessment examined each of the long-list of measures to see whether they helped to achieve the overarching ABTA objectives outlined in Table 3.1. The options were also assessed against the following core delivery themes:

- Engineering feasibility;
- Acceptability;
- Funding potential; and
- Value for money

Based on this initial screening, options were classed as follows:

- **Discontinued:** the option did not align with the ABTA objectives, and as such, it was not included in the Emerging Preferred Strategy;
- **Pass:** the option satisfied the project objectives and the core delivery themes, and no alternative proposals were identified in the options development process. These options passed directly into the Emerging Preferred Strategy without the need for an interim assessment.
- **Conditional Pass:** the option aligned with the ABTA objectives, however, either didn't fully meet all of the core delivery themes or had a number of alternative proposals identified. In these instances, the options were assessed in further detail as part of an interim Multi-Criteria Analysis (MCA).

Table 3.1 Dundrum ABTA Objectives

CAF	Objective
<b>Accessibility and Social Inclusion</b>	- To provide attractive high-quality inclusive and connected walking and cycling networks with direct routes to local destinations and public transport hubs
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking times to essential daily services
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes
	- Seek to improve the air quality and pedestrian environment along the streets through Dundrum village including, Main St, Sandyford Road, Kilmacud Rd Upper and Ballinteer Road as well as at school zones and along the main pedestrian access routes immediately adjacent to the schools
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all
	- Encourage more activity on Main Street to enhance its social and economic vibrancy
<b>Integration</b>	- Reducing the need for vehicular travel within Dundrum by enhancing the integration of land-use and transport
	- Integration with National, Regional and Local planning policy
<b>Safety &amp; Physical Activity</b>	- Provide safe access to schools via walking/cycling, safe front of school environment
	- Reduce the adverse impact of transport on local communities in Dundrum



### 3.3 Stage 2: Interim MCA

The Interim MCA was used to evaluate alternatives based on their performance in achieving the overarching study objectives outlined in Table 3.1. This assessment was predominantly qualitative in nature, however where possible, quantitative information was used to supplement the scoring e.g. survey data, GIS, Tom Tom analysis etc.

A five point scoring system, outlined in Table 3.2, was used to assess the options across the various objectives. This produced a performance matrix which was reviewed to rank the scenarios and identify which ones performed best in terms of achieving the defined objectives of the study, and therefore, passed into the Emerging Preferred Strategy.

**Table 3.2 Interim MCA Scoring System**

Scoring	
<b>Major Benefit:</b> The proposal is expected to have a clear and considerable benefit or positive impact when compared to existing conditions.	
<b>Minor Benefit:</b> The proposal is expected to have a minor benefit or positive impact when compared to existing conditions.	
<b>Neutral:</b> Overall, the proposal is expected to have neither a positive or negative impact when compared to existing conditions.	
<b>Minor Disbenefit:</b> The proposal is only expected to result in a minor negative impact when compared to existing conditions.	
<b>Major Disbenefit:</b> The proposal is expected to have a clear and considerable negative impact when compared to existing conditions.	

### Cycle Infrastructure Assessment

A similar MCA was undertaken for areas with multiple options for cycle infrastructure upgrades, however, they were assessed against a different set of criteria more aligned with overarching design principles. These criteria (outlined in Table 3.3) were still housed under the core CAF headings and are fundamentally linked back to the overarching objectives for the ABTA.

**Table 3.3 Cycle Infrastructure Options MCA Criteria**

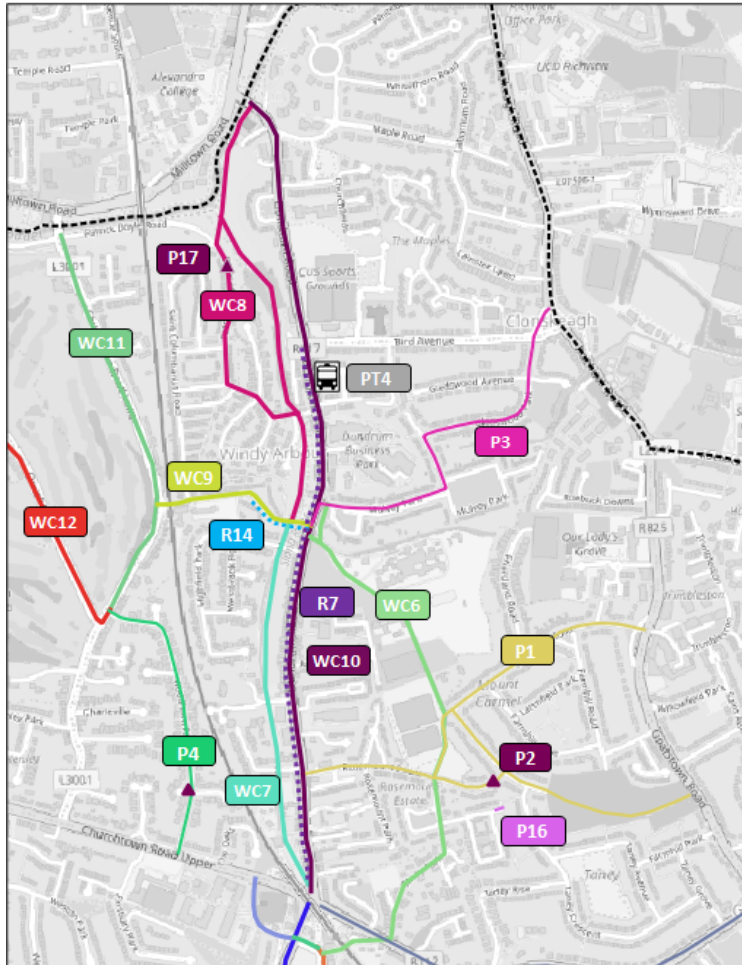
Assessment Criteria	Assessment Sub-Criteria	Design Considerations
<b>1. Economy</b>	1a. Capital Cost	- Can the design be delivered cost effectively with no/minimal need for land acquisition?
	1b. Transport Reliability	- Does the design improve journey times and increase transport quality and reliability for sustainable modes?
<b>2. Integration</b>	2a. Integration with the wider transport network	- Does the design integrate effectively with existing/planned transport infrastructure e.g. walking and cycling routes, bus stops etc.?
	2b. Integration with best-practice design guidance	- Does the design align with best-practice design guidance such as the National Cycle Manual and DMURS?

Assessment Criteria	Assessment Sub-Criteria	Design Considerations
<b>3. Safety</b>	3a. Road Safety	<ul style="list-style-type: none"> <li>- Does the design help encourage slower/safer vehicular speeds?</li> <li>- Does the design provide adequate visibility for all modes?</li> </ul>
	3b. Pedestrian and Cycle Safety	<ul style="list-style-type: none"> <li>- Does the design minimise conflict between pedestrians/cyclist and motorised traffic?</li> <li>- Does the design prioritise the needs of vulnerable road users?</li> </ul>
<b>4. Accessibility</b>	4a. Universal Access for all road users	<ul style="list-style-type: none"> <li>- Does the design provide adequate protection to inexperienced cyclists?</li> <li>- Is there adequate crossing facilities for young/elderly or mobility impaired?</li> </ul>
	4b. Homogeneity and Legibility of the transport network	<ul style="list-style-type: none"> <li>- does the design provide a clear, self-explanatory road environment for all users?</li> </ul>
<b>6. Environment</b>	6a. Support shift to sustainable modes	<ul style="list-style-type: none"> <li>- Does the design minimise delays for pedestrians, cyclists and bus users?</li> </ul>
	6b. Landscape & Visual	<ul style="list-style-type: none"> <li>- Does the design minimise impact or contribute positively to the built/natural environment?</li> </ul>

### Junction Assessment

In order to determine the optimal concept design solution, a detailed microsimulation traffic modelling exercise was undertaken to understand the operational impact of the proposed junction changes. This information was used to further refine the emerging preferred solution for each junction assessed, and to inform the concept design drawings. Further details on the junction options assessment, including the traffic modelling analysis, is provided in Appendix D of the Dundrum ABTA Report.

## 4. NORTH DUNDRUM - DUNDRUM ROAD & ENVIRONS



Walk & Cycle Options		Pass to EPS	MCA
WC6 & WC8	Dodder to Dundrum Walk and Cycle Route	✗	✓
WC7	Parallel route to Dundrum Rd along stream linking St. Columbanus' Rd to Taney Cross Junction	✗	✓
WC9	St. Columbanus' Road School Zone	✗	✓
WC10	Dundrum Rd Options		
WC10a	Traffic Management & Urban Realm Enhancements	✗	✓
WC10b	1-way contra flow cycle lane	✗	✓
WC10c	Purchase land to create space for 2-way cycle lanes	✗	✓
WC11	Churchtown Rd Lower Upgrades	✓	✗
WC12	Orwell Rd Upgrades	✓	✗

Permeability Improvement Options		Pass to EPS	MCA
P1	Rosemount Estate - Larchfield Road - Goatstown Rd	✓	✗
P2	Rosemount Estate/Mount Carmel Avenue Modal Filter	✗	✓
P3	Mulvey Park – Gledswood Park – Clonskeagh Rd	✓	✗
P4	Woodlawn Park Modal Filter	✗	✓
P16	Permeability in Rosemount Way through to Taney Crescent	✓	✗
P17	Patrick Doyle Road Modal Filter	✗	✓

Public Transport Options		Pass to EPS	MCA
PT4	Bus Gate on Dundrum Rd	✗	✓

Road Network Options		Pass to EPS	MCA
R7	Dundrum Road 1-way	✗	✓
R14	St. Columbanus' Road 1-Way to Dundrum Road	✗	✓

Figure 4-1 North Dundrum Options Screening

## 4.1 Introduction

The long-list of options proposed for the Dundrum Road Corridor are illustrated in Figure 4-1. In general, the proposed measures are aimed at improving linkages for sustainable modes connecting Dundrum Main Street to the existing and future residential communities situated along the Dundrum Road. They are focused on improving local accessibility, along with reducing traffic volumes and speeds through sensitive routes thus improving safety for pedestrians and cyclists and encouraging sustainable travel. These options have been passed through a two-stage assessment process to determine which ones will form the Emerging Preferred Strategy (EPS) for the corridor, including:

- **Screening:** To determine which options pass directly to the EPS, and which ones needed further analysis with the results presented in Figure 4-1; and
- **Interim MCA:** More detailed analysis of options assessed against the study objectives to determine which ones should be included in the EPS.

This chapter provides an overview of the assessment results, along with a summary of measures that will be included in the EPS for the Dundrum Road Corridor.

## 4.2 Screening

The following sections provide further details on the options passing directly to the EPS along with a rationale for their inclusion.

### **Churchtown Rd Lower Upgrades (WC11):**

This option proposes relatively minor upgrades to Churchtown Rd Lower including increased traffic calming measures and improved footpaths. There is currently insufficient carriageway space to provide any segregated cycle facilities without an extensive boundary set back. Improving footpaths, particularly, providing more priority at residential estate entrances, will help reduce vehicular speeds and create a safer environment for pedestrians.

Overall the option aligns with the project objectives and core delivery themes, and as such, passes directly into the EPS. The interventions will be low cost to implement and will strengthen the connection for residents to the Windy Arbour Luas stop, and further south to Dundrum via Woodlawn Park.

### **Orwell Rd Upgrades (WC12):**

This option proposes relatively minor upgrades to Orwell Road including increased traffic calming measures, additional crossing points and improved footpaths. In summary:

- The option aligns with the overall core delivery themes as it will be low cost to implement and should be generally well accepted due to the benefits of reducing vehicular speeds through an established residential area;
- Proposal aligns with study objectives by reducing vehicular speed, creating a safer and more attractive environment for walking and cycling; and
- There are no alternative options proposed for Orwell Road. Carriageway widths are insufficient to facilitate the introduction of any segregated cycle infrastructure. Therefore, as the proposal aligns with the delivery themes and objectives, it passes directly into the EPS.

### **Rosemount Estate/Larchfield Road Permeability Improvements (P1):**

This option includes the strengthening of the route for pedestrian and cyclists linking Dundrum Road to Goatstown Road. Interventions include improved way-finding, further route definition and signage to emphasise the ‘Quiet Street’<sup>4</sup> concept, including traffic calming and general footpath upgrades where necessary.

It passes directly to the EPS as it fully aligns with the study objectives and core delivery themes, and will help to:

- Reduce traffic speeds and volumes through sensitive residential areas;
- Create a safer environment for local residents, pedestrians and cyclists; and
- Encourage more active travel and a shift away from private car use.

### **Mulvey Park/Gledswood Park Permeability Improvements (P3):**

This options includes the strengthening of an existing ‘Quiet Street’ route connecting Dundrum Road to Clonskeagh and UCD. Interventions include improved way-finding, further route definition and signage to emphasise ‘Quiet Street’, traffic calming and general footpath upgrades where necessary.

This option passes directly to the EPS as it fully aligns with the study objectives and core delivery themes, and will help to:

- Reduce traffic speeds and volumes through sensitive residential areas;
- Create a safer environment for local residents, pedestrians and cyclists;
- Encourage more active travel and a shift away from private car use;
- In combination with improvements to Dundrum Road and St. Columbanus’ Road will provide a safe and attractive connection to the Luas at Windy Arbour and Our Lady’s National School.

### **Permeability in Rosemount Way through to Taney Crescent (P16):**

This option includes the breakthrough of an existing wall to provide permeability for pedestrians and cyclists between Rosemount Way and Taney Crescent. It would improve accessibility for local residents providing connectivity to Taney Road and Goatstown Road.

It aligns with the project objectives and core delivery themes, and as such, passes directly into the EPS. The Dundrum Local Transport Strategy will identify a number of local permeability enhancements such as this, with objectives for them to be progressed in consultation with residents as funding becomes available.

## **4.3 Interim MCA**

The options requiring more detailed analysis can be grouped under three main headings:

- Options along **Dundrum Road** including alternative off-road proposals;
- Options for **St. Columbanus’ Road**; and
- **Modal Filters** at Woodlawn Park, Rosemount Estate and Patrick Doyle Road.

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<sup>4</sup> The ‘Quiet Street’ concept prioritises non-motorised road users with traffic calming measures, signage and in some cases traffic barriers to create a safer environment for pedestrians and cyclists.

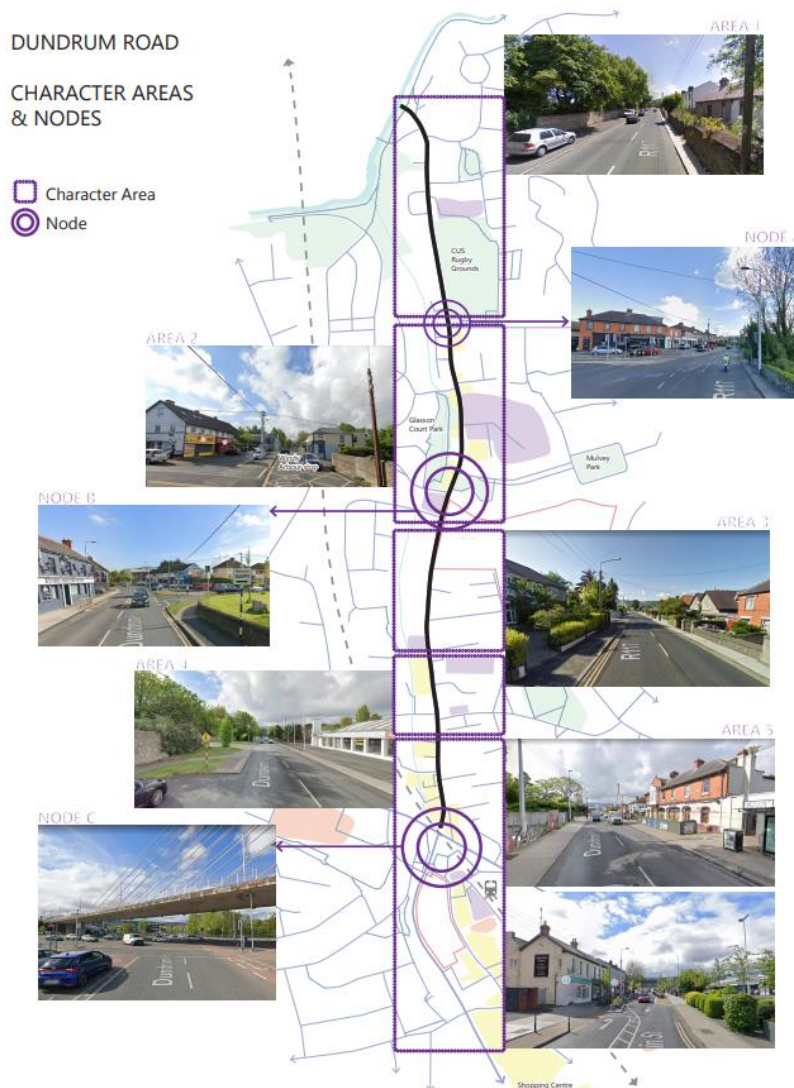
The following sections provide further details on each of the options, the MCA results and the measures feeding into the EPS.

### 4.3.1 Dundrum Road Options

The various interventions for the Dundrum Road have been grouped into six main options as follows:

#### Option 1: Urban Realm and Traffic Management Solution (WC10a)

As outlined in Chapter 2, this option involves the transition of Dundrum Road from a car dominated through route, to a more locally focused neighbourhood area, seeking to balance the movement and place functions of the street. To do this, the route was analysed to identify key character areas as illustrated in Figure 4-2. Three key nodes were highlighted which have a mix of residential and commercial activity, which would benefit from re-enforcement as local neighbourhood/village centres. For these areas, significant upgrades to public realm are proposed including pavement treatments, footpath widening, raised crossings etc. to reduce vehicular speeds, give more priority to pedestrians and cyclists, and create a sense of place for local residents.



**Figure 4-2 Dundrum Road Character Areas**

For other sections along the route, it is proposed that the carriageway be narrowed to a minimum width, footpaths upgraded and additional crossing points provided where necessary. A 30 km/hr speed limit is also proposed along the full route to align with an active residential street.

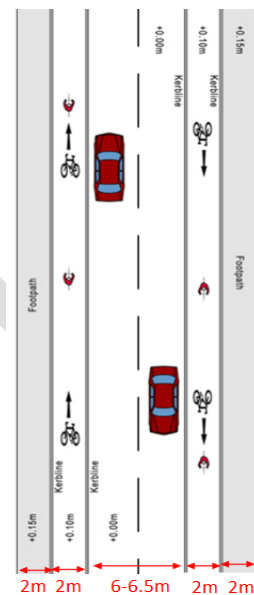
The purpose of this option is to create a better and safer environment for pedestrians and cyclists. The proposed interventions should help to significantly slow traffic down, with greater priority given to active travel. The creation of neighbourhood centres, should help promote local sustainable trip making and encourage increased activity along Dundrum Road.

### Option 2: Two-Way Segregated Cycle Lanes (WC10c)

This option involves the construction of segregated cycle lanes in both directions along the Dundrum Road. Currently, Dundrum Road is not an attractive environment for cyclists with high traffic volumes, no cycle infrastructure and high vehicular speeds at times. This is especially true for vulnerable road users or apprehensive cyclists.

Dundrum Road is a key artery from the north connecting a number of residential areas to Main Street. As of Census 2016, there were 4,116 residents living along Dundrum Road, and this is likely to increase significantly in the future with developments such as the Dundrum Central Mental Hospital site. As such, the provision of safe pedestrian and cycle infrastructure connecting to Dundrum Main Street is very important in supporting the take-up of active modes and the shift away from private car travel.

Overall, the carriageway widths along the Dundrum Road are very narrow ranging from around 7.1m at its narrowest pinch point to around 11.9m. Figure 4-3 illustrates the standard widths required to deliver segregated cycle infrastructure as outlined in the Design Manual for Urban Roads and Streets (DMURS). This indicates that significant boundary set-backs would be required to deliver fully segregated cycle tracks along both sides of the Dundrum Road.



**Figure 4-3 DMURS  
Standard Widths**

### Option 3: One-Way Contra Flow Cycle Lane (WC10b & R7)

To overcome the boundary set-back required to provide two-way segregated cycle lanes, an option was developed to make Dundrum Road one-way. The other lane could then be converted into a contra-flow segregated cycle track. This option would have the following benefits:

- Provide segregated cycle facilitates for safe connection to Dundrum Main St.;
- Significantly reduce traffic volumes on Dundrum Road;
- Narrow the carriageway leading to reduced vehicular speeds; and
- Encourage increased levels of cycling to Dundrum

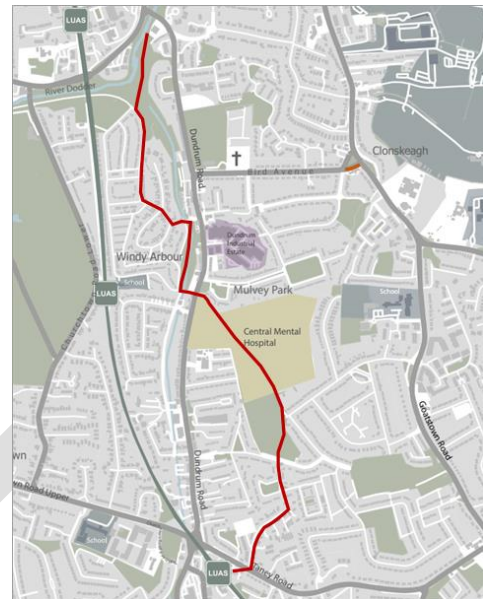
It is envisaged that the cycle infrastructure could be delivered mainly within the existing carriageway space without the need for significant boundary setbacks.

Option 4: Dodder to Dundrum Route (WC6 & WC8)

This option identifies an alternative potential pedestrian and cycle route situated away from the heavily trafficked Dundrum Road, as illustrated in Figure 4-4. It proposes to strengthen existing residential streets in Taney Park, Rosemount Estate, Farrenboley Park and Patrick Doyle Road. This will include improved signage, way-finding, pavement upgrades and traffic calming where required.

It will connect with pedestrian and cycle routes through the proposed Dundrum Central development along with the creation of an off-road connection through Glasson Court Park. The route will provide a safe link to Dundrum Luas and Main Street that will be attractive for vulnerable pedestrians and cyclists.

The route will provide a direct pedestrian and cycle link from the Dundrum Central development which has recently submitted planning for 977 homes<sup>5</sup>. This will encourage active travel from the development to Dundrum Main Street helping to support a shift away from private car use, particularly for local trip making.



**Figure 4-4 Proposed Dodder to Dundrum Route**

Option 5: Parallel Active Travel Route (WC7)

This option investigates a more direct parallel active travel route for the southern section of Dundrum Road. The proposed route would run along the existing stream on the western side of Dundrum Road and connect St. Columbanus' Road to Main Street as illustrated in Figure 4-5.

The route would provide a safe off-road connection for pedestrians and cyclists supporting increased active travel. It would be a valuable local amenity which could link to the Dodder Greenway via the northern section of the proposed 'Dodder to Dundrum' route. This would be an attractive route for both locals and visitors, and could help support local businesses e.g. shops, cafes etc.

However, the construction of the proposed active travel route would pose significant engineering challenges given the slope of the embankments by the stream and the level differences along the route. It would also likely require the acquisition of land from the back of properties along the Dundrum Road. This would all make the route quite expensive to deliver. Given its setting, the route may not function as a 24/7 facility and would therefore need to be delivered in tandem with other facilities along this corridor.



**Figure 4-5 Active Travel Route**

<sup>5</sup> <https://dundrumcentral.ie/>



#### Option 6: Bus Gate (PT4)

The Dundrum Road is a heavily trafficked route which can impact on safety for pedestrians and cyclists. Analysis of Automatic Number Plate Recognition (ANPR) data indicates that around 44% of traffic travelling northbound in the AM peak hour (08:00-09:00) is related to through traffic with no origin or destination on Dundrum Road. Therefore, this option looks at a measure to remove the strategic traffic thereby reducing the overall volumes along the route. The Bus Gate option would block vehicular traffic at a certain point along Dundrum Road, however, it would still facilitate bus movements in both directions. At a strategic level, three proposed locations were identified for the Bus Gate, with the Pros and Cons of each discussed in Table 4.1 overleaf.

This analysis indicates that a location just south of Bird Avenue could be the preferred choice as:

- The location north of Bird Avenue is likely to have a limited impact on reducing strategic traffic volumes on Dundrum Road; and
- A location at the southern end of Dundrum Road will impact on accessibility to Main Street and Dundrum Town Centre and may lead to severance for some residents who rely on the private car.

It should be noted that the location illustrated in Table 4.1 is indicative in nature and has only been selected for the purpose of assessing this option as part of the MCA. If selected as part of the EPS, more detailed analysis would be undertaken, including consultation with local residents, to determine an optimal location.

**Table 4.1 Bus Gate Option Locations**

Location	Pros	Cons
<b>1. North of Bird Avenue</b>	<ul style="list-style-type: none"> <li>- Facilitates all local access to Dundrum Major Town Centre and Goatstown Rd via Bird Ave</li> <li>- Potential to remove some strategic through traffic currently travelling via north Dundrum Road</li> <li>- Result in least amount of veh km travelled for local residents</li> <li>- Likely to be the most attractive of 3 options for local residents</li> </ul>	<ul style="list-style-type: none"> <li>- Least effective of 3 location options for removing strategic through traffic due to access to Bird Ave and hence will most likely still carry large volumes of traffic</li> <li>- Based on above, unlikely to result in increase safety or attractiveness of the route for pedestrians/cyclists travelling south of Bird Ave.</li> <li>- Result in additional traffic on Bird Ave and junction with Clonskeagh Rd</li> </ul>
<b>2. South of Bird Avenue</b>	<ul style="list-style-type: none"> <li>- Should significantly reduce the volume of through traffic on Dundrum Rd, particularly south of Bird Ave.</li> <li>- Facilitates local access between Dundrum Rd and Dundrum Main St/Town Centre</li> <li>- Improve safety and attractiveness of Dundrum Rd for pedestrians and cyclists due to reduced traffic volumes</li> </ul>	<ul style="list-style-type: none"> <li>- Likely to lead to rat-running of traffic through residential areas such as Mulvey Park, Farrenboley Park and Rosemount Estate which would require modal filters to reduce negative impacts for residents</li> <li>- Reduced accessibility for locations north of Bird Ave. Census data suggest approx. 30-35% of car traffic leaving this area travel northwards</li> <li>- Based on above, this will lead to re-routing of traffic south via Taney Cross resulting in increased veh km travelled</li> <li>- Result in additional traffic volumes on Goatstown Rd and at Goatstown Rd/Taney Rd junction which is currently operating at capacity during the peak hours</li> </ul>
<b>3. South of Rosemount Estate</b>	<ul style="list-style-type: none"> <li>- Should significantly reduce the volume of through traffic on Dundrum Rd.</li> <li>- Facilitates vehicular access to the North which is a significant attractor based on Census data</li> <li>- Facilitates local access to neighbourhood centres situated along Dundrum Rd for all adjoining residents requiring use of a car e.g. North of Bird Ave.</li> </ul>	<ul style="list-style-type: none"> <li>- Level of severance for residents of Dundrum Rd who require vehicular access to Dundrum Major Town Centre e.g. elderly, mobility impaired etc.</li> <li>- Likely to lead to rat-running of traffic through residential areas such as Mulvey Park, Farrenboley Park and Rosemount Estate which would require modal filters to reduce negative impacts for residents</li> <li>- Will lead to increased vehicle km travelled for residents along Dundrum Rd</li> </ul>



## Dundrum Road Options – MCA Results

As outlined in Chapter 3, the proposed options for the Dundrum Road were passed through a Multi-Criteria Analysis to assess how each performs in achieving the overall study objectives. The results of this MCA analysis is provided in Table 4.2 overleaf. The following sections explain the rationale for the MCA scoring, and identify the options which will pass into the Emerging Preferred Strategy.

### Economic

**Option 1 (Traffic Management & Urban Realm)** performs the strongest under the ‘Economic’ Criteria. It is likely to be less costly than some of the other options proposed, with mainly pavement treatments, additional crossings and public realm improvements. It could be delivered in a relatively short time frame with immediate benefits to local residents on Dundrum Road that would likely outweigh its cost of implementation. It focuses on local accessibility and public realm enhancements which will support the economic vibrancy of existing local neighbourhood centres.

**The Dodder to Dundrum Route (Option 4)** also performs strongly in terms of ‘Economic’ impact. It would be relatively cost effective to deliver, mainly improving and strengthening existing routes through established residential areas along Patrick Doyle Road and Rosemount Estate. It will provide a safe connection for residents of the Dundrum Central development to Main Street supporting activity and economic growth of the area.

The development of **2-way segregated cycle infrastructure along the Dundrum Road (Option 2)** would provide an improved safe linkage for pedestrians and cyclists to Main St. This could increase general footfall and support improved economic activity in the area. However, the carriageway widths, including existing footpaths, are not sufficient to facilitate construction of fully segregated cycle lanes. As such, significant boundary setbacks, including existing residences and business would be required. An analysis was undertaken in CAD using OS Mapping to determine the scale of land acquisition required. In total, it is estimated that over 90 properties would be negatively impacted and the associated cost to purchase the land required would be substantial. The construction of the segregated cycle infrastructure would also lead to the removal of parking and frontage space for local businesses along the route which could lead to a loss in commercial activity. Therefore, it is unlikely that the benefits of the scheme would outweigh the significant cost of delivery.

The development of a **parallel active travel route along the southern end of Dundrum Road (Option 5)** would provide a safe, off-road connection for residents to Main St. When combined with the northern section of the ‘Dodder to Dundrum’ route, this would provide an excellent amenity linking Dundrum to the Dodder Greenway. This could be an attractive recreational route for locals and visitors travelling from further afield which could provide additional business for local cafes, shops and restaurants. However, the route would be very expensive to deliver with steep embankments along the stream and significant elevation changes posing engineering challenges. It would also require the purchase of some land primarily from the rear gardens of properties along the route, and would pose environmental challenges due to the impact of construction on the natural habitat.

**Table 4.2 Dundrum Road Options MCA Results**

CAF Category	Assessment Sub-Criteria	Option1	Option2	Option3	Option4	Option5	Option6
		Urban Realm & Traffic Management	2-Way Cycle Lanes	1-Way Cycle Lane	Dodder to Dundrum Route	Parallel Active Travel Route	Bus Gate
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.	Green	Light Green	Orange	Light Green	Dark Green	Yellow
	- Cost, Feasibility and Value for Money	Light Green	Red	Orange	Light Green	Red	Yellow
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.	Light Green	Dark Green	Light Green	Dark Green	Dark Green	Light Green
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.	Light Green	Light Green	Orange	Yellow	Yellow	Light Green
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.	Dark Green	Light Green	Red	Light Green	Light Green	Orange
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.	Dark Green	Light Green	Light Green	Light Green	Light Green	Light Green
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.	Dark Green	Dark Green	Yellow	Dark Green	Light Green	Light Green
	- Seek to improve air quality and reduce GHG emissions.	Light Green	Light Green	Orange	Light Green	Light Green	Light Green
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.	Dark Green	Orange	Orange	Dark Green	Light Green	Yellow
	- Integration with National, Regional and Local planning policy.	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green

The **removal of one of the traffic lanes on Dundrum Road and introduction of a segregated cycle track (Option 3)** will provide safe access to Main St. However, this would impact on accessibility for other modes including bus and private car. Overall the cost of implementation would likely be more expensive than the traffic management solution (Option 1) but would be significantly cheaper than some of the other options e.g. the introduction of segregated cycle lanes in both directions. The scheme would provide benefits for pedestrians and cyclists, however, it would have significant journey time impacts for bus (resulting in increased operational costs) and car users travelling to Dundrum Main Street and Town Centre from Dundrum Road.

Overall, The **Bus Gate proposal (Option 6)** is likely to have a minimal impact under the 'Economy' criteria when compared to the existing situation. It will help remove a significant portion of traffic from Dundrum Road which will provide a safer environment for walking and cycling. However, the banning of vehicular through traffic may impact on accessibility to commercial properties on Dundrum Road as well as to Main Street, and Dundrum Town Centre Shopping Centre which has a wider regional draw.

### **Safety & Physical Activity**

**Option 2 (2-way segregated cycle lanes), Option 4 (Dodder to Dundrum Route) and Option 5 (Parallel Active Travel Route)** all perform similarly in terms of safety for pedestrians and cyclists. They all propose infrastructure that is largely segregated from general traffic, and as such, is much safer than existing conditions.

The **one-way segregated cycle lane (Option 3)** will improve safety for cyclists, however, only in one direction of travel. Cyclists will be forced to share the carriageway with general traffic in the reverse direction. Also, whilst the conversion of Dundrum Road to one-way will significantly reduce the volume of traffic, it is likely that this could lead to increased rat-running of vehicles through residential areas such as Rosemount Estate, Larchfield, Mulvey Park and Gledswood Park with impacts on safety for residents.

The **Bus Gate (Option 6) and Traffic Management Solution (Option 1)** both provide improvements over existing conditions in terms of safety for pedestrians and cyclists, along with reducing traffic volumes along Dundrum Road. The Bus Gate would remove all existing through traffic from Dundrum Road creating a safer environment for cyclists on carriageway. However, this block on traffic may lead to local re-routing through sensitive residential areas.

The traffic management and urban realm solution will help enforce reduced vehicular speeds with the creation of neighbourhood centres, raised crossing and traffic calming measures. This reduction in speed should lead to some strategic traffic using alternative routes. It will also create a safer environment for pedestrian and cyclists with improved footpaths, greater opportunities for crossing etc.

### **Accessibility & Social Inclusion**

**Option 1 (Traffic Management & Urban Realm)** performs the strongest across all options under the 'Accessibility and Social Inclusion' criteria. It focuses on placemaking to promote local trip making and accessibility to local services. Public realm enhancements will help improve the vitality of neighbourhood centres and support the use of local facilities promoting the '10-minute' neighbourhood concept.

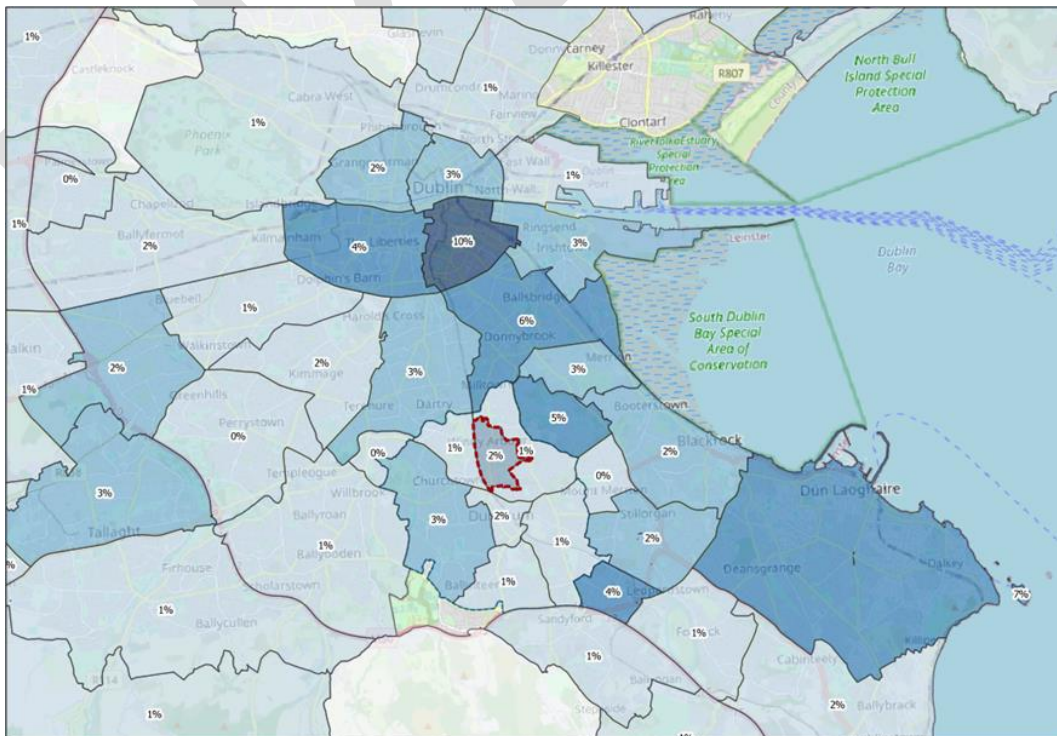
**Option 2 (2-way segregated cycle lanes), Option 4 (Dodder to Dundrum Route) and Option 5 (Parallel Active Travel Route)** all perform similarly in terms of accessibility. They all promote access to Dundrum Main Street via active travel, particularly for vulnerable users. They don't score as well as the traffic management solution as they're more focused on access to Dundrum Village, rather than local placemaking and accessibility.

The transition of Dundrum Road to 1-way to facilitate a contra-flow segregated cycle track (**Option 3**) is likely to have a significant impact on accessibility for bus and car users. Bus services currently operating in a southbound direction will need to re-route via Goatstown Rd or Churchtown Rd Lower. This will lead to a significant increase in walk time to southbound bus stops for residents on Dundrum Road. To access Dundrum Main Street via car, residents will have to re-route via Bird Ave, Goatstown Road and Taney Rd/Kilmacud Rd Upper. As illustrated in Figure 4-6, this could lead to a substantial increase in travel distance (and time) of up to four kilometres in some instances. This would especially impact mobility impaired residents of Dundrum Road who are unable to walk/cycle and rely on the bus or private car for local trips.



**Figure 4-6 Dundrum Road Re-Routing**

The implementation of a Bus Gate along Dundrum Road (**Option 6**) is also likely to impact on accessibility for local residents travelling by car. If located at the Bird Avenue junction, access for residents to Dundrum village won't be impacted. However, residents travelling northbound towards the city centre will need to re-route. Analysis of 2016 Census data indicates that this would impact around 30-35% of car trips to work originating along the Dundrum Road.



**Figure 4-7 Trip Distribution to Work – Dundrum Rd Residents (Census 2016)**

## Environmental

**Option 1 (Traffic Management), Option 2 (2-way segregated cycle lanes) and Option 4 (Dodder to Dundrum Route)** all provide interventions that will support a shift away from private car use. Providing safe walk and cycle connections to Dundrum Main Street, local schools, services and public transport stops will promote sustainable travel helping to reduce Greenhouse Gas Emissions.

The **Bus Gate (Option 6)** should significantly reduce traffic volumes on Dundrum Road leading to a decrease in congestion and emissions along the route. The impact on accessibility for car trips may also lead to more residents choosing sustainable modes for their journeys. However, depending on the location of the Bus Gate, it may lead to increased rat-running through residential estates such as Mulvey Park and Patrick Doyle Road.

The **one-way segregated cycle lane (Option 3)** will reduce traffic volumes on Dundrum Road and provide infrastructure to support a shift onto sustainable modes. However, due to the significant level of re-routing required for residents (see Figure 4-6), this could lead to an increase in overall vehicular kilometres travelled which would have an impact on emissions. The one-way system is also likely to push further traffic through local residential estates which will impact on air quality in these sensitive areas.

## Integration

**Option 1 (Traffic Management)** and **Option 4 ('Dodder to Dundrum' Route)** score highest under the 'Integration' criteria. **Option 1** aims to integrate land-use and transport along the Dundrum Road enhancing local neighbourhood centres and connecting residents to key local services. The **'Dodder to Dundrum' Route (Option 4)** will provide a key link connecting the Dundrum Central development to Dundrum Main Street, Luas stops at Windy Arbour and Dundrum, and further north to the Dodder Greenway and Milltown.

The development of a parallel active travel route to the south of Dundrum Road (**Option 5**) could integrate with local businesses along the route providing safe access for residents to services in the area.

**Option 2 (2-way Cycle Tracks)** will provide a safe route for cyclists to Dundrum, however, the level of land-setback required will have a significant negative impact on a number of local residents and businesses.

The conversion of Dundrum Road to 1-way (**Option 3**) will have negative implications for integration with the bus network. Southbound bus services will need to re-route via Goatstown Road leading to increased access times for residents of Dundrum Road.

The Bus Gate (**Option 6**) will have limited impact on accessibility and integration for sustainable modes when compared to the existing conditions. Traffic volumes should be reduced on Dundrum Road which will improve the environment for walking and cycling. For residents who rely on the private car, their journey times and distances may increase significantly depending on the location of the Bus Gate.

## **Summary**

Table 4.3 provides a summary of the MCA results for the various options along the Dundrum Road. It should be noted that, whilst the options have been assessed in isolation, they are not mutually

exclusive. As such, a combination of options may be taken forward into the Emerging Preferred Strategy.

**Table 4.3 Dundrum Road Options Summary MCA Results**

CAF Category	Option1 Urban Realm & Traffic Management	Option2 2-Way Cycle Lanes	Option3 1-Way Cycle Lane	Option4 Dodder to Dundrum Route	Option5 Parallel Active Travel Route	Option6 Bus Gate
<b>Economic</b>	Green	Red	Orange	Light Green	Red	Yellow
<b>Safety &amp; Physical Activity</b>	Light Green	Green	Light Green	Green	Green	Light Green
<b>Accessibility &amp; Social Inclusion</b>	Green	Light Green	Orange	Light Green	Light Green	Orange
<b>Environmental</b>	Green	Green	Light Green	Green	Light Green	Light Green
<b>Integration</b>	Green	Orange	Orange	Green	Light Green	Yellow

Overall, the MCA indicates that a combination of Option 1 (Urban Realm & Traffic Management Solution) and Option 4 (Dodder to Dundrum Route) perform the best in terms of meeting the project objectives across the various CAF criteria.

The traffic management solution (Option 1) can be delivered in a relatively short timeframe and would significantly improve the environment for pedestrians and cyclists along Dundrum Road. It focuses on local accessibility and public realm enhancements which will support the economic vibrancy of existing local neighbourhoods. Measures such as a reduced 30kph speed limit, pavement treatments and increased crossing points will help slow traffic down and improve safety for pedestrians and cyclists. This should help promote local trip making via sustainable modes and also improve linkages to Dundrum Main Street.

In addition to this, the provision of an off-road active travel route running north-south parallel to the Dundrum Road (Option 4 'Dodder to Dundrum' Route) should encourage increased walking and cycling, particularly for vulnerable road users. The route through mainly residential streets will provide a direct connection between the proposed Dundrum Central development and Main Street, connecting residents to public transport and key local services.

The southern parallel active travel route from St. Columbanus' Rd to Taney Cross (Option 5) would provide an excellent amenity for locals and visitors, particularly when connected to the northern section of the 'Dodder to Dundrum' Route. It could also support local businesses with connectivity to shops, cafes and restaurants for pedestrians and cyclists using the route. However, due to the challenges involved in delivery, it is recognised that this is likely to be a longer-term infrastructure measure. As such, an objective will be included in the strategy to investigate the feasibility of this option in the future.

The Bus Gate solution (Option 6) would help to remove strategic through traffic from the Dundrum Road improving the environment for pedestrians and cyclists. However, it is also going to impact on accessibility for local residents, in particular those that rely on the private car. The main aim of the proposal is to redirect strategic traffic onto alternative routes. The delivery of the urban realm and



traffic management solution will significantly reduce traffic speeds along Dundrum Road, and should help to achieve that goal. Therefore, it is recommended that once the urban realm upgrades have been delivered, a more detailed feasibility assessment be undertaken to determine the additional benefits of the Bus Gate.

The option to remove the southbound traffic lane and replace it with a segregated cycle lane does not meet a number of the identified project objectives. Whilst it provides improved cycle safety and linkages to Dundrum Main Street, it has a negative impact on accessibility for other modes. It would lead to significant re-routing for local residents and increased 'rat-running' of traffic through residential areas to access alternative routes.

The provision of a two-way segregated cycle facility along Dundrum Road would provide significant benefits in terms of safety for cyclists, improved connections with Dundrum Main Street and supporting the switch towards more sustainable modes of transport. However, due to the narrow carriageway widths along Dundrum Road, significant setback of land would be required to deliver this segregated infrastructure along with sufficient footpath space for pedestrians. It is very unlikely that the benefits of the scheme would outweigh the substantial construction and land-acquisition costs, and the social impacts for some residents and businesses on Dundrum Road. It is felt that the public realm and traffic management improvement option could deliver a lot of the same benefits at a considerably lower cost and in a much shorter delivery time.

#### 4.3.2 St. Columbanus' Road Options

St. Columbanus' Road is an important link as it provides a connection to the Windy Arbour Luas stop as well as Our Lady's National School. As such, it is likely that this route will experience a significant amount of pedestrian and cyclist activity, particularly in the context of the planned residential scheme at the Dundrum Mental Hospital. Three main options have been developed to help improve the environment on St. Columbanus' Road for active travel.

##### Option 1: Footpath Upgrades and School Zone (WC9)

This option includes the transition of St. Columbanus' Road to a 'School Zone' in-line with NTA Safe Routes to School Design Guidance. Key proposed interventions include:

- Surface colour/texture change within School Zone;
- Raised pedestrian crossing at junction with Dundrum Road;
- Discourage parking on footpaths with planting/seating;
- Front of school: raised treatment at both ends and buff colour. Remove the parking bays on the north, this can be either by building out the path or with bollards;
- School Zone Road signs and markings to be provided on both approaches;
- Footpath upgrades with planting, trees and seating where possible; and
- Liaise with local businesses on Dundrum Road for potential Park and Stride locations.



**Figure 4-8 Current parking on footpaths on St. Columbanus' Road**



**Figure 4-9 St. Columbanus' Road Safe Route to School Option**

These proposed interventions will significantly improve the environment for pedestrian and cyclists accessing Our Lady's National School, and also the Windy Arbour Luas stop. This will be of increasing importance given the significant development proposed at Dundrum Central in close proximity.

**Option 2: St. Columbanus' Road One-Way (R14)**

This option explores the potential to continue the existing one-way traffic arrangement along St. Columbanus' Road to the junction with Dundrum Road. This would provide additional space to implement the interventions proposed as part of Option 1, and provide a two-way cycle track along the route. It would also help reduce traffic volumes on St. Columbanus' Road and rationalise the movements at the junction with Dundrum Road.

Option 3: Boundary Set-Back and Two-Way Segregated Cycle Track

For the majority of the St. Columbanus’ Road there is sufficient space to implement a two-way segregated cycle track. However, there is currently a pinch point close to the junction with Dundrum Road where this would not be feasible. This option explores the potential for minor boundary set-back at the northern side of St. Columbanus’ Road as illustrated in Figure 4-10. This would provide sufficient space to bring the segregated two-way cycle track to the junction with Dundrum Road and provide a signal controlled crossing bringing cyclists safely into the Dundrum Central pedestrian and cycle links.

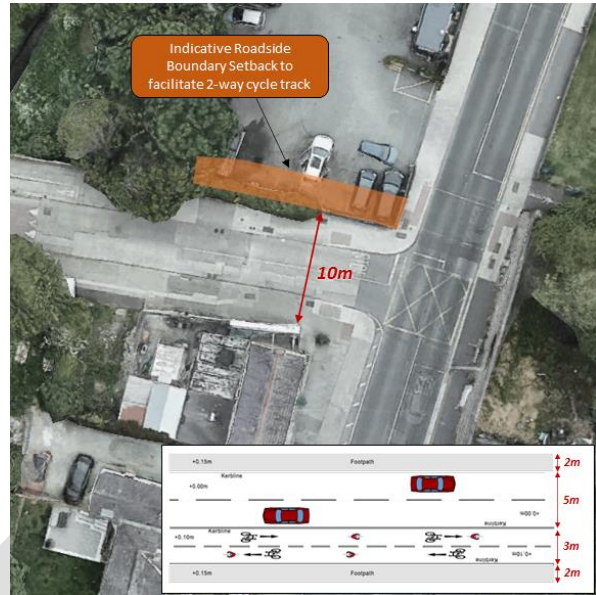


Figure 4-10 Option 3 Indicative Roadside Boundary Setback

**St. Columbanus’ Road Options – MCA Results**

The results of the MCA analysis of the three proposed options for St. Columbanus’ Road is provided in Table 4.4. The followings sections explain the rationale for the MCA scoring, and identify the options which will pass into the Emerging Preferred Strategy for the Local Transport Strategy.

Table 4.4 St. Columbanus’ Road Options MCA Results

CAF Category	Assessment Sub-Criteria	Option1	Option2	Option3
		School Zone	1-Way Traffic	Boundary Setback
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.	Yellow	Yellow	Yellow
	- Cost, Feasibility and Value for Money	Green	Orange	Green
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.	Green	Yellow	Green
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.	Green	Yellow	Green
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.	Green	Green	Green
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.	Green	Green	Green
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.	Green	Green	Green
	- Seek to improve air quality and reduce GHG emissions.	Green	Green	Green

CAF Category	Assessment Sub-Criteria	Option1	Option2	Option3
		School Zone	1-Way Traffic	Boundary Setback
Integration	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.			
	- Integration with National, Regional and Local planning policy.			

In general, the three options perform similarly across a number of the criteria, primarily due to the fact that the interventions proposed in Option 1 are included in all. The proposed improvements in footpaths, planting, removal of footpath parking and creation of school zone with traffic calming will create a significantly improved environment for pedestrians and cyclists. This will help promote local accessibility with enhanced connections to the school and the Luas stop at Windy Arbour.

The options should encourage sustainable transport and increase walking and cycling to school. They will also provide an improved connection from the Dundrum Central development to the Windy Arbour Luas station promoting travel by sustainable modes and shift away from private car use.

The reason that Option 2 (One-Way Traffic) scores lower across some criteria is due to the impact it will have on residential access and local re-routing. There are a number of residents to the eastern end of St. Columbanus' Road that will need to re-route via Farrenboley Park to get back to their houses by car. All parents who are dropping their children to school will also need to travel via Farrenboley Park. As outlined in Section 4.3.1, the EPS looks to strengthen this route for pedestrians and cyclists as part of the Dodder to Dundrum proposal. As such, pushing additional vehicular traffic through this area will work against that objective.

The proposal for some minor roadside boundary setback (Option 3) would facilitate the inclusion of a two-way segregated cycle track without the need to convert St. Columbanus' Road to one-way for traffic. This would maintain the vehicular access for local residents whilst providing a safe, segregated cycle connection to Our Lady's National School and Windy Arbour Luas Stop.

Overall, in the short term Option 1 will provide significant benefits to pedestrians and cyclists improving safety and the general environment for access to school and the Luas stop. In the medium term, the Transport Strategy will include an objective seeking localised roadside boundary setback to facilitate the introduction of a two-way segregated cycle track along St. Columbanus' Road and linking into the Dundrum Central development.

### 4.3.3 Modal Filters

Modal Filters are road design measures aimed at restricting vehicular movements but allowing walking and cycling access. They can often be used to divert traffic away from residential areas to help create 'Quiet Streets' or 'Low Traffic Neighbourhoods' which are more attractive for pedestrians and cyclists. Three locations have been identified where Modal Filters could help improve the environment for residents including:

- Woodlawn Park;
- Rosemount Estate; and
- Patrick Doyle Road.

Table 4.5 outlines the results of the MCA for each of the Modal Filter options. In all cases the options are compared against the existing conditions at each location.

**Table 4.5 St. Modal Filter MCA Results**

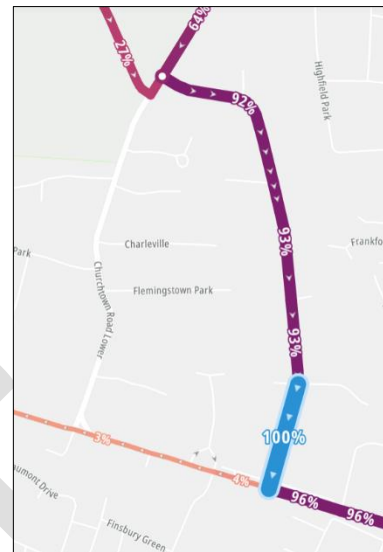
CAF Category	Assessment Sub-Criteria	Woodlawn Park	Rosemount Estate	Patrick Doyle Rd
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.			
	- Cost, Feasibility and Value for Money			
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.			
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.			
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.			
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.			
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.			
	- Seek to improve air quality and reduce GHG emissions.			
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.			
	- Integration with National, Regional and Local planning policy.			

### Woodlawn Park

The ABTA Baseline Assessment, and associated site visits, identified the route through Woodlawn Park as a significant rat-run for vehicular traffic trying to avoid congestion at the main Churchtown Road Lower/Churchtown Road Upper junction. Analysis of DLRC Tom Tom data<sup>6</sup> indicated that approx. 92% of traffic exiting Woodlawn Park from the south in the AM peak hour (08:00-09:00) was associated with longer distance strategic traffic.

<sup>6</sup> DLRC have access to a database of both live and historical traffic data collected by TomTom which can provide insights into observed traffic movements.

The implementation of a Modal Filter will help to remove this strategic traffic from the Woodlawn Park residential area. This will significantly reduce traffic volumes improving safety, decreasing emissions and creating a better environment for walking and cycling. The Modal Filter will help with the creation of a ‘Quiet Street’, encouraging travel by active modes. It will also help integrate with wider measures proposed for the Dundrum Corridor. This includes the upgrades proposed for Orwell Road and Churchtown Road Lower improving the connection to the Windy Arbour Luas Stop. To the south, existing facilities along Churchtown Road Upper along with improvements to the Taney Cross junction will improve the connection between Woodlawn Park and Main Street for pedestrians and cyclists.



**Figure 4-11 Woodlawn Park Tom Select Link Analysis**

Depending on the location chosen for the Modal Filter, there are likely to be some implications for vehicular access for residents in Woodlawn Park. However, the benefits associated with removing a significant proportion of unnecessary vehicles from the area, and the associated safety and environmental improvements would outweigh any re-routing disbenefits for residents.

#### Rosemount Estate

Similar to Woodlawn Park, the ABTA Baseline Assessment identified Rosemount Estate and Larchfield Road being used as a through route connecting traffic from Dundrum Road to Goatstown Road. This is particularly prevalent during peak periods when congestion on the surrounding network is at its highest. Given the proposals along Dundrum Road to significantly reduce traffic speeds, this might encourage more traffic to rat-run through these residential areas in the future.

The Modal Filter would help remove a significant proportion of through traffic from Rosemount Estate, Mount Carmel Road and Larchfield Road. This will reduce traffic volumes creating a safer environment for pedestrian and cyclists, improving air quality and reducing greenhouse gas emissions. This will also support the proposed ‘Dodder to Dundrum’ route connecting to Main Street via Rosemount Estate and Taney Park. Reducing traffic volumes in the area will improve the safety of this connection and make it more attractive for walking and cycling.

Depending on the location, the Modal Filter will impact on car access for residents in the area. As such, it should be implemented in consultation with the local residents association including an agreement on an optimal location for it.

### Patrick Doyle Road

The proposal for a Modal Filter at Patrick Doyle Road is linked to the delivery of the 'Dodder to Dundrum' route discussed previously. The northern section of this route will use Farrenboley Park and Patrick Doyle Road to access the Dodder Greenway. The implementation of a Modal Filter along Patrick Doyle road will help reduce traffic volumes to only essential local residents, and as such, will create a safer environment for cyclists on carriageway.

As illustrated in Figure 4-12, the area contains a number of parallel and adjacent residential streets. As such, the impact on vehicular accessibility for residents of Patrick Doyle Road is likely to be very limited. The Modal Filter will also create a safer environment along the street for pedestrians and cyclists. This would improve accessibility for residents to local facilities such as the Windy Arbour Playground and Dodder Greenway.



**Figure 4-12 Patrick Doyle Road Modal Filter**

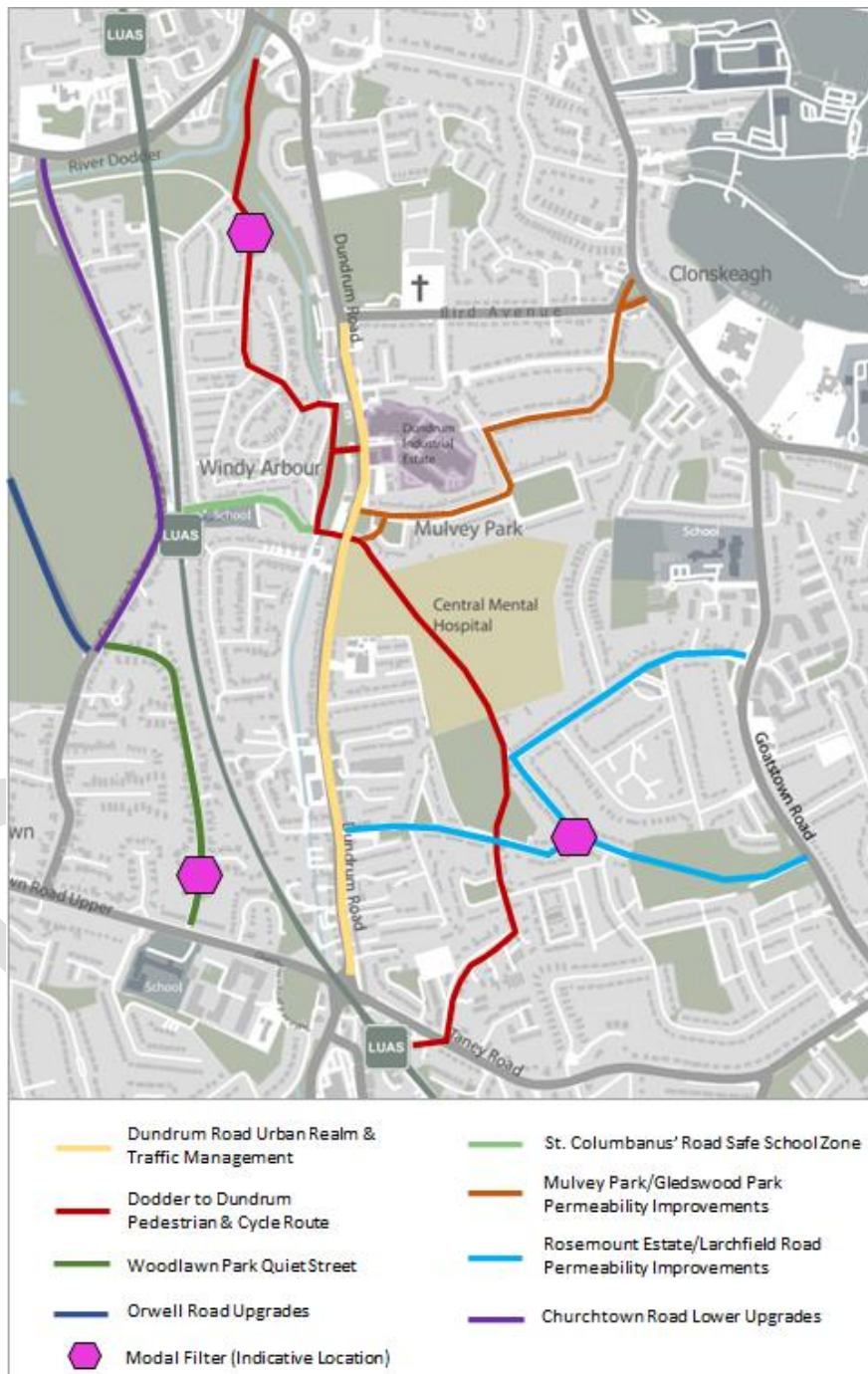
### Modal Filter Summary

The implementation of the Modal Filters across the three locations will have significant benefits for local residents. They will help to substantially reduce traffic volumes in sensitive residential areas when compared to existing conditions, improving the local environment and safety for residents.

The Modal Filters at Woodlawn Park, Rosemount Estate and Patrick Doyle Road have been included in the Emerging Preferred Strategy. It is recommended that the implementation of any Modal Filter be undertaken in close consultation with local residents.

#### 4.4 North Dundrum – Emerging Preferred Strategy

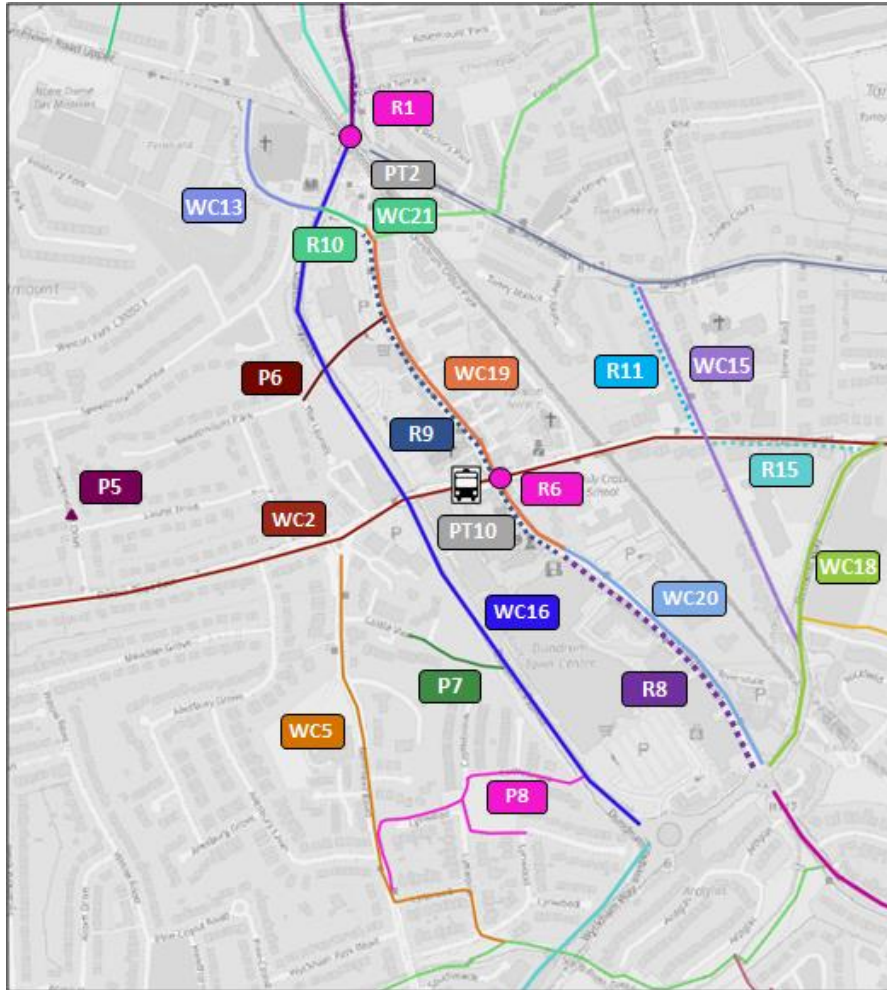
The previous sections outlined the analysis undertaken on the long-list of options to determine the Emerging Preferred Strategy for the Dundrum Road Corridor. The proposed options are illustrated in Figure 4-13, with further detail provided in the Dundrum ABTA Recommendations Report (Section 6 of the Main ABTA Report).



**Figure 4-13 North Dundrum Emerging Preferred Strategy**



## 5. DUNDRUM MAJOR TOWN CENTRE & ENVIRONS



Walk & Cycle Options		Pass to EPS	MCA
WC2	Dún-Laoghaire Rathdown Connector	✓	✗
WC5	Ballinteer Rd Cycle Infrastructure	✓	✗
WC13	Churchtown Rd Upper Cycle Tracks	✓	✗
WC15	Sydenham Rd 2-way segregated cycle track	✗	✓
WC16	Dundrum Bypass segregated cycle tracks	✗	✓
WC18	Overend Avenue segregated cycle tracks	✗	✓
<b>WC19 Main St. Options:</b>			
WC19a	Retention of existing contra flow segregated cycle lane	✗	✓
WC19b	Revert to two-way traffic arrangement (pre-Covid works)	✗	✓
WC19c	Convert to bus only street	✗	✓
<b>WC20 North Sandyford Rd Options:</b>			
WC20a	Traffic Management & Urban Realm enhancements	✗	✓
WC20b	Contra-flow segregated cycle lane	✗	✓
WC21	Continue 1-way system on northern section of Main St to junction with Dundrum Bypass	✗	✓
Permeability Improvement Options		Pass to EPS	MCA
P5	Modal Filter on Sweetmount Drive/Sweetmount Park	✗	✓
P6	Sweetmount Park to Main St. walk & cycle link	✓	✗
P7	Castle View Estate to Dundrum Bypass ped/cycle link	✓	✗
P8	Ballinteer Rd – Lynwood & Castlebrook Estates – Dundrum Town Centre	✓	✗
Public Transport Options		Pass to EPS	MCA
PT2	New Bus interchange at northern end of Main St	✓	✗
PT10	Bus Gate on Ballinteer Rd at the village crossroads	✗	✓
Road Network Options		Pass to EPS	MCA
R1	Taney Cross Junction upgrade	✗	✓
R6	Ballinteer Rd/Main St. junction upgrades	✗	✓
R8	Continue 1-way system from Main Street along North Sandyford Rd	✗	✓
R9	Retention of the existing northbound one-way traffic flow	✗	✓
R10	Continue 1-way system on northern section of Main St to junction with Dundrum Bypass	✗	✓
R11	Sydenham Rd 1-way southbound	✗	✓
R15	Kilmacud Rd Upper 1-way	✗	✓

Figure 5-1 Dundrum Major Town Centre & Environs Options Screening

## 5.1 Introduction

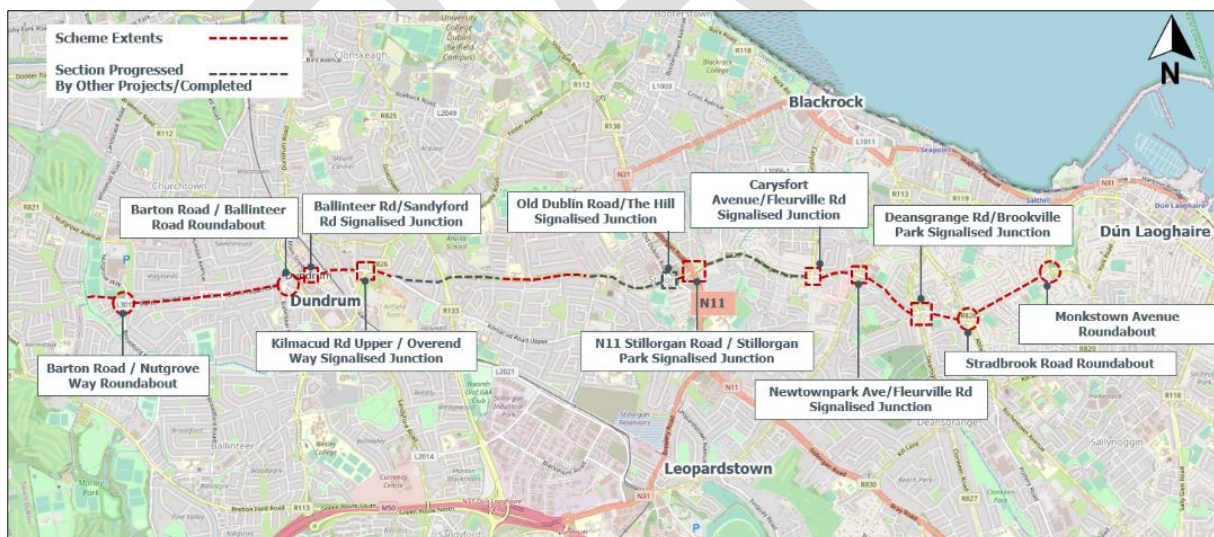
The long-list of options proposed for the Dundrum Major Town Centre & Environs are illustrated in Figure 5-1. Overall, the proposed measures are aimed at improving connectivity to Dundrum Major Town Centre by active travel. They are focused on addressing severance issues identified in the Baseline Assessment and providing safe connections to local schools. The proposals for Main Street are aimed at improving its attractiveness, increasing footfall and supporting the economic growth of the area. As outlined previously, these options have been passed through the two-stage assessment process to determine which ones will form the EPS. The results of this assessment process are outlined in the following sections.

## 5.2 Screening

The results of the initial screening of options versus the study objectives and core delivery themes is provided in Figure 5-1. In summary, the following options were identified as passing directly to the EPS:

### Dún Laoghaire-Rathdown Connector (WC2):

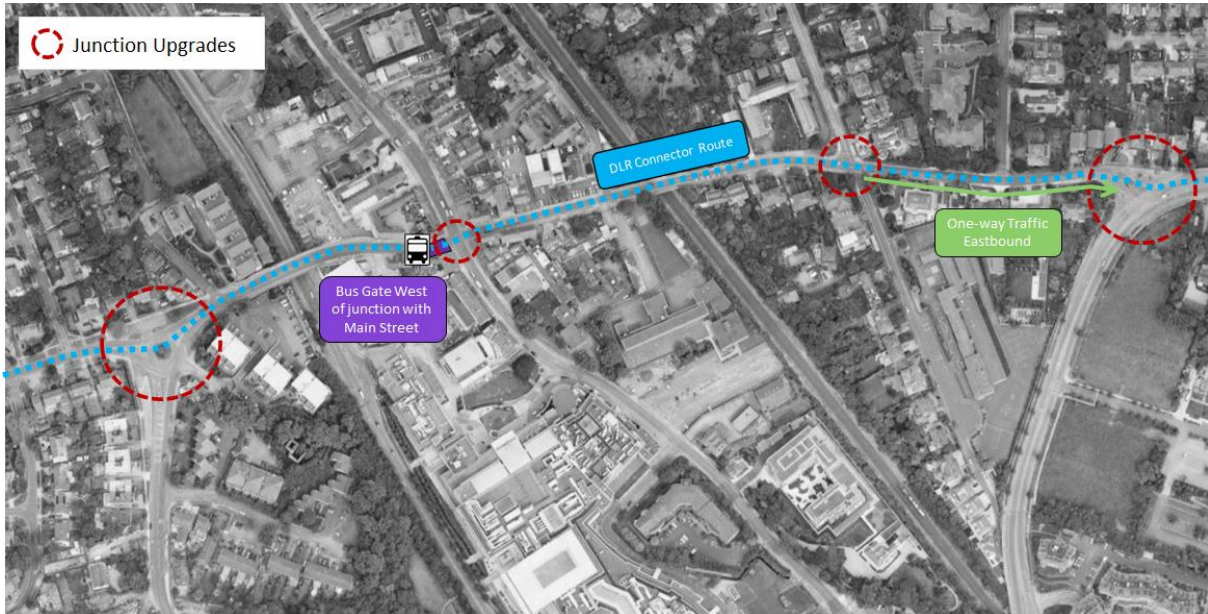
Dún Laoghaire Rathdown County Council is proposing to develop the “DLR Connector”, walking, cycling and public realm improvement scheme, which would connect neighbourhoods and villages East to West across the county through a safe, accessible and attractive walking and cycling route with public realm and greening improvements. Within the Dundrum ABTA Study Area, the route travels along Barton Road East, through the crossroads on Main St., on to Kilmacud Road Upper and Eden Park Road (full proposed route illustrated in Figure 5-2).



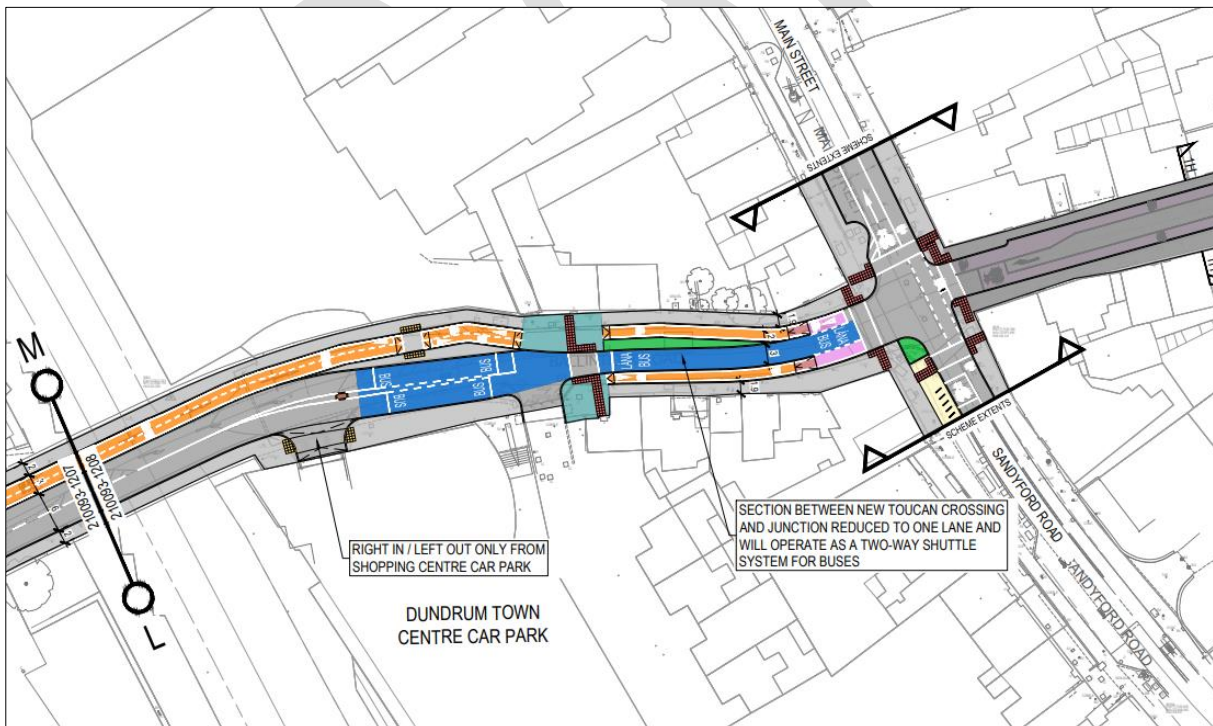
**Figure 5-2 'DLR Connector' Proposed Route**

The route is currently at design stage, with a number of options considered for the delivery of safe segregated cycle infrastructure, including junction upgrades along the route. Within Dundrum, there are a number of pinch points which make the delivery of segregated cycle infrastructure, along with pedestrian footpath improvements challenging. To overcome this, the following proposals illustrated in Figure 5-3 to Figure 5-5 have been identified:

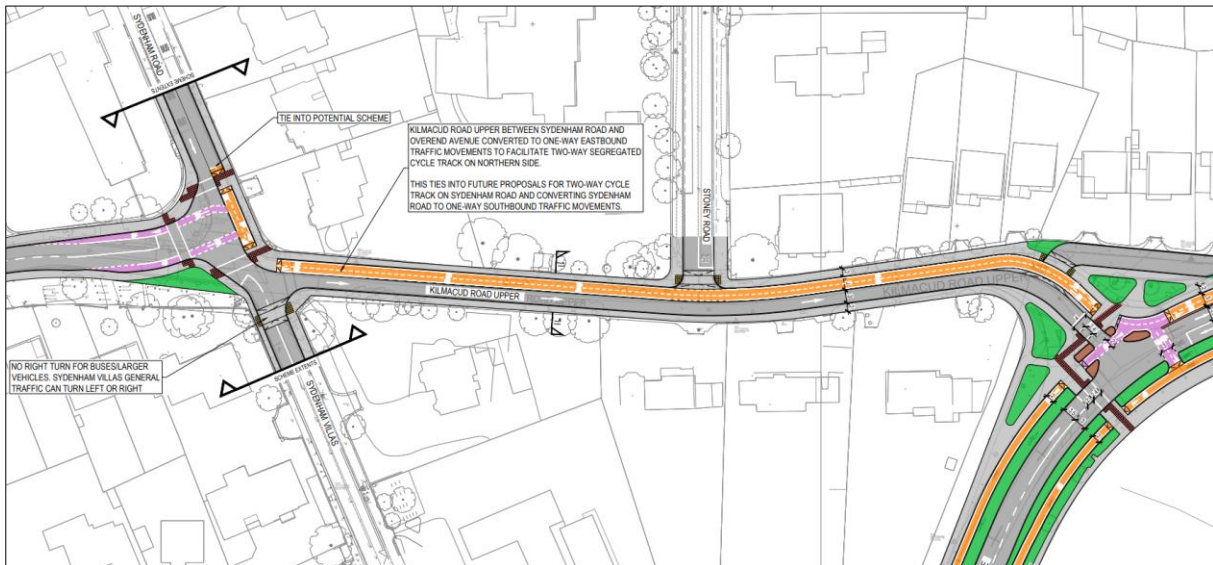
- **Bus Gate** on Ballinteer Road to the west of the junction with Main Street (PT10);
- Convert Kilmacud Road Upper to **one-way traffic in an eastbound** direction from the junction with Sydenham Road to the junction with Overend Way (R15); and
- **Junction upgrades** along the route to support delivery.



**Figure 5-3 'DLR Connector' Proposed Measures**



**Figure 5-4 Dundrum Cross – Option being considered as part of 'DLR Connector' scheme**



**Figure 5-5 Kilmacud Road Upper – Option being considered as part of ‘DLR Connector’ scheme**

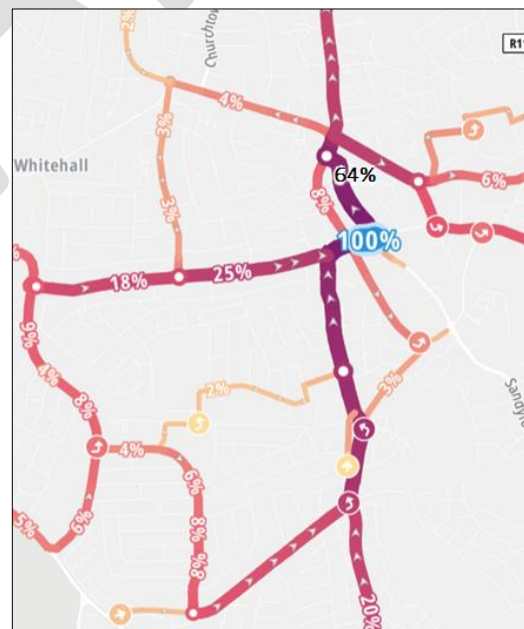
Further details on the ‘DLR Connector’ proposals are available at [DLR Connector: Pre-Design Consultation | Dún Laoghaire-Rathdown County Council \(dlrcoco.ie\)](https://www.dlrcoco.ie)

### Strategic Traffic – Tom Tom analysis

DLRCC’s Tom Tom<sup>7</sup> database was used to investigate traffic routing through Dundrum Main Street. A Select Link Analysis was undertaken to the west of Dundrum Cross on Ballinteer Road to understand where traffic currently using this link are travelling to and from.

The results are illustrated in Figure 5-6, and indicate the following:

- Approx. 64% of trips travelling eastbound on Ballinteer Road do not have a destination on Main Street and travel through here to access the wider network.
- A high proportion of traffic entering Dundrum Cross from Ballinteer Road originate from longer distance routes (e.g. Wyckham Way) where alternative options are available for accessing Dundrum Main Street.



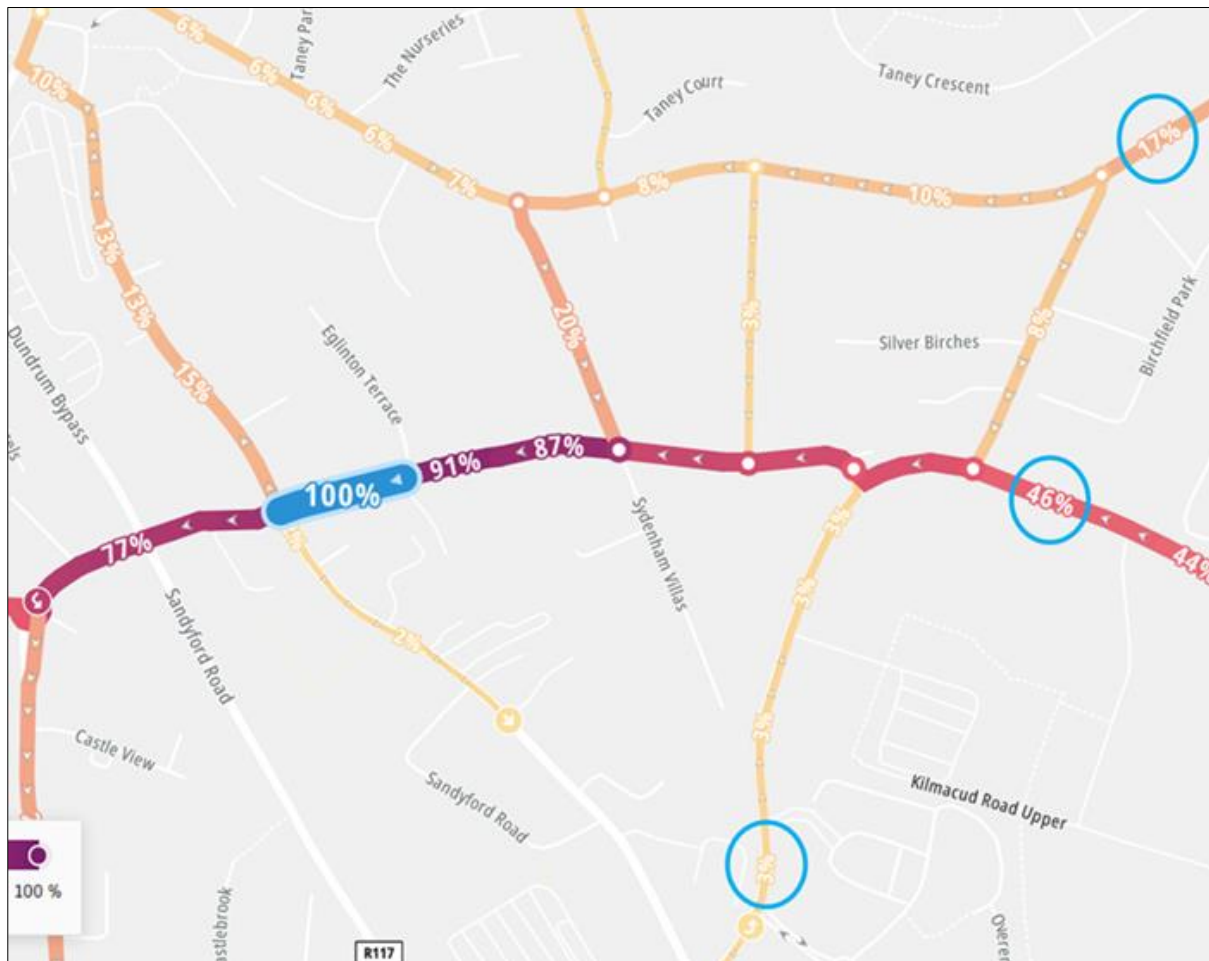
**Figure 5-6 Dundrum Cross Tom Tom Analysis**

Similar analysis was undertaken for traffic entering Dundrum Cross from Kilmacud Road Upper and the results are illustrated in Figure 5-7. Traffic count

<sup>7</sup> Database provided by Tom Tom that includes observed information on traffic routing, volumes and speeds.

data indicates that the vast majority of traffic entering Dundrum Cross from Kilmacud Road Upper are travelling to Ballinteer Road and not Main Street. Just over 2,000 vehicles were recorded travelling from Kilmacud Road Upper to Ballinteer Road throughout the day (7am – 7pm).

The Tom Tom analysis suggests that a high proportion of these trips (approx. 66%) are travelling from longer distances on Taney Road, Kilmacud Road Upper and Overend Way and have opportunities to re-route earlier in the network to avoid Dundrum Cross.



**Figure 5-7 Kilmacud Road Upper Tom Tom Analysis**

The results of the Tom Tom analysis suggest that a significant proportion of traffic using Dundrum Cross is strategic in nature and use the route through Dundrum as a short-cut to access the wider road network. It also indicates that for the majority of traffic travelling through Dundrum Cross, they are travelling from longer distances and have opportunities to re-route and avoid this area without significantly impacting on their overall journey time.

The delivery of the ‘DLR Connector’ aligns with the objectives for the ABTA by providing attractive walking and cycling infrastructure, enhancing local liveability and supporting sustainable mobility. It will provide a strong East-West connection to Dundrum Main Street which was an identified gap in the ABTA Baseline Assessment. Therefore, as the proposal aligns with the study objectives, and is already being progressed by Dún Laoghaire-Rathdown County Council, it passes directly into the EPS. The

proposals for the route have gone through a substantial optioneering process to arrive at the preferred solution for the 'DLR Connector' which will be incorporated into the Transport Strategy for the area.

**Ballinteer Road Cycle Infrastructure (WC5):**

This option includes the development of segregated cycle infrastructure along Ballinteer Road connecting to Barton Road East and the Dún Laoghaire-Rathdown (DLR) Connector Route. The route is currently being progressed by Dún Laoghaire-Rathdown County Council and is at preliminary design stage. Towards the southern end of the route, it will travel through 'Quiet Streets' in Lynwood residential estate connecting to the Slang River Greenway and Wyckham Way.

The delivery of the scheme fully aligns with the overall ABTA objectives by providing safe cycling infrastructure running along Ballinteer Road with connections for local residents and longer distance cyclists. This will link with pedestrian and cycle routes along the Wyckham Way along with proposals for the DLR Connector Route providing an integrated cycle network. This should encourage a shift to cycling and support more sustainable travel within Dundrum. As the proposal aligns with the study objectives, and is already being progressed by Dún Laoghaire-Rathdown County Council, it passes directly into the EPS.

**Sweetmount Park to Main Street Walk & Cycle Link (P6):**

The ABTA Baseline Assessment highlighted severance issues for residents to the west of Dundrum due to the steep gradients and busy bypass road. Within the latest planning application for the Dundrum Village SHD, a bridge crossing has been included to link Sweetmount Park over the bypass to the proposed development and Main Street<sup>8</sup>. This would significantly improve accessibility for residents in the Sweetmount estate to Main Street supporting increased walking and cycling for residents.

A connection between Sweetmount Park and Main Street aligns with the ABTA objectives by improving connectivity for residents to local services and supporting the '10-minute' settlement concept. It will reduce current severance issues and support sustainable mobility. As such, this connection is included in the EPS.



**Local Permeability Improvements West of Dundrum Bypass (P7 & P8):**

The proposed permeability improvement measures are aimed at providing local connectivity and support accessibility by walking and cycling. They have been identified to alleviate severance issues noted in the Dundrum ABTA Baseline Assessment.

<sup>8</sup> <https://dundrumvillageshd.ie/downloads/architecture/>

The options include a connection from Castle View Estate to Dundrum Bypass (P7) which would provide a direct route for residents to access bus stops on the bypass and also Dundrum Town Centre. The proposals in Lynnwood and Castlebrook (P8) estates focus on providing a through connection for residents to both Dundrum Bypass and Ballinteer Road. This option would include breaking through vegetation areas (as illustrated in Figure 5-8) to create a safe pedestrian and cycle connection. This would provide the residents of Lynnwood with a more direct link to Dundrum Bypass and Town Centre. A pedestrian crossing is also proposed on the Dundrum Bypass at the entrance to Castlebrook estate to improve safety for pedestrians and cyclists.



**Figure 5-8 Local Permeability Improvements – Option P7 & P8**

The proposed permeability improvements align with the ABTA objectives and core delivery themes as they will significantly improve accessibility for local residents to Dundrum Main Street and Town Centre by walking and cycling. They should be relatively low cost to implement in a short timeframe, and will encourage more travel by sustainable modes. As such, these options are included in the EPS for the Dundrum transport strategy.

**Churchtown Road Upper Cycle Tracks (WC13):**

This option includes the development of segregated cycle infrastructure along Churchtown Road Upper connecting to Main Street via the Fernbank apartments and Sweetmount Avenue with upgraded crossings provided on Dundrum Bypass.

The delivery of this scheme fully aligns with the ABTA objectives by improving safe access for cyclists to Dundrum Major Town Centre. The route via Churchtown Road Upper/Sweetmount provides a direct, safe connection from the west. This will take pedestrian and cycle traffic away from Taney Cross along a quieter route into Main Street, allowing them to reduce their interactions with general traffic. Therefore, this route is included in the EPS.



**Figure 5-9 Churchtown Road Upper Proposed Cycle Tracks**

### 5.3 Interim MCA

The options requiring more detailed analysis can be grouped under the following main headings:

- Options along **Main Street**;
- Options for **North Sandyford Road**;
- Options for **North Main Street**;
- **Modal Filters** at Sweetmount Drive; and
- Provision of segregated cycle infrastructure on **Dundrum Bypass** and **Overend Avenue**.

The following sections provide further details on the each of the options, the MCA results and the measures feeding into the EPS.

#### 5.3.1 Main Street Options

The various interventions for the Dundrum Main Street have been grouped into three main options as follows:

##### Retention of existing contra flow segregated cycle lane (WC19a)

This option includes the retention of the public realm and cycle infrastructure measures implemented in 2020 as a response to the COVID-19 crisis. The measures included changes to the public realm and mobility interventions in Dundrum Village, including a temporary one-way traffic system on sections of Main Street/Sandyford Road and the reallocation of road space for the safety and benefit of pedestrians, cyclists and local businesses. It included the introduction of a contra-flow segregated cycle track for improved safety for cyclists and in general aimed at creating an inviting public space to make visiting, shopping or spending time in Dundrum Village a safe and enjoyable experience.



**Figure 5-10 Dundrum Main Street COVID Mobility Measures**

##### Revert to two-way traffic arrangement (pre-Covid works) (WC19b)

This option focuses on removing the temporary COVID mobility measures along Main Street (discussed in WC19a) and reverting back to a two-directional vehicular traffic. It would remove the contra-flow cycle track and allow buses to operate in both a north and south direction serving Main Street.

##### Convert to bus only street (WC19c)

This option investigates the conversion of Main Street to a Bus Only street removing regular vehicular traffic entirely. This would improve the environment on Main Street for pedestrians and cyclists with increased safety due to the significant reduction in traffic volumes. Bus access would need to be maintained in a northbound direction to provide public transport connection to the heart of Main Street which would help support the vibrancy of the area. With the proposed development of Dundrum Village SHD, including 881 apartments, the look and feel of Dundrum Main Street is likely to



change significantly in the future. This increased level of activity may support the removal of traffic with more focus given to pedestrian and cycle movements.

### Main Street Options – MCA Results

The proposed options for Main Street were passed through a MCA to assess how each performs in achieving the overall study objectives. The results of this MCA analysis is provided in Table 5.1. As the existing mobility interventions are classed as ‘temporary’ measures, all options have been scored against the original layout for Main Street i.e. two-directional vehicular traffic. As such, **Option 2 Revert to pre-Covid traffic arrangement** scores neutral across all the criteria and the performance of the other two options are measured against it.

#### Option 1 – Retention of existing contra flow segregated cycle lane

In general, the option to retain the Covid traffic arrangement on Main Street scores positively across the majority of study objectives. The additional space provided by reducing traffic to one-lane has been used to improve the footpath provisions and public realm on Main Street. This has created outdoor seating space and an improved environment for pedestrians making Main Street a more attractive destination. The upgrades have helped to support local business along the street by creating an inviting public space leading to increased footfall.

With regards to safety, the provision of segregated contra-flow cycle facilities create a safe environment for cyclists, particularly vulnerable users, completely separated from traffic. The implementation of the one-way system also significantly reduces the volume of overall traffic along Main Street. Reverting back to the Pre-Covid layout would lead to increased traffic volumes with no dedicated cycle infrastructure on Main Street, thus negatively impacting on the safety for pedestrians and cyclists along the route.

From an environmental perspective, reverting to the pre-Covid layout and providing additional road capacity on Main Street will likely work against objectives for the ABTA around encouraging shift to sustainable modes and reducing harmful transport emissions in sensitive areas.

**Table 5.1 Dundrum Main St. MCA Results**

CAF Category	Assessment Sub-Criteria	Option 1	Option 2	Option 3
		Retain Existing Layout	Revert to Pre-Covid Layout	Ped / Cycle / Bus Only
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.			
	- Cost, Feasibility and Value for Money			
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.			
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.			
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.			

CAF Category	Assessment Sub-Criteria	Option 1 Retain Existing Layout	Option 2 Revert to Pre-Covid Layout	Option 3 Ped / Cycle / Bus Only
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.			
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.			
	- Seek to improve air quality and reduce GHG emissions.			
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.			
	- Integration with National, Regional and Local planning policy.			

Option 3 – Make Main Street Pedestrian, Cyclist and Bus Only

The option to convert Main Street to pedestrian, cyclists and bus only will have benefits over pre-Covid conditions in terms of safety and environment. This will remove all regular vehicular traffic from the street creating an improved environment for pedestrians and cyclists. Bus services will continue to run in a northbound direction, and the interaction between pedestrians, cyclists and buses would need to be carefully managed to ensure safety for all.

From an economic perspective, removing all vehicular access may impact on local businesses with parking available for customers and staff. This could also severely impact on servicing of commercial properties. In its current condition, it is also unlikely that the level of footfall in general along Main Street would be sufficient to support a vibrant ped/cycle/bus only street. This could change in the future depending on the developments proposed at the Old Shopping Centre lands. However, the implementation of a vehicle free street is reliant on future development and the impact this might have on pedestrian activity in general on Main Street.

The removal of all vehicular access (except buses) to Main Street may also lead to some severance for residents in the area who are reliant on the private car. This could include anyone who is mobility impaired and does not have close access to a bus or Luas service to bring them to Main Street.

Summary

Overall, Option 1 i.e. retaining the existing Covid mobility measures, is chosen to pass into the EPS.

It performs significantly better than reverting to the pre-Covid layout in terms of achieving the ABTA objectives and creating a safe, vibrant and attractive village centre. In the short-term, the ped/cycle/bus only option would not be supported by the level of pedestrian activity on Main Street throughout the day. However, based on the development of the Old Shopping Centre lands this could become a viable solution in the future with an improved environment for pedestrians and cyclists on Main Street. This option should be revisited once the re-development along Main Street has progressed, potentially implemented on a trial basis, or for certain hours of the day, to assess its performance.

### 5.3.2 North Sandyford Road

The various interventions for North Sandyford Road have been grouped into two main options as follows:

#### Traffic Calming and Urban Realm Improvements (WC20a):

There is insufficient space available to introduce segregated cycle tracks in both directions along North Sandyford Road without significant parking removal along with land acquisition. As a result, this option focuses on traffic calming and urban realm improvements to reduce vehicular speeds and provide a safer environment for pedestrians and cyclists. This includes narrowing of the carriageway, raised pedestrian crossings, surface material treatments and the creation of a school zone outside the Dom Marmion Car Park.

#### 1-way System and Contra-Flow Cycle Track (WC20b & R8):

This option includes the extension of the one-way traffic flow system on Main Street and the delivery of a contra-flow segregated cycle route along with footpath upgrades.

#### **North Sandyford Road Options – MCA Results**

The proposed options for North Sandyford Road were passed through a MCA to assess how each performs in achieving the overall study objectives. The results of this MCA is provided in Table 5.2 with all options compared against existing conditions.

**Table 5.2 North Sandyford Road MCA Results**

CAF Category	Assessment Sub-Criteria	Option 1	Option 2
		Traffic Calm & Urban Realm	Contra-Flow Cycle Track and 1-way Traffic
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.		
	- Cost, Feasibility and Value for Money		
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.		
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.		
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.		
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.		
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.		
	- Seek to improve air quality and reduce GHG emissions.		

CAF Category	Assessment Sub-Criteria	Option 1	Option 2
		Traffic Calm & Urban Realm	Contra-Flow Cycle Track and 1-way Traffic
Integration	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.		
	- Integration with National, Regional and Local planning policy.		

In general, both options score positively across a number of the assessment sub-criteria. The one-way traffic flow system scores lower as it will push more vehicles towards Main Street. In this option, traffic flow would be one-way northbound to align with Main Street. Therefore, all vehicles leaving residential appartements along North Sandyford Road including Herbert Hill and Riversdale would be forced northbound through Main Street. This would also be the case for traffic exiting the Dundrum Town Centre car park along North Sandyford Road. This would work against objectives of the ABTA to reduce traffic volumes in sensitive areas and create a safer, more attractive town centre environment.

The traffic calming and urban realm improvements will help to significantly reduce vehicle speeds along North Sandyford Road and provide widened footpaths along the route. This will create a more attractive environment for pedestrians and cyclists, and encourage more sustainable travel to Dundrum Major Town Centre. The implementation of a ‘School Zone’ outside the Dom Marmion Car Park will tie in with Safe Routes to School proposals in the area and improve safety for children accessing Holy Cross National School by walking and cycling.

Further analysis was also undertaken on available widths along the route. This suggested that space is available to provide a two-way segregated cycle track along the southern section of North Sandyford Road between the entrance to the Riversdale Apartments and the junction with Overend Avenue. This will provide enhanced safety for cyclists on access to this busy junction and tie in with wider proposed cycle infrastructure on Overend Avenue, Sandyford Road and Wyckham Way.

Overall, the following measures are recommended for North Sandyford Road as part of the EPS:

- A two-way segregated cycle track from the junction with Overend Avenue to the entrance to the Riversdale Apartments/Dundrum Town Centre. This will significantly improve safety for cyclists providing protection from vehicles turning in/out of the Dundrum Town Centre Red Car Park and connecting to segregated facilities through the junction with Overend Avenue.
- North of the Riversdale Apartments entrance, there is insufficient space to continue the segregated cycle facilities whilst maintaining access for vehicular traffic along with appropriate footpath widths. For this section, narrowing of the road carriageway, widening of footpaths and roadside planting is proposed to improve public realm and encourage slower vehicle speeds. This would include road surface material treatments (stamped tar/asphalt) at various points to reinforce its place as a town centre street and inform drivers of the upcoming school zone and Main Street.
- The inclusion of a raised crossing and school zone outside the Dom Marmion Car Park to integrate with the proposed Holy Cross National School Safe Routes to School scheme. This will provide priority for vulnerable pedestrian and cyclists which is important at this location given the potential conflict with vehicles turning in/out of the car park



**Figure 5-11 North Sandyford Road Proposed Measures**

### 5.3.3 North Main Street (WC21 & R10)

This option includes the extension of the one-way traffic system on Main Street to Dundrum Bypass with the inclusion of a segregated contra-flow cycle track. Two major changes are proposed along this section which may reduce the requirement for two-way traffic flow in the future:

- **Old Dundrum Shopping Centre Redevelopment:** It is envisaged that vehicular access to any new development at the Old Shopping Centre Site will be from Dundrum Bypass only with active travel connections to Main Street; and
- **Dundrum Bus Interchange/Civic Plaza:** It is proposed that the area by Waldemar Terrace will be upgraded to include a civic space with bus layovers relocated nearby.

The proposed option for North Main Street has been compared against the existing layout in terms of its performance in achieving the study objectives, and the results are provided in Table 5.3.

**Table 5.3 North Main Street**

CAF Category	Assessment Sub-Criteria	Sweetmount Modal Filter
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.	
	- Cost, Feasibility and Value for Money	
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.	
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.	
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.	
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.	
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.	
	- Seek to improve air quality and reduce GHG emissions.	
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.	
	- Integration with National, Regional and Local planning policy.	

The proposal for North Main Street scores well across a number of the assessment criteria and will provide the following benefits:

- Enhanced safety for cyclists providing a segregated contra-flow cycle track connecting from the Dundrum Bypass into the heart of Dundrum Main Street;
- Safer environment for cyclists on carriageway with reduced traffic volumes and speeds;
- Rationalise movements at the junction with Dundrum Bypass to help improve vehicular capacity;
- Provide space to introduce footpath/public realm upgrades and also bus stops/layovers to support the creation of a bus interchange.

The proposed option for North Main Street to convert to one-way northbound traffic and introduce a contra-flow segregated cycle track passes into the EPS.

### 5.3.4 Taney Cross Junction Upgrade

Taney Cross is a large signalised junction with left-turn filter lanes for traffic on each of its entry arms. In general, a junction layout of this size, with slip lanes of this nature is not favourable for pedestrians or cyclists due to:

- Longer crossing distances and requirement to make crossings in two-stages;
- Interaction between pedestrians and vehicles at the filter lights; and
- Generally higher vehicle speeds through the left-turn slip lanes.

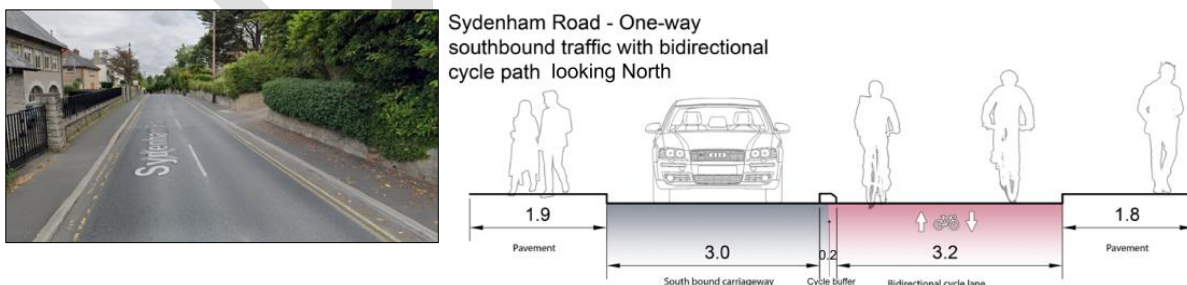
The existing layout is therefore not conducive to safe and efficient pedestrian and cycle movements. In line with latest junction design guidance, it is therefore recommended that Taney Cross junction is upgraded to remove the left-turn slip lanes on all approach arms. Other proposed upgrades include:

- Continuation of cycle facilities through the junction providing priority for cyclists and removing the conflict that currently exists particularly with left-turning vehicles.
- Reducing carriageway widths in so far as possible to reduce crossing distances for pedestrians.
- Reallocation of road space to provide improved public realm and a more comfortable environment for pedestrians and cyclists at the junction.
- The reallocation of road space to provide bus priority measures, including bus lanes.

Traffic modelling was undertaken to assess a number of options for Taney Cross Junction and identify an emerging preferred solution. Further detail is provided in the Junction Assessment Report (Appendix D to the Dundrum ABTA Report).

### 5.3.5 Sydenham Road

Sydenham road connects Taney Road to Kilmacud Road Upper and is a strong desire line for children attending both Taney Parish and Holy Cross primary schools. In order to create a safer environment for pedestrians and cyclists along the route, it is proposed to convert Sydenham Road to one-way southbound for vehicular traffic (Option R11) with the reallocation of road space to implement a two-way segregated cycle track (Option WC15). This would connect to proposed new segregated cycle infrastructure on both Taney Road and Kilmacud Road Upper ('DLR Connector') and would provide safe cycling facilities for school children. The proposed carriageway layout is illustrated in Figure 5-12 below.



**Figure 5-12 Sydenham Rd Proposed Cross-Section**

The proposed option for Sydenham Road has been compared against the existing layout in terms of its performance in achieving the study objectives, and the results are provided in Table 5.4.

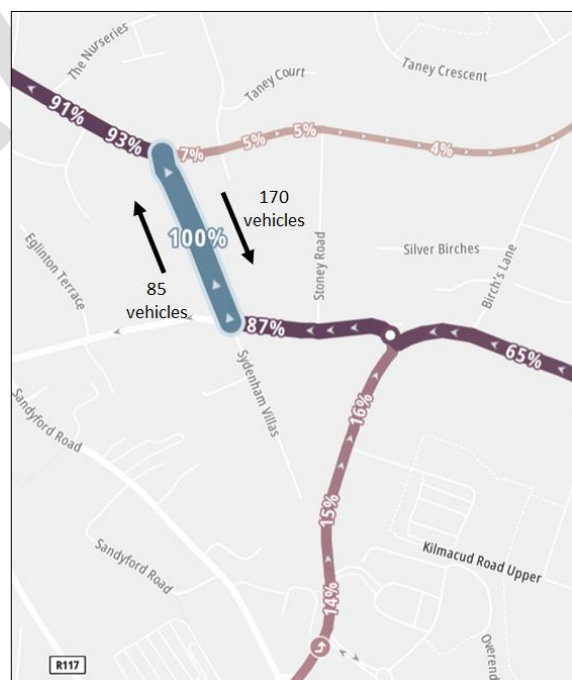
**Table 5.4 Sydenham Road MCA Results**

CAF Category	Assessment Sub-Criteria	Option 1 Sydenham Rd 1-Way
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.	
	- Cost, Feasibility and Value for Money	
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.	
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.	
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.	
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.	
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.	
	- Seek to improve air quality and reduce GHG emissions.	
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.	
	- Integration with National, Regional and Local planning policy.	

Overall, the MCA results indicate that the removal of the northbound traffic lane, and introduction of two-way segregated cycle tracks performs significantly better than the existing layout in meeting the ABTA objectives.

The provision of a two-way cycle track, completely separated from vehicular traffic, will provide a much safer environment for cyclists. This is of particular importance at this location due to its proximity to both Taney National School and Holy Cross School. As such, there are likely to be a number of school pupils using the route. The availability of safe cycle infrastructure should encourage an increase in cycling to school.

The provision of cycle infrastructure on Sydenham Road will also tie in with segregated cycle facilities proposed on Taney Road and Kilmacud Road Upper ('DLR Connector' route). This will integrate with the wider strategic cycle network providing access to Dundrum Main Street and beyond via safe,



**Figure 5-13 ATC & Tom Tom Analysis – Origin & Destination of traffic using Sydenham Road northbound**



segregated cycle tracks. This should encourage a shift towards active modes and away from the private car for local trips.

The main perceived negative of the proposal is the removal of northbound vehicular traffic from the route. However, there are a number of parallel roads in close proximity which could be used as an alternative e.g. Stoney Road and Birches Lane. The analysis of DLRCC Tom Tom data indicates that a significant proportion of traffic travelling northbound on Sydenham Road arrive from Overend Avenue and Kilmacud Road Upper (81%), with the option available to choose an alternative route without significantly impacting on their overall journey time. Automatic Traffic Counts were also undertaken on Sydenham Road in March 2022 to determine the volume of traffic likely to be impacted by the proposal. The results for the AM Peak Hour (08:00-09:00) are illustrated in Figure 5-13, and indicate approx. 85 vehicles travelling northbound which will need to be re-routed. It is likely that this scale of traffic could be accommodated by nearby links with limited impact on the road network.

In summary, the proposed option for Sydenham Road to convert to one-way southbound traffic and introduce a two-way segregated cycle track passes into the EPS.

It performs significantly better than the existing layout in terms of achieving the overall study objectives with substantial benefits in terms of improved safety and accessibility for cyclists, particularly given the location in proximity to local schools. These benefits outweigh the relatively minor impact on traffic re-routing and vehicular access for local residents which can be accommodated on nearby links.

### 5.3.6 Sweetmount Modal Filter (P5):

The ABTA Baseline Assessment identified the route through Sweetmount Drive, Sweetmount Avenue and on to Churchtown Road Upper as a significant rat-run for vehicular traffic trying to avoid congestion on Dundrum Bypass and the Taney Cross junction. Analysis of DLRCC TomTom traffic survey data indicates that approximately 64% of traffic exiting onto Churchtown Road Upper throughout the day (07:00-19:00) come from Barton Road East. This represents a significant amount of unnecessary strategic traffic using the residential streets to reduce their travel time.

This option proposes the implementation of a modal filter within the Sweetmount area to help reduce the volume of through traffic and improve safety for local residents. Table 5.5 outlines the results of the MCA for the Modal Filter option when compared against the existing conditions.

**Table 5.5 Sweetmount Modal Filter MCA Results**

CAF Category	Assessment Sub-Criteria	Sweetmount Modal Filter
<b>Economic</b>	- Support improved economic competitiveness of Dundrum Major Town Centre by improving access for all.	
	- Cost, Feasibility and Value for Money	
<b>Safety &amp; Physical Activity</b>	- Improve safety for pedestrians and cyclists.	
	- Reduce traffic volumes and speeds through established sensitive areas e.g. residential, schools, local centres.	

CAF Category	Assessment Sub-Criteria	Sweetmount Modal Filter
<b>Accessibility &amp; Social Inclusion</b>	- To provide attractive high-quality inclusive and connected transport networks with direct routes to local destinations and public transport hubs.	
	- Promote the '10-minute' settlement concept in Dundrum with reduced walking and cycling times to essential daily services.	
<b>Environmental</b>	- Provide an environment which supports moving people from the private car to more sustainable modes.	
	- Seek to improve air quality and reduce GHG emissions.	
<b>Integration</b>	- Enhance integration between transport and land-use with infrastructure that maximises accessibility for residents to key local services.	
	- Integration with National, Regional and Local planning policy.	

Overall, the implementation of the Modal Filter scores very highly across a number of the criteria when compared to existing conditions. It will help remove a significant proportion of through traffic from the Sweetmount area. This will reduce traffic volumes creating a safer environment for pedestrian and cyclists, improving air quality for local residents and reducing greenhouse gas emissions. The creation of 'Quiet' Streets in this area should encourage increased walking and cycling, particularly when combined with the proposed permeability link across the bypass and into Dundrum Main Street (Option P6).

Depending on the location chosen for the Modal Filter, it will impact on vehicular accessibility for some local residents. As such, it is recommended that the implementation of the Modal Filter, along with its potential location should be agreed in consultation with local residents.

The provision of a Modal Filter in Sweetmount will have a significant number of benefits for local residents and help address an existing rat-running issue through residential streets, and as such the option passes into the EPS. The emerging transport strategy will include an objective to progress the implementation of a Modal Filter in consultation with local residents.

### 5.3.7 Dundrum Bypass Cycle Infrastructure

Dundrum Bypass is a key link in the wider strategic walk and cycle network providing connections from Wyckham Way to Dundrum Town Centre, Main Street and further north to Dundrum Road. It currently has on-road cycle lanes in each direction which have recently been segregated with temporary bollards. Three variations in the provision of segregated cycle infrastructure along this route have been considered as part of the ABTA, including:

- One-way segregated cycle tracks in each direction;
- Two-way segregated cycle track on the western side of the road; and
- Two-way segregated cycle track on the eastern side of the road.

The overall provision of segregated cycle facilities on Dundrum Bypass aligns with the ABTA study objectives, and is currently being progressed by DLRCC. The decision on what type of segregated facility to introduce is a design decision and, as such, has been assessed using the design criteria outlined in Table 3.3 previously. The results of the MCA is presented in Table 5.6.

**Table 5.6 Dundrum Bypass Segregated Cycle Infrastructure MCA**

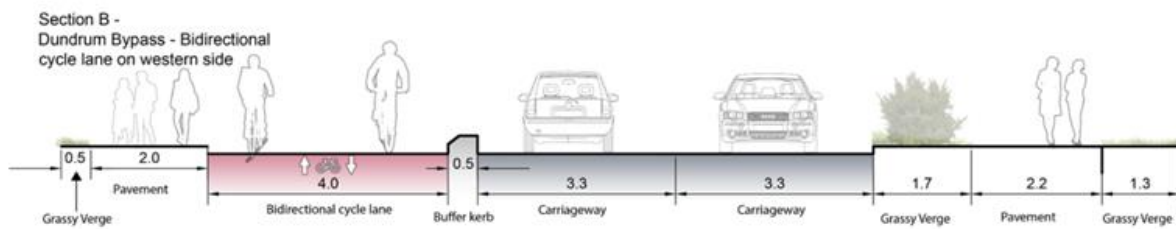
Assessment Criteria	Assessment Sub-Criteria	One-Way Each Direction	Two-Way West	Two-Way East
<b>1. Economy</b>	1a. Capital Cost			
	1b. Transport Reliability			
<b>2. Integration</b>	2a. Integration with the wider transport network			
	2b. Integration with best-practice design guidance			
<b>3. Safety</b>	3a. Road Safety			
	3b. Pedestrian and Cycle Safety			
<b>4. Accessibility</b>	4a. Universal Access for all road users			
	4b. Homogeneity and Legibility of the transport network			
<b>6. Environment</b>	6a. Support shift to sustainable modes			
	6b. Landscape & Visual			

The three variations in segregated cycle facilities score similarly across a number of the assessment criteria, with the main differences being safety and integration with the wider transport network. The provision of the two-way cycle track on the western side of Dundrum Bypass has the benefit of fewer conflict points at entrances. On the eastern side of the bypass, there is currently a vehicular entrance to Dundrum Town Centre Green Car Park, as well as the Old Shopping Centre lands. Plans submitted for the redevelopment of the Dundrum Village SHD also have the main vehicular access off the eastern side of the bypass road. As such, providing a two-way segregated cycle track to the western side of the bypass will result in a reduction in the number of interactions between motorised and non-motorised movements which can significantly improve safety.

Dundrum Bypass also has bus stops on the eastern side of the road for southbound buses transferred from Main Street due to the one-way traffic arrangement. The provision of two-way segregated cycle facilities on the western side of the bypass will remove any potential conflict with buses pulling into/out of stops.

Therefore, the option for a two-way segregated cycle track on the western side of the Dundrum Bypass has been included in the EPS.

The layout of the Dundrum Bypass lends itself to a two-way facility due to the limited number of destinations along the link. Keeping cyclists on the western side will reduce any vehicular conflicts at entrances and will lead to improved safety. This will also tie in to the two-way segregated cycle track on Wyckham Way helping to create an integrated and coherent cycle network through Dundrum. Figure 5-14 provides an indicative cross-section illustrating the proposed cycle tracks on Dundrum Bypass.



**Figure 5-14 Dundrum Bypass Proposed Cross-Section**

### 5.3.8 Overend Avenue Segregated Cycle Infrastructure (WC18):

Overend Avenue is a key link in the wider strategic walk and cycle network providing connections from Dundrum Town Centre to Kilmacud Road Upper. It also provides a connection into Balally Luas stop as well as Taney National School and currently has on-road mandatory cycle lanes with protective bollards in both directions of travel. This option focuses on upgrading these cycle lanes to fully segregated facilities (kerbing, raised pavements) providing greater safety for cyclists, particularly vulnerable users. Three variations in the provision of segregated cycle infrastructure along this route have been considered as part of the ABTA, including:

- One-way segregated cycle tracks in each direction;
- Two-way segregated cycle track on the western side of the road; and
- Two-way segregated cycle track on the eastern side of the road.

The overall provision of segregated cycle facilities on Overend Avenue aligns with the ABTA study objectives. The decision on what type of segregated facility to introduce is a design decision and, as such, has been assessed using the design criteria outlined in Table 3.3 previously. The results of the MCA is presented in Table 5.7.

**Table 5.7 Overend Avenue Segregated Cycle Infrastructure MCA**

Assessment Criteria	Assessment Sub-Criteria	One-Way Each Direction	Two-Way West	Two-Way East
<b>1. Economy</b>	1a. Capital Cost			
	1b. Transport Reliability			
<b>2. Integration</b>	2a. Integration with the wider transport network			
	2b. Integration with best-practice design guidance			

Assessment Criteria	Assessment Sub-Criteria	One-Way Each Direction	Two-Way West	Two-Way East
<b>3. Safety</b>	3a. Road Safety			
	3b. Pedestrian and Cycle Safety			
<b>4. Accessibility</b>	4a. Universal Access for all road users			
	4b. Homogeneity and Legibility of the transport network			
<b>6. Environment</b>	6a. Support shift to sustainable modes			
	6b. Landscape & Visual			

The three variations perform similarly across a number of the assessment criteria as the provision of fully segregated cycle facilities of any form will improve safety for cyclists and encourage usage. The preferred solution for Overend Avenue includes permanent segregated cycle facilities with a mixture of one-way and two-way where space permits. This includes:

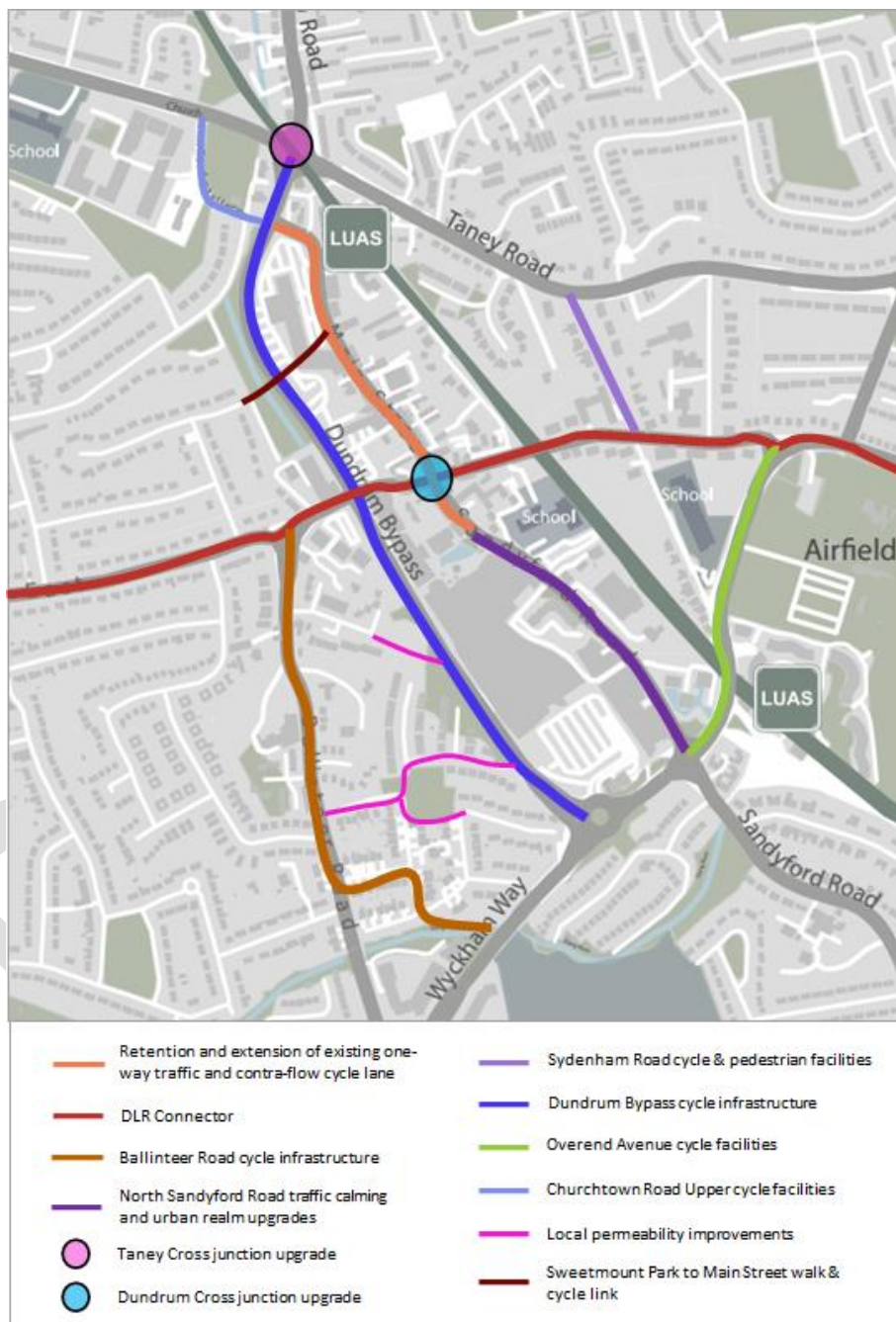
- A two-way segregated cycle track on the western side of Overend Ave from the junction with Sandyford Road to the Sydenham Villas access point, from where the school entrance is a short distance. This will improve safety for children accessing school from the south by facilitating travel in both directions without having to cross the road. It will also tie-in with two-way segregated facilities on Wyckham Way and Sandyford Road providing a safe connection to Dundrum and surrounding areas.
- A two-way segregated cycle track connecting the Sandyford Road junction to the Balally Luas station. This will provide a direct connection from Sandyford Road and Wyckham Way to the Luas reducing the requirement to cross the road and improving safety for cyclists.
- North of the Sydenham Villas access point, the existing cycle lane in each direction will be retained with permanent segregation. The existing signalised crossing at the school access will allow cyclists to cross the road safely as required. The existing southbound cycle lane will also be retained on the eastern side of Overend Avenue. Again, it is recommended that this will be upgraded with permanent segregation to improve safety.
- In general, the carriageway widths along Overend Avenue will be reduced with the introduction of upgraded cycle tracks and public realm enhancements. This will help reduce vehicular speeds along the route and create a more attractive environment for pedestrians and cyclists.

Therefore, the recommendation as part of the EPS is to upgrade the existing cycle infrastructure on Overend Avenue, including:

- A two-way segregated cycle track on the western side from the junction with Sandyford Road to the Sydenham Villas access point;
- A two-way segregated cycle track connecting the Sandyford Road junction to Balally Luas station; and
- Upgrade of remaining cycle lanes on Overend Avenue to permanent segregated facilities.

## 5.4 Dundrum Major Town Centre & Environs – Emerging Preferred Strategy

The previous sections of this chapter have outlined the analysis undertaken to identify the package of measures that will form the Emerging Preferred Strategy for Dundrum Major Town Centre & Environs. Figure 5-15 provides an overview of the key proposals, with further detail provided in the Dundrum ABTA Recommendations Report (Section 6 of the Main ABTA Report).



**Figure 5-15 Dundrum Major Town Centre & Environs Emerging Preferred Strategy**

## 6. SOUTH DUNDRUM & ENVIRONS

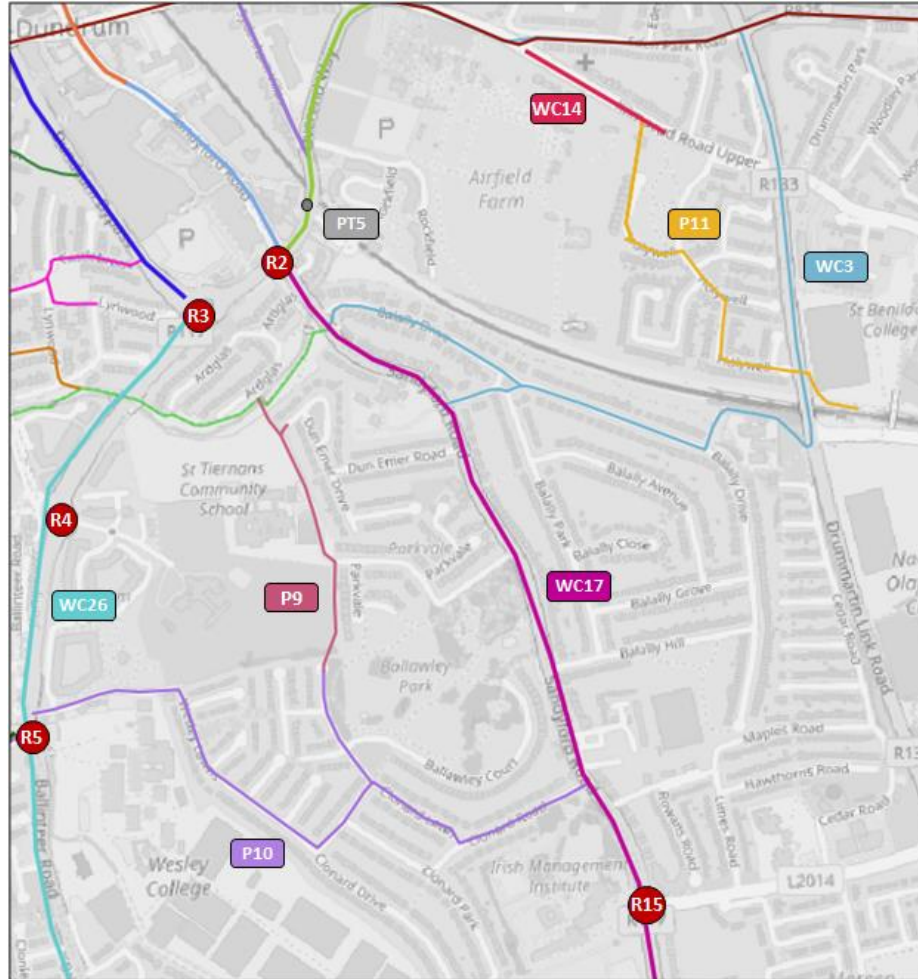


Figure 6-1 South Dundrum Option Screening

Walk & Cycle Options		Pass to EPS	MCA
WC3	DLRCC Active School Travel Scheme	✓	✗
WC14	Kilmacud Rd Upper segregated cycle infrastructure	✓	✗
WC17	Sandyford Road segregated cycle infrastructure	✗	✓
WC26	Segregated 2-way cycle tracks both sides of Wyckham Way	✓	✗
Permeability Improvement Options		Pass to EPS	MCA
P9	Ped/Cycle Route from Wesley Heights – St. Tiernan’s Community School – Slang River Greenway	✓	✗
P10	Greenmount lane – Clonard Dr. – Clonard Rd ped/cycle link	✓	✗
P11	Holywell estate to Drummartin Link Rd permeability links	✓	✗
Public Transport Options		Pass to EPS	MCA
PT5	Improved interchange facilities at Balally Luas Station	✓	✗
Road Network Options		Pass to EPS	MCA
R2	Sandyford Rd/Overend Ave junction redesign	✗	✓
R3	Wyckham Way/Dundrum Bypass Roundabout redesign	✗	✓
R4	Wyckham Way/Ballinteer Rd Roundabout redesign	✗	✓
R5	Wyckham Way/Ballinteer Avenue Roundabout redesign	✗	✓
R15	Removal of left turn slip at Blackthorn Drive – Sandyford Rd Junction	✓	✗

## 6.1 Introduction

The long-list of options proposed for the South Dundrum area are illustrated in Figure 6-1. In general, the measures are aimed at improving the strategic pedestrian and cycle network providing access to Dundrum Major Town Centre and Main Street, particularly via Sandyford Road and Wyckham Way. The proposals focus on improving local permeability and more direct access to schools and key services which was identified as a weakness in the baseline assessment. The proposed junction upgrades are aimed at improving safety for pedestrians and cyclists, and as such, encouraging an increase in active travel. These options have been passed through the two-stage assessment process to determine which ones will form the EPS. The results of this assessment process are outlined in the following sections.

## 6.2 Screening

The results of the initial screening of options versus the study objectives and core delivery themes is provided in Figure 6-1. In summary, the following options were identified as passing directly to the EPS:

### **DLRCC Active School Travel Scheme (WC3):**

Dún Laoghaire-Rathdown County Council is piloting 3 routes to upgrade and connect the existing walking and cycling network in the County. These routes are part of the Active School Travel initiative aimed at encouraging increased walking and cycling to school. The proposed routes aim to connect quiet residential streets with existing safe walking and cycling infrastructure, to create a joined-up network.

The proposed ‘Sea to Mountains’ route passes through the Dundrum ABTA study area linking the Slang River Greenway to Blackrock and Booterstown with upgrades proposed along Balally Drive, Drummartin Link Road and Lower Kilmacud Road<sup>9</sup>. As the proposed route is currently being progressed by DLRCC, and fully aligns with the study objectives by providing safe walking and cycling routes to schools, it passes directly into the EPS.

### **Kilmacud Road Upper Segregated Cycle Infrastructure (WC14):**

This option focuses on providing continuity of segregated cycle facilities along Kilmacud Road Upper. As illustrated in Figure 6-2, the DLR Connector route passes through Knocknashee and Eden Park Road to connect with the Drummartin Link Road. There is also currently a section of segregated cycle lanes to the eastern end of Kilmacud Road Upper (illustrated in green in Figure 6-2).

The direct link along Kilmacud Road Upper to the Drummartin Link Road is likely to be the preferred desire line for cyclists traveling to the south or southeast. As such, this option proposes the continuation of segregated cycle lanes from the entrance to Knocknashee to the existing infrastructure. This would provide safe cycle infrastructure along Kilmacud Road Upper connecting to segregated cycle lanes on Drummartin Link Road. It would help strengthen east-west connectivity to Dundrum by cycling and encourage active travel. This proposal aligns with the overarching ABTA objectives and the core delivery themes, and as such passes directly to the EPS.

<sup>9</sup> Further details on the route available at:

[https://www.dlrcoco.ie/sites/default/files/atoms/files/07.09.2020\\_activeschooltravel\\_info\\_pamphlet.pdf](https://www.dlrcoco.ie/sites/default/files/atoms/files/07.09.2020_activeschooltravel_info_pamphlet.pdf)





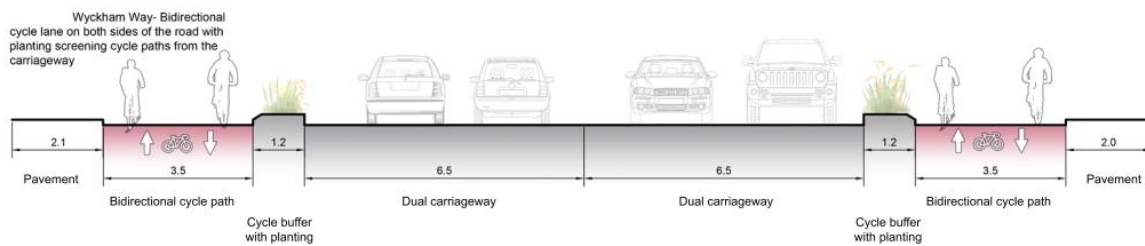
**Figure 6-2 Kilmacud Road Upper Segregated Cycle Infrastructure (WC14)**

**Segregated 2-way Cycle Track on Western Side of Wyckham Way (WC26):**

Wyckham Way currently has two-way segregated cycle tracks along the entire eastern side of the road, and also for a large section of the western side with a gap in provision between the junction with Ballinteer Avenue and the junction with Ballinteer Road. It is a heavily trafficked route which provides a connection from the M50 to Dundrum. It is also a key link for pedestrian and cyclists with a large number of residential areas both sides of the road along with access to a number of schools.

Given the strategic importance of the route, along with the level of traffic volumes, it is proposed that the two-way segregated cycle tracks on the western side of the route are connected. This would provide two-way segregated cycle facilities along the entire western side of the route providing safe connections for residents to Dundrum Town Centre and Main Street. There currently is sufficient space to provide this additional cycle infrastructure, and it would provide greater convenience for cyclists travelling in both directions without having to cross Wyckham Way and interact with vehicular traffic.

The continuation of the two-way segregated cycle tracks on the western side of the Wyckham Way align with the study objectives and the core delivery themes. It would provide a safer and more convenient cycle route for residents to Dundrum, and thus, encourage an increase in active travel. As such, the proposal passes directly into the EPS. Figure 6-3 provides an indicative cross-section illustrating the proposed cycle tracks on Wyckham Way in both directions.



**Figure 6-3 Wyckham Way Proposed Cross-Section**

**Ped/Cycle Route from Wesley Heights – St. Tiernan’s Community School – Slang River Greenway (P9):**

The proposed permeability improvement measures are aimed at providing local connectivity and support accessibility by walking and cycling, particularly to St. Tiernan’s Community School and Ballinteer Educate Together National School. The northern section of the proposed route was an informal track which has been upgraded as part of the development of the new Ballinteer Educate Together National School. The southern part of the link is focused on improving connectivity for residents in areas such as Clonard Drive, Clonard Lawn and Ballawley Ct to the local schools as well as Dundrum Major Town Centre and the Slang River Greenway. This was highlighted as a permeability weaknesses during the ABTA Baseline Assessment.

The proposed pedestrian and cycle route fully aligns with the study objectives and core delivery themes. It will provide greater accessibility for residents to local schools and services within Dundrum Major Town Centre, supporting the ‘10-Minute Settlement’ concept. Therefore, the proposal passes directly into the EPS.

**Greenmount lane – Clonard Dr. – Clonard Rd ped/cycle link (P10):**

This option involves strengthening an existing desire line for pedestrians and cyclists linking Wyckham Way to Sandyford Road and onwards to Sandyford Business District. Areas such as Greenmount Lane, Clonard Dr and Clonard Rd are relatively quiet residential streets. This proposal includes minor upgrades where necessary to further promote the route for walking and cycling. This could include elements such as improved signage and wayfinding, footpath/pavement improvements and traffic calming measures.

This option passes directly to the EPS as it fully aligns with the study objectives and core delivery themes, and will help to:

- Reduce traffic speeds and volumes through sensitive residential areas;

- Create a safer environment for local residents, pedestrians and cyclists;
- Encourage more active travel and a shift away from private car use; and
- Create a strong east-west pedestrian and cycle connection linking residential areas to the west of Wyckham Way with Sandyford Business District.

**Holywell estate to Drummartin Link Rd permeability links (P11):**

This option focuses on improving access for residents in Holywell to the Kilmacud Luas stop which was identified as a weakness within the Baseline Assessment Report. Currently, due to the walled perimeter of the estate, residents have to walk via the entrance at Kilmacud Rd Upper and along the Drummartin Link Road to access the Kilmacud Luas stop. At the most extreme point, this can lead to walk distances of over 1km.

By breaking through the outer perimeter wall, and providing a pedestrian/cycle access along with a crossing of the Drummartin Link Road, it will significantly improve access times to the Luas station for residents therefore encouraging greater use.

The proposal aligns with the project objectives as it will significantly improve access for residents to public transport services. It will also substantially reduce walk and cycle times to St. Benildus College and St. Olafs National School for residents in Holywell. It should also be relatively inexpensive to implement within a short time frame. As such, this option passes directly into the EPS.



**Figure 6-4 Holywell – Kilmacud Luas Stop Connection**

**Removal of left turn slip at Blackthorn Drive – Sandyford Rd Junction (R15):**

This option includes the removal of the left-turn slip lane from the junction between Sandyford Road and Blackthorn Drive. In general, slip lanes of this nature are not very favourable for pedestrians and cyclists due to:

- Longer crossing distances and requirement to make crossing in two-stages;
- Interaction between pedestrians and vehicles at the filter lights; and
- Generally higher vehicle speeds through the left-turn slip lane.



**Figure 6-5 Sandyford Rd/Blackthorn Dr Junction**

The Design Manual for Urban Roads and Streets (DMURS) states the following:

*“Left turning slips (left) generally offer little benefit in terms of junction capacity and increase the number of crossings pedestrians must navigate. They also allow vehicles to take corners at higher speeds, exposing pedestrians and cyclists to greater danger. Where a large number of turning movements occur, left turning lanes (right) with tighter corner radii should be used<sup>10</sup>.”*

This option aligns with the latest junction design guidance and will significantly improve the environment for pedestrians and cyclists crossing. It aligns with the study objectives and as such, the removal of the left turn slip lane is passed directly into the EPS.

## 6.3 Interim MCA

The options requiring more detailed analysis include:

- **Junction upgrades** along Wyckham Way:
  - Sandyford Road / Overend Ave;
  - Wyckham Way / Dundrum Bypass;
  - Wyckham Way / Ballinteer Road; and
  - Wyckham Way / Ballinteer Avenue
- The provision of **segregated cycle infrastructure** along **Sandyford Road**.

### 6.3.1 Junction Upgrades

Further details on the assessment of the junction options is provided in the Junction Assessment Report (Appendix D to the Dundrum ABTA Report). This report outlines the process for determining the optimal solution for each junction along with a detailed modelling analysis to understand the impact on the transport network. For each junction, a concept design has been created to illustrate the proposed revised layout.

### 6.3.2 Sandyford Road Cycle Infrastructure

Sandyford Road is a key link in the wider strategic walk and cycle network providing connections between Dundrum, Sandyford and Sandyford Business Park. It currently has unsegregated on-road cycle lanes in each direction. Three variations in the provision of segregated cycle infrastructure along this route have been considered as part of the ABTA, including:

- One-way segregated cycle tracks in each direction;
- Two-way segregated cycle track on the western side of the road; and
- Two-way segregated cycle track on the eastern side of the road.

The overall provision of segregated cycle facilities on Sandyford Road aligns with the ABTA study objectives. The decision on what type of segregated facility to introduce is a design decision and, as such, has been assessed using the design criteria outlined in Table 3.3 previously. The results of the MCA is presented in Table 6.1.

<sup>10</sup> <https://www.gov.ie/en/publication/c808c-design-manual-for-urban-roads-and-streets-2019-low-res/> (Pg 104)

**Table 6.1 Sandyford Road Segregated Cycle Infrastructure MCA**

Assessment Criteria	Assessment Sub-Criteria	One-Way Each Direction	Two-Way West	Two-Way East
<b>1. Economy</b>	1a. Capital Cost			
	1b. Transport Reliability			
<b>2. Integration</b>	2a. Integration with the wider transport network			
	2b. Integration with best-practice design guidance			
<b>3. Safety</b>	3a. Road Safety			
	3b. Pedestrian and Cycle Safety			
<b>4. Accessibility</b>	4a. Universal Access for all road users			
	4b. Homogeneity and Legibility of the transport network			
<b>6. Environment</b>	6a. Support shift to sustainable modes			
	6b. Landscape & Visual			

One of the key considerations for Sandyford Road is whether it would be more suited to a one-way cycle track in each direction, or a two-way cycle track in one-direction. Cycle design guidance<sup>11</sup> indicates that one-way cycle tracks in each direction is generally preferred to two-way when there a number of entrances on both sides of the road. Some of the key issues associated with two-way cycle tracks include:

- cyclists' accessibility to premises along the route on the opposite side of the carriageway is reduced;
- the interface between the cycle track and major junctions along the route can be more complex;
- there may be more risks associated with retaining priority over side roads or busy accesses;
- it is more difficult for pedestrians, especially disabled people, to cross a two-way cycle track where they do not have priority;
- transitioning between the cycle track and the carriageway is more difficult for cyclists travelling against the flow of traffic; and
- Requirement for additional crossing points and accesses.

There is a significant population living along both sides of Sandyford Road with a number of entrances to properties and residential estates. As such, the provision of two-way segregated facilities on either side of the road is likely to lead to safety concerns including:

<sup>11</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf)

- Vehicles turning into entrances and the risk of motorists not identifying cyclists in both directions; and
- Accessing the two-way facilities from the opposite side of the road. Even with an increase in crossing points, this would still lead to some cyclists travelling along with general traffic until they can get access to cross the road safely.

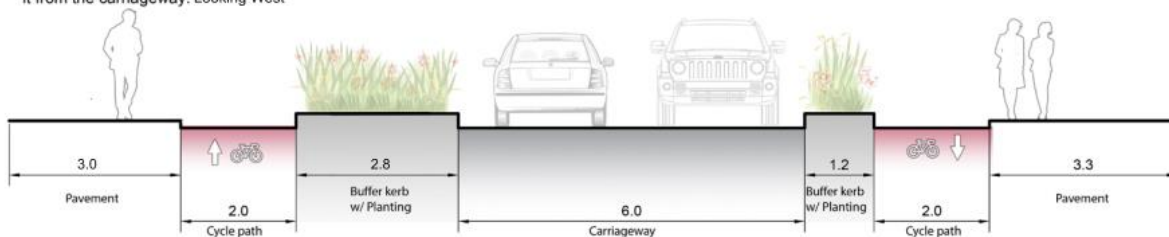
The provision of one-way segregated cycle lanes in each direction:

- Provides consistency with existing facilities;
- Provides safe facilities for residents both sides of the road;
- Is simpler to design through junctions at Overend Ave & Blackthorn Drive; and
- Aligns with published cycle design guidance

Therefore, based on the above analysis, and review of cycle design guidance, the provision of one-way segregated cycle lanes on either side of Sandyford Road passes into the EPS.



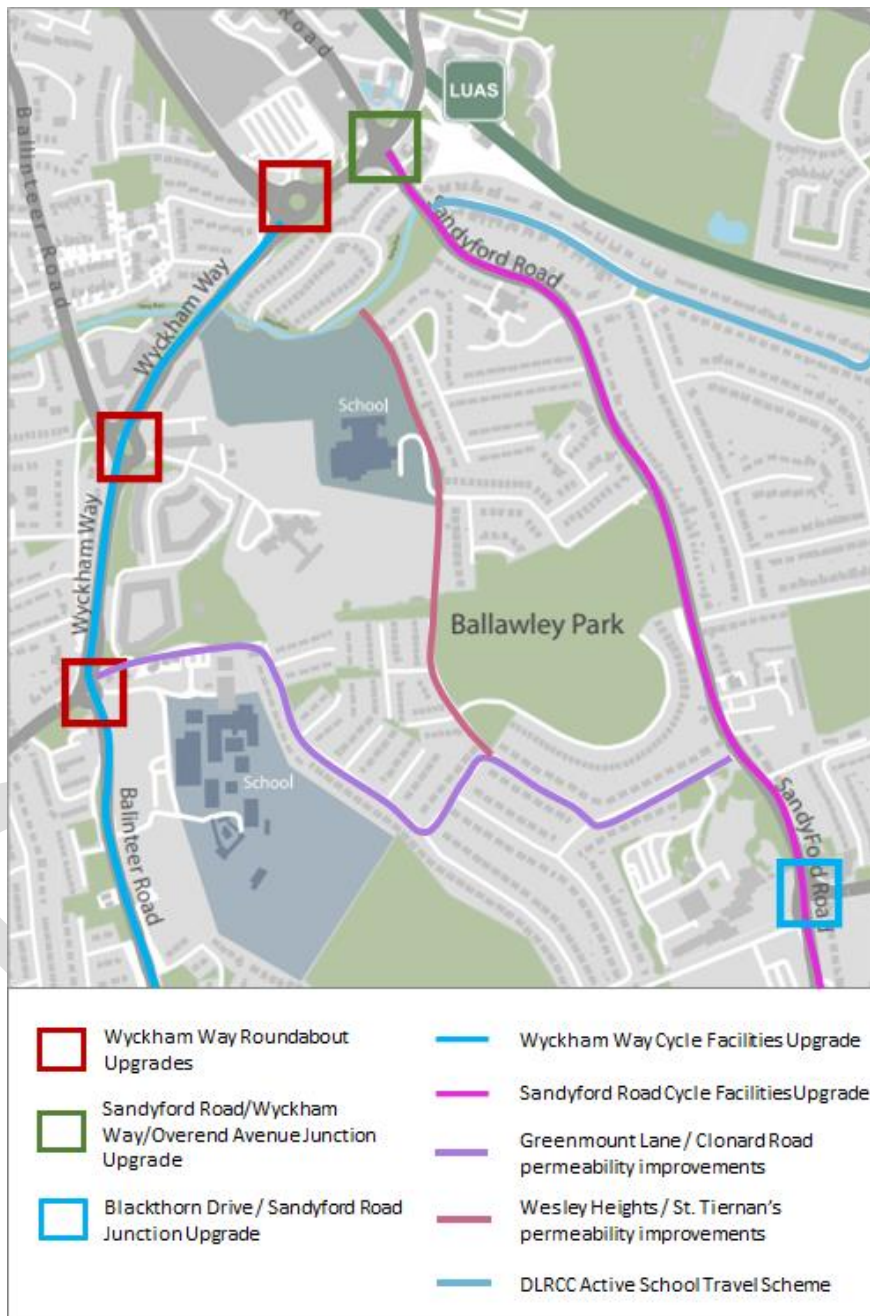
Section E -  
Sandyford Rd between Balally Rd  
and Balally Dr-  
Segregated lanes on both sides of  
the road with planting kerb separating  
it from the carriageway. Looking West



**Figure 6-6 Sandyford Road Proposed Cross-Section**

## 6.4 South Dundrum – Emerging Preferred Strategy

The previous sections of this chapter have outlined the analysis undertaken to identify the package of measures that will form the Emerging Preferred Strategy for South Dundrum and Environs. Figure 6-7 provides an overview of the key proposals, with further detail provided in the Dundrum ABTA Recommendations Report (Section 6 of the Main ABTA Report).



**Figure 6-7 South Dundrum Emerging Preferred Strategy**

## 7. WIDER ABTA STUDY AREA

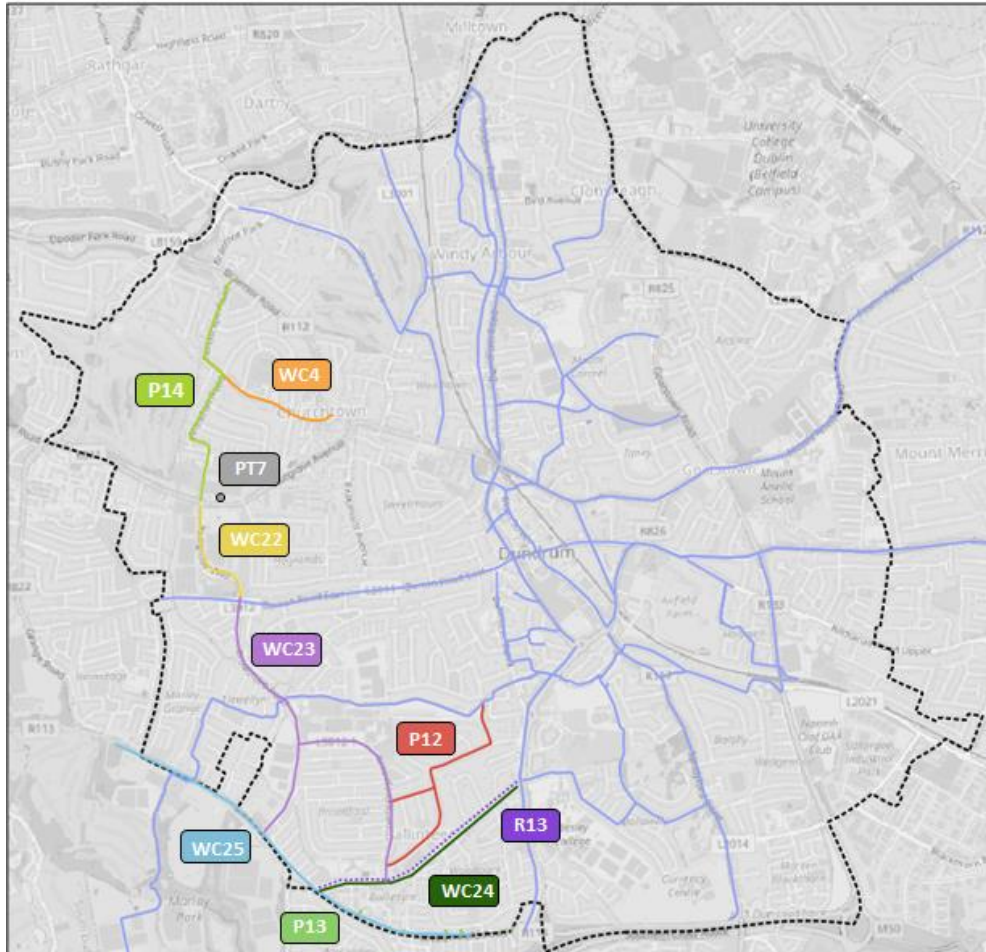


Figure 7-1 Wider ABTA Study Area Option Screening

Walk & Cycle Options		Pass to EPS	MCA
WC4	Churchtown Road Upper Cycle Lanes	✓	✗
WC22	Nutgrove Way segregated cycle infrastructure	✓	✗
WC23	Stonemasons Way/Broadford Rd segregated cycle infrastructure	✓	✗
WC24	Ballinteer Ave Traffic Management & Public Realm Upgrades	✓	✗
WC25	Brehon Field Road 2-way Cycle Tracks	✓	✗

Permeability Improvement Options		Pass to EPS	MCA
P12	Ballinteer Grove – Ludford Rd – Slang River Greenway ped/cycle route	✓	✗
P13	Improved permeability onto Brehon Field Rd ped/cycle facilities	✓	✗
P14	Whitehall Road – Landscape Road ped/cycle route	✓	✗

Public Transport Options		Pass to EPS	MCA
PT7	Improve bus stop facilities at Nutgrove Shopping Centre	✓	✗

Road Network Options		Pass to EPS	MCA
R13	Reduce traffic speeds on Ballinteer Ave (30 kph)	✓	✗



## 7.1 Introduction

The long-list of options proposed for the wider ABTA Study Area are illustrated in Figure 7-1. The measures are focused on strengthening the strategic pedestrian and cycle network within the Dundrum study area. This includes the upgrade and provision of segregated cycle infrastructure where feasible, along with local permeability improvements. Overall, the proposals are aimed at providing safe connectivity by walking and cycling to key local services such as schools, shops etc., and as such, supporting the '10-Minute' settlement concept. These options have been passed through the two-stage assessment process to determine which ones will form the EPS. The results of this assessment process are outlined in the following sections.

## 7.2 Screening

The results of the initial screening of options versus the study objectives and core delivery themes is provided in Figure 7-1. In summary, the following options were identified as passing directly to the EPS:

### **Churchtown Road Upper Cycle Lanes (WC4):**

Dún Laoghaire-Rathdown County Council is proposing to carry out traffic calming works on Churchtown Road Upper between the junctions of Braemor Road and Hillside Road<sup>12</sup>. The aims of the scheme are to reduce vehicular speeds in the area and to improve pedestrian and cycling facilities. The proposed works are intended to:

- Provide traffic calming on Churchtown Road Lower by narrowing the road width, installing raised tables at key junctions and tightening junction radii to reduce vehicular speeds in the area.
- Provide improved pedestrian infrastructure by reducing crossing distances at junctions and installing pedestrian crossing points at key locations.
- Provide new high quality cycling infrastructure.
- Provide a safer school zone in the area around De La Salle College.

As the proposed interventions are currently being progressed by DLRCC, and align with the ABTA objectives by improving safety for pedestrians and cyclists, particularly school children, they pass directly into the EPS.

### **Nutgrove Way segregated cycle infrastructure (WC22):**

Nutgrove Way is a key link connecting to Nutgrove Shopping Centre. It currently has no cycle infrastructure and appears to be a gap in the network with segregated cycle lanes on Nutgrove Avenue and on-road cycle lanes on Stonemasons Way and Barton Road East.

This option proposes the development of segregated cycle lanes along Nutgrove Way. The carriageways are quite wide and there appears to be sufficient space available to implement segregated facilities. When combined with proposed upgrades along Stonemasons Way (WC23) and the DLR Connector route, this will provide safe, segregated cycle facilities to Nutgrove Shopping

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<sup>12</sup> Additional information available at: <https://dlrcoco.citizenspace.com/transportation/traffic-road-safety-section-churchtown-road-upper/>

Centre. It will also provide a safe cycle connection for residents of Nutgrove Avenue south to schools such as Ballinteer Community School and St. Attracta's National School.

Overall, Nutgrove Way is a missing connection in the wider strategic cycle network. The provision of segregated cycle facilities, when combined with other proposals nearby, will help encourage active travel. This is particularly important as a connection to Nutgrove Shopping Centre which is a major trip attractor in the area. As such, the option aligns with the study objectives and core delivery themes and passes directly to the EPS.

#### **Stonemasons Way/Broadford Rd segregated cycle infrastructure (WC23):**

This option includes the upgrade of existing on-road cycle lanes along Stonemasons Way and Broadford Road to fully segregated facilities. The provision of segregation from general traffic significantly improves safety for cyclists, particularly vulnerable road users. This is important for these routes as they link a number of local schools such as Ballinteer Community School, St. Attracta's National School and Our Lady's National School.

Combined with upgrades to Nutgrove Way, this option will form an orbital segregated cycle route to the west of Dundrum connecting Brehon Field Road to Nutgrove way via Nutgrove Shopping Centre. The option aligns with the study objectives in terms of encouraging active travel, improving safety (in particular for access to schools), and promoting the '10-minute settlement' concept. As such, it passes directly into the EPS.

#### **Brehon Field Road 2-way Cycle Tracks (WC25):**

Brehon Field Road currently has one segregated cycle lanes in each direction along the majority of the route. This option looks to upgrade the cycle lanes to provide two-way cycle tracks on both sides of the carriageway. Cycle design guidance indicates that two-way cycle tracks on both sides can be useful where it is difficult for cyclist to cross a heavily trafficked route. Brehon Field Road has large carriageway widths and high traffic volumes with limited crossing points, and as such two-way cycle tracks on both sides of the road will be very convenient for cyclists and should encourage usage.

The proposed upgrades align with the study objectives by encouraging sustainable travel and improving safety reducing the need to cross the road and interact with general traffic. There is sufficient space available to implement two-way facilities which could be constructed at a relatively low cost in a short timeframe. As such, this option passes directly to the EPS.

#### **Ballinteer Grove – Ludford Rd – Slang River Greenway ped/cycle route (P12):**

This option looks at strengthening a 'Quiet Street' route for pedestrians and cyclists through Ballinteer Drive/Grove and Ludford Road. These areas are currently relatively low trafficked residential streets, and proposals include footpath/pavement improvements where required, increased traffic calming, improved wayfinding and signage promoting the link as a walking and cycling route.

The route connects local residents to Broadford road with proposed upgrades to pedestrian footpaths and segregated cycle facilities improving safety for access to schools. The route also provides a safer alternative to Ballinteer Avenue for pedestrians and cyclists. It connects to segregated cycle facilities on Wyckham Way and also the Slang River Greenway providing safe routes to Dundrum Village and beyond.

The option aligns with the study objectives and delivery themes by improving safety for pedestrians and cyclists and encouraging sustainable travel, and therefore, it passes directly into the EPS.

### **Improved permeability onto Brehon Field Rd ped/cycle facilities (P13):**

Local permeability from some residential estates within the study area was highlighted as a weakness as part of the ABTA Baseline Assessment. The residential area between Brehon Field Road and Ballinteer Avenue has very few access points to the south. This option proposes additional permeability onto Brehon Field Road providing residents with improved access to bus stops and segregated cycle infrastructure including connections onto Marlay Park. The option fully aligns with the study objectives by providing residents with improved access to key local services, and as such, passes into the EPS. However, it is proposed that any permeability measures are discussed and agreed between local residents and DLRCC before implementation.

### **Whitehall Road – Landscape Road ped/cycle route (P14):**

The proposed option includes the strengthening of Whitehall Road and Landscape Road for pedestrians and cyclists. When combined with segregated cycle facilities proposed on Nutgrove Way and Stonemasons Way, this would provide a safe walk and cycle connection to the western side of Dundrum from Brehon Field Road to Braemor Road linking a number of residences, schools and Nutgrove Shopping Centre.

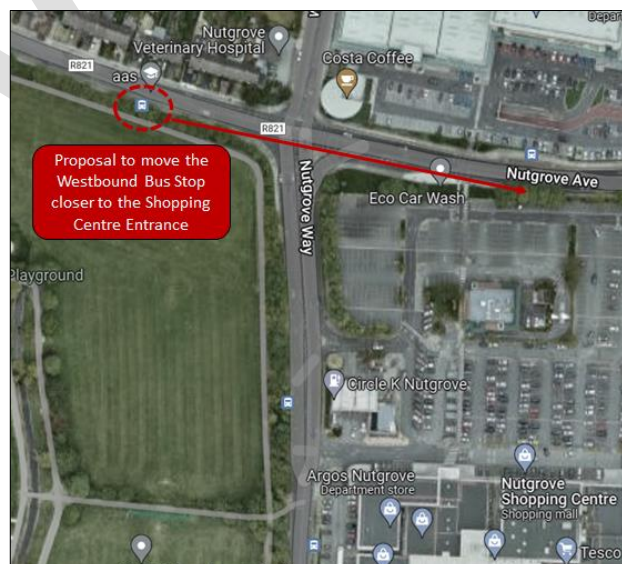
The proposals include footpath/pavement improvements where required, increased traffic calming, improved wayfinding and signage promoting the link as a walking and cycling route. The route would connect with the proposed upgrades along Churchtown Road Upper (WC4) linking to De La Salle College and The Good Shepherd National School.

The proposals align with the ABTA objectives by encouraging active travel, improving safety for pedestrians and cyclists, strengthening the strategic walk and cycle network and providing safer access to schools. As such, the option passes directly into the EPS.

### **Improve bus stop facilities at Nutgrove Shopping Centre (PT7):**

Currently, there is a bus stop provided in the eastbound direction at the northern entrance to Nutgrove Shopping Centre, with the westbound stop located approximately 180 metres further down Nutgrove Avenue. These bus stops are currently served by the routes 17, 61 and 161, and under the BusConnects network redesign they will be served by the S6 and L35 orbital routes with headways of around 15 minutes.

This option proposes the re-location of the westbound bus stop to opposite the eastbound stop with upgraded bus shelters and RTP1 both sides of the road. This would improve accessibility to the shopping centre via public transport, particularly for any mobility impaired users. The proposal aligns with the study objectives as it will support public transport usage, and as such, passes to the EPS.



**Figure 7-2 Bus Stop Facilities at Nutgrove Shopping Centre**

### **Ballinteer Avenue Traffic Management & Public Realm Upgrades (WC24 & R13):**

Ballinteer Avenue is an important link in the wider strategic network around Dundrum. It connects Wyckham Way to Brehon Field Road with a large population living along the route. Similar to the Dundrum Road, Ballinteer Avenue can be heavily trafficked during the peak periods with very limited space available to provide segregated cycle infrastructure.

The proposed option for Ballinteer Avenue is illustrated in Figure 7-3, and includes:

- Narrowing the carriageway along the route;
- Widening and improving footpaths;
- Increased number of raised crossings along the route to improve pedestrian accessibility and slow traffic down;
- Introduction of 30kph speed limit;
- Junction upgrades with Brehon Field Road and Wyckham Way to improve safety for pedestrians and cyclists;
- Retain grass verges and planting along the route;
- Introduce segregated cycle lanes at the western end from Brehon Field Road to Broadford Road.

The narrowing of the carriageways, traffic calming and improved crossings should help to reduce vehicular speeds and improve safety for pedestrians and cyclists. Towards the western end of the route, the road widens to approx. 7-9 metres, and initial analysis indicates that there is sufficient space available to provide segregated cycle lanes between Brehon Field Road and Broadford Road without the need for land acquisition. This would provide a safe cycle connection to Our Lady's National School. Cyclists will need to re-join the carriageway east of Broadford Road and measures to reduce traffic speeds will help to improve safety for cyclists. The strengthening of the link through Ballinteer Dr and Ludford Road will provide a safe 'Quiet Street' route for pedestrians and cyclists as an alternative to Ballinteer Avenue.



- Create a safer environment for local residents, pedestrians and cyclists;
- Encourage more active travel and a shift away from private car use; and
- Provide a safe cycle connection to local schools.

### 7.3 Wider Complimentary Measures

As outlined in Chapter 2 previously, a number of general wider measures have been proposed which are applicable across the entire study area. These are primarily focused on promoting a shift onto sustainable modes and helping support the delivery of the ABTA objectives. The LTP will include objectives to support these more general measures such as:

- **BusConnects (PT1):** Supporting the rollout of the BusConnects network redesign by the NTA
- **Improved bus stop infrastructure (PT6):** Includes provision of bus shelters where feasible / at high patronage locations along with RTP1 at Dundrum Bus Interchange and Ballinteer Rd, with assessments undertaken for other locations. The improved waiting environments and information on bus arrivals should encourage increased use of bus.
- **Luas Green Line Upgrade (PT8):** Support proposals for increased capacity on the Luas Green Line through the provision of additional fleet and necessary infrastructure to meet forecast passenger demand (Identified as Measure LRT8 in the DRAFT GDA Transport Strategy 2022-2042).
- **Luas Extension to Bray (PT9):** Support proposals for the extension of the Luas Green Line southwards in order to serve the Bray and Environs area (Identified as Measure LRT4 in the DRAFT GDA Transport Strategy 2022-2042).
- **Car Parking in Future Developments (CM1):** Align with the County Development Plan regarding Parking Zone Standards for new developments.
- **Re-allocation of spaces for council/ public car park and on-street parking (CM2):** Support a comprehensive review of parking within Dundrum with reallocation of spaces at appropriate locations for:
  - Dedicated Age Friendly Parking
  - Dedicated Disabled Parking
  - Car Share
  - eCar charging points
  - cycle parking including oversized - cargo bikes & trailers
  - eMobility rental stands & Mobility Points – for interchange with bus/car share etc
- **Bike Rental Scheme (CM3):** Support the introduction of a bike rental scheme in Dundrum.
- **Community Car Scheme (CM4):** Support the development of a Community Car Share Scheme In-line with the pilot scheme currently in operation in the Howth and Skerries areas.
- **Active Travel Plans for Schools/workplaces (CM5):** Support the roll-out of plans to promote behavioural change and encourage people to travel to work and school by walking and cycling.

## 8. SUMMARY

### 8.1 Overview

This report has outlined all tasks undertaken to assess the long-list of transport options and identify the emerging preferred Transport Strategy for Dundrum. The options have been grouped into key assessment areas. For each area, the options have been screened to identify those which:

- Did not align with the ABTA objectives, and as such, were not included in the Emerging Preferred Strategy;
- Satisfied the project objectives and the core delivery themes, and had no alternative proposals identified in the options development process. These options passed directly into the Emerging Preferred Strategy without the need for an interim assessment; or
- Aligned with the ABTA objectives, however, either didn't fully meet all of the core delivery themes or had a number of alternative proposals identified. In these instances, the options were assessed in further detail as part of an interim MCA.

The results of the MCA have been presented for each of the assessment areas identifying the options which form the Emerging Preferred Strategy. Further details on each of these options is included in the Dundrum ABTA Recommendations Report (Section 6 of the main ABTA Report).

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