Project

Clondalkin to City Centre Core Bus Corridor

Report Title

CBC Feasibility Study and Options Assessment Report – Volume I

Date

December 2017

Client

National Transport Authority

DBFL Consulting Engineers and Transportation Planners

Document Control

Job Title: Clondalkin to City Centre Core Bus Corridor

Job Number: p162060

Report Ref: p162060-Rep-006

Author: Jacqueline Haley

Reviewed by: Thomas Jennings

Date: December 2017

Distribution: National Transport Authority
DBFL Consulting Engineers

Revision	Issue Date	Description	Prepared	Reviewed	Approved
1st Draft	12/11/2016	Client Review	JH	TJ	TJ
2nd Draft	04/01/2017	Client Review	JH	TJ	TJ
3rd Draft	24/02/2017	Client Review	JH	TJ	TJ
4th Draft	08/08/2017	Client Review	JH	TJ	TJ
5th Draft	27/11/2017	Client Review	JH	TJ	TJ
Final	06/12/2017	Client Review	JH	TJ	TJ
Final Rev A	12/12/2017	Final Issue	JH	TJ	TJ

DBFL Consulting Engineers

Dublin Office
Ormond House
Ormond Quay
Dublin 7

Tel 01 4004000
Fax 01 4004050
Email info@dbfl.ie
Web www.dbfl.ie

Waterford Office
Unit 2
The Chandlery
1-2 O'Connell Street, Waterford

Tel 051 309500
Fax 051 844913
Email info@dbfl.ie
Web www.dbfl.ie

DBFL Consulting Engineers disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with ACEI SE 9101 Conditions of Engagement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and DBFL Consulting Engineers accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

CONTENTS

EXECUTIVE SUMMARY

This report presents the route options assessment work undertaken for the Clondalkin to City Centre Core Bus Corridor (CBC) scheme and makes a recommendation on a preferred route.

Core Bus Network

The proposed scheme forms part of the planned Core Bus Network (CBN) which was identified for the region in the Greater Dublin Area (GDA) Transport Strategy 2016-2035. The CBN is set out as representing 'the most important bus routes in the region, and are generally characterised by a high frequency of bus services, high passenger volumes and with significant trip attractors located along the route'.

The Clondalkin to City Centre corridor generally aligns with the N7/Clondalkin – Crumlin corridor as one of the 16 radial bus corridors (Core Bus Corridors) forming the Core Bus Network; which also comprises of the following corridors:

- Clontarf – East Wall;
- M1/ M50 – Dublin Port Tunnel;
- Clongriffin – Artane – Fairview;
- Swords – Airport – Drumcondra;
- Ballymun – Phibsboro;
- Finglas – Phibsboro;
- Blanchardstown – Cabra – Stoneybatter;
- Lucan – Palmerstown – Kilmainham;
- Liffey Valley – Ballyfermot;
- Tallaght – Walkinstown – Crumlin;
- Tallaght – Rathfarnham – Terenure;
- Marley Park – Rathmines;
- Bray/N11 – UCD – Donnybrook;
- Dun Laoghaire – Blackrock – Ballsbridge; and
- Ringsend – Pearse Street.

CBC Scheme Objectives

The following scheme specific objectives have been set for the proposed scheme:

- Deliver the on-street infrastructure necessary to provide continuous priority for bus movements along the Core Bus Corridor. This will mean enhanced bus lane provision on the corridor, removing current delays in relevant locations and enabling the bus to provide a faster alternative to car traffic along the route, making bus transport a more attractive alternative for road users. It will also make the bus system more efficient, as faster bus journeys means that more people can be moved with the same level of vehicle and driver resources; and
- Provide any cycle facilities along the route that are required under the Greater Dublin Area Cycle Network Plan (published by the NTA, 2013) to the target Quality of Service(s) specified therein and to give consideration to further providing cycle facilities along sections of the route where they may be not expressly required under the Cycle Network Plan.

The Study Area

The proposed Clondalkin to City Centre Core Bus Corridor (CBC) will serve a transport corridor with several key destinations along, or close to the route. These include St. James's Hospital, Our Lady's Children's Hospital, Coombe Women's and Infants University Hospital as well as the area of Clondalkin itself.

The corridor is already a busy transport artery, with additional capacity required to cater for the travel growth predicted. While a rail based solution may serve a portion of the route in the long term, Core Bus services can provide an attractive primary public transport service for the short and medium term and will act as a feeder to widen the rail catchment in the long term.

It is not practical that the proposed scheme would directly serve all destinations within the broader study area, whilst maintaining a core scheme objective of journey time reduction and reliability. As such, the introduction of the proposed scheme will also result in a rationalisation of the wider bus network and service provision along the corridor. This network rationalisation will complement the proposed scheme; improve overall transport accessibility; and enhance the level of service provision for

existing/new public transport users, which include those using other Core Bus Corridors as identified in the GDA Transport Strategy (2016 – 2035). The study area considered, and the subsections into which it was divided are illustrated in Figure (i) below.

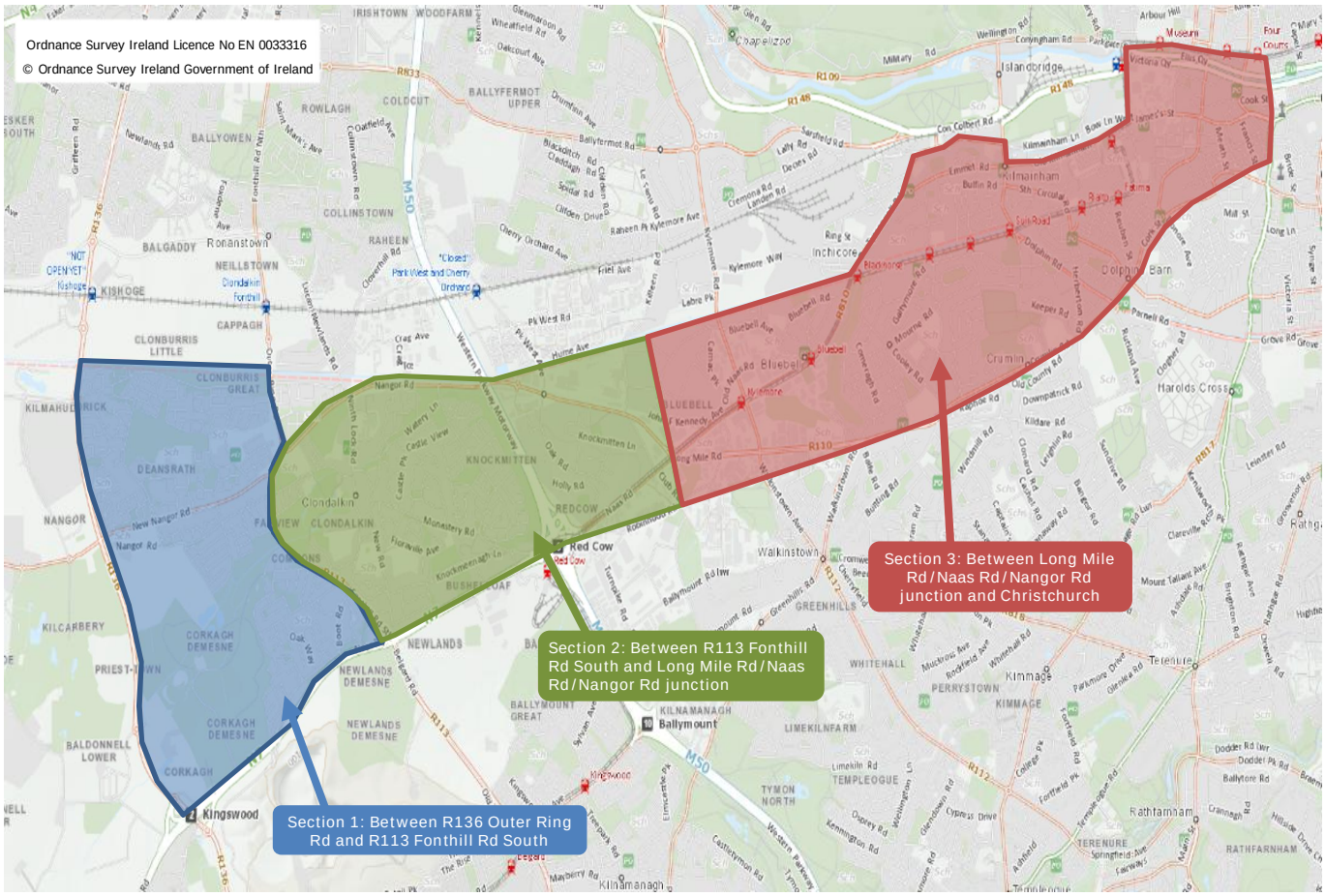

Figure (i): Study Area Sections

Route Options Assessment Methodology

A two-stage assessment was adopted:

- An initial 'Stage 1' high-level route options assessment or 'sifting' process which appraised routes in terms of ability to achieve scheme objectives and whether they could be practically delivered; and
- Routes which passed this initial stage were taken forward to a more detailed Stage 2 assessment.

At the start of the Stage 1 assessment, an initial 'spiders web' of potential route options that could accommodate a CBC was identified for each study area section.

Route options considered in the Stage 1 assessment are illustrated in Figure (ii) below.

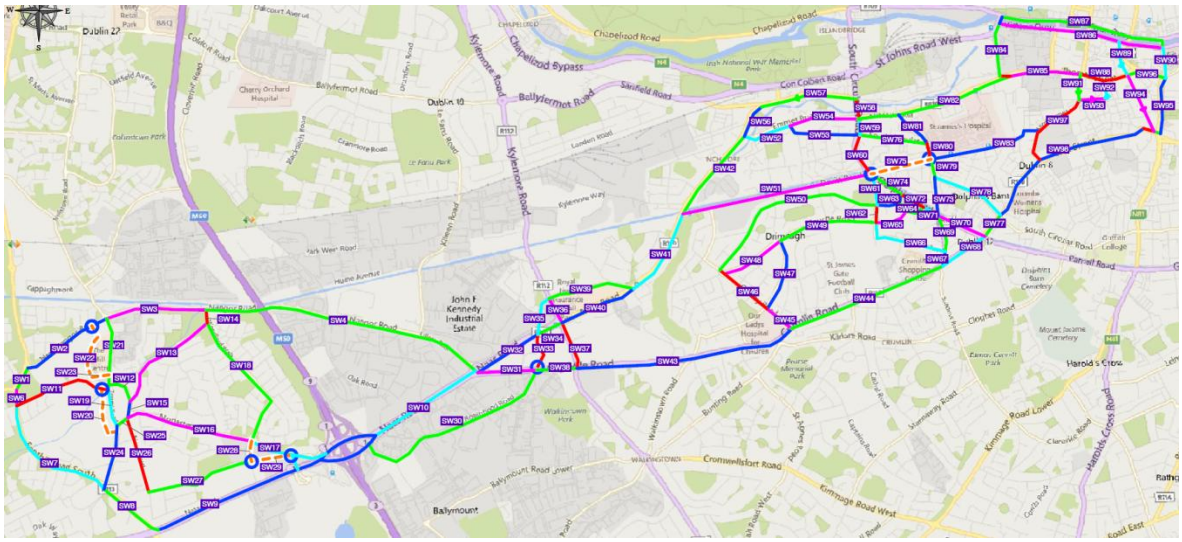

Figure (ii): Spiders Web of Route Options

This was narrowed down using a high level qualitative method based on professional judgement and a general appreciation for existing physical conditions/constraints within the study area. This exercise examined and assessed technically feasible route options, based upon the distinct project specific objectives. In addition to being assessed on their individual merits, routes were also assessed relative to each other enabling some routes to be ruled out if more suitable alternatives existed.

This Stage 1 assessment focused on engineering constraints together with a desktop study, identifying high-level environmental constraints and an analysis of population catchments.

The Stage 2 assessment comprised a more detailed qualitative and quantitative assessment, using criteria established to compare route options. The first step in the Stage 2 assessment was to combine shorter route options which passed the Stage 1 assessment, to form longer end-to-end routes within each study area section.

Following this, an initial indicative scheme for each route option was determined based on the specific constraints along the route [e.g. bus lane in each direction with cycle lanes (where appropriate), bus lane in each direction, bus lane in one direction only etc.]. In particularly constrained locations, a number of variant scheme options were considered and assessed as necessary.

The indicative scheme for each route option was then progressed to a 'Multi-Criteria Analysis (MCA) which evaluated the route options under the following main assessment criteria:

- Economy;
- Integration;
- Accessibility and Social Inclusion;
- Safety; and
- Environment.

An appreciation of the constraints and opportunities within the study area, as well as the defined project objectives, led to the establishment of project-specific route options assessment sub-criteria under each of the 5 main criteria listed above. Table (i) presents a summary of the CBC assessment criteria and associated sub criteria used as part of the Stage 2 detailed route options assessment process. The assessment criteria are described further in Section 4 of this report.

Assessment Criteria	Assessment Sub-Criteria
1. Economy	1a. Capital Cost
	1b. Transport Reliability and Quality (Journey Time)
	1c. Level of Bus Priority Provision
2. Integration	2a. Land Use Policy
	2b. Residential Population and Employment Catchments
	2c. Transport Network Integration
	2d. Cycle Network Integration
	2e. Traffic Network Integration
3. Accessibility & Social Inclusion	3a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3b. Deprived Geographic Areas
4. Safety	4a. Road Safety
	4b. Pedestrian Safety
5. Environment	5a. Archaeology and Cultural Heritage
	5b. Architectural Heritage
	5c. Flora & Fauna
	5d. Soils, Geology & Hydrology
	5e. Landscape and Visual
	5f Air Quality
	5g. Noise & Vibration
	5h. Land Use Character

Table (i): MCA Assessment Criteria

Options Assessment

The routes assessed in the MCA for each of the study area's three route sections are summarised in the following paragraphs. Full details of the assessment are presented and discussed in Sections 3, 5 & 6 of this report, with the full assessment presented in Appendix A & B.

Study Area Section 1: R136 Outer Ring Road to Fonthill Road South

The preliminary review of the routes and surrounding land uses contained within Section 1 of the study area revealed:-

- Both the R136 Outer Ring Road and the New Nangor Road corridors (the main through routes) currently benefit from the provision of dedicated bus infrastructure in the form of bus lanes running in both directions along the side of the carriageway;
- Corkagh Park covers a significant portion of Section 1, and there is only a small parcel of land available within the Section 1 area which may be subject to future development (residential community & residential amenity zoned). As such it can be deduced that there will not be a significant intensification of development (and associated increase in demand for public transport) within Section 1, beyond that evident today; and
- The proposed Tallaght - Blanchardstown Orbital Bus Corridor runs along the Fonthill Road at the eastern extents of Section 1.

Due to both (i) the extent of high quality bus infrastructure currently available along the main through routes of Section 1; and (ii) the modest potential for future development within this section, it has been established that an appropriate starting point for the subject Clondalkin to City Centre CBC would be in the vicinity of the New Nangor Road/Fonthill Road junction (i.e. Section 2).

Study Area Section 2: R113 Fonthill Rd South to Long Mile Rd/Naas Rd/Nangor Rd junction

Following the 'Stage 1' sift for the Section 2 study area, the remaining feasible route options were combined to form 4 number cohesive routes as follows (Figure (iii)):-

- Option S2-1 via Old Nangor Rd, Main St, Monastery Rd and Naas Rd (part of Option S2-2);
- Option S2-2 via Fonthill Rd South and Naas Rd;
- Option S2-3 via New Nangor Rd; and
- Option S2-3 via Ninth Lock Rd, Orchard Rd, Watery Lane and New Nangor Rd (part of Option S2-3).

Figure (iii): Section 2 Route Options

The results of the assessment reveal that option 2-3 offers more benefits over the other three route options. Option 2-3 is therefore preferred route for Section 2 for the following principal reasons: -

- It delivers end to end bus lanes through Section 2 of the study area providing improved journey time reliability;
- It serves a high level of residential and employment catchments within 5, 10 and 15-minute walking distance;
- Users of the CBC service will be able to integrate with existing and future proposed public transport infrastructure;

- It provides a variety of cycle facilities in line with the GDA CNP; and
- It would provide an improvement on road safety for all users in comparison to the other three route options.

Study Area Section 3: Long Mile Rd/Naas Rd/Nangor Rd junction to Christchurch

Following the 'Stage 1' sift for the Section 3 study area, the remaining feasible route options were combined to form 4 number cohesive routes as follows (Figure (iv)):-

- Option S3-1 via Long Mile Rd – Crumlin Rd – Dolphins Barn – St Luke's Avenue – Dean Street– Patrick St;
- Option S3-2:1 via Naas Rd – Tyrconnell Rd – Inchicore Road - South Circular Road- Old Kilmainham – James's St – Thomas St
- Option S3-2:2 via Naas Rd – Tyrconnell Rd – Inchicore Road/Emmet Rd -South Circular Road- Old Kilmainham – James's St – Thomas St; and
- Option S3-2:3 via Naas Rd – Tyrconnell Rd – Emmet Rd - Old Kilmainham – James's St – Thomas St.

Figure (iv): Section 3 Route Options

The assessment results reveal that option 3-1 offers more benefits compared to the other three route options under assessment. Option 3-1 is therefore the preferred route for Section 3 for the following principal reasons: -

- It proves to be a more cost effective solution than the other three options;
- It provides a higher level of bus priority compared to the other route options thereby delivering improved journey time reliability;
- It serves a high level of residential and employment catchments within 5, 10 and 15-minute walking distance;
- Users of the CBC service will be able to integrate with existing and future proposed public transport infrastructure; and
- It provides a variety of cycle facilities in line with the GDA CNP.

Option S3-1 overlaps with the recommended preferred route for the proposed Greenhills to City Centre CBC on Drimnagh Road (in the vicinity of the Drimnagh Road/Walkinstown Road junction). As such to avoid confusion and to ensure there are no discrepancies in the proposals for the corridor, the Clondalkin CBC proposals will terminate on Drimnagh Road. Between Drimnagh Road and the City Centre the Clondalkin CBC will tie into the proposals as outlined by the Greenhills to City Centre CBC study.

The Emerging Preferred Route

Based on the findings of the route options assessment process, an emerging preferred route for the CBC scheme has been identified, as presented in Figure (v) below, and is described in the following paragraphs.

The emerging preferred route for the Clondalkin to City Centre (inbound) direction CBC scheme, commences at the New Nangor Rd/Fonthill Rd South junction. To facilitate bus priority (in both directions) at this junction and at the adjacent R113 Fonthill Rd North/New Nangor Rd junction, it is proposed to upgrade both of these roundabout junctions to traffic signal controlled. The upgrading of these junctions can be achieved within the existing road reservation. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

Two new pedestrian links will be provided between Alpine Heights and Fonthill Road South to improve pedestrian accessibility to the new CBC corridor.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the R113 Fonthill Rd North/New Nangor Rd junction and the New Nangor Rd/Ninth Lock Rd junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP. Carriageway widening into the rear gardens of numbers 81-98 Millpark will be required to facilitate the provision of the cycle lanes.

A new pedestrian link will be provided between St Patrick's Park and the New Nangor Rd to improve pedestrian accessibility to the new CBC corridor.

The New Nangor Rd/Ninth Lock Rd junction will be reconfigured to provide bus priority in both directions up to the junctions stop lines. There will be a short gap in the bus lane provision on approach to the stop lines however to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the New Nangor Rd/Ninth Lock Rd junction and the New Nangor Rd/Woodford Walk junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP. The CBC proposals along this section can be achieved within the existing road reservation.

A toucan crossing will be provided on the New Nangor Rd to the north of Mayfield Park. This crossing (in conjunction with the provision of pedestrian connections) will facilitate a pedestrian desire line to/from the proposed CBC route and the Riversdale and Mayfield Park residential areas to the south of the New Nangor Rd. The provision of this crossing and pedestrian connections would increase the catchment area and attractiveness of the CBC route for commuters.

At the New Nangor Rd/Woodford Walk junction the existing inbound bus bypass facility will be retained however the junction will be reconfigured to include the provision of cycle lanes.

Continuous bus priority (in both directions) will be facilitated along the New Nangor Rd, through the New Nangor Rd/Woodford Walk junction and the Riverview Business Park junction. Due to width constraints at the M50 flyover, it is not possible to

provide two-way cycle facilities (or pedestrian footways) in parallel with the bus infrastructure. Nonetheless cyclists and pedestrians will be directed to join the adjacent Grand Canal Greenway over the short section of the underpass and will then be given the opportunity to re-join the New Nangor Rd corridor. Furthermore, a toucan crossing will also be provided to the east of the M50 flyover to facilitate pedestrians/cyclists wishing to access/egress the Greenway.

To facilitate bus priority (in both directions) at the Riverview Business Park junction, the existing roundabout arrangement will be upgraded to traffic signal control. There will be a short gap in the bus lane provision on approach to the stop lines however to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction. The CBC proposals along this section can be achieved within the existing road reservation.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the Riverview Business Park junction and the New Nangor Rd/Oak Road junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

To facilitate bus priority (in both directions) at the New Nangor Rd/Oak Road junction, the existing signal controlled junction will be reconfigured. There will be a short gap in the bus lane provision on approach to the stop lines to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction. Carriageway widening will be required (on the southern side of the New Nangor Rd) in the vicinity of the New Nangor Rd/Oak Road junction to facilitate the CBC proposals.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd/Oak Road junction and the New Nangor Rd/Willow Road junction. There will be a short gap in the bus lane provision on approach to the stop lines to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the Willow Rd junction and the New Nangor Rd/Killeen Rd junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

At the New Nangor Rd/Killeen Rd (northern) junction the existing outbound bus bypass facility will be retained. There will be a short gap in the bus lane provision on approach to the inbound stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

At the New Nangor Rd/Killeen Rd (southern) junction there will be a short gap in the outbound bus lane provision on approach to the stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction. Carriageway widening will be required to facilitate the provision of the cycle lanes.

Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the New Nangor Rd/Killeen Rd (southern) junction and the New Nangor Rd/Naas Rd/Long Mile Rd junction. Cycle lanes (in both directions) will also be provided between these two junctions aligning with Secondary route 8C2 as identified in the CNP.

Bus lanes will be provided on approach to and from the New Nangor Rd/Naas Rd/Long Mile Rd junction. There will be a short gap in the inbound bus lane provision on approach to the stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn lane. Cyclists will be afforded protection from general traffic through this busy junction by the provision of kerbed solid islands after which they will be directed to cross the Naas Road carriageway at toucan crossings. The CBC proposals for the New Nangor Rd/Naas Rd/Long Mile Rd junction will be subject to further analysis during the detailed design stage.

The CBC service will proceed eastbound along the R110 Long Mile Road from the New Nangor Rd/Naas Rd/Long Mile junction to Drimnagh Road. From Drimnagh Road, in the vicinity of the Drimnagh Road/Walkinstown Road junction, the CBC service will merge with the Geenhills to City Centre CBC.

The existing bus lanes along the R110 Long Mile Road between the Naas Road and Drimnagh Road will be extended/upgraded (in both directions) as part of the CBC proposals.

The R110/Walkinstown Avenue traffic signal controlled junction will be reconfigured to ensure the buses are given priority at the junction. In addition the Walkinstown Road/Long Mile Road junction will be upgraded from its current priority arrangement

to signal controlled, incorporating the existing pedestrian crossing to the east into the traffic signals to reduce the possibility of additional delays for buses.

Cycle facilities will also be provided along the route to align with Secondary Route 8C as identified within the CNP. The CBC proposals along this section can be achieved within the existing road reservation.

The proposed CBC will merge with the Greenhills to City Centre CBC in the vicinity of the Drimnagh Road/Walkinstown Road junction. Outbound CBC services would follow the same route as the inbound CBC services.

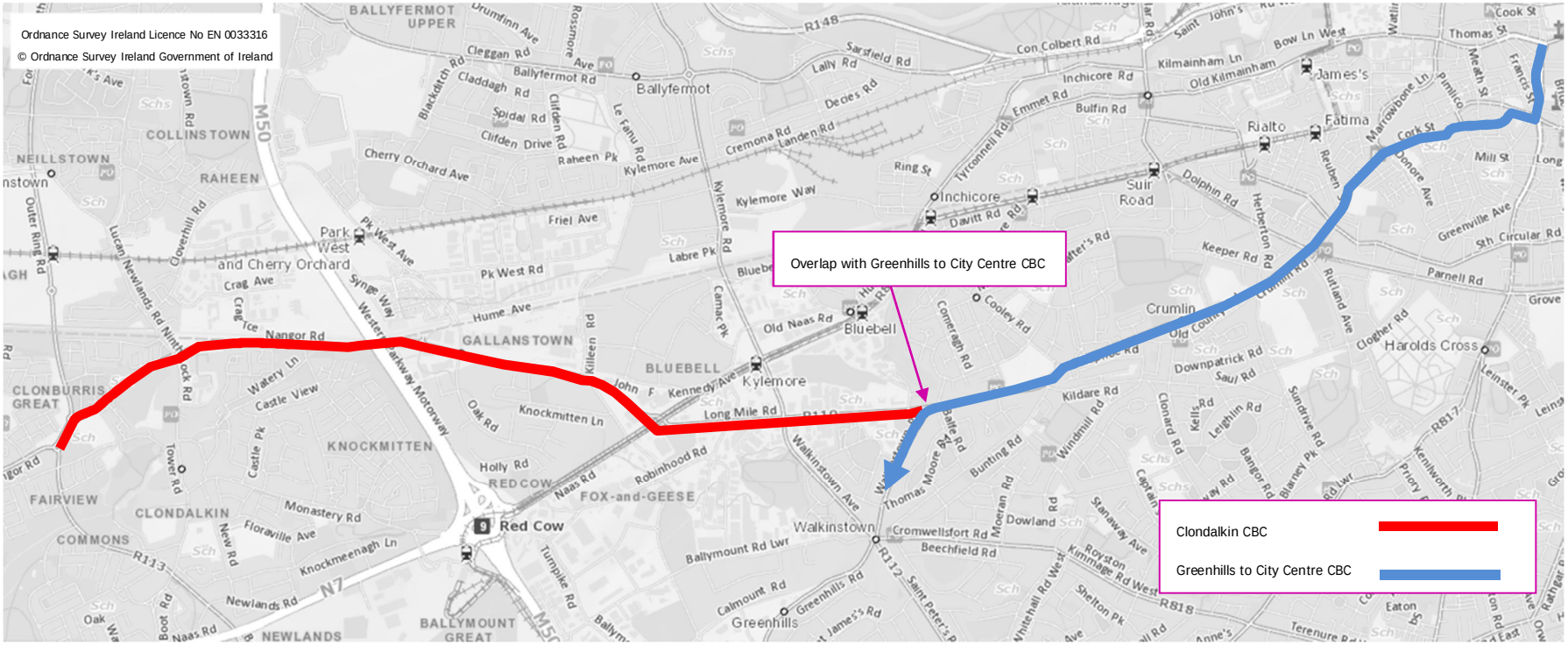

Figure (v) Clondalkin to City Centre Core Bus Corridor Emerging Preferred Route

Concept Scheme Design Summary

Cost Estimate

A high-level cost estimate has been prepared based on the concept scheme design and a number of assumptions regarding the scheme details. As such the proposed Clondalkin to City Centre Core Bus Corridor scheme infrastructure is anticipated to be in the region of €22.7-27.7 million excluding VAT.

Journey Time Benefits

Through the provision of increased bus priority infrastructure, the proposed scheme would improve both the overall journey times for buses along the route and their journey time reliability. A review of the available comparable journey time data along the route demonstrates that issues currently being experienced by buses could be addressed by the proposed scheme.

To create an accurate journey time comparison, an analysis of the existing journey time and speed data for Dublin Bus Service 151 (Docklands, East Rd. to Foxborough, Balgaddy Rd.) was undertaken. Part of route 151 travels along the majority of the preferred route selected for the Clondalkin to City Centre CBC, (i.e. inbound from the existing bus stop 6014 'Dunawley' to bus stop 2185 Slievebloom Road', and outbound from the existing bus stop 2726 'Slievebloom Park' to bus stop 2133 'Roundabout'). This service also includes part of the Greenhills CBC.

Through the provision of increased bus priority infrastructure, the proposed scheme would improve both the overall journey times for buses along the route and the journey time reliability. A review of available journey time data along the route illustrates the issues that will be largely addressed by the proposed scheme.

Currently the journey times during the core hours of bus operation (07:00 – 19:00) are observed to vary between 11 – 16 minutes in the inbound direction and 13 -19 minutes in the outbound direction. The variation in journey times is most likely due to the lack of bus priority at and on approach to the junctions along the route and subsequent turbulence caused by traffic congestion, as well as passenger boarding times at stops which are high due to requirements for driver interaction.

As such, the journey times outside of these hours, when both vehicle traffic volumes and passenger volumes are lower, are more reflective of the journey times which could be achieved through a combination of the proposed bus priority infrastructure

improvements, better enforcement of bus lanes and the introduction of cashless fares. In other words, the proposed infrastructure would effectively create an uncongested network for buses.

Currently after 19:00 in the evening, the inbound journey time is observed to reduce to between 8 – 11 minutes. Similarly, outbound journey times are seen to reduce to between 8 - 12 minutes. For both inbound and outbound journey times after 19:00, the overall journey time is seen to drop by up to 5 minutes in the inbound direction and 7 in the outbound, with the variance between the upper and lower limits also reduced for each direction.

Similarly, comparing the average speed of buses during the peak and off-peak hours it can be seen that the average speed for buses along the route is consistently higher at night, in uncongested conditions, compared to the morning peak hour where congestion slows the progression of buses. This further illustrates the benefits improved bus priority will bring to buses operating along the proposed route.

The analysis of the average speed data for the 151 Dublin Bus Services suggests that for both inbound and outbound bus services the delays (slower speeds) are being experienced at/on approaches to the following junctions: -

- New Nangor Road/Ninth Lock Road junction;
- New Nangor Rd/Oak Rd junction;
- New Nangor Rd/Naas Rd/Long Mile Rd junction;
- Long Mile Rd/Walkinstown Avenue junction; and
- Long Mile Rd/Walkinstown Rd junction.

The CBC proposals at these aforementioned junctions include the provision of new/extended bus lanes up to the stop lines, in addition to a reduction in the length of the lanes where buses must share the traffic lane with general vehicular traffic.

In conclusion, the provision of new and extended bus lanes, with improved bus priority along the proposed CBC route, in addition to the introduction of cashless fares, would enable buses to travel with improved journey times and greater journey time reliability. The extent of these benefits will be confirmed and quantified at the next design stage.

Next Steps

This report has identified an emerging preferred route for the bus infrastructure along this Core Bus Corridor for which a concept design has been developed.

The next project stage (the development of a Preliminary Design) will further refine and update the initial concept design along the route. Further account will be taken of likely public transport service levels, particularly the bus service patterns and any changes to the overall bus network which may arise from the separate bus network review process. The proposals will be amended, if and as required, to integrate any resultant changes.

The Preliminary Design will define the final practically achievable scheme for the CBC, taking into account more detailed studies of constraints, impacts and environmental assessment required at a local level.

Prior to finalisation of the CBC scheme design, a public consultation process will be undertaken, with inputs and feedback received incorporated where practical and appropriate to do so.

This Preliminary Design will form the basis of the planning consent process for the scheme, which will require a development consent application to be made directly to An Bord Pleanala, due to the nature and extent of the proposed works.

1.0 INTRODUCTION AND BACKGROUND

1.1 Preamble

1.1.1 This report presents the principal findings of the detailed route options assessment work undertaken for the Clondalkin to City Centre Core Bus Corridor scheme (hereafter referred to as the 'proposed scheme') following which a recommendation on a preferred route is made.

1.1.2 This route options assessment report describes the detailed assessment of potential viable route options within the study area identified for the proposed scheme against established assessment criteria.

1.2 Report Structure

1.2.1 The route option assessment process and corresponding report structure are detailed below: -

- Section 1 – This initial section provides an introduction and background to the planned Core Bus Network;
- Section 2 – The strategic transport policy context which has led to the identification of a need for the delivery of the Clondalkin CBC is outlined. The objectives for the proposed scheme are presented.
- Section 3 – The proposed Study Area and associated three sub-sections are described identifying key constraints and opportunities, the integration of the Clondalkin CBC with the wider public transport network and its compatibility with other road users.
- Section 4 – The methodology for identifying and assessing the feasibility of the various route options is discussed in this section including: -
  - the identification of study area sections where practical route options were considered and presentation of the 'spiders web' network of potential route options; and
  - the selection and determination of initial criteria for screening and assessing technically feasible route options, based on distinct, project-specific objectives; and

- the definition of assessment criteria.

- Section 5 – details the route option assessment for Section 2 of the Study Area,
- Section 6 – details the route option assessment for Section 3 of the Study Area,
- Section 7 – The preferred route for the proposed scheme is described, the cost estimate for the proposed scheme is outlined and the journey time benefits are defined.
- Section 8 - the next steps for the project are set out in this section

1.3 Core Bus Network

1.3.1 One of the principal additions to the latest edition (2016 – 2035) of the NTA Transport Strategy for the GDA was the identification of a 'Core Bus Network' (CBN) for the region. The CBN is set out as representing 'the most important bus routes in the region, and are generally characterised by a high frequency of bus services, high passenger volumes and with significant trip attractors located along the route. The identified core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors. While this network represents the core high frequency bus routes, it is supplemented by other bus services operating on lower frequency routes and by local buses running on other routes.

1.3.2 The Core Bus Network will serve significant origins and destinations in the Dublin Metropolitan Area and throughout the GDA, particularly those locations not directly served by heavy and light rail. It will also provide greater opportunity for reliable and convenient interchange with these services.

1.3.3 In order to ensure an efficient, reliable and effective bus system, it is intended, as part of the Strategy to develop the Core Bus Network to achieve, as far as practicable, continuous priority for bus movement on the portions of the Core Bus Network within the Metropolitan Area. This will mean enhanced bus lane provision on these corridors, removing current delays on the bus network at the relevant locations and enabling the bus to provide a faster alternative to car based travel along these routes, therefore making bus transport a more attractive alternative for road users. It will also make the overall bus system more efficient, as faster bus journeys means that more people can be moved with the same level of vehicle and driver resources'.

1.3.4 The Clondalkin – Christchurch corridor generally aligns with the N7/Clondalkin – Crumlin corridor as one of the 16 radial bus corridors forming the Core Bus Network (as illustrated in Figure 1.1 below), which also includes the following:-

- Clontarf – East Wall
- M1/ M50 – Dublin Port Tunnel
- Clongriffin – Artane – Fairview
- Swords – Airport – Drumcondra
- Ballymun – Phibsboro
- Finglas – Phibsboro
- Blanchardstown – Cabra – Stoneybatter
- Lucan – Palmerstown – Kilmainham
- Liffey Valley – Ballyfermot
- Tallaght – Walkinstown – Crumlin
- Tallaght – Rathfarnham – Terenure
- Marley Park – Rathmines
- Bray/N11 – UCD – Donnybrook
- Dun Laoghaire – Blackrock – Ballsbridge
- Ringsend – Pearse Street

Figure 1.1: 2035 Core Bus Network - Radial Corridors
(Source NTA Transport Strategy for the GDA 2016 – 2035)

1.3.5 The combined CBN comprising, Radial, Orbital & Regional corridors as well as the 2035 Bus Rapid Transit Network is illustrated in Figure 1.2 below.

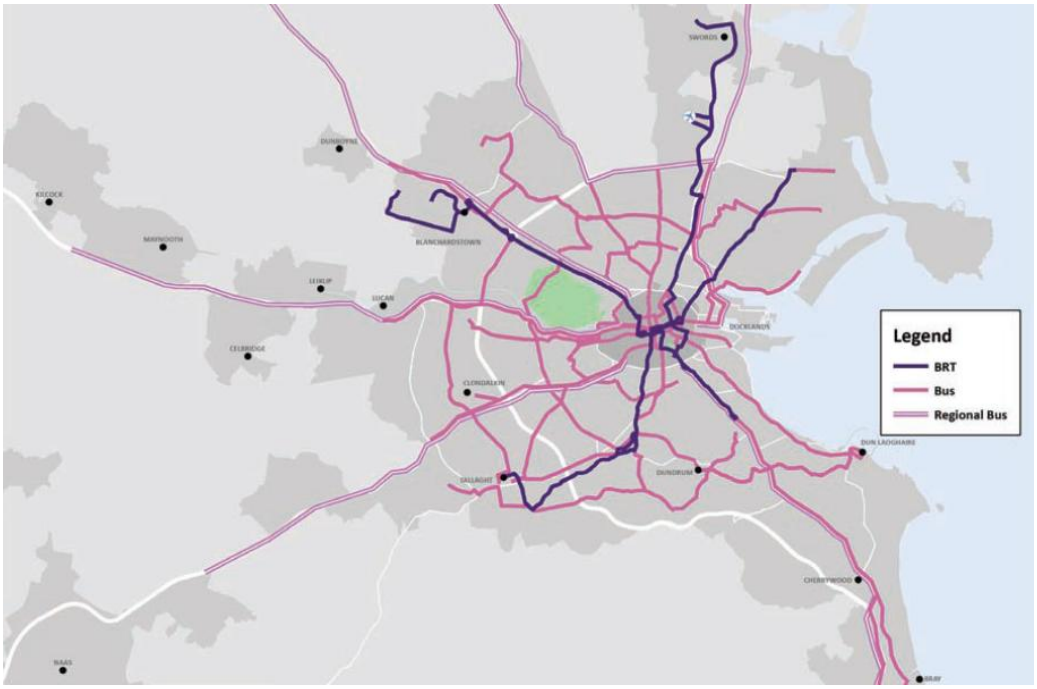

Figure 1.2: 2035 Core Bus Network
(Source NTA Transport Strategy for the GDA 2016 – 2035)

1.3.6 The brief for the subject study has been developed as a result of the identification of the CBN in the Strategy. Whilst, the study focuses on the Clondalkin - Christchurch radial route, potential interchange with orbital corridors has also been considered.

2.0 TRANSPORT PLANNING AND POLICY CONTEXT

2.1 Introduction

2.1.1 This section of the report provides an overview of the national, regional and local transportation policy relevant to the Clondalkin to City Centre CBC scheme. These documents provide the policy framework for the development of an improved bus corridor between Clondalkin and the City Centre. Relevant extracts from the documents are outlined in this section and commentary provided where necessary.

2.2 Greater Dublin Area Transport Strategy 2016-2035

2.2.1 The GDA Transport Strategy 2016-2035 outlines the transport vision and objectives to '*contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods'*. The current strategy was adopted in April 2016 as an update to the original 2012 draft strategy. One of the principal amendments to the Strategy was the introduction of a 'Core Bus Network' (CBN) which was identified for the region and has been discussed previously in Section 1.3 above.

2.2.2 The *Outer Orbital Movement* Study & the *Inner Orbital Study* (both published by the NTA in September 2015) informed the development of the updated Transport Strategy and focussed on distinct areas with a view to determining the most appropriate form of transport 'solution' to serve these areas.

2.2.3 The Outer Orbital Movement Study investigated the connection of 5 key centres within the Dublin area namely; Swords, Blanchardstown, Tallaght, Dundrum & Dun Laoghaire. The connection between Blanchardstown and Tallaght is of most relevant to the Clondalkin CBC with a number of options considered as part of the Outer Orbital study traversing the subject study area namely along Grange Castle and Fonthill.

2.2.4 The Inner Orbital Study focussed on a study area between the M50 and the City Centre, from Finglas to Rathmines, forming a half ring shape around Dublin City Centre. It was recommended that 2 additional orbital bus routes be introduced to serve the study area as shown in Figure 2.1 below. This includes the provision of a

'long orbital bus route' from Churchtown/ Rathfarnham to Finglas and from Rathmines to Glasnevin.

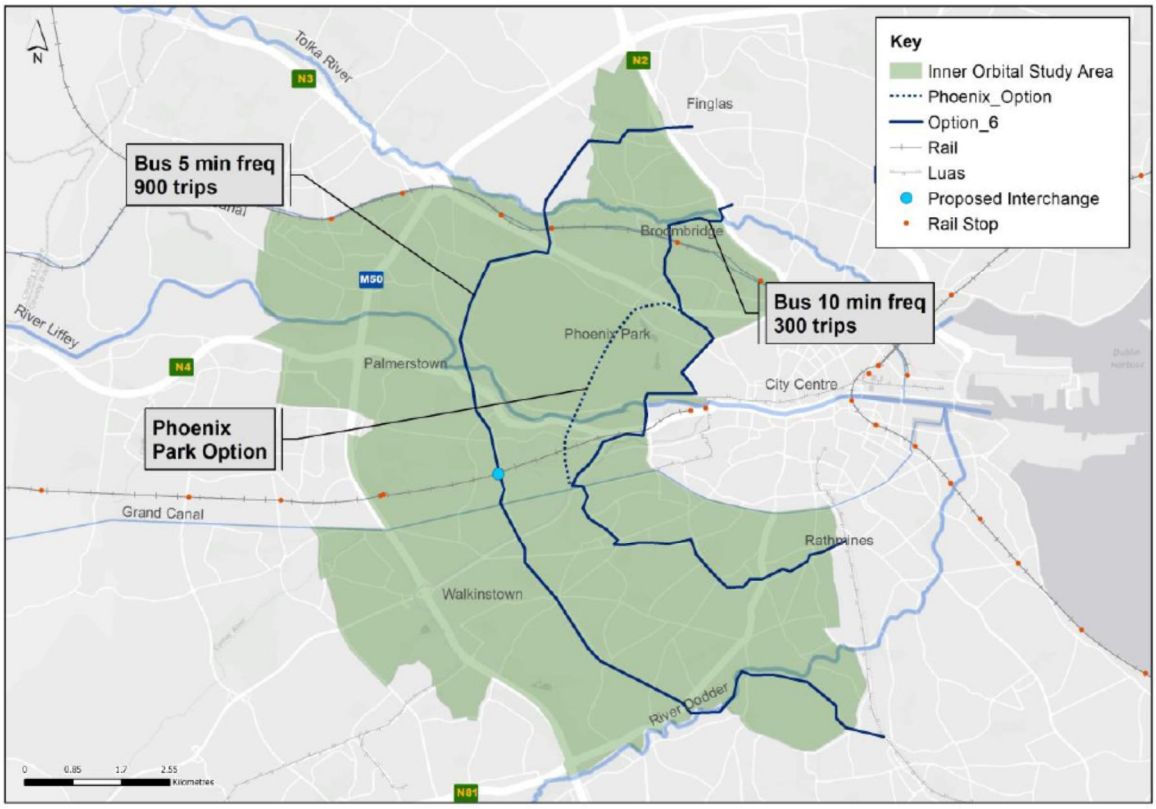

Figure 2.1: Inner Orbital Study Area and Proposed Orbital Bus Routes

2.3 Integrated Implementation Plan 2013 – 2018

2.3.1 The NTA published the Integrated Implementation Plan 2013 – 2018 in February 2014. This report sets out the short-term infrastructure investment programme for the Greater Dublin Area for a five-year period up to 2018 including in investment in existing bus services.

2.3.2 The proposals in relation to Bus investment are encompassed in four investment themes: -

1. Bus Fleet Investment;
2. Bus Stop and Shelter Provision;
3. General Bus Network Improvements; and
4. Bus Rapid Transit Schemes.

2.3.3 Investment themes 2 & 3 are of most relevance to the subject scheme. More specifically, the Integrated Implementation Plan proposes the following measures in relation to bus network improvements:

- '*Further development of a quality bus network appropriate to serve the needs of the GDA*;
- *Seeking to achieve, as far as practicable, continuous inbound priority and the maximum possible outbound priority on key bus routes into Dublin City Centre;*
- *Enhancing bus priority at other urban locations in the GDA;*
- *Seeking enhanced bus prioritisation at signalised traffic junctions in the GDA;*
- *Improving the level of interchange facilities between services and with other transport modes;*
- *Creation of bus hubs or bus focal points in key urban locations in the GDA; and*
- *Reducing the level of bus layover and parking in central urban areas.'*

2.3.4 These measures will provide an interim transport solution in the shorter term, pending the development of a higher capacity rail solution, such as a New Metro North amongst others.

2.4 Dublin City Centre Transport Study

2.4.1 The Dublin City Centre Transport Study has been prepared to integrate the transport policies and proposals of Dublin City Council (DCC) and the National Transport Authority (NTA) and inform an agreed framework for strategic investment. The study was issued for public consultation in June 2015 and proposes the following relevant measures to improve the operation, management and efficiency of the bus network within Dublin City: -

- To maximise the performance of the bus network by ensuring that sufficient road capacity and junction priority are provided to allow buses to operate efficiently, with reliable and predictable journey times; and
- To further optimise the routing of the bus corridors through the City Centre area, improving interchange arrangements and optimising the efficiency of the service.

2.5 Infrastructure & Capital Investment 2016 – 2021: Medium – Term Exchequer Framework

2.5.1 The 'Medium Term Exchequer Framework' was published by the Department of Public Expenditure and Reform (DEPR) in September 2015. It presented the findings of a Government-wide review of infrastructure and capital investment policy and outlined the Government's commitment to ensuring that the country's stock of infrastructure is capable of facilitating economic growth. The investment programme included proposed expenditure of €3.6 billion on public transport which included '*further upgrading of Quality Bus Corridors'* amongst other items.

2.6 Dublin City Council Development Plan (2016 – 2022)

2.6.1 The current Development Plan for Dublin City Council came into effect on 21st October 2016 and contains some objectives in relation to bus travel which are of general relevance to the Scheme such as:

- *To support improvements to the city's bus network and related services to encourage greater usage of public transport in accordance with the objectives of the NTA's strategy and the Government's 'Smarter Travel' document.*
- *To facilitate and support measures proposed by transport agencies to enhance capacity on existing public transport lines and services, to provide/improve interchange facilities and provide new infrastructure.*
- *To review future strategic provision of bus depots/garages in the city in consultation with Dublin Bus and the NTA.*

2.7 South Dublin County Council Development Plan 2016-2022

2.7.1 The current Development Plan for South Dublin County Council came into effect on 12th June 2016 and generally seeks to *'ensure an integrated strategy for transport and mobility that enhances access and movement within and through the County, while promoting change, in favour of sustainable modes'*.

2.7.2 It is a stated action of the Plan to 'work with the NTA to secure the extension and expansion of the Core Bus Network and other bus services to serve new areas of employment, housing and tourism potential, whilst also improving the efficiency and frequency of services within more established areas'.

2.8 Greater Dublin Area Cycle Network Plan

2.8.1 In August 2013, the NTA published the Greater Dublin Area Cycle Network Plan. Following a period of consultation with the public and various stakeholders it was officially adopted and published in early 2014. The plan undertook a review of existing cycle facilities in the GDA and set out the strategy for the development of an integrated cycle network for the future.

2.8.2 The Plan identified the following route additions which pass through the subject Clondalkin CBC study area: -

- *Primary Route SO5: from Liffey Valley Shopping Centre southward Fonthill Road and Ninth Lock Road to Clondalkin Village and Tallaght (with a parallel variant SO5a along Neilstown Road and Fonthill Road west of Clondalkin Village). A northward link will extend across the River Liffey to Blanchardstown;*
- *Secondary Route 8C: Cross-links to Ballymount and Crumlin in the South West sector via Nangor Road and Long Mile Road through Park West to Lucan South, with spur 8C1 to Route 7A at Palmerstown and Spur 8C2 to Grange Castle;*
- *Secondary Route SO6: Lucan (Esker) - Grange Castle - Kingswood - Jobstown along the R136;*
- *Primary Route 7C: Camac River Greenway branch from the Grand Canal through Clondalkin Village to Corkagh Park and City West;*
- *Secondary Route 7D: Inchicore - Naas Road- new bridge over M50 north of Red Cow - Clondalkin - Kingswood;*
- *Secondary Route 7E: Cross link from Route 8A at Walkinstown to Clondalkin via Ballymount and with a new bridge over the M50 south of Red Cow;*
- *Primary Route 7A: Bridgefoot Street to Lucan South via Kilmainham, Inchicore, Ballyfermot and Liffey Valley shopping centre. Variant via Heuston Station and St. John's Road West, or through the Royal Hospital;*
- *Secondary Route 8A follows Crumlin Road past the Children's Hospital, Bunting Road to Walkinstown, through Ballymount to cross the M50 at Junction 10 and out to Citywest / Fortunestown via Belgard;* and
- *Primary Route 8 from South Great George's Street via the Coombe area and Dolphin's Barn to the junction of Crumlin Road and Sundrive Road (Route SO2).*

2.8.3 It is therefore important that any upgrade to bus priority infrastructure within the subject Clondalkin CBC study area takes cognisance of the objectives of the Plan and, where practical, provides cycle infrastructure to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for the identified routes.

2.9 Policy Conclusion

2.9.1 The various studies discussed in the preceding sub-sections set out the transport planning policy context and need for the proposed scheme. The need for the scheme is predominantly borne out of the need to provide a higher quality bus service, than currently exists, to serve the Clondalkin corridor in the short to medium term.

2.10 CBC Scheme Objectives

2.10.1 Having regard to the findings of the transport planning and policy context for the proposed CBC's in the GDA, the following objectives have been established for the Clondalkin CBC Corridor:

- Deliver the on-street infrastructure necessary to provide continuous priority for bus movements along the Core Bus Corridor. This will mean enhanced bus lane provision on the corridor, removing current delays in relevant locations and enabling the bus to provide a faster alternative to car traffic along the route, making bus transport a more attractive alternative for road users. It will also make the bus system more efficient, as faster bus journeys means that more people can be moved with the same level of vehicle and driver resources; and
- Provide any cycle facilities along the route that are required under the Greater Dublin Area Cycle Network Plan (published by the NTA, 2013) to the target Quality of Service(s) specified therein and to give consideration to further providing cycle facilities along sections of the route where they may be not expressly required under the Cycle Network Plan.

3.0 STUDY AREA

3.1 Introduction

3.1.1 This section of the report focusses on the study area for the scheme and the characteristics of the three sub-sections of this area in terms of physical features, opportunities and constraints as well as identifying potential for integration with other travel modes and road users.

3.1.2 Arising from the transport policy context, the broad study area identified for the proposed scheme is illustrated in Figure 3.1 below. The study area extends beyond the immediate alignment of existing bus corridors ensuring all practical opportunities to deliver the necessary service requirements are fully explored and any supplementary traffic measures as required can be identified. The study area also considers the presence of other existing/proposed corridors which will increase the opportunities to transfer between modes and services.

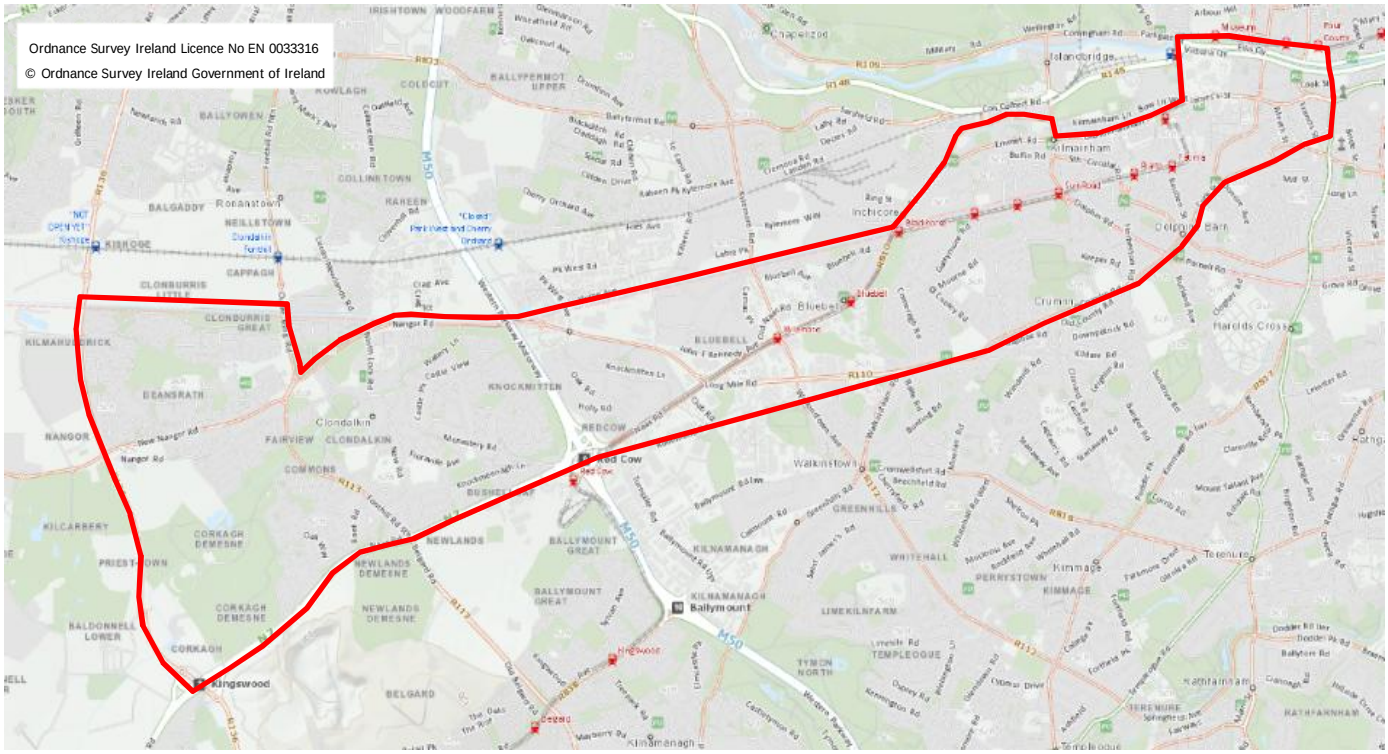

Figure 3.1: Proposed Scheme Study Area

3.2 Study Area Sections

3.2.1 As the study area covers such a vast area spanning between Clondalkin and Dublin City Centre, for ease of analysis the area was divided into three different sections as illustrated below in Figure 3.2: -

- Section 1 – West of the Fonthill Road South;
- Section 2 – Between Fonthill Road South and the Long Mile Road / Naas Road / Nangor Road Junction; and
- Section 3 – East of the Long Mile Road/Naas Road/Nangor Road Junction.

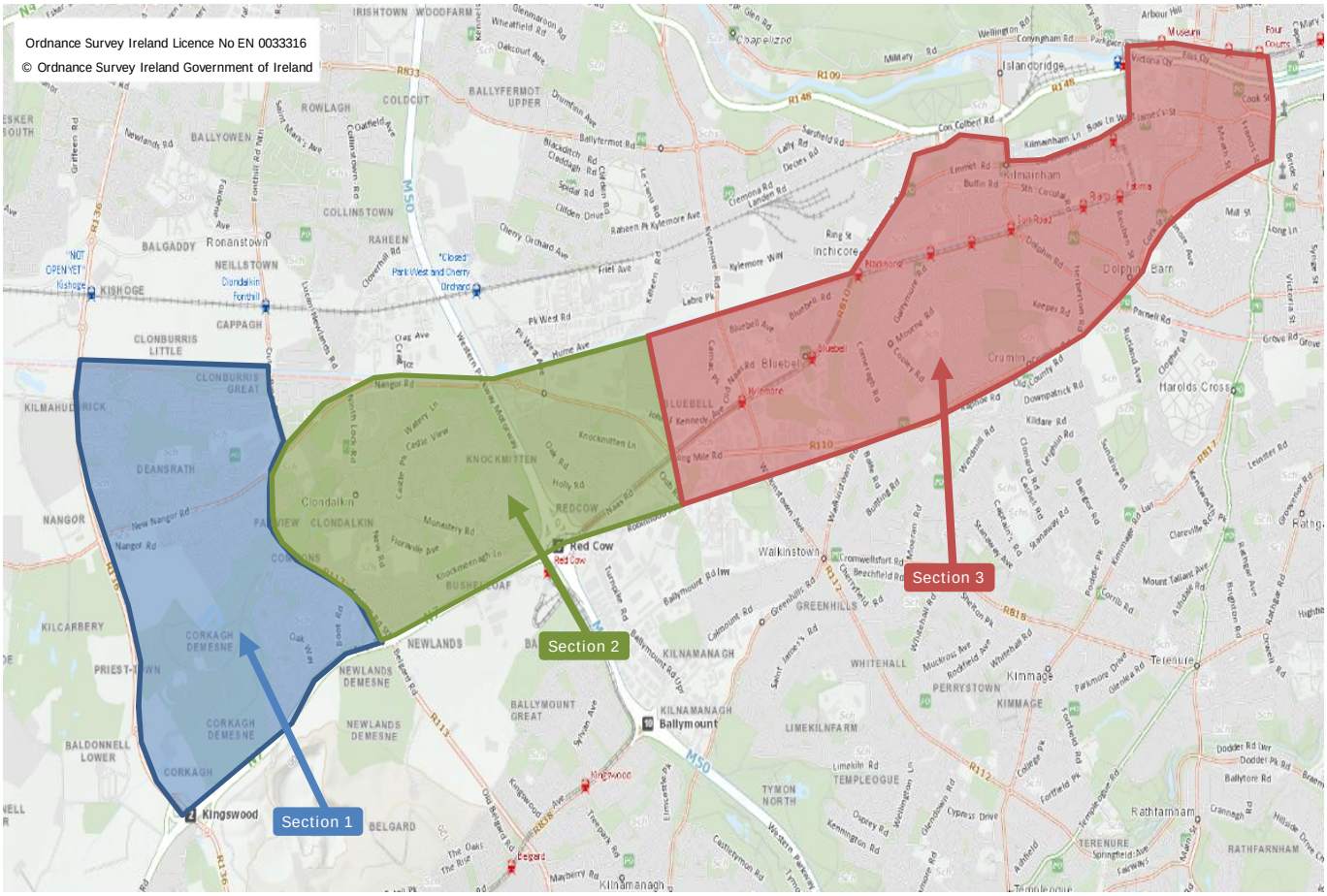

Figure 3.2: Study Area Sections

Section 1 – R136 Outer Ring Road to Fonthill Road South

3.2.2 The land-uses in this section are predominantly residential in nature, in addition to several school sites. A large proportion of the section is covered in a leisure area (Corkagh Park, zoned "To preserve and provide for open space and recreational amenities"). A description of the characteristics of the principal routes in this section is presented in the following paragraphs.

Figure 3.3: Section 1 Study Area

1.1: New Nangor Rd (between R136 & St Cuthbert's Rd)

3.2.3 This route comprises a general traffic lane and a bus lane in each direction. The route ranges in width from 20.8m to 21.2m (including footways). There are existing bus lanes which start/end 90m east of the R136 Outer Ring Rd junction and 100m west of St Cuthbert's Rd/Old Nangor Rd junction. The route is bounded to the south by residential amenity zoned lands and to the north by Castlegrange residential

settlement. Three Dublin Bus services operate along this link including route numbers 13, 68 and 151. There is a short section of shared pedestrian/cycle track on both sides of the route which start/end approximately 48m east of the Old Castle Drive junction. There are no cycle facilities provided along the remainder of the route.

1.2: St Cuthbert's Road

3.2.4 This route is a single carriageway road with footways on both sides of corridor which are segregated by a verge of up to 3m wide. The route ranges in width from 20.7m to 21.8m (including footways). Three Dublin Bus services operate along this link including the 13, 51D and 51X. There are no cycle facilities provided along this route.

1.3: R136 Outer Ring Road (between New Nangor Rd & Green Isle Rd)

3.2.5 This route comprises two general traffic lanes and a bus lane in each direction. There is also a shared pedestrian/cycle track along both sides of the carriageway segregated, from the carriageway by a safety barrier and trees/shrubs. The route ranges in width from 33.5m to 34.5m (including the shared pedestrian/cycle tracks). The bus lanes commence / terminate on the immediate approaches to/from the 3 number roundabout junctions located on this section. Dublin Bus does not currently operate services along this link.

1.4: L1003 Green Isle Rd (between R136 and Hazelwood Crescent)

3.2.6 This route comprises a single carriageway road ranging in width from 8.5m to 13.5m (including footways). There is a shared pedestrian/cycle track along the northern side between the R136 and the Corkagh Park car park, after which a pedestrian footway continues north-eastwards. There are no cycle facilities along the remainder of the route. Two Dublin Bus services operate along this route namely the 69 and 69X.

1.5: L1003 Green Isle Rd/St Johns Drive (between Hazelwood Crescent and Boot Road)

3.2.7 This single carriageway link ranging in width from 14.8m to 16.5m (including footway) has a footway provided along the northern side only. The initial 35m of this route is bounded by PCI College before the corridor widens resulting in the commencement of a wide verge (footpath to the rear of) along the northern side of the corridor. The south-eastern boundary is formed by trees / vegetation and acts as a buffer to the N7 corridor. Dublin Bus service 69X operates along this route. There are no cycle facilities available along this section of the L1003.

1.6: N7 Naas Road (between Boot Rd & Fonthill Rd South)

3.2.8 Eastbound – In the vicinity of the Boot Rd junction, the merge/diverge for the Newlands Cross flyover begins. Vehicles exiting the Boot Road junction cannot access the flyover at this location; they must travel east along the Naas Rd to the Newlands Cross junction. Between the Boot Rd junction and the Newlands Cross junction there are two general traffic lanes on the Naas Rd which then widen providing a flared approach to the Newlands Cross junction. There are three eastbound general traffic lanes on the adjoining Newlands Cross flyover. There are no eastbound Dublin Bus services operating along this route section. There are no cycle facilities available along this section.

3.2.9 Westbound - Between the Boot Rd junction and the Newlands Cross junction there is a single general traffic lane on the Naas Rd which merges with the N7 in the same location as the eastbound diverge. There are three general traffic lanes westbound along the flyover. Westbound vehicles cannot access Boot Rd from this location. In the vicinity of the Boot Rd junction, the merge from the Newlands Cross junction terminates. Vehicles exiting the Boot Road junction cannot access the flyover at this location, they are required to exit the Naas Rd onto the Fonthill Road (prior to this route section) or continue west along the N7 to Junction 2 in order to access the proposed CBC study area. Dublin Bus service 69X operates along this route. There are no cycle facilities available along this section.

1.7: Hazelwood Crescent - Park View Lawns

3.2.10 This route comprises a single carriageway road with existing traffic calming present. The initial 360m southern section has pedestrian footways on both sides separated from carriageway by narrow verges. The route ranges in width from 13.7 to 14.4m including footways & verge. On-street parking observed in a number of locations. Dublin Bus service 69 operates along this route. There are no cycle facilities provided.

1.8: St Johns Lawn - St Johns Green - St Johns Grove

3.2.11 This route comprises a single carriageway traffic calmed road (10.3-14.5m wide including footways). St John's Grove, St John's Green and St Johns Lawn are bounded by Corkagh Park to the northwest and west. The initial 480m along St Johns Lawn / St Johns Green includes a narrow verge/footway (to southeast) and 3-3.3m wide verge to north-west. The 280m long northern section along St Johns Grove includes a wide grass verge (10m+) to northwest which opens onto Corkagh Park. The initial 225m of St Johns Grove includes a narrow verge/footpath to the southeast which on the 55m approach to the Fonthill Rd junction widens out to a 10m wide verge. Dublin Bus service 69 operates along this route. There are no cycle facilities provided.

1.9: St Johns Drive - St Johns Park East

3.2.12 The route is a single carriageway with narrow footways/grass margins on both sides ranging in width from 10.2m to 10.9m wide including footways. There is a large green area to the north midway along the link. On-street car parking has been observed along the route. Dublin Bus does not operate services along this route. There are no cycle facilities provided.

1.10: Boot Road

3.2.13 Single carriageway traffic calmed corridor ranging in width from 10.2m to 14.6m wide including footways. The initial 85m southern section has a footpath on western side and large grassed area to east. To the north of the Rockfield Drive junction there are footways on both sides of Boot Rd, the footway on the western side is

separated from the carriageway by an intermittent grass margin. Mid-way along Boot Road, Convent View and Commons Road form a section of parallel road to the west, separated from Boot Rd by a large grass verge. There are also sections of verge and residential Cul De Sacs located to the east along this section. In the vicinity of the Fonthill Road junction there is a large grassed area on the eastern side of Boot Road. Dublin Bus does not operate services along this route. There are no cycle facilities provided.

1.11: Bawnogue Road (east-west)

3.2.14 This route comprises a single carriageway road with a footway available on the southern side, separated from the carriageway by a grassed verge. The route ranges in width from 15.1m to 19.7m wide including footways. There is a large green area located on the northern side of the carriageway. Three no. Dublin Bus services operate along this route including the 13, 51D and 51X. There are no cycle facilities provided along this route.

1.12: Bawnogue Road (north-south)

3.2.15 This is a single carriageway road with footways available on both sides, separated from the carriageway by grassed verges. The route ranges in width from 15.3m to 18.5m wide including footways and verges. There are intermittent green areas/verges beyond the pedestrian footways along the length of the route however in the vicinity of the Bawnogue Enterprise Centre and Talbot Senior School there is on-street parking available on the western side of the carriageway. Three no. Dublin Bus services operate along this route including the 13, 51D and 51X. There are no cycle facilities provided along this route.

1.13: New Nangor Rd (between St Cuthbert's Rd & Cherrywood Crescent)

3.2.16 This route comprises of a general traffic lane and a bus lane in each direction. The route ranges in width from 15.8m to 24m wide including footways and verges. The bus lanes terminate on the approaches to/from the St Cuthbert's Rd/Old Nangor Rd junction. Dublin Bus service 151 operates along this route. There are no dedicated cycle facilities provided along this route.

1.14: New Nangor Rd (between Cherrywood Crescent & Bawnogue Rd)

3.2.17 This route comprises of a general traffic lane and a bus lane in each direction. The route ranges in width from 16.5m to 21.2m wide including footways. The bus lanes terminate on approach to/from the Bawnogue Road junction. Two no. Dublin Bus services operate along this route including the 68 and 151. There are no cycle facilities provided along this route. With the exception of the bus lane, no dedicated cycle facilities are available along this link.

1.15: New Nangor Rd (between Bawnogue Rd & Fonthill Road South)

3.2.18 Between the Bawnogue Rd junction and the Fonthill Rd South/New Nangor Rd junction the route comprises of a general traffic lane and a bus lane in each direction. This section of the route is approximately 24.6m to 25m wide including footways.

1.16: Old Nangor Rd (between New Nangor Rd & Cherrywood Crescent)

3.2.19 This route comprises a single carriageway with pedestrian footways available on both sides (of the north-south section) from its junction with the New Nangor Rd. There is also a verge and boundary wall/fence beyond the footway on the eastern side which separates the Old Nangor Rd from the Mill Court Way road carriageway. This north-south section of Old Nangor Rd ranges in width from 11-12.5m including footways whilst the east-west section ranges in width from 8.5-31.5m including footways. There are footways and verges provided along the east-west section of Old Nangor Road alternating between the northern and southern sides of the carriageway however towards the eastern section of the route there are footways on both sides. Three no. Dublin Bus services operate along this route including 51D, 51X and 68. There are no cycle facilities provided along this route.

1.17: Cherrywood Crescent

3.2.20 The route comprises a single carriageway road with a footway available on the eastern side only. The route ranges in width from 12.6m to 13.2m including footway. There are wide grassed verges / areas on both sides of the carriageway. The verge on the western side narrows on the approach to the Old Nangor Road junction.

Dublin Bus service 68 operates along this route. There are no cycle facilities provided.

1.18: Old Nangor Rd (between Cherrywood Crescent & Fonthill Rd South)

3.2.21 The route comprises a single carriageway road with footways available on both sides which are intermittently separated from the carriageway by grass verges/strips. The route ranges in width from 13.4m to 15.5m wide including footways. Dublin Bus services 51D and 68 operate along this route. There are no cycle facilities provided along this route.

Section 2 – Fonthill Road South to Naas Rd/Long Mile Rd Junction

3.2.22 The land-uses along the corridors located between Fonthill Road South and the M50 are predominantly residential in nature. However, a significant proportion of this section also includes leisure/retail/commercial land uses, in addition to a number of educational sites. East of the M50, the land uses predominantly include industrial land uses. A description of the characteristics of the different routes in this section are presented below.

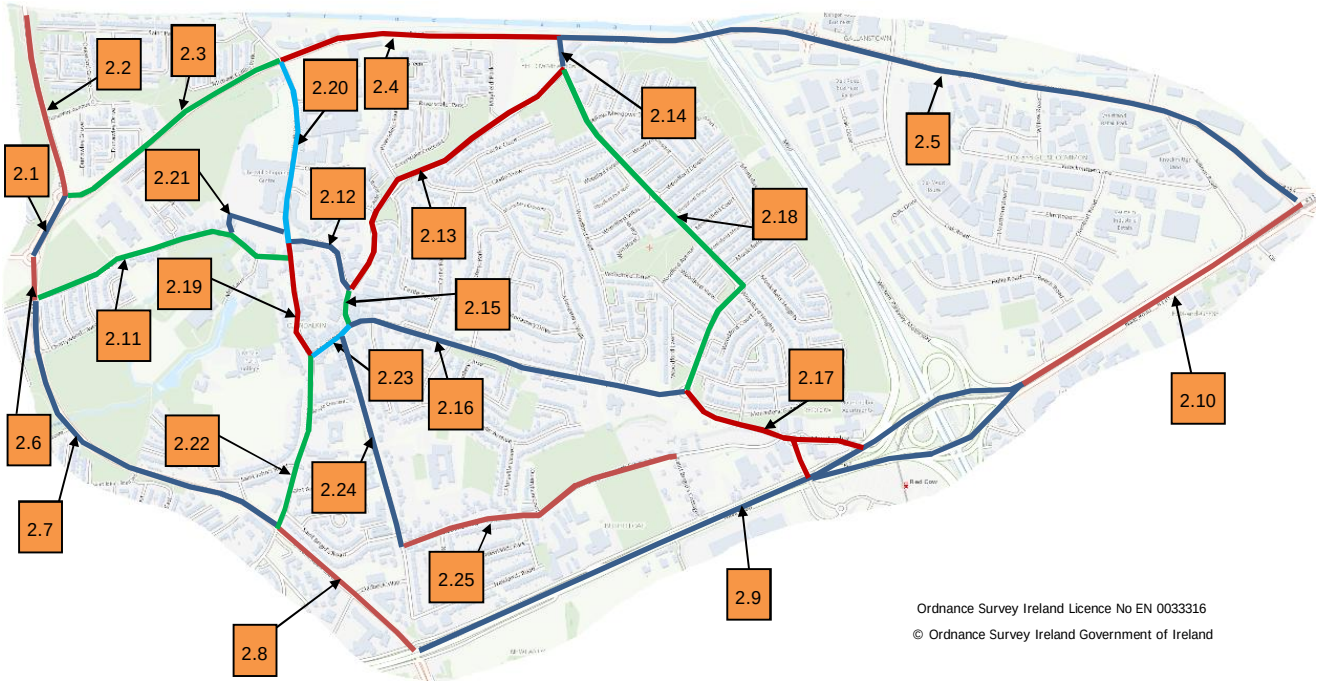

Figure 3.4: Section 2 Study Area

2.1: Fonthill Road (between New Nangor Rd/Fonthill Rd South junction & the R113/ New Nangor Rd junction)

3.2.23 Between the Fonthill Rd South/New Nangor Rd junction and the R113 Fonthill Rd North roundabout there are two general traffic lanes and a bus lane running in each direction. This section of the route is 34.2m wide at its narrowest point including footway / shared pedestrian/cycle track. Five no. Dublin Bus services operate along this route including the 13, 51D, 51X, 68 and 151. There are shared pedestrian/cycle tracks available on both sides of the route.

2.2: R113 Fonthill Rd North (south of Canal)

3.2.24 This route comprises of a general traffic lane in each direction with a shared pedestrian/cycle track along the western side and a footway along the eastern side. There is a short section of northbound bus lane and an intermittent southbound bus lane. The northbound bus lane on the R113 Fonthill Rd North terminates approx. 105m north of the New Nangor Rd. Northbound from the end of the aforementioned bus lane, a shared pedestrian and cycle track separated from the carriageway by a grass verge continues northbound. The southbound bus lane terminates and restarts before and after the Dunawley Avenue junction. Dublin Bus services operate along this route including the 51D and the 51X.

2.3: New Nangor Rd (between R113 Fonthill Rd North & Ninth Lock Rd)

3.2.25 The route comprises general traffic lanes and bus lanes in both directions. The route ranges in width from 20m to 22m wide including footways. The bus lanes terminate to the west of the Ninth Lock Rd junction. Open greenspace is available in the vicinity of the Ninth Lock Road Junction. There are two Dublin Bus services operating along this route including the 68 and 151. There is a short section of westbound off road cycle track on approach to the R113 junction however there are no other cycle facilities on this route. There is a greenway running parallel to this link adjacent to the canal which provides a high quality of service to cyclists.

2.4: New Nangor Rd (between Ninth Lock Rd & Woodford Walk)

3.2.26 This road link comprises a general traffic lane and a bus lane in both directions. To the east of the Ninth Lock Rd junction, the east bound bus lane commences whilst at the same location on the opposite side of the carriageway the westbound bus lane terminates. Footways and grass verges are available on both sides of the road. The route ranges in width from 24.6m to 28m wide including footways. Dublin Bus services 151 and 68X operate along this link. Whilst there are no on-road cycle facilities, there is a greenway running parallel to this link which provides a high quality of service to cyclists.

2.5: New Nangor Rd (between Woodford Walk & Naas Rd)

3.2.27 This road link comprises a general traffic lane and a bus lane in both directions. The bus lanes terminate/start in advance of/after the M50 flyover and the junctions along its length. The route ranges in width from 15m to 28m wide including footways. Dublin Bus services 151 and 68X operate along this link. Whilst there are no dedicated on-road cycle facilities, there is a greenway running along the canal to the north east of this link which provides a high quality of service to cyclists.

2.6: Fonthill Road South (between Old Nangor Road & New Nangor Road)

3.2.28 This short section of road between Old Nangor Road & New Nangor Road comprises a bus lane and a general traffic lane in both directions. The route is 20.7m wide at its narrowest point including footways, after which it widens to provide a flared approach to the New Nangor Rd. Presently 3 no. Dublin Bus services operate along this section of road including the 31, 151 and 51D. There is a short section of shared pedestrian/cycle track on approach to the New Nangor Rd for eastbound cyclists. Along the remainder of the route cyclists must share the roadway with vehicular traffic.

2.7: Fonthill Road South (between Old Nangor Rd & Boot Rd)

3.2.29 Between the Old Nangor Rd and St Johns Grove the route comprises a general traffic lane in each direction, in addition to a north bound bus lane. To the south of the St Johns Grove, there is bus lane provision in both directions. The route ranges in width from 14.8m to 23.5m wide including footways. Three no. Dublin Bus services operate

along this route including the 69, 13 and 51D. There are no dedicated cycle facilities provided.

2.8: Fonthill Road South (between Boot Rd & N7)

3.2.30 This route comprises 2 parallel general traffic lanes running in each direction with footways available on both sides. There is no raised central median separating the opposing traffic flow movements. The route ranges in width from 16m to 28m including footways. At the Newlands Cross junction there a wide verge on the eastern side of the carriageway. Two Dublin Bus services operate along this route including the 76 and 76A. There are no cycle facilities provided.

2.9: N7 Naas Road (between Fonthill Rd South & M50 Interchange)

3.2.31 Eastbound – the route merges with the Newlands Cross flyover/N7 approximately 600m east of Fonthill Rd South. There are two eastbound general traffic lanes which merge into one lane approximately 85m to east of Fonthill Rd South. This single lane continues north-eastwards where vehicles can either merge with the N7 or continue northeast towards Monastery Rd. There are three eastbound lanes along the N7 which then diverge into two separate routes allowing vehicles to continue along the N7 or onwards to the M50. Dublin Bus service 69X travels along this route. There is a cycle lane provided along the northern side of the carriageway which continues for approximately 750m east of Fonthill Rd South.

3.2.32 Westbound – there are four westbound general traffic lanes along the N7 which merge into 3 lanes at the L1019 interchange, after which 3 general traffic lanes and a bus lane continue southwest. The bus lane terminates after approximately 570m and then continues as a general traffic lane towards the Newlands Cross junction. Approximately 490m east of Belgard Rd a general traffic lane diverges from the main N7 alignment providing a 4-lane flared approach to the Newlands Cross junction. Dublin Bus service no. 69X travels along this route. A cycle facility (part shared pedestrian/cycle, part cycle lane) is provided along the southern side of the route between Belgard Rd and the Red Cow Luas Interchange. Pedestrians/cyclists are segregated from motorised vehicles through the M50 Junction 9 (Red Cow) by way of a separate bridge over which a shared pedestrian/cycle route is provided.

2.10: Nass Road (between M50 Interchange & Long Mile Road junction)

3.2.33 Eastbound from the M50 Interchange there are four general traffic lanes which initially merge into 3 lanes and subsequently then merge into 2 lanes to the east of the Bluebell Football Club access. After the merge the two general traffic lanes and a bus lane continue east towards the Long Mile Road. The bus lane terminates approximately 165m west of the Long Mile Rd after which there is a 5-lane flared approach to the Long Mile Rd junction. Dublin Bus services 16, 68 & 69 operate in the eastbound direction along this route. There is an off-road cycle track along the northern side of the carriageway which goes on-road on the approach to the Long Mile Rd. The Luas red line runs along the centre of the road corridor.

3.2.34 Westbound there are two general traffic lanes and a bus lane provided. The bus lane terminates approximately 150m east of the Turnpike Rd junction after which a general traffic lane continues west. Dublin Bus service 151 operates in the westbound direction along this route. A cycle facility (part shared pedestrian/cycle, part cycle lane) is provided along the southern side of the route between the Long Mile Rd and Turnpike Road. To continue west along the N7, cyclists and pedestrians must use an overbridge to cross the Naas Rd carriageway in order to gain access to a separate shared pedestrian/cycle bridge over the M50 corridor.

2.11: Old Nangor Rd (between Fonthill Rd South & Ninth Lock Rd)

3.2.35 This corridor consists of a single carriageway road with a narrow footway along the southern side and a shared pedestrian/cycle route along the northern side separated from the carriageway by a narrow grass verge. The cycle route provision terminates in the vicinity of the Coláiste Chilliain School whilst the pedestrian footway continues east. The carriageway widens at the school providing a parking/set down area on the northern side. The remainder of the route has footways on both sides and is 8m wide at its narrowest point (including footways). Dublin Bus service 51x currently utilises this corridor. With the exception of the shared pedestrian/cycle track at the western extents of the route there are no other cycle facilities available.

2.12: Orchard Road

3.2.36 One-way (east then southbound) route with footways available on both sides. The route varies in width along its length ranging from 11.7m to 17m wide including footways. There is a short bus lane provided however it terminates on approach to the Watery Lane junction. Seven no. Dublin Bus services operate along this route including the 13, 51D, 51X, 68, 69, 76 and 76A. There are currently no cycle facilities provided.

2.13: Watery Lane

3.2.37 This single carriageway road has footway provision primarily on the southern side throughout. The route varies in width along its length ranging from 18.5m to 13.5m wide including footways. Formal on-street parking spaces are located along the northern side of the road in the vicinity of the Orchard Road junction. Two no. Dublin Bus services operate along this route including the 13 and 51D. There are currently no cycle facilities provided.

2.14: Woodford Walk (between Watery Lane & New Nangor Rd)

3.2.38 This is a single carriageway road with footways provided on both sides of the route between the New Nangor Rd and Watery Lane, separated from the carriageway by grass verges. The route is approximately 17.7m wide including footways. There are currently no Dublin Bus services along this section. There are currently no cycle facilities provided.

2.15: Orchard Lane

3.2.39 This is a one-way (southbound) route with footways on both sides. The route is approximately 9.1m wide at its narrowest point including footways. Seven no. Dublin Bus services operate along this route including the 13, 51D, 51X, 68, 69, 76 and 76A. There are currently no cycle facilities provided.

2.16: Monastery Rd (between Main Street & Woodford Hill)

3.2.40 This link is a single carriageway road with footway provision along the northern side and intermittent provision along the southern side. The route varies in width along its length however it is approximately 9.9m at its narrowest point including footways. There are currently no bus lanes or cycle facilities along this route. Three no. Dublin Bus services operate along this route including the 51X, 68 and 69. The Monastery Rd/Woodford Hill roundabout junction is proposed to be signalised as part of an existing large mixed use planning permission (Ref. SD10A/0064, granted Nov 2012, 10 year), however the scheme design does not include bus facilities.

2.17: Monastery Rd (between Woodford Hill & the L1019 junction)

3.2.41 This route comprises a single carriageway road with a shared pedestrian/cycle facility on the northern side segregated by a narrow grass margin. The route varies in width along its length ranging from 13.5m to 22.6m wide including footways. Four no. Dublin Bus services operate along this route including the 13, 51X, 68 and 69.

2.18: Woodford Hill – Woodford Walk (to Watery Lane Junction)

3.2.42 This route comprises a single carriageway road with footways on both sides separated from the carriageway by grass verges. The route varies in width along its length ranging from 15.3m to 22m wide including footways. Dublin Bus service nos. 13 and 51D operate along this route. There are currently no cycle facilities provided.

2.19: Tower Rd (between Convent Rd & Orchard Rd)

3.2.43 This one-way (northbound) route has footways available on both sides. The route varies in width along its length ranging from 8m to 21.5m wide including footways. Two no. Dublin Bus services operate along this route including the 76 and 76A. There are currently no cycle facilities provided.

2.20: Ninth Lock Road (between New Nangor Rd & Tower Rd)

3.2.44 The route comprises a single carriageway route with footways available on both sides. There is also a northbound bus lane along the western side of the carriageway

between the Mill Centre to the New Nangor Rd junction. The route ranges in width from 13.3m to 20.7m wide including footways. To the south of the Department of Social Protection building there is a large plaza area on the eastern side of the carriageway. Three no. Dublin Bus services operate along this route including the 68, 76 and 76A. There is currently no cycle provision along the route.

2.21: Mill Centre Access Rd

3.2.45 This is a privately-owned road currently accessed from both the Old Nangor Rd and Ninth Lock Rd. Several commercial premises are accessed from this road including The Mill Centre (and car park) and McDonalds Restaurant.

2.22: Convent Road

3.2.46 This is a single carriageway route with footways available on both sides. The route widens in the vicinity of the Fonthill Road South providing a flared approach to the junction. The route varies in width along its length ranging from 9.5m to 16.5m wide including footways. Three Dublin Bus services operate along this route including the 69, 13 and 51D. There are no cycle facilities provided.

2.23: Main Street

3.2.47 This is a one-way (westbound) route with footways available on both sides. The route varies in width along its length ranging from 8.4m to 12.1m wide including footways. Four no. Dublin Bus services operate along this route including the 68, 69, 76 and 76A. There are currently no cycle facilities provided.

2.24: New Road / Laurel Park

3.2.48 This is a single carriageway route with footways available on both sides. The route varies in width along its length ranging from 9.1m to 12.5m wide including footways. Two no. Dublin Bus services operate along this route including the 76 and 76A. There are no cycle facilities provided.

2.25: Knockmeenagh Road – Knockmeenagh Lane

3.2.49 Knockmeenagh Road is a single carriageway with footways available along both sides for the majority of the route. The route varies in width along its length ranging from 10.7m to 13.5m wide including footways.

3.2.50 Knockmeenagh Lane is one-way westbound from its junction with Quarryfield Court. The route varies in width along its length ranging from 4.7m to 9.6m and is bounded by commercial premises to the south, and lands with residential planning approval to the north. There are no Dublin Bus Services or cycle facilities provided along this route.

2.26: Robinhood Road – Turnpike Road

3.2.51 This single carriageway road is bounded on both sides by commercial / industrial premises. The footway provision is intermittent throughout. The route varies in width along its length ranging from 8.4m to 22.8m wide including footways. No Dublin Bus services operate along this link. There are currently no cycle facilities provided.

Section 3– Naas Rd/Long Mile Rd Junction to City Centre

3.2.52 The study area for Section 3 of the route encompasses the City Centre area. Existing land-uses vary considerably as one enters the City Centre area and includes pockets of residential, together with retail, office, commercial, industrial and educational / institutional uses. A description of the characteristics of the different routes in this section are presented below.

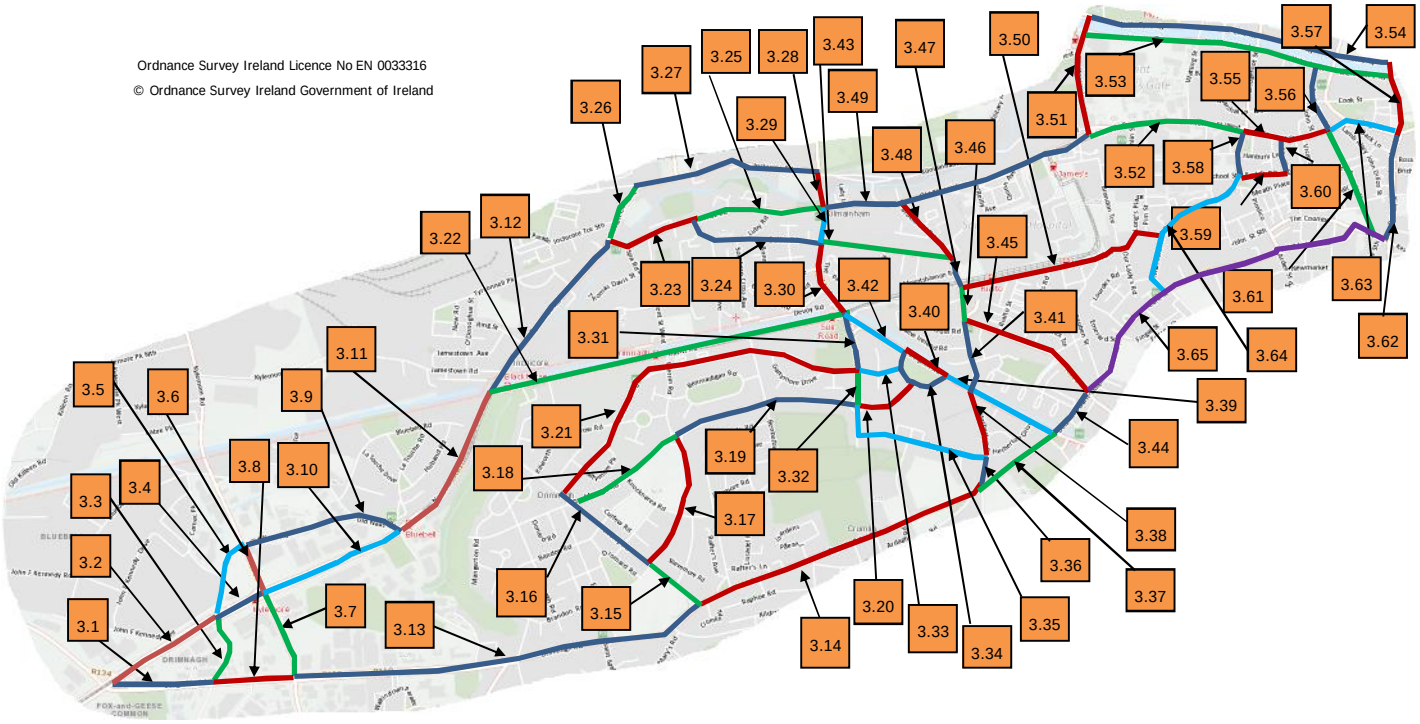

Figure 3.5: Section 3 Study Area

3.1: Long Mile Rd (between Robinhood Rd & Naas Rd)

3.2.53 Eastbound there are 2 general traffic lanes which then widen to provide a 3-lane flared approach to the Robinhood Rd junction. The route ranges in width from 26 to 28m wide including footways. This route is bounded to the north by a number of commercial developments. Five no. Dublin Bus services operate in the eastbound direction along this route including the 51X, 69X and 151. An on-road cycle lane is provided from approximately 150m west of the Robinhood Rd junction.

3.2.54 Westbound there is single general traffic lane and an adjacent bus lane. The bus lane terminates approximately 270m in advance of the Naas Rd junction, after which a 4-lane approach to the junction is provided. The route ranges in width from 27.2 to 27.7m wide. The route is bounded to the south by commercial developments and on approach to the Naas Road junction by a vacant site. Dublin Bus service 151 operates along this link. Approximately 180m of an on-road cycle lane is provided to the west of the Robinhood Rd junction.

3.2: Naas Road (between New Nangor Rd/Long Mile Rd & Old Naas Road/Robinhood Rd

3.2.55 Eastbound this route generally comprises two general traffic lanes and a bus lane (starting approx. 160m east of the New Nangor Road junction); whilst westbound there are two general traffic lanes which widen providing a 5-lane flared approach to the New Nangor Rd/Long Mile Rd junction. There is also approximately 265m of a westbound bus lane terminating approximately 115m east of the New Nangor Rd/Long Mile Rd junction. The LUAS tracks run along the centre of the corridor. The route ranges in width from 48 to 65m wide including footways/verges. Dublin Bus operate four services including the 13, 68, 69 and 69X along this section. There is approximately 370m of an eastbound off road cycle track whilst westbound there is an on-road cycle lane along the length of the route.

3.3: Robinhood Rd (between Naas Rd & Long Mile Rd)

3.2.56 This is a single carriageway cul-de-sac route accessed from the Naas Rd. The route ranges in width from 6 to 16m wide including footways. Dublin Bus does not operate services along this route. There are no cycle facilities provided.

3.4: Naas Road (between Old Naas Rd/Robinhood Rd & Kylemore Rd junctions)

3.2.57 Eastbound there is a 3-lane flared approach to the Kylemore Rd junction in addition to a bus lane which terminates at the Kylemore Rd junction, whilst westbound there are two general traffic lanes. The LUAS tracks run along the centre of the corridor. The route ranges in width from 34 to 48m wide including the LUAS tracks, footways/verges. There is no provision for westbound buses at present. Three no. Dublin Bus services operate in the eastbound direction along this route including the 13, 68 and 69 whilst four no. Dublin Bus services operate in the westbound direction including the 13, 68, 69 and 69X. A westbound on-road cycle lane is provided however no dedicated eastbound cycle facilities are provided.

3.5: Old Naas Rd (between John F Kennedy Ave & Kylemore Rd)

3.2.58 This route comprises a single carriageway road with footways on both sides. The route ranges in width from 12 to 17m wide including footways. There is on street

vehicle parking along the eastern side. There are no Dublin Bus services operating along this section. There are no cycle facilities provided.

3.6: Kylemore Rd (between Old Naas Rd & Naas Rd)

3.2.59 This route comprises a single carriageway with flared approaches to junctions at either end. The route ranges in width from 18 to 22m wide including footways. Dublin Bus service 18 operates along this route. There are no cycle facilities provided.

3.7: Walkinstown Ave (between Naas Rd & Long Mile Rd)

3.2.60 This route comprises a wide single carriageway with two lane flared approaches to junctions at either end. There are footways and verges on both sides of the carriageway. The route ranges in width from 20 to 33m wide including footways. Dublin Bus operate three no. bus services along this route including the 18, 51X and 69X. There are no cycle facilities provided.

3.8: Long Mile Rd (between Walkinstown Avenue & Robinhood Road)

3.2.61 This route comprises a single traffic lane and bus lane in both directions. There is a flared approach to the Walkinstown Ave junction whereby 3 general traffic lanes and a bus lane are provided. The route ranges in width from 26 to 40m wide including footways. Dublin Bus operate three no. eastbound services including the 151, 51X and 69X whilst westbound only Dublin Bus service 151 operates. There are on-road cycle lanes provided in both directions along this section.

3.9: Old Naas Rd (between Kylemore Rd & Naas Rd)

3.2.62 This route comprises a single carriageway road approximately 12m wide including footways. There are no Dublin Bus services operating along this route at present. There are no cycle facilities provided.

3.10: Naas Rd (between Kylemore Rd & Old Naas Rd)

3.2.63 Eastbound this route comprises a general traffic lane and a bus lane over the majority of its length. The bus lane terminates approximately 165m in advance of the Old Naas Rd junction after which a general traffic lane continues east, flaring to two lanes on approach to the Old Naas Rd.

3.2.64 Westbound this route comprises two general traffic lane widening to three lanes on approach to the Carriglea Industrial Estate access junction. Approximately 55m to the west of the aforementioned junction two general traffic lanes merge into one and a westbound bus lane starts. The bus lane and single general traffic lane continue west for approximately 255m after which the bus lane terminates and a four-lane flared approach to the Kylemore Rd junction is provided.

3.2.65 The route ranges in width from 27 to 41m wide including footways with the LUAS tracks running along the centre of the corridor. Five no. Dublin Bus services operate in an eastbound direction along this route including the 13, 51X, 68, 69 and 69X. In the westbound direction four no. Dublin Bus services operate including the 13, 68, 69 and 69X. There are no cycle facilities provided along this section.

3.11: Naas Rd (between Old Naas Rd & Davitt Rd)

3.2.66 This route comprises a single general traffic lane in each direction flaring to two lanes on approach to the Old Naas Rd and Davitt Rd junctions. The LUAS tracks run along the centre of the road. The route ranges in width from 17 to 34m including footways. Five no. Dublin Bus services operate in an along this route including the 13, 51X, 68, 69 and 69X. There are no cycle facilities provided.

3.12: Tyrconnell Rd (between Davitt Rd & Emmet Rd)

3.2.67 This is single carriageway route with flared approaches to the junctions throughout. Footways are provided on both sides of the carriageway. The route varies in width along its length ranging from 12 to 26m wide including footways. There is a short section of southbound bus lane provided between the Jamestown Rd junction and the Goldenbridge Industrial Estate access. Dublin Bus services 13, 68, 68X, 69, 69N, 124 and 130 operate along this route. There are no cycle facilities provided along this route.

3.13: Long Mile Rd (between Walkinstown Avenue & Cooley Road)

3.2.68 This route comprises one general traffic lane in both directions with flared approaches to the signal controlled junctions along its length. There is an eastbound bus lane which terminates at the Walkinstown Rd, Errigal Rd and Kildare Rd junction stop lines. The westbound bus lane terminates at the Errigal Rd junction and restarts at the St Mary's Drive junction. In addition this bus lane is not provided between the Balfe Rd and Walkinstown Rd junctions. The route ranges in width from 19 to 34m wide including footways. Dublin Bus operate three services between Walkinstown Avenue and Walkinstown Road including the 157, 18 and 56A. Between Walkinstown Avenue and Errigal Road, Dublin Bus operate seven services including the 123, 151, 18, 27, 56A, 77A, and 77X. Eight no. Dublin Bus services operate between Errigal Road and Kildare Road including the 122, 123, 151, 18, 27, 56A, 77A and 77X whilst seven services are provided between Kildare Road and Cooley Road including the 122, 123, 151, 27, 56A, 77A and 77X. On-road cycle lanes are provided in both directions between Walkinstown Avenue and Slievebloom Park. A short section of on-road cycle lane (approx. 65m) is provided in an eastbound direction in the vicinity of the Slievebloom Road Junction. There are also short sections (approximately 95m) of on-road cycle lane in both directions in the vicinity of Errigal Rd and again (in both directions) between Kildare Road and Cooley Road.

3.14: Crumlin Rd (between Cooley Rd & Herberton Rd)

3.2.69 This is a single carriageway route ranging in width from 14 to 23m wide including footways. There is a short section of eastbound bus lane at the eastern end (approximately 75m) and at the western end (approximately 130m) of the route. There is no westbound bus lane provision. Dublin Bus services 27, 56A, 77N, 77A and 151 operate along this route. Dedicated on-road cycle lanes are provided in both directions along Crumlin Road between Cooley Road and Herberton Road.

3.15: Cooley Rd (between Sperrin Rd & Crumlin Rd)

3.2.70 This is a single carriageway route ranging in width from 11.5 to 14m wide including footways. On-street parking has been observed. Dublin Bus services 122 and 123 operate along this route. There are no cycle facilities provided.

3.16: Cooley Rd (between Galtymore Rd & Sperrin Rd)

3.2.71 This is a single carriageway route ranging in width from 11 to 15m wide including footways. On-street parking has been observed. Dublin Bus services 122 & 123 operate along this route.

3.17: Sperrin Rd (between Cooley Rd & Mourne Rd)

3.2.72 This is a single carriageway route ranging in width from 11.5 to 13m wide including footways. There are no bus services along this residential street and no cycle facilities are provided.

3.18: Mourne Rd (between Cooley Rd & Sperrin Rd)

3.2.73 This single carriageway route ranges in width from 15 to 16m wide including footways. On-street parking has been observed. Dublin Bus service 122 operates along this route. There are no cycle facilities provided.

3.19: Mourne Rd (between Sperrin Rd & Slievenamon Rd)

3.2.74 This is a single carriageway route ranging in width from 15.2 to 15.8m wide including footways. Dublin Bus service 122 operates along this route. There are no cycle facilities provided.

3.20: Mourne Road (between Slievenamon Rd & Dolphin Rd)

3.2.75 This is a single carriageway route with footpaths along both sides. The route ranges in width from 15 to 17m wide including footways. There are no bus services along this residential street and no cycle facilities are provided.

3.21: Galtymore Rd (between Slievenamon Rd & Cooley Rd)

3.2.76 This route comprises a single carriageway route ranging in width from 12 to 16m wide including footways. There are footways provided along both sides of the carriageway bounded for the most part by residential properties. On-street parking has been observed. Dublin Bus service 123 operates along this route. There are no cycle facilities provided.

3.22: Davitt Rd (between Tyrconnell Rd & Dolphin Rd)

3.2.77 This is a single carriageway route with flared approaches to the junctions at both ends and a footway along the southern side of the route. The route varies in width along its length ranging from 13 to 22m wide including footways. The Luas Red Line runs along the northern side of the route. There are no bus services along this route and no cycle facilities are provided.

3.23: Emmet Road (between Gratten Crescent & Bulfin Rd)

3.2.78 This is a single carriageway route ranging in width from 13 to 23m wide including footways. There are intermittent bays of on-street parking along the route. Five Dublin Bus services operate along this route including 13, 25N, 40, 68 and 69N. There are currently no cycling facilities provided along this route.

3.24: Bulfin Road

3.2.79 This is a single carriageway route with footways available on both sides. The route ranges in width from 12 to 16m wide including footways. Dublin Bus services 68 and 68A operate along this route. There are currently no cycle facilities along this primarily residential street.

3.25: Emmet Rd (between South Circular Rd & Bulfin Rd)

3.2.80 This is a single carriageway route with footways along both sides. The route ranges in width from 17 to 25m wide including footways. There is an eastbound bus lane starting to the east of the Myra Close junction. Nine Dublin Bus services operate along this route including 13, 40, 25N, 68, 69N, 124, 126, 126N and 130.

3.26: Gratten Crescent

3.2.81 This is single carriageway route with a short section of northbound bus lane (approximately 50m) approaching the Sarsfield Rd junction, whilst a southbound bus lane starts approximately 80m north of the Inchicore Terrace South junction. The route ranges in width from 17 to 26m wide including footways. There are intermittent bays of on-street parking along the route. Three Dublin Bus services

operate along this route including 40, 51X and 69. There are no cycling facilities provided along this route.

3.27: Inchicore Rd

3.2.82 This is a one way (westbound) route with a two-way cycle lane along the northern side and footways on both sides of the carriageway between South Circular Rd and Memorial Rd. Over the remaining length, the route comprises a two-way single lane carriageway configuration. The route varies in width along its length ranging from 12.5 to 23m wide including footways. At the eastern section, there is on street parking along the northern side and coach parking on the southern side, whilst along the remainder of the route there are intermittent parking bays along the southern side. Two Dublin Bus services operate along this route including the 69 and 79.

3.28: South Circular Rd (between Inchicore Rd & Emmet Rd)

3.2.83 This is a single carriageway route with a flared approach to the Emmet Rd junction. The route ranges in width from 16 to 22m wide including footways. There are footways and cycle lanes provided on both sides of the carriageway. There are no bus services along this route.

3.29: South Circular Rd (between Emmet Rd & Bulfin Rd)

3.2.84 This is a single carriageway route with a flared approach to the Bulfin Rd and Emmet Rd junctions. The route ranges in width from 16 to 20m wide including footways. There are footways and cycle lanes provided on both sides of the carriageway. There are no bus services along this route.

3.30: Suir Road (between Davitt Rd & Bulfin Rd)

3.2.85 This is a single carriageway route with footways available along both sides. The route varies in width along its length ranging from 13 to 16m wide including footways. Three Dublin Bus services operate along this route including the 68, 68A and 123. Dedicated on-road cycle lanes are provided in both directions along this route.

3.31: Slievenamon Road (between Galtymore Rd & Davitt Rd)

3.2.86 This is a single carriageway route ranging in width from 13.8 to 15m wide with footways provided on both sides of the carriageway. Dublin Bus service 123 operates along this route. There are no cycle facilities currently provided on this route.

3.32: Slievenamon Road (between Galtymore Rd & Mourne Rd)

3.2.87 This is a single carriageway route ranging in width from 13.1 to 13.8m wide with footways provided on both sides of the carriageway. Dublin Bus service 123 operates along this route. There are no cycle facilities currently provided on this route.

3.33: Galtymore Road (between Slievenamon Rd & Dolphin Rd)

3.2.88 This is a single carriageway route with footways along both sides. The route ranges in width from 11.5 to 12m wide including footways. There are no bus services along this residential street and no cycle facilities are provided.

3.34: Dolphin Rd (between no's 63-131)

3.2.89 This residential route consists of a single carriageway route with footways along both sides. The route is approximately 15.5m wide including footways. There is wide green open space area which separates the route from the main 'through' route on Dolphin Road. There are no cycle facilities provided. There are no Dublin Bus services operating along this section.

3.35: Slievenamon Road (south of Mourne Rd) – Keeper Rd

3.2.90 This is a single carriageway route approximately 14m wide with including footpaths along both sides. Dublin Bus service 122 operates along this route. There are no cycle facilities currently provided.

3.36: Herberton Road (between Crumlin Rd & Keeper Rd)

3.2.91 This is a single carriageway route with footways along both sides and a flared approach to the Crumlin Road junction. The route ranges in width from 14-16m wide

including footways. There are no bus services operating along this section and no cycle facilities are provided.

3.37: Crumlin Road (between Herberton Rd & Dolphin Rd)

3.2.92 This is a single carriageway with footways along both sides. Bus lanes are currently provided in both directions along this route however the southwest bound bus lane terminates approximately 70m in advance of the Herberton Rd junction after which a three-lane flared approach to the junction is provided. The road varies in width along its length ranging from 16 to 23m wide including footways. Dublin Bus services operate along this route including 17, 27, 56A, 77A, 77N and 151.

3.38: Herberton Road (between Dolphin Rd & Keeper Rd)

3.2.93 This is a single carriageway route with footways on both sides and flared approaches to the junctions at either end. The route ranges in width from 13 to 17m wide including footways. Dublin Bus service 122 currently operates along this route. There are no cycle facilities provided.

3.39: Dolphin Road (between Herberton Rd & no.63 Dolphin Rd)

3.2.94 This is a single carriageway route with a flared approach to the Herberton Rd junction and a footway on the southern side. There is a footway separated from the carriageway by a wide grass verge on the northern side. The route ranges in width from 18 to 21m wide including footways. There are no bus services along this route. Dedicated on-road cycle lanes are provided in both directions.

3.40: Dolphin Road (between nos. 63 & 132 Dolphin Rd)

3.2.95 This is a single carriageway route with a footway on the southern side. There is a footway separated from the carriageway by a wide grass verge on the northern side. The route ranges in width from 18 to 21m wide including footways. There are no bus services along this route. Dedicated on-road cycle lanes are provided in both directions.

3.41: Herberton Road (between Dolphin Rd & South Circular Rd)

3.2.96 This is a single carriageway route with footways along both sides and a flared approach to the Dolphin Rd junction. The route varies in width along its length ranging from 13 to 19m wide including footways. Dublin Bus service 122 operates along this route. There are no cycle facilities provided.

3.42: Dolphin Road (between Slievenamon Rd & no.132 Dolphin Rd)

3.2.97 This is a single carriageway route with a flared approach to the Slievenamon Rd junction and a footway on the southern side. There is a footway separated from the carriageway by a wide grass verge on the northern side. The routes ranges in width from 18 to 21m wide including footways. There are no bus services along this route. Dedicated on-road cycle lanes are provided in both directions.

3.43: South Circular Rd (between Bulfin Rd & Brookfield Rd)

3.2.98 This is a single carriageway route with footways along both sides. There is a flared approach to the Bulfin Rd junction. The route ranges in width from 15 to 20m wide including footways. There is also on-street parking along both sides. Three Dublin Bus services operate along this route including the 68, 68A and 123. There are no cycle lanes provided.

3.44: Dolphin's Barn

3.2.99 This link incorporates two lanes in both directions. There is an existing bus lane northbound; however it terminates approximately 70m south of the South Circular Rd junction. The southbound bus lane terminates approx. 75m from the Dolphin Rd junction. The route ranges from 19 to 25m wide including footways. Seven Dublin Bus services operate along this route including the 17, 27, 56A, 77N, 77A, 77X and 151. Cycle lanes are provided intermittently along the route.

3.45: South Circular Rd (between Herberton Rd & Dolphin's Barn)

3.2.100 This is a single carriageway route ranging in width from 15 to 26m wide with footways available along both sides and a flared approach to the Dolphin's Barn

junction. There are existing cycle lanes (approximately 170m) towards the western end of the route. Four Dublin Bus services operate along this route including the 17, 68, 68A and 122.

3.46: South Circular Rd (between Herberton Rd & James's Walk)

3.2.101 This is a single carriageway route with footways along both sides and a flared approach to the Herberton Rd roundabout junction. The route ranges in width from 15 to 19m wide including footways. Two Dublin Bus services operate along this route including 68 and 68A. Cycle lanes leading to/from shared pedestrian/cycle areas are provided at the Herberton Rd roundabout junction.

3.47: Brookfield Rd (between South Circular Rd & James's Walk)

3.2.102 This is a single carriageway route with footways along both sides. The route ranges in width from 14.2 to 14.9m wide including footways. There are currently no bus lanes or cycle facilities along this route.

3.48: Brookfield Rd (between Old Kilmainham & South Circular Rd)

3.2.103 This is a single carriageway route with footways along both sides. The route varies in width along its length ranging from 5 to 23m wide including footways. The route becomes one way (northbound) towards the northern end. There are intermittent bays of on-street parking towards the southern section of the route. There are no bus services along this residential street and no cycle facilities provided.

3.59: Old Kilmainham

3.2.104 This is a single carriageway route ranging in width from 10 to 19m wide including footways. There is approx. 65m of eastbound bus lane provided to the west of the Basin St Lower junction. The LUAS red line runs along Old Kilmainham between St James's Hospital and the Bow Lane West junction. There is approximately 155m of a westbound cycle lane provided from west of the Basin St Lower junction to west of the St James's Hospital access. There are no other cycle facilities along this section.

3.50: James's Walk – Forbes Lane

3.2.105 This is a single carriageway traffic calmed route with footways provided along both sides and intermittent bays of on-street parking throughout. The route ranges in width from 13 to 26m wide including footways. The Luas Red Line runs adjacent along the northern side of James's Walk. There are no bus lanes or cycle facilities along this route.

3.51: Steeven's Lane

3.2.106 This two-way single carriageway route currently permits only Luas and local access (southern part of route). The route ranges in width from 9.5 to 16m wide including footways.

3.52: James's St-Thomas St West

3.2.107 This route comprises a general traffic lane and a bus lane in both directions. The route ranges in width from 17 to 30m wide including footways. Three no. Dublin Bus services operate along this route including the 123, 13 and 40. Cycle lanes are provided over the majority of the route in the eastbound direction however in the westbound direction only a small section of this route benefits from cycle lanes.

3.53: Victoria Quay-Merchants Quay

3.2.108 This Westbound only route generally comprises 2 to 3 no. general traffic lanes in addition to a bus lane (with the exception of the section between Bridgefoot St and Blackhall Court). The route ranges in width from 12.5 to 23m wide including footways. Dublin Bus operates 18 no. bus services along this route. There are no cycle facilities provided.

3.54: Wolfe Tone Quay – Inns Quay

3.2.109 This eastbound only route starts with 3 general traffic lanes in addition to a bus lane at its western end before narrowing to 1-2 general traffic lanes and a bus lane at the eastern extents. The route ranges in width from 11 to 22m wide including footways.

Dublin Bus operate 19 no. bus services along this route. There is intermittent cycle lane provision along the route.

3.55: Thomas St (between Thomas Court & Augustine St)

3.2.110 This link incorporates a general traffic lane and bus lane in both directions. Intermittent on-road cycle lanes are provided on the northern side of the carriageway while on street parking is available on the southern side. The route varies in width along its length ranging from 17 to 28m wide including footways. Six Dublin Bus service operate along this route including the 13, 25N, 40, 68X, 69N and 123.

3.56: Augustine St

3.2.111 This is a one-way southbound single carriageway route with footways along both sides. The route ranges in width from 9 to 13m wide including footways. On street parking is available along the eastern side of the carriageway. There are no bus services along this street and no cycle facilities are provided.

3.57: Winetavern St

3.2.112 This is a three-lane one-way northbound route with footways along both sides. The route ranges in width from 16 to 18m wide including footways There is a cycle lane along the eastern side of the carriageway. There are no bus services operating along this route.

3.58: Thomas Court

3.2.113 This is a one-way southbound single carriageway route with footways along both sides. The route varies in width along its length ranging from 7 to 10m including footways. There is intermittent on-street parking on the eastern and western sides of the carriageway. Due to the proximity of building lines it would not be possible to provide bus priority along the route. There are no bus services operating along this route and no cycle facilities are provided.

3.59: Earl St South

3.2.114 This is a one-way southbound single carriageway route with footways along both sides. The route ranges in width from 7 to 9m wide including footways. On-street parking is available on the southern side of the carriageway. There are currently no bus lanes or cycle facilities along this route.

3.60: Meath St (between Thomas St & Earls St South)

3.2.115 This is a one-way northbound single carriageway route with footways along both sides. The route ranges in width from 12 to 15m wide including footways. On street parking alternates between the eastern and western sides of the carriageway. There are no bus services along this street and no cycle facilities are provided.

3.61: Francis St

3.2.116 This is a one-way southbound single carriageway route with footways along both sides. The route ranges in width from 12 to 16m wide including footways. On-street parking alternates between the eastern and western sides of the carriageway. There are currently no bus lanes or cycle facilities along this route.

3.62: Patrick St – Nicholas St

3.2.117 Northbound there is a general traffic lane and a bus lane (which starts to the north of St Patricks Close). The bus lane terminates approximately 255m north of the R110 junction, after which the route widens providing a 4-lane flared approach to the High St junction. Southbound there are two general traffic lanes which widen providing a 3-lane flared approach to the R110 junction. The route ranges in width from 22-30m wide including footways and cycle lanes along both sides. Eight Dublin Bus services operate along this route including the 150, 151, 27, 49, 54a, 56a, 77a and 77x.

3.63: High Street (between Augustine St & Christchurch Place)

3.2.118 The route varies in width from 15 to 28m wide with cycle lanes and footways along both sides. There is a short section of westbound bus lane between Schoolhouse

Lane West and St. Michael's Close. Three Dublin Bus services operate along this route including the 13, 40 and 123.

3.64: Marrowbone Lane (between Cork St & Earl St South)

3.2.119 This is a single carriageway route with footways along both sides. The route ranges in width from 14 to 19m wide including footways. To the east of the Robert St junction there are cycle lanes along both sides of the road. Due to the proximity of the building lines to the carriageway it would not be possible to implement road widening to provide bus priority along the route. There are no bus services along this route.

3.65: Dolphin's Barn St. – New St. South/ Patrick St.

3.2.120 Bus lanes are provided in both directions along majority of the route in addition to the provision of on-road cycle lanes. The route varies in width along its length ranging from 13 to 27m wide including footways. Seven Dublin Bus services currently operate along this route including the 17, 27, 56A, 77N, 77A, 77X and 151.

3.3 Physical Constraints and Opportunities

3.3.1 There are a number of constraints and opportunities, both natural (i.e. existing natural environment) and physical (the built environment), which may constrain route options for the proposed scheme within the defined study area. Any constraints will be examined/addressed through the route option assessment process detailed later in this report.

3.4 Compatibility with Other Road Users

3.4.1 A key objective of the proposed scheme is to improve pedestrian and cyclist facilities along the route. In general, segregated facilities will be proposed for these modes along the Primary Cycle Network. The scheme will provide for cycle facilities along the routes that are required under the Greater Dublin Area Cycle Network Plan (published by the NTA, 2013) to the target Quality of Service(s) specified therein.

3.4.2 Where it is considered impractical to construct pedestrian or cycle facilities along a particular section of the CBC route (and it is considered inappropriate to reroute the bus), such facilities will need to be provided along a suitable alternative route.

3.4.3 There may be locations where segregated cycle facilities cannot be provided along the CBC route and there is no suitable rerouting alternative. In this instance, it may be possible for cyclists to share with vehicles in the bus lane. However, such proposals need careful consideration and design to ensure the safety of cyclists, with additional mitigation measures, such as speed restrictions for vehicles in bus lanes being applied.

3.4.4 General traffic will be maintained along the CBC corridor although it is inevitable that there will be impacts on traffic capacity along the route associated with the reallocation of road space to the bus lanes and the introduction of turning movement restrictions. Reductions in traffic carrying capacity of the road network need however to be considered in the context of the overall significant increase in efficiency and reliability of the bus services that will be achieved.

3.5 Integration with Existing and Proposed Public Transport Network

3.5.1 One of the objectives of the proposed scheme is to enhance interchange between the various modes of public transport operating in the city, both now and in the future. Route options within the study area have therefore been developed with this in mind and, in so far as possible; provide for interchange opportunity with existing and planned future transport services, including:

- Luas Red Line;
- The proposed Lucan Luas Line;
- The proposed Tallaght- Blanchardstown Core Orbital Bus Corridor;
- Existing Dublin Bus services at numerous locations along the route; and
- Rail services at the Clondalkin and Fonthill Station.

3.5.2 The preliminary review of the routes and surrounding land uses contained within Section 1 of the study area (detailed in section 3.2 above) has revealed the following (Ref. Figure 3.6 below): -

- Both the R136 Outer Ring Road and the New Nangor Road corridors (the main through routes) currently benefit from the provision of dedicated bus infrastructure in the form of bus lanes running in both directions along the side of the carriageway;
- Corkagh Park covers a significant portion of Section 1, and there is only a small parcel of land available within the Section 1 area which may be subject to future development (residential community & residential amenity zoned). As such it can be deduced that there will not be an intensification of development (and associated increase in demand for public transport) within Section 1, beyond that evident today; and
- The proposed Tallaght - Blanchardstown Orbital Bus Corridor runs along the Fonthill Road at the eastern extents of Section 1.

3.5.3 Due to both (i) the extent of high quality bus infrastructure currently available along the main through routes of Section 1; and (ii) the modest potential for future development within the section, it has been established that an appropriate starting point for the subject Clondalkin to City Centre CBC would be in the vicinity of the New Nangor Road/Fonthill Road junction. This starting point would enable interchange with the proposed Tallaght-Blanchardstown Orbital Bus Corridor for which has been identified to travel along the R113 Fonthill Road corridor, whilst the flexibility remains, should demand in the future necessitate the CBC to be extended westwards along the New Nangor Road. In the current CBC proposals, this section of the New Nangor Road will function as a feeder route to the proposed Clondalkin to City Centre CBC.

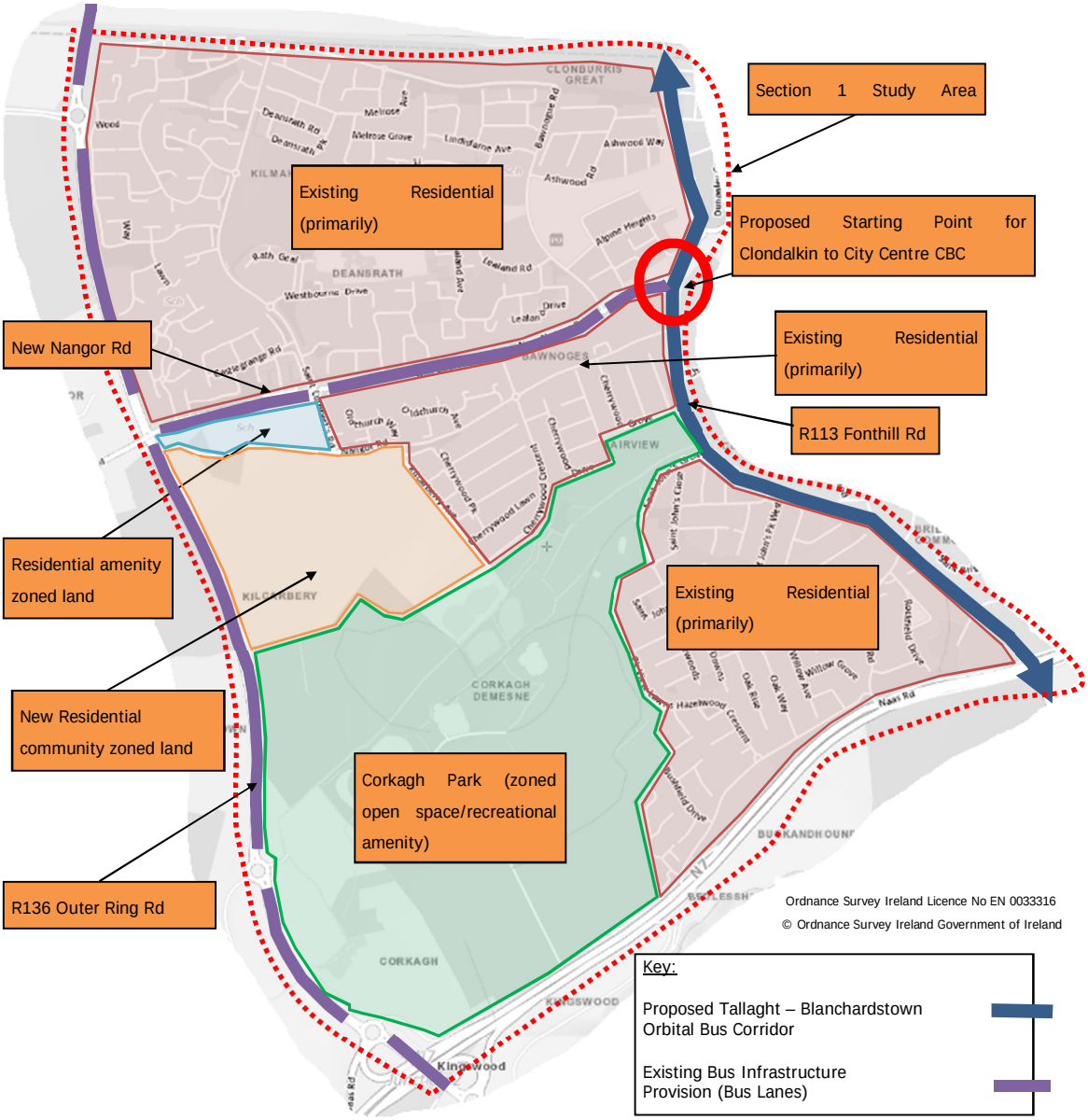

Figure 3.6: Section 1 - Characteristics & Proposed CBC Starting Point

4.0 ROUTE OPTION ASSESSMENT STRUCTURE & METHODOLOGY

4.1 Assessment Process

4.1.1 This section of the report presents the structure and methodology used for the assessment of route options within the study area. A two-stage assessment was adopted:

- An initial 'Stage 1' high-level route options assessment or 'sifting' process which appraised routes in terms of ability to achieve scheme objectives (as outlined in Section 2.10) and whether they could be practically delivered; and
- Routes which passed this initial stage were taken forward to a more detailed 'Stage 2' multi-criteria assessment.

4.1.2 As outlined in Section 3 and illustrated in Figure 3.2 above, the study area has been divided into 3 sections to simplify the assessment process:

- Section 1 – R136 Outer Ring Road to Fonthill Road South
- Section 2 – Fonthill Road South to Naas Road/ Long Mile Road Junction
- Section 3 – Naas Road/ Long Mile Road Junction to Christchurch.

4.1.3 The eastern extents of the study area has been assumed as being the general area of Nicholas Street/Christchurch Place/High Street

4.1.4 As previously introduced the appropriate starting point for the subject Clondalkin to City Centre CBC would be in the vicinity of the New Nangor Road/Fonthill Road junction (i.e. Section 2 of the study area). The assessment process is illustrated Figure 4.1 below.

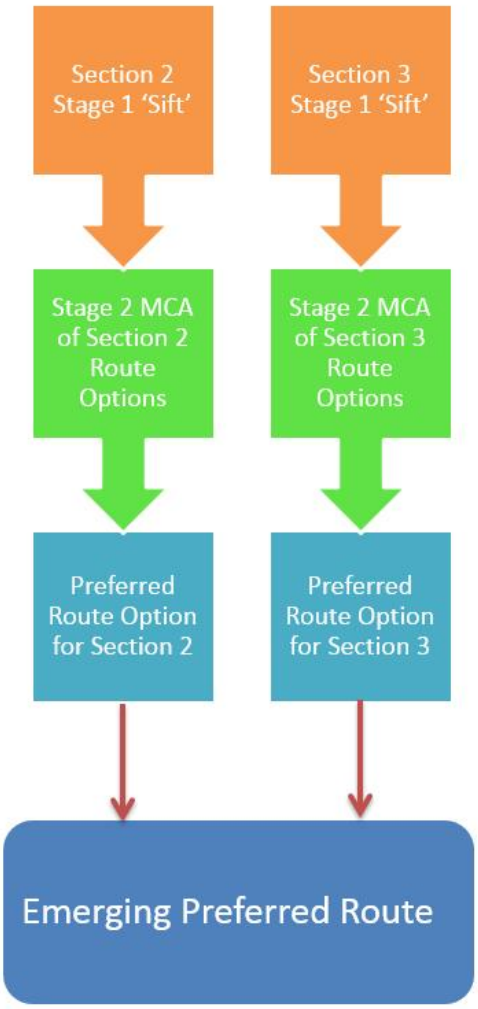

Figure 4.1: Route Options Assessment Process

4.2 Assessment Structure

4.2.1 The assessment of the route options is structured in a manner whereby the Stage 1 and Stage 2 option assessments are conducted for each Section of the Study area before proceeding to the assessment for the following section. The sections are addressed in a west to east direction from New Nangor Road/Fonthill Road junction (i.e. Section 2 of the study area) with this eastwards direction taken to be 'inbound' and the opposite direction classified as 'outbound'.

4.2.2 As there are a large number of potential 'end-to-end' routes within the study area, these routes have been subdivided into shorter links/sections for the purposes of the 'Stage 1' route options sifting process. Following the initial route sifting process, the remaining routes have been combined to form longer routes/connections where possible.

4.2.3 The 'Stage 1' route options sifting process assesses potential route options within the study area at a high level against the appraisal criteria described in Chapter 5 of this report. Figure 4.2 below presents the initial range of potential route options or 'Spiders Web' of route connections identified for the study area.

4.3 Route Option Assessment Methodology Stage 1: Sifting

4.3.1 Within the study area, several corridors exist which could potentially deliver the primary scheme objectives. A 'Spiders - Web' (Figure 4.2) illustrating these potential corridors was developed to enable a sifting exercise to be undertaken on the individual links within the study area to determine: -

(i) If they could meet the identified schemes objectives; and

(ii) if bus priority could be reasonably delivered along them.

4.3.2 The identification of these initial route options took cognisance of the physical constraints and opportunities present and the ability to integrate with other public transport modes (Section 4.4). Of relevance in developing the spiders-web was the potential for the road or route sections to facilitate fast and reliable journey times and thereby be able to practically accommodate bus priority.

4.3.3 At the Stage 1 'sifting' stage, the initial 'spiders-web' of route options was narrowed down using a high level qualitative method based on professional judgement and a general appreciation for existing physical conditions/constraints within the study area from available survey information and site visits. This exercise identified route options that would either not achieve the scheme objectives or would be subject to significant cost and/or impact to achieve these objectives (e.g. excessive land-take).

4.3.4 This assessment stage focused on engineering constraints, as identified by the findings of both the desktop study and site audits, thereby considering: -

- Technical feasibility;
- Transport planning implications; and
- Environmental issues.

4.3.5 As the study area contains a number of significant accessibility constraints, there are a number of locations within the study area where alternative potential routing

options required further consideration (i.e. implementation of measures to overcome the constraints). Some of the principle routing alternatives are listed below:

- New Nangor Road or Old Nangor Road;
- Fonthill Road South, New Nangor Rd or Clondalkin Village Centre; and
- Crumlin Rd or Tyrconnell Rd.

4.3.6 The resulting study areas spiders-web of potential route options is presented in Figure 4.2, whilst Figure 4.3 illustrates the routes that have passed the Stage 1 Sifting exercise. These adopted routes are discussed in further detail within Chapter 5 and Chapter 6 of this report.

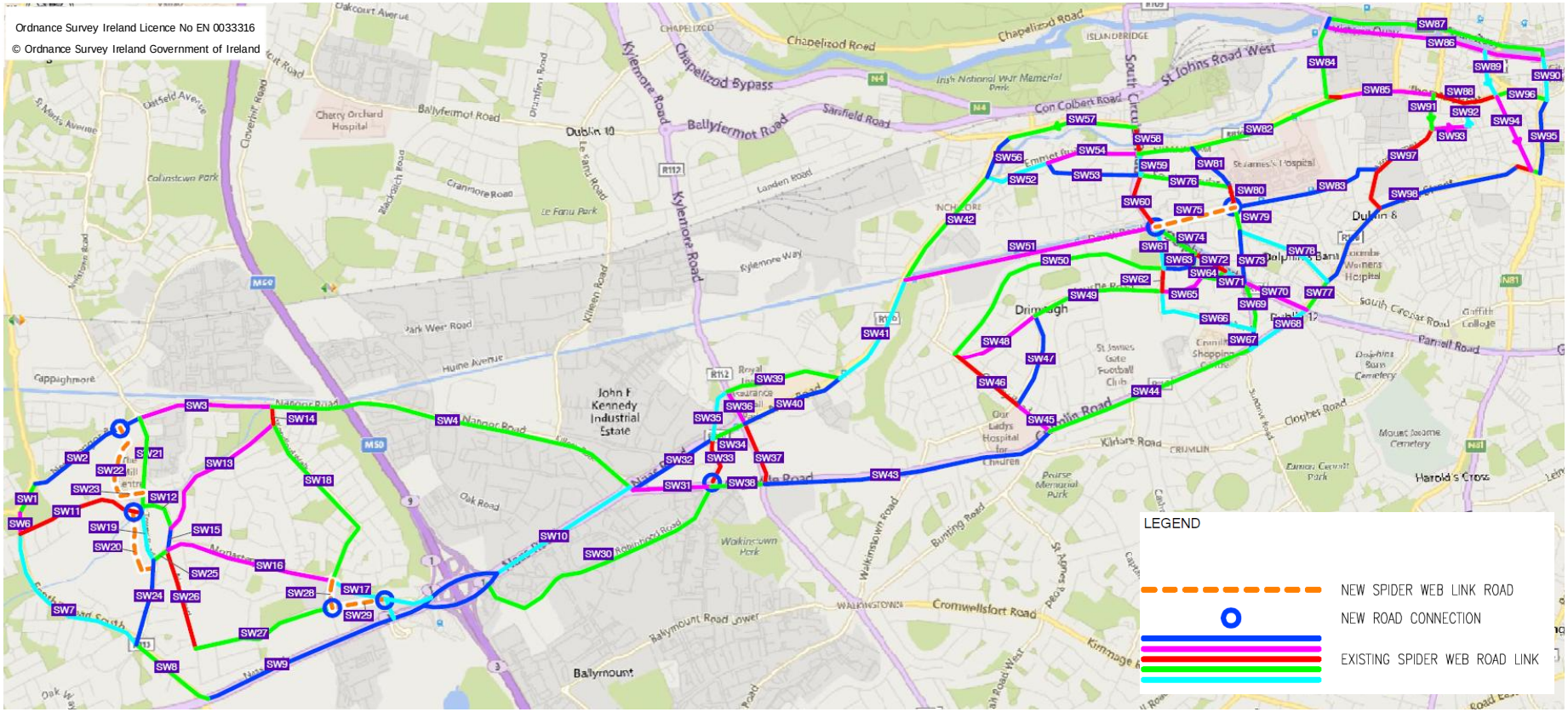

Figure 4.2: Spiders Web of Route Options

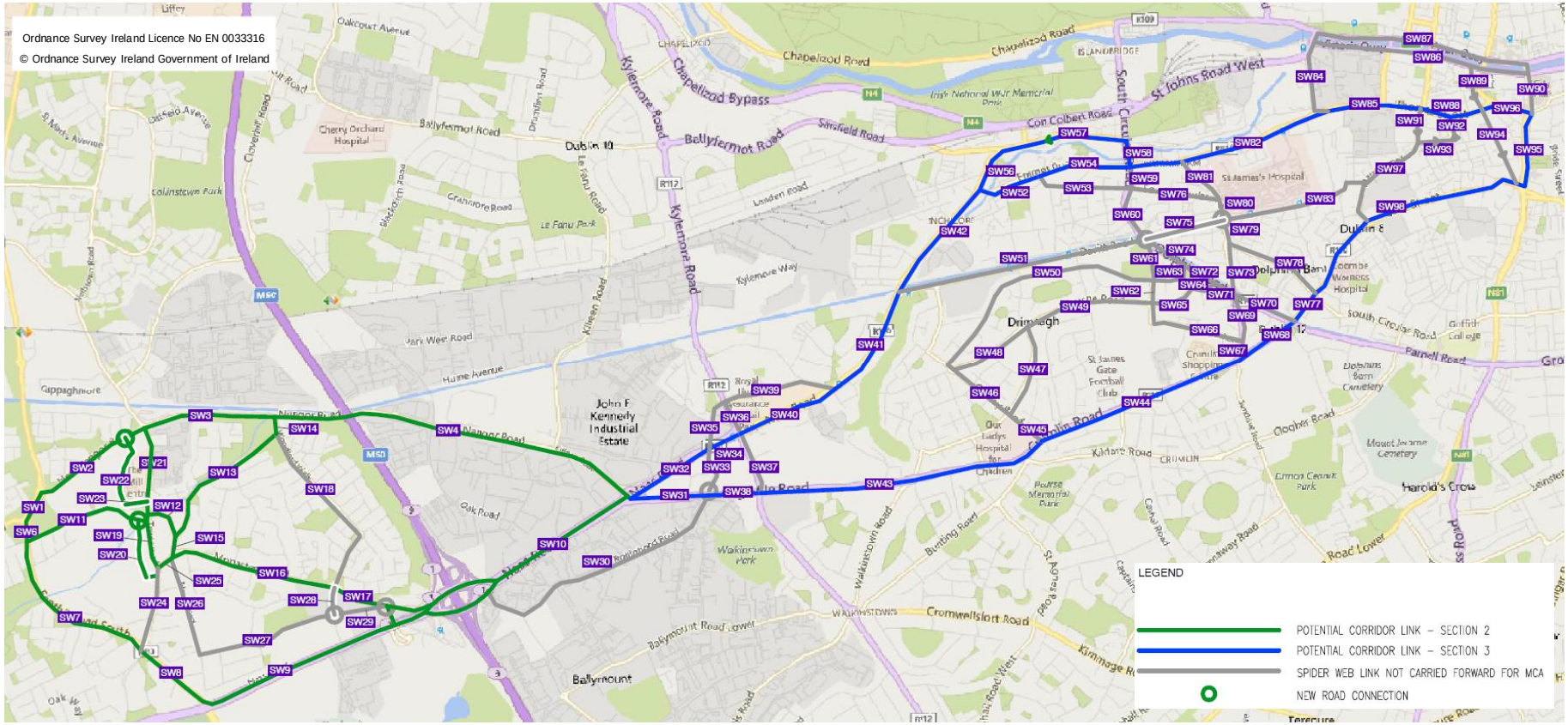

Figure 4.3: Spiders Web of Route Options Passing the Stage 1 Sift

4.4 Stage 2: Route Options Assessment – Detailed Assessment

4.4.1 Following completion of the 'Stage 1' assessment, the remaining potentially feasible route options were progressed to Stage 2 of the assessment process. This stage comprised a more detailed qualitative and quantitative assessment, using criteria established to compare route options.

4.4.2 The 'Guidelines on a Common Appraisal Framework for Transport Projects and Programmes' published by the Department of Transport, Tourism and Sport (DTTAS), March 2016, requires schemes to undergo a 'Multi-Criteria Analysis' (MCA) under the following criteria: -

- Economy;
- Integration;
- Accessibility and Social Inclusion;
- Physical Activity;
- Safety; and
- Environment.

4.4.3 An appreciation of constraints and opportunities within the study area as well as the defined project objectives, led to the establishment of project-specific route options assessment criteria.

4.4.4 These were tailored to have commonality to the Common Appraisal Framework guidelines where practical.

4.4.5 The physical activity criterion, added to the most recent Common Appraisal Framework, relates to the health benefits derived from using different transport modes. The subject scheme options under consideration relate to the same mode of travel (bus). As such, this criterion will not produce any relative differences between the options. Therefore, this criterion will not be applied in the multi – criteria assessment for the subject scheme.

4.4.6 The physical benefits associated with the scheme will be quantified as part of a future Cost – Benefit Analysis.

4.4.7 Table 4.1 presents a summary of the assessment criteria and sub criteria used as part of the 'Stage 2' detailed route options assessment process.

Assessment Criteria	Assessment Sub-Criteria
1. Economy	1a. Capital Cost
	1b. Transport Reliability and Quality (Journey Time)
	1c. Level of Bus Priority Provision
2. Integration	2a. Land Use Policy
	2b. Residential Population and Employment Catchments
	2c. Transport Network Integration
	2d. Cycle Network Integration
	2e. Traffic Network Integration
3. Accessibility & Social Inclusion	3a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3b. Deprived Geographic Areas
4. Safety	4a. Road Safety
	4b. Pedestrian Safety
5. Environment	5a. Archaeology and Cultural Heritage
	5b. Architectural Heritage
	5c. Flora & Fauna
	5d. Soils, Geology & Hydrology
	5e. Landscape and Visual
	5f Air Quality
	5g. Noise & Vibration
	5h. Land Use Character

Table 4.1: Assessment Criteria

4.4.8 In applying these criteria to the assessment process, it is clearly recognised that for different sections of the study area corridor, greater emphasis may need to be applied to some criterion over others in terms of their significance and influence on the route selection process. In some instances, certain criteria such as Residential & Employment catchments will be almost identical between route options. As such, these will not be specifically assessed in such cases.

1. Economy

a. Capital Cost

4.4.9 Capital cost estimates consist of both the indicative infrastructure cost estimate and land acquisition costs. The methodology used in determining these costs, standardised to per-kilometre rates, is described below.

i. Indicative Infrastructure Cost Estimate

4.4.10 This sub-criterion is established to assess route options for their likely capital infrastructure cost. Each route option has been assessed relative to the nature and

extent of infrastructure requirements to deliver the scheme objectives. In order to evaluate route options, a degree of initial outline design has been undertaken for some routes to inform infrastructure requirements. Infrastructure costs include:

- Carriageway: whether potential re-alignment (i.e. re-alignment of the carriageway) is necessary and the extent of new or existing pavement reconstruction works required;
- Drainage: the extent to which additional drainage works, or modification of existing drainage networks is required;
- Services/Utilities: the extent of utility service protection or relocation works required;
- Lighting: whether existing public lighting would need to be replaced or a new public lighting system required along a particular route option;
- Structures: whether the introduction of the proposed scheme on a route would require existing structures to be modified or replaced and consideration of any new structures to be provided;
- Construction traffic management: an assessment of the extent of the likely traffic management measures (e.g. potential diversion of traffic away from the route) required to construct the proposed scheme along routes; and
- Cycle route infrastructure: The practicality and extent of works required to accommodate cycle route infrastructure along route options.

4.4.11 For the purposes of the route options assessment, a high-level cost estimate has been prepared for each type of construction i.e. upgrade to existing bus lanes within existing reservation, widening of existing reservation including boundary treatment and/or land acquisition etc.

ii. Land Acquisition Cost Estimate

4.4.12 This criterion evaluates the likely costs associated with land acquisition and associated boundary/accommodation works for each route option. The assessment takes consideration of: -

- The number of adjacent public/commercial/residential/industrial properties, from which land acquisition would be required as well as the extent (area) of land acquisition likely to be necessary; and

- The costs associated with boundary/accommodation works.

4.4.13 For the purposes of route options comparison and assessment, the extent of land acquisition required for each route option is calculated by developing an outline design for each option based on ordnance survey mapping available, and applying the following typical scheme characteristics: -

- 3.0 m wide Bus lane;
- 3.0 m wide Traffic Lane in areas with posted speed limit less than 60 km/h;
- 3.25 m wide Traffic Lane in areas with posted speed limit greater than 60 km/h;
- 2.0 m Footpath;
- 2.0 m Cycle Track (1 way) where such a provision is required for a Primary Route based on the GDA Cycle Network Plan;
- 1.75m Cycle Track (1 way) where such a provision is required for a Secondary Route based on the GDA Cycle Network Plan;
- 3.5m Cycle Track (2 way); and
- Shared running between cyclists and motorists where vehicular speeds and volumes permit such a regime as per the National Cycle Manual guidance.

4.4.14 Outline designs prepared for some route options also considered any specific constraints and tailored the above assumptions where appropriate to practically minimise land-take without compromising on the overall scheme objectives to maximise bus priority. It should be noted that the lane provisions above are generally achievable in both directions with some exceptions where alternative routing for cyclists and/or separation of inbound/outbound bus and traffic lanes have been designed.

4.4.15 The areas of land-take required are presented as being either public land or private land. For the purposes of comparing route options, public land is generally defined as the space between physical boundaries on either side of a road (e.g. property boundary wall to property boundary wall). Areas outside the road reservation are assumed to be private land except where it is clear that it is owned by a public entity (e.g. a public park). Any private land that may be located within the road reservation, but are not clearly private land, are considered as public areas as part of this methodology. This exercise has been based on a combination of available Ordnance Survey mapping, topographical survey and site measurements.

4.4.16 The methodology typically adopted in calculating the land acquisition costs is very site specific (value of the property, costs of acquiring and moving to a new property etc.). However, for the purpose of this assessment, a high level assessment methodology has been used to develop a cost per square metre (sqm) for private land acquisition based on valuations carried out by TII (RPA) for other public transport projects. Using this information, a rate of €1,500/sqm has been applied to route options to derive an indicative cost for private land-take for all route options.

4.4.17 For the purposes of this assessment, no cost has been assumed for public land acquisition.

b. Transport Reliability and Quality of Service

4.4.18 This criterion assesses route options in terms of the degree to which transport reliability and quality of service is likely to be achieved, with associated economic benefits. The assessment considers the following attributes:-

i. Journey Time

4.4.19 The extent to which journey time savings, and associated economic benefits, for public transport services, including the CBC, can be achieved on a route. This would be practically achieved through the extent to which any or all of the following measures can be implemented;

- Enhancement of existing bus and / or provision of new bus priority along road links;
- Provision of bus priority through junctions (preferably through signal controlled junctions);
- Local upgrading of road sections to provide more carriageway space and therefore, additional capacity;
- Removal of 'pinch points' for bus services and traffic along the route; and
- Rationalisation of existing bus stops in terms of location, indentation (i.e. ability to provide laybys to avoid blockage of bus lanes) and spacing.

4.4.20 Journey times for each route option have been calculated by comparing the time required by a bus to travel between common start and end points on each route. Where both the start and end points are not the same for each route option (e.g. at the start/end of the route/the scheme terminus), the journey time is calculated between one

common point and the end of the route. The following assumptions have been made in calculating the comparative journey times along route options:

- Operational speed (free-flow) of 50 kph in suburban areas and 30 kph in City Centre areas;
- Dwell time of 20 seconds per stop on average (assumes introduction of cashless fares as part of the CBC/Bus Service upgrade programme in the Greater Dublin Area);
- Delay of 15 seconds per junction on average (assumes buses stop at every second junction i.e. 30 second delay at every second junction)

4.4.21 These assumptions assume dedicated bus priority infrastructure or free-flowing traffic conditions along a route section by direction of travel. Where the indicative scheme determined for a route suggests that this is not practically achievable, modified speeds and delay assumption are applied as appropriate. These additional delays are estimated based on available queue length information, automatic vehicle location information from Dublin Bus and estimates of the impact of traffic management measures (such as queue relocation). Delays at junctions and stops include delays associated with deceleration /acceleration to/from a stationary position.

ii. Number of Signalised Junctions

4.4.22 The number of signalised junctions along each route have been compared. Regardless of the level of practical or feasible bus priority provided at signalised junctions, there will always be an element of delay to buses associated with signalised junctions, even with the most efficient signalling system being provided. While it is impossible to completely avoid signalised junctions on any route option, this risk of potential delay has been considered when comparing route options. This feeds into the overall journey time calculations as indicated above.

c. Level of Bus Priority Provision

4.4.23 The level of bus priority achievable along route options has been considered and compared. The level of priority is predominantly concerned with the degree to which road space can practically be allocated to buses, the amount of protection afforded to

this priority (i.e. segregation) and the provision at junctions such as bus lanes at the stop line. This feeds into the overall journey time calculations as indicated above.

2. Integration

a. Land-Use Policy

4.4.24 This criterion identifies the extent to which a route would encourage or support planned development and provide for economic opportunities; whether particular route options offer synergies with other urban enhancement proposals and whether route options afford the potential to regenerate particular streets or quarters.

4.4.25 The interaction of routes with Local Area Plans (LAPs), masterplans or specific objectives in the County Development Plans are also considered under this criterion where they propose specific transport related objectives or policies.

b. Residential Population and Employment Catchments

i. Residential Population Catchments

4.4.26 This criterion compares the existing residential populations within 5 and 10-minute walk catchments from bus stops on the CBC routes and is representative of the number of potential users for a particular route option. The assessment does not quantitatively assess the future populations of zoned, but yet undeveloped residential development lands along route options. The analysis involved extracting 2011 population statistics from the Central Statistics Office (CSO) 'small areas' dataset. GeoDirectory was used to assist in calculating the proportional figures for the population within the specific contour bands for each of the routes. This information was subsequently used to calculate the population living within the contours.

ii. Employment Population Catchments

4.4.27 This criterion compares the existing employment populations within a 10-minute walk catchment. The analysis involved extracting information from the 2011 POWSCAR (Place of Work, School or College - Census of Anonymised Records) data, which contains data on employment and school goers within specific areas. The areas used for the analysis were taken from the NTA's multi-modal transport model of the Greater Dublin Area and correspond to the zones defined in the model. These zones are effectively modified Central Statistics Office (CSO) boundaries. GeoDirectory was used to assist in calculating

the proportional figures for the employment units within the specific contour bands for each of the routes. This information was subsequently used to calculate the number of people working within the contours. As with the residential population catchments, the assessment does not quantitatively assess the future populations of zoned, but yet undeveloped commercial development lands along route options.

4.4.28 It should be noted that in the case of route options which converge with other CBC or BRT corridors the residential and employment population served by these different corridors have been deducted to avoid duplication of population figures.

c. Transport Network Integration

4.4.29 This criterion identifies the extent to which route options would maximise wider public transport usage and reach in terms of facilitating efficient interchange between transport modes (e.g. Luas, DART, rail stations, public (other CBC) and private bus operators & Dublinbikes). Linked to this, is the availability of space at potential interchange locations for facilities such as cycle parking areas, covered interchange areas, safe walking areas to and from stops, kiss-and-ride etc.

d. Cycle Network Integration

4.4.30 This criterion is established to assess route options for the practicality of achieving cycle track segregation and their potential to integrate high quality cycle facilities. The assessment considers the following: -

i. Compatibility with the GDA Cycle Network Plan

4.4.31 This criterion considers whether a route option forms part of the GDA Cycle Network Plan, with routes where CBC and designated Cycle Routes overlap given a higher designation in terms of benefits arising where cycle infrastructure can be provided as part of the proposed scheme. In some instances, however it may be more appropriate to provide a parallel cycle track off the CBC route. Consideration is also given to cycle routes intersecting with the CBC route.

ii. Quality of Infrastructure for Cyclists

4.4.32 The quality of cycle provision practically achievable on route options has been assessed. For comparison purposes, the highest level of practical cycle provision achievable on each route has been determined and compared between route options.

e. Traffic Network Integration

4.4.33 A comparative assessment of the expected traffic impact of each option has been undertaken for routes formed by combining route options which remain from the previous assessment stages. This assessment was undertaken based on professional judgement and an understanding of traffic conditions in the Study Area.

4.4.34 This represents a high-level assessment of the traffic impact of the route options considered in the Stage 2 Multi – Criteria Analysis (MCA). The anticipated traffic impact expected to be incurred by motorists using private vehicles as a result of the different route options will be assessed. The dis-benefit experienced by motorists in respect of reduced junction capacity and restricted movements will be considered. To this end, data gathered, such as traffic count surveys, is also used to establish the likely traffic impacts.

3. Accessibility and Social Inclusion

a. Key Trip Attractors

4.4.35 This assessment criterion identifies key trip attractors located within approximate 15-minute walk catchments which would generate significant demand for the CBC service but would not be otherwise picked up by either the employment or residential catchment analysis. For the purposes of this assessment the following land-uses have been considered as key trip attractors:

- Education (schools and universities);
- Commercial centres (shopping centres, town centres etc.);
- Healthcare (hospitals);
- Employment (business parks, large office developments etc.); and
- Leisure (parks, sports grounds etc.)

b. Deprived Geographic Areas

4.4.36 The possible impact of the route options on deprived areas including RAPID (Revitalising Areas by Planning, Investment and Development) areas according to the Pobal Deprivation Index was investigated.

4. Safety

a. Road Safety

4.4.37 Generally, the introduction of CBC will result in a reduction in road incidents due to people switching from private car to public transport. However, the reduction in incidents is unlikely to differ between various route options, particularly over the short sections being investigated as part of this assessment.

4.4.38 Therefore, for the purposes of comparing route options, the number of junctions along the route has been used as a proxy for road safety. The number of junctions is effectively a measure of the number of potential conflicts on the route and therefore a measure of the potential for a collision.

4.4.39 The type of movement required by the bus at junctions on the route is also considered with routes where turning movements (either left or right) are required being assigned a lower ranking in terms of safety.

b. Pedestrian Safety

4.4.40 This criterion assesses the safety of passengers accessing the stops along the route. This is predominantly concerned with the proximity of bus stops to crossing facilities and the presence of footpaths along desire lines to bus stops.

5. Environmental

4.4.41 The scope and methodology for the environmental assessment was established by considering what environmental aspects are likely to be impacted and are therefore of importance in evaluating the route options. A list of the environmental topics considered is outlined in Table 4.2.

Aspect	Rational
Included in Environmental Assessment	
5.a./5.b. Archaeological, Architectural and Cultural Heritage	The provision of CBC infrastructure has the potential to impact on the archaeological, architectural and cultural heritage environment. At this stage of the assessment process, a conservative approach has been adopted in assessing the potential for impact and this is further described below
5.c. Flora and Fauna	The provision of CBC infrastructure has the potential to impact on flora and fauna.
5.d. Soils, Geology & Hydrology	The provision of CBC infrastructure has the potential to impact on soil and geology as a result of land-take and possible ground excavation (including potential to encounter ground contamination). In relation to Hydrology, the provision of CBC infrastructure has the potential to impact on surface water bodies as a result of land-take (with particular emphasis on floodplains and flood zones).
5.e. Landscape and Visual	The provision of CBC infrastructure has the potential to impact the townscape/streetscape along the CBC route.
5.f Air Quality	The provision of CBC infrastructure has the potential to impact the air quality along the CBC route.
5.g. Noise & Vibration	The provision of CBC infrastructure has the potential to impact the noise environment along the CBC route.
5.h. Land Use Character	The provision of CBC infrastructure has the potential to impact on land use character through land-take, severance or reduction of viability which prevents or reduces it from being used for its intended use.
Scoped out of Environmental Assessment	
Agronomy	Given the urban/suburban nature of the proposed scheme and the assumption that the CBC will run on predominantly existing road infrastructure this aspect is not considered to be relevant to the assessment.
Hydrogeology	Hydrogeology is not considered to be a determining factor in the selection of the preferred route option. Also at this stage of the design process it is not possible to determine the quality, type or duration of these impacts, particularly as the location and type of structures e.g. underpasses, bridges etc. is unknown.
Property/Land Acquisition	This aspect has been considered separately as part of the Economy criterion in the overall multi-criteria analysis commensurate with the information available at the route option assessment stage.
Socio-economics	Elements of socio-economics such as journey times, catchment analysis, transport integration, quality of service for cyclists etc. are assessed under other non-environmental criteria and will be considered as part of the multi-criteria analysis.

Table 4.2: Environmental Aspects Considered

4.4.42 When preparing the Environmental Impact Statement (EIS) for the preferred route and scheme design, the environmental topics which have been scoped out (and others that are not considered relevant for the route options assessment), will be reviewed and incorporated into the EIS as appropriate.

a/b. Archaeological, Architectural and Cultural Heritage

4.4.43 As mentioned previously a conservative approach has initially been adopted in undertaking the route options assessment in relation to the archaeological, architectural and cultural heritage environment. The constraints comprise Recorded Monuments and Protected Structures (RMPs) within 50m of each CBC route section, extending to 250m in greenfield areas. Sites of archaeological and cultural heritage merit and sites of architectural heritage merit which are directly intersected by the CBC route sections are also included within the scope of this assessment.

4.4.44 During the detailed design of the proposed scheme, where applicable, appropriate mitigation for construction will be included which will seek, where practicable, to ensure preservation in situ of archaeological remains and the avoidance of impacts on archaeological, architectural and cultural heritage constraints.

4.4.45 As a result, the assessment effectively evaluates the potential for impact on architectural heritage from façade to façade which provides for a comparative and qualitative evaluation of Protected Structures along route sections, in particular along heavily developed sections such as those identified within the City Centre.

4.4.46 Whilst the CBC route will primarily travel on existing established road networks, the City Centre, and Clondalkin areas of the study area have greater potential that adjacent structures and buildings will be impacted by the proposed scheme (while acknowledging that the designation of, and protection afforded to a Protected Structure is not restricted to the structure itself but to all elements within its curtilage, e.g. coal cellars and boundary elements). The selection of a viable route options in these areas will involve the running of the CBC service in the vicinity of numerous Protected Structures irrespective of which route section is preferred (archaeological, architectural and cultural heritage is only one of the criteria being considered as part of the MCA analysis). The detailed design of the proposed scheme will seek to avoid and minimise impacts on architectural heritage.

c. Flora and Fauna

4.4.47 The provision of bus priority infrastructure has the potential to impact on flora & fauna. A broad assessment of the likely impacts of each of the route options on the key ecological receptors was undertaken, with an indication as to which, if any, of these

were likely to be significant, and at what geographical level. The impacts were compared to allow an order of preference to be determined.

4.4.48 Features considered included the following:

- Records of rare or protected plant species;
- Records of protected fauna;
- Identified designated ecological areas and other areas of ecological importance including ecological corridors and areas of green infrastructure; and
- Watercourses and fisheries waters.

d. Soils, Geology & Hydrology

4.4.49 The provision of bus priority infrastructure has the potential to impact on soil and geology as a result of land-take and possible ground excavation (including potential to encounter ground contamination).

4.4.50 Attributes (and impacts) assessed for each route option included the following (where relevant):

- Historic land use and potential contamination;
- Geology / Areas of Geological Significance;
- Soil quality, drainage characteristics and range of agricultural uses of soil along each route corridor; and
- Potential implications for existing quarry or mining activities and future extractable reserves.

4.4.51 The impact at each geographic level was compared to allow an order of preference to be determined. The provision of bus priority infrastructure has the potential to impact on surface water bodies as a result of land-take (with particular emphasis on floodplains and flood zones). Attributes (and impacts) assessed for each route option included the following (where relevant):

- watercourses crossed by each route corridor and potential impact on water quality arising from re-alignment works;
- discharge to receiving waters and drainage network;
- aquatic ecological sites close to and downstream of water crossings;

- surface water abstraction close to and downstream of water crossings;
- established amenity value of surface waters traversed by each route corridor, and
- potential increase (or reduction) in flood risk to existing properties.

4.4.52 The impact at each geographic level was compared to allow an order of preference to be determined.

e. Landscape and Visual

4.4.53 The provision of bus priority infrastructure has the potential to impact the townscape/streetscape along the route. The assessment comprised the compilation of a desktop understanding of:

- the landscape/townscape, its character and features;
- the visual environment, including the location of residential and other properties and views over the landscape;
- the landscape planning context, including landscape designations, open spaces, identified views and prospects, etc.; and
- relationship with protected structures, conservation areas, national monuments etc.

4.4.54 The impact at each geographic level was compared to allow an order of preference to be determined.

f. Air Quality

4.4.55 The provision of bus priority infrastructure has the potential to impact the air quality along the route. The assessment considered each route section, in terms of sensitive receptors and density of development in order to identify the most suitable route from an air quality perspective.

4.4.56 The TII guidelines define sensitive receptor locations as: residential housing, schools, hospitals, places of worship, sports centres and shopping areas, i.e. locations where members of the public are likely to be regularly present.

4.4.57 The impacts associated with each route option were compared to allow an order of preference to be determined.

4.4.58 It is important to note that the proposed route will primarily travel on existing established road networks. For the purposes of this assessment, air quality impact is quantified based on whether the road is moving closer to sensitive receptors i.e. road widening. However, any road widening would result in only marginal impacts to air quality at sensitive receptors and therefore the severity of any air quality impact would be minimal.

g. Noise & Vibration

4.4.59 The provision of bus priority infrastructure has the potential to impact the noise environment along the route. The assessment considered each route section, in terms of sensitive receptors and density of development in order to identify the most suitable route from an air quality perspective.

4.4.60 The TII guidelines define sensitive receptor locations as: residential housing, schools, hospitals, places of worship, sports centres and shopping areas, i.e. locations where members of the public are likely to be regularly present.

4.4.61 The impacts associated with each route option were compared to allow an order of preference to be determined.

4.4.62 Similar to air quality, noise & vibration impact is quantified based on whether the road is moving closer to sensitive receptors i.e. road widening. However, any road widening would result in only marginal impacts to air quality at sensitive receptors and therefore the severity of any air quality impact would be minimal.

h. Land Use Character

4.4.63 The provision of bus priority infrastructure has the potential to impact on land use character through land-take, severance or reduction of viability which prevents or reduces it from being used for its intended use.

4.5 Route Options Summary Table

4.5.1 For each study area section, a route options summary table in Project Appraisal Balance Sheet (PABS) format has been prepared which collates and summarises the appraisal of route options under each of the assessment criterion.

4.5.2 The route options summary table for each study area section is presented in Appendix A and B, for Sections 2 and 3, respectively.

4.5.3 For each individual assessment criterion considered, routes have been relatively compared against each other based on a five-point scale, ranging from having significant advantages to having significant disadvantages over other route options. For illustrative purposes, this five-point scale is colour coded as presented in Table 4.3, with advantageous routes graded to 'dark green' and disadvantaged routes graded to 'dark red'.

Colour	Description
	Significant advantages over the other options
	Some advantages over other options
	Neutral compared to other options
	Some disadvantages over other options
	Significant disadvantages compared to other options

Table 4.3: Route Options Colour Coded Ranking Scale

4.5.4 The extent of reporting may vary between each study area section and the route options being assessed, depending on the significance attached to specific criterion in terms of route differentiation.

4.5.5 At the end of each study individual area section route options assessment, an overall Multi Criterion Appraisal (MCA) table is provided, bringing together each of the individual criterion assessments.

4.5.6 This is then summarised for each study area section under the main assessment criterion as set out in Table 4.1.

4.5.7 A qualitative appraisal of the conclusions from the route options assessment is then provided, highlighting the key issues considered in determining recommended route options ('preferred' and in some instances, where applicable, 'next preferred'). It should

be noted that a balanced approach is taken when assessing the preferred routes. All criteria are considered in undertaking the assessment and a lower ranking on one criterion, for example, will not necessarily mean that the route is not suitable.

4.5.8 The recommended route options from each study area section are then collated to provide ‘end-to-end’ scheme route options for the entire study area.

5.0 SECTION 2 ROUTE OPTION ASSESSMENT

5.1 Introduction

5.1.1 This chapter sets out the two-stage assessment procedure and results for Section 2 of the study area (between the New Nangor Rd/Fonthill Rd South junction and the New Nangor Rd/Naas Rd/Long Mile Rd junction).

5.2 Section 2: Stage 1 (Sifting) - Route Option Assessment

5.2.1 The potential routes considered as part of the Stage 1 route option assessment for Section 2 of the study area are presented in Figure 5.1 whilst Table 5.1 below presents a summary of the Stage 1 route options sifting process.

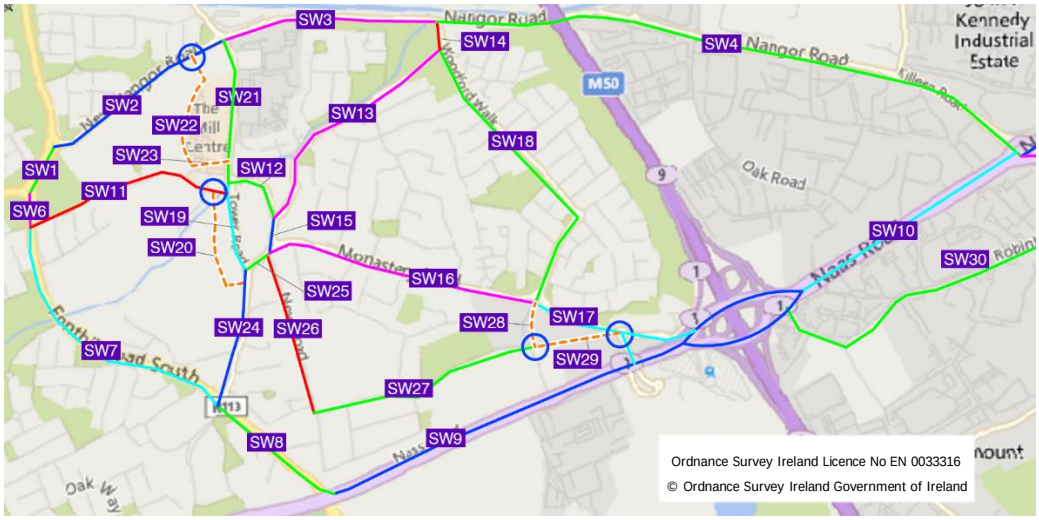

Figure 5.1: Route Options within Section 2 of Study Area

Table 5.1: Route Option Sifting (Stage 1) Summary – Section 2

Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 1	Fonthill Road (between New Nangor Rd/Fonthill Rd South junction & the R113/ New Nangor Rd junction)	• Residential • Suburban • Proposed Secondary Cycle route (GDA CNP No. 8C2)	Full bus priority can be provided along this section with the upgrading of the New Nangor Rd/Fonthill Rd South and R113/New Nangor Rd roundabouts to traffic signals. This section will therefore be carried forward to the Stage 2 Assessment.	Pass
SW 2	New Nangor Rd (between R113 Fonthill Rd North & Ninth Lock Rd)	• Residential • Proposed Future Retail – Aldi Store • Proposed Secondary Cycle route (GDA CNP No. 8C2)	Full bus priority achievable with carriageway widening and reconfiguration of the New Nangor Rd/Ninth Lock Rd junction, as such this section will be carried forward to the Stage 2 Assessment.	Pass

Table 5.1: Route Option Sifting (Stage 1) Summary – Section 2				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 3	New Nangor Rd (between Ninth Lock Rd & Woodford Walk)	• Residential • Suburban • Industrial • Retail – Lidl & KFC • Proposed Secondary Cycle route (GDA CNP No. 8C2)	Full bus priority achievable with reconfiguration of the general traffic lanes and reconfiguration of the Woodford Walk junction, as such this section will be carried forward to the Stage 2 Assessment.	Pass
SW 4	New Nangor Rd (between Woodford Walk & Naas Rd)	• Residential • Suburban • Industrial • Western Industrial Estate • Park West Industrial Estate • John F Kennedy Industrial Estate • Proposed Secondary Cycle route (GDA CNP No. 8C2)	Due to the width constraints at the M50 flyover (approx. 16m wide including footway), bus priority would not be possible without diverting pedestrians away from this section. Continuous bus priority could be achieved along the remainder of the route by reducing the width of the general traffic lanes and by reconfiguring the junctions along the route. Section therefore carried forward to the Stage 2 Assessment.	Pass
SW 6	Fonthill Road South (between Old Nangor Rd & New Nangor Rd)	• Residential • Proposed Secondary Cycle route (GDA CNP No. SO5a)	Bus priority is achievable by carriageway widening and upgrading both the Fonthill Rd South/Old Nangor Rd and the Fonthill Rd South/Nangor Rd junctions to traffic signal controlled. This option will be carried forward to the Stage 2 Assessment.	Pass
SW 7	Fonthill Road South (between Old Nangor Rd & Boot Rd)	• Residential • Leisure area (Corkagh Demesne) • Proposed Secondary Cycle route (GDA CNP No. SO5a)	A pinch point exists over the Camac River crossing where there is only sufficient width (14.8m including footway) to accommodate a single bus lane in addition to general traffic lanes. It may be feasible to accommodate an additional bus lane by providing a parallel pedestrian/cycle bridge to enable the existing carriageway to be widened. Full bus priority achievable along the remainder of the route with reconfiguring of the general traffic lanes and carriageway widening. The Fonthill Rd South/Boot Rd/Convent Rd signal controlled junction will also require upgrading to ensure bus priority. Bus priority could be achieved as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 8	Fonthill Road South (between Boot Rd & N7)	• Urban • Newlands Retail Centre • Hotel • Petrol Filling Station • Proposed Primary Cycle route (GDA CNP No. SO5)	The provision of bus priority would require land take both the adjacent Maldron Hotel and the Newlands Retail Centre parking areas, or alternatively the reallocation of traffic lanes from general traffic to buses. At the Newlands Cross junction, a wide verge on the eastern side of the carriageway may accommodate the provision of bus priority facilities, however on the western side of the carriageway the building line of the Autocentre premises is within 1.5m to the back of the footway. Bus priority may be achievable with carriageway widening and the reconfiguration of the Fonthill Rd South/Naas Rd junction and the Fonthill Rd South/Cladbeck Way junction, route therefore carried forward to the Stage 2 Assessment.	Pass
SW 9	N7 Naas Road (between Fonthill Rd South & M50 Interchange)	• Residential • Commercial • Red Cow Luas Park & Ride • Proposed Feeder cycle route (GDA CNP)	The N7 has recently upgraded with resulting improved traffic conditions along this section however due to the increasing traffic levels the journey times are not always reliable. The route represents a feasible CBC link as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 10	Nass Rd (between M50 Interchange & Long Mile Rd junction)	• Industrial • Western Industrial Estate • Red Cow Business Park • Proposed Secondary Cycle route (GDA CNP No. 7D)	Bus priority is achievable along the majority of the route as such this option will be carried forward to the Stage 2 Assessment.	Pass

Table 5.1: Route Option Sifting (Stage 1) Summary – Section 2				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 11	Old Nangor Rd (between Fonthill Rd South & Ninth Lock Rd)	• Residential • Coláiste Chilliain School • Leisure area (Corkagh Demesne) • Clondalkin Leisure Centre • Pitch & Putt • Snooker Club • Retail – Mill Centre	Bus priority in both directions may be achievable with carriageway widening, upgrading of the Fonthill Rd South/Old Nangor Rd junction to traffic signals and implementing additional traffic management measures within Clondalkin Village. This option will be carried forward to the Stage 2 Assessment.	Pass
SW 12	Orchard Road	• Residential • Clondalkin Village Centre, retail commercial • Proposed Feeder cycle route (GDA CNP)	The provision of bus facilities may be achievable in conjunction with the implementation of traffic management measures within the Village centre. This option will therefore be carried forward to the Stage 2 Assessment.	Pass
SW 13	Watery Lane	• Residential • Suburban • Clondalkin Village Centre, retail commercial • Proposed Secondary Cycle route (GDA CNP No. 7C)	A narrow point exists between the Irish Cultural Centre building and the Valhalla apartments whereby there is only approx. 15m between external buildings at these aforementioned sites. To the north east of the Orchard Road junction it may be feasible to provide bus priority into the adjacent open space zoned lands immediately to the northwest of Watery Lane, however there is a watercourse running parallel to the road carriageway which may prove problematic. Two-way bus priority may be achievable with carriageway widening and the provision of a parallel bus link. As such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 14	Woodford Walk (between Watery Lane & New Nangor Rd)	• Residential • Suburban • Proposed Secondary Cycle route (GDA CNP No. 7c)	The provision of bus priority may be possible within the existing highway boundary due to the availability of the verges and by removal of the solid central median; as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 15	Orchard Lane	• Residential • School • Clondalkin Village Centre, retail commercial • Proposed Feeder cycle route (GDA CNP)	Bus priority may not be achievable due to the proximity of the adjacent properties (a pinch point of 10.5m exists between the building lines of properties on opposite sides of the carriageway. However, the link could be considered as part of a wider traffic management plan for Clondalkin Village to enable the provision of bus facilities on alternative routes. This option will therefore be carried forward to the Stage 2 Assessment.	Pass
SW 16	Monastery Rd (between Main St & Woodford Hill)	• Residential • Clondalkin Village Centre, retail commercial • Proposed Secondary Cycle route (GDA CNP No. 7E)	The provision of bus facilities may be achievable with carriageway widening and the upgrading of the Monastery Rd/Woodford Hill roundabout junction to traffic signal controlled. This option will therefore be carried forward to the Stage 2 Assessment.	Pass
SW 17	Monastery Rd (between Woodford Hill & the L1019 junction	• Residential • Proposed Secondary Cycle route (GDA CNP No. 7E)	The provision of bus facilities may be achievable with carriageway widening and implementing traffic management measures along the route. This option will therefore be carried forward to the Stage 2 Assessment.	Pass
SW 18	Woodford Hill - Woodford Walk (between Watery Lane & Woodford Hill)	• Residential • Suburban • Clondalkin Village Centre, retail commercial • Proposed Feeder cycle route (GDA CNP)	This route diverts away (to the north) from the general east-west (Clondalkin to City Centre) direction of the proposed CBC and would therefore result in proposed CBC services undertaking a staggered/loop type journey leading to increased journey times for buses. Route therefore not carried forward to the Stage 2 Assessment.	Fail
SW 19	Tower Rd (between Convent Rd & Orchard Rd)	• Residential • School – St Joseph's NS • Clondalkin Village Centre, retail commercial • Proposed Primary Cycle route (GDA CNP No. SO5)	Due to the proximity of the adjacent properties to the roadside boundary (as little as 12.8m between building lines of opposing properties), the provision of bus facilities would not be achievable. However, the link could be considered as a bus only link by restricting vehicular traffic, as such the link will be carried forward for the Stage 2 Assessment	Pass

Table 5.1: Route Option Sifting (Stage 1) Summary – Section 2				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 20	New Road Link (from Convent Rd to Old Nangor Rd)	• Moyle Park College • Clondalkin Village Centre	The provision of this link could provide an alternative north-south link through Clondalkin in conjunction with the implementation of additional traffic management measures in Clondalkin or for the provision of cycle facilities. Full bus priority may be achievable as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 21	Ninth Lock Road (between New Nangor Rd & Tower Rd)	• Residential • Clondalkin Village Centre, retail commercial • Proposed Primary Cycle route (GDA CNP No. S05)	There is a width constraint between the Mill Centre and the Department of Social Protection building where there is only approximately 14.6m available between the two buildings. To the south of the Department of Social Protection building there is a large plaza area which could be utilised to enable buses to bypass the traffic queuing at the Tower Rd junction onto Orchard Lane. It would not be possible to accommodate both bus and cyclists along this link, however cyclists could be accommodated on a new road link to the west to be delivered under Planning Ref. SD14A/0221 & SD13A/0100 (retail development) Bus priority may be achievable along this section in conjunction with the provision of the road link SW 22 through the Mill Centre lands. As such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 22	New Road Link (from Mill Centre Car Park to a proposed road to be delivered under Planning Ref. SD14A/0221 & SD13A/0100)	• Urban • Clondalkin Village Centre, commercial retail	The provision of this road link could enable the delivery of a number of traffic management measures in Clondalkin Village Centre to ensure two-way bus priority through the village. This option will be carried forward to the Stage 2 Assessment.	Pass
SW 23	Mill Centre Car Park Road	• Urban • Clondalkin Village Centre, commercial retail	The upgrading and publicly adopting of this road link could enable the delivery of a number of traffic management measures in Clondalkin Village Centre to ensure two-way bus priority through the village. This option will be carried forward to the Stage 2 Assessment.	Pass
SW 24	Convent Road	• Residential • St Joseph's Boys NS • Scoil Mhuire • Moyle Park College • Immaculate Conception Church • Clondalkin Village Centre, retail commercial • Proposed Primary Cycle route (GDA CNP No. SO5a)	Due to the proximity of the building lines to the carriageway it would not be possible to implement sufficient road widening to provide bus priority along the entire route. Furthermore between the Fonthill Rd junction and no.1 Convent Rd, due to an approved planning permission (Ref. SD11A/0132, granted permission Dec 2012) for a new Primary Care Centre of which the building line will abut the back of the footway will prohibit carriageway widening in this location. Due to the aforementioned constraints, this section will not be carried forward for Stage 2 Assessment. The link could be considered for the provision of additional traffic management measures to support bus priority within Clondalkin Village Centre or for the provision of cycle facilities.	Fail
SW 25	Main Street	• Urban • Clondalkin Village Centre, retail commercial • Proposed Secondary Cycle route (GDA CNP No. 7E)	Due to the proximity of the adjacent property building lines to the roadside boundary (as little as 10m between building lines of opposing properties) bus facilities would not be achievable. However, the link could be considered as a bus only link by restricting vehicular traffic, as such the link will be carried forward for the Stage 2 Assessment.	Pass

Table 5.1: Route Option Sifting (Stage 1) Summary – Section 2				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 26	New Road / Laurel Park	• Residential • Suburban • Clondalkin Village Centre, retail commercial • School – Coláiste Bride • School – Presentation Convent • Proposed Secondary Cycle route (GDA CNP No. 7D)	Due to the proximity of the adjacent properties to the road side boundary, carriageway widening of sufficient width to provide bus priority in both directions would not be possible as such the link will not be carried forward for the MCA. The link could be considered for the provision of additional traffic management measures to support bus priority within Clondalkin Town Centre or for the provision of cycle facilities.	Fail
SW 27	Knockmeenagh Rd - Knockmeenagh Lane	• Residential • Suburban • Round Tower GAA Club • Commercial • Proposed Secondary Cycle route (GDA CNP No. 7D)	Due to the proximity of the adjacent building lines to the roadside boundary, carriageway widening to accommodate two-way bus facilities is not achievable along Knockmeenagh Rd. Bus priority (two-way) may be achievable along Knockmeenagh Lane by widening into the commercial premises and enterprise/employment zoned land to the south. An existing residential (9 houses) planning permission (Ref. SD15A/0207, granted Oct 2015) and a large mixed use planning permission (Ref. SD10A/0064, granted Nov 2012, 10 year) would prohibit widening to the north. Due to the aforementioned constraints, this section will not be carried forward for Stage 2 Assessment. The link could be considered for the provision of additional traffic management measures to support bus priority within Clondalkin Town Centre or for the provision of cycle facilities.	Fail
SW 28	New Road Link (from Knockmeenagh Lane to Monastery Road connecting to the Monastery Rd/Woodford Hill junction)	• Residential • Suburban • Proposed Secondary Cycle route (GDA CNP No. 7D)	This potential road link has been identified as part of an existing large mixed use planning permission (Ref. SD10A/0064, granted Nov 2012, 10 year). Nonetheless SW 27 connecting to this link has failed the stage 1 sift, therefore this section will not be carried forward for Stage 2 Assessment.	Fail
SW 29	New Road Link (from Knockmeenagh Lane to Monastery Road)	• Residential • Suburban	An existing large mixed use planning permission (Ref. SD10A/0064, granted Nov 2012, 10 year) would prohibit the provision of this proposed road link. Nonetheless SW 27 connecting to this link has failed the stage 1 sift therefore this section will not be carried forward for Stage 2 Assessment.	Fail
SW 30	Robinhood Road – Turnpike Road	• Red Cow Moran Hotel • Merrywell Business Park	Although bus priority westbound may be possible along this route, there is no feasible connection available to enable eastbound buses to access the route. This route does not meet the requirements of bus priority in both directions, and as such this route will not be carried forward to the Stage 2 Assessment.	Fail

5.2.2 Of these 29 number potential links considered within Section 2 of the study area, 22 number progressed to the next assessment stage (SW 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23 & 25). These 22 route options are presented in Figure 5.2 below.

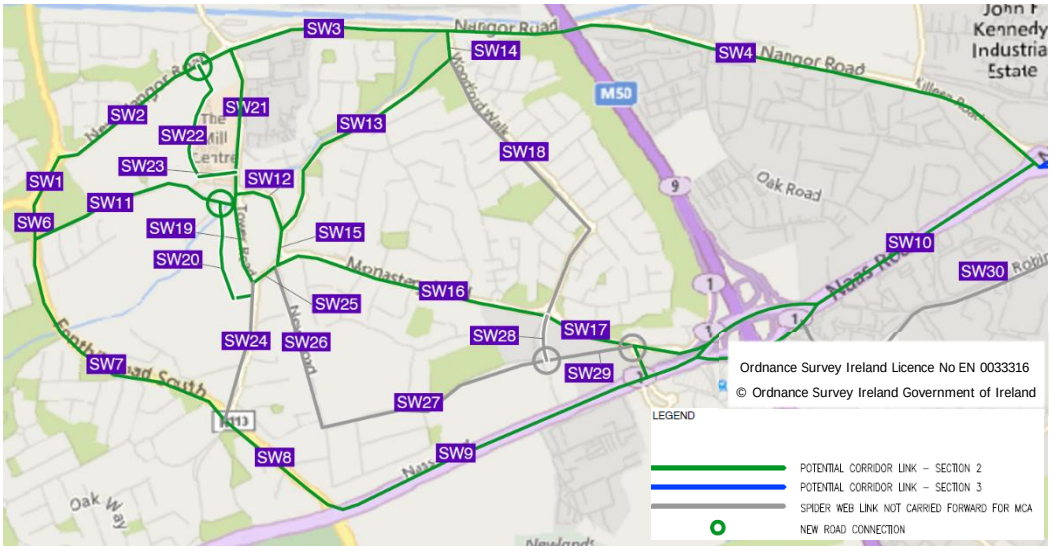

Figure 5.2: Route Options passing Stage 1 'Sift' in Section 2

5.3 Section 2: Stage 2 - Option Assessment

Introduction

5.3.1 Following the 'Stage 1' sift for the Section 2 study area, the remaining 22 number route options were combined to form 4 number cohesive routes (S2-1, S2-2, S2-3 & S2-4) between the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Naas Rd/Long Mile Rd junction. Two of these routes, S2-1 & S2-4 utilise parts of S2-2 and S2-3, respectively. The routes which are illustrated in Figure 5.3 below include: -

- Option S2-1 via Old Nangor Rd, Main St, Monastery Rd and Naas Rd (part of Option S2-2);
- Option S2-2 via Fonthill Rd South and Naas Rd;
- Option S2-3 via New Nangor Rd; and
- Option S2-3 via Ninth Lock Rd, Orchard Rd, Watery Lane and New Nangor Rd (part of Option S2-3).

Figure 5.3: Section 2 Cohesive Route Options

Route Option S2-1: Fonthill Rd South - Old Nangor Rd - Main St - Monastery Rd-Naas Rd

Figure 5.4: Route Option S2-1

5.3.2 Inbound: The CBC service will proceed south from the New Nangor Rd/Fonthill Rd South junction to the Old Nangor Rd and continue east. From the Old Nangor Rd the service will proceed south onto Main St before continuing eastbound along Monastery Rd, after which the CBC service will join the N7 Naas Rd eastbound.

5.3.3 Outbound: The outbound service follows the same route as the inbound.

5.3.4 Stops: There will be additions to and rationalisation of the existing bus stop provision along this section.

5.3.5 The journey time for this route option from the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Naas Rd/Long Mile Rd junction is approximately 12 minutes over a distance of approximately 4.22KM.

5.3.6 The following paragraphs describe the interventions required for the provision of the proposed CBC Route Option S2-1 and make reference to Figure 5.5, 5.6 & 5.7 below.

5.3.7 The provision of bus priority in both directions between the New Nangor Rd and the Old Nangor Rd requires the upgrading of the following three junctions to traffic signal controlled (Figure 5.7). Due to the proximity of these junctions in relation to each other, the traffic signals at these junctions should be linked. The upgrading of these junctions could generally be achieved within the existing road reservation however at the Old Nangor Rd/Fonthill Rd South priority junction land take would be

required from the adjacent residential zoned lands (currently utilised as green space bordering the Coláiste Chillian School sports field):

- New Nangor Rd/Fonthill Rd South roundabout junction;
- New Nangor Rd/R113 Fonthill Rd North roundabout junction; and
- Old Nangor Rd/Fonthill Rd South priority junction.

5.3.8 Cycle lanes will also be provided along this route between the New Nangor Rd and the Old Nangor Rd aligning with Secondary route SO5a as identified in the CNP.

5.3.9 It is proposed to provide continuous bus priority in both directions along the Old Nangor Rd. Cycle lanes will also be accommodated aligning with proposals for a Feeder route as identified within the CNP. It should be noted there will be a gap in the cycle provision (approx. 75m) where cycle facilities cannot be accommodated due to an existing planning permission (Ref. SD15A/0304) on the Coláiste Chillian School lands for the provision of 4 no. additional classrooms. Carriageway widening to accommodate cycle facilities would encroach on the footprint of the proposed classrooms. The following interventions would be required to accommodate bus lanes on the Old Nangor Rd: -

- Carriageway widening into the adjacent residential zoned lands to the north (currently utilised as green space bordering the Coláiste Chillian School sports field);
- Carriageway widening into the Coláiste Chillian School lands whilst respecting the footprint of the existing planning permission (Ref. SD15A/0304) for the provision of 4 no. additional classrooms. The existing parking area outside the school would also be removed however an alternative parking area could be accommodated to the west within the residential zoned lands (currently utilised as green space bordering the Coláiste Chillian School sports field;
- Carriageway widening into the open space zoned lands to the south, which may also require a bridge structure over the River Camac which passes under the existing carriageway in this location (subject to further investigation);
- Carriageway widening into commercial lands to the south (currently occupied by green space and parking area). The slight loss of car parking would not impact the existing commercial premises as it currently benefits from a large car park with low occupancy; and

- Carriageway widening along the frontage of a house listed as a Protected Structure (Ref. 136 Semi-Detached Five Bay Two Storey House). This house currently appears to be unoccupied, with an unkempt driveway/front garden. The boundary wall of this property appears to be not from the same era as the house therefore we do not envisage the wall to be part of the protected structure (subject to further investigation).

5.3.10 The provision of a bus route (two way) from the Old Nangor Rd to Main Street which would require a number of supplementary interventions within Clondalkin Village Centre. The following paragraphs describe these interventions and make reference to Figure 5.5 & 5.6 below.

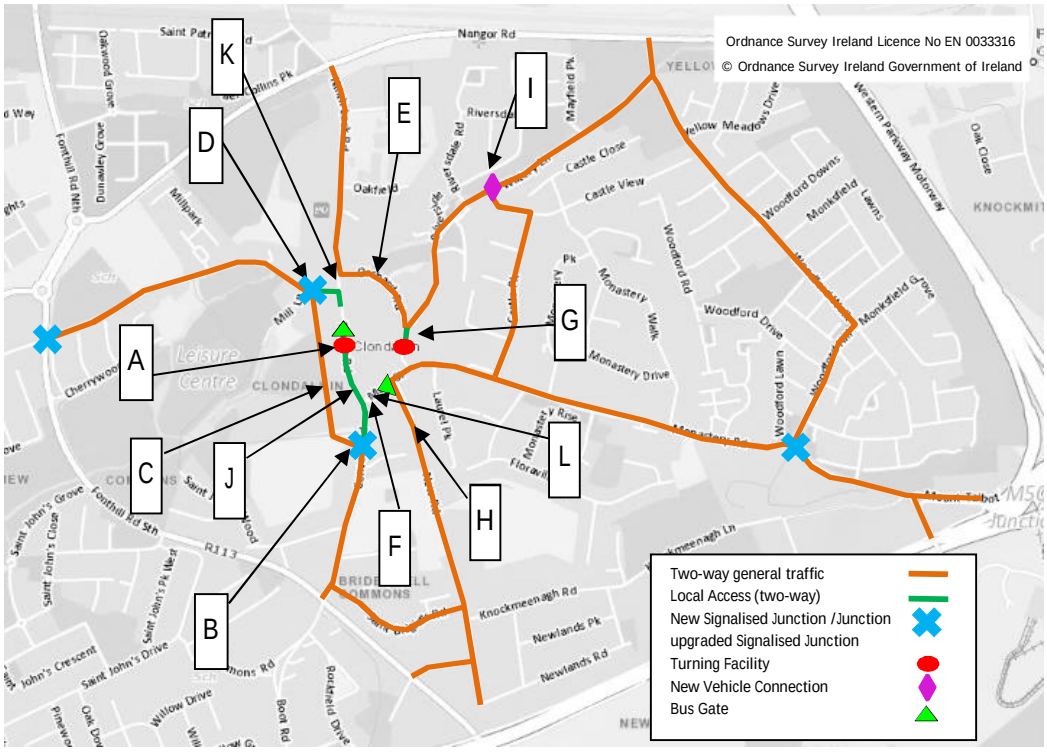

Figure 5.5: Route Option S2-1 – Clondalkin Village Proposed General Traffic Strategy (Principal Local Road Access Network)

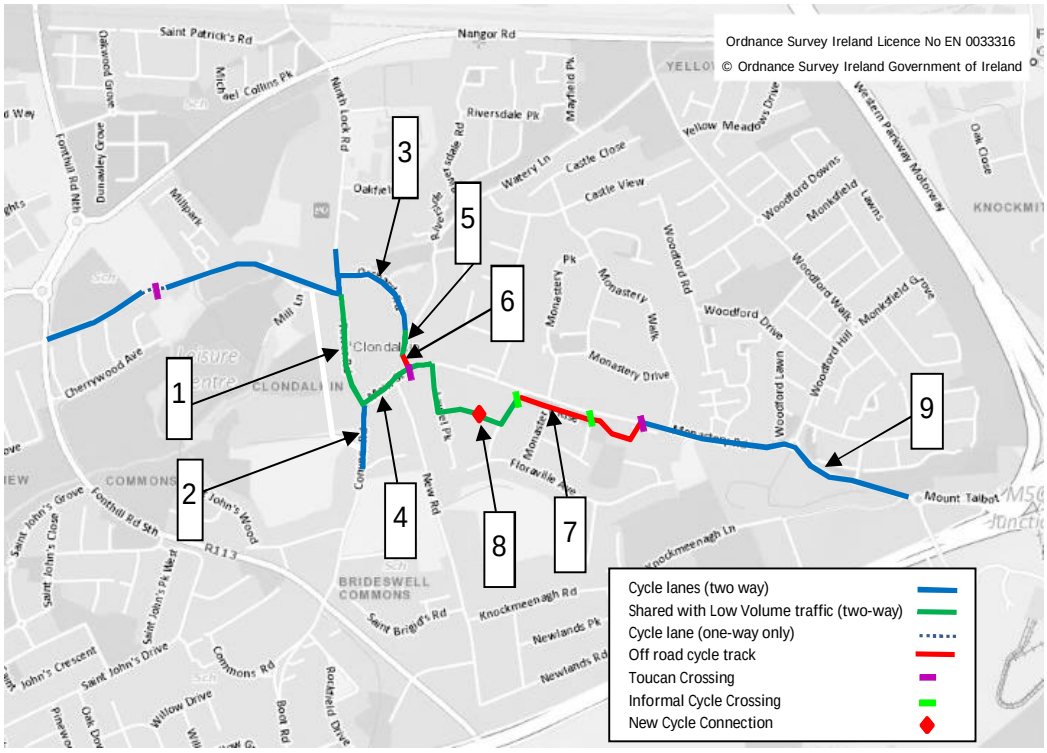

Figure 5.6: Route Option S2-1 – Clondalkin Village Proposed Cycle Strategy (To be delivered as part of CBC Proposals)

- Tower Rd - Northbound general traffic would no longer be permitted to travel between Tower Rd and Ninth Lock Rd (Ref A Figure 5.5). Local access would be permitted for general traffic however upon exiting the premises along Tower Rd all general traffic must proceed south onto Convent Rd. A turning area would be provided to the south of the Round Tower with the provision of a bus gate to ensure general traffic cannot proceed north. In the vicinity of the Round Tower, only a single bus lane can be accommodated however the aforementioned turning area would perform a dual function and also accommodate a passing place to enable northbound buses to wait should there be a southbound bus approaching. The northern vehicle access to the car park (serving the commercial units) on the western side of Tower Rd would be closed with all vehicles entering/exiting the carpark being required to utilise the southern access on Convent Rd (Ref. J Figure 5.5). Carriageway widening into the adjacent properties on the western side of the carriageway would be required. The existing gated vehicle access to the Garda car park on Tower Rd would be closed with vehicles accessing the car park utilising the existing gated access on Orchard Rd (Ref. K Figure 5.5). The aforementioned interventions would result in significantly reduced traffic flow along Tower Rd. Accordingly cyclists would share the carriageway with buses and the local access traffic over this short

section(Ref 1 Figure 5.6). The CNP has identified the provision of Primary cycle route SO5 along Tower Rd.

- Convent Rd – the existing Tesco Car Park exit would be relocated to the south with the creation of a new 4-arm signal controlled junction with Convent Rd (Ref B Figure 5.5). The 4th arm of this new junction would connect to a new Road link (between the Moyle Park Gate House and no.1 Convent Rd). Cycle lanes would be provided along the section of Convent Rd affected by the proposals aligning with Primary cycle route SO5 identified within the CNP (Ref 2 Figure 5.6).
- Moyle Park (Ref B, C & D Figure 5.5) – the existing access to Moyle Park College would be closed to vehicular traffic with the creation of the new 4-arm signal controlled junction to the south on Convent Rd. A new road link (for general traffic) would be provided from the aforementioned new junction and would run in a north-south direction through the Moyle Park lands and subsequently connect with the Old Nangor Rd (at a new signal controlled junction) via the lands adjacent to the Snooker Club premises. Vehicular access to Moyle Park College would be provided via this new Road.
- Orchard Rd (Ref E Figure 5.5) – this link would now permit two-way vehicle traffic with the removal of the existing bus lane. Cycle lanes, in both directions would also be provided aligning with the CNP proposals for a Feeder cycle route (Ref 3 Figure 5.6). The Orchard Rd/Ninth Lock Rd traffic signal junction would be reconfigured.
- Main Street (Ref F Figure 5.5) - General traffic would no longer be permitted to travel along Main Street beyond the New Road junction where a bus gate will be provided. Local access will be permitted (for loading) at specified times. The existing car park access on the northern side of Main St would be closed, with a new access provided from Orchard Lane, shared with the adjacent car park plot (Ref. L Figure 5.5). The aforementioned interventions would result in significantly reduced traffic flow along Main St as such cyclists would share the carriageway with buses. The CNP has identified the provision of Secondary route 7E (Ref 4 Figure 5.6) along Main St.
- Orchard Lane (Ref G Figure 5.5) – this link would only permit local access vehicle traffic with the closure of the vehicle connection onto Main Street/Monastery Rd.

A turning facility would be provided in the vicinity of the new/upgraded car park access. The aforementioned interventions would result in significantly reduced traffic flow along Orchard Lane as such cyclists would share the carriageway with local access traffic (Ref 5 Figure 5.6). Cyclists would be permitted to travel (two-way) between Orchard Lane and Main St/Monastery Rd aligning with the CNP proposals for the provision of a Feeder cycle route (Ref 6 Figure 5.6).

- New Rd (Ref H Figure 5.5) – Vehicles exiting New Rd will no longer be permitted to turn left along Main St.

5.3.11 To the east of Clondalkin Village Centre, with the exception of a section of approximately 190m where eastbound buses only can be accommodated, bus lanes will be provided in both directions along Monastery Rd. This is achieved by widening the carriageway into the adjacent commercial and residential properties along the route. There is also an existing disused petrol filling station which would require demolition to facilitate two-way buses. The Monastery Rd/Woodford Hill roundabout junction would be upgraded to traffic signal control however this has also been identified under an approved 10-year planning permission (Ref. SD10A/0064) for a mixed-use development on the SIAC lands. Between Monastery Heights and Laurel Park cycle facilities cannot be accommodated however an alternative cycle route can be provided through the disused petrol filling station lands connecting to Floraville Avenue and Laurel Park (Ref 7 Figure 5.6). To facilitate this cycle link between Floraville Avenue and Laurel Park a bridge structure over an existing water course may be required, subject to further investigation (Ref 8 Figure 5.6).

5.3.12 Bus lanes and cycle lanes (in both directions) will be provided between the upgraded Monastery Rd/Woodford junction and the Monastery Rd/Naas Rd junction. These bus and cycle lanes can be achieved by widening the carriageway in the green space/verge area on the northern side of the carriageway. A queue relocation facility will be required in advance of the Monastery Rd/Naas Rd junction to enable eastbound buses to bypass any vehicle queues at the junction. The provision of cycle facilities along Monastery Rd aligns with the CNP proposals for the provision of Secondary route 7E (Ref 9 Figure 5.6).

5.3.13 Between the Monastery Rd/Naas Rd junction and the M50 interchange on the Naas Rd no changes are proposed.

5.3.14 Between the M50 interchange and the Long Mile Rd junction the existing eastbound bus lane would be extended to the west to begin at the access to the Bluebell United Football Club. This is facilitated by widening the carriageway into the commercial premises lands to the north (currently green space). Westbound there is an existing bus lane along this section. Upgraded segregated cycle facilities would also be accommodated. The Naas Road/Long Mile Road traffic signal control junction would be upgraded to provide bus lanes up to the stop lines at the junction.

5.3.15 The option S2-1 proposals are presented in Figure 5.7 whilst sample cross sections are presented in Figures 5.8-5.14 below.

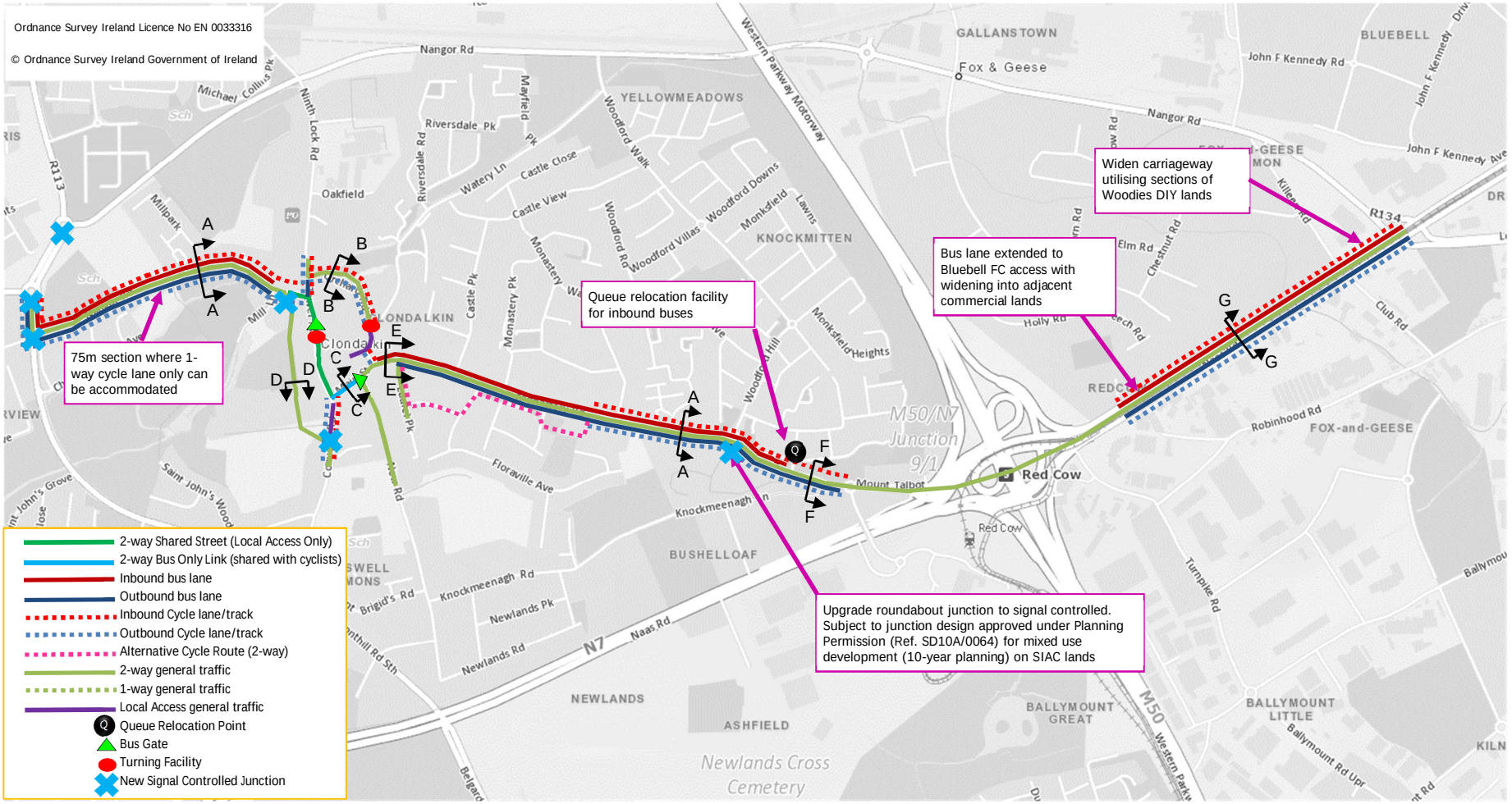

Figure 5.7 Route Option S2-1 Proposal (Section 2)

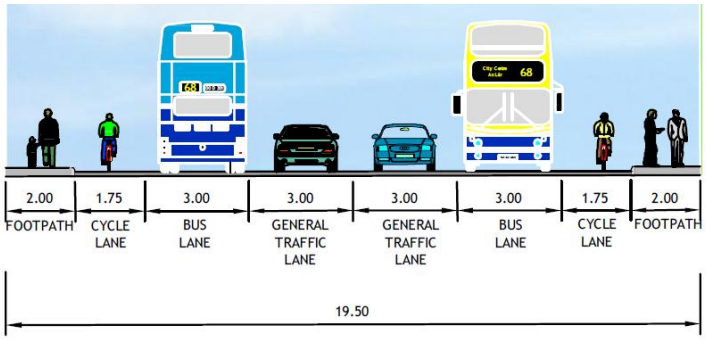

Figure 5.8: S2-1 Cross Section: AA

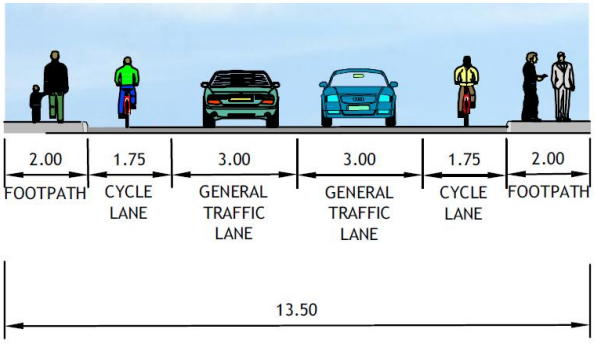

Figure 5.9: S2-1 Cross Section: BB

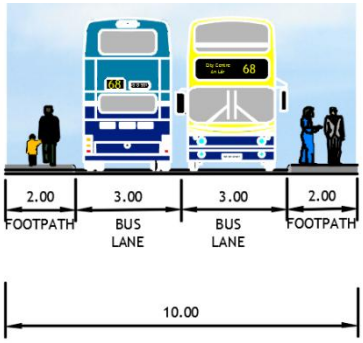

Figure 5.10: S2-1 Cross Section: CC

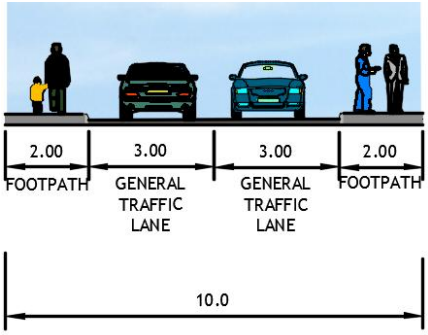

Figure 5.11: S2-1 Cross Section: DD

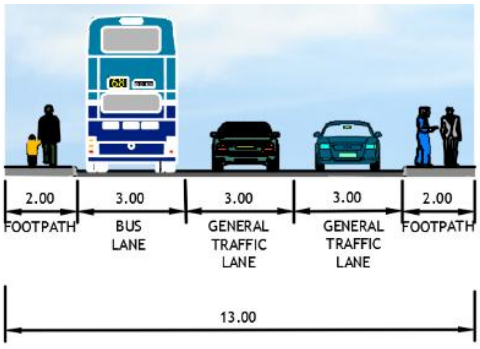

Figure 5.12: S2-1 Cross Section: EE

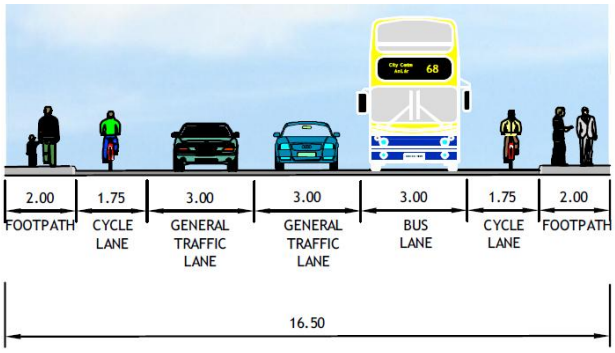

Figure 5.13: S2-1 Cross Section: FF

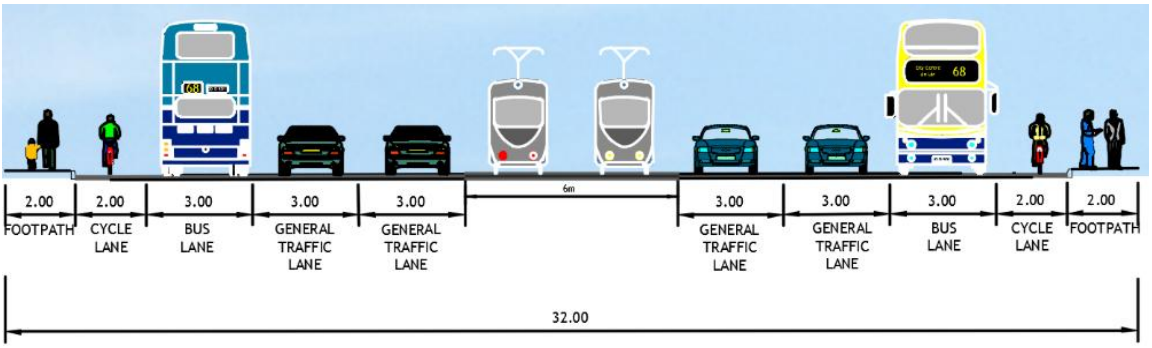

Figure 5.14: S2-1 Cross Section: GG

5.3.16 It is anticipated that this option would cost approximately €25.9 million (€11 million infrastructure costs, €14.9 million land acquisition costs).

Route Option S2-2: Fonthill Rd South -Naas Rd

Figure 5.15: Route Option S2-2

5.3.17 Inbound: The CBC service will proceed south from the New Nangor Rd/Fonthill Rd South junction to the Fonthill Rd South/N7 junction, after which the service will proceed along the N7 Naas Rd eastbound.

5.3.18 Outbound: The outbound service follows the same route as the inbound.

5.3.19 Stops: There will be additions to and rationalisation of the existing bus stop provision along this section.

5.3.20 The journey time for this route option from the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Naas Rd/Long Mile Rd junction is approximately 10 minutes over a distance of approximately 4.48KM. However due to increasing traffic levels along the N7, journey times may not always be reliable.

5.3.21 The provision of bus priority in both directions between the New Nangor Rd and the Old Nangor Rd requires the upgrading of the following two roundabout junctions to traffic signal controlled. Due to the proximity of these junctions in relation to each other, the traffic signals at these junctions should be linked. The upgrading of these junctions could generally be achieved within the existing road reservation:

- New Nangor Rd/Fonthill Rd South roundabout junction; and

- New Nangor Rd/R113 Fonthill Rd North roundabout junction.

5.3.22 Cycle lanes will also be provided along this route between the New Nangor Rd and the Old Nangor Rd aligning with Secondary route SO5a as identified in the CNP.

5.3.23 It is proposed to provide continuous bus priority in both directions along Fonthill Rd South.

5.3.24 The route option comprises Secondary Route SO5a and an element of Primary Route SO5 as identified within the CNP. Cycle lanes will generally be accommodated along the route. However, to the south of the Fonthill Rd South/Cladbeck Way junction cycle lanes cannot be accommodated. As a result cyclists will be diverted along Cladbeck Way and New Rd where they can access a new cycle track through the green area adjacent to the Fonthill Rd South/N7 junction.

5.3.25 There are no changes proposed along the N7 Naas Road as the route has recently undergone upgrading.

5.3.26 Between the Monastery Rd/Naas Rd junction and the M50 interchange on the Naas Rd no changes are proposed.

5.3.27 Between the M50 interchange and the Long Mile Rd junction the existing eastbound bus lane would be extended to the west to begin at the access to the Bluebell United Football Club, facilitated by widening the carriageway into the commercial premises lands to the north (currently green space). Westbound there is an existing bus lane along this section. Upgraded segregated cycle facilities would also be accommodated. The Naas Road/Long Mile Road traffic signal control junction would be upgraded to provide bus lanes up to the stop lines at the junction.

5.3.28 The option S2-2 proposals are presented in Figure 5.16 whilst sample cross sections are presented in Figures 5.17-5.20 below.

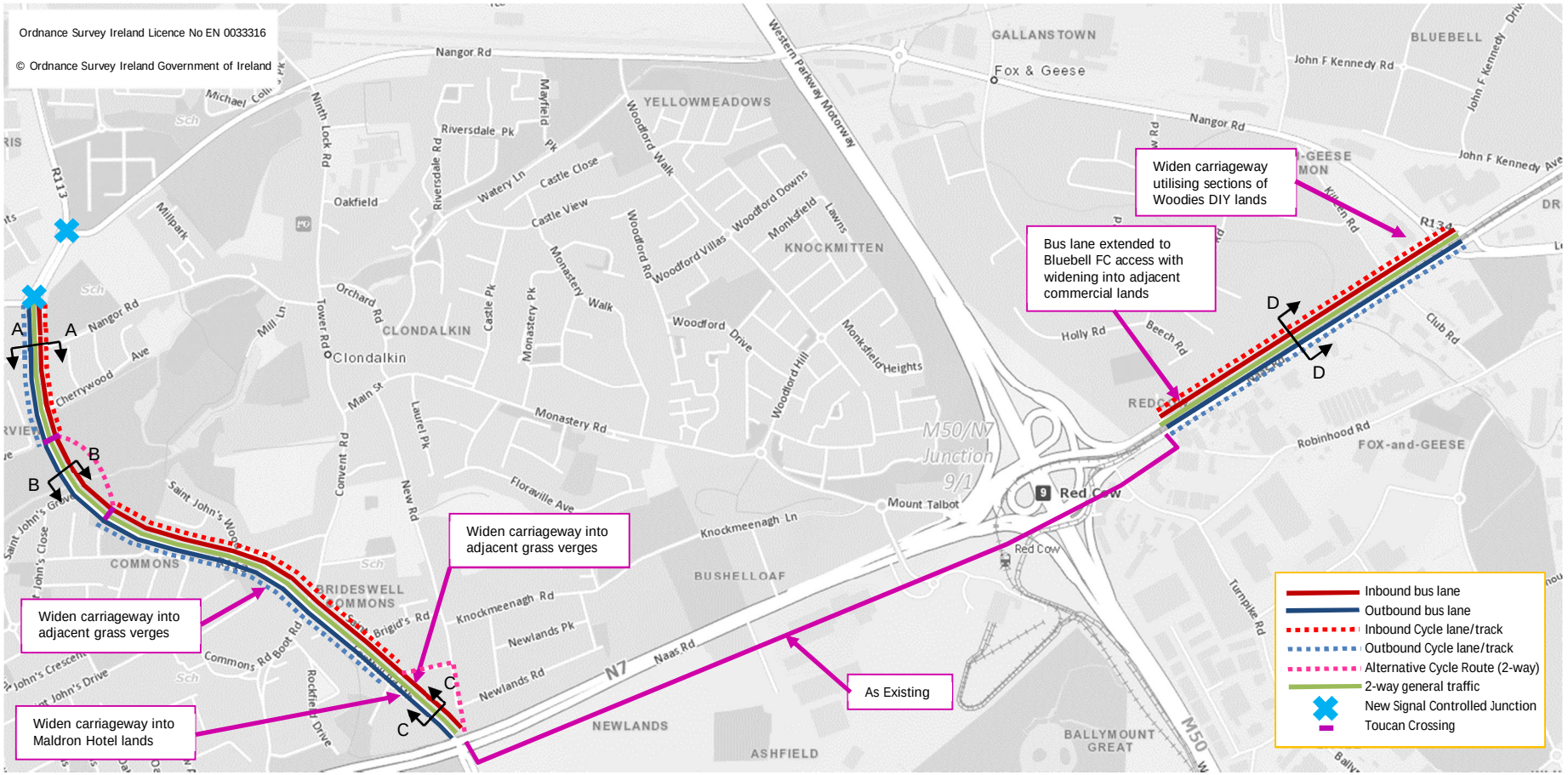

Figure 5.16 Route Option S2-2 Proposal (Section 2)

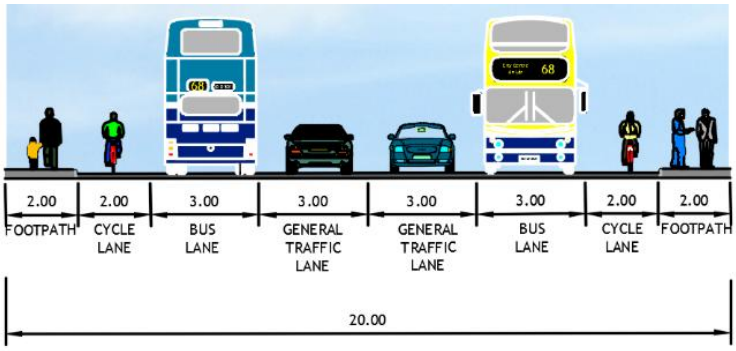

Figure 5.17: S2-2 Cross Section: AA

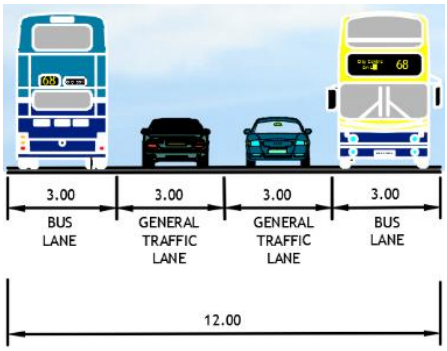

Figure 5.18: S2-2 Cross Section: BB

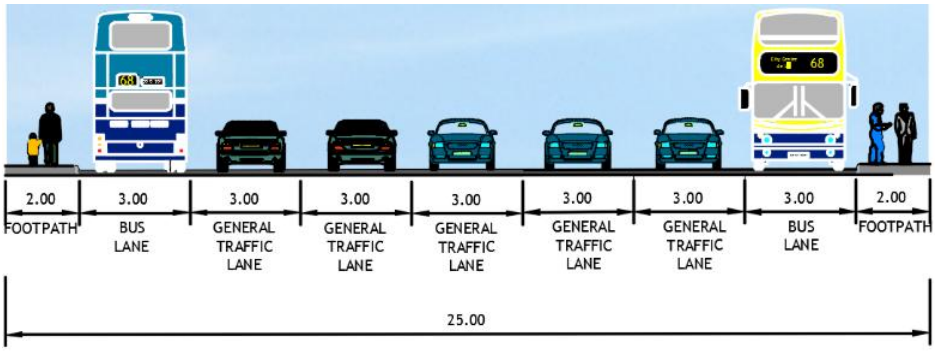

Figure 5.19: S2-2 Cross Section: CC

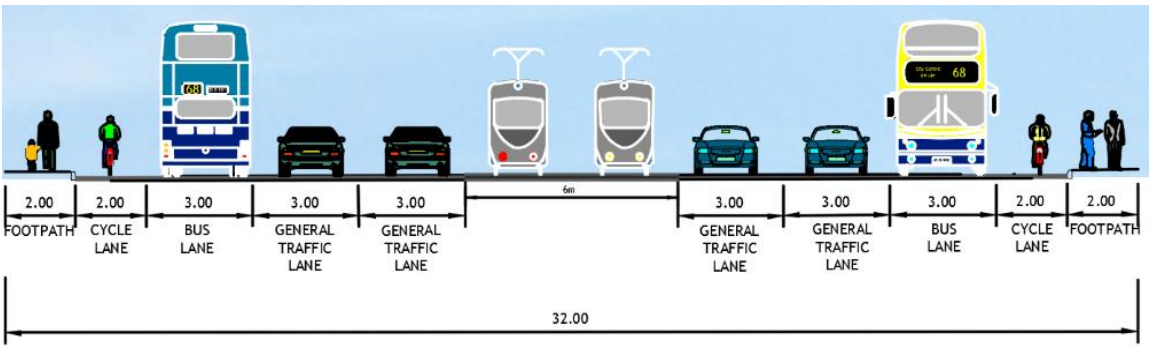

Figure 5.20: S2-2 Cross Section: DD

5.3.29 It is anticipated that this option would cost approximately €11.2 million (€7.6 million infrastructure costs, €3.6 million land acquisition costs).

Route Option S2-3: Fonthill Road South – Nangor Road

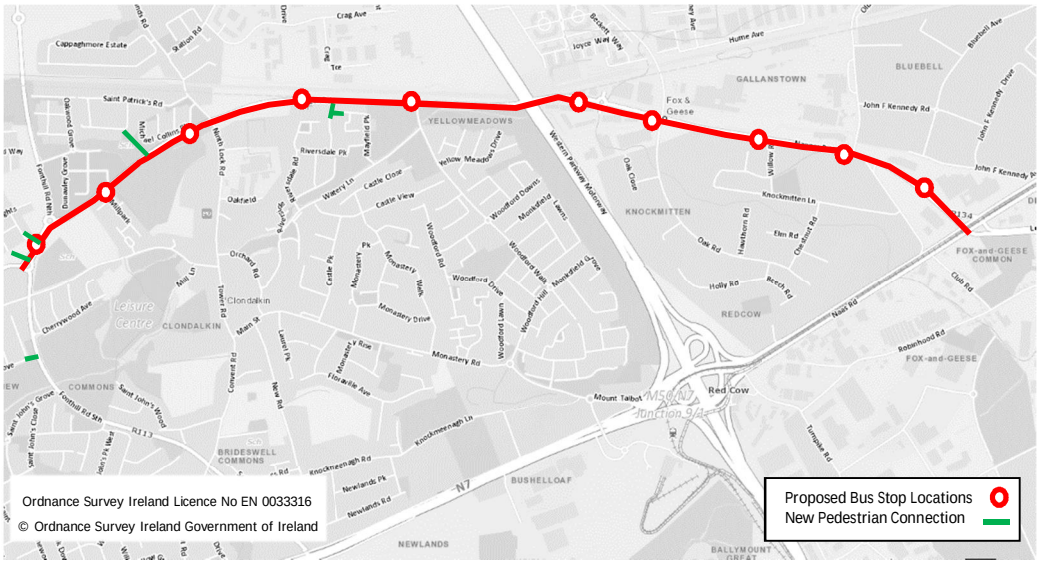

Figure 5.21: Route Option S2-3

5.3.30 Inbound: The CBC service will proceed north from the New Nangor Rd/Fonthill Rd South junction and continue along the New Nangor Rd to the New Nangor Rd/Naas Rd/Long Mile Rd junction.

5.3.31 Outbound: The outbound service follows the same route as the inbound.

5.3.32 Stops: There will be additions to and rationalisation of the existing bus stop provision along this section.

5.3.33 The journey time for this route option from the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Naas Rd/Long Mile Rd junction is approximately 5 minutes over a distance of approximately 3.9KM.

5.3.34 The provision of bus priority in both directions along the section of the New Nangor Rd between the Fonthill Rd South and the R113 Fonthill Rd North requires the upgrading of the following two roundabout junctions to traffic signal controlled. Due to the proximity of these junctions in relation to each other, the traffic signals at these junctions should be linked. The upgrading of these junctions could generally be achieved within the existing road reservation:

- New Nangor Rd/Fonthill Rd South roundabout junction; and
- New Nangor Rd/R113 Fonthill Rd North roundabout junction.

5.3.35 Cycle lanes will also be provided along this section of the New Nangor Rd between the Fonthill Rd South and the R113 Fonthill Rd North aligning with Secondary route 8C2 as identified in the CNP.

5.3.36 It is proposed to provide continuous bus priority in both directions along the New Nangor Rd with the reconfiguration of the signal controlled junctions along the route and the upgrading of the Riverview Business Park roundabout junction to signal controlled.

5.3.37 Due to width constraints at the M50 flyover, it is not possible to provide two-way cycle facilities (or pedestrian footways); nonetheless eastbound cyclists and pedestrians will be directed to join the adjacent Grand Canal Greenway over the short section of the underpass and will then be given the opportunity to re-join the New Nangor Rd.

5.3.38 It is proposed to provide continuous bus priority through the New Nangor Rd/Naas Rd/Long Mile Road junction with the provision of bus lanes through the junction; however these proposals will be subject to further analysis at detailed design stage.

5.3.39 The route option comprises Secondary Route 8C2 as identified within the CNP. Cycle lanes will be accommodated along the route.

5.3.40 The option S2-3 proposals are presented in Figure 5.22 whilst sample cross sections are presented in Figures 5.23 - 5.25 below.

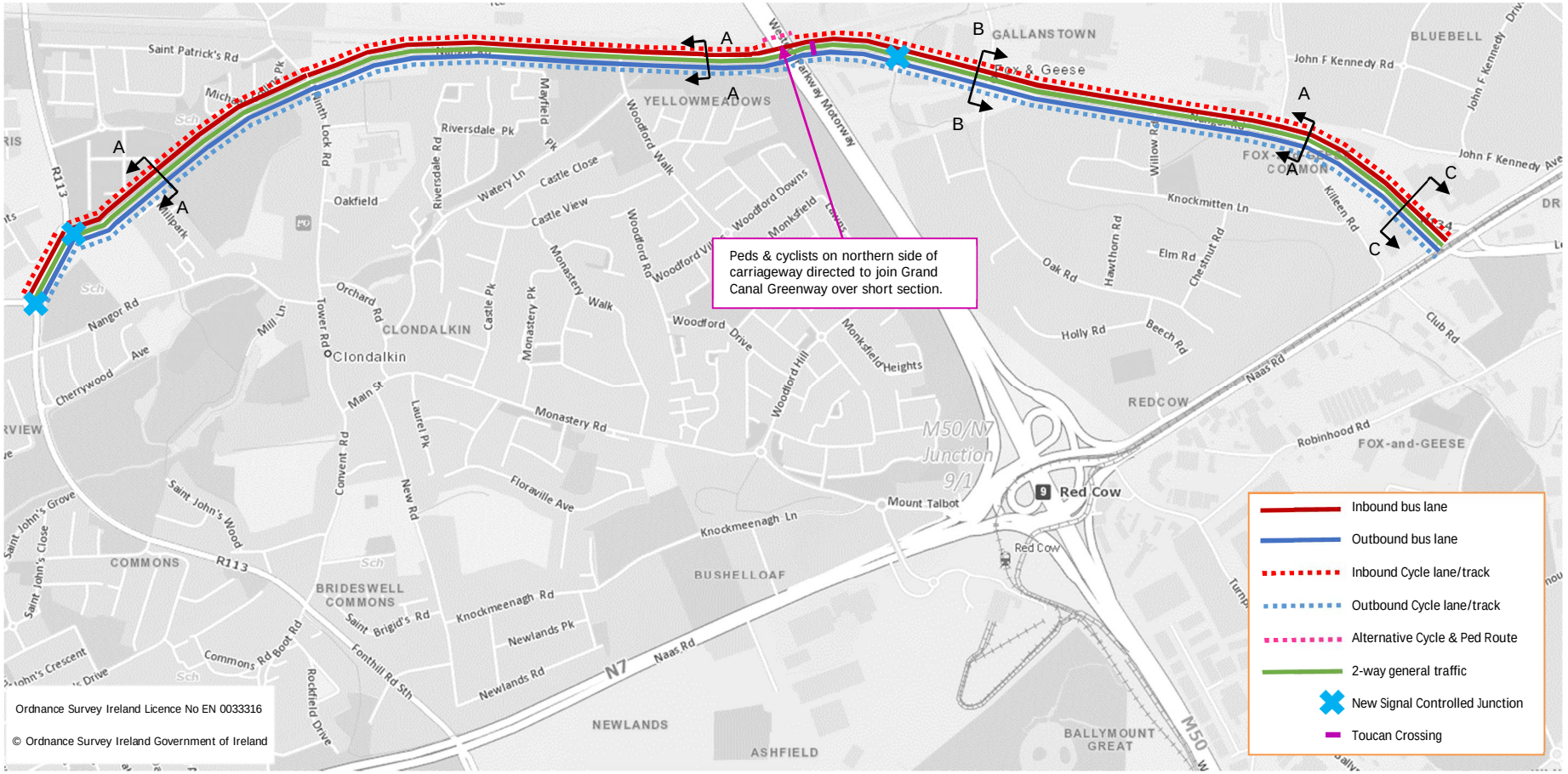

Figure 5.22 Route Option S2-3 Proposal (Section 2)

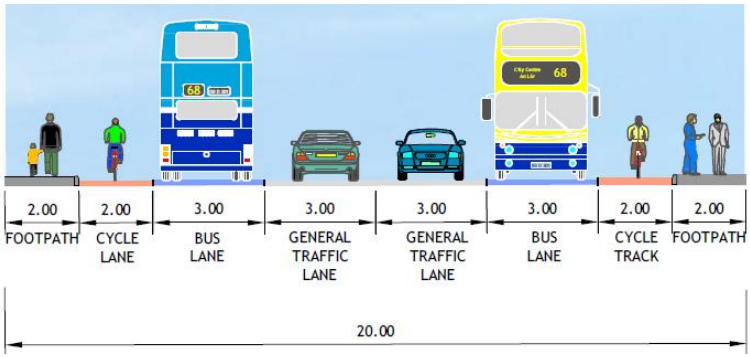

Figure 5.23: S2-3 Cross Section: AA

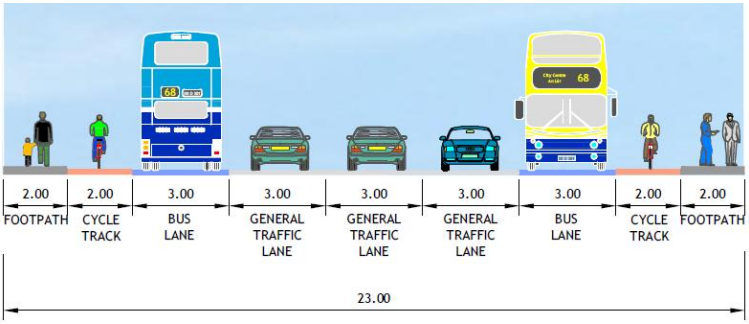

Figure 5.24: S2-3 Cross Section: BB

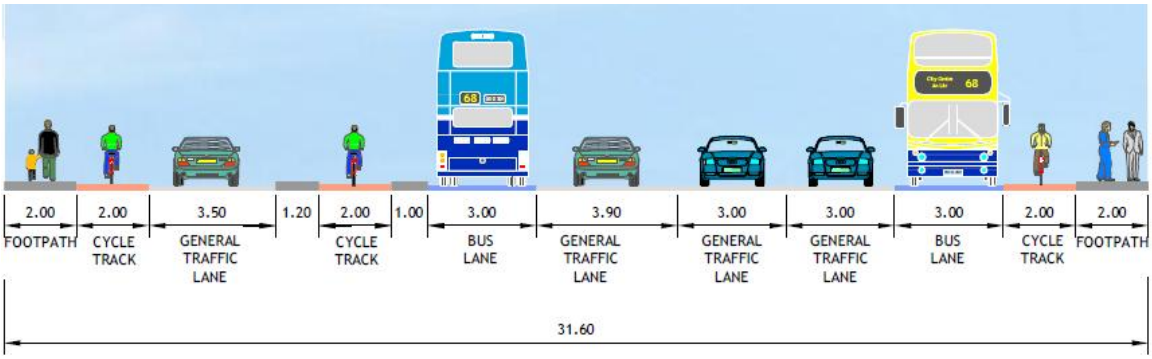

Figure 5.25: S2-3 Cross Section: CC

5.3.41 It is anticipated that this option would cost approximately €13.4 million (€11.2 million infrastructure costs, €2.2 million land acquisition costs).

Route Option S2-4: New Nangor Rd, Ninth Lock Rd, Orchard Rd, Watery Lane, New Nangor Rd

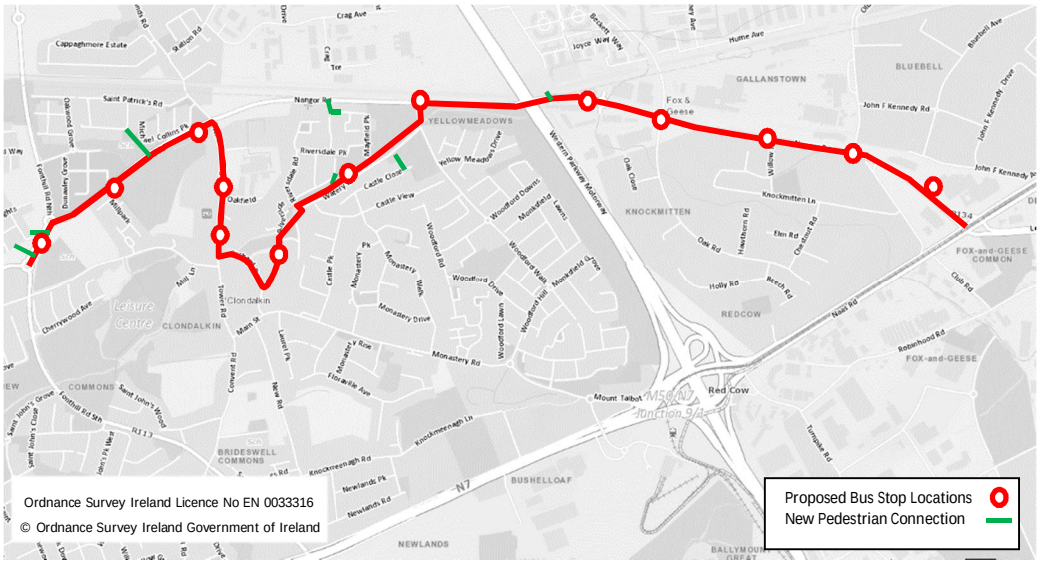

Figure 5.26: Route Option S2-4

5.3.42 Inbound: The CBC service will proceed north from the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Ninth Lock Rd junction before proceeding southbound along the Ninth Lock Rd. From the Ninth Lock Rd the CBC service continues south-eastbound onto Orchard Rd and then northeast onto Watery Lane. The CBC service exits Watery Lane onto Woodford Walk before re-joining the New Nangor Rd.

5.3.43 The CBC service then continues southeast bound to the New Nangor Rd/Naas Rd/Long Mile Rd junction.

5.3.44 Outbound: The outbound service follows the same route as the inbound.

5.3.45 Stops: There will be additions to and rationalisation of the existing bus stop provision along this section.

5.3.46 The journey time for this route option from the New Nangor Rd/Fonthill Rd South junction to the New Nangor Rd/Naas Rd/Long Mile Rd junction is approximately 10 minutes over a distance of approximately 4.9KM.

5.3.47 The following paragraphs describe the interventions required for the provision of the CBC and make reference to Figure 5.27, 5.28 & 5.29 below.

Figure 5.27: Route Option S2-4 – Clondalkin Village Proposed General Traffic Strategy (Principal Local Road Access Network affected by CBC)

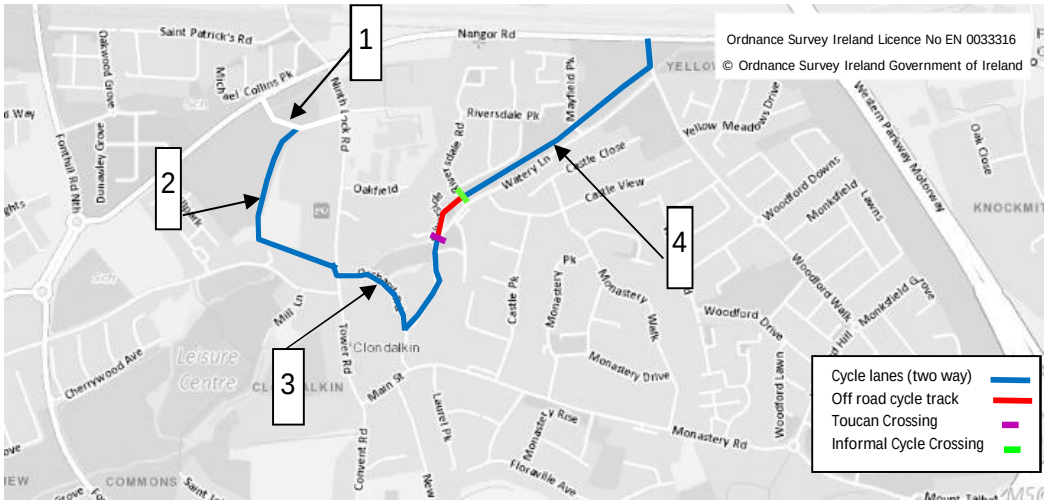

Figure 5.28: Route Option S2-4 – Clondalkin Village Proposed Cycle Strategy (To be delivered as part of CBC Proposals)

5.3.48 The provision of bus priority in both directions between the New Nangor Rd and the R113 Fonthill Rd North requires the upgrading of the following two junctions to traffic signal controlled (Ref A Figure 5.27). Due to the proximity of these junctions in relation to each other, the traffic signals at these junctions should be linked. The upgrading of these junctions could generally be achieved within the existing road reservation:

- New Nangor Rd/Fonthill Rd South roundabout junction; and
- New Nangor Rd/R113 Fonthill Rd North roundabout junction.

5.3.49 Cycle lanes will also be provided along this section of the New Nangor Rd between the Fonthill Rd South and the R113 Fonthill Rd North aligning with Secondary route 8C2 as identified in the CNP (Figure 5.29).

5.3.50 Bus priority (in both directions) will be provided along the Ninth Lock Rd with the exception of a 40m gap in outbound bus provision in the vicinity of the Mill Centre (Figure 5.29). Nonetheless outbound buses will be given priority at the preceding traffic signal junction (Ninth Lock Rd/Orchard Rd/Mill Centre); as such there should be no notable delays to buses as a result of the gap in the bus lane provision. The GDA CNP has identified the provision of Primary route SO5 along Ninth Lock Rd however due to insufficient widths available cyclists cannot be accommodated in parallel with the above bus infrastructure. Accordingly an alternative north-south cycle route is proposed.

5.3.51 An existing planning permission (Ref. SD14A/0221 & SD13A/0100, granted Jan 2015) for an Aldi Store includes the provision of a new access road (with cycle lanes) linking the Ninth Lock Rd and the New Nangor Rd (Ref 1 Figure 5.28). This permitted scheme incorporates new signal controlled junctions on both the Ninth Lock Rd and the New Nangor Rd. As part of the CBC scheme the existing Mill Shopping Centre internal car park road could be publicly adopted and extended to connect with the aforementioned Aldi access road to be delivered under the Aldi planning permission (Ref 2 Figure 5.28). New cycle facilities could be provided along the adopted road which would connect with the Aldi access road, thereby providing a north-south cycle route to align with the CNP proposals.

5.3.52 Bus priority (in both directions) will also be provided along Orchard Rd with the exception of a 75m gap where an inbound bus lane cannot be accommodated due to width constraints (Figure 5.29). Nonetheless outbound buses will be given priority at the preceding traffic signal junction (Ninth Lock Rd/Orchard Rd/Mill Centre); as such there should be no delays to buses as a result the gap in the bus lane provision. The GDA CNP has identified the provision of a Feeder cycle route along Orchard Rd which will also be incorporated into the CBC scheme (Ref 3 Figure 5.28).

5.3.53 Bus priority (in both directions) will be provided along Watery Lane up to the Riversdale junction, after which buses will divert along the green area to the south of

Riversdale Crescent and through open space zoned lands to the north of Watery Lane before exiting onto Woodford Walk at a new signal controlled junction (Figure 5.29). Cycle lanes will also be provided in parallel with bus facilities along this route thereby aligning with the GDA proposals for the provision of Secondary route 7C (and a greenway) (Ref 4 Figure 5.29).

5.3.54 It is proposed to provide continuous bus priority in both directions along Woodford Walk and the New Nangor Rd with the reconfiguration of the signal controlled junctions along the route and the upgrading of the Riverview Business Park roundabout junction to signal controlled (Figure 5.29).

5.3.55 Due to width constraints at the M50 flyover, it is not possible to provide two-way cycle facilities (or pedestrian footways), nonetheless eastbound cyclists and pedestrians will be directed to to join the adjacent Grand Canal Greenway over the short section of the underpass and will then be given the opportunity to re-join the New Nangor Rd.

5.3.56 It is proposed to provide continuous bus priority through the New Nangor Rd/Naas Rd/Long Mile Road junction with the provision of bus lanes through the junction; however these proposals will be subject to further analysis at detailed design stage.

5.3.57 The route option comprises Secondary Route 8C2 as identified within the CNP. Cycle lanes will generally be accommodated along the route.

5.3.58 The option S2-4 proposals are presented in Figure 5.29 whilst sample cross sections are presented in Figures 5.30-5.35 below.

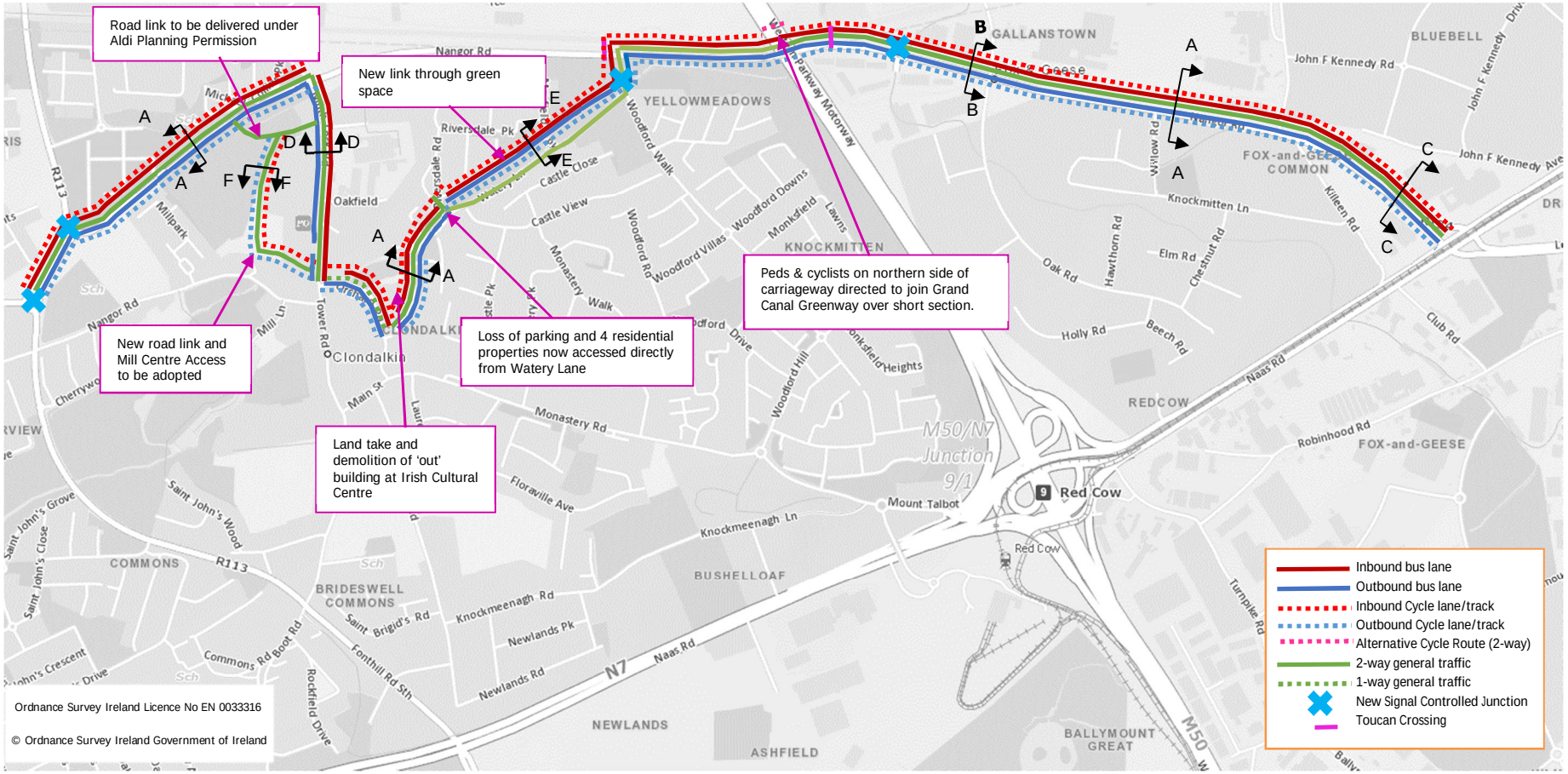

Figure 5.29 Route Option S2-4 Proposal (Section 2)

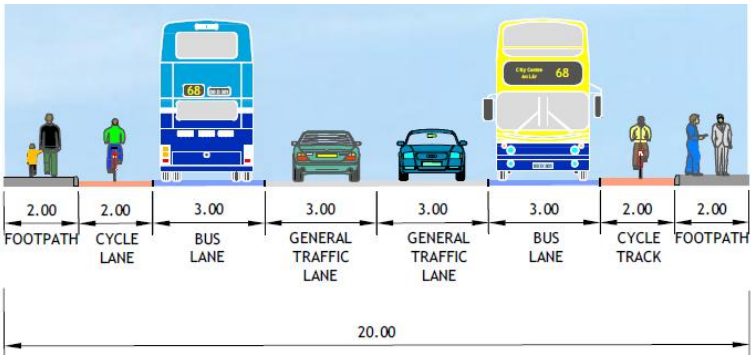

Figure 5.30: S2-4 Cross Section: AA

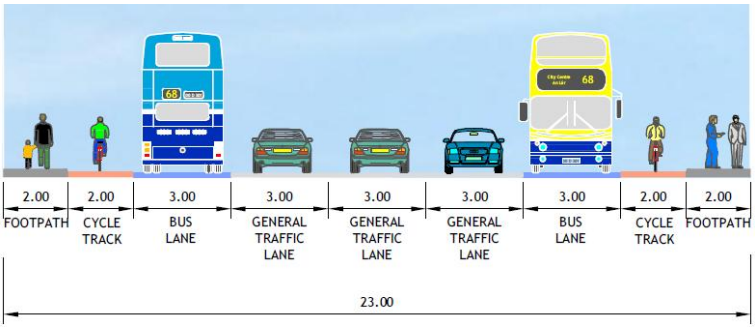

Figure 5.31: S2-4 Cross Section: BB

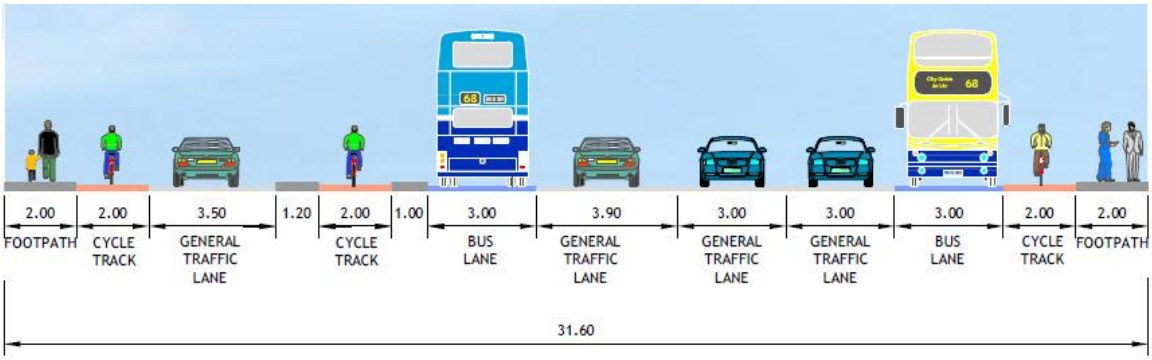

Figure 5.32: S2-4 Cross Section: CC

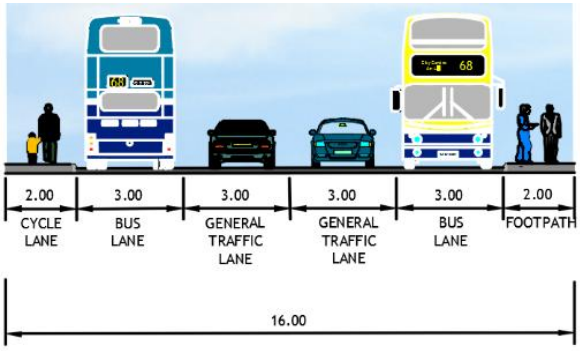

Figure 5.33: S2-4 Cross Section: DD

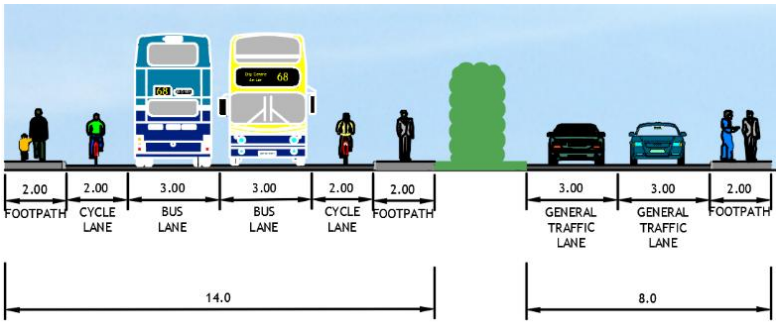

Figure 5.34: S2-4 Cross Section: EE

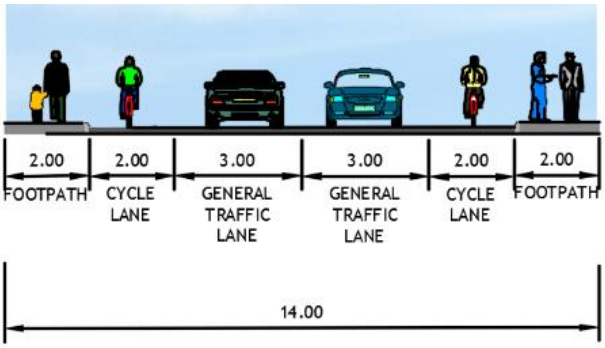

Figure 5.35: S2-4 Cross Section: FF

5.3.59 It is anticipated that this option would cost approximately €23.9 million (€12.3 million infrastructure costs, €11.6 million land acquisition costs).

Stage 2 Route Options Multi-Criteria Analysis

5.3.60 The 'Stage 2' route options assessment summary table for Section 2 is presented in Appendix A. The relative ranking of route options against the scheme assessment sub-criteria are summarised in Table 5.2 below.

Section 2 Summary					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
1 Economy	1A Capital Cost				
	1B Transport Quality & Reliability				
2 Integration	2A Land Use Policy				
	2B Residential Population and Employment Catchments				
	2C Transport Network Integration				
	2D Cycling Integration				
	2E Traffic Network Integration				
3 Accessibility & Social Inclusion	3A Key Trip Attractors				
	3B Deprived Geographic Areas				
4 Safety	4A Road Safety				
	4B Pedestrian Safety				
5 Environment	5A Archaeology & Cultural Heritage				
	5B Architectural Heritage				
	5C Flora & Fauna				
	5D Soils, Geology & Hydrology				
	5E Landscape and Visual				
	5F Air Quality				
	5G Noise & Vibration				
	5H Land Use Character				

Table 5.2: Section 2 Options MCA Summary (Sub-Criteria)

5.3.61 With reference to Table 5.2 above in terms of 'Economy', the primary differentiator between the 4 options is the Transport Quality & Reliability. Option 2-3 is the only option which delivers full priority along the entire section ensuring good journey time reliability.

5.3.62 Under criterion 'Integration', Option 2-3 ranks the highest in three out of the five sub-criteria. The primary differentiators are 'Cycling Integration' and 'Traffic Network Integration' whereby Option 2-3 aligns the most with the GDA CNP in terms of the

provision of proposed cycle infrastructure, whilst the CBC proposals also result in the lowest impact on general vehicle traffic as the majority of the schemes bus infrastructure along the New Nangor Road is already existing onsite.

5.3.63 Under criterion 'Safety', Option 2-3 ranks the highest as the route has a relatively straight alignment and contains the lowest quantum of junctions, the majority of which are/will be signal controlled and will include the provision of pedestrian crossings.

5.3.64 In terms of 'Environment', Option 2-3 again ranks the highest as the route does not contain any protected structures, monuments or sites of archaeological interest. Furthermore, as there is existing bus infrastructure along the majority of the route, there will be little to no impact on 'Air Quality', 'Landscape & Visual' or 'Noise & Vibration'. In addition, the requirement for the removal of trees to facilitate carriageway widening is minimised in comparison to the other three options.

5.3.65 A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in Table 5.3 below.

Section 2 Summary				
Appraisal Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
1 Economy				
2 Integration				
3 Accessibility & Social Inclusion				
4 Safety				
5 Environment				

Table 5.3: Section 2 Options MCA Summary (Main Criteria)

5.3.66 Based on the assessment undertaken, option 2-3 offers more benefits over the other three options under assessment. Option 2-3 is therefore preferred route for Section 2 for the following reasons: -

- It delivers end to end bus lanes through Section 2 of the study area providing improved journey time reliability;
- It serves a high level of residential and employment catchments within 5, 10 and 15-minute walking distance;
- Users of the CBC service will be able to integrate with existing and future proposed public transport infrastructure;
- It provides a variety of cycle facilities in line with the GDA CNP; and

- It would provide an improvement on road safety for all users in comparison to the other options.

5.3.67 Based on the multi-criteria assessment undertaken for this section of the study area, option 2-3 is identified as the preferred route and as such will form part of the emerging preferred route.

6.0 SECTION 3 ROUTE OPTION ASSESSMENT

6.1 Introduction

6.1.1 This chapter sets out the two-stage assessment procedure and results for Section 3 of the study area (between the New Nangor Rd/Naas Rd/Long Mile Rd junction and the City Centre).

6.2 Section 3: Stage 1 (Sifting) - Route Option Assessment

6.2.1 The potential route options considered as part of the Stage 1 route option assessment for Section 3 of the study area are presented in Figure 6.1 whilst Table 6.1 below presents a summary of the Stage 1 route options sifting process.

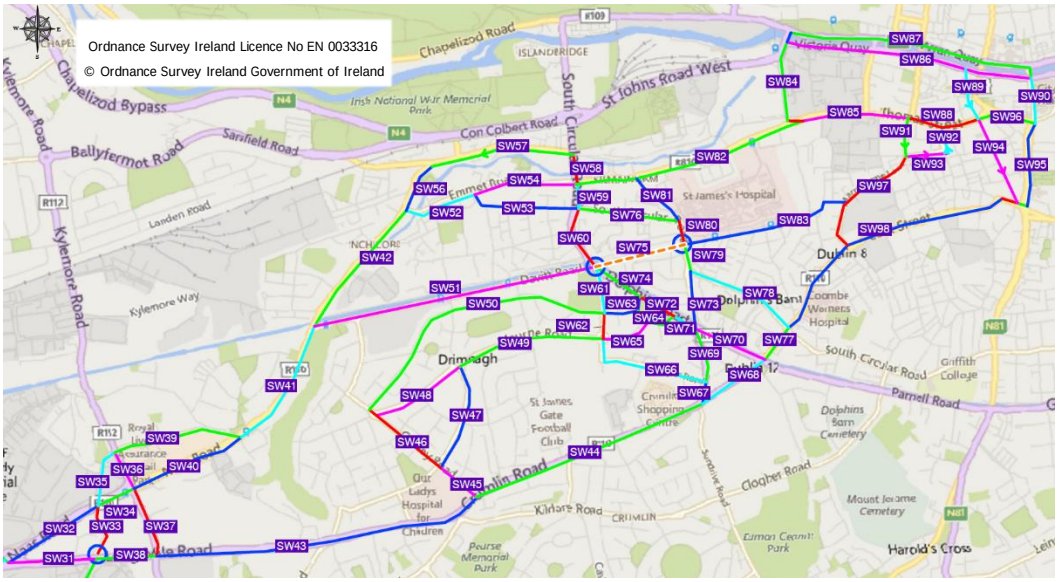

Figure 6.1: Route Options within Section 3 of Study Area

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 31	Long Mile Rd (between Robinhood Rd & Naas Rd)	• Industrial / Commercial • Proposed Secondary Cycle route (GDA CNP No. 8C)	Bus priority eastbound could be accommodated by reducing the width of the general traffic lanes and by widening the carriageway into the adjacent Service Station and Bikeworld premises. Bus priority westbound may be achievable by reducing the width of the general traffic lanes and by widening the carriageway into the enterprise/employment zoned lands adjacent to the carriageway. The Long Mile Rd/Naas Rd/New Nangor Rd junction will require reconfiguration to ensure bus priority. Bus priority achievable as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 32	Nass Rd (between New Nangor Rd/Long Mile Rd & Old Naas Rd/Robinhood Rd junctions)	• Industrial / Commercial • Avonbeg Industrial Estate • Proposed Primary Cycle route (GDA CNP No. 7D)	Bus priority is achievable with carriageway widening as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 33	Robinhood Rd (between Naas Rd & Long Mile Rd)	• Industrial / Commercial • Avonbeg Industrial Estate • Proposed Secondary Cycle route (GDA CNP)	The proximity of the buildings to the carriageway at the southern extents of the route would prohibit carriageway widening to accommodate bus facilities. Nonetheless there is no feasible connection available to enable eastbound buses to/from the Naas Road to access the route and continue their journey. This route does not meet the requirements of bus priority in both directions, and as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 34	Nass Rd (between Old Naas Rd/Robinhood Rd & Kylemore Rd junctions)	• Industrial / Commercial • Avonbeg Industrial Estate • Waverly Business Park • Proposed Primary Cycle route (GDA CNP No. 7D)	Bus priority is achievable with carriageway widening and junction reconfiguration as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 35	Old Naas Rd (between John F Kennedy Ave & Kylemore Rd)	• Industrial / Commercial • City Link Business Park	The provision of bus priority in both directions may be achievable within the existing highway boundary resulting in the loss of the on-street parking and the reduction of footway widths. In addition land take would be required from the car park of the commercial premises at the north-eastern end of the route resulting in the loss of approximately 22 parking spaces. Full bus priority may be achievable however there is no feasible connection available to enable westbound buses to access the route. This route does not meet the requirements of bus priority in both directions, and as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 36	Kylemore Rd (between Old Naas Rd & Naas Rd)	• Commercial/ Retail • Proposed Secondary Cycle route (GDA CNP No. S04)	Bus priority may be achievable in both directions by widening into the Homebase lands bordering the route (currently utilised as greenspace/planting). However, the link is isolated (SW 35 and SW 39 have failed the stage 1 sift). As such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 37	Walkinstown Ave (between Naas Rd & Long Mile Rd)	• Commercial • Proposed Secondary Cycle route (GDA CNP No. S04)	Bus priority may be achievable in both directions however this route diverts away (north/south) from the general east-west (Clondalkin to City Centre) direction of the proposed CBC. Buses traveling east-west along the proposed CBC on either the Naas Road or the Long Mile Road and then would be required to divert onto Walkinstown Ave Route before continuing their journey and would therefore experience an increase in journey times. Alternative more direct routes are available along either the Naas Rd or Long Mile Rd, route therefore not carried forward to the Stage 2 Assessment.	Fail

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 38	Long Mile Rd (between Walkinstown Rd & Robinhood Rd)	• Industrial / Commercial/Retail • Drimnagh Castle Secondary School • Our Lady Assumption NS • Long Mile Shopping Centre • Proposed Secondary Cycle route (GDA CNP No. 8C)	The Long Mile Rd/Walkinstown Ave and the Long Mile Rd/Walkinstown Rd junctions will require reconfiguration to ensure bus priority. Full bus priority is achievable along this section as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 39	Old Naas Rd (between Kylemore Rd & Naas Rd)	• Residential • Industrial • Commercial	The provision of bus priority would not be achievable at the western extents of the route due to the proximity of the adjacent buildings to the roadside boundary. Due to these width constraints, this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 40	Naas Rd (between Kylemore Rd & Old Naas Rd)	• Industrial • Commercial • Carriglea Industrial Estate • Naas Rd Industrial Park • Proposed Secondary Cycle route (GDA CNP No. 7D)	Bus priority may be achievable with carriageway widening and junction reconfiguration as such this proposed route will be carried forward to the Stage 2 Assessment.	Pass
SW 41	Naas Rd (between Old Naas Rd & Davitt Rd)	• Residential • Industrial • Commercial • Leisure – Lansdowne Valley Park • Proposed Secondary Cycle route (GDA CNP No. 7D)	Bus priority may be achievable by carriageway widening and reconfiguration of the Naas Rd/Old Naas Rd and the Naas Rd/Davitt Rd junctions. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 42	Tyrconnell Rd (between Davitt Rd & Emmet Rd)	• Residential • Goldenbridge Industrial Estate • Mary Immaculate Church • Scoil Mhuire Gan Smal • Local Shops • Proposed Secondary Cycle route (GDA CNP No. 7D)	Two-way bus priority could be achievable by carriageway widening and reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 43	Long Mile Rd (between Walkinstown Ave & Cooley Rd)	• Residential / Commercial / Retail • Our Lady's Children's Hospital • Proposed Secondary Cycle route (GDA CNP No. 8C)	The signal controlled junctions along this section may require to be reconfigured to ensure bus priority. Bus priority achievable as such this option will be carried forward to the Stage 2 Assessment.	Pass
SW 44	Crumlin Rd (between Cooley Rd & Herberton Rd)	• Residential • Our Lady's Children's Hospital Crumlin • Rugby Club • Crumlin College of Further Education • Crumlin Shopping Centre • Ard Scoil Eanna • Local Shops • Proposed Primary Cycle route (GDA CNP No. 8b)	Bus priority may be achievable by carriageway widening and reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 45	Cooley Rd (between Sperrin Rd & Crumlin Rd)	• Residential • Our Lady's Children's Hospital Crumlin • Proposed Secondary Cycle route (GDA CNP)	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 46	Cooley Rd (between Mourne Rd & Galtymore Rd)	• Residential	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 47	Sperrin Rd (between Cooley Rd & Mourne Rd)	• Residential • Our Lady of Good Council NS • Our Lady of Good Council Church	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 48	Mourne Rd (between Cooley Rd & Sperrin Rd)	• Residential • Our Lady of Mercy Secondary School • Our Lady of Good Council Church	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 49	Mourne Rd (between Sperrin Rd & Slievenamon Rd)	• Residential	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 50	Galtymore Rd (between Slievenamon Rd & Cooley Rd)	• Residential • Local Shops	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 51	Davitt Rd (between Tyrconnell Rd & Dolphin Rd)	• Residential • Commercial • Industrial • Proposed Primary Cycle route (GDA CNP No. 7B/N10)	Bus priority may be achievable along the western section of the route with carriageway widening. Bus priority would not be achievable along the remainder of the route as the building lines of the adjacent properties either border the back of footway or are within less than 3-5m from the back of the footway and as such carriageway widening could not be achieved. Full bus priority is not achievable as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 52	Emmet Rd (between Gratten Crescent & Bulfin Rd)	• Residential • Community Centre • St Michaels Church	To the east of the Tyrconnell Rd junction the proximity of the building lines to the back of the footway prohibit carriageway widening to provide bus lanes. However, the route could be considered with the implementation of traffic management measures which could ensure bus priority on Emmet Rd or Tyrconnell Rd; as such the route will be carried forward to the Stage 2 Assessment.	Pass
SW 53	Bulfin Road	• Residential • Commercial • St Michaels Church • Proposed Secondary Cycle route (GDA CNP No. N06 - Partial)	Two-way bus priority along this route would require land take from the residential properties along both sides of the carriageway which would result in the loss of parking where no other parking alternative is available. Alternative routes available where bus priority can be accommodated as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 54	Emmet Rd (between South Circular Rd & Bulfin Rd)	• Residential • Local Shops • Inchicore College of Further Education	The provision of bus priority may be achievable within the existing highway boundary, therefore route carried forward to the Stage 2 Assessment.	Pass
SW 56	Gratten Crescent	• Residential • Inchicore NS • Proposed Secondary Cycle route (GDA CNP No. 7D)	Two-way bus priority could be achievable by carriageway widening and reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 57	Inchicore Rd	• Residential • Commercial • Local Shops • Kilmainham Gaol • Kilmainham Congregational Church • Proposed Primary Cycle route (GDA CNP No. 7A)	Bus priority could be achievable by carriageway widening and reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 58	South Circular Rd (between Inchicore Rd & Emmet Rd)	• Residential • Petrol Filling Station • Public House • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The provision of bus priority may be achievable with the implementation of traffic management measures and reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 59	South Circular Rd (between Emmet Rd & Bulfin Rd)	• Residential • Commercial • Local Shops • Proposed Primary Cycle route (GDA CNP No. S01/N10)	Due to the proximity of the building lines to the carriageway it would not be possible to implement sufficient road widening to provide bus priority along the entire route as such this route will not be carried forward to the Stage 2 Assessment.	Fail

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 60	Suir Road (between Davitt Rd & Bulfin Rd)	• Residential • Commercial • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The narrow width of the carriageway over the Grand Canal makes bus priority unachievable at the southern end of the route. Bus priority may be possible further north of the route between Goldenbridge Avenue and the canal crossing. However north of Goldenbridge Avenue two-way bus priority would require up to 3.5m land take from the residential properties along both sides of the carriageway and would result in loss of parking (along the western side) where no parking alternative is available. Alternative routes available where bus priority can be accommodated as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 61	Slievenamon Road (between Galtymore Rd & Davitt Rd)	• Residential	Bus priority may be achievable in both directions by widening into the adjacent GAA Club lands bordering the route (currently utilised as greenspace/planting). However, the link is isolated (SW 50, SW 51 and SW 62 have failed the stage 1 sift). As such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 62	Slievenamon Road (between Galtymore Rd & Mourne Rd)	• Residential	The provision of bus priority in both directions may not be feasible due to the building line of the adjacent residential properties being within less than 6-7m of the back of the footway, and land take from these properties would result in the loss of driveways/parking where no alternative parking areas are available, as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 63	Galtymore Road (between Slievenamon Rd & Dolphin Rd)	• Residential	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 64	Dolphin Rd (between no's 63-131)	• Residential	The provision of bus priority may be achievable by utilising up to 3.5m width along the verge on the north-eastern side of the road. Nonetheless the link is isolated (SW 65 & SW 63 have failed the Stage 1 sift) and it will therefore not be carried forward to the Stage 2 Assessment.	Fail
SW 65	Mourne Road (between Slievenamon Rd & Dolphin Rd)	• Residential	The provision of bus priority would not be achievable due to the width constraints between the building lines of the residential properties on both sides of the road not permitting sufficient carriageway widening; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 66	Slievenamon Road (south of Mourne Rd) – Keeper Rd	• Residential • Local Shops • Community Centre	Due to the proximity of the building lines to the carriageway it would not be possible to implement sufficient road widening to provide bus priority along the entire route as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 67	Herberton Road (between Crumlin Rd & Keeper Rd)	• Residential • Local Shops • Proposed Secondary Cycle route (GDA CNP No. S02)	The provision of bus priority in both directions may not be feasible due to the building line of the adjacent residential properties being within less than 6-7m of the back of the footway, and land take from these properties would result in the loss of driveways/parking where no alternative parking areas are available, as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 68	Crumlin Rd (between Herberton Rd & Dolphin Rd)	• Residential • Loreto Junior National School • Petrol Filling Station • Proposed Primary Cycle route (GDA CNP No. 8)	Two-way bus priority could be achievable with reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass
SW 69	Herberton Road (between Dolphin Rd & Keeper Rd)	• Residential • Commercial • Proposed Secondary Cycle route (GDA CNP No. S02)	The provision of bus priority in both directions may not be feasible due to the building line of the adjacent residential properties being within 4m of the back of the footway, and land take from these properties would result in the loss of driveways/parking where no alternative parking areas are available, as such this route will not be carried forward to the Stage 2 Assessment.	Fail

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 70	Dolphin Rd (between Herberton Rd & Crumlin Rd)	• Residential • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The provision of bus priority may not be achievable along this section as the adjacent canal may prohibit carriageway widening in this location. As such this route will not be carried forward to the MCA.	Fail
SW 71	Dolphin Road (between Herberton Rd & no. 63 Dolphin Rd)	• Residential • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The provision of bus priority could be achieved by utilising the verge area on the northern side of the carriageway, however as the link is isolated (SW 69, SW 70 & SW 72 have failed the Stage 1 sift) it will not be carried forward to the Stage 2 Assessment.	Fail
SW 72	Dolphin Road (between nos. 63 & 132 Dolphin Rd)	• Residential • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The provision of bus priority could be achieved by utilising the verge area on the northern side of the carriageway, however as the link is isolated (SW 60, SW 51 have failed the Stage 1 sift) it will not be carried forward to the Stage 2 Assessment.	Fail
SW 73	Herberton Road (between Dolphin Rd & South Circular Rd)	• Residential • Local Shops • Proposed Secondary Cycle route (GDA CNP No. S02)	Due to the proximity of the building lines to the carriageway along the southern half of the route, it would not be possible to implement sufficient road widening to provide bus priority as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 74	Dolphin Road (between Slievenamon Rd & no.132 Dolphin Rd)	• Residential • Proposed Primary Cycle route (GDA CNP No. S01/N10)	The provision of bus priority could be achieved by utilising the verge area on the northern side of the carriageway, however as the link is isolated (SW 60, SW 51 have failed the Stage 1 sift) it will not be carried forward to the Stage 2 Assessment.	Fail
SW 75	New Road Link from Grand Canal View to South Circular Road	• Urban • Residential • Proposed Secondary Cycle route (GDA CNP)	The provision of a bus only road link may be achievable with land take from the rear of the properties along New Ireland Road on approach to the South Circular Road, however as the link is isolated (SW 83 & SW 51 have failed the stage 1 sift) it will not be carried forward to the Stage 2 Assessment.	Fail
SW 76	South Circular Rd (between Bulfin Rd & Brookfield Rd)	• Residential • Siptu	The provision of bus priority may not be feasible as it would result in the loss of on street car parking for residents on both sides of the carriageway where no alternative parking area exists, as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 77	Dolphin's Barn	• Urban • Residential • Commercial • Proposed Primary Cycle route (GDA CNP No. 8)	Full bus priority may be achievable by widening the carriageway into the parking area adjacent to the commercial premises at 41-45 Dolphin's Barn. The parking spaces may have to be reconfigured to accommodate this. The route will be carried forward to the Stage 2 Assessment.	Pass
SW 78	South Circular Rd (between Herberton Rd & Dolphin's Barn)	• Residential • Commercial • Rialto Medical Centre • Rialto Parish Church • Community Centre • Proposed Secondary Cycle route (GDA CNP)	Due to the proximity of the building lines to the carriageway it would not be possible to implement sufficient road widening to provide bus priority along the entire route as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 79	South Circular Rd (between Herberton Rd & James's Walk)	• Residential • Local Shops • Proposed Secondary Cycle route (GDA CNP No. S02)	Due to the proximity of the building lines to the carriageway it would not be possible to implement sufficient road widening to provide bus priority along the entire route as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 80	Brookfield Rd (between South Circular Rd & James's Walk)	• Residential • Proposed Secondary Cycle route (GDA CNP No. S02)	Due to the level difference between the existing route and the adjacent lands it may not be possible to implement carriageway widening to provide bus priority along the route. As such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 81	Brookfield Rd (between Old Kilmainham & South Circular Rd)	• Residential • Local Shops • St. James's Hospital • Proposed Secondary Cycle route (GDA CNP No. S02)	The provision of bus priority is not feasible as it would result in the loss of on street car parking for residents on both sides of the carriageway where no alternative parking area exists. In addition, nos. 71-73 (public house) and no 77 Old Kilmainham are abutting the back of the footway thus prohibiting carriageway widening, as such this route will not be carried forward to the Stage 2 Assessment.	Fail

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 82	Old Kilmainham	• Urban • Residential • Commercial • St James's Hospital • Proposed Primary Cycle route (GDA CNP No. 7A)	The provision of bus priority in both directions is not be feasible along the majority of the route due to the buildings abutting the back of the footway on both sides of the carriageway, however this link presents a gap in the potential bus corridor, as such this route will be carried forward to the Stage 2 Assessment.	Pass
SW 83	James's Walk – Forbes Lane	• Residential • Commercial • Local Shops • Proposed Primary Cycle route (GDA CNP No. 7B)	The Luas Red Line runs adjacent along the northern side of the road. Due to the proximity of the Luas line it would not be possible to implement road widening in this area to facilitate bus priority; as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 84	Steeven's Lane	• City Centre • Residential • Commercial • St Patricks Hospital • Proposed Secondary Cycle route (GDA CNP No. C3)	This route currently permits Luas and local access only (southern part of route) and therefore is not suitable for dual bus/Luas running; as such this proposed route will be carried forward to the Stage 2 Assessment.	Fail
SW 85	James's St-Thomas St West	• City Centre • Residential • Commercial • St Patricks Hospital • St James's Hospital • Proposed Primary Cycle route (GDA CNP No. 7A)	Bus priority achievable in both directions, as such this route will be carried forward to the Stage 2 Assessment.	Pass
SW 86	Victoria Quay-Merchants Quay	• City Centre • Commercial/ Retail • Railway Station	Partial bus priority is available, however the link is isolated (SW 84 has failed the stage 1 sift), as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 87	Wolfe Tone Quay – Inns Quay	• City Centre • Commercial/ Retail • Railway Station	Bus priority is available; however the link is isolated (SW 84 has failed the stage 1 sift), as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 88	Thomas St (between Thomas Court & Augustine St)	• Urban • Residential • Commercial • Retail • Proposed Primary Cycle route (GDA CNP No. 7A)	Two-way bus priority achievable, route therefore carried forward to the Stage 2 Assessment.	Pass
SW 89	Augustine St	• Residential • Commercial • John St West NS • Proposed Secondary Cycle route (GDA CNP No. C3)	The provision of bus priority (one-way) may be achievable within the existing highway boundary with the loss of on-street parking. However the link is isolated (SW 86 has failed the stage 1 sift), as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 90	Winetavern St	• Urban • Christchurch Cathedral • Dublin City Council • Proposed Secondary Cycle route (GDA CNP No. 9B)	The provision of bus may be achievable within the existing highway boundary with reallocation of general traffic lanes for buses, however the link is isolated (SW 87 & SW 86 have failed the stage 1 sift), as such this route will not be carried forward to the Stage 2 Assessment.	Fail
SW 91	Thomas Court	• Urban • Residential • Proposed Secondary Cycle route (GDA CNP)	Due to the proximity of the building lines to the carriageway it would not be possible to implement carriageway widening to provide bus priority, as such this route will not be carried forward the Stage 2 Assessment.	Fail
SW 92	Meath St (between Thomas St & Earls St South)	• Commercial • Proposed Primary Cycle route (GDA CNP No. 7B)	The provision of bus priority (one-way) may be achievable with the loss of on-street parking, however as the link is isolated (SW 97 & SW 91 have failed the stage 1 sift) it will not be carried forward to the Stage 2 Assessment.	Fail
SW 93	Earl St South	• Urban • Residential • Proposed Primary Cycle route (GDA CNP No. 7B)	Due to the proximity of the building lines to the carriageway it would not be possible to implement carriageway widening to provide bus priority, as such this route will not be carried forward the Stage 2 Assessment.	Fail
SW 94	Francis St	• Urban • Residential • Commercial • Retail • Proposed Secondary Cycle route (GDA CNP)	The provision of bus priority (one-way) may be achievable within the existing highway boundary with the loss of on-street parking, route therefore carried forward to the Stage 2 Assessment.	Pass

Table 6.1: Route Option Sifting (Stage 1) Summary – Section 3				
Route Option	Name / Section	Area Characteristics	Comments	Pass/ Fail
SW 95	Patrick St-Nicholas St	• Urban • Residential • Commercial • Leisure/Tourist • Proposed Secondary Cycle route (GDA CNP No 9B)	The provision of bus may be achievable with reallocation of general traffic lanes for buses, route therefore carried forward to the Stage 2 Assessment.	Pass
SW 96	High St (between Augustine St & Christchurch Place)	• Urban • Residential • Commercial • Leisure/Tourist • Proposed Primary Cycle route (GDA CNP No. 7A)	Two-way bus priority achievable, route therefore carried forward to the Stage 2 Assessment.	Pass
SW 97	Marrowbone Lane (between Earl St South & Cork St)	• Residential • Commercial • Community Centre • Local Shops • Partial Primary, Secondary & Feeder Cycle route (GDA CNP)	Due to the proximity of the building lines to the carriageway it would not be possible to implement carriageway widening to provide bus priority, as such this route will not be carried forward the Stage 2 Assessment.	Fail
SW 98	Dolphin's Barn St – New St South/Patrick St	• Urban • Residential • Commercial • Coombe Women and Infants University Hospital • St Brigid's National School • Proposed Primary Cycle route (GDA CNP No. 8)	Two-way bus priority could be achievable with reconfiguration of the junctions along the route. Route therefore carried forward to the Stage 2 Assessment.	Pass

6.2.2 Of these 67-potential links considered within Section 3, a total of 22 have progressed to the next assessment stage (SW 31, 32, 34, 38, 40, 41, 42, 43, 44, 52, 54, 56, 57, 58, 68, 77, 82, 85, 88, 94, 95, & 96). These route options are presented in Figure 6.2 below.

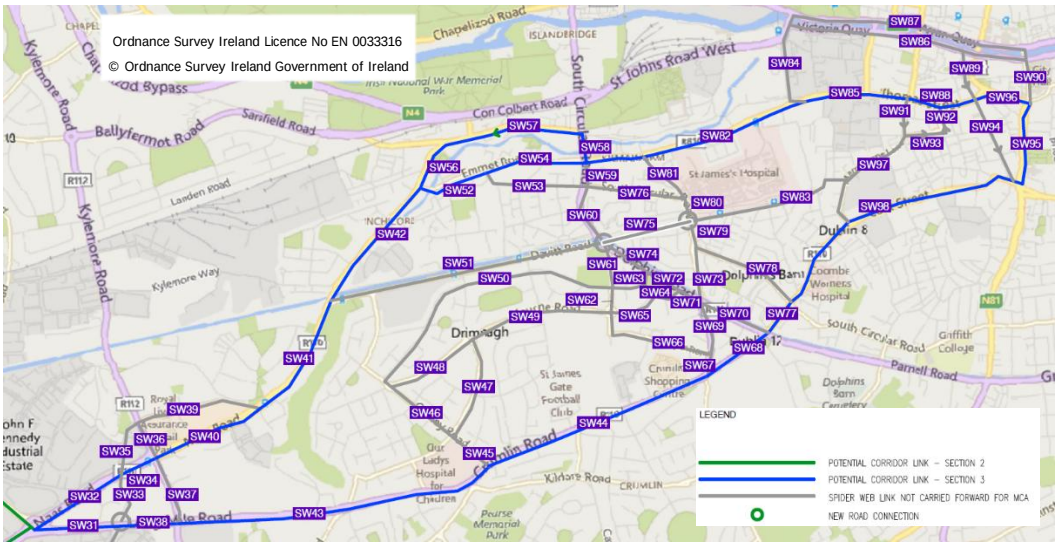

Figure 6.2: Route Options passing Stage 1 'Sift' in Section 3

6.3 Section 3: Stage 2 – Option Assessment

Introduction

6.3.1 Following the 'Stage 1' sift for the Section 3 study area, the remaining 22 route options were combined to form 4 number cohesive routes (S3-1, S3-2:1, S3-2:2, and S3-2:3) between the New Nangor Rd/Naas Rd/Long Mile Rd junction and the City Centre. The routes which are illustrated in Figure 6.3 below include: -

- Option S3-1 via Long Mile Rd – Crumlin Rd – Dolphins Barn – St Luke's Avenue – Dean Street– Patrick St;
- Option S3-2:1 via Naas Rd – Tyrconnell Rd – Inchicore Road - South Circular Road- Old Kilmainham – James's St – Thomas St
- Option S3-2:2 via Naas Rd – Tyrconnell Rd – Inchicore Road/Emmet Rd -South Circular Road- Old Kilmainham – James's St – Thomas St; and
- Option S3-2:3 via Naas Rd – Tyrconnell Rd – Emmet Rd - Old Kilmainham – James's St – Thomas St.

6.3.2 Option S3-1 overlaps with the recommended preferred route for the proposed Greenhills to City Centre CBC on Drimnagh Road (in the vicinity of the Drimnagh Road/Walkinstown Road junction). The Greenhills to City Centre CBC study was initiated prior to the Clondalkin to City Centre study therefore Option S3-1 of the Clondalkin CBC should tie into the Greenhills proposals where the two proposed CBC's overlap.

6.3.3 Nonetheless to ensure a robust comparison can be undertaken to determine the most appropriate route is selected for Section 3 of the Clondalkin CBC (between the New Nangor Rd/Naas Rd/Long Mile Rd junction and the City Centre), a MCA has been prepared for all of the 4 potential routes within section 3 of the study area.

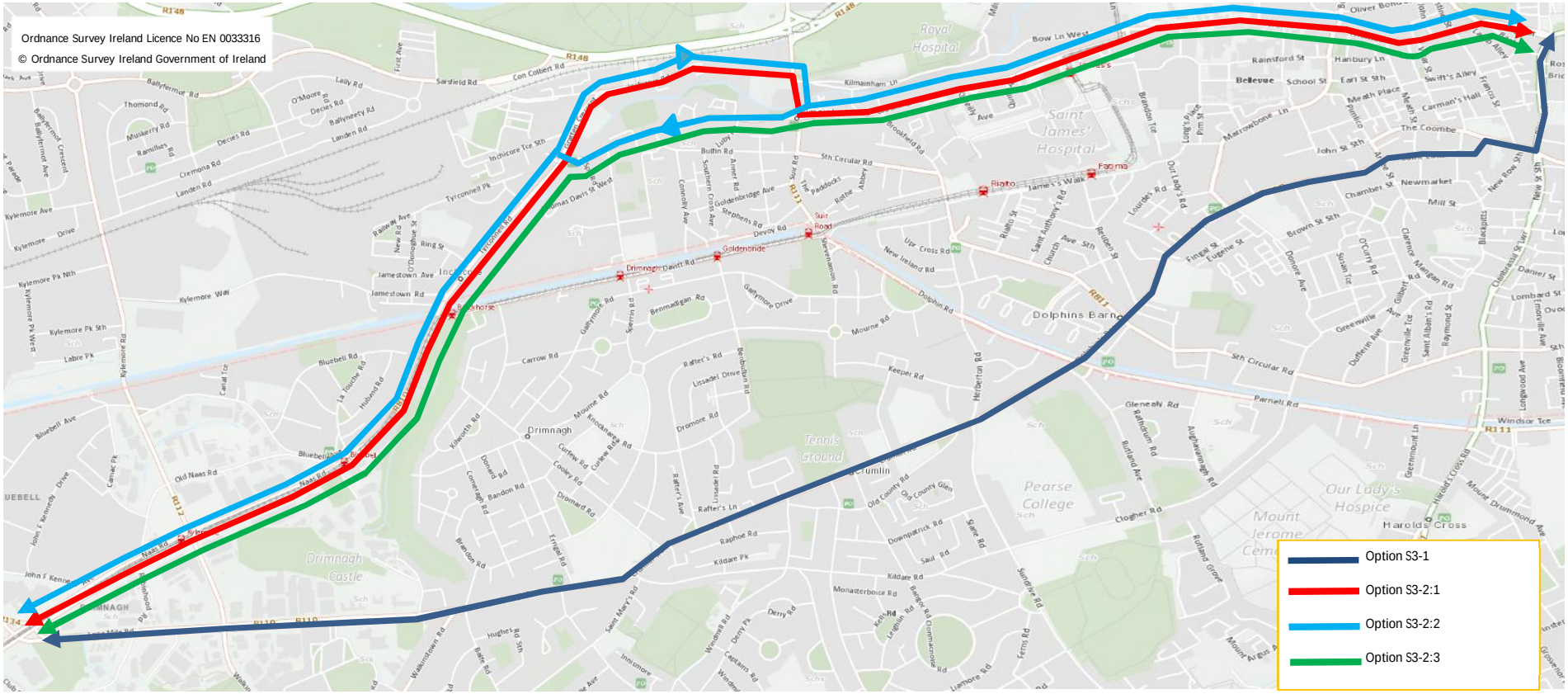

Figure 6.3: Section 3 Cohesive Route Options

Route Option S3-1: Long Mile Rd – Crumlin Rd – Dolphins Barn – St Luke's Avenue – Dean Street– Patrick St

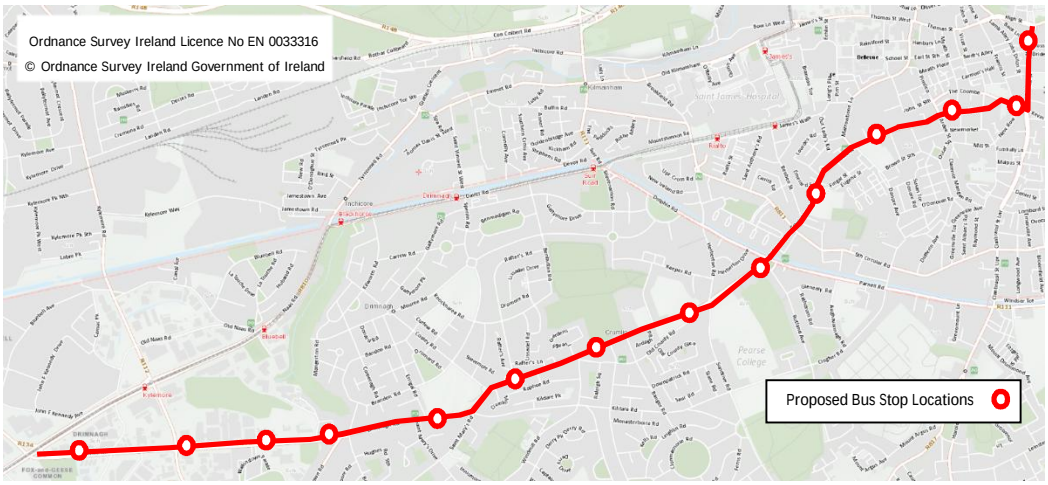

Figure 6.4: Route Option S3-1

6.3.4 Inbound: The CBC service will proceed eastbound along the R110 Long Mile Road from the New Nangor Rd/Naas Rd/Long Mile junction to Crumlin Road. From Crumlin Road, the CBC service continues in a north easterly direction along the R110 until it meets St Luke's Avenue. The CBC service then continues along St Luke's Avenue before travelling south east along Dean Street and then northbound along Patrick St where the service will terminate.

6.3.5 Outbound: The outbound service follows the same route as the inbound.

6.3.6 Stops: There will be rationalisation of the existing bus stop provision along this section.

6.3.7 The journey time for this route option from the New Nangor Rd/Naas Rd/Long Mile Rd junction to the Patrick St/ High St junction is approximately 22 minutes over a distance of approximately 6.32KM.

6.3.8 The proposals for the CBC service for the S3-1 option include the extension/upgrading of the existing bus lanes (in both directions) along the R110 with the implementation of the following traffic management measures: -

- The provision of a right turn pocket for vehicles turning from Crumlin Rd into Windmill Rd;
- The banning of right turn movements into Bangor Drive from Crumlin Rd; and
- The provision of a right turn pocket for vehicles turning from Crumlin Rd into Ardagh Rd.

6.3.9 Between Kildare Road and Old County Road cycle facilities cannot be accommodated however an alternative east-west cycle route can be provided via Kildare Rd-Windmill Rd-Old County Rd with the provision of cycle lanes along Kildare Rd, and a two-way cycle track along Old County Rd.

6.3.10 Between the Ardagh Rd junction (50m to the east of) and the Coombe/Dean St/St Luke's Ave junction bus lanes and cycle facilities will be accommodated within the existing road reservation, achievable by reconfiguring the signal controlled junctions along the route.

6.3.11 Between the Coombe/Dean St/St Luke's Ave junction and the Patrick St junction bus lanes will be accommodated by widening the carriageway into the adjacent land (southern side, zoned for mixed service facilities) and the wide footway area on the northern side.

6.3.12 Along Patrick St bus lanes and cycle facilities will be accommodated within the existing road reservation, achievable by reconfiguring the signal controlled junctions along the route.

6.3.13 The Option S3-1 proposals are presented in Figure 6.5 whilst sample cross sections are presented in Figures 6.6-6.11 below.

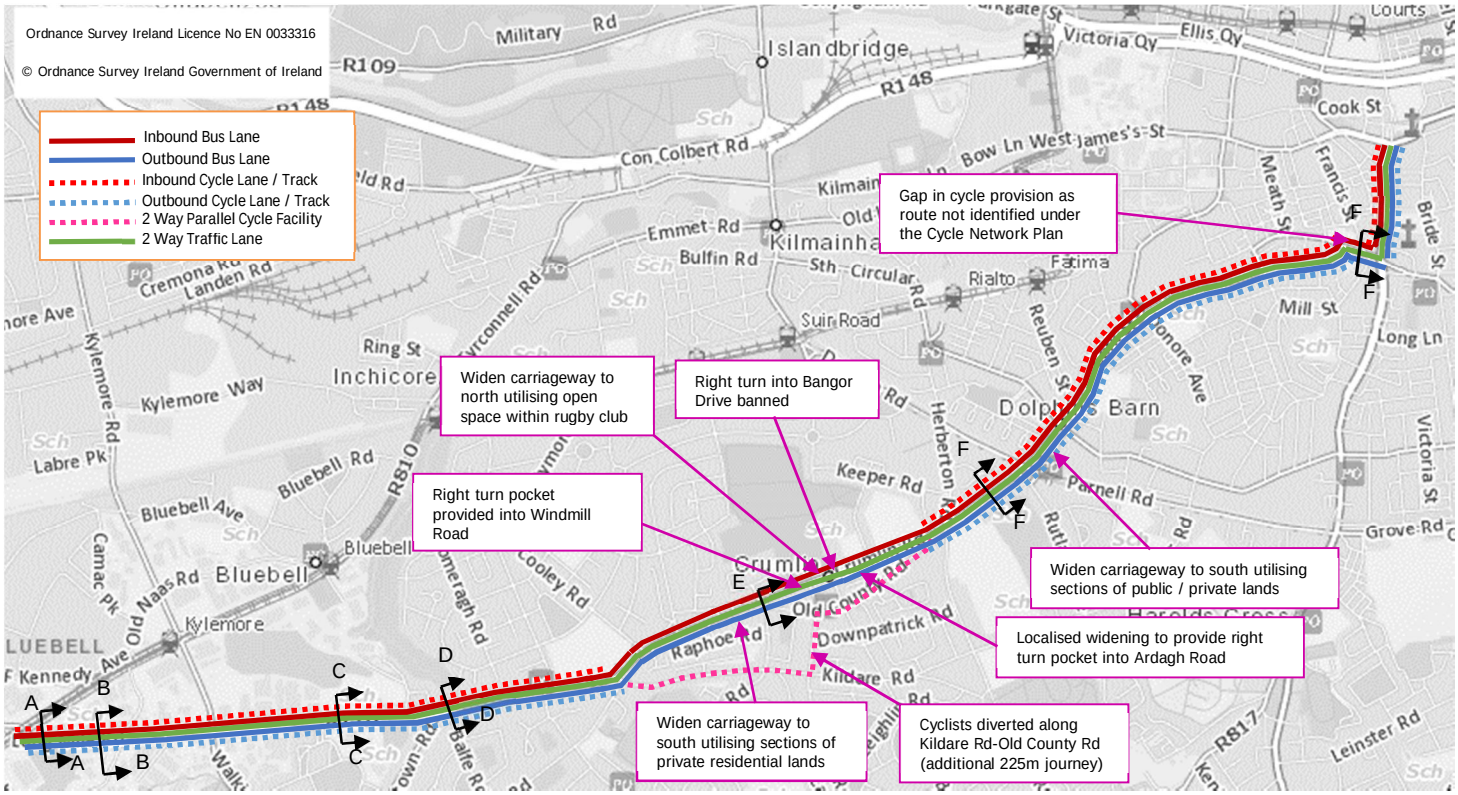

Figure 6.5 Route Option 3-1 Proposal (Section 3)

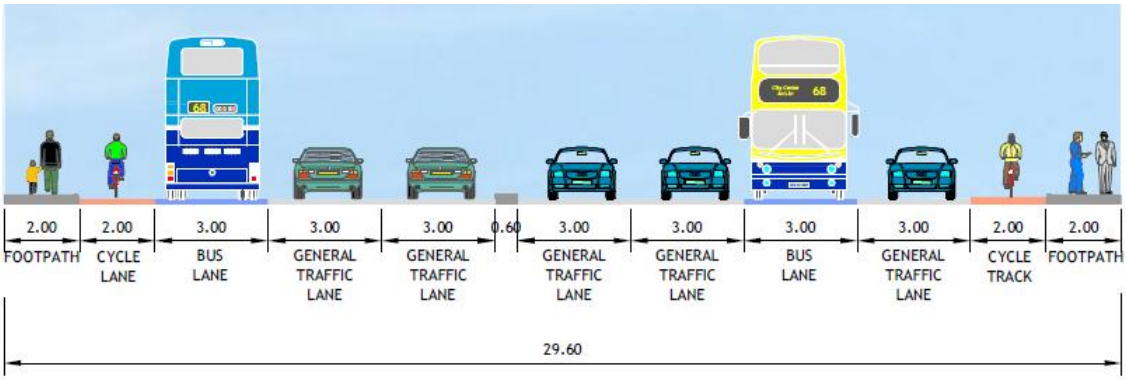

Figure 6.6: S3-1 Cross Section: AA

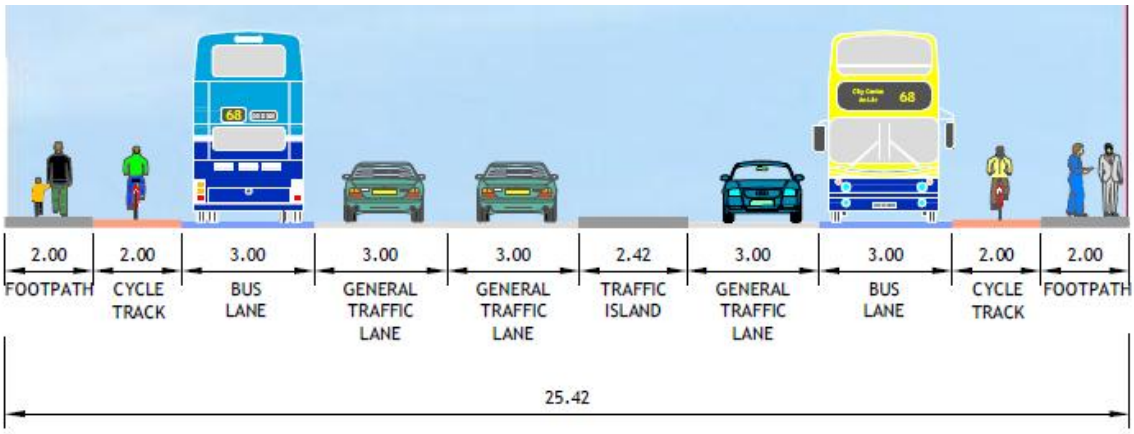

Figure 6.7: S3-1 Cross Section: BB

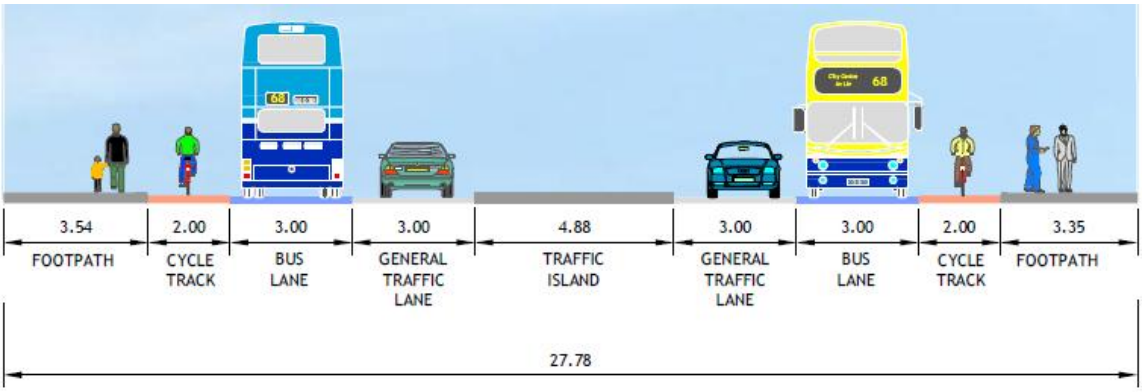

Figure 6.8: S3-1 Cross Section: CC

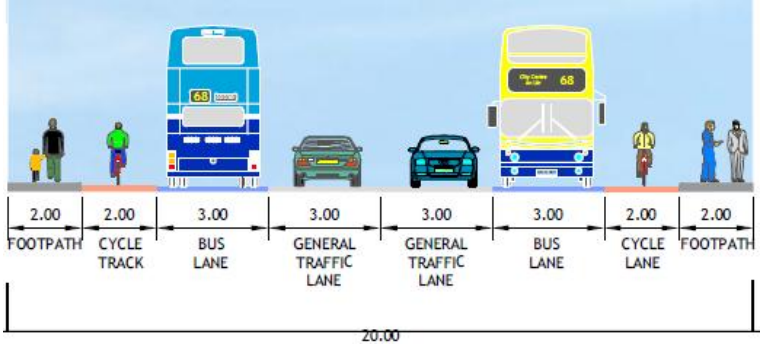

Figure 6.9: S3-1 Cross Section: DD

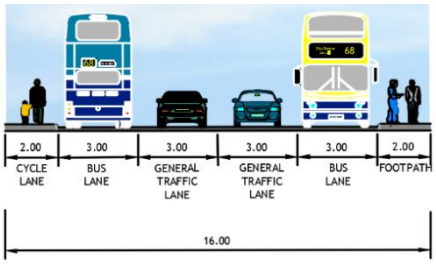

Figure 6.10: S3-1 Cross Section: EE

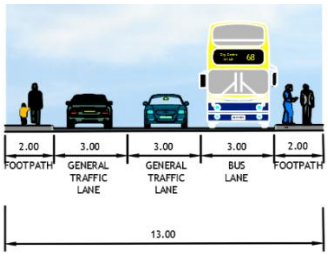

Figure 6.11: S3-1 Cross Section: FF

6.3.14 It is anticipated that this option would cost approximately €15 million (€10.5 million infrastructure costs, €4.5 million land acquisition costs).

Route Option S3-2:1: Naas Rd - Tyrconnell Rd – Gratten Crescent – Inchicore Road – South Circular Rd – Old Kilmainham – James's St – Thomas St

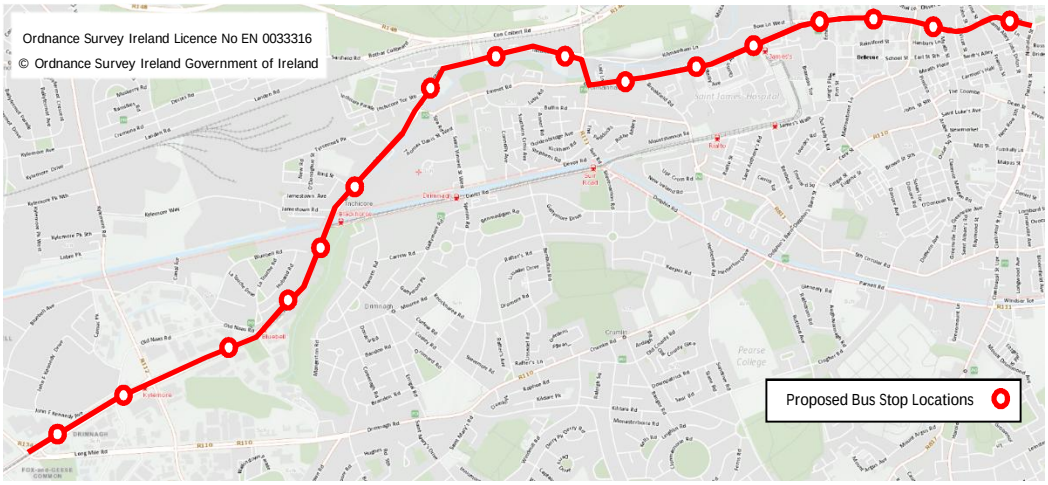

Figure 6.12: Route Option S3-2:1

6.3.15 Inbound: The CBC service will proceed northeast bound along the R810 (Naas Rd to Tyrconnell Rd) from the New Nangor Rd/Naas Rd/Long Mile junction. From Tyrconnell Road the CBC service will proceed northbound along Gratten Crescent to the Gratten Crescent/Inchicore Rd junction. From the aforementioned junction, the CBC service continues east along Inchicore Rd to the South Circular Road junction. The CBC service will then continue southbound along the South Circular Road before proceeding east along Old Kilmainham.

6.3.16 Outbound: The outbound service follows the same route as the inbound.

6.3.17 Stops: There will be rationalisation of the existing bus stop provision along this section.

6.3.18 The journey time for this route option from the New Nangor Rd/Naas Rd/Long Mile Rd junction to the Patrick St/ High St junction is approximately 26 minutes over a distance of approximately 6.47KM.

6.3.19 The proposals for the CBC service for the S3-2:1 option includes the provision of bus lanes (in both directions) along the R810 Naas Road.

6.3.20 The GDA CNP has identified the provision of Secondary route 7D Cycle along the R810 Naas Rd. Therefore, to align with the CNP proposals, cycle lanes will be provided along this section of the R810 with the exception of: -

- Between Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. However, cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP; and
- Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line, as such cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey.

6.3.21 It is proposed to provide continuous bus priority in both directions along Inchicore Rd and the South Circular Rd. There would be a gap of approximately 50m in the outbound bus lane provision on Gratten Crescent between the Inchicore South Terrace junction and the Tyrconnell Rd/Emmet Rd/Gratten Crescent junction however, the Gratten Crescent/Inchicore South Terrace junction would be signalised to ensure buses had priority along the aforementioned section with no bus lane. At the South Circular Rd/Emmet Rd/Old Kilmainham junction the CBC proposals would include the banning of the right turn manoeuvre from the South Circular Rd to Emmet Rd to provide bus priority (inbound) at the aforementioned junction.

6.3.22 The route option comprises Secondary Route 7D and Primary route 7A as identified within the CNP. A northbound cycle lane can be accommodated along Gratten Crescent thus respecting the requirements of Secondary Route 7D, however, southbound from the Gratten Crescent/Inchicore South Terrace junction a

southbound cycle lane cannot be provided. In order to provide a route for southbound cyclists, they will be provided with an alternative route through the adjacent Gratten Crescent Park and travel along the proposed greenway adjacent to the River Camac (as identified in the CNP) after which they can exit onto Emmet Rd and continue with their journey onto Tyrconnell Rd. There would be no right turn manoeuvre permitted from Emmet Rd to Gratten Crescent to accommodate the provision of cycle lanes on approach to the Tyrconnell Rd/Emmet Rd/Gratten Crescent junction.

6.3.23 The CBC proposals cannot accommodate Primary route 7A along Inchicore Road and South Circular Road, nonetheless an alternative route via Emmet Rd is provided for east-west cyclists whilst for north-south cyclists an alternative route through Gratten Crescent Park along the proposed greenway (as identified in the CNP) will be provided. In addition, a cycle connection through Kilmainham and the lands to the south to/from Emmet Rd (with the provision of a bridge crossing) is proposed to facilitate north-south cycle movements to/from Inchicore Road (eastern end).

6.3.24 Due to the width constraints along the Old Kilmainham section of the route the bus lane provision ranges from two-way bus priority (short sections of up to 150m) to no bus provision. Furthermore, cyclists cannot be accommodated along this section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. The CNP has identified the provision of Primary route 7A along Old Kilmainham therefore to align with the CNP proposals cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance.

To the east of the Bow Lane West junction the proposals include provision of bus lanes and cycle lanes (in both directions) along James's St and Thomas St. With the exception of the route length east of the Bridgefoot St junction it is not possible to accommodate an eastbound cycle lane. As a result cyclists are diverted via Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance. The option S3-2:1 proposals are presented in Figure 6.13 whilst sample cross sections are presented in Figures 6.14-6.21 below.

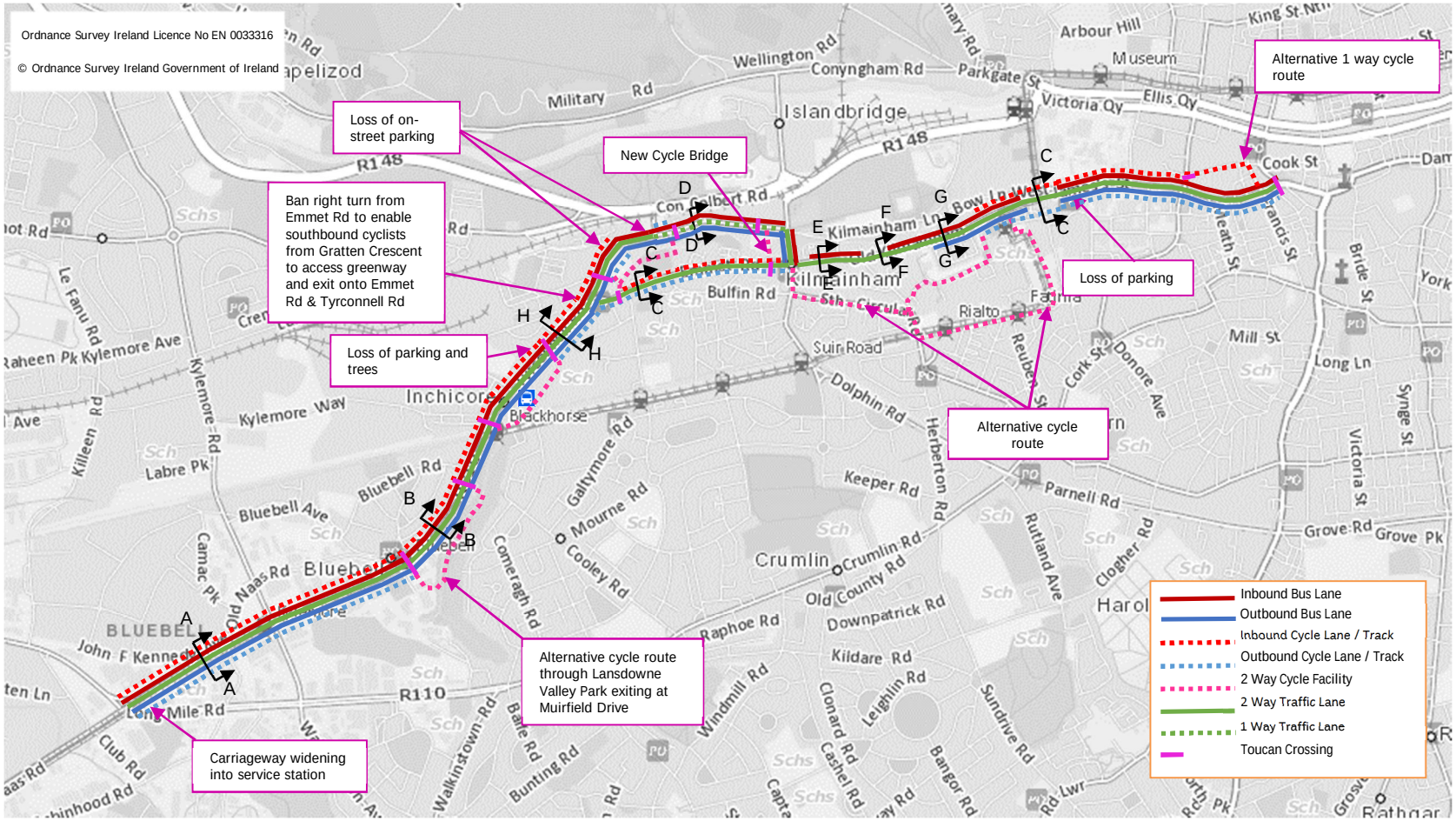

Figure 6.13: Route Option 3-2:1 Proposal (Section 3)

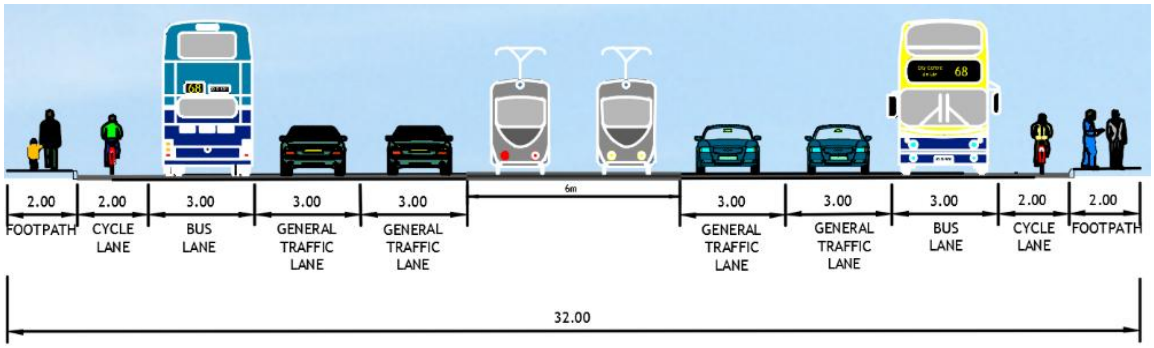

Figure 6.14: S3-2:1 Cross Section AA

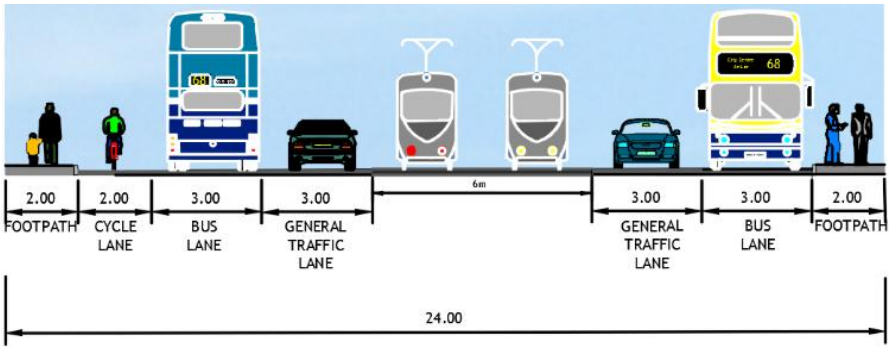

Figure 6.15: S3-2:1 Cross Section BB

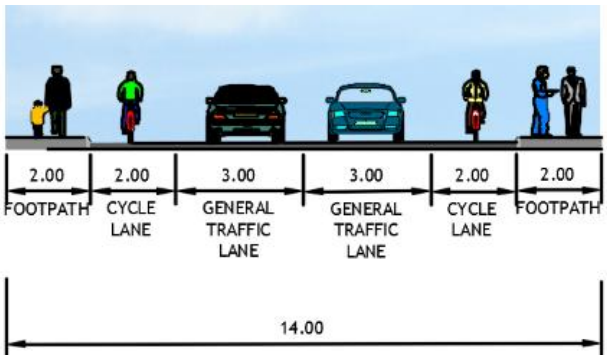

Figure 6.16: S3-2:1 Cross Section CC

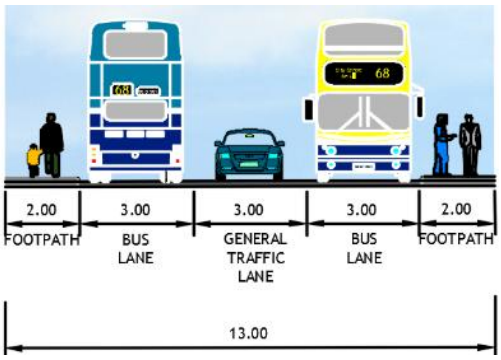

Figure 6.17: S3-2:1 Cross Section DD

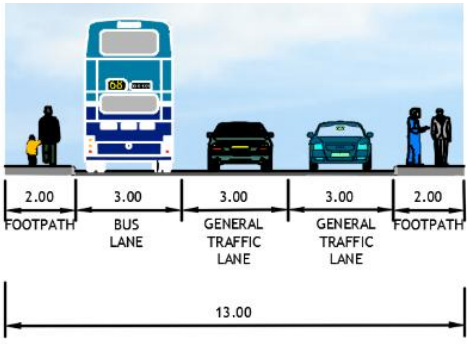

Figure 6.18: S3-2:1 Cross Section EE

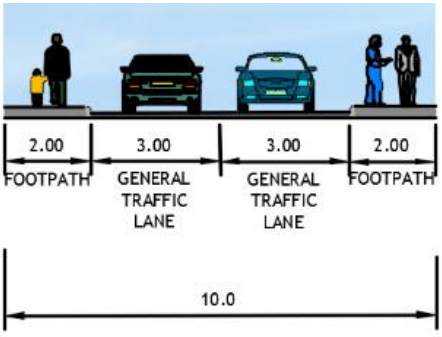

Figure 6.19: S3-2:1 Cross Section FF

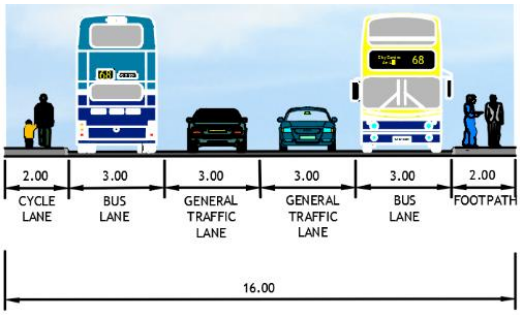

Figure 6.20: S3-2:1 Cross Section GG

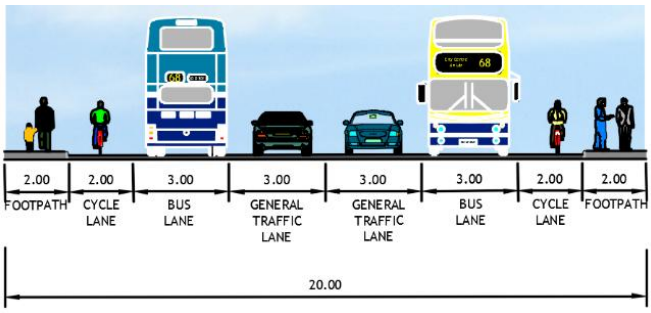

Figure 6.21: S3-2:1 Cross Section HH

6.3.25 It is anticipated that this option would cost approximately €23.2 million (€16.2 million infrastructure costs, €7 million land acquisition costs).

Route Option S3-2:2: Naas Rd - Tyrconnell Rd – – Inchicore Road/Emmet Rd – South Circular Rd – Old Kilmainham – James's St – Thomas St

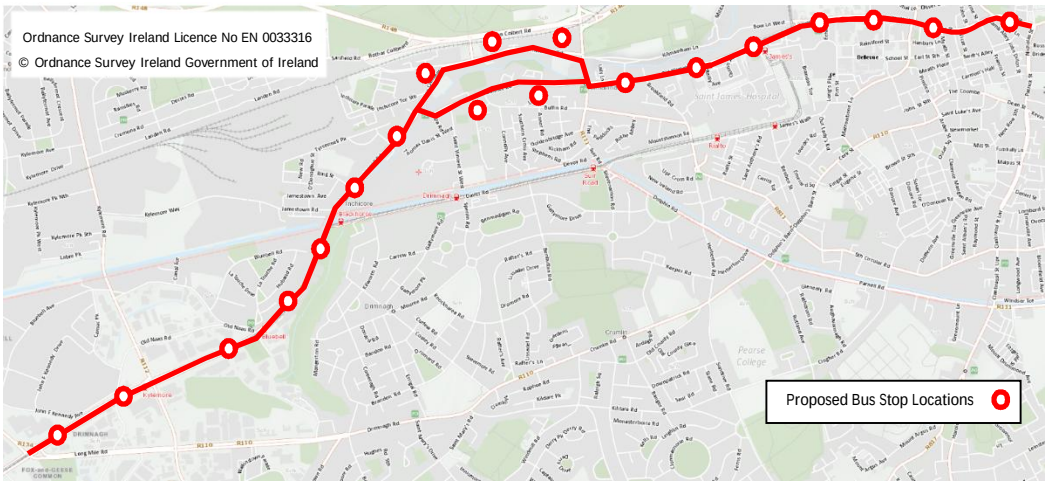

Figure 6.22: Route Option S3-2:1

6.3.26 Inbound: The CBC service will proceed northeast bound along the R810 (Naas Rd to Tyrconnell Rd) from the New Nangor Rd/Naas Rd/Long Mile junction. From Tyrconnell Road the CBC service will proceed northbound along Gratten Crescent to the Gratten Crescent/Inchicore Rd junction. From the aforementioned junction, the CBC service continues east along Inchicore Rd to the South Circular Road junction. The CBC service will then continue southbound along the South Circular Road before proceeding east along Old Kilmainham.

6.3.27 Outbound: The outbound service follows the same route as the inbound however the outbound service continues west from Old Kilmainham along Emmet Rd before proceeding southwest bound along Tyrconnell Rd.

6.3.28 The journey time for this route option from the New Nangor Rd/Naas Rd/Long Mile Rd junction to the Patrick St/ High St junction is approximately 26 minutes over a distance of approximately 6.47KM.

6.3.29 The proposals for the CBC service for the S3-2:2 option include the provision of bus lanes (in both directions) along the R810 Naas Road.

6.3.30 The GDA CNP has identified the provision of Secondary route 7D Cycle along the R810 Naas Rd. Therefore, to align with the CNP proposals, cycle lanes will be provided along this section of the R810 with the exception of: -

- Between Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. However, cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP; and
- Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. Accordingly cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey.

6.3.31 It is proposed to provide bus priority along Inchicore Rd and the South Circular Rd for inbound bus services. At the South Circular Rd/Emmet Rd/Old Kilmainham junction the CBC proposals would include the banning of the right turn manoeuvre from the South Circular Rd to Emmet Rd to provide bus priority (inbound) at the aforementioned junction.

6.3.32 The route option comprises Secondary Route 7D and Primary route 7A as identified within the CNP. A northbound cycle lane can be accommodated along Gratten Crescent thus respecting the requirements of Secondary Route 7D, however southbound from the Gratten Crescent/Inchicore South Terrace junction a southbound cycle lane cannot be provided. In order to accommodate a southbound cyclists, they will be provided with an alternative route through the adjacent Gratten Crescent Park and travel along the proposed greenway adjacent to the River Camac (as identified in the CNP) after which they can exit onto Emmet Rd and continue with

their journey onto Tyrconnell Rd. There would be no right turn manoeuvre permitted from Emmet Rd to Gratten Crescent to accommodate both the provision of cycle lanes and an outbound bus lane on the approach to the Tyrconnell Rd/Emmet Rd/Gratten Crescent junction.

6.3.33 The CBC proposals cannot accommodate Primary route 7A along South Circular Road, nonetheless an alternative route through Kilmainham and the lands to the south to/from Emmet Rd (with the provision of a bridge crossing) is proposed to facilitate north-south cycle movements to/from Inchicore Road (eastern end).

6.3.34 Due to the width constraints along the Old Kilmainham section of the route the bus lane provision ranges from two-way bus priority (short sections of up to 150m) to no bus provision in places. Furthermore, cyclists cannot be accommodated along this section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. The CNP has identified the provision of Primary route 7A along Old Kilmainham therefore to align with the CNP proposals cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance.

6.3.35 To the east of the Bow Lane West junction the proposals include provision of bus lanes and cycle lanes (in both directions) along James's St and Thomas St. With the exception of the section to the east of the Bridgefoot St junction it is not possible to accommodate an eastbound cycle lane. As a result cyclists are diverted via Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance.

6.3.36 The option S3-2:2 proposals are presented in Figure 6.24 whilst sample cross sections are presented in Figures 6.25-6.34 below.

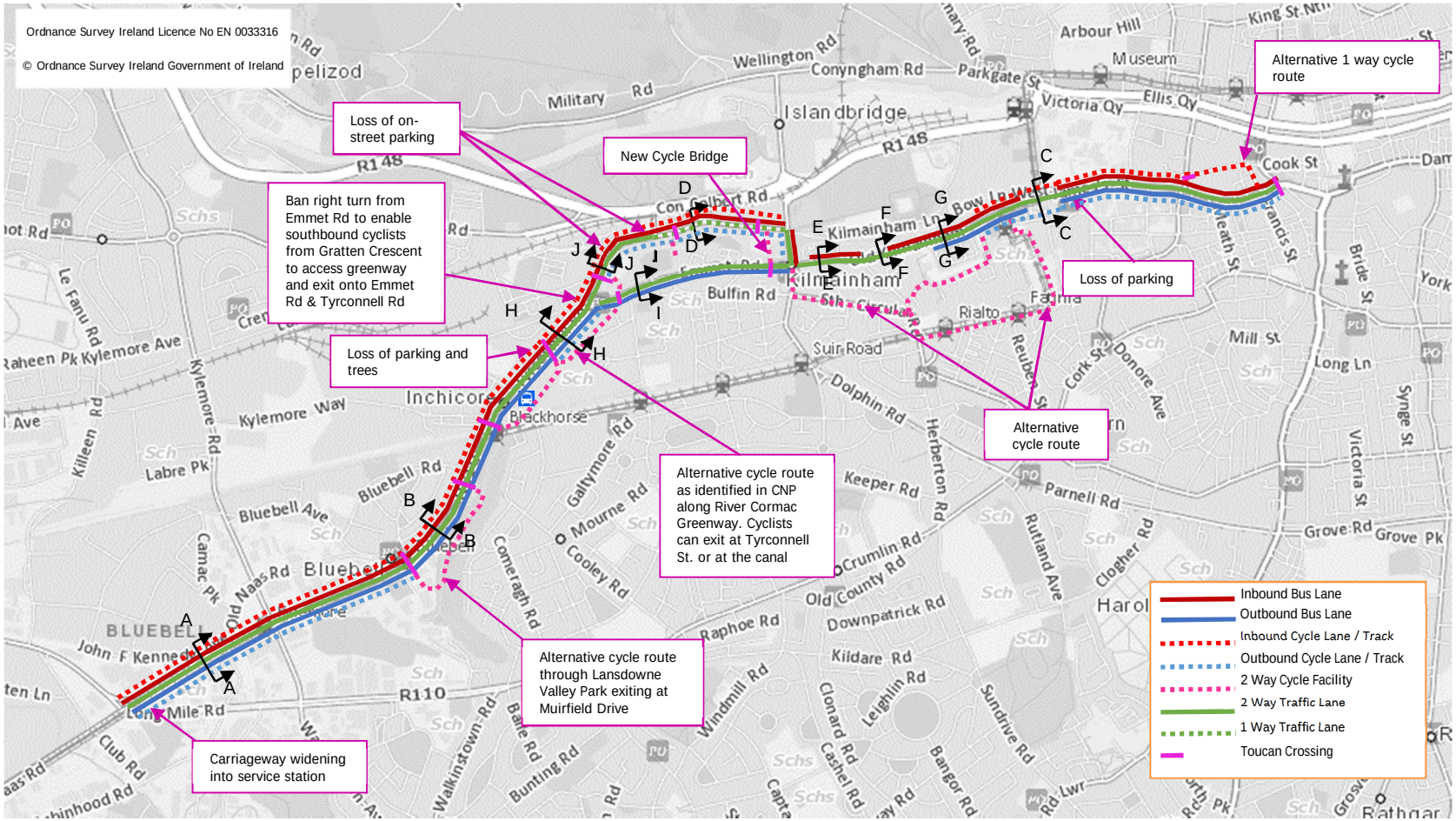

Figure 6.23: Route Option 3-2:2 Proposal (Section 3)

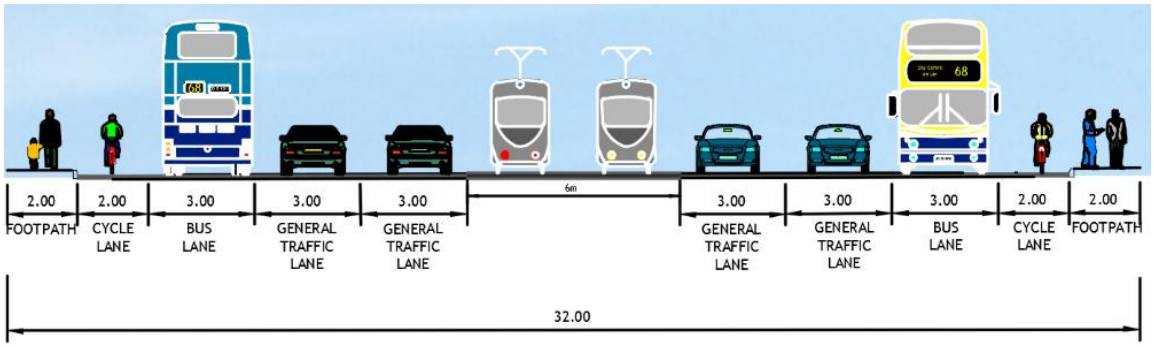

Figure 6.24: S3-2:2 Cross Section AA

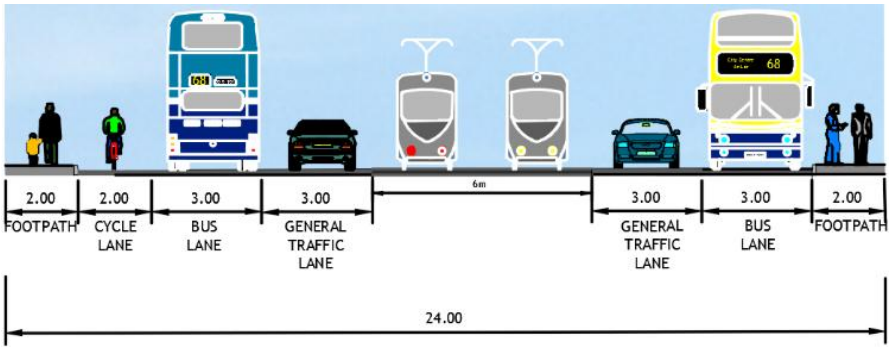

Figure 6.25: S3-2:2 Cross Section BB

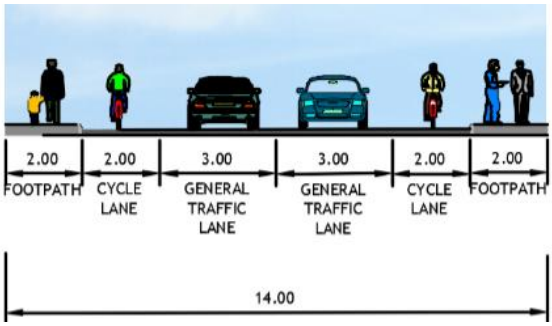

Figure 6.26: S3-2:2 Cross Section CC

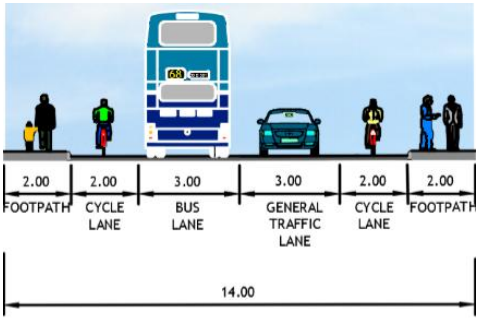

Figure 6.27: S3-2:2 Cross Section DD

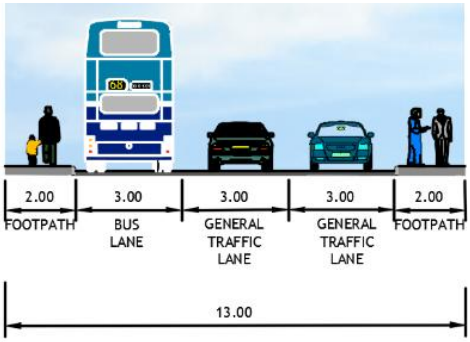

Figure 6.28: S3-2:2 Cross Section EE

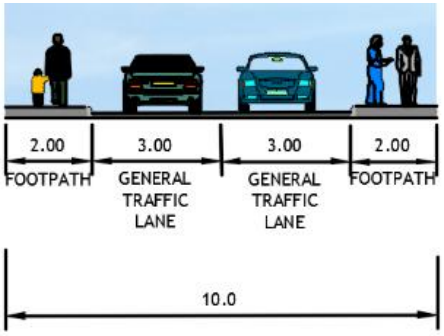

Figure 6.29: S3-2:2 Cross Section FF

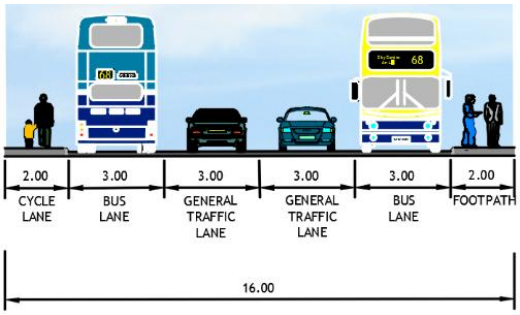

Figure 6.30: S3-2:2 Cross Section GG

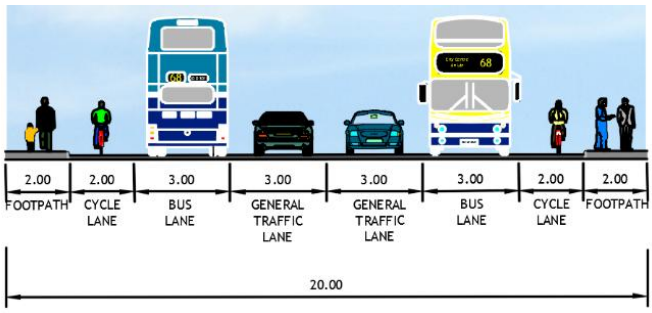

Figure 6.31: S3-2:2 Cross Section HH

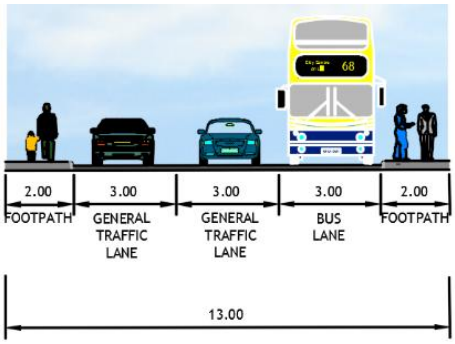

Figure 6.32: S3-2:2 Cross Section II

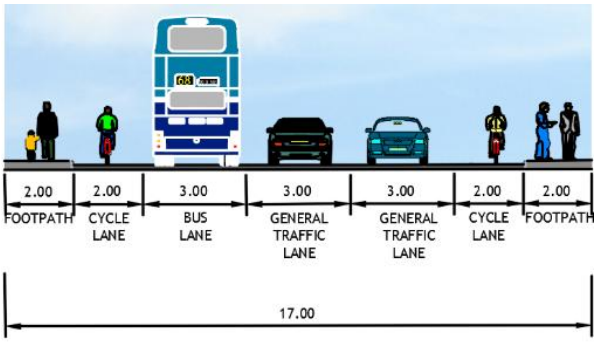

Figure 6.33: S3-2:2 Cross Section JJ

6.3.37 It is anticipated that this option would cost approximately €23.9 million (€16.4 million infrastructure costs, €7.5 million land acquisition costs).

Route Option S3-2:3 Naas Rd – Tyrconnell Rd - Emmet Rd – Old Kilmainham – James's St – Thomas St

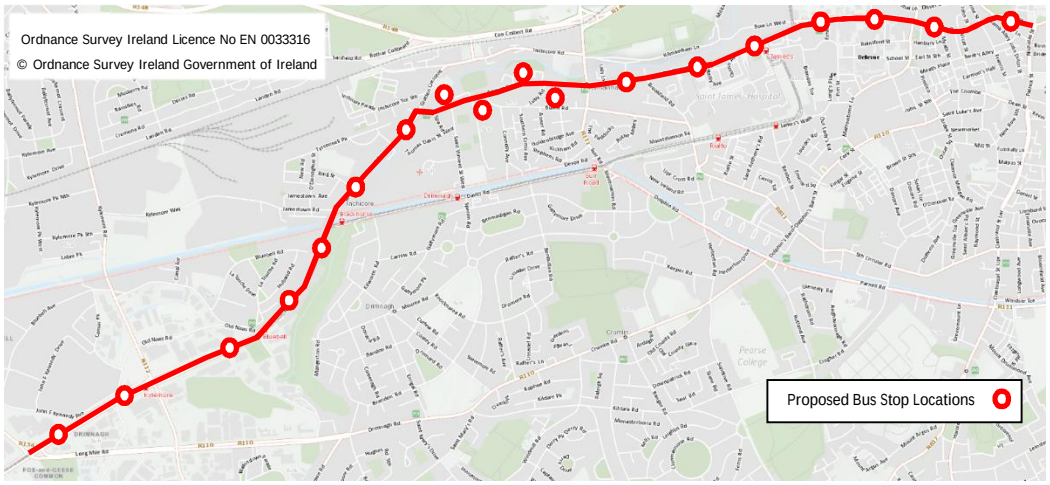

Figure 6.34: Route Option S3-2:3

6.3.38 Inbound: The CBC service will proceed north eastbound along the R810 (Naas Rd to Tyrconnell Rd) from the New Nangor Rd/Naas Rd/Long Mile junction. The CBC

service will proceed eastbound along Emmet Rd from the Tyrconnell Rd/Emmet Rd junction to the Emmet Rd/South Circular Rd/Old Kilmainham junction. The CBC service will then continue eastbound along Old Kilmainham.

6.3.39 Outbound: The outbound service follows the same route as the inbound.

6.3.40 Stops: There will be rationalisation of the existing bus stop provision along this section.

6.3.41 The journey time for this route option from the New Nangor Rd/Naas Rd/Long Mile Rd junction to the Patrick St/ High St junction is approximately 24 minutes over a distance of approximately 6.22KM.

6.3.42 The proposals for the CBC service for the S3-2:3 option include the provision of bus lanes (in both directions) along the R810 Naas Road.

6.3.43 The GDA CNP has identified the provision of Secondary route 7D Cycle along the R810 Naas Rd. Therefore, to align with the CNP proposals, cycle lanes will be provided along this section of the R810 with the exception of: -

- Between Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. However, cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP; and
- Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. As a result cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey.

6.3.44 It is proposed to provide continuous bus priority in both directions along Emmet Road with the exception of a gap in the inbound provision (approx. 95m) where there is a width constraint. Nonetheless buses will be given priority at the preceding Tyrconnell Rd/Emmet Rd/Gratten Crescent junction and as such there should be no delays experienced by inbound buses due to the lack of bus lane.

6.3.45 Cycle facilities have not been identified in the CNP along Emmet Rd.

6.3.46 It is proposed to provide bus priority along Inchicore Rd and the South Circular Rd for inbound bus services. At the South Circular Rd/Emmet Rd/Old Kilmainham junction the CBC proposals would include the banning of the right turn manoeuvre from the South Circular Rd to Emmet Rd to provide bus priority (inbound) at the aforementioned junction.

6.3.47 The route option comprises Secondary Route 7D and Primary route 7A as identified within the CNP. A northbound cycle lane can be accommodated along Gratten Crescent thus respecting the requirements of Secondary Route 7D, however southbound from the Gratten Crescent/Inchicore South Terrace junction a southbound cycle lane cannot be provided. In order to provide a route for southbound cyclists, they will be provided with an alternative route through the adjacent Gratten Crescent Park and travel along the proposed greenway adjacent to the River Camac (as identified in the CNP) after which they can exit onto Emmet Rd and continue with their journey onto Tyrconnell Rd. There would be no right turn manoeuvre permitted from Emmet Rd to Gratten Crescent to accommodate both the provision of cycle lanes and an outbound bus lane on approach to the Tyrconnell Rd/Emmet Rd/Gratten Crescent junction.

6.3.48 The CBC proposals cannot accommodate Primary route 7A along South Circular Road, nonetheless an alternative route through Kilmainham and the lands to the south to/from Emmet Rd (with the provision of a bridge crossing) is proposed to facilitate north-south cycle movements to/from Inchicore Road (eastern end).

6.3.49 Due to the width constraints along the Old Kilmainham section of the route the bus lane provision ranges from two-way bus priority (short sections of up to 150m) to no bus provision. Furthermore, cyclists cannot be accommodated along this section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. The CNP has identified the provision of Primary route 7A along Old Kilmainham therefore to align with the CNP proposals cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance.

6.3.50 To the east of the Bow Lane West junction the proposals include provision of bus lanes and cycle lanes (in both directions) along James's St and Thomas St with the exception of east of the Bridgefoot St junction where it is not possible to accommodate an eastbound cycle lane. As a result cyclists are diverted via

Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance.

6.3.51 The option S3-2:3 proposals are presented in Figure 6.36 whilst sample cross sections are presented in Figures 6.37-6.44 below.

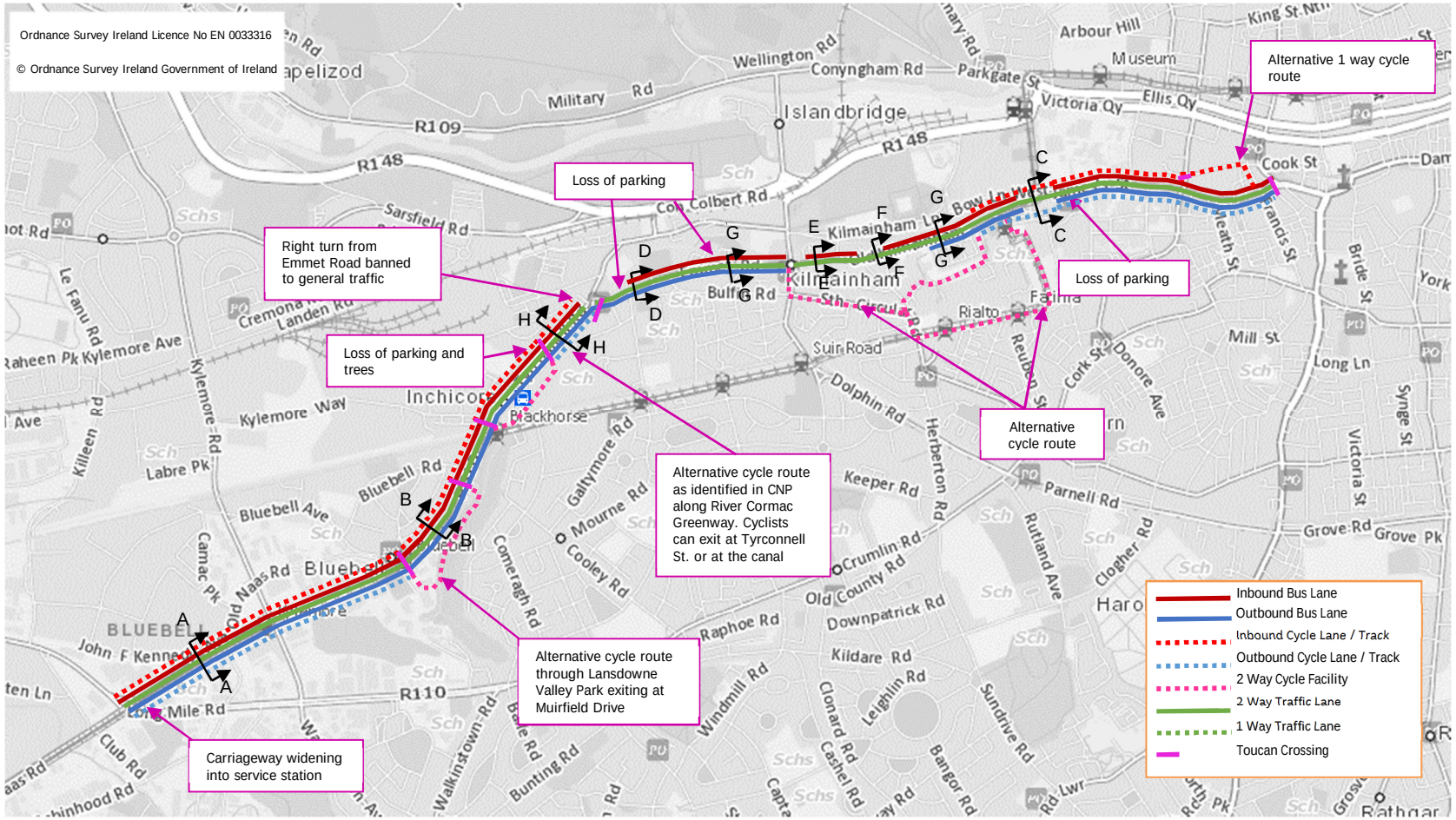

Figure 6.35: Route Option 3-2:3 Proposal (Section 3)

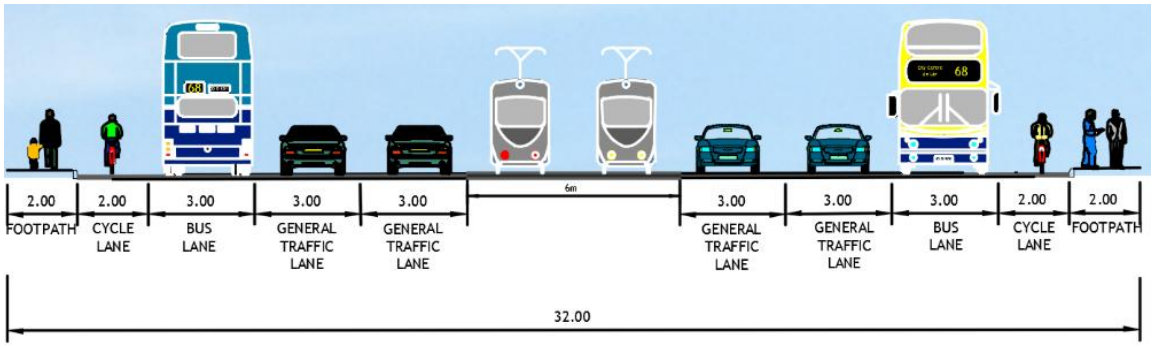

Figure 6.36: S3-2:3 Cross Section AA

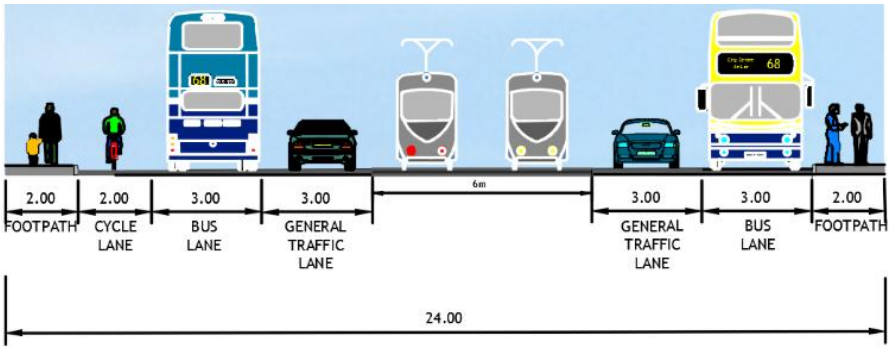

Figure 6.37: S3-2:3 Cross Section BB

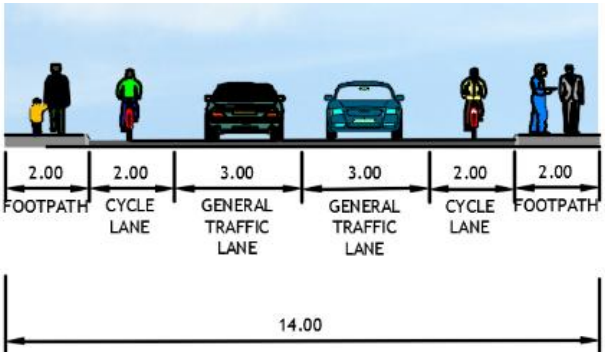

Figure 6.38: S3-2:3 Cross Section CC

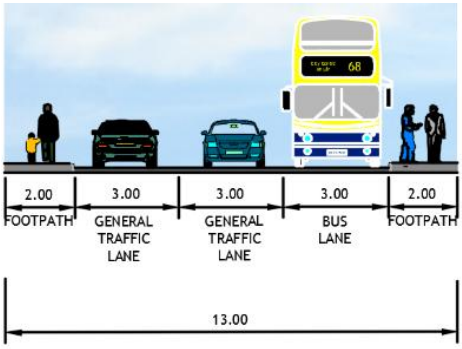

Figure 6.39: S3-2:3 Cross Section DD

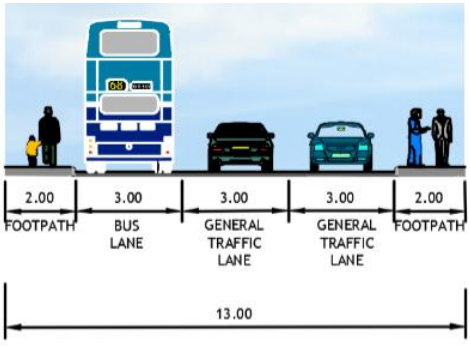

Figure 6.40: S3-2:3 Cross Section EE

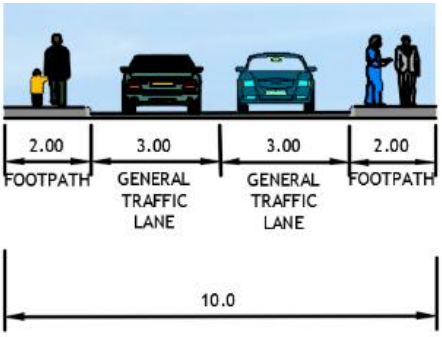

Figure 6.41: S3-2:3 Cross Section FF

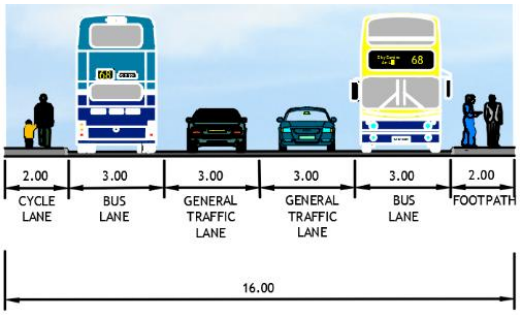

Figure 6.42: S3-2:3 Cross Section GG

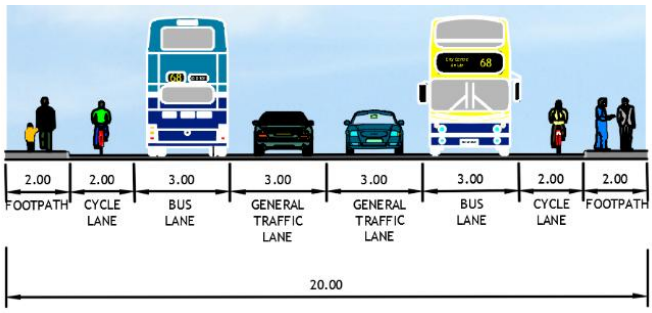

Figure 6.43: S3-2:3 Cross Section HH

6.3.52 It is anticipated that this option would cost approximately €20.5 million (€13.9 million infrastructure costs, €6.6 million land acquisition costs).

Stage 2 Route Options Multi-Criteria Analysis

6.3.53 The 'Stage 2' route options assessment summary table for Section 3 is presented in Appendix B. The relative ranking of route options against the scheme assessment sub-criteria are summarised in Table 6.2 below.

Section 3 Summary					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
1 Economy	1A Capital Cost				
	1B Transport Quality & Reliability				
2 Integration	2A Land Use Policy				
	2B Residential Population and Employment Catchments				
	2C Transport Network Integration				
	2D Cycling Integration				
	2E Traffic Network Integration				
3 Accessibility & Social Inclusion	3A Key Trip Attractors				
	3B Deprived Geographic Areas				
4 Safety	4A Road Safety				
	4B Pedestrian Safety				
5 Environment	5A Archaeology & Cultural Heritage				
	5B Architectural Heritage				
	5C Flora & Fauna				
	5D Soils, Geology & Hydrology				
	5E Landscape and Visual				
	5F Air Quality				
	5G Noise & Vibration				
	5H Land Use Character				

Table 6.2: Section 2 Options MCA Summary (Sub-Criteria)

6.3.54 With reference to Table 6.2 above in terms of 'Economy', the primary differentiator between the 4 options is the Transport Quality & Reliability. Option 3-1 delivers the highest quantum of bus priority along the corridor ensuring good journey time reliability.

6.3.55 Under criterion 'Integration', Option 3-1 ranks the highest in four out of the five sub-criteria. The primary differentiator is 'Cycling Integration' whereby Option 3-1 aligns

the most with the GDA CNP in terms of the provision of proposed cycle infrastructure.

6.3.56 Under criterion 'Accessibility & Social Inclusion', Option 3-1 ranks the highest as the corridor serves the quantum of Key Trip Attractors. Furthermore, the corridor primarily serves Disadvantaged to Below Average means classified area along the western extents of the section. It is not until it reaches the city centre area (eastbound from St Luke's Ave) that it serves Marginally Above means areas. In comparison, the other corridors serve Marginally Above Average to Affluent areas between Tyrconnell Rd to Old Kilmainham.

6.3.57 Under criterion 'Safety', the primary differentiator is 'Pedestrian Safety' whereby Option 3-1 ranks the highest as the route provides good pedestrian facilities and associated accessibility levels throughout. In comparison, the provision of pedestrian facilities along the Naas Rd are restricted by Luas tracks running along the centre of the road carriageway.

6.3.58 In terms of 'Environment', Option 3-1 again ranks the highest as the route does not impact upon any protected structures/monuments. Furthermore, the corridor briefly passes through a conservation area at the Crumlin Rd/Parnell Rd junction in comparison to the other options passing through an area designated as a 'Zone of Archaeological Interest' along Thomas St to High St.

6.3.59 A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in Table 6.3 below.

Section 3 Summary				
Appraisal Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
1 Economy				
2 Integration				
3 Accessibility & Social Inclusion				
4 Safety				
5 Environment				

Table 6.3: Section 2 Options MCA Summary (Main Criteria)

6.3.60 Based on the assessment undertaken, option 3-1 offers more benefits over the other three options under assessment. Option 3-1 is therefore preferred route for Section 3 for the following reasons: -

- It proves to be a more cost effective solution than the other options;

- It provides a higher level of bus priority to the other options providing improved journey time reliability;
- It serves a high level of residential and employment catchments within 5, 10 and 15-minute walking distance;
- Users of the CBC service will be able to integrate with existing and future proposed public transport infrastructure; and
- It provides a variety of cycle facilities in line with the GDA CNP.

6.3.61 Based on the multi-criteria assessment undertaken for this section of the study area, option 3-1 is identified as the preferred route and as such will form part of the emerging preferred route.

6.3.62 As previously mentioned Option S3-1 overlaps with the recommended preferred route for the proposed Greenhills to City Centre CBC on Drimnagh Road (in the vicinity of the Drimnagh Road/Walkinstown Road junction). As such to avoid confusion and to ensure there are no discrepancies in the proposals for the corridor, the Clondalkin CBC proposals will terminate on Drimnagh Road. Between Drimnagh Road and the City Centre the Clondalkin CBC will tie into the proposals as outlined by the Greenhills to City Centre CBC.

7.0 EMERGING PREFERRED ROUTE

7.1 Introduction

7.1.1 This section of the report presents the final conclusions from the assessment process for the end-to-end route options considered and recommends a preferred route. A description of the preferred route is given together with ancillary measures required on other streets and key issues to be addressed through the scheme design development.

7.1.2 It was established early during the initial assessment process (Ref. Chapter 3), that due to both (i) the extent of high quality bus infrastructure currently available along the main through routes of Section 1 of the study area; and (ii) the modest potential for future development within Section 1, an appropriate starting point for the subject Clondalkin to City Centre CBC would be in the vicinity of the New Nangor Road/Fonthill Road junction, i.e. within Section 2 of the study area. This starting point would enable interchange with the proposed Tallaght-Blanchardstown Orbital Bus Corridor which has been identified to travel along the R113 Fonthill Road corridor, whilst the flexibility remains, should demand in the future necessitate the CBC to be extended westwards along the New Nangor Road. In the current CBC proposals, this section of the New Nangor Road will function as a feeder route to the proposed Clondalkin to City Centre CBC.

7.1.3 Chapters 5 and 6 of this report presented an appraisal to each of the potential route options for Sections 2 and 3 of the study area. Where a potential route was identified within each section, they have been assessed in accordance with the methodology set out in Chapter 4 of this report. This assessment process included Multi-criteria Analysis under the headings of Economy, Integration, Accessibility & Social Inclusion, Safety and Environment. Following the undertaking of the Multi Criteria Analysis, the emerging preferred routes for each of the study area sections were combined to create an end to end emerging preferred route for the entire study area.

7.2 Recommended Preferred Route

7.2.1 The preferred route for the proposed scheme is presented in Figure 7.1 below and described in the following paragraphs.

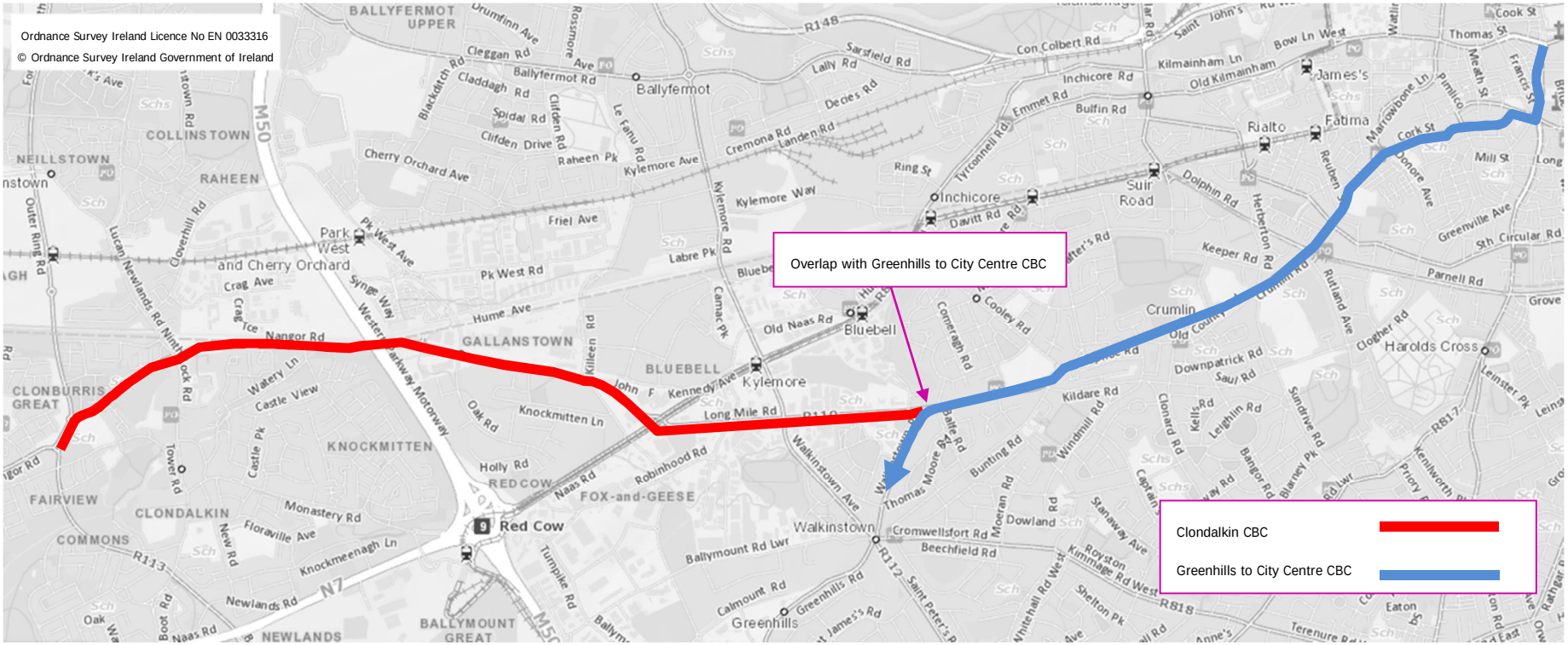

Figure 7.1: Clondalkin to City Centre Core Bus Corridor Emerging Preferred Route

7.2.2 The preferred route commences to the east of the R134 New Nangor Rd/ R113 Fonthill Road junction. The route then continues east to southeast along the New Nangor Road to the R134 New Nangor Rd/ Naas Rd / R110 Long Mile Road junction.

7.2.3 From the aforementioned junction, the CBC continues in an easterly direction along the Long Mile Road and Drimnagh Road where it merges with the Greenhills to City Centre CBC in the vicinity of the Drimnagh Rd/Walkinstown Rd junction.

7.2.4 Outbound CBC services would follow the same route as the inbound CBC services.

7.3 Concept Scheme Design

Section 2: Fonthill Road South to Naas Rd/Long Mile Rd junction (Sheet 01 to Sheet 11, Volume II Concept Scheme Drawings)

Length of Scheme Section: 3.9KM

Indicative Infrastructure Cost: €11-16 million

Indicative Land Acquisition Cost: €2.2 million

Total Indicative Cost of Scheme Section: €13.2-18.2 million

7.3.1 The emerging preferred CBC scheme commences at the New Nangor Rd/Fonthill Rd South junction. To facilitate bus priority (in both directions) at this junction and at the adjacent R113 Fonthill Rd North/New Nangor Rd junction, it is proposed to upgrade both of these roundabout junctions to traffic signal controlled. The upgrading of these junctions can be achieved within the existing road reservation. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

7.3.2 Two new pedestrian links will be provided between Alpine Heights and Fonthill Road South to improve pedestrian accessibility to the new CBC corridor.

7.3.3 Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the R113 Fonthill Rd North/New Nangor Rd junction and the New Nangor Rd/Ninth Lock Rd junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP. Carriageway widening into the rear gardens of numbers 81-98 Millpark will be required to facilitate the provision of the cycle lanes.

7.3.4 A new pedestrian link will be provided between St Patrick's Park and the New Nangor Rd to improve pedestrian accessibility to the new CBC corridor.

7.3.5 The New Nangor Rd/Ninth Lock Rd junction will be reconfigured to provide bus priority in both directions up to the stop lines. There will be a short gap in the bus lane provision on approach to the stop lines however to facilitate left turning vehicles crossing the bus lane and merging into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

7.3.6 Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the New Nangor Rd/Ninth Lock Rd junction and the New Nangor Rd/Woodford Walk junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP. The CBC proposals along this section can be achieved within the existing road reservation.

7.3.7 A toucan crossing will be provided on the New Nangor Rd to the north of Mayfield Park. This crossing (in conjunction with the provision of pedestrian connections) will facilitate a pedestrian desire line to/from the proposed CBC route and the Riversdale and Mayfield Park residential areas to the south of the New Nangor Rd. The provision of this controlled crossing and pedestrian connections would increase the catchment area and attractiveness of the CBC route for commuters.

7.3.8 At the New Nangor Rd/Woodford Walk junction the existing inbound bus bypass facility will be retained however the junction will be reconfigured to include the provision of cycle lanes.

7.3.9 Continuous bus priority (in both directions) will be facilitated along the New Nangor Rd the New Nangor Rd/Woodford Walk junction and the Riverview Business Park junction. Due to width constraints at the M50 flyover, it is not possible to provide two-way cycle facilities (or pedestrian footways). Accordingly eastbound cyclists and pedestrians will be directed to to join the adjacent Grand Canal Greenway over the short section of the underpass and will then be given the opportunity to re-join the New Nangor Rd. A toucan crossing will also be provided to the east of the M50 flyover to facilitate pedestrians/cyclists wishing to access/egress the Greenway.

7.3.10 To facilitate bus priority (in both directions) at the Riverview Business Park junction, the existing roundabout arrangement of the junction will be upgraded to traffic signal controlled. There will be a short gap in the bus lane provision on approach to the

stop lines however to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction. The CBC proposals along this section can be achieved within the existing road reservation.

7.3.11 Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the Riverview Business Park junction and the New Nangor Rd/Oak Road junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

7.3.12 To facilitate bus priority (in both directions) at the New Nangor Rd/Oak Road junction, the existing signal controlled junction will be reconfigured. There will be a short gap in the bus lane provision on approach to the stop lines to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction. Carriageway widening will be required (on the southern side of the New Nangor Rd) in the vicinity of the New Nangor Rd/Oak Road junction to facilitate the CBC proposals.

7.3.13 Continuous bus priority in both directions will be facilitated along the New Nangor Rd/Oak Road junction and the New Nangor Rd/Willow Road junction. There will be a short gap in the bus lane provision on approach to the stop lines to facilitate left turning vehicles crossing the bus lane and merging into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

7.3.14 Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the Willow Rd junction and the New Nangor Rd/Killeen Rd junction. Cycle lanes (in both directions) will also be provided between these two signal controlled junctions aligning with Secondary route 8C2 as identified in the CNP.

7.3.15 At the New Nangor Rd/Killeen Rd (northern) junction the existing outbound bus bypass facility will be retained. There will be a short gap in the bus lane provision on approach to the inbound stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle lanes will also be continued through the junction.

7.3.16 At the New Nangor Rd/Killeen Rd (southern) junction there will be a short gap in the outbound bus lane provision on approach to the stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn flare lanes provided. Cycle

lanes will also be continued through the junction. Carriageway widening will be required to facilitate the provision of the cycle lanes.

7.3.17 Continuous bus priority in both directions will be facilitated along the New Nangor Rd between the New Nangor Rd/Killeen Rd (southern) junction and the New Nangor Rd/Naas Rd/Long Mile Rd junction. Cycle lanes (in both directions) will also be provided between these two junctions aligning with Secondary route 8C2 as identified in the CNP.

7.3.18 Bus lanes will be provided on approach to and from the New Nangor Rd/Naas Rd/Long Mile Rd junction. There will be a short gap in the inbound bus lane provision on approach to the stop line to facilitate left turning vehicles to cross the bus lane and merge into the left turn lane. Cyclists will be afforded protection from general traffic through this busy junction by the provision of kerbed solid islands after which they will be directed to cross the Naas Road carriageway at toucan crossings. The CBC proposals for the New Nangor Rd/Naas Rd/Long Mile Rd junction will be subject to further analysis during the detailed design stage.

Section 3 – New Nangor Rd/Naas Rd/Long Mile junction to Drimnagh Rd/Walkinstown Rd junction (Sheet 11 to Sheet 15, Volume II Concept Scheme Drawings)

Length of Scheme Section: 1.68KM

Indicative Infrastructure Cost: €3.4 – 8.4 million

Indicative Land Acquisition Cost: €1.1 million

Total Indicative Cost of Scheme Section: €4.5 – 9.5 million

7.3.19 The CBC service will proceed eastbound along the R110 Long Mile Road from the New Nangor Rd/Naas Rd/Long Mile junction to Drimnagh Road. From Drimnagh Road, in the vicinity of the Drimnagh Road/Walkinstown Road junction, the CBC service will merge with the Geenhills to City Centre CBC.

7.3.20 Outbound: The outbound service follows the same route as the inbound.

7.3.21 Stops: There will be a rationalisation of the existing bus stop provision along this section.

7.3.22 The journey time for this route option from the New Nangor Rd/Naas Rd/Long Mile Rd junction to the Drimnagh Rd/Walkinstown Rd junction is approximately 5 minutes over a distance of approximately 1.56KM.

7.3.23 The proposals for the CBC service for the S3-1 option include the extension/upgrading of the existing bus lanes (in both directions) along the R110 between the Naas Road and Drimnagh Road where the CBC service will merge with the Geenhills to City Centre CBC.

7.3.24 The R110 Naas Road/Walkinstown Avenue traffic signal controlled junction will be reconfigured to ensure the buses are given priority at the junction. In addition the Walkinstown Road/Long Mile Road junction will be upgraded from its current priority arrangement to signal controlled, incorporating the existing pedestrian crossing to the east into the traffic signals to reduce the possibility of additional delays for buses.

7.3.25 Cycle facilities will also be provided along the route to align with Secondary Route 8C as identified within the CNP.

7.3.26 The CBC proposals along this section can be achieved within the existing road reservation.

7.3.27 The proposed CBC will merge with the Greenhills to City Centre CBC in the vicinity of the Drimnagh Road/Walkinstown Road junction.

7.4 Concept Scheme Design Summary

Cost Estimate

7.4.1 A high-level cost estimate has been prepared based on the concept scheme design and a number of assumptions regarding the scheme details. As such the proposed Clondalkin to City Centre Core Bus Corridor scheme infrastructure is anticipated to be in the region of €22.7-27.7 million excluding VAT.

Journey Time Benefits

7.4.2 Through the provision of increased bus priority infrastructure, the proposed scheme would improve both the overall journey times for buses along the route and their journey time reliability. A review of the available comparable journey time data along

the route demonstrates that many of the issues currently being experienced by buses could be addressed by the proposed scheme.

7.4.3 The following graphs present the existing journey time and speed data for Dublin Bus Service 151 (Docklands, East Rd. to Foxborough, Balgaddy Rd.). Part of route 151 travels along the majority of the preferred route selected for the Clondalkin to City Centre CBC, (i.e. inbound from the existing bus stop 6014 'Dunawley' to bus stop 2185 Slievebloom Road', and outbound from the existing bus stop 2726 'Slievebloom Park' to bus stop 2133 'Roundabout'). This service also includes part of the Greenhills CBC.

7.4.4 To enable a journey time comparison to be undertaken, information has been obtained from the most recent Automatic Vehicle Location (AVL) data for this route (151).

7.4.5 For the purposes of this journey time comparison, the section of the 151 bus route under consideration is from the existing inbound bus stop 6014 'Dunawley' (on the New Nangor Road) to bus stop 2185 'Slievebloom Road' (on Drimnagh Road), (i.e. Section 2 and Section 3 of the Clondalkin CBC study area to where the route meets the Greenhills CBC), and the existing outbound bus stop 2726 'Slievebloom Park' (on the Long Mile Road) to bus stop 2133 'Roundabout' (on the New Nangor Road).

7.4.6 Figure 7.2 and Figure 7.3 present the average journey time per half hour over the course of a normal weekday for the inbound and outbound directions, respectively.

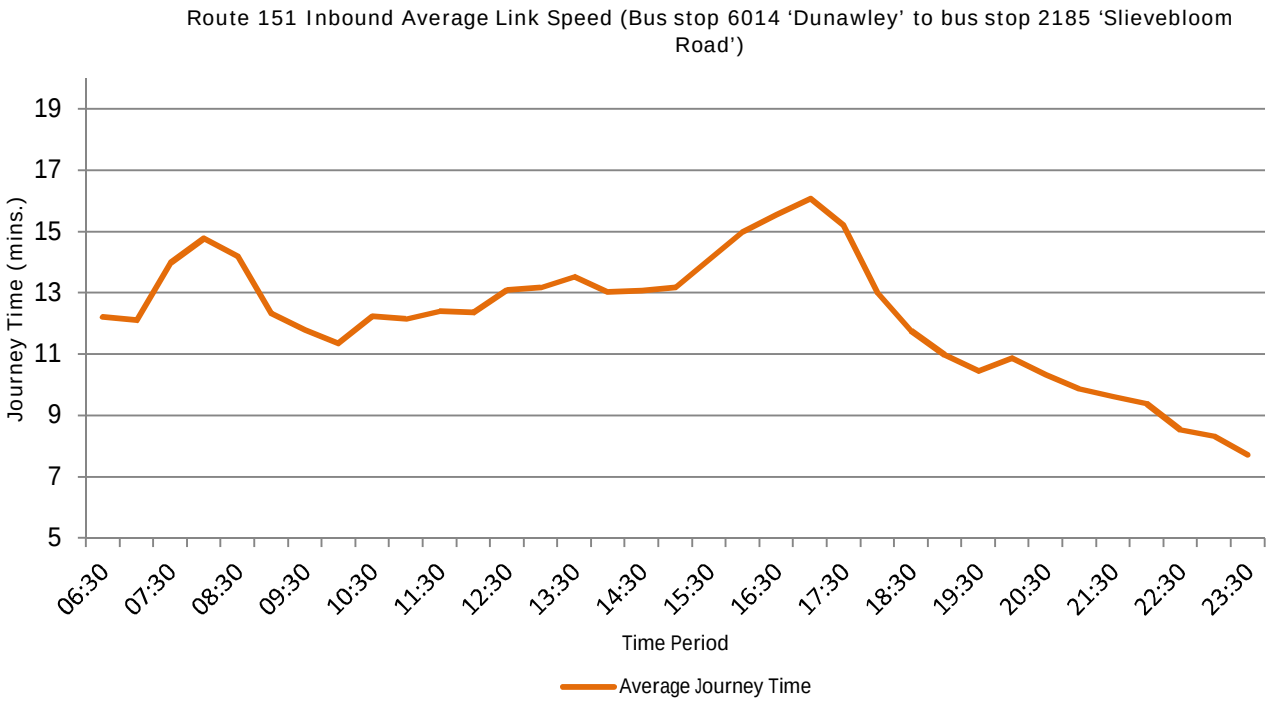

Figure 7.2: Existing Inbound Journey Times

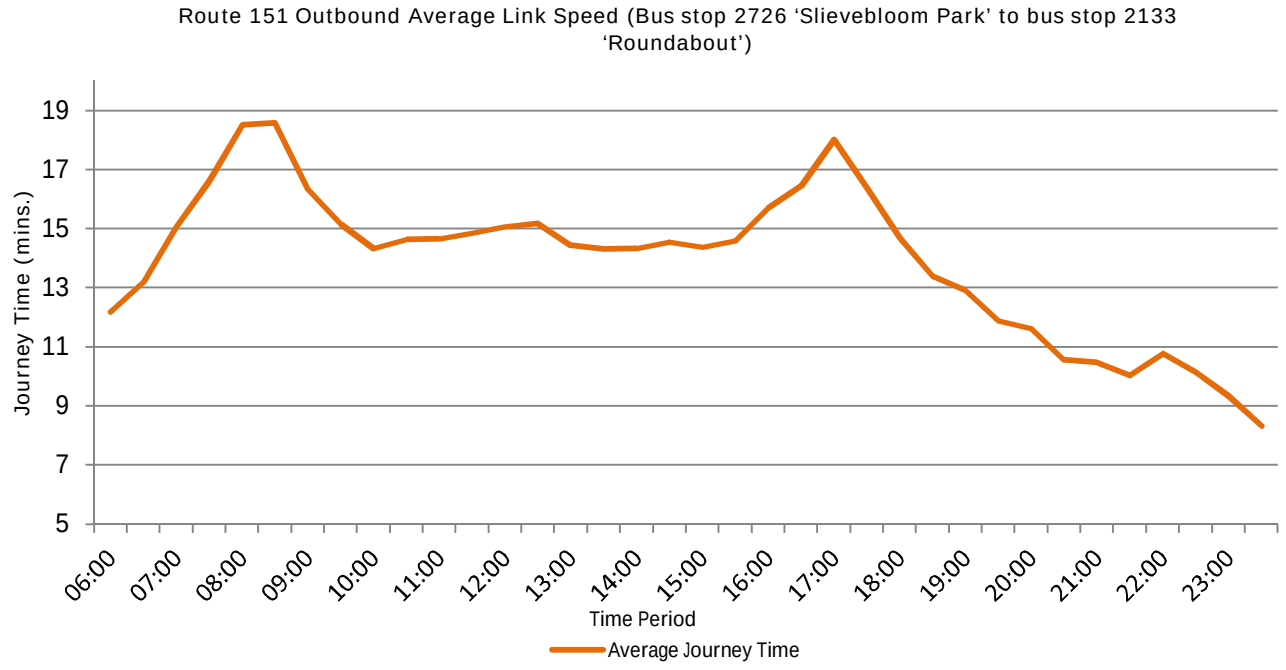

Figure 7.3: Existing Outbound Journey Times

7.4.7 The graphs presented in Figure 7.2 and Figure 7.3 clearly illustrate the current issues with journey time reliability along the route.

7.4.8 Journey times during the core hours of bus operation (07:00 – 19:00) are observed to vary between 11 – 16 minutes in the inbound direction and 13 -19 minutes in the outbound direction. The variation in journey times is most likely due to the lack of

bus priority at and on approach to the junctions along the route and subsequent turbulence caused by traffic congestion, as well as passenger boarding times at stops which are high due to requirements for driver interaction.

7.4.9 As such, the journey times outside of these hours, when both vehicle traffic volumes and passenger volumes are lower, are more reflective of the journey times which could be achieved through a combination of the proposed bus priority infrastructure improvements, better enforcement of bus lanes and the introduction of cashless fares. In other words, the proposed infrastructure would effectively create an uncongested network for buses.

7.4.10 After 19:00 in the evening, the inbound journey time is observed to reduce to between 8 – 11 minutes. Similarly, outbound journey times are seen to reduce to between 8 - 12 minutes. For both inbound and outbound journey times after 19:00, the overall journey time is seen to drop by up to 5 minutes in the inbound direction and 7 in the outbound, with the variance between the upper and lower limits also reduced for each direction.

7.4.11 The benefits can also be seen by comparing the existing average link speeds along the route in the morning peak hour with the late evening. Figure 7.4 and Figure 7.5 present this information for the inbound and outbound direction, respectively.

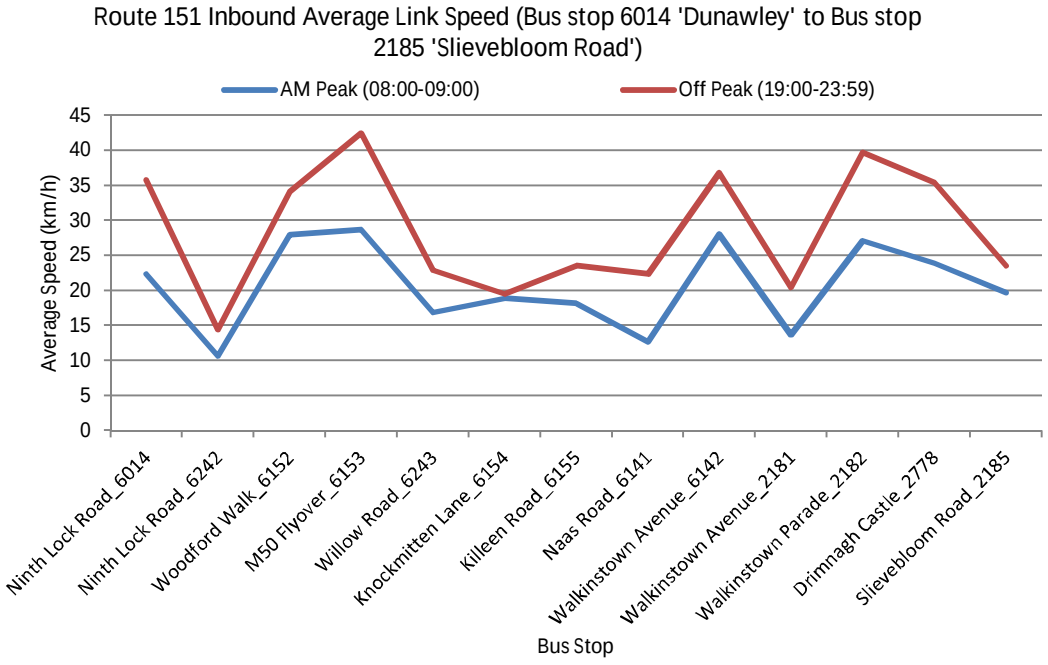

Figure 7.4: Existing Inbound Average Link Speed

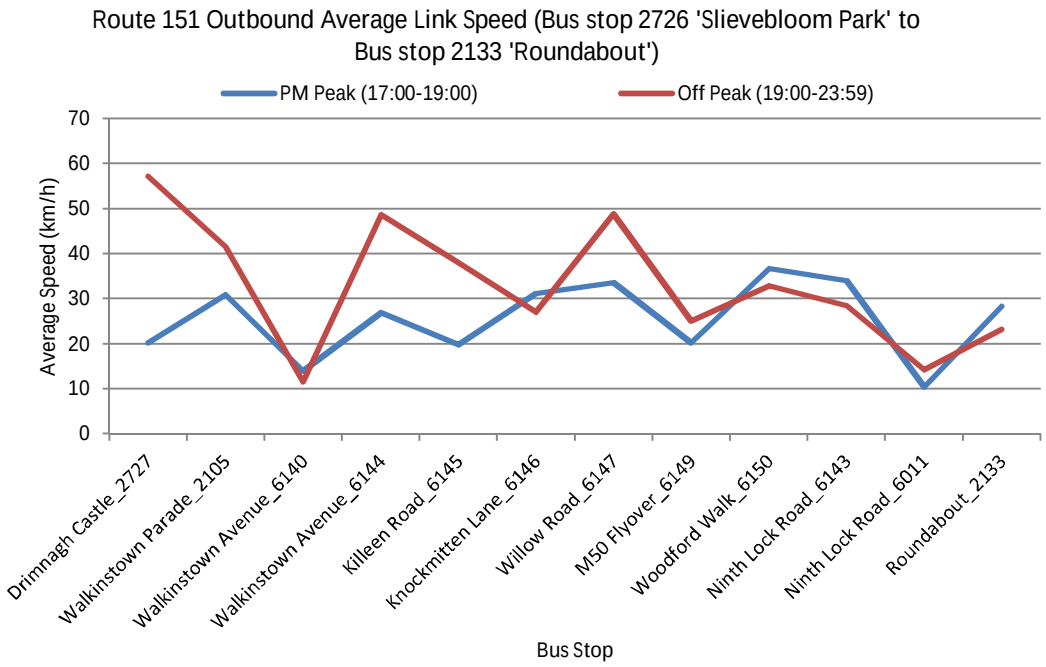

Figure 7.5: Existing Outbound Average Link Speed

7.4.12 Reviewing both the inbound and outbound data, it can be seen that the average speed for buses along the route is consistently higher at night, in uncongested conditions, compared to the morning peak hour where congestion slows the progression of buses. This further illustrates the benefits improved bus priority will bring to buses operating along the proposed route.

8.4.11 The data and graphs (Figure 7.4 & 7.5) reveal that for both inbound and outbound bus services the delays (slower speeds) are being experienced at/on approaches to the following junctions: -

- New Nangor Road/Ninth Lock Road junction;
- New Nangor Rd/Oak Rd junction;
- New Nangor Rd/Naas Rd/Long Mile Rd junction;
- Long Mile Rd/Walkinstown Avenue junction; and
- Long Mile Rd/Walkinstown Rd junction.

7.4.13 The CBC proposals at these aforementioned junctions include the provision of new/extended bus lanes up to the stop lines, in addition to a reduction in the length of the lanes where buses must share the traffic lane with general vehicular traffic.

7.4.14 In conclusion, the provision of new and extended bus lanes, with improved bus priority along the proposed CBC route, in addition to the introduction of cashless

fares, would enable buses to travel with improved journey times and greater journey time reliability.

8.0 NEXT STEPS

8.1.1 This report has identified an emerging preferred route for the bus infrastructure along this Core Bus Corridor for which a concept design has been developed.

8.1.2 The next project stage (the development of a Preliminary Design) will further refine and update the initial concept design along the route. Further account will be taken of likely public transport service levels, particularly the bus service patterns and any changes to the overall bus network which may arise from the separate bus network review process. The proposals will be amended, if and as required, to integrate any resultant changes. The Preliminary Design will define the final practically achievable scheme for the CBC, taking into account more detailed studies of constraints, impacts and environmental assessment required at a local level.

8.1.3 Prior to finalisation of the CBC scheme design, a public consultation process will be undertaken, with inputs and feedback received incorporated where practical and appropriate to do so.

8.1.4 This Preliminary Design will form the basis of the planning consent process for the scheme, which will require a development consent application to be made directly to An Bord Pleanala, due to the nature and extent of the proposed works.

9.0 APPENDIX A - SECTION 2 ROUTE OPTIONS ASSESSMENT

Section 2					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
1 Economy	1A Capital Cost	€25,954,200.00 *Indicative Infrastructure costs €11,026,950.00 include:* • New bus lanes on the Old Nangor Rd • New bus lanes on Monastery Rd • Upgrade of New Nangor Rd/Fonthill Rd South roundabout to traffic signals (3 arm junction) • Upgrade of the R113 Fonthill Rd North/New Nangor Rd roundabout to traffic signals (3 arm junction) • Upgrade of Fonthill Rd South/Old Nangor Rd priority junction to traffic signals (4 arm junction) • New Road link from Convent Rd through Moyle Park lands to the Old Nangor Rd • Existing access to Moyle Park College to be closed and redirected • New cycle lanes along Old Nangor Rd, Fonthill Rd South, Monastery Rd (Part), Orchard Rd • Improved Pedestrian Facilities on New Nangor Rd, Old Nangor Rd, Tower Rd, Fonthill Rd South, Main St and Monastery Rd • New traffic management arrangements on Orchard Rd & Orchard Lane, New Rd and Main St • New access to car parks on Orchard Lane • Provision of 2 new signal controlled junctions on Convent Rd & Old Nangor Rd • Provision of bus gates on Main St • New Cycle route through the disused petrol filling station lands connecting to Floraville Avenue and Laurel Park with a bridge structure over water course • Upgrade of Monastery Rd/Woodford roundabout to signal controlled • Queue relocation facility on Monastery Rd *Land Acquisition Costs €14,921,250.00* • 9947.5 sqm Private Land • Other properties affected: - Moyle Park College, - Snooker Club, - Tesco, - 6 no. car parks (no loss of parking anticipated), - Coláiste Chillian School, - Protected Structure (Ref. 136), - Moyle Park Gate Lodge, - PFS (Monastery Rd), - Funeral Home - SIAC lands - Commercial Premises adjacent to Bluebell FC - Woodies DIY • 41 residential properties affected	€11,274,200.00 *Indicative Infrastructure costs €7,683,650.00 include:* • New/upgraded bus lanes on Fonthill Rd South • Upgrade of R113 Fonthill Rd North/New Nangor Rd roundabout to traffic signals (3 arm junction) • Upgrade of New Nangor Rd/Fonthill Rd South roundabout to traffic signals (3 arm junction) • Reconfiguration of the Fonthill Rd South/Boot Road signalised junction • Reconfiguration of the Fonthill Rd South/Cladbeck Way signalised junction • Reconfiguration of the Fonthill Rd South/N7 signalised junction (Fonthill Rd south arm only) • New cycle lanes along Fonthill Rd South • Bridge over River Camac for peds/cyclists • Improved Pedestrian Facilities on Fonthill Rd South *Land Acquisition Costs €3,590,550.00* • 2,393.70 sqm Private Land • Other properties affected: - Boot Rd Health Centre - Topaz PFS - Maldron Hotel - Newlands Retail Centre - Autocentre - Commercial Premises adjacent to Bluebell FC - Woodies DIY • 31 residential properties affected, Kilwarden Court Apartments	€13,409,720.00 *Indicative Infrastructure costs €1111,207,750.00 include:* • New/upgraded bus lanes on New Nangor Rd • New Cycle Lanes along New Nangor Rd • Upgrade of R113 Fonthill Rd North/New Nangor Rd roundabout to traffic signals (3 arm junction) • Upgrade of New Nangor Rd/Fonthill Rd South roundabout to traffic signals (3 arm junction) • Upgrade of New Nangor Rd/Riverview Business Park roundabout to traffic signals (4 arm junction) • Reconfiguration of the New Nangor Rd/Oak Rd signalised junction • Reconfiguration of the New Nangor Rd/Willow Rd signalised junction • Reconfiguration of the New Nangor Rd/Killeen Rd signalised junction • Improved Pedestrian Facilities on New Nangor Rd • Reconfiguration of the New Nangor Rd/Naas Rd/Long Mile Rd signalised junction (subject to further analysis) *Land Acquisition Costs €2,201,970.00* • 1,467 sqm Private Land • Other properties affected: - Lidl - Nangor Rd Business Centre - Western Business Park - Western Industrial Estate - Westland Park - ISUZU Premises • 0 residential properties affected	€23,930,660.00 *Indicative Infrastructure costs €12,262,250.00 include:* • New/upgraded bus lanes on the New Nangor Rd • New bus lanes on Ninth Lock Rd • Upgrade of New Nangor Rd/Fonthill Rd South roundabout to traffic signals (3 arm junction) • Upgrade of R113 Fonthill Rd North/New Nangor Rd roundabout to traffic signals (3 arm junction) • Reconfiguration of the New Nangor Rd/Ninth Lock Rd signalised junction • Reconfiguration of the Orchard Rd/Mill Centre/Ninth Lock Rd signalised junction • New road link/upgraded Mill Centre access Rd • New bus lanes on Orchard Rd • New cycle lanes on Orchard Rd • New bus lanes on Watery Lane • New cycle lanes on Watery Lane • New bus road link adjacent to Watery Lane • Upgrade of New Nangor Rd/Riverview Business Park roundabout to traffic signals (4 arm junction) • Reconfiguration of the New Nangor Rd/Oak Rd signalised junction • Reconfiguration of the New Nangor Rd/Willow Rd signalised junction • Reconfiguration of the New Nangor Rd/Killeen Rd signalised junction • Improved Pedestrian Facilities on New Nangor Rd, Old Nangor Rd, Tower Rd, Fonthill Rd South, Main St and Monastery Rd • New traffic management arrangements on Orchard Rd & Orchard Lane • Provision of a new signal controlled junction on Aldi access road • Reconfiguration of the New Nangor Rd/Naas Rd/Long Mile Rd signalised junction (subject to further analysis) *Land Acquisition Costs €11,668,410.00* • 7779 sqm Private Land • Other properties affected: - Mill Centre - Mill Centre Car Park - McDonalds Restaurant - 1 no. car parks (loss of approx. 20 spaces), - Irish Cultural Centre - Nangor Rd Business Centre - Western Business Park - Western Industrial Estate - Westland Park - ISUZU Premises • 14 residential properties affected
	Rank				
	1B Transport Quality & Reliability	Journey Time 12 mins Approximate Length: 4.22KM Full bus priority provided except for: - • section on Monastery Rd (150m) where loss of outbound priority, no delays to buses as reduced traffic volumes with associated proposed traffic management measures • N7 where no changes are proposed. Good journey time reliability for Bus services through Clondalkin Village Centre however increasing traffic levels along the N7 results in unreliability for bus journey times.	Journey Time 10 mins Approximate Length: 4.48KM Full bus priority provided except for: - • N7 where no changes are proposed. Good journey time reliability for Bus services along Fonthill Road South however increasing traffic levels along the N7 results in unreliability for bus journey times.	Journey Time 5 mins Approximate Length: 3.9KM Full bus priority provided along the route with good journey time reliability for Bus services.	Journey Time 10 mins Approximate Length: 4.9KM Full bus priority provided except for: - • Section on Ninth Lock Rd (40m) where loss of outbound priority, no delays to buses as buses will have been given priority at preceding junction. reduced traffic volumes with traffic management measures • Section on Orchard Rd (55m) where loss of inbound priority, no delays to buses as buses will have been given priority at preceding junction. reduced traffic volumes with traffic management measures Good journey time reliability for Bus services.

Section 2					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
2 Integration	Rank				
	2A Land Use Policy	The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the north of the Mill Centre. The proposed CBC would encourage/support planned development and provide for economic opportunities. This proposed CBC corridor offers fewer opportunities for connection than options 2-4 and 2-3.	No applicable benefits	The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the north of the Mill Centre. The proposed CBC would encourage/support planned development and provide for economic opportunities. This proposed CBC corridor offers more opportunities for connection than option 2-1, but less than option 2-4.	The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the north of the Mill Centre. The proposed CBC would encourage/support planned development and provide for economic opportunities. This proposed CBC corridor offers more opportunities for connection than all other options.
	Rank				
	2B Residential Population and Employment Catchments	Residential Population Catchments - 5-minute walk catchment of approx. 5,366 - 10-minute walk catchment of approx. 13,004 - 15-minute walk catchment of approx. 21,241 Employment catchments - 5-minute walking catchment of approx. 2,216 - 10-minute walking catchment of approx. 8,371 - 15-minute walking catchment of approx. 9,600	Residential Population Catchments - 5-minute walk catchment of approx. 3,081 - 10-minute walk catchment of approx. 10,084 - 15-minute walk catchment of approx. 17,455 Employment catchments - 5-minute walk catchment of approx. 788 - 10-minute walk catchment of approx. 8,078 - 15-minute walking catchment of approx. 9,400	Residential Population Catchments - 5-minute walk catchment of approx. 2,498 - 10-minute walk catchment of approx. 8,296 - 15-minute walk catchment of approx. 19,020 Employment catchments - 5-minute walk catchment of approx. 5,478 - 10-minute walk catchment of approx. 6,020 - 15-minute walking catchment of approx. 13,342	Residential Population Catchments - 5-minute walk catchment of approx. 4,659 - 10-minute walk catchment of approx. 10,593 - 15-minute walk catchment of approx. 22,887 Employment catchments - 5-minute walk catchment of approx. 6,833 - 10-minute walk catchment of approx. 7,557 - 15-minute walking catchment of approx. 14,182
	Rank				
	2C Transport Network Integration	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Red Cow Potential for interchange with the Tallaght-Blanchardstown Core Orbital Bus Corridor	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Red Cow Potential for interchange with the Tallaght-Blanchardstown Core Orbital Bus Corridor	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore Potential for interchange with the Tallaght-Blanchardstown Core Orbital Bus Corridor	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore Potential for interchange with the Tallaght-Blanchardstown Core Orbital Bus Corridor
	Rank				
	2D Cycling Integration	This route option comprises an element of primary route SO5 and elements of secondary routes SO5a, 7D and 7E as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. This route option generally respects the cycle routes identified however, • On the Old Nangor Rd where a feeder route is identified there is a gap of approximately 70m in cycle provision. • On Monastery Rd where Secondary route 7E is identified cyclists are provided with a diversion resulting in an additional 200m (approx.) journey distance. • On Tower Rd where primary route SO5 is identified it is not possible to provide cycle lanes however the National Cycle Manual allows the use of shared use streets where the speed is less than 30KM/hr with an AADT of less than 10,000 vehicles. Nonetheless this type of facility does not meet the target Quality of Service identified in the GDA CNP. • On Main St where secondary route 7E is identified it is not possible to provide cycle lanes however the National Cycle Manual allows the use of shared use streets where the speed is less than 30KM/hr with an AADT of less than 10,000 vehicles. • On Orchard Lane where a feeder route is identified it is not possible to provide cycle lanes however the National Cycle Manual allows the use of shared use streets where the speed is less than 30KM/hr with an AADT of less than 10,000 vehicles.	This route option comprises elements of secondary routes SO5a and 7D as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. This route option generally respects the cycle routes identified however, • Between the Fonthill Rd South/Cladbeck Way junction and the Fonthill Rd South/N7 junction where secondary route SO5a is identified cyclists are provided with a diversion resulting in an additional 95m (approx.) journey distance.	This route option comprises elements of secondary routes 8C2 as identified in the GDA Cycle Network Plan. This route option generally respects the cycle route identified however, • On the New Nangor Rd at the M50 flyover cyclists are provided with a diversion resulting in an additional 15-20m (approx.) journey distance.	This route option comprises an element of primary route SO5 and elements of secondary routes 8C2 and 7C as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. This route option generally respects the cycle route identified however, • On the New Nangor Rd at the M50 flyover cyclists are provided with a diversion resulting in an additional 15-20m (approx.) journey distance. • on the Ninth Lock Rd where primary route SO5 is identified cycle lanes cannot be accommodated however cyclists are provided with an alternative north-south route via the proposed upgraded Mill Centre road (connecting to the road delivered as part of the Aldi planning application) resulting in an additional 200m (approx.) journey distance.
	Rank				

Section 2					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
2 Integration	2E Traffic Network Integration	Through traffic in Clondalkin Village Centre will no longer be possible however alternative routes are available or will be provided which will result in a reduction in journey times. Traffic travelling to/from Clondalkin Village Centre to/from the Old Nangor Rd will be provided with a new road link which may result a reduction in journey times.	Bus infrastructure existing on large part of Fonthill Road South. Reallocation of road space to buses lanes may be necessary towards the southern end of Fonthill Road South.	A large quantum of Bus infrastructure existing along the New Nangor Rd. the CBC proposals can generally be accommodated by carriageway widening and junction reconfiguration/upgrading. Minimal Impact on general traffic.	Traffic travelling to/from Clondalkin Village Centre to/from the Ninth Lock Rd will be provided with a new road link which may result a reduction in journey times. A large quantum of Bus infrastructure existing along the New Nangor Rd. the CBC proposals can generally be accommodated by carriageway widening and junction reconfiguration/upgrading.
	Rank				
3 Accessibility and Social Inclusion	3A Key Trip Attractors	Educational Land Use catchments - 5-minute walking catchment of approx. 2,102 - 10-minute walking catchment of approx. 3,037 - 15-minute walking catchment of approx. 4,791 Retail/leisure Land Uses - Clondalkin Village - Clondalkin Library - Corkagh Demense - Clondalkin Leisure Centre - Pitch & Putt Club - Snooker/Bingo Club - Round Tower GAA Club - Clondalkin Youth Service - Western Industrial Estate - Red Cow Business Park	Educational Land Use catchments - 5-minute walking catchment of approx. 2,176 - 10-minute walking catchment of approx. 3,551 - 15-minute walking catchment of approx. 4,091 Retail/leisure Land Uses - Newlands Retail Centre - Corkagh Demense - Western Industrial Estate - Red Cow Business Park	Educational Land Use catchments - 5-minute walking catchment of approx. 590 - 10-minute walking catchment of approx. 1,028 - 15-minute walking catchment of approx. 3,032 Retail/leisure Land Uses - Clondalkin Village - Lidl Supermarket - Western Industrial Estate - Park West Industrial Estate - John F Kennedy Industrial Estate	Educational Land Use catchments - 5-minute walking catchment of approx. 1,033 - 10-minute walking catchment of approx. 2,542 - 15-minute walking catchment of approx. 4,781 Retail/leisure Land Uses - Clondalkin Village Centre - Western Industrial Estate - Park West Industrial Estate - John F Kennedy Industrial Estate
	Rank				
	3B Deprived Geographic Areas	Route option serves areas of Marginally Below Average to Affluent means from the Pobal Deprivation Index.	Route option serves areas of Marginally Below Average to Affluent means from the Pobal Deprivation Index.	Route option serves areas of Disadvantaged to Marginally Above Average means from the Pobal Deprivation Index.	Route option serves areas of Disadvantaged to Marginally Above Average means from the Pobal Deprivation Index.
	Rank				
4 Safety	4A Road Safety	No. of Junctions: 28 (All) Turning Movements required: 9 (4 inbound, 5 outbound)	No. of Junctions: 15 (All) Turning Movements required: 4 (2 inbound, 2 outbound)	No. of Junctions: 11 (All) Turning Movements required: 0	No. of Junctions: 21 (All) Turning Movements required: 10 (5 inbound, 5 outbound)
	Rank				
	4B Pedestrian Safety	No. of Junctions: 28 (All) No. of Pedestrian Crossings 3 Good pedestrian facility provision through Clondalkin Village, poor pedestrian provision along the N7	No. of Junctions: 15 (All) No. of Pedestrian Crossings 3 Good pedestrian facility provision along Fonthill Road South, poor pedestrian provision along the N7	No. of Junctions: 11 (All) No. of Pedestrian Crossings 3 Good pedestrian facilities provision however some bus stops are not located within 50m of a pedestrian crossing. CBC proposals will include the provision of new pedestrian crossings.	No. of Junctions: 21 (All) No. of Pedestrian Crossings 5 Good pedestrian facilities provision however some bus stops are not located within 50m of a pedestrian crossing. CBC proposals/junction upgrades will include the provision of new pedestrian crossings.
	Rank				
5 Environment	5A Archaeology & Cultural Heritage	1 Recorded Monument or site of archaeological and cultural heritage merit was identified within the assessment area: • Clondalkin Village ACA.	No recorded Monument or sites of archaeological and cultural heritage merit were identified within the assessment area.	No recorded Monument or sites of archaeological and cultural heritage merit were identified within the assessment area.	1 Recorded Monument or sites of archaeological and cultural heritage merit was identified within the assessment area: • Clondalkin Village ACA
	Rank				

Section 2					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
5 Environment	5B Architectural Heritage	14 Protected structures were identified within the assessment area which were: • Ref 136, Riverside, Old Nangor Rd (impacted by carriageway widening); • Ref 137 1,2 & 3 Millview, Old Nangor Rd (no impact); • Ref 138 Clondalkin Round Tower (no impact); • Ref 419 Towerville, Tower Road (no impact); • Ref 139 St. John's Church (no impact); • Ref 140 Church 'Site Of', Tower Rd (no impact); • Ref 141 St. John's Cottages, Tower Road (no impact); • Ref 144 St. John's National School, Tower Road (no impact); • Ref 143 Patrick Massey Funeral Home, Orchard Lane (no impact); • Ref 146 The Black Lion, Orchard Lane (no impact); • Ref 153 Former Gate Lodge, Convent Rd (impacted by new road link); • Ref 147 Tully's Castle, Clondalkin (no impact); • Ref 149 Public Library, Monastery Road (no impact); and • Ref 427 Mount St. Joseph's Graveyard, Monastery Road (potential impact, subject to assessment).	1 Protected structure was identified within the assessment area: • Ref 170 St. Brigid's Well, Rockfield Drive, Clondalkin (impacted by carriageway widening, however route aligned away from structure to minimise impact)	No Protected structures were identified within the assessment area	1 Protected structure was identified within the assessment area: • Ref 143 Patrick Massey Funeral Home, Orchard Lane (no impact)
	Rank				
	5C Flora & Fauna	Impact on trees Removal of trees may be required on: Fonthill Road South, Old Nangor Rd, Tower Rd, Main St, Monastery Rd, and Naas Rd.	Impact on trees Removal of trees may be required on: Fonthill Road South, and Naas Rd.	Impact on trees Removal of trees may be required on: New Nangor Rd.	Impact on trees Removal of trees may be required on: New Nangor Rd. Main St, Watery Lane, and Woodford Walk
	Rank				
	5D Soils, Geology & Hydrology	No appreciable impacts	No appreciable impacts	No appreciable impacts	No appreciable impacts
	Rank				
	5E Landscape & Visual	Negative Impact associated with provision of the road link through Moyle Park.	No appreciable impacts	No appreciable impacts	Potential positive Impact with provision of road link through Mill Centre lands, achievable by landscaping etc. Potential negative impact with the provision of a bus route along the green areas parallel to Watery Lane.
	Rank				
	5F Air Quality	Negative air quality impact whereby the provision of a new road link through Moyle Park lands will create vehicular traffic where none currently exists Option will result in a reduction in general vehicle traffic in Clondalkin Village Centre which will have a positive air quality impact.	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Negative air quality impact whereby the provision the new road links through the Moyle Park lands and the lands adjacent to Watery Lane will create vehicular traffic where none currently exists
	Rank				
	5G Noise & Vibration	Partial existing Bus corridor – no impact Provision of a new road link through Moyle Park lands (running to the rear of properties on Tower Rd) will result in traffic diverting from Tower Rd to the new link. Distance from new road link to properties on Tower Rd similar to existing – no impact. Option will result in a reduction in general vehicle traffic in Clondalkin Village Centre which will have a positive impact.	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Negative impact whereby the provision the new road links through the Moyle Park lands and the lands adjacent to Watery Lane will create vehicular traffic where none currently exists
	Rank				

Section 2					
Appraisal Criteria	Sub-Criteria	Option 2-1	Option 2-2	Option 2-3	Option 2-4
5 Environment	5H Land Use Character	Land acquisition required from properties along Old Nangor Rd, Tower Rd and Monastery Rd. The provision of the road link through Moyle Park may affect the adjacent residential properties on Convent Road. Similarly, it may impact on the value of properties on Tower Road as they would subsequently be bounded on two sides by roads.	There are however some potential impacts on car parking at the Maldron Hotel and the Newlands Retail Park which would need to be considered further as part of the scheme detailed design. There would be an impact to 4no. Residential properties which front onto St Brigid's Rd as the Fonthill Road carriageway would have to be realigned to facilitate carriageway widening in the vicinity of the shrine (protected structure).	Route option has a relatively small impact on existing land use. For the most part, land acquisition is taken from open space along residential estates or frontages of business/industrial parks.	The extent of land use impact is dependent on the degree of bus priority (and cycle/pedestrian provision) achieved and associated resulting land-take requirements/property impacts. Land acquisition required from the Mill Centre, properties along Orchard Lane and Watery Lane.
	Rank				

Draft

APPENDIX B - SECTION 3 ROUTE OPTIONS ASSESSMENT

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
1 Economy	1A Capital Cost	€16,542,230.00 *Indicative Infrastructure costs €11,217,200.00 include:* • New/upgraded bus lanes along the R110 leading to the Patrick St/Main St junction at Christchurch • Reconfiguration of the signal controlled junctions along the corridor • The provision of cycle facilities along the corridor including proposed cycle diversion. • Improved Pedestrian Facilities along the proposed corridor *Land Acquisition Costs €5,325,030.00* • 3,550 sqm Private Land • 289 sqm Public Land • Other properties affected: - Fuel Service Station, Long Mile Rd - Car Dealership, Long Mile Rd - Calor Gas, Long Mile Rd - Car Dealership, Long Mile Rd - Assumption National School, Long Mile Rd - Drimnagh Castle CBS National School, Long Mile Rd - Children's Medical & Research Foundation, Drimnagh Rd - Ardscoile Eanna, Crumlin Rd - Rugby Club, Crumlin Rd - Crumlin College of Further Education, Crumlin Rd - Health Centre, Crumlin Rd - DID Electrical, Crumlin Rd - Firststop, Crumlin Rd - Loretto College, Crumlin Rd • 23 residential properties affected	€23,182,230.00 *Indicative Infrastructure costs €16,224,900 include:* • New/upgraded bus lanes on the R810, Tyrconnell Rd, Inchicore Road, South Circular Road, James's Street and Thomas Street. Intermittent provision along Old Kilmainham. • Reconfiguration of the signal controlled junctions along the corridor • Upgrading of 1 no. priority controlled junction to signal controlled • The provision of cycle facilities along the corridor including diversions. • Improved Pedestrian Facilities along the proposed corridor *Land Acquisition Costs €6,957,330.00* • 4638 sqm Private Land • 8118 sqm Public Land • Other properties affected: - St Judes Churchtower - Tibetan Buddhist Meditation Centre - Inchicore Healthcare Centre - Allotments - Car Dealership, Naas Rd - Naas Rd Industrial Park, Naas Rd - Naisetra House, Naas Rd - Hevac, Naas Rd - 109 Naas Rd, - Filling Station, Tyrconnell Rd, - Takeaway, Tyrconnell Rd, - Bank of Ireland, Tyrconnell Rd - Commercial Unit, Tyrconnell Rd - Kilmainham Autopoint, Old Kilmainham, - DPL Home Improvement Centre Old Kilmainham, - Car Park, James's St • 130 residential properties affected	€23,892,880.00 *Indicative Infrastructure costs €16,351,300.00 include:* • New/upgraded bus lanes on the R810, Tyrconnell Rd, Gratten Crescent, Inchicore Rd, South Circular Road, James's Street and Thomas Street. Intermittent provision along Old Kilmainham. • Reconfiguration of the signal controlled junctions along the corridor • The provision of cycle facilities along the corridor including diversions. • The provision of a cycle bridge over the River Camac linking to a cycle route through Kilmainham; • Improved Pedestrian Facilities along the proposed corridor *Land Acquisition Costs €7,541,580.00* • 5027 sqm Private Land • 6961 sqm Public Land • Other properties affected: - Con Colbert House (West building) - St Judes Churchtower - Kilmainham Congregational Church - Tibetan Buddhist Meditation Centre - Inchicore Healthcare Centre - Kilmainham Gaol/Court - Car Dealership, Naas Rd - Naas Rd Industrial Park, Naas Rd - Naisetra House, Naas Rd - Hevac, Naas Rd - 109 Naas Rd, - Filling Station, Tyrconnell Rd, - Takeaway, Tyrconnell Rd, - Bank of Ireland, Tyrconnell Rd - Commercial Unit, Tyrconnell Rd - Kilmainham Autopoint, Old Kilmainham, - DPL Home Improvement Centre Old Kilmainham, - Car Park, James's St • 133 residential properties affected	€20,478,780.00 *Indicative Infrastructure costs €13,854,000.00 include:* • New/upgraded bus lanes on the R810, Tyrconnell Rd, Emmet Rd, James's Street and Thomas Street. Intermittent provision along Old Kilmainham. • Reconfiguration of the signal controlled junctions along the corridor • The provision of cycle facilities along the corridor including diversions. • Improved Pedestrian Facilities along the proposed corridor *Land Acquisition Costs €6,624,780 00* • 4416 sqm Private Land • 6171 sqm Public Land • Other properties affected: - Inchicore Library - Car Dealership, Naas Rd - Naas Rd Industrial Park, Naas Rd - Naisetra House, Naas Rd - Hevac, Naas Rd - 109 Naas Rd, - Filling Station, Tyrconnell Rd, - Takeaway, Tyrconnell Rd, - Bank of Ireland, Tyrconnell Rd - Commercial Unit, Tyrconnell Rd - Kilmainham Autopoint, Old Kilmainham, - DPL Home Improvement Centre Old Kilmainham, - Car Park, James's St • 111 residential properties affected
	Rank				
	1B Transport Quality & Reliability	Journey Time 22 mins Approximate Length: 6.32KM Full bus priority provided Good journey time reliability for Bus services.	Journey Time 26mins Approximate Length: 6.47KM Bus priority provided along the corridor except for: - • A gap of approximately 50m in the outbound bus lane provision on Gratten Crescent between the Inchicore South Terrace junction and the Tyrconnell Rd/Emmet Rd/Gratten Crescent junction however, the Gratten Crescent/ Inchicore South Terrace junction would be signalised to ensure buses had priority along the aforementioned section with no bus lane; and • Intermittent provision along Kilmainham Poor journey time reliability for Bus services along Old Kilmainham	Journey Time 26mins Approximate Length: 6.47KM Bus priority provided along the corridor except for: - • Intermittent provision along Kilmainham Poor journey time reliability for Bus services along Old Kilmainham	Journey Time 24mins Approximate Length: 6.22KM Bus priority provided along the corridor except for: - • A gap in the inbound provision (approx. 95m) where there is a width constraint on Emmet Rd. Nonetheless buses will be given priority at the preceding Tyrconnell Rd/Emmet Rd/Gratten Crescent junction and as such there should be no delays experienced by inbound buses due to the lack of bus lane. • Intermittent provision along Kilmainham Poor journey time reliability for Bus services along Old Kilmainham
	Rank				

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
2 Integration	2A Land Use Policy	• The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options. • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options. • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the northwest of the Naas Rd. This corridor offers fewer opportunities for connection with these lands than the other options. • The route offers the potential to connect with the Naas Rd Strategic Development & Regeneration area (SDRA 5) • The route offers the potential to connect with the Dolphin House Strategic Development & Regeneration area (SDRA 13) • The route offers the potential to connect with the St Teresa's Gardens Strategic Development & Regeneration area (SDRA 12) The proposed CBC would encourage/ support planned development and provide for economic opportunities.	• The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the northwest of the Naas Rd. This corridor offers more opportunities for connection with these lands than option 3-1 (same level as other options). • The route offers the potential to connect with the St Michaels Estate Strategic Development & Regeneration area (SDRA 9). This corridor offers less opportunities for connection with these lands than options 3-2:2 and 3-2:3. The proposed CBC would encourage/ support planned development and provide for economic opportunities.	• The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the northwest of the Naas Rd. This corridor offers more opportunities for connection with these lands than option 3-1 (same level as other options). • The route offers the potential to connect with the St Michaels Estate Strategic Development & Regeneration area (SDRA 9). This corridor offers more opportunities for connection with these lands than option 3-2:1, and less than option 3-2:3. The proposed CBC would encourage/ support planned development and provide for economic opportunities	• The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the south of the Long Mile Road. This corridor offers less opportunity for connection than option 3-1 (same level as other options). • The route offers the potential to connect with lands zoned "To provide for enterprise & employment related uses", as located to the northwest of the Naas Rd. This corridor offers more opportunities for connection with these lands than option 3-1 (same level as other options). • The route offers the potential to connect with the St Michaels Estate Strategic Development & Regeneration area (SDRA 9). This corridor offers more opportunities for connection with these lands than options 3-2:1 and 3-2:3. The proposed CBC would encourage/ support planned development and provide for economic opportunities
	Rank				
	2B Residential Population and Employment Catchments	Residential Population Catchments - 5-minute walk catchment of approx. 27,717 - 10-minute walk catchment of approx. 58,590 - 15-minute walk catchment of approx. 89,176 Employment catchments - 5-minute walk catchment of approx. 15,845 - 10-minute walk catchment of approx. 39,242 - 15-minute walking catchment of approx. 78,908	Residential Population Catchments - 5-minute walk catchment of approx. 21,568 - 10-minute walk catchment of approx. 47,423 - 15-minute walk catchment of approx. 77,318 Employment catchments - 5-minute walk catchment of approx. 17,982 - 10-minute walk catchment of approx. 37,068 - 15-minute walking catchment of approx. 71,432	Residential Population Catchments - 5-minute walk catchment of approx. 23,323 - 10-minute walk catchment of approx. 47,564 - 15-minute walk catchment of approx. 76,921 Employment Catchments - 5-minute walk catchment of approx. 18,240 - 10-minute walk catchment of approx. 37,088 - 15-minute walk catchment of approx. 71,420	Residential Population Catchments - 5-minute walk catchment of approx. 22,974 - 10-minute walk catchment of approx. 46,140 - 15-minute walk catchment of approx. 75,509 Employment Catchments - 5-minute walk catchment of approx. 18,158 - 10-minute walk catchment of approx. 36,649 - 15-minute walk catchment of approx. 71,388
	Rank				
	2C Transport Network Integration	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore, Bluebell and Blackhorse	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore, Bluebell and Blackhorse	Potential for interchange with local bus services Potential for interchange with the Luas Red Line at Kylemore, Bluebell and Blackhorse.
	Rank				

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
2 Integration	2D Cycling Integration	This route option comprises an element of primary route B and elements of secondary routes 8C, 8A and 9B as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. This route option generally respects the cycle routes identified however, • Between Kildare Road and Old County Road cycle facilities cannot be accommodated. An alternative east-west cycle route can be provided via Kildare Rd-Windmill Rd-Old County Rd with the provision of cycle lanes along Kildare Rd, and a two-way cycle track along Old County Rd. This diversion results in increase of 225m (approximately) journey distance.	The route option comprises an element of secondary route 7D and primary route 7A as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. The following sections do not align with the cycle facilities as identified in the CNP: - • Between the Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. Cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP. • Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line, as such cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey. • Southbound from the Gratten Crescent/Inchicore South Terrace junction a southbound cycle lane cannot be provided. Cyclists are provided with an alternative route via Gratten Crescent Park -Emmet Rd; • The CBC proposals cannot accommodate Primary route 7A along Inchicore Road and South Circular Road, nonetheless an alternative route via Emmet Rd is provided for east-west cyclists whilst for north-south cyclists an alternative route through Gratten Crescent Park along the proposed greenway (as identified in the CNP) will be provided. In addition, a cycle connection through Kilmainham and the lands to the south to/from Emmet Rd (with the provision of a bridge crossing) is proposed to facilitate north-south cycle movements to/from Inchicore Road (eastern end). • Cyclists cannot be accommodated along the Old Kilmainham section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. Cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance. • To the east of the Bridgefoot St junction on Thomas St it is not possible to accommodate an eastbound cycle lane therefor cyclists are diverted via Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance.	The route option comprises an element of secondary route 7D and primary route 7A as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. The following sections do not align with the cycle facilities as identified in the CNP: - • Between the Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. Cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP. Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line, as such cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey. • Southbound from the Gratten Crescent/Inchicore South Terrace junction a southbound cycle lane cannot be provided. Cyclists are provided with an alternative route via Gratten Crescent Park -Emmet Rd; • The CBC proposals cannot accommodate Primary route 7A along South Circular Road, nonetheless an alternative route through Kilmainham and the lands to the south to/from Emmet Rd (with the provision of a bridge crossing) is proposed to facilitate north-south cycle movements to/from Inchicore Road (eastern end). • Cyclists cannot be accommodated along the Old Kilmainham section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. Cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance. • To the east of the Bridgefoot St junction on Thomas St it is not possible to accommodate an eastbound cycle lane therefor cyclists are diverted via Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance.	The route option comprises an element of secondary route 7D and primary route 7A as identified in the GDA Cycle Network Plan. Elements of feeder routes connecting to the aforementioned routes are also identified. The following sections do not align with the cycle facilities as identified in the CNP: - • Between the Old Naas Rd and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line. Cyclists are provided with an alternative route via Lansdowne Valley Park and Muirfield Drive resulting in an increase of 200m (approximately) journey distance. This alternative route aligns with the River Camac Greenway as identified in the CNP. Similarly, along Tyrconnell Rd between Hampton Court and Davitt Rd a southbound cycle lane cannot be accommodated due to width constraints between properties and the LUAS line, as such cyclists are again diverted via the River Camac Greenway after which they can re-join the R810 at the Davitt Rd junction. This diversion will result in an addition of 100m (approximately) to the cyclists' journey. • Southbound from the Gratten Crescent/Inchicore South Terrace junction a southbound cycle lane cannot be provided. Cyclists are provided with an alternative route via Gratten Crescent Park -Emmet Rd; • Cyclists cannot be accommodated along the Old Kilmainham section between the Emmet Rd/South Circular Rd/Old Kilmainham junction and the St James's Hospital junction. Cyclists are provided with an alternative route via South Circular Rd, James's Walk, and St James's Hospital, resulting in an increase of 1KM (approximately) journey distance. • To the east of the Bridgefoot St junction on Thomas St it is not possible to accommodate an eastbound cycle lane therefor cyclists are diverted via Bridgefoot St, Oliver Bond St and Augustine St after which they can re-join Thomas St. This diversion results in an increase of 70m (approximately) journey distance.
	Rank				
	2E Traffic Network Integration	Reallocation of road space to buses lanes may be necessary at junctions at the expense of private vehicular traffic capacity. Banning of traffic movements (1 no. right turn) will result in an impact to general traffic.	Reallocation of road space to buses lanes may be necessary at junctions at the expense of private vehicular traffic capacity. Banning of traffic movements (2 no. right turns) will result in an impact to general traffic.	Reallocation of road space to buses lanes may be necessary at junctions at the expense of private vehicular traffic capacity. Banning of traffic movements (2 no. right turns) will result in an impact to general traffic.	Reallocation of road space to buses lanes may be necessary at junctions at the expense of private vehicular traffic capacity. Banning of traffic movements (1 no. right turns) will result in an impact to general traffic.
	Rank				

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
3 Accessibility and Social Inclusion	3A Key Trip Attractors	Educational Land Use catchments - 5-minute walking catchment of approx. 5,487 - 10-minute walking catchment of approx. 18,025 - 15-minute walking catchment of approx. 35,135 Retail/leisure Land Use - Aldi, - Tesco Express, - Lidl - Supervalu - Crumlin Shopping Centre - Various other retail premises along Nicholas St, Patrick St, Dean St, St Luke's Avenue, Cork St, Crumlin Rd, Drimnagh Rd and Long Mile Rd - Hurling/Camogie Club - Scout Group - Crumlin bowling Club - Crumlin Swimming Pool - Boxing Club - Bingo Hall - Crumlin GAA Club - St James Gate Football Club - Dolphins Barn Library - St Patricks Park	Educational Land Use catchments - 5-minute walking catchment of approx. 2,464 - 10-minute walking catchment of approx. 5,769 - 15-minute walking catchment of approx. 20,508 Retail/leisure Land Uses - Tesco Express - Car Dealerships along Naas Rd - Lansdowne Valley Pitch & Putt - Gravity Climbing Centre - Oblate Basketball Club - Richmond Park - Inchicore Sports & Social Club - Kilmainham Gaol - Local shops near Gratten Cres/Emmet Rd junction - Local shops along Emmet Rd - Various other retail premises along Thomas St	Educational Land Use catchments - 5-minute walk catchment of approx. 3,038 - 10-minute walk catchment of approx. 5,723 - 15-minute walk catchment of approx. 20,543 Retail/leisure Land Uses - Tesco Express - Car Dealerships along Naas Rd - Lansdowne Valley Pitch & Putt - Gravity Climbing Centre - Oblate Basketball Club - Richmond Park - Inchicore Sports & Social Club - Kilmainham Gaol - Local shops near Gratten Cres/Emmet Rd junction - Local shops along Emmet Rd - Various other retail premises along Thomas St	Educational Land Use catchments - 5-minute walking catchment of approx. 2,862 - 10-minute walking catchment of approx. 5,506 - 15-minute walking catchment of approx. 20,542 Retail/leisure Land Uses - Tesco Express - Car Dealerships along Naas Rd - Lansdowne Valley Pitch & Putt - Gravity Climbing Centre - Oblate Basketball Club - Richmond Park - Inchicore Sports & Social Club - Kilmainham Gaol - Local shops near Gratten Cres/Emmet Rd junction - Local shops along Emmet Rd - Various other retail premises along Thomas St
	Rank				
	3B Deprived Geographic Areas	According to the Pobal Deprivation Index, the route option primarily serves Marginally Below Average means areas, with some Disadvantaged areas along the Long Mile Rd – Dolphins Barn St section of the corridor. From St Luke's Avenue towards the city centre the corridor primarily serves Marginally Above Average means areas.	According to the Pobal Deprivation Index, the Naas Rd section of the route primarily serves Marginally Below Average means to Disadvantaged means areas. Along Tyrconnell Rd the corridor primarily serves Marginally Below Average to Marginally Above Average means areas. Between Gratten Crescent and Old Kilmainham the corridor serves Affluent to Marginally Above Average means areas. Whilst along Thomas St the corridor serves Marginally Below Average to Marginally Above Average means areas.	According to the Pobal Deprivation Index, the Naas Rd section of the route primarily serves Marginally Below Average means to Disadvantaged means areas. Along Tyrconnell Rd the corridor primarily serves Marginally Below Average to Marginally Above Average means areas. Along Emmet Rd the corridor primarily serves Marginally Above Average means areas. Between Gratten Crescent and Old Kilmainham the corridor serves Affluent to Marginally Above Average means areas. Whilst along Thomas St the corridor serves Marginally Below Average to Marginally Above Average means areas.	According to the Pobal Deprivation Index, the Naas Rd section of the route primarily serves Marginally Below Average means to Disadvantaged means areas. Along Tyrconnell Rd the corridor primarily serves Marginally Below Average to Marginally Above Average means areas. Along Emmet Rd the corridor primarily serves Marginally Above Average means areas. Along Old Kilmainham the corridor served Affluent to Marginally Above Average means areas. Whilst along Thomas St the corridor serves Marginally Below Average to Marginally Above Average means areas.
	Rank				
4 Safety	4A Road Safety	No. of Junctions: 64 (All) Turning Movements required: 4 (2 inbound, 2 outbound)	No. of Junctions: 51 (All) Turning Movements required: 6 (3 inbound, 3 outbound)	No. of Junctions: 60(All) Turning Movements required: 4 (3 inbound, 1 outbound)	No. of Junctions 49(All) Turning Movements required: 2 (1 inbound, 1 outbound)
	Rank				
	4B Pedestrian Safety	No. of Pedestrian Crossings 14 Good pedestrian facility provision throughout	No. of Pedestrian Crossings 11 Poor pedestrian provision along the southern section of the Naas Rd, good pedestrian facility provision along the remainder of the proposed CBC.	No. of Pedestrian Crossings 11 Poor pedestrian provision along the southern section of the Naas Rd, good pedestrian facility provision along the remainder of the proposed CBC.	No. of Pedestrian Crossings 12 Poor pedestrian provision along the southern section of the Naas Rd, good pedestrian facility provision along the remainder of the proposed CBC.
	Rank				
5 Environment	5A Archaeology & Cultural Heritage	The route passes briefly a conservation area at the Crumlin Road/Parnell Rd junction.	The route passes through/utilises lands designated as a conservation area at Lansdowne Valley Park, and the Tyrconnell Rd/Davitt Rd junction. The route also passes a conservation area along Inchicore Road, James's St and Thomas St. The route passes through area designated as 'Zone of Archaeological Interest' on Thomas St – High St.	The route passes through/utilises lands designated as a conservation area at Lansdowne Valley Park, and the Tyrconnell Rd/Davitt Rd junction. The route also passes a conservation area along Inchicore Road, James's St and Thomas St. The route passes through area designated as 'Zone of Archaeological Interest' on Thomas St – High St.	The route passes through/utilises lands designated as a conservation area at Lansdowne Valley Park, and the Tyrconnell Rd/Davitt Rd junction. The route also passes a conservation area along James's St and Thomas St. The route passes through area designated as 'Zone of Archaeological Interest' on Thomas St – High St.
	Rank				

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
5 Environment	5B Architectural Heritage	13 Protected structures were identified within the assessment area which were: Ref. 4832, Long Mile Road (no impact) Ref. 2308, 1 Dolphin's Barn (no impact) Ref. 2052, 22 Cork Street (no impact) Ref. 2053, 38a Cork Street (no impact) Ref. 2054, 104 Cork Street (no impact) Ref. 2055, 112 Cork Street, (no impact) Ref. 2056, 116 Cork Street, (no impact) Ref. 2283, 1 Dean Street, (no impact) Ref. 6640, 51 Patrick Street, (no impact) Ref. 6641, 52 Patrick Street, (no impact) Ref. 6642, 53 Patrick Street, (no impact) Ref. 6643, St. Patrick's Cathedral, (no impact) Ref. 6644, St. Patrick's Cathedral: railings and plinth walls, Patrick Street, (no impact)	100 Protected structures were identified within the assessment area which were: Ref. 5791, 55 Naas Rd (may be impacted by carriageway widening) Ref. 5792, Naas Rd (may be impacted by carriageway widening) Ref. 5793, Naas Rd (may be impacted by carriageway widening) Ref. 5794, Naas Rd (may be impacted by carriageway widening) Ref. 8192, 2-4 Tyrconnell Rd (no impact) Ref. 8193, Tyrconnell Rd (may be impacted by carriageway widening) Ref. 3986, Inchicore Rd (may be impacted by carriageway widening & new cycle link) Ref. 3987, Inchicore Rd (may be impacted by carriageway widening & new cycle link) Ref. 3987, Inchicore Rd (may be impacted by carriageway widening) Ref. 3989, 59 Inchicore Rd (no impact) Ref. 3990, 59a Inchicore Rd (no impact) Ref. 3991, 68 Inchicore Rd (may be impacted by carriageway widening) Ref. 4011, St. James's Hospital, (no impact) Ref. 4012, 23 James's St (no impact) Ref. 4013, 25 James's St (no impact) Ref. 4014, 26 James's St (no impact) Ref. 4015, 27 James's St (no impact) Ref. 4016, 28 James's St (no impact) Ref. 4017, 29 James's St (no impact) Ref. 4018, 31 James's St (no impact) Ref. 4019, 51-52 James's St (no impact) Ref. 4020, 53 James's St (no impact) Ref. 4028-4047, 61-83 James's St (no impact) Ref. 4048, 84 James's St (no impact) Ref. 4049, 98 James's St (no impact) Ref. 4050, 107 James's St (no impact) Ref. 4051, 108 James's St (no impact) Ref. 4052, 109 James's St (no impact) Ref. 4053, 121-122 James's St (no impact) Ref. 4054, 121-122 James's St (may be impacted by junction reconfiguration) Ref. 4055, 132 James's St (no impact) Ref. 4056, 134 James's St (no impact) Ref. 4057, 140 James's St (no impact) Ref. 4058, 163 James's St (no impact) Ref. 8738, James's St (no impact) Ref. 8144, Thomas St (no impact) Ref. 8145, 1 Thomas St (no impact) Ref. 8146, 2-6 Thomas St (no impact) Ref. 8147, 7 Thomas St (no impact) Ref. 8148, 8 Thomas St (no impact) Ref. 8149, 10-13 Thomas St (no impact) Ref. 8150, 19 Thomas St (no impact) Ref. 8151, 22 Thomas St (no impact) Ref. 8152, 28 Thomas St (no impact) Ref. 8153, Thomas St (no impact) Ref. 8154, 37 Thomas St (no impact) Ref. 8155-8156, 47-48 Thomas St (no impact) Ref. 8157-8160, 51-55 Thomas St (no impact) Ref. 8161, 60 Thomas St (no impact) Ref. 8162, 66-68 Thomas St (no impact) Ref. 8163-8165, 72,73,75 Thomas St (no impact) Ref. 8166, 76 Thomas St (no impact) Ref. 8167, 77 Thomas St (no impact) Ref. 8168, 78 Thomas St (no impact) Ref. 8169, 79 Thomas St (no impact) Ref. 8170, 81 Thomas St (no impact) Ref. 8171, 82-83 Thomas St (no impact) Ref. 8172, 84-85 Thomas St (no impact) Ref. 8173, 86 Thomas St (no impact) Ref. 8174, 89-93 Thomas St (no impact) Ref. 8175, 96-103 Thomas St (no impact) Ref. 8176, 104-108 Thomas St (no impact) Ref. 8177, 110-111 Thomas St (no impact) Ref. 8179, 116 Thomas St (no impact) Ref. 8180, 117 Thomas St (no impact) Ref. 8181, 118 Thomas St (no impact) Ref. 8182, 119 Thomas St (no impact) Ref. 8183, 120 Thomas St (no impact) Ref. 8184, 135 Thomas St (no impact) Ref. 8185, 136 Thomas St (no impact) Ref. 8728, 130 Thomas St (no impact) Ref. 3821-3822, High St (no impact) Ref. 2639, Emmet Rd (no impact)	100 Protected structures were identified within the assessment area which were: Ref. 5791, 55 Naas Rd (may be impacted by carriageway widening) Ref. 5792, Naas Rd (may be impacted by carriageway widening) Ref. 5793, Naas Rd (may be impacted by carriageway widening) Ref. 5794, Naas Rd (may be impacted by carriageway widening) Ref. 8192, 2-4 Tyrconnell Rd (no impact) Ref. 8193, Tyrconnell Rd (may be impacted by carriageway widening) Ref. 3986, Inchicore Rd (may be impacted by carriageway widening & new cycle link) Ref. 3987, Inchicore Rd (may be impacted by carriageway widening & new cycle link) Ref. 3987, Inchicore Rd (may be impacted by carriageway widening) Ref. 3989, 59 Inchicore Rd (no impact) Ref. 3990, 59a Inchicore Rd (no impact) Ref. 3991, 68 Inchicore Rd (may be impacted by carriageway widening) Ref. 4011, St. James's Hospital, (no impact) Ref. 4012, 23 James's St (no impact) Ref. 4013, 25 James's St (no impact) Ref. 4014, 26 James's St (no impact) Ref. 4015, 27 James's St (no impact) Ref. 4016, 28 James's St (no impact) Ref. 4017, 29 James's St (no impact) Ref. 4018, 31 James's St (no impact) Ref. 4019, 51-52 James's St (no impact) Ref. 4020, 53 James's St (no impact) Ref. 4028-4047, 61-83 James's St (no impact) Ref. 4048, 84 James's St (no impact) Ref. 4049, 98 James's St (no impact) Ref. 4050, 107 James's St (no impact) Ref. 4051, 108 James's St (no impact) Ref. 4052, 109 James's St (no impact) Ref. 4053, 121-122 James's St (no impact) Ref. 4054, 121-122 James's St (may be impacted by junction reconfiguration) Ref. 4055, 132 James's St (no impact) Ref. 4056, 134 James's St (no impact) Ref. 4057, 140 James's St (no impact) Ref. 4058, 163 James's St (no impact) Ref. 8738, James's St (no impact) Ref. 8144, Thomas St (no impact) Ref. 8145, 1 Thomas St (no impact) Ref. 8146, 2-6 Thomas St (no impact) Ref. 8147, 7 Thomas St (no impact) Ref. 8148, 8 Thomas St (no impact) Ref. 8149, 10-13 Thomas St (no impact) Ref. 8150, 19 Thomas St (no impact) Ref. 8151, 22 Thomas St (no impact) Ref. 8152, 28 Thomas St (no impact) Ref. 8153, Thomas St (no impact) Ref. 8154, 37 Thomas St (no impact) Ref. 8155-8156, 47-48 Thomas St (no impact) Ref. 8157-8160, 51-55 Thomas St (no impact) Ref. 8161, 60 Thomas St (no impact) Ref. 8162, 66-68 Thomas St (no impact) Ref. 8163-8165, 72,73,75 Thomas St (no impact) Ref. 8166, 76 Thomas St (no impact) Ref. 8167, 77 Thomas St (no impact) Ref. 8168, 78 Thomas St (no impact) Ref. 8169, 79 Thomas St (no impact) Ref. 8170, 81 Thomas St (no impact) Ref. 8171, 82-83 Thomas St (no impact) Ref. 8172, 84-85 Thomas St (no impact) Ref. 8173, 86 Thomas St (no impact) Ref. 8174, 89-93 Thomas St (no impact) Ref. 8175, 96-103 Thomas St (no impact) Ref. 8176, 104-108 Thomas St (no impact) Ref. 8177, 110-111 Thomas St (no impact) Ref. 8179, 116 Thomas St (no impact) Ref. 8180, 117 Thomas St (no impact) Ref. 8181, 118 Thomas St (no impact) Ref. 8182, 119 Thomas St (no impact) Ref. 8183, 120 Thomas St (no impact) Ref. 8184, 135 Thomas St (no impact) Ref. 8185, 136 Thomas St (no impact) Ref. 8728, 130 Thomas St (no impact) Ref. 3821-3822, High St (no impact) Ref. 2639, Emmet Rd (no impact)	94 Protected structures were identified within the assessment area which were: Ref. 5791, 55 Naas Rd (may be impacted by carriageway widening) Ref. 5792, Naas Rd (may be impacted by carriageway widening) Ref. 5793, Naas Rd (may be impacted by carriageway widening) Ref. 5794, Naas Rd (may be impacted by carriageway widening) Ref. 8192, 2-4 Tyrconnell Rd (no impact) Ref. 8193, Tyrconnell Rd (may be impacted by carriageway widening) Ref. 4011, St. James's Hospital, (no impact) Ref. 4012, 23 James's St (no impact) Ref. 4013, 25 James's St (no impact) Ref. 4014, 26 James's St (no impact) Ref. 4015, 27 James's St (no impact) Ref. 4016, 28 James's St (no impact) Ref. 4017, 29 James's St (no impact) Ref. 4018, 31 James's St (no impact) Ref. 4019, 51-52 James's St (no impact) Ref. 4020, 53 James's St (no impact) Ref. 4028-4047, 61-83 James's St (no impact) Ref. 4048, 84 James's St (no impact) Ref. 4049, 98 James's St (no impact) Ref. 4050, 107 James's St (no impact) Ref. 4051, 108 James's St (no impact) Ref. 4052, 109 James's St (no impact) Ref. 4053, 121-122 James's St (no impact) Ref. 4054, 121-122 James's St (may be impacted by junction reconfiguration) Ref. 4055, 132 James's St (no impact) Ref. 4056, 134 James's St (no impact) Ref. 4057, 140 James's St (no impact) Ref. 4058, 163 James's St (no impact) Ref. 8738, James's St (no impact) Ref. 8144, Thomas St (no impact) Ref. 8145, 1 Thomas St (no impact) Ref. 8146, 2-6 Thomas St (no impact) Ref. 8147, 7 Thomas St (no impact) Ref. 8148, 8 Thomas St (no impact) Ref. 8149, 10-13 Thomas St (no impact) Ref. 8150, 19 Thomas St (no impact) Ref. 8151, 22 Thomas St (no impact) Ref. 8152, 28 Thomas St (no impact) Ref. 8153, Thomas St (no impact) Ref. 8154, 37 Thomas St (no impact) Ref. 8155-8156, 47-48 Thomas St (no impact) Ref. 8157-8160, 51-55 Thomas St (no impact) Ref. 8161, 60 Thomas St (no impact) Ref. 8162, 66-68 Thomas St (no impact) Ref. 8163-8165, 72,73,75 Thomas St (no impact) Ref. 8166, 76 Thomas St (no impact) Ref. 8167, 77 Thomas St (no impact) Ref. 8168, 78 Thomas St (no impact) Ref. 8169, 79 Thomas St (no impact) Ref. 8170, 81 Thomas St (no impact) Ref. 8171, 82-83 Thomas St (no impact) Ref. 8172, 84-85 Thomas St (no impact) Ref. 8173, 86 Thomas St (no impact) Ref. 8174, 89-93 Thomas St (no impact) Ref. 8175, 96-103 Thomas St (no impact) Ref. 8176, 104-108 Thomas St (no impact) Ref. 8177, 110-111 Thomas St (no impact) Ref. 8179, 116 Thomas St (no impact) Ref. 8180, 117 Thomas St (no impact) Ref. 8181, 118 Thomas St (no impact) Ref. 8182, 119 Thomas St (no impact) Ref. 8183, 120 Thomas St (no impact) Ref. 8184, 135 Thomas St (no impact) Ref. 8185, 136 Thomas St (no impact) Ref. 8728, 130 Thomas St (no impact) Ref. 3821-3822, High St (no impact) Ref. 2639, Emmet Rd (no impact)	94 Protected structures were identified within the assessment area which were: Ref. 5791, 55 Naas Rd (may be impacted by carriageway widening) Ref. 5792, Naas Rd (may be impacted by carriageway widening) Ref. 5793, Naas Rd (may be impacted by carriageway widening) Ref. 5794, Naas Rd (may be impacted by carriageway widening) Ref. 8192, 2-4 Tyrconnell Rd (no impact) Ref. 8193, Tyrconnell Rd (may be impacted by carriageway widening) Ref. 4011, St. James's Hospital, (no impact) Ref. 4012, 23 James's St (no impact) Ref. 4013, 25 James's St (no impact) Ref. 4014, 26 James's St (no impact) Ref. 4015, 27 James's St (no impact) Ref. 4016, 28 James's St (no impact) Ref. 4017, 29 James's St (no impact) Ref. 4018, 31 James's St (no impact) Ref. 4019, 51-52 James's St (no impact) Ref. 4020, 53 James's St (no impact) Ref. 4028-4047, 61-83 James's St (no impact) Ref. 4048, 84 James's St (no impact) Ref. 4049, 98 James's St (no impact) Ref. 4050, 107 James's St (no impact) Ref. 4051, 108 James's St (no impact) Ref. 4052, 109 James's St (no impact) Ref. 4053, 121-122 James's St (no impact) Ref. 4054, 121-122 James's St (may be impacted by junction reconfiguration) Ref. 4055, 132 James's St (no impact) Ref. 4056, 134 James's St (no impact) Ref. 4057, 140 James's St (no impact) Ref. 4058, 163 James's St (no impact) Ref. 8738, James's St (no impact) Ref. 8144, Thomas St (no impact) Ref. 8145, 1 Thomas St (no impact) Ref. 8146, 2-6 Thomas St (no impact) Ref. 8147, 7 Thomas St (no impact) Ref. 8148, 8 Thomas St (no impact) Ref. 8149, 10-13 Thomas St (no impact) Ref. 8150, 19 Thomas St (no impact) Ref. 8151, 22 Thomas St (no impact) Ref. 8152, 28 Thomas St (no impact) Ref. 8153, Thomas St (no impact) Ref. 8154, 37 Thomas St (no impact) Ref. 8155-8156, 47-48 Thomas St (no impact) Ref. 8157-8160, 51-55 Thomas St (no impact) Ref. 8161, 60 Thomas St (no impact) Ref. 8162, 66-68 Thomas St (no impact) Ref. 8163-8165, 72,73,75 Thomas St (no impact) Ref. 8166, 76 Thomas St (no impact) Ref. 8167, 77 Thomas St (no impact) Ref. 8168, 78 Thomas St (no impact) Ref. 8169, 79 Thomas St (no impact) Ref. 8170, 81 Thomas St (no impact) Ref. 8171, 82-83 Thomas St (no impact) Ref. 8172, 84-85 Thomas St (no impact) Ref. 8173, 86 Thomas St (no impact) Ref. 8174, 89-93 Thomas St (no impact) Ref. 8175, 96-103 Thomas St (no impact) Ref. 8176, 104-108 Thomas St (no impact) Ref. 8177, 110-111 Thomas St (no impact) Ref. 8179, 116 Thomas St (no impact) Ref. 8180, 117 Thomas St (no impact) Ref. 8181, 118 Thomas St (no impact) Ref. 8182, 119 Thomas St (no impact) Ref. 8183, 120 Thomas St (no impact) Ref. 8184, 135 Thomas St (no impact) Ref. 8185, 136 Thomas St (no impact) Ref. 8728, 130 Thomas St (no impact) Ref. 3821-3822, High St (no impact) Ref. 2639, Emmet Rd (no impact)
	Rank				
	5C Flora & Fauna	Impact on trees Removal of trees may be required on: Long Mile Road Crumlin Road Drimnagh Road Patrick Street Nicholas Street	Impact on trees Removal of trees may be required on: Naas Road Tyrconnell Road Gratten Crescent Inchicore Road Old Kilmainham James's Street Thomas Street High Street	Impact on trees Removal of trees may be required on: Naas Road Tyrconnell Road Gratten Crescent Inchicore Road Old Kilmainham James's Street Thomas Street High Street	Impact on trees Removal of trees may be required on: Naas Road Tyrconnell Road Old Kilmainham James's Street Thomas Street High Street
	Rank				

Section 3					
Appraisal Criteria	Sub-Criteria	Option 3-1	Option 3-2:1	Option 3-2:2	Option 3-2:3
5 Environment	5D Soils, Geology & Hydrology	No appreciable impacts	No appreciable impacts	No appreciable impacts	No appreciable impacts
	Rank				
	5E Landscape & Visual	No appreciable impacts	Provision of a cycle route through Lansdowne Valley Park may have a negative impact. Provision of a cycle route through Gratten Crescent Park may have a negative impact. Provision of a cycle route through Kilmainham Gaol/Courthouse may have a negative impact.	Provision of a cycle route through Lansdowne Valley Park may have a negative impact. Provision of a cycle route through Gratten Crescent Park may have a negative impact. Provision of a cycle route through Kilmainham Gaol/Courthouse may have a negative impact.	Provision of a cycle route through Lansdowne Valley Park may have a negative impact.
	Rank				
	5F Air Quality	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Existing Bus corridor – no impact
	Rank				
	5G Noise & Vibration	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Existing Bus corridor – no impact	Existing Bus corridor – no impact
	Rank				
	5H Land Use Character	Land acquisition required from properties along Long Mile Rd, Drimnagh Rd, Crumlin Rd and Dolphins Barn.	Land acquisition required from properties along Naas Rd, Tyrconnell Rd, Gratten Crescent, Inchicore Rd, Lands to the south of Inchicore, Kilmainham Gaol/Courthouse, South Circular Rd, Old Kilmainham and James's St. The provision of cycle links through Lansdowne Valley Park, and Kilmainham Gaol may impact upon the character of these areas.	Land acquisition required from properties along Naas Rd, Tyrconnell Rd, Gratten Crescent, Inchicore Rd, Lands to the south of Inchicore, Kilmainham Gaol/Courthouse, South Circular Rd, Old Kilmainham and James's St. The provision of cycle links through Lansdowne Valley Park, and Kilmainham Gaol may impact upon the character of these areas.	Land acquisition required from properties along Naas Rd, Tyrconnell Rd, Old Kilmainham and James's St. The provision of cycle links through Lansdowne Valley Park may impact upon the character of this area.
	Rank				