Appendix F

Liffey Valley to Christchurch Core Bus Corridor Options Study Feasibility Report

Appendix F. Liffey Valley to Christchurch Core Bus Corridor Options Study Feasibility Report

Link - https://busconnects.ie/wp-content/uploads/2022/03/rpt-16_080-008-liffey-valley-to-christchurch-core-bus-corridor-options-study-feasibility-report.pdf

Clifton Scannell Emerson Associates

Liffey Valley to Christchurch Core Bus Corridor Options Study

Feasibility Report

Údarás Náisiúnta Iompair
National Transport Authority

Client: National Transport Authority

Date: December 2016

Job Number: 16_080

CONSULTING ENGINEERS

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Executive Summary

This report presents the route options assessment work undertaken for the Liffey Valley to Christchurch Core Bus Corridor (CBC).

A preferred route is recommended and a concept scheme design is included.

Transport Context

The NTA published the Transport Strategy for the Greater Dublin Area, 2016 – 2035 at the beginning of 2016. The strategy identifies a "Core Bus Network", representing the most important bus routes within the Greater Dublin area, generally characterised by high passenger volumes, frequent services and significant trip attractors along the routes. The identified core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors.

The Strategy states that it is intended to provide continuous bus priority, as far as is practicable, along the core bus routes. This will result in a more efficient and reliable bus service with lower journey times, increasing the attractiveness of public transport in these areas and facilitating a shift to more sustainable modes of transport.

The Liffey Valley to Christchurch CBC is identified as part of the Core Bus Network. The radial Core Bus Network identified in the GDA Transport Strategy is shown in **Figure (i)** below with the Liffey Valley CBC highlighted in orange.

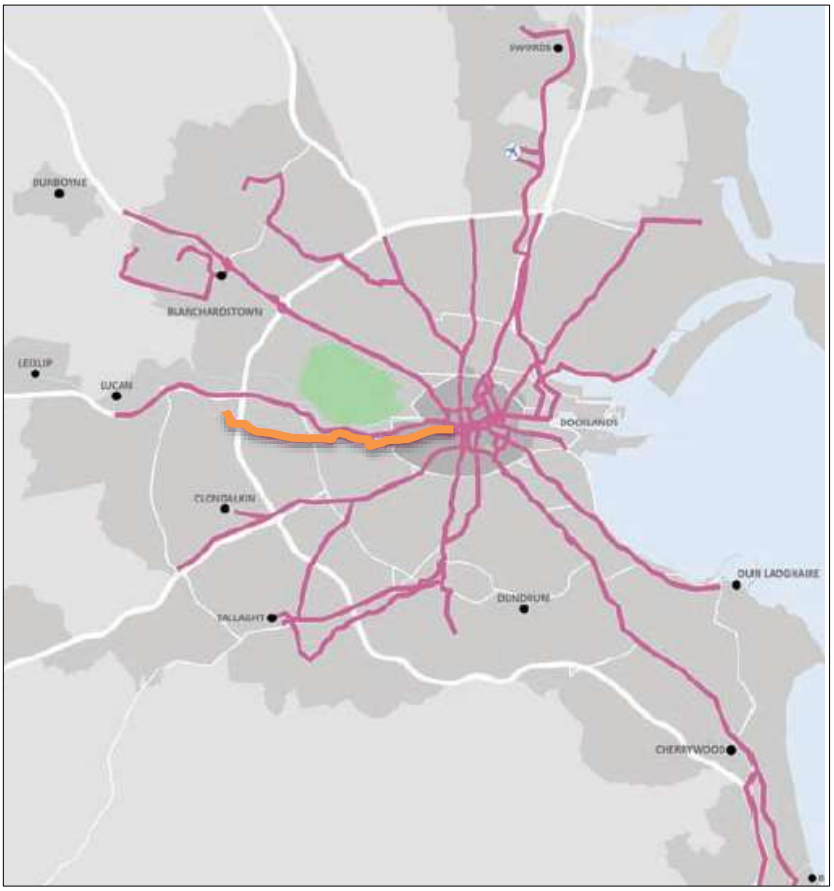


Figure (i): 2035 Radial Core Bus Network

CBC Scheme Objectives

Having regard to the findings of the transport context for the proposed CBC's in the GDA, the following objectives have been established for the Liffey Valley 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

- 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 not be expressly required under the Cycle Network Plan.

The Study Area

The study area for the proposed scheme is as identified in **Figure (ii) below**. The study area begins at Ballyowen Road to the west of Liffey Valley and generally includes feasible routes within 500m of the R833 (Ballyfermot Road). The study area encompasses the areas around Liffey Valley, Ballyfermot, Park West, Chapelizod, Inchicore and Kilmainham. The end point for the study area is defined as being at the junction of the R108 and R137 at Christchurch Cathedral. In defining the study area, consideration was given to the close proximity of the Lucan to City Centre CBC. While there is some overlap between the two study areas towards the City Centre, the study area was defined in order to minimise overlap in the Liffey Valley and Ballyfermot areas.

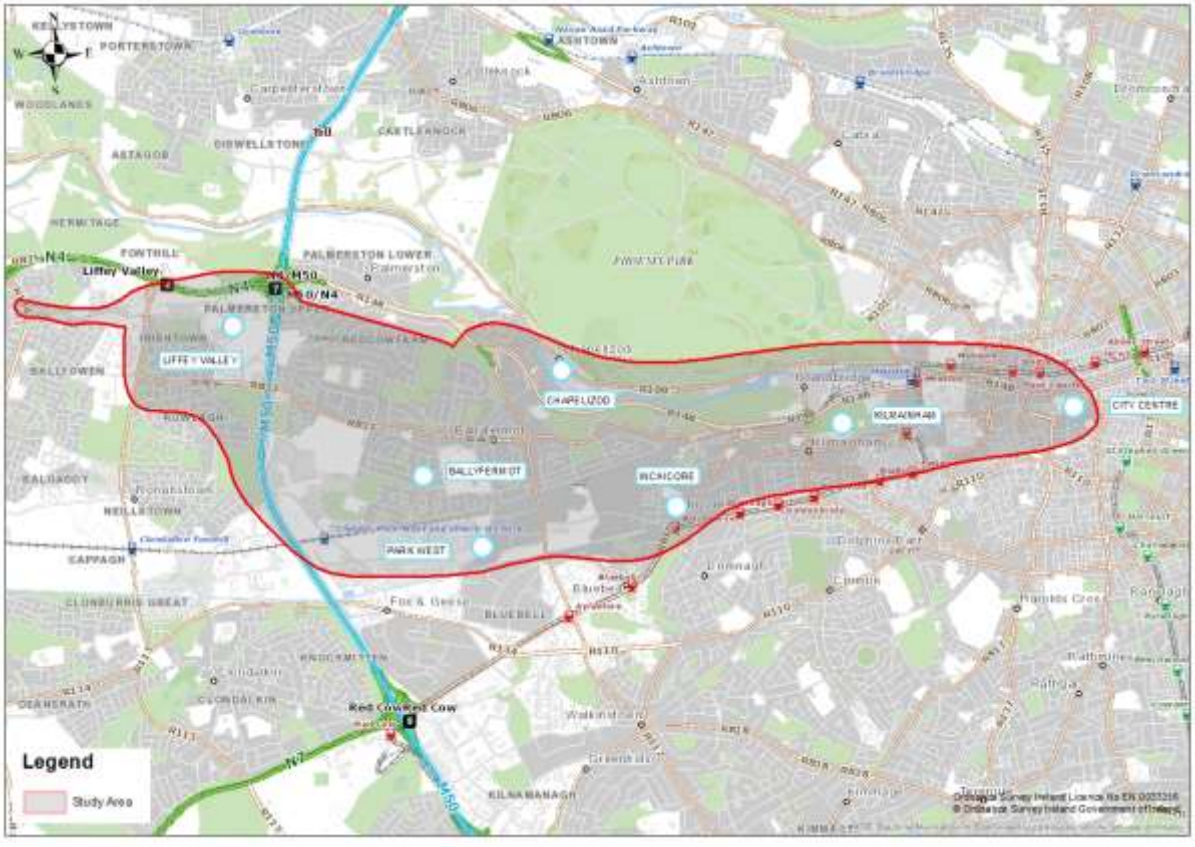


Figure (ii): Study Area

Route Options Assessment Methodology

The assessment was based on a two-stage approach:

- Initially a "Stage 1 – Sifting" assessment was carried out on all possible route options. This process was a high-level assessment whereby routes were appraised on their ability to meet the criteria for a core bus corridor and whether they could practically be delivered. A simple pass/fail result was given for each route at this stage.
- The routes that passed Stage 1 were then taken forward and combined into a number of feasible longer routes between points. These were then assessed by a "Multi-Criteria Analysis" process, in which routes were ranked in a comparative manner under a number of criteria.

An initial "spiders-web" of potential routes that could feasibly accommodate the CBC was developed for the entire study area. The resulting spider web of route options for the entire study area is shown in **Figure (iii)** below.

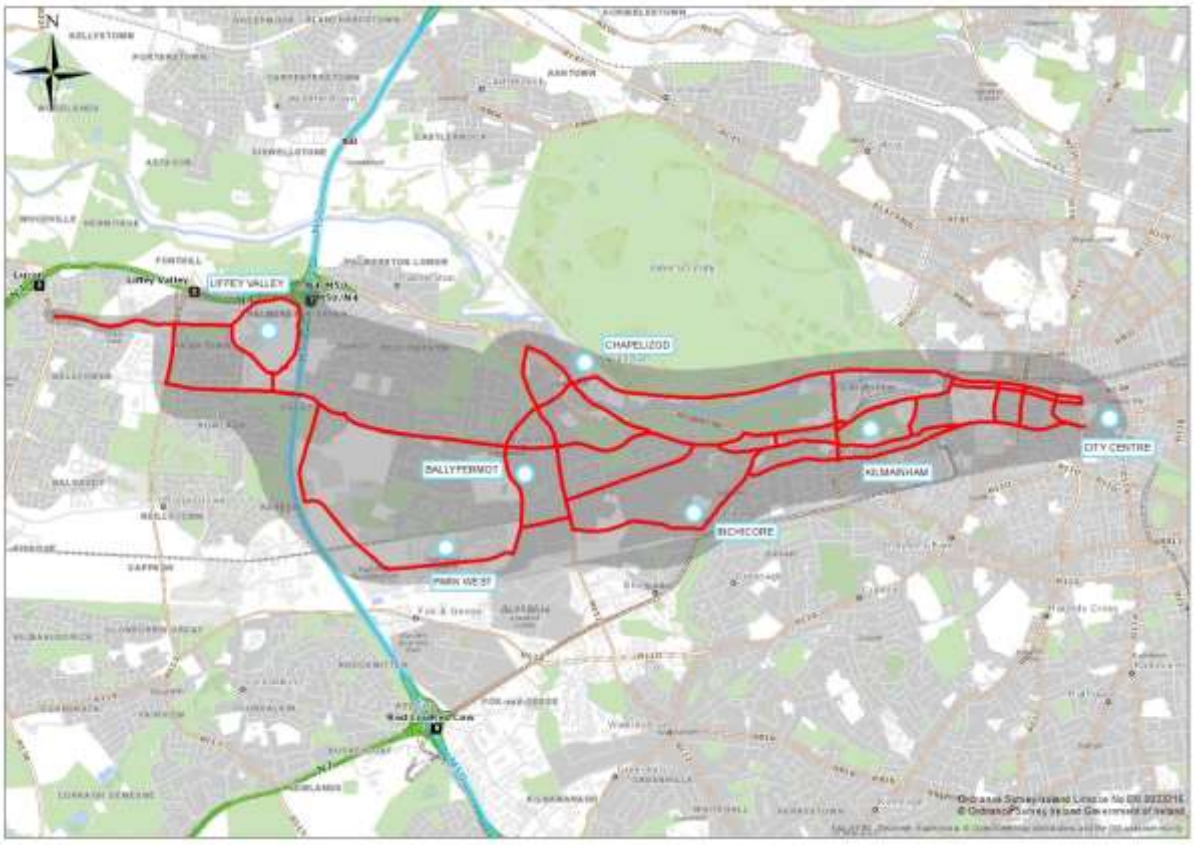


Figure (iii): Spiders Web of Route Options

Once this spider web of routes was developed, it was narrowed down as part of the sifting process. This process was a high level qualitative method based on experienced engineering judgement of the practicality and feasibility of providing a core bus corridor along each route. This exercise identified options that would either not achieve the scheme objectives or would be subject to excessive impacts and/or cost to achieve these objectives, (e.g. excessive land-take, environmental impact etc.)

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.

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, bus lanes in each direction only, bus lane in one direction only etc.). Where necessary, 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) under the following main criteria:

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

Project specific sub-criteria under each of the main criteria were developed based on the scheme objectives. **Table (i)** presents a summary of the CBC assessment criteria and sub criteria used as part of the 'Stage 2' detailed route options assessment process.

Table (i): Assessment Criteria

Assessment Criteria	Assessment Sub-Criteria
1. Economy	1.a Capital Cost
	1.b Transport Reliability and Quality of Service
2. Integration	2.a Land Use Integration
	2.b Residential, Employment and Educational Catchments
	2.c Transport Network Integration
	2.d Cycling Integration
3. Accessibility & Social Inclusion	3.a Key Trip Attractors
	3.b Deprived Geographic Areas
4. Safety	4.a Road Safety
	4.b Pedestrian Safety
5. Environment	5.a Archaeology, Architectural and Cultural Heritage
	5.b Flora and Fauna
	5.c Soils and Geology
	5.d Hydrology
	5.e Landscape and Visual
	5.f Air Quality
	5.g Noise & Vibration
	5.h Land Use Character

The Emerging Preferred Route

Following the assessment process outlined in the previous section an emerging preferred route has been identified as shown in **Figure (iv)** and is described in the Liffey Valley to Christchurch direction.

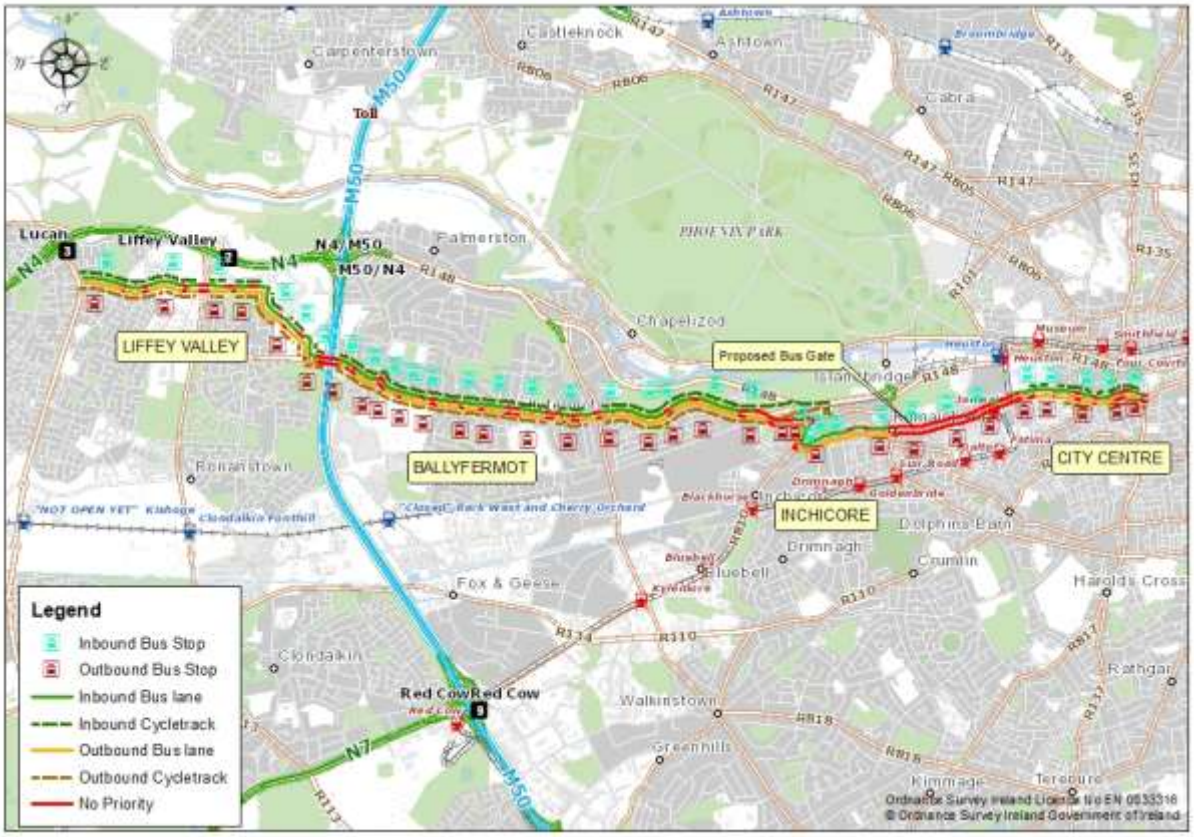


Figure (iv): Emerging Preferred Route

Describing the emerging preferred route in the Liffey Valley to city centre direction, the CBC commences on Ballyowen Road from its junction with Willsbrook Road, continuing on St Lomans Road to where it travels onto to the distributor road to the west of Liffey Valley shopping centre. From here it joins the Coldcut Road and continues to the bridge over the M50. Along this section, it is proposed; to provide new and upgraded cycle and pedestrian facilities, and to redistribute the existing road space to provide new bus lanes in both directions. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there would be an exception for approx. 170m section where the proposed route travels onto the bridge over the M50. Due to the existing cross sectional width of the bridge, provision of dedicated bus and cycle facilities are not feasible. Buses would share space with general road traffic. Cyclists would share a 3m wide path on either side of the bridge with pedestrians. The junction and roundabouts along the Ballyowen Road (roundabout with Liffey Terrace) and Saint Lomans Road (roundabout with Liffey Avenue and entrance with St Edmunds) would be upgraded to signalised junctions and would provide bus lanes up the stop lines along with dedicated left turning traffic lanes. The existing roundabouts along the Liffey Valley distributor road would be upgraded to provide improved bus priority, by providing bus lanes to the stop lines along with bus lanes through the roundabout. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New bus stops on both sides are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive and on the St Lomans Road adjacent to Saint Edmunds Park. New toucan crossings are proposed on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

After travelling onto the bridge over the M50 the proposed CBC route continues along the Coldcut Road and joins the Ballyfermot Road. The CBC route travels through Ballyfermot Village and continues onto the Sarsfield Road. Priority bus lanes are proposed along the entire length of this section. It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the entire length of this route. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there are two locations in Ballyfermot Village where cycle tracks are not feasible due the proximity of residential properties. Significant amounts of public and private land take would be required on the Ballyfermot Road and Sarsfield Road between the junctions of Kylemore Road and Con Colbert Road to accommodate the proposed facilities. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts). Furthermore the junctions at the intersection of the Ballyfermot Road with; the Coldcut Road and La Fanu Road would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junctions. New bus stops on both sides are proposed on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital. Furthermore new bus stops are proposed opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; adjacent to O' Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course, along with the upgrade of all existing pedestrian crossings to toucan crossings along the entire route section. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

From the junction of Sarsfield Road and Con Colbert Road, the CBC turns south east along Sarsfield Road, where it joins Grattan Cresent. At the intersection of Grattan Cresent and Emmet Road the CBC travels along Emmet Road, Old Kilmainham, Mount Brown and James's Street. From here the route joins Thomas Street and terminates at the end of High Street. Due to the proximity of adjacent residential and commercial properties, priority bus lanes and cycle tracks are not feasible in many locations. Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as is. An alternative cycle facility is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). Alternative parking arrangements are proposed on Emmet Road to facilitate the loss of on street parking by the provision of alternative off street parking in an existing grassed area adjacent to the Orchard Apartments on Emmet Road.

From the junction at R111 (South Circular Road), the Core Bus Corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route section. Therefore a bus gate is proposed adjacent to Kearn's Place on Old Kilmainham. This bus gate would be controlled by traffic signals and a retractable bollard (bollard would be controlled by vehicle identification software). This bus gate would allow for buses and cyclists to pass in both

directions, but general public traffic would not be permitted to pass. As a result no through public traffic would be permitted along Old Kilmainham, Mount Brown and James's Street between the junctions of South Circular Road and Bow Lane West. The bus priority attained along this section as a result of the bus gate would improve bus travel times and journey time reliability greatly in both directions without any impact regarding land take, and on-street parking from adjacent residential and business properties. However local traffic would still be permitted to access the area. Due to the provision of the bus gate and the reduced levels of traffic along the R810 at Old Kilmainham, Mount Brown and St. James's Street, priority bus lanes and cycle facilities are not required. Buses and cyclists would share road space with local traffic along this section. As a result, it is not proposed to provide an alternative cycle route along Bow Lane West and Kilmainham Lane for this route option. It is proposed to retain car parking along this section where possible.

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median. This allows for the provision of cycle tracks along with bus lanes where space permits. However this section of the route is designated as a primary cycle route, therefore, there are a number of sections where shared bus and cycle lanes are required in order to accommodate cyclists. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, where cyclists would share space with buses. New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Concept Scheme Design Summary

The Emerging Preferred Route is approximately 11.4 km long from end to end. The concept scheme design included in Appendix B shows the extent of the infrastructure proposed to deliver this CBC.

The existing bus priority infrastructure along the EPR is approximately 20% (2.2km) in the inbound direction and only 16% (1.8km) in the outbound direction. The proposed scheme would improve bus priority infrastructure to approximately 82% (9.35km) in the inbound direction and 83% (9.5km) in the outbound. There are two main areas where bus priority cannot be provided in either direction: at the existing bridge over the M50 on the R833 at Coldcut Road and along the R810 at Old Kilmainham, Mount Brown and James's Street. Given the traffic volumes on Coldcut Road at this junction location and the short length of road with no bus priority, it is not anticipated that delay will be experience at that location while the provision of the bus gate on the R810 adjacent to the Kearn's Place junction will remove the majority of traffic on this road, thus ensuring bus travel times and reliability are maintained.

In general, the proposed scheme will provide increased bus priority through junctions by providing bus lanes to the stop lines. In particular, the conversion of roundabouts to signalised junctions will help to ensure bus priority in congested areas. Taken with the significantly increased dedicated bus lanes, this increased priority will ensure journey time reliability and reduce delays. Bus priority is not provided in either direction at the existing bridge on the R833 over the M50, although delays are not expected at this location.

In addition to bus priority, new and upgraded cycle facilities are proposed along the entire length of the proposed CBC route, except for the sections along Coldcut Road (bridge over the M50), Sarsfield Road, Emmet Road, Old Kilmainham, Mount Brown and James's Street. An alternative cycle route is proposed via Con Colbert road, Memorial Road and the Inchicore Road for the Emmet Road section of the route. Due to the reduced traffic on Old Kilmainham/Mount Brown/James's Street, as a result of a proposed bus gate, cyclists would share space with buses and local traffic along this section of the route option. Dedicated raised adjacent cycle tracks (in both directions) of 2m minimum width in accordance with the National Cycling manual would be provided, along with the provision of 2m wide footpaths (in both directions) where possible. A bus gate to allow right turn only for buses is proposed

in the outbound direction on Emmet Road at its intersection with Grattan Cresent. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park, on the Liffey Valley Road adjacent to the Liffey Valley Motor Hall, on the western arm of the roundabout adjacent to Greenfort lawns on the Liffey Valley Road, and on the north western arm of the roundabout adjacent to Greenfort Crescent on the Liffey Valley Road, on the Ballyfermot Road at the intersections of Clifden Road and Drumfinn Road, adjacent to O Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course on the Sarsfield Road, along with the upgrade of all existing pedestrian crossings to toucan crossings.

As part of the proposed scheme, new bus stops are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive and on the St Lomans Road adjacent to saint Edmunds Park, on the Liffey Valley Road west of the Liffey Valley Motor Company and adjacent to the Liffey Valley Retail Park. The new stops on Ballyowen Road increases the catchment of the CBC to a number of large residential areas to the south of the N4 while those around Liffey Valley provide a number of stops to access various parts of Liffey Valley.

Further stops are proposed; opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road, on both sides on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital, adjacent to the Spar Grocery Store on the Ballyfermot Road and one no. outbound stop on the Ballyfermot Road on approach to its junction with the Kylemore Road, one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street. These stops would increase overall CBC catchment potential.

Cost Estimate

A high level cost estimate was prepared based on the concept scheme design discussed above. From this, the proposed CBC scheme infrastructure cost is expected to be approximately €55m - €60m.

Scheme Benefits

The main bus service linking the area around Liffey Valley to the City Centre is the 40 (Liffey Valley Shopping Centre towards Charlestown Shopping Centre), a long cross-city route. This route begins in Liffey Valley before taking a circuitous route around Ronanstown and Neilstown Road before travelling towards city centre on the R833 at Coldcut Road. From there the route continues on the R833 through Ballyfermot before using Sarsfield Road and Grattan Cresent to access Emmet Road. It then continues on the R810 at Old Kilmainham, Mount Brown, James's Street and Thomas Street to Christchurch.

Bus route 40 generally overlaps with the emerging preferred route (between the junction of Coldcut road and Liffey Valley Road, to the junction of Thomas Street and High Street). By examining the automatic vehicle location (AVL) data from Dublin Bus, currently there are issues with journey time reliability along the route.

Journey times during the core hours of bus operation (7:00 – 19:00) are observed to vary between 28 to 44 minutes in the inbound direction and 29 minutes and 38 minutes in the outbound direction. The variation in traffic times is most likely due to the lack of bus priority on large sections of the route and compounded by traffic congestion and passenger boarding times which are high. Meanwhile in the late evening (after 19:00 hrs) compared to the AM peak (07:00 to 09:30), average journey times and average speeds are significantly improved. After 19:00 hrs, it was observed that the inbound average journey time reduced to 21 minutes and 18 minutes in the outbound direction. This reflects the benefits of an uncongested network. Therefore a bus priority network allows buses to move along the route quicker and with more reliable journey times.

Key to the provision of a high quality bus network is journey time reliability which makes the system more efficient in terms of number of people moved by the same level of vehicles and driver resources,

in addition to user satisfaction in terms of reliability of their journey time and bus arrivals. This scheme will address the current journey time variability at key locations including Ballyfermot Village, Cloverhill Road on the Coldcut Road, O' Hogan Road on the Ballyfermot Road, Saint James's Hospital on James's Street and Kearn's Place on Old Kilmainham.

In reference to GDA Cycle Network Plan, the scheme will deliver 7km of new and upgraded Primary Cycling route Nos. 7A and 7, linking Liffey Valley to the City Centre. The cycle facilities proposed would provide a raised adjacent dedicated facility of 2m minimum width where possible. These cycle route sections include:

- Roundabout of Fonthill Road/Liffey Valley Road to the junction of Ballyfermot Road/Kylemore Road following the Liffey Valley Road, Coldcut Road and Ballyfermot Road.
- 0.7km of the Sarsfield Road to its intersection with Grattan Cresent
- Old Kilmainham, Mount Brown, James's Street, Thomas Street, Cornmarket Street and High Street
- An alternative cycling route is proposed on the Con Colbert Road and Memorial road to accommodate non feasible cycling facilities on Sarsfield Road

It will also deliver 1.2km and 0.3km of new Secondary Cycle route Nos. 7A and 7D, which link up with the previously mentioned Primary Cycle routes. The cycle facilities proposed would provide a raised adjacent dedicated facility of 2m minimum width where possible. These cycle route sections include:

- The intersection of St Lomans Road and Ballyowen Road to the roundabout of Fonthill Road and Liffey Valley Road
- A section of Grattan Cresent from its junction with Sarsfield Road to its junction with Emmet Road

The proposed route will also provide a direct route to Liffey Valley with interchanges with other local busses possible. It will also provide an opportunity to provide an enhanced urban environment, particularly at Ballyfermot Village.

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. Introduction

1.1 Preamble

Clifton Scannell Emerson Associates (CSEA) were commissioned by the National Transport Authority (NTA) to carry out a feasibility and route options assessment study for the Liffey Valley to Christchurch Core Bus Corridor (CBC). This report presents the findings of the study and presents a preferred route for the core bus corridor from Liffey Valley to Christchurch.

This report considers the infrastructure required to provide bus priority and cycle facilities only and does not define the bus services that may use the CBC. Although bus services for the CBC have not yet been defined, it is assumed that a number of high frequency bus services will avail of this infrastructure.

The report sets out the detailed assessment undertaken of potentially viable route options within the identified study area and a concept scheme design along the preferred route option is presented.

1.2 Report Structure

The report structure is detailed below:

- **Section 2** – The strategic transport policy context which has led to the identification of a need for the delivery of a CBC on this corridor is discussed in this section. The objectives set out for the CBC scheme are also set out.
- **Section 3** – The objectives of the core bus network and the proposed scheme are presented. The extent of the CBC study is defined along with constraints and opportunities, the integration of the corridor with the wider public transport network and the compatibility with other road users. The study area is split into three sections.
- **Section 4 –** The methodology for identifying and assessing the feasibility of the various route options potentially available within the study area is discussed in this section including:
    - The selection and determination of initial criteria for screening and assessing technically feasible route options, bases on distinct, project-specific objectives
    - The definition of assessment criteria
    - The identification of study area sections where practical route options have been considered and presentation of an initial network (“spiders-web”) of options examined
- **Section 5, 6 and 7 –** Details the route options assessment for each of the three study area sections.
- **Section 8 –** The Emerging Preferred Route is identified and described.
- **Section 9 –** The next steps for the project are set out in this section.

2. Transport Planning Context

2.1 Transport Strategy for the Greater Dublin Area, 2016 – 2035

The NTA published the Transport Strategy for the Greater Dublin Area, 2016 – 2035 at the beginning of 2016. The strategy identifies a "Core Bus Network", representing the most important bus routes within the Greater Dublin area, generally characterised by high passenger volumes, frequent services and significant trip attractors along the routes. The identified core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors.

The Strategy states that it is intended to provide continuous bus priority, as far as is practicable, along the core bus routes. This will result in a more efficient and reliable bus service with lower journey times, increasing the attractiveness of public transport in these areas and facilitating a shift to more sustainable modes of transport.

The Liffey Valley to Christchurch CBC is identified as part of the Core Bus Network. The radial Core Bus Network identified in the GDA Transport Strategy is shown in **Figure 2.1** below with the Liffey Valley CBC highlighted in orange.

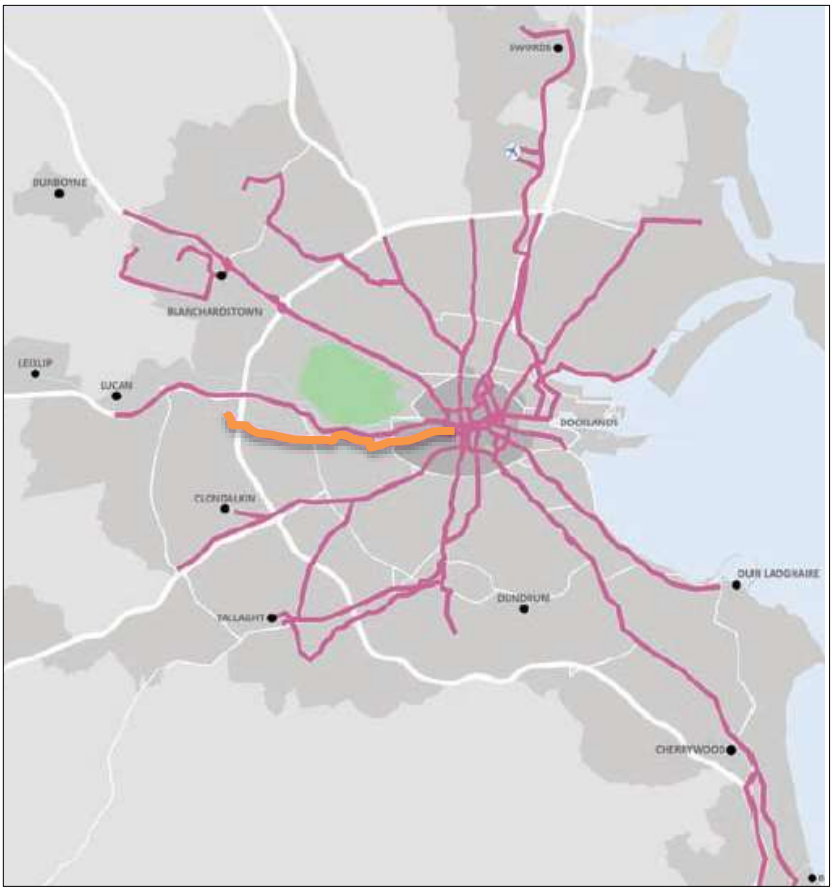


Figure 2.1: 2035 Radial Core Bus Network

2.2 Infrastructure and Capital Investment 2016 – 2021

The 'Medium Term Exchequer Framework' was published by the Department of Public Expenditure and Reform 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.

This report identifies the need to improve public transport facilities noting:

"It is therefore essential that road, rail and public transport networks are developed and maintained to the standard required to ensure the safe and efficient movement of people and freight. In addition, getting people out of cars and onto public transport has a key role to play in reducing Ireland's carbon emissions, by providing a viable, less polluting alternative to car and road transport for many journeys."

The report also provided commitment with regard to funding for a variety of transport related projects including:

"There will be funding for:

- Further upgrading of Quality Bus Corridors".

2.3 Integrated Implementation Plan 2013 – 2018

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.

This report identified the need to further develop the quality bus network in the Greater Dublin Area in order to achieve:

> *"…as far as practicable, continuous inbound priority and the maximum possible outbound priority on key bus routes into Dublin City Centre."*

2.4 Greater Dublin Area Cycle Network Plan

The Greater Dublin Area Cycle Network Plan was adopted by the NTA in early 2014 following a period of consultation with the public and various stakeholders. This plan forms the strategy for the implementation of a high quality, integrated cycle network for the Greater Dublin Area.

There are a large number of primary (Routes 5, 6, 7A, SO1) and secondary (Routes 6A, SO4, SO5, 8C1) cycle routes identified between Liffey Valley and Christchurch. During the course of the analysis carried out to identify the preferred core bus corridor, the provision of these cycle routes was considered at all stages. Therefore, as part of the analysis, any upgrading of infrastructure to provide bus priority also provides cycling infrastructure, where practical, to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for primary and secondary cycle routes.

2.5 Core Bus Corridor Scheme Objectives

Having regard to the findings of the transport context for the proposed CBC's in the GDA, the following objectives have been established for the Liffey Valley 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
- 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 not be expressly required under the Cycle Network Plan.

3. Study Area

Based on the transport context and scheme objectives set for the Liffey Valley to Christchurch CBC, the study area for the proposed scheme is as identified in **Figure 3.1**. The study area begins at Ballyowen Road to the west of Liffey Valley and generally includes feasible routes within 500m of the R833 (Ballyfermot Road). The study area encompasses the areas around Liffey Valley, Ballyfermot, Park West, Chapelizod, Inchicore and Kilmainham. The end point for the study area is defined as being at the junction of the R108 (Thomas Street) and R137 (Patrick's Street) at Christchurch Cathedral. In defining the study area, consideration was given to the close proximity of the Lucan to City Centre CBC. While there is some overlap between the two study areas towards the City Centre, the study area was defined in order to minimise overlap in the Liffey Valley and Ballyfermot areas.

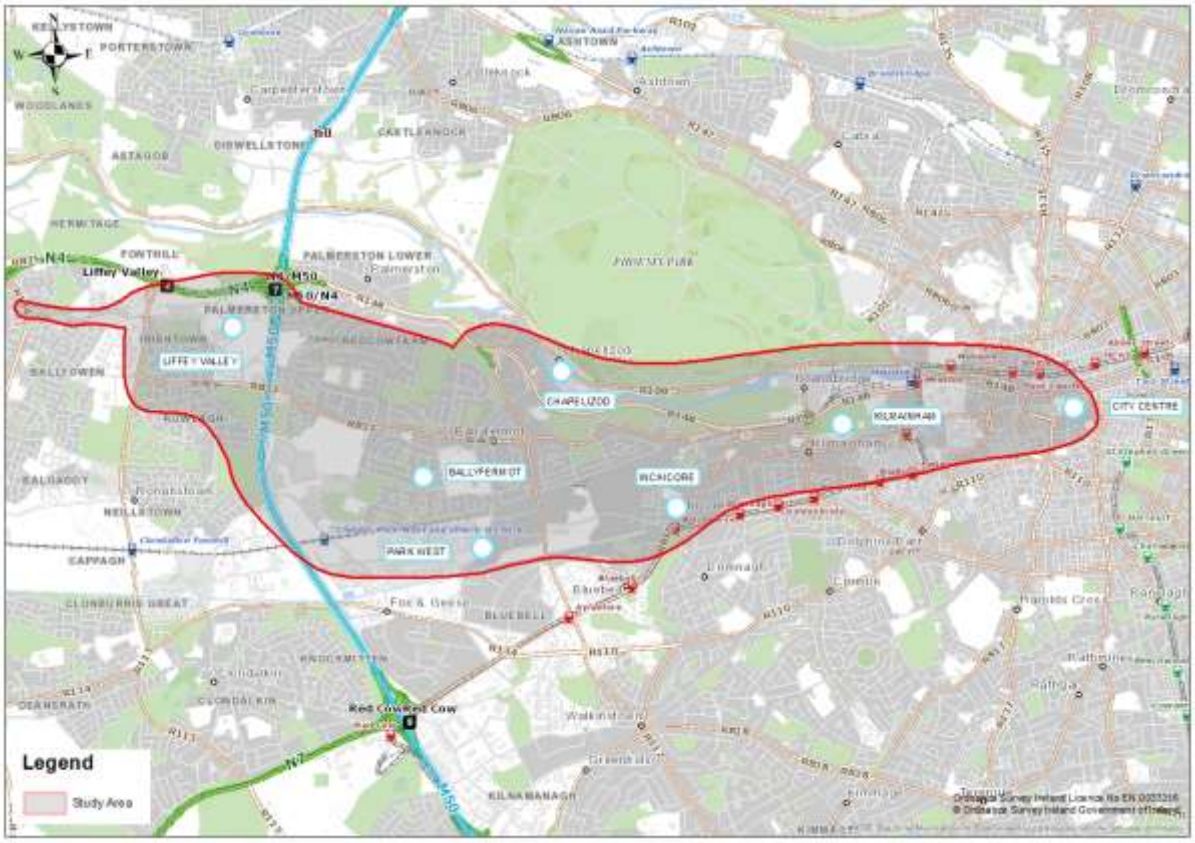


Figure 3.1: Study Area

3.1 Study Area Sections

In order to simplify the assessment process and allow it to be presented in a clear manner, the study area was divided into three sections:

- Section 1: Ballyowen Road to Le Fanu Road
- Section 2: Le Fanu Road to Sarsfield Road
- Section 3: Sarsfield Road to Christchurch

The extent of each of these corridor sections is shown in **Figure 3.2** below.

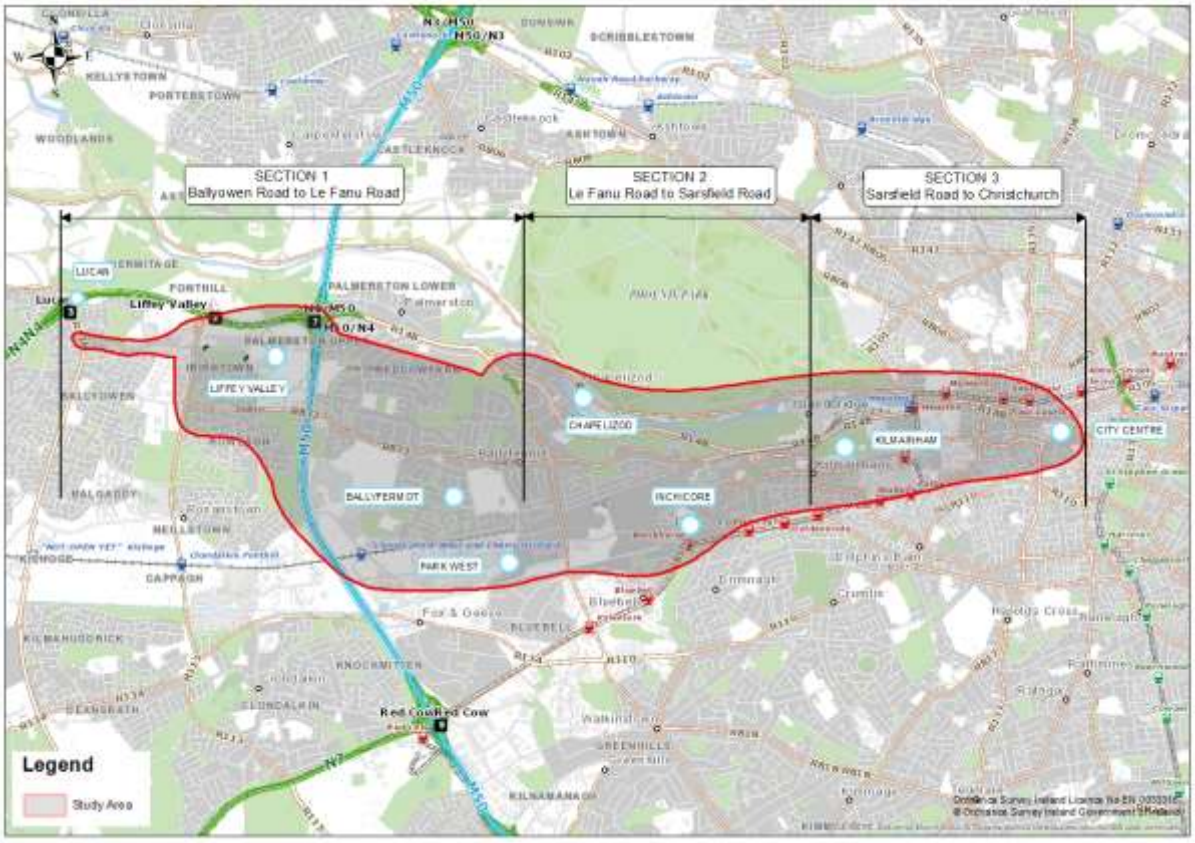


Figure 3.2: Study Area Sections

3.2 Physical Constraints and Opportunities

There are a number of constraints and opportunities, both natural (i.e. existing natural environment) and physical (the built environment), which constrain route options for the proposed scheme within the defined study area including:

- Availability of space between building lines
- River Liffey
- Existing and committed future development along the route
- Existing monuments and protected structures
- Bridges
- Public parks
- St. James's Hospital and future Children's Hospital
- Need to maintain traffic flow in key areas
- Luas Red Line and possible future line to Lucan
- Railway lines in the vicinity of Heuston Station
- Urban realm upgrades in towns and village areas such as Ballyfermot

3.3 Integration with Existing and Proposed Public Transport Network

One of the key objectives of the proposed CBC scheme is to enhance interchange between the various modes of public transport operating in the city and wider metropolitan area, 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, seek to provide for improved existing or new interchange opportunities with other transport services including:

- The Luas Red Line
- Heavy Rail at Heuston Station

- Bus services at numerous locations along the route
- Future Luas Line to Lucan

3.4 Compatibility with Other Road Users

A key objective of the proposed scheme is to improve pedestrian and cyclist facilities along the route. In general, segregated facilities should be proposed for these modes.

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

There may be locations where segregated cycle facilities cannot be provided along the CBC route and there is no suitable routing alternative. In such instances, it may be possible for cyclists to share with vehicles in the bus lane. Such proposals need careful consideration and design to ensure the safety of cyclists, with additional mitigation measures, such as traffic calming measures and other urban realm design solutions possibly required.

General traffic flow and local access will generally 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 CBC priority and cycle lanes and the introduction of turning movement restrictions. However, reductions in traffic carrying capacity of the road network need to be considered in the context of the overall planned significant increase in quality and level of service (including increased capacity provision) on the CBC route once implemented.

4. Assessment Methodology

4.1 General

This section outlines the methodology used in the assessment of feasible routes for the Core Bus Corridor. The assessment was based on a two-stage approach:

- Initially a "Stage 1 – Sifting" assessment was carried out on all possible route options. This process was a high-level assessment whereby routes were appraised on their ability to meet the criteria for a core bus corridor and whether they could practically be delivered. A simple pass/fail result was given for each route at this stage.
- The routes that passed Stage 1 were then taken forward and combined into a number of feasible longer routes between points. These were then assessed by a "Multi-Criteria Analysis" process, in which routes were ranked in a comparative manner under a number of criteria.

4.2 Stage 1: Route Options Assessment – Sifting Stage

An initial "spiders-web" of potential routes was developed for the entire study area. This entailed identifying possible routes that could potentially accommodate the core bus corridor. This "spiders-web" of route options was chosen with reference to the CBC characteristics and the scheme objectives as set out in Section 2, the physical constraints and opportunities present (Section 3.3) and the ability to integrate with other public transport modes and users (Section 3.4). While developing this "spiders-web", particular attention was paid to the routes potential to practically accommodate bus priority measures and, thereby facilitate fast and reliable journey times.

The resulting spider web of route options for the entire study area is shown in **Figure 4.1** below.

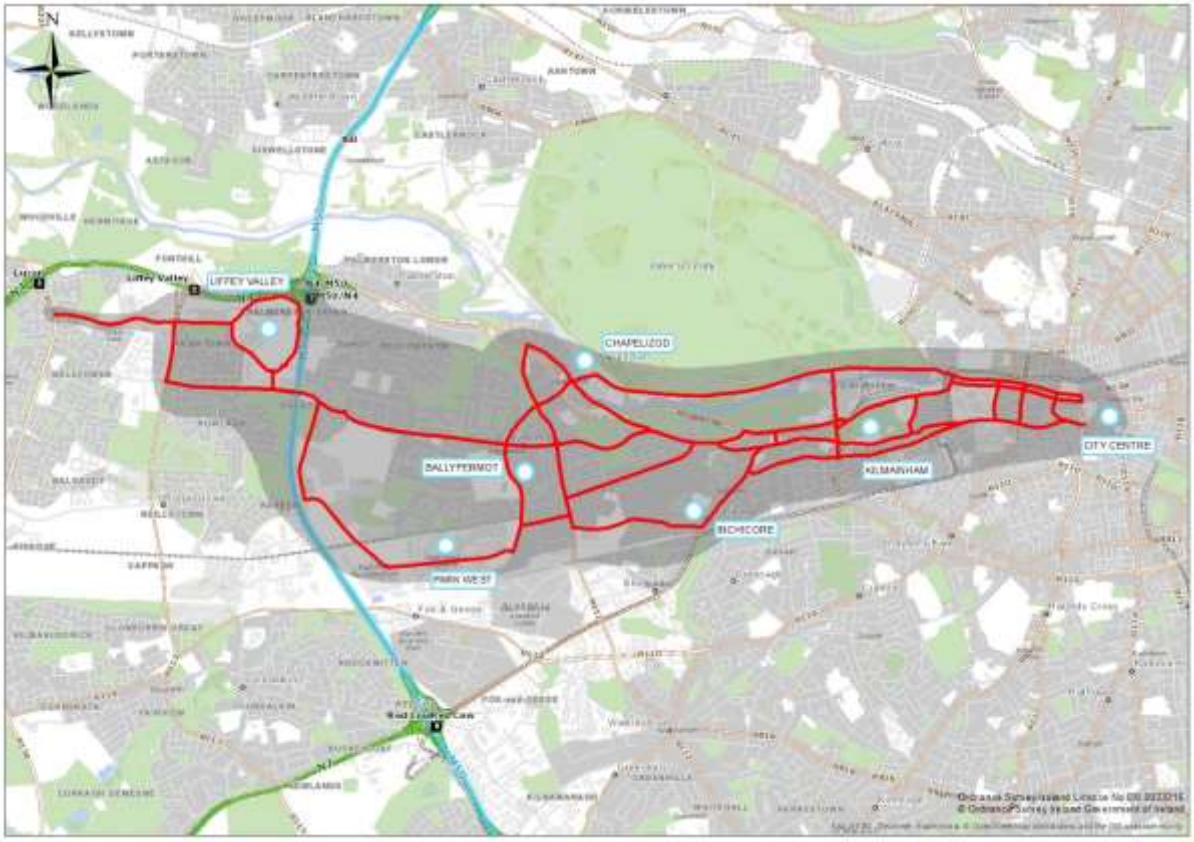


Figure 4.1: Spiders Web of Route Options

Once this spider web of routes was developed, it was narrowed down as part of the sifting process.

This process was a high level qualitative method based on experienced engineering judgement of the practicality and feasibility of providing a core bus corridor along each route. This exercise identified options that would either not achieve the scheme objectives or would be subject to excessive impacts and/or cost to achieve these objectives, (e.g. excessive land-take, environmental impact etc.)

4.3 Stage 2: Multi-Criteria Analysis

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.

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, bus lanes in each direction only, bus lane in one direction only etc.). Where necessary, 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 assessment. The '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
- Safety
- Environment
- Physical Activity

Physical Activity has been scoped out of the multi-criteria assessment at this stage as all route options are considered to promote physical activity equally and it is, therefore, not considered to be a key differentiator between route options. Project-specific route options assessment criteria have been established for the GDA CBC schemes by the NTA. This have been tailored to have commonality with the Common Appraisal Framework guidelines where practical.

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

Table 4.1: Assessment Criteria

Assessment Criteria	Assessment Sub-Criteria
1. Economy	1.a Capital Cost
	1.b Transport Reliability and Quality of Service
2. Integration	2.a Land Use Integration
	2.b Residential, Employment and Educational Catchments
	2.c Transport Network Integration
	2.d Cycling Integration
3. Accessibility & Social Inclusion	3.a Key Trip Attractors
	3.b Deprived Geographic Areas
4. Safety	4.a Road Safety
	4.b Pedestrian Safety
5. Environment	5.a Archaeology, Architectural and Cultural Heritage
	5.b Flora and Fauna
	5.c Soils and Geology
	5.d Hydrology
	5.e Landscape and Visual
	5.f Air Quality
	5.g Noise & Vibration
	5.h Land Use Character

4.3.1 Economy (1)

4.3.1.1 Capital Cost (1.a)

Capital cost estimates are determined from both the indicative infrastructure cost estimate and land acquisition cost. The methodology used, generally based on per-kilometre rates, is described below.

1.a.i Indicative Infrastructure Cost Estimate

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 works requirements to deliver the scheme objectives.

The indicative scheme design for each route was used to determine the extent of the works required to provide the required bus and cycle facilities. These works were categorised and grouped together and their assumed costs are shown in **Table 4.2** below.

All cost estimates quoted exclude VAT.

Table 4.2: Route Sections Infrastructure Cost Estimate Assumptions

Construction Category	Construction Works Assumptions	Cost
Major Road Construction	• Site Clearance • Services protection/diversion/relocation (power supply, telecoms, gas etc.) • Drainage • Major earthworks (embankments, retaining walls etc.) • Full pavement construction in large areas • Milling and overlay where required • Kerbs, footpaths, cycle tracks (removal and new) • Road lighting (replacement, cabling ducting etc.) • Road markings and signage • Street furniture • Landscaping • Boundary treatments • Accommodation works where required	€5,000,000 per km
Road Space Redistribution	• Site Clearance • Services protection/diversion/relocation (power supply, telecoms) • Limited earthworks • Minor drainage works • Full pavement construction in small areas • Milling and overlay where required • Kerbs, footpaths, cycle tracks (removal and new) • Road lighting (relocation, ducting etc.) • Road markings and signage • Street furniture • Landscaping • Boundary treatments • Accommodation works where required	€2,500,000 per km
Junctions	• Site Clearance • Services protection/diversion/relocation (power supply, telecoms) • Limited earthworks • Minor drainage works • Traffic signals (ducting, chambers, cabling, controller, signals etc.) • Kerbs, footpaths, cycle tracks (removal and new)	€500,000 per junction

	• Road lighting (relocation, ducting etc.) • Road markings and signage • Street furniture • Landscaping • Boundary treatments • Accommodation works where required	
Alternative Cycle Route	• Site Clearance • Services protection/diversion/relocation (power supply, telecoms) • Limited earthworks • Minor drainage works • Kerbs, footpaths, cycle tracks (removal and new) • Road lighting (relocation, ducting etc.) • Road markings and signage • Street furniture • Landscaping • Boundary treatments • Accommodation works where required	€1,750,000 per km
Bus Stops	• Raised kerbs and platforms • Paving • Shelters • RTPI infrastructure • Street furniture	€50,000 per bus stop

1.a.ii Land Acquisition Cost Estimate

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

- 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.
- The costs associated with boundary/accommodation works.

For the purposes of route options comparison and assessment, the extent of land acquisition required for each route option is calculated by applying a typical cross-section to each option based on ordnance survey mapping and existing surveys where available. The typical cross-section used for this purposes is as follows:

- 3.0 m bus lane
- 3.0 m traffic lane
- 2.0 m footpath; and
- 2.0 m cycle track.

In some areas, the above standard widths were tailored where required on route options in order to deal with any constraints while ensuring the scheme objectives were still met.

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 within the road reserve (e.g. property boundary wall to property boundary wall). Areas outside the road reserve are assumed to be private land except where it is clear that it is owned by a public entity (e.g. a public park, areas taken into maintenance etc.). Any private land that may be located within the road reserve, but are not clearly private land, are considered as public areas as part of this methodology. This exercise has been based on available Ordnance Survey mapping and topographical survey.

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 for private land acquisition based on valuations carried out by the NTA and TII for other public transport projects. Using this information, a rate of €1,500/m^2 has been applied to route options to derive an indicative cost for private land-take for all route options.

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

4.3.1.2 Transport Reliability and Quality of Service

1.b.i Journey time

This sub-criterion assesses the extent to which journey time savings for public transport services can be achieved on each route. This is dependent on the provision of some or all of the following measures being implemented:

- Enhancement of existing bus lanes and/or provision of new bus lanes along road links
- Provision of bus lanes to stop lines at junctions
- Use of traffic signals to provide virtual priority (e.g. queue relocation)
- Removal of 'pinch points' for bus services along the route
- Rationalisation of existing bus stops in term of location, indentation, spacing etc.

Journey times for each route option have been calculated using predicted average speeds for busses through each route. These predicted speeds are based on the amount of bus priority attainable on each route while also allowing for the nature of the roads within each route. Where no bus priority is possible, existing average speed data from busses was used, based on current automatic vehicle location information from Dublin Bus. In general, the following assumptions were used for evaluation:

- Maximum speed of 50 km/h reducing to 30 km/h within the City Centre areas.
- Dwell time of 20 seconds per stop on average
- Average delays of 30s per signalised junction and 15s per priority junction

Delays at junctions and stops include delays associated with deceleration/acceleration to/from a stationary position.

1.b.ii Bus Priority

This sub-criterion is used to assess the level of bus priority attainable along each route. The level of priority is generally calculated based on the degree of road space given to dedicated bus lanes along the route along with the provision for busses at junctions. This information feeds into the journey time calculation discussed above.

4.3.2 Integration (2)

4.3.2.1 Land Use Integration (2.a)

This criterion identifies the extent to which a route supports or encourages planned future development or provide economic opportunities. As part of this assessment, cognisance was taken of the ability of each route to offer opportunities to regenerate particular streets or areas or enhance the urban environment in general.
The interaction of routes with Local Area Plans, masterplans, County Development Plans etc. are also considered under this criterion.

4.3.2.2 Residential, Employment and Educational Catchment (2.b)

This criterion compares the existing populations within 5, 10 and 15 minute walk catchments from bus stops and is representative of the number of potential users for a particular route option .The catchment contours are based on the locations accessible on foot within a 5, 10, and 15 minute walk of each bus stop, using the existing roads and paths in the vicinity of the stops. The assessment does not include future populations of zoned, but yet undeveloped residential development lands along route options. The analysis involved extracting 2011 population, employment and education statistics from the Central Statistics Office (CSO) 'small areas' dataset and 2011 POWSCAR data (Place of Work, School or College – Census of Anonymised Data). This information was subsequently used to calculate the number of people within the contours for each of the following headings:

- Residential population
- Employment destination population
- Education destination population

The employment and education populations are people who work and attend schools/colleges within the catchment, i.e. they may live outside the catchment but travel to it for these purposes.

The routes were not assessed in a simple quantitative way but were ranked by taking a holistic view of the overall catchment and using experienced judgement to determine the most beneficial routes.

4.3.2.3 Transport Network Integration (2.c)

This criterion identifies the possible links between each route and existing and proposed public transport modes. This includes the potential for efficient interchanges between the proposed bus services using the Core Bus Corridor and other transport modes such as Luas, rail stations, other bus routes etc. and how each route can maximise public transport usage.

Additionally, major effects on general traffic are also considered. While the provision of bus lanes may generally lead to some reduction in capacity for general traffic, some routes may have additional affects over and above this, which must be considered.

4.3.2.4 Cycling Integration (2.d)

This criterion identifies the integration of the proposed routes with the GDA Cycle Network Plan and the quality of infrastructure along the route options. Each route was assessed on its ability to provide the required cycling infrastructure in tandem with bus priority measures.

4.3.3 Accessibility and Social Inclusion (3)

4.3.3.1 Key Trip Attractors (3.a)

The key trip attractors within approximately 10 min walk distance from each route are identified in this criterion. The following land-uses have been considered as key trip attractors for the purposes of this assessment:

- Education (schools, universities, etc.)
- Retail and leisure centres (shopping centres, town centres, etc.)
- Health (hospitals, clinics, etc.)
- Employment (business parks, office developments etc.)

4.3.3.2 Deprived Geographic Areas (3.b)

This criterion assesses the impact of the CBC route options on the areas within 10 minute walk defined as “very deprived” and “deprived” in the Pobal Deprivation Index. RAPID areas (Revitalising Areas by Planning, Investment and Development) within the 10 minute walk boundary are also taken into consideration.

RAPID was a focused Government initiative to target the most disadvantaged urban areas and provincial towns in the country and sought to improve the lives of the residents of its communities through among other things, improving the delivery of public services through integration and coordination.

The Pobal HP Deprivation Index is a method of measuring the relative affluence or disadvantage of a particular geographical area using various datasets from the 2011 census. For the purpose of this assessment the HP Deprivation Index was examined by small area to determine which routes served deprived areas.

4.3.4 Safety (4)

4.3.4.1 Road Safety (4.a)

In general, it is likely that road accidents will be reduced along the Core Bus Corridor due to modal shift. However, the reduction in accidents is unlikely to vary between different route options. For the purposes of comparing routes, the number and type of junctions is used to assess road safety as this

is an indication of the number of potential conflicts on each route. Accident data from the RSA is noted but is not used to differentiate between routes.

4.3.4.2 Pedestrian safety (4.b)

This criterion primarily considers the safety of passengers accessing stops along the routes. The safety of access, availability of footpaths and crossing facilities were all taken into account for evaluation of this item.

4.3.5 Environment (5)

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. Based on this, the following environmental parameters were scoped out of the Environmental Assessment:

- **Agronomy:** Given the urban/suburban nature of the proposed scheme and the assumption that buses 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 are therefore considered and captured elsewhere as part of the multi-criteria analysis.

For all remaining environmental criteria, the potential impacts of route options are assessed at desktop study level. The environmental constraints considered are outlined in the following sections.

4.3.5.1 Archaeology, Architectural and Cultural Heritage (5.a)

The provision of bus priority infrastructure has the potential to impact on the archaeological, architectural and cultural heritage environment. At this stage of the assessment, the exact nature and extent of potential impacts cannot be determined for all route sections assessed.

For the purposes of this assessment heritage features of archaeological, architectural and cultural heritage significance along or immediately adjacent to the route were identified and mapped. Impacts associated with each route are then compared and ranked in order of preference.

Features considered included the following:

- National and Recorded Monuments (sites recorded on the Record of Monuments and Places (RMP sites))
- Protected Structure (sites recorded on the Record of Protected Structures (RPS))
- Sites recorded on the National Inventory of Architectural Heritage (NIAH)
- Areas of Archaeological and Cultural Heritage Merit
- Architectural Conservation Areas (ACAs) and other sites / areas of Architectural Heritage Merit
- Sites/areas of archaeological potential and recently identified archaeological sites
- Conservation Areas
- Greenfield areas with unknown archaeological potential

It is important to note that the proposed route will primarily travel on existing established road networks. Other than locations of potential significant widening of the existing road curtilage, it is currently not anticipated that adjacent structures and buildings will be impacted by the proposed CBC 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). Within the City Centre, the selection of a preferred route option will, in most instances involve the running bus services 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).

4.3.5.2 Flora and Fauna (5.b)

The provision of bus priority infrastructure has the potential to impact on flora and 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.

Features considered included the following (where relevant):

- Possible impacts on protected flora and fauna
- Identified designated ecological areas and other areas of ecological importance including ecological corridors and areas of green infrastructure
- Watercourses and fisheries waters.

It should be noted that the CBC routes generally make use of existing road corridors and, as such, are unlikely to have a major effect on Flora and Fauna in the majority of locations.

4.3.5.3 Soils and Geology (5.c)

The potential impact of routes on soil and geology as a result of land take and possible excavation is analysed in this criterion.

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
- Potential implications for existing quarry or mining activities and future extractable reserves

4.3.5.4 Hydrology (5.d)

This criterion focuses on the impact on surface water as a result of land take, especially on floodplains and floods zones. The flood risk for each route is also considered as part of this criterion.

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

4.3.5.5 Landscape and Visual (5.e)

This criterion assesses the possible effects of each route on the surrounding landscapes and streetscapes.

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.
- Relationship with protected structures, conservation areas, national monuments etc.

4.3.5.6 Air Quality (5.f)

The potential of each route to effect air quality as a result of widening, increased traffic etc. is assessed in this section.
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.

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.

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.

4.3.5.7 Noise and Vibration (5.g)

This criterion assesses the noise and vibration impact of each route, e.g. where road widening may bring traffic closer to sensitive receptors.

Similar to Air Quality, noise and vibration impact is quantified based on whether the road is moving closer to sensitive receptors i.e. road widening. As noted above, any road widening would result in only marginal impacts to noise and vibration at sensitive receptors and therefore the severity of any noise and vibration impact would be minimal.

4.3.5.8 Land Use Character (5.f)

The effect of each route on the existing land use character is assessed in this section. This includes severance of land or effects to the viability of land to be used for its intended purpose or impacts on land use character through land-take, removal of parking and loading, etc.

4.3.6 Route Options Summary Table

For each study area section, a route options assessment table in Project Appraisal Balance Sheet (PABS) format has been prepared, which contains the appraisal of route options under each of the assessment criteria.

The route options summary table for each study area is presented in **Appendix A.**

Route options have been compared based on a five point scale, ranging from having significant advantages to having significant disadvantages over other route options. **Table 4.3** shows the colour coding of the five point scale, with advantageous routes graded “dark green” and disadvantageous routes graded “red”.

Table 4.3: Route Options Colour Coded Ranking Scale

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

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

At the end of each study area section route options assessment, an overall Multi Criterion Appraisal (MCA) table is provided, bringing together each of the individual criterion assessments. This table is then summarised for each study area section under the main assessment criterion as set out in **Table 4.1**.

A qualitative appraisal of, and conclusions from, the route options assessment is then provided, highlighting the key issues considered in determining the recommended route option. 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 will not necessarily mean that the route is not suitable.

The recommended route options from each study area section are then collated to provide the emerging preferred end-to-end route.

5. Study Area Section 1: Ballyowen Road to Le Fanu Road

5.1 Stage 1: Route Options Assessment - Sifting

All of the feasible routes within the study area section are identified in **Figure 5.1** below. Although there are a number of possible, long end-to-end routes in the area, these have been subdivided in order to allow the maximum number of possible route combinations and to account for changes in character along roads, e.g. major changes in width etc.

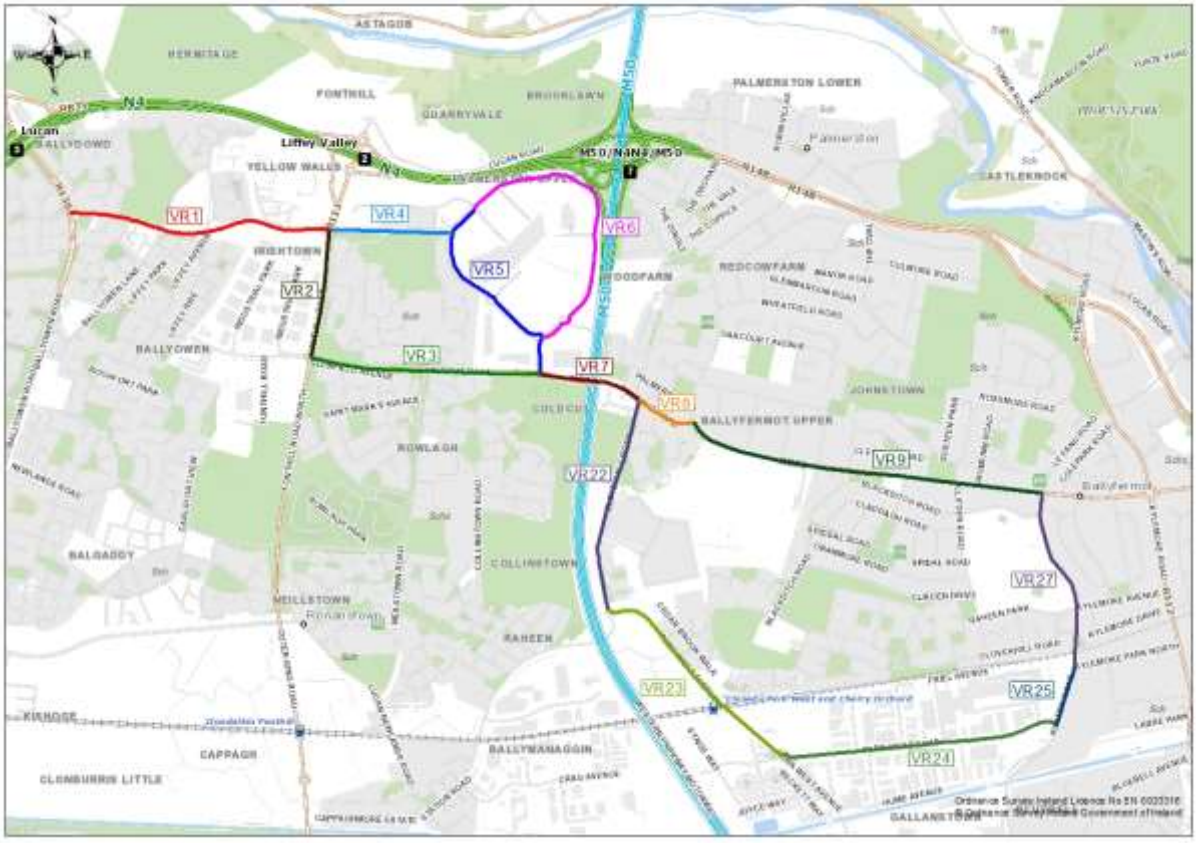


Figure 5.1: Section 1 Route Options

These routes were then assessed as part of a high level "sifting" process in order to determine their suitability for the Core Bus Corridor. This assessment is summarised in **Table 5.1** below.

Table 5.1: Section 1 Ballyowen Road to Le Fanu Road – Route Option Sifting (Stage 1) Summary

Route Option Number	Comments	Pass/Fail
VR1	Section of L1042 (St. Loman's Road) between junctions with R136 (Ballyowen Road) and R113 (Fonthill Road). This route is a distributor road with 1 all-vehicle lane in both directions. The existing carriageway is between 7m and 8.5m wide. Bus priority measures are feasible although they would probably require land-take from surrounding green areas in order to retain the existing cycle tracks.	Pass
VR2	Section of R113 (Fonthill Road) from roundabout at Liffey Valley entrance/L1042 to junction with R833 (Coldcut Road). This route is a wide regional road with 1 all-vehicle lane in both directions and widths varying from 10m upwards. There is an existing short stretch of bus lane in the southbound direction. Bus priority facilities are feasible with some land-take from the green area to the east of the route required.	Pass
VR3	Section of R833 (Coldcut Road) from junction with R113 (Fonthill Road) to junction at Liffey Valley entrance/exit. This route is predominantly a wide regional road with 1 – all vehicle lane in both directions separated by a large ghost island. Existing carriageway widths range from approximately 12m to 15m. There are bus lanes in both directions for approximately 1/3rd of the route. Extension of these facilities is feasible, although some land-take from surround green areas may be required in order to retain existing cycle lanes.	Pass
VR4	Section of access road L5328 from roundabout at R113 (Fonthill Road) to roundabout on Liffey Valley centre ring road. This route is a dual carriageway in both directions separated by a wide, green central median. Bus priority measures are feasible for this route within the existing road boundary.	Pass
VR5	Section of Liffey Valley centre ring road to the west of the shopping centre. This route is a dual carriageway in both directions separated by a wide, green central median. Bus priority measures are feasible for this route within the existing road boundary.	Pass
VR6	Section of Liffey Valley centre ring road to the east of the shopping centre. This route is predominantly a wide distributor road with 1 all-vehicle lane in both directions with additional right turn lanes in a number of locations. Additional land take from the centre would be required to provide bus priority facilities along this route. Additionally, given the circuitous route and lack of population served by this route, it is considered not to be a feasible route.	Fail

Route Option Number	Comments	Pass/Fail
VR7	Section of R833 (Coldcut Road) from junction at Liffey Valley centre to junction with Cloverhill Road. This route is a regional road of varying width with 1 all-vehicle lane in both directions. The existing carriageway varies from 7.5m upwards. There is an existing bus gate inbound at the junction of Cloverhill Road. There is a pinch point at the existing bridge over the M50, where there is insufficient width to provide bus priority measures in both directions. However, priority facilities could possibly be provided along the rest of the route, although land take may be required for some short sections. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR8	Section of R833 (Coldcut Road) from junction with Cloverhill Road to junction with Kennelsfort Road Upper. This route is a regional road with 1 all-vehicle lane in both directions. In general the existing carriageway width is approximately 7.5m widening to allow additional lanes on approach to the junctions at either end. It would be feasible to provide bus priority facilities along this route with land-take from the green space to the north of the road. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR9	Section of R833 (Ballyfermot Road) from junction with Kennelsfort Road to junction with Le Fanu Road. This route is generally a wide, regional road with 1 all-vehicle lane in both directions along with advisory cycle lanes. There is an existing inbound bus lane intermittent along this route. There are a number of side roads parallel to the main route which are currently used as residential access. It is feasible to provide bus priority facilities for long sections of this route by reconfiguring this layout. However, there are a number of pinch-points along the route where priority measures in both directions may not be achievable or where land-take from commercial premises may be required. Given the importance of serving the Ballyfermot area on this route, it is considered that the route should be included for assessment despite the possibility of continuous bus priority facilities in both directions not being achievable. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR22	Cloverhill Road from junction with R833 at Coldcut Road to roundabout junction with Park West Avenue. This route is an approximately 7m wide distributor road with 1 all-vehicle lane in both directions. Bus priority measures could feasibly be provided along this route although large areas of land-take would be required from surrounding green areas. However, given that this route would not serve the major population area of Ballyfermot, it is not considered to be a suitable route for this core bus corridor.	Fail

Route Option Number	Comments	Pass/Fail
VR23	Section of Park West Avenue from its roundabout junction with Cloverhill Road to its roundabout junction with Park West Road. This route is an approximately 7.5m wide, traffic calmed distributor road with 1 all-vehicle lane in both directions. Bus priority measures could feasibly be provided along the majority of this route although large areas of land-take would be required from surrounding green areas. There is a pinch-point at the railway overbridge where sufficient space for bus priority measures does not exist if the existing cycle lanes are kept. Given that this route would not serve the major population area of Ballyfermot, and cannot be accessed due to VR22's failure, it is not considered to be a suitable route for this core bus corridor.	Fail
VR24	Park West Road from its roundabout junction with Park West Avenue to its junction with Killeen Road. This route is an approximately 8.8m wide, traffic calmed distributor/industrial estate road with 1 all-vehicle lane in both directions. Bus priority measures could feasibly be provided along the majority of this route although large areas of land-take would be required from commercial premises along the length of the route. Given that this route would not serve the major population area of Ballyfermot, and cannot be accessed due to VR22's failure, it is not considered to be a suitable route for this core bus corridor.	Fail
VR25	Killeen Road from its junction with Park West Road to its junction with Kylemore Park North. This route is a relatively wide local road with 1 all-vehicle lane in both directions. The carriageway width is generally around 10m with an additional section of low kerbing providing an informal truck park. Bus priority measures could feasibly be provided along this route with removal of this truck parking and/or a small area of land-take from commercial properties. However, given that this route would not serve the major population area of Ballyfermot, and cannot be accessed due to VR22's failure, it is not considered to be a suitable route for this core bus corridor.	Fail
VR27	Section of Le Fanu Road from its junction with Killeen Road to its junction with R833 at Ballyfermot Road. This route is a local road of varying width. Bus priority facilities could feasibly be constructed along large sections of this route with some minor land-take from surround green areas. However, there are a number of pinch-points where it would not be possible to provide these facilities. In particular, on approach to a number of signalised junctions, sufficient land would not be available even with land-take from residential properties. There is an existing, very narrow bridge over the railway line where a one way system would need to be introduced to allow busses to traverse safely, which would cause unnecessary delays. Given that this route would not serve the major population area of Ballyfermot village, and cannot be accessed due to VR22's failure, it is not considered to be a suitable route for this core bus corridor.	Fail

Following this Stage 1 'sifting' process 8 of the 14 routes assessed passed the initial analysis and were progressed to the next assessment stage. The remaining routes are shown in **Figure 5.2** below.

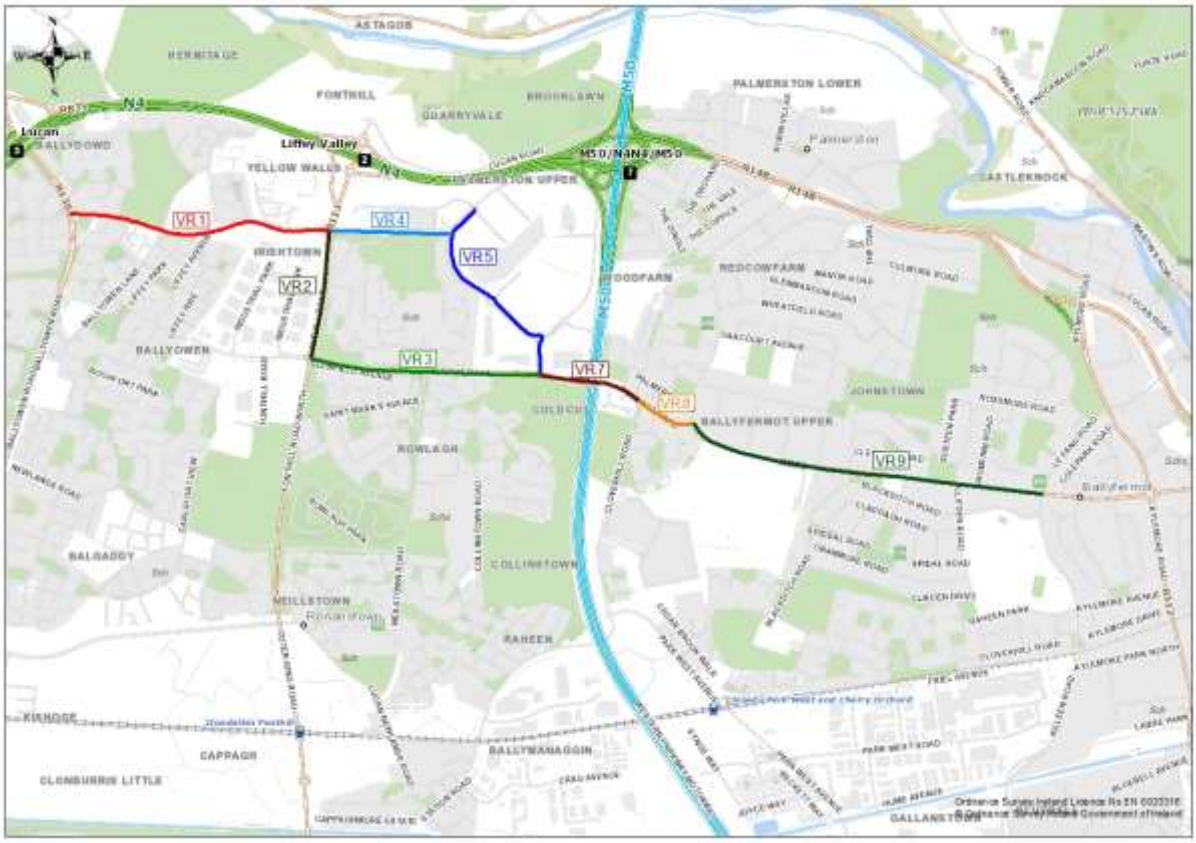


Figure 5.2: Section 1 Route Options Remaining After Stage 1 Sifting

5.2 Stage 2: Route Options Assessment – Multi Criteria Analysis

For the purposes of the Stage 2 assessment, the remaining routes in this section were combined to form 2 distinct and cohesive route options through the area. Long sections of these routes are 'common' due to the limited available remaining routes, with the difference between them generally being in the Liffey Valley Area. The indicative scheme design for the common sections of the routes are shown in **Figure 5.3** below and is described as part of the full route option for this section.

As a result the 'common route' describes two sections of the route from:

- The Ballyowen Road from its junction with Willsbrook Road, along Saint Lomans Road to its junction with the Fonthill Road
- The Coldcut Road from its junction with the entrance to Liffey Valley Shopping Centre along the Ballyfermot Road to its intersection of the La Fanu Road

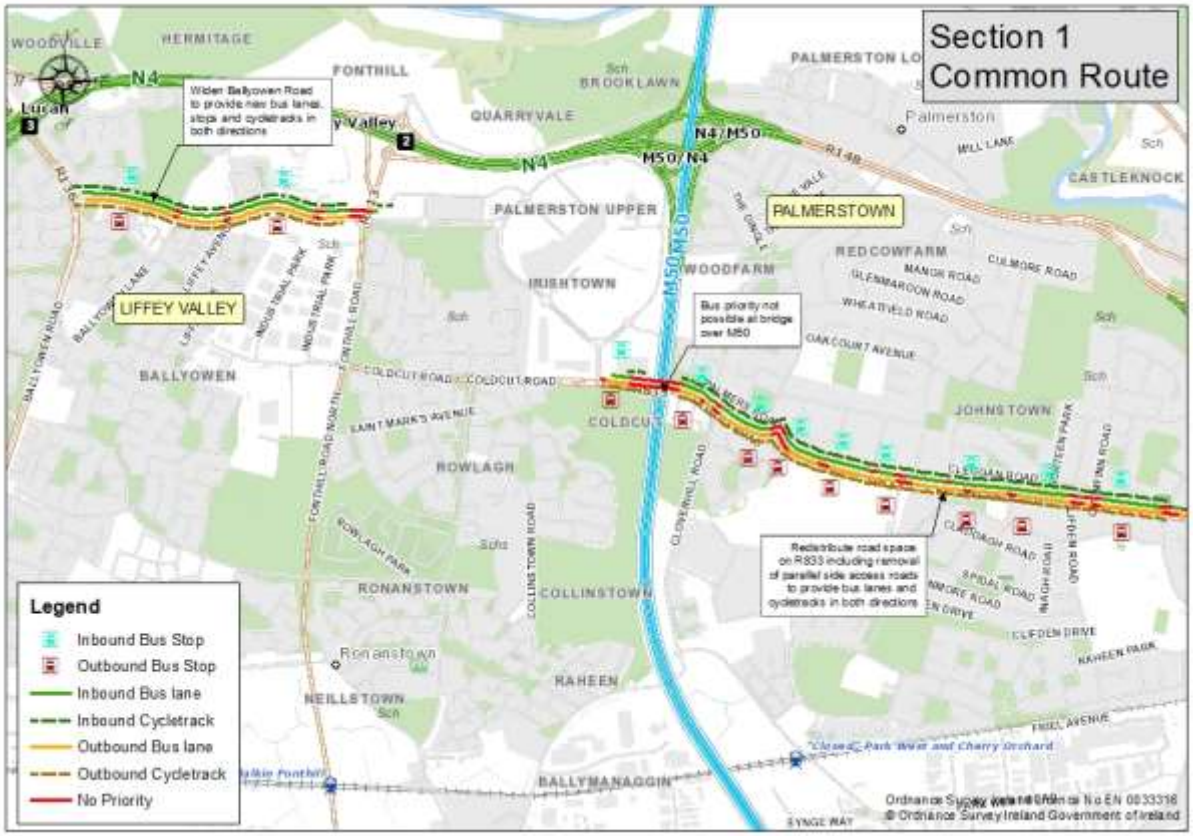


Figure 5.3: Section 1 Common Route

It is proposed to provide priority bus lanes along with new and upgraded cycle tracks and pedestrian facilities on the Ballyowen Road from its junction with Willsbrook Road, along Saint Lomans Road to its junction with the Fonthill Road. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In order to provide bus lanes, upgraded cycle and footpath facilities along this section, land take would be required in the form of the adjacent grass verge in both directions. Furthermore there would be a number of young trees in the grass verge that would also be removed in order to facilitate widening. Further widening will be required in the form of setting back public park boundaries in this section. Approx. 200m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to Hermitage Park impacting on green space, approx. 170m of existing boundary wall would be set back by 2m to accommodate the widening adjacent to Mount Andrew Park resulting in the removal of a number of trees and green space and approx. 350m of existing boundary fence would be set back by 3m to accommodate the widening adjacent to Oakview Nursing Home resulting in the removal of a number of trees and green space. On approach to the junction of Saint Lomans Road and Fonthill Road, in the

inbound direction, the existing boundary fence would be set back by 1m over a length of 50m in both directions to accommodate widening associated with a left turning traffic lane. The junction and roundabouts along the Ballyowen Road (roundabout with Liffey Terrace) and Saint Lomans Road (roundabout with Liffey Avenue and entrance with St Edmunds) would be upgraded to signalised junctions and would provide bus lanes up the stop lines along with dedicated left turning traffic lanes. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New toucan crossings are proposed on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park. Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

It is proposed to provide priority bus lanes along with new and upgraded cycle tracks and pedestrian facilities on the Coldcut Road from its junction with the entrance to Liffey Valley Shopping Centre along the Ballyfermot Road to its intersection of the La Fanu Road. However there would be an exception for approx. 170m section where the proposed route travels onto the bridge over the M50. Due to the existing cross sectional width of the bridge, provision of dedicated bus and cyclist facilities are not feasible. Buses would share space with general road traffic. Cyclists would share a 3m wide path on either side of the bridge with pedestrians. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In order to provide bus lanes, upgraded cycle and footpath facilities along this section, land take would be required in the form of the adjacent grass verge in both directions. Furthermore there would be a number of young trees in in the grass verge that would also be removed in order to facilitate widening. Further widening will be required in the form of setting back public and private boundaries in this section. On the Coldcut road approx. 180m of boundary wall would be set back by 4.5m to accommodate widening adjacent to Palmers Drive impacting on boundary hedging and approx. 140m of existing boundary wall would be set back by 5m to accommodate the widening adjacent to Palmers Walk resulting in the removal of boundary hedging. Widening into public green space will be required on the inbound approach the intersection of Coldcut Road and Ballyfermot Road in order to accommodate a left turn traffic lane and a priority bus lane all the way to the stop line. On the Ballyfermot Road approx. 40m of boundary wall would be set back by 2m to accommodate widening adjacent to Cherry Orchard Industrial Estate and approx. 60m of existing boundary wall would be set back by 1.5m to accommodate the widening adjacent to Cherry Orchard Hospital resulting in the removal of green space. Approx. 60m of existing boundary wall would be set back by 6m to accommodate the widening adjacent to Cherry Orchard Service Station resulting in the removal of parking area. Between this point and Cleggan Road resident's parallel parking in the inbound direction would be removed to facilitate the widening required for the scheme. This parking, approx. 25 spaces, would be accommodated in existing driveways and could be redistributed to surrounding streets. On the inbound approach of the intersection of Ballyfermot Road and the Le Fanu Road, approx. 30m of existing boundary wall would be set back by 5m to accommodate a left turn traffic lane and a priority bus lane provided all the way to the stop line, adjacent to the Paddy Power Bookmakers, Haven Pharmacy and Fowlers Public House.

The existing junctions on the Coldcut Road at the entrance to Liffey Valley Shopping Centre and its intersection with Cloverhill Road would be upgraded to provide improved bus priority through the junction. This would be achieved by providing bus lanes to the stop lines along with dedicated right turning bus priority lane into Liffey Valley Shopping Centre, and left turning traffic lane onto Cloverhill Road. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New toucan crossings are proposed on the Ballyfermot Road at the intersections of Clifden Road and Drumfinn Road. As previously outlined, no dedicated bus lanes are provided on the bridge over the M50. In order to provide a level of bus priority in this section traffic lights are proposed on the approaches on either side of the bridge. These lights would be adjusted to maximise the right of way times for buses.

New bus stops on both sides are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive, on the St Lomans Road adjacent to Saint Edmunds Park, on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital. Furthermore new bus stops are proposed

opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. All existing pedestrian crossings would be upgraded to toucan crossings along the entire route section.

For the purposes of the MCA, two routes through the Liffey Valley area were isolated and analysed. These are discussed in detail below.

5.2.1 Route Option LV01

This route option is shown in **Figure 5.4** below.

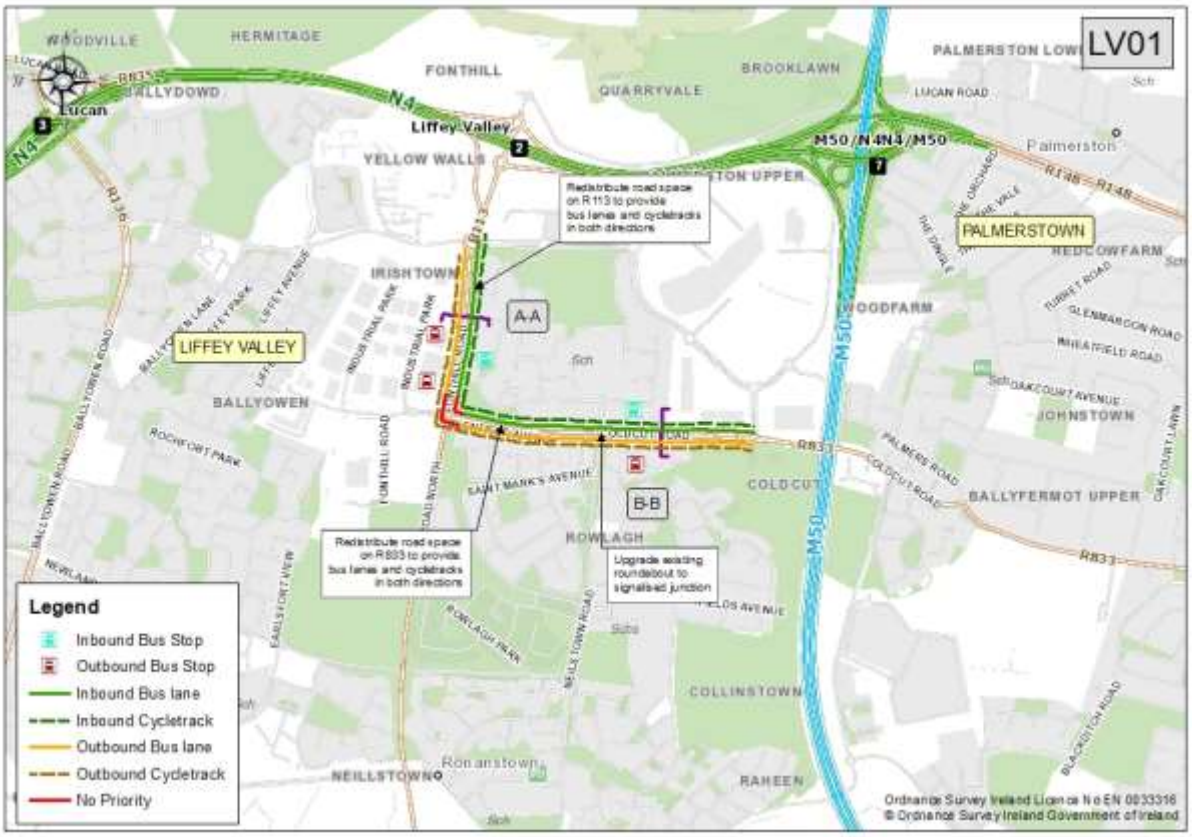


Figure 5.4: Route Option LV01 Indicative Scheme Design

This route option begins at the roundabout junction between St. Loman's Road and the R113 (Fonthill Road). The existing roundabout at the R113 junction would be left as existing in order to avoid negatively impacting the traffic capacity of this key junction. The core bus corridor travels along the section of the R113 (Fonthill Road) between the St. Loman's Road junction and the R833 (Coldcut Road). There is a short section of existing bus lane on this section of road southbound, however, it is proposed to provide bus lanes, cycle tracks and pedestrian facilities in both directions by redistributing the existing road space and widening in some localised areas. A typical cross-section along this road is shown in **Figure 5.5** below. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Along the entire length of this section there is adequate space available for widening as there is central islands, central medians and grass verges in both directions that could be utilised to facilitate the proposed scheme. A significant number of young trees in the grass verge would be removed to cater for the widening. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. The existing roundabout on the Fonthill Road with its intersection of the Coldcut Road would be upgraded in order to improve bus priority. Bus lanes would be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority.

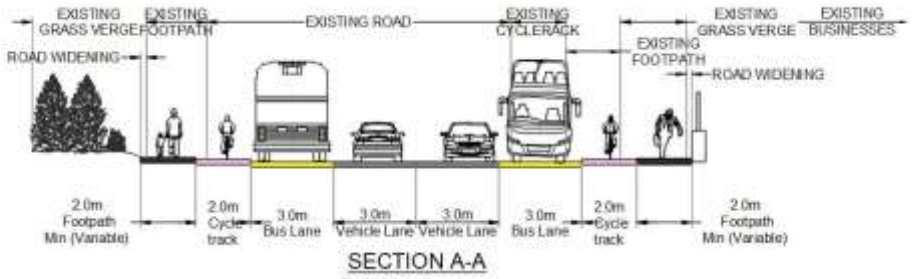


Figure 5.5: LV01 Cross-Section A-A

Figure 5.6 below shows cross-section B-B where the core bus corridor would travel along the R833 (Coldcut Road) from its junction with the R113 (Fonthill Road), to the junction of Liffey Valley access Road. Bus lanes and cycle tracks are proposed in both directions along the entirety of this section by redistributing the existing road space. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Along the entire length of this section there is adequate space available for widening as there is central islands, central medians and grass verges in both directions that can be utilised to facilitate the proposed scheme. A significant number of young trees in the grass verge would be removed to cater for the widening. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

As part of this route, the existing roundabout junction between Coldcut Road and Neilstown Road would be upgraded to a signalised junction in order to allow bus priority. In both directions bus lanes will be provided right up to the stop lines of the junctions, along with the provision of a left turn lane for public traffic (where there is large left turning traffic volumes form on site observations). Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

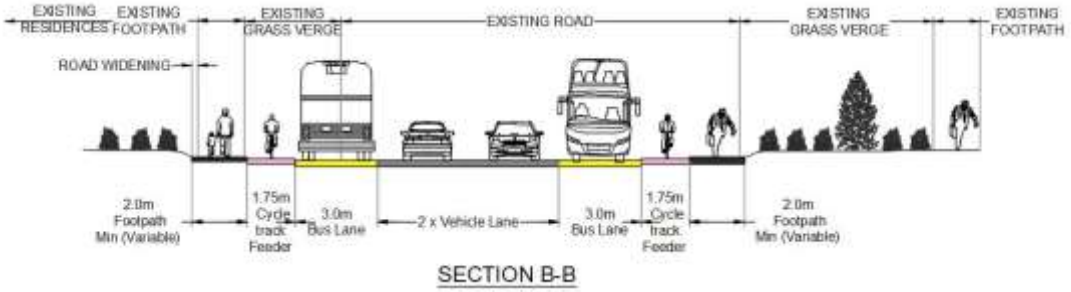


Figure 5.6: LV01 Cross-Section B-B

Other issues considered as part of the analysis were:

- Journey time is approximately 4 – 4.5 minutes
- Some public land take required
- Route does not serve Liffey Valley directly
- Existing bus stops and pedestrian crossings to be upgraded

5.2.2 Route Option LV02

This route option is shown in **Figure 5.7** below.

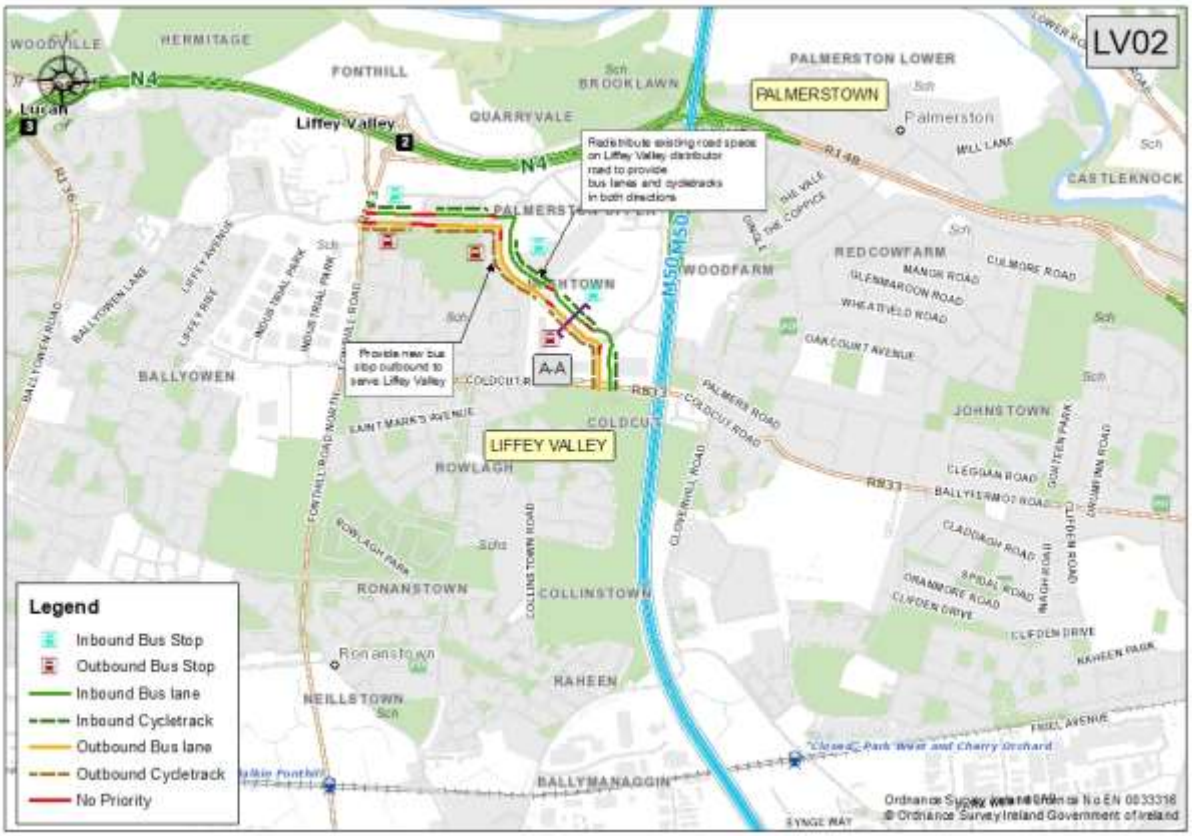


Figure 5.7: Route Option LV02 Indicative Scheme Design

This route also begins at the roundabout junction between St. Loman's Road and the R113 (Fonthill Road) but travels along the distributor road to the west of Liffey Valley shopping centre and continues onto the Coldcut Road.

It is proposed to provide bus lanes and cycle tracks in both directions around Liffey Valley by redistributing the existing road space and generally narrowing the existing central medians as shown in **Figure 5.8** below. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing roundabouts along this route section will be upgraded to allow for improved bus priority. Bus lanes will be provided right up to the stop lines and through the roundabouts, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations). Two all-vehicle lanes will be maintained in both directions on this route section including the existing roundabouts in order to ensure traffic capacity in the area is not negatively impacted. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

New toucan crossings are proposed; on the Liffey Valley Road adjacent to the Liffey Valley Motor Hall, on the western arm of the roundabout adjacent to Greenfort lawns, and on the north western arm of the roundabout adjacent to Greenfort Crescent. All existing pedestrian crossings located along this section would be upgraded to toucan crossings. New bus stops on both sides are proposed; on the Liffey Valley Road west of the Liffey Valley Motor Company and on the Liffey Valley Road adjacent to the Liffey Valley Retail Park. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

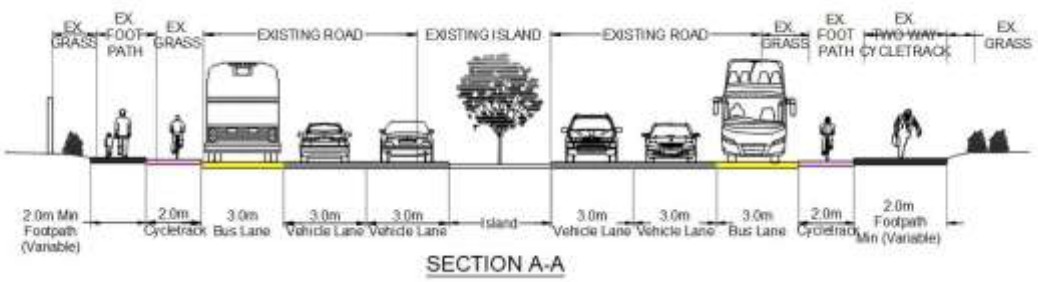


Figure 5.8: LV02 Cross-section A-A

Other issues considered as part of the analysis were:

- Journey time is approximately 4 – 4.5 minutes
- No land-take required
- Route serves Liffey Valley directly
- Possibility to provide bus interchanges at new upgraded stops at Liffey Valley
- New bus stops proposed along Liffey Valley access road to allow access to surrounding retail parks etc.
- Existing bus stops and pedestrian crossings to be upgraded

5.2.3 Section 1: Route Options Assessment Summary

The Stage 2 Route Options Assessment – Multi Criteria Analysis summary tables for this section are include in **Appendix A1**. The relative ranking of the route options for each assessment sub-criteria is shown in **Table 5.2** below:

Table 5.2: Section 1 Route Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	LV01	LV02
Economy	Capital Cost		
	Transport Reliability and Quality of Service		
Integration	Land Use Integration		
	Residential, Employment and Educational Catchments		
	Transport Network Integration		
	Cycling Integration		
Accessibility & Social Inclusion	Key Trip Attractors		
	Deprived Geographic Areas		
Safety	Road Safety		
	Pedestrian Safety		
Environment	Archaeology, Architectural and Cultural Heritage		
	Flora and Fauna		
	Soils and Geology		
	Hydrology		
	Landscape and Visual		
	Air Quality		
	Noise & Vibration		
	Land Use Character		

LV02 is a slightly more beneficial route under most of the main criteria. In general, this route option provides a direct route to the dominant trip attractor in the area, Liffey Valley, while also minimising the

environmental and infrastructure costs by providing facilities within the existing road reservation. The provision of a high quality, sustainable bus corridor on this route would help to alleviate congestion in the area and encourage public transport journeys to the Liffey Valley Town Centre. Given the likely future development in this area, a shift away from private cars is needed for trips to this location in order to avoid congestion on the R113 (Fonthill Road), N4 and, possibly, M50.

Route Option LV01 would serve a slightly larger catchment in terms of residential population but this is outweighed by the benefits of providing a direct access to Liffey Valley, particularly as it is a large employment centre.

In terms of 'Environment', route option LV02 has less overall impact as there is no land acquisition required, therefore having a lesser impact on flora & fauna and Landscape & Visual when compared to the route option LV01.

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

Table 5.3: Section 1: Route Options Assessment Summary (Main Criteria)

Assessment Criteria	LV01	LV02
Economy		
Integration		
Accessibility & Social Inclusion		
Safety		
Environment		

It can be seen from the route options assessment summary (main criteria) that LV02 has more advantages overall, and it is the preferred route for the following reasons:

- Serves more key trip attractors
- Provides for better pedestrian safety
- Marginally lower capital cost
- Has a lower potential environmental impact

Based on the multi-criteria analysis undertaken for this section of the study area, **route option LV02** combined with the common route sections is the preferred route option for Section 1: Ballyowen Road to Le Fanu Road.

5.3 Section 1: Ballyowen Road to Le Fanu Road – Full Route Summary

Combining LV02 with the common routes, outlined previously, gives the total route for the CBC from Ballyowen Road to Le Fanu Road as shown in **Figure 5.9** below.

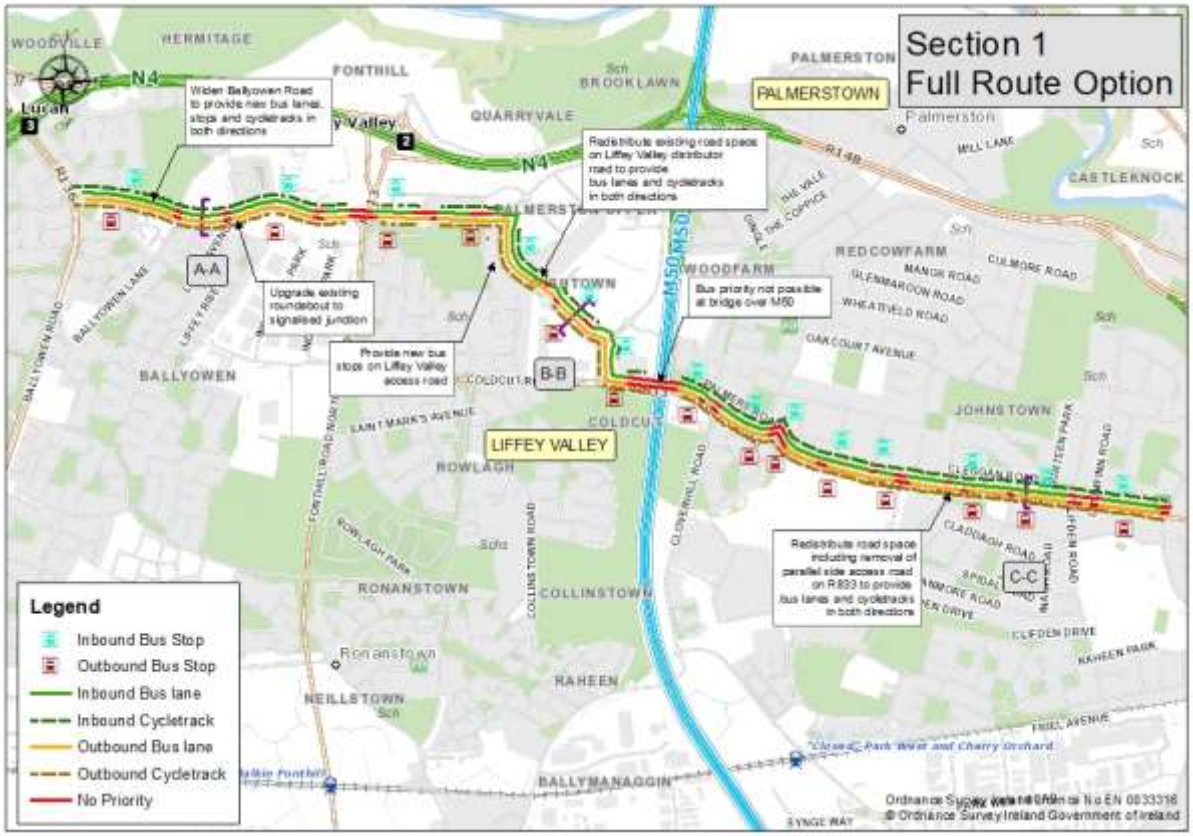


Figure 5.9: Section 1 Full Route Option

This route begins at the junction of St. Loman's Road and the R136 (Ballyowen Road) and travels along St. Loman's Road to its junction with the R113 (Fonthill Road) at a large roundabout. Widening is required along the entire length of St. Loman's Road in order to provide bus lanes, cycle tracks and pedestrian facilities in both directions. This widening will require land take from a number of private residences along the route as well as land take from public parks and green spaces as shown in **Figure 5.10** below. It is also proposed to upgrade the existing roundabouts along St. Loman's Road to signalised junctions in order to provide bus priority and improved pedestrian access. The existing roundabout at the R113 (Fonthill Road) junction would be left as existing in order to avoid negatively impacting the traffic capacity of this key junction.

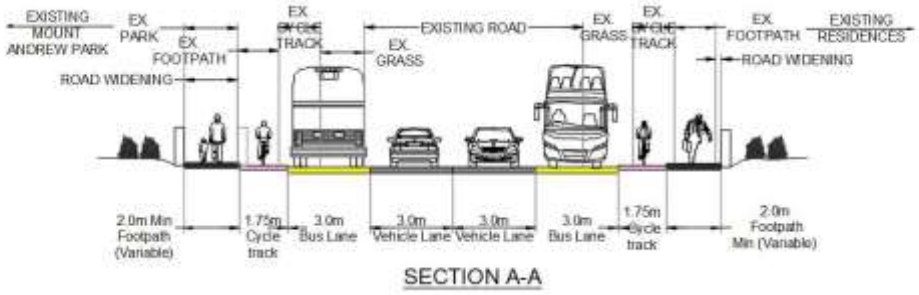


Figure 5.10: Section 1 Full Route Option Cross-Section A-A

The CBC would then travel along the Liffey Valley access road where it is proposed to provide bus lanes and cycle tracks in both directions around Liffey Valley by redistributing the existing road space and generally narrowing the existing central median as shown in **Figure 5.11** below. Two all-vehicle lanes will be maintained in both directions along with the existing roundabouts in order to ensure traffic

capacity in the area is not negatively impacted. Bus priority will be provided where possible at these existing roundabouts.

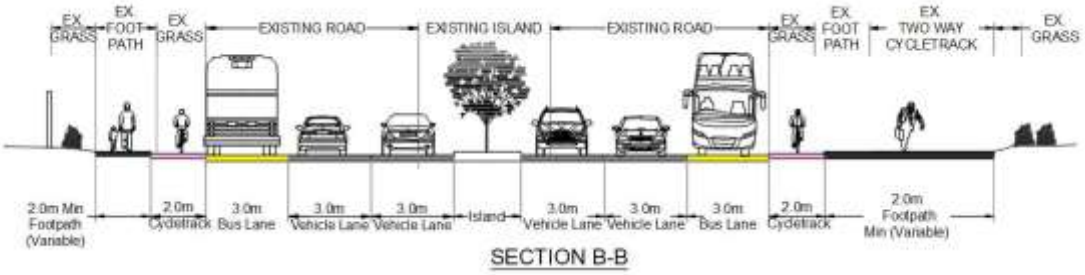


Figure 5.11: Full Route Option Cross-Section B-B

The route then joins the R833 (Coldcut Road) from Liffey Valley access road to Kennelsfort Road Upper. It is proposed to provide bus, cycle facilities and pedestrian facilities along this stretch of road except at the existing bridge over the M50. Due to the narrow available space at the bridge, it is not feasible to provide bus or cycle facilities for this short stretch. However, it is not anticipated that delay will be experienced at this location, as existing average speed data from busses indicates. It is proposed to locate a bus gate facility on either approach to the bridge over the M50 on the Coldcut Road. The traffic signals at the bus gate would provide significant bus priority over general public traffic. Generally, the bus and cycle facilities along this route can be provided by redistributing the existing road space, although some small areas of widening are required along with some public land take.

The core bus corridor then continues along the R833 (Ballyfermot Road) from its junction with Kennelsfort Road to the junction with Le Fanu Road. It is proposed to provide bus lanes, cycle tracks and pedestrian facilities in both directions along this route by redistributing existing road space with some local areas of widening required including private land take from an existing petrol station.

There are a number of existing side roads parallel to the R833 (Ballyfermot Road) that are currently used to access residences. These would generally be removed in order to provide bus and cycle facilities but residential access would be retained in a more traditional layout, i.e. driveway accessing directly onto the footpath. **Figure 5.12** below shows a typical section along this part of the route.

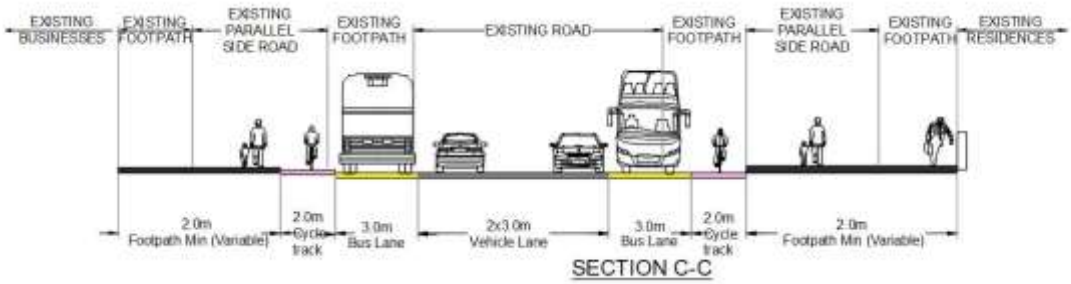


Figure 5.12: Full Route Option Cross-Section C-C

6. Study Area Section 2: Le Fanu Road to Sarsfield Road

6.1 Stage 1: Route Options Assessment - Sifting

All of the feasible routes within the study area section are identified in **Figure 6.1** below. Although there are a number of possible, long end-to-end routes in the area, these have been subdivided in order to allow the maximum number of possible route combinations and to account for changes in character along roads, e.g. major changes in width etc.

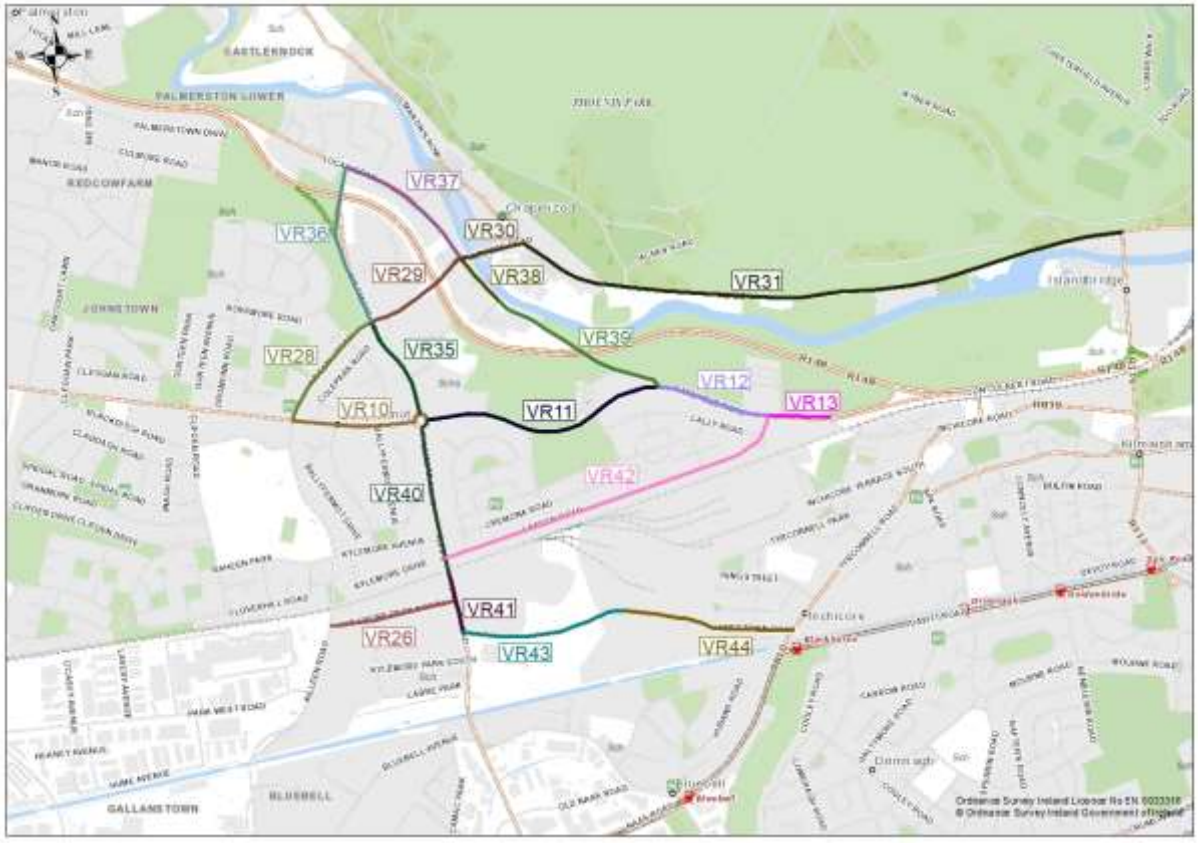


Figure 6.1: Section 1 Route Options

These routes were then assessed as part of a high level "sifting" process in order to determine their suitability for the Core Bus Corridor. This assessment is summarised in **Table 6.1** below.

Table 6.1: Section 2 Le Fanu Road to Sarsfield Road – Route Option Sifting (Stage 1) Summary

Route Option Number	Comments	Pass/Fail
VR10	Section of R833 (Ballyfermot Road) from junction with Le Fanu Road to roundabout junction with R112 at Kylemore Road. This route is generally a relatively wide regional road through the main Ballyfermot village centre with 1 all-vehicle lane in both directions. There are very short existing sections of bus lanes in both directions. Continuous, high quality bus priority facilities may be feasible along the majority of this route with some reconfiguring of road space, however, there are pinch-points at either end of the route where the available space may not be sufficient for bus lanes in both directions and there is no scope for land-take. As above, despite this possibility, the route should be included for assessment due to the population served in Ballyfermot. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR11	Section of R883 (Ballyfermot Road) from roundabout junction with R112 at Kylemore Road to junction with St. Laurance's Road. This route is a relatively wide regional road for the majority of its length, with 1 all-vehicle lane both directions along with cycle lanes. There is a very short stretch of bus lane in the outbound direction on approach to the roundabout at Kylemore Road. Bus priority facilities may be feasible for the majority of this route with some land-take required from adjacent green areas. However, there is a pinch-point on the approach to St. Laurence's Road where land-take may be required from commercial premises. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR12	Section of R833 (Ballyfermot Road) from junction with St. Laurence's Road to junction with Landen Road. This route is a relatively wide, regional road with 1-all vehicle lane in both directions along with advisory cycle lanes. The current carriageway width is approximately 9m in most locations. There is some scope for providing bus priority facilities with some land take from the green area to the north of the route. However, there is limited space between building lines on approach to the junction with Landen Road and bus priority facilities may only be feasible in one direction at this location. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR13	Section of R833 (Ballyfermot Road) from junction with Landen Road to junction with Sarsfield Road/Con Colbert Road. This route is a very wide regional road with 2 all-vehicle lanes in both directions, separated by a grass margin along with advisory cycle lanes. There is an existing bus lane outbound on this route. The existing carriageway width in this area is approximately 20m and thus, bus priority measures on the inbound side of the link would be feasible within the carriageway extents. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass

Route Option Number	Comments	Pass/Fail
VR26	Kylemore Park North from its junction with Killeen Road to its junction with R112 at Kylemore Road. This route is a wide distributor/industrial road with 1 all-vehicle lane in both directions. Bus priority measures could feasibly be provided along this route but would require large amounts of land-take from commercial properties. However, given that this route would not serve the major population area of Ballyfermot, and cannot be accessed due to VR22's failure, it is not considered to be a suitable route for this core bus corridor.	Fail
VR28	Section of Le Fanu Road from junction with R833 at Ballyfermot Road to junction with R112 at Kylemore Road. This route is a relatively wide local road with 1 all-vehicle lane in both directions. Bus priority measures may be feasible along this route although some small areas of land-take may be required from both residential properties and surrounding green areas.	Pass
VR29	Chapelizod Hill Road from junction with R112 at Kylemore Road to junction with R109 at Lucan Road. This route is a narrow local road with a one-way section beneath the R148 underbridge. This bridge has a clearance of 2.8m, which is insufficient to allow busses to use this route and as such is not suitable for a core bus corridor.	Fail
VR30	Section of R109 (Chapelizod Road) from junction with St. Laurence's Road to junction with Main St. in Chapelizod. This route is a relatively narrow regional road with 1 all vehicle lane in both directions. The existing bridge over the River Liffey has a width of less than 7m and there is not opportunity to provide bus priority measures through this pinch point. Bus priority facilities may be feasible through the rest of the route, although land-take form commercial premises would be required. This route is designated as a primary cycle route, which may require additional space also. An ITS solution could feasibly reduce any delays experienced at the bridge pinch-point and as such this route is considered to be suitable for a core bus corridor.	Pass
VR31	Section of R109 (Chapelizod Road) from junction in Chapelizod village to junction with R111 at South Circular Road. This route generally consists of a wide (approximately 9m wide in most locations) regional road with 1 all-vehicle lane in both directions. There is an existing outbound bus lane along the route for approximately 800m on the approach to Chapelizod village. Further bus priority measures in one direction could possibly be provided within the existing carriageway extents, while measures in both directions could feasibly be provided with land-take from the surrounding green areas. As this route is designated as a primary cycle route, additional width may be required. The delay experienced along this route is minimal and as such is suitable for a core bus corridor.	Pass
VR35	Section of R112 (Kylemore Road) from junction with R833 at Ballyfermot Road to junction with Le Fanu Road. This route generally consists of a wide (approximately 9m) regional road with 1 all-vehicle lane in both directions. The majority of this route has a large road reservation as a result of wide footpaths. It is feasible that bus priority measures could be provided along this route. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass

Route Option Number	Comments	Pass/Fail
VR36	Section of R112 (Kylemore Road) from junction with Le Fanu Road to junction with R109 at Lucan Road. This route generally consists of a wide (approximately 9m) regional road with 1 all-vehicle lane in both directions. A large section of this route is adjacent to green areas while the remainder has a large road reservation as a result of wide footpaths. There is a pinch-point of about 14.5m at the existing R148 underbridge, however, a footpath is only required on one side of the road at this location, resulting in sufficient space being available. It is feasible that bus priority measures could be provided along this route. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR37	Section of Lucan Road from junction with R112 (Kylemore Road) to junction with Chapelizod Hill Road. This route generally consists of a standard regional road with an approximately 7.5m wide carriageway and 1 all-vehicle lane in both directions. There is an existing bus lane inbound for about 500m of the route while part of the route is a one-way slip lane from the R148. It may be possible to extend these dedicated bus priority measures inbound but land-take from a number of residential properties would be required.	Pass
VR38	Section of St. Laurence's Road from junction with St. Laurence's Grove. This is a narrow urban road with 1 all-vehicle lane in both directions. There is residential parking that cannot be relocated along the entire length of this route and the properties have no space for driveways. This, coupled with the fact that the width from building line to building line is too narrow to allow bus priority facilities means that this route is unsuitable for a core bus corridor.	Fail
VR39	Section of St. Laurence's Road from junction at St. Laurence's Grove to junction with R833 (Ballyfermot Road). This is a narrow urban road with 1 all-vehicle lane in both directions. The existing carriageway width is, in general, 7m or less and would require large areas of land take to widen to allow bus priority measures to be constructed. Additionally, the route passes under the R148 and this underbridge forms a pinch point that could not be altered. This, in conjunction with the poor vertical geometry for sections of this route and the lack of feasible connecting routes indicates that this route is unsuitable for a core bus corridor.	Fail
VR40	Section of R112 (Kylemore Road) from junction with R833 (Ballyfermot Road) to junction with Landen Road. This route is a relatively wide regional route with 1 all-vehicle lane in both directions and is designated as a secondary cycle route. Long sections of this route have a grass verge and parallel side access roads alongside. As a result, it may be feasible to provide bus priority facilities along this route by rearranging this road space. However, as all connecting routes have failed, this is not considered to be a suitable route for the core bus corridor.	Fail

Route Option Number	Comments	Pass/Fail
VR41	Section of R112 (Kylemore Road) from junction with Landen Road to junction with Kylemore Way. The majority of this route is a relatively wide regional road with wide footpaths. However, there is a pinch point at the railway over the railway line. It is feasible that bus priority facilities could be provided along this route, although an ITS solution or new bridge over the railway would be required. However, as connecting routes have failed, this is not considered to be a suitable route for the core bus corridor.	Fail
VR42	Landen Road from junction with R112 at Kylemore Road to junction with R833 at Ballyfermot Road. This route is a typical local road with a width of less than 7m and no designated lanes. The current road reservation is approximately 13m. In order to provide bus priority facilities along this route, land take would be required from all residential properties along it, resulting in a loss of driveway for many. As this is not considered to be a feasible option, this route is not suitable for a core bus corridor.	Fail
VR43	Kylemore Way from junction with R112 at Kylemore Road to its end. This route is a wide industrial road 1-all vehicle lane in both directions along with cycle tracks ending in a cul de sac with bollards preventing access to Jamestown Road. Bus priority measures along this route may be feasible with some land-take from commercial premises, however, it has no connectivity due to the failure of surrounding routes and is therefore not suitable for a core bus corridor.	Fail
VR44	Jamestown Road from end at cul de sac with bollards preventing access to Kylemore Way to junction with R810 at Tyrconnell Road. This is a narrow residential road, approximately 6m wide with traffic calming along its length. There is considerable residential parking along both sides of this route which cannot be relocated. In order to provide bus priority facilities, land-take would be required from all residential properties along this route, leaving no space for driveways. As a result, this route is not considered to be suitable for a core bus corridor.	Fail

Following this Stage 1 'sifting' process 11 of the 20 routes assessed passed the initial analysis and were progressed to the next assessment stage. The remaining routes are shown in **Figure 6.2** below.

Figure 6.2: Section 2 Route Options Remaining After Stage 1 Sifting

6.2 Stage 2: Route Options Assessment – Multi-Criteria Analysis

The remaining routes in this section were combined to form 4 distinct routes through the area. These routes are labelled BF01 to BF04 and are discussed in detail below. Given that it was not feasible to form various routes from point to point in this section due to severance by the River Liffey, routes end approximately along a north-south line through the Sarsfield Road/Con Colbert Road junction.

6.2.1 Route Option BF01

This route option is shown in **Figure 6.3** below.

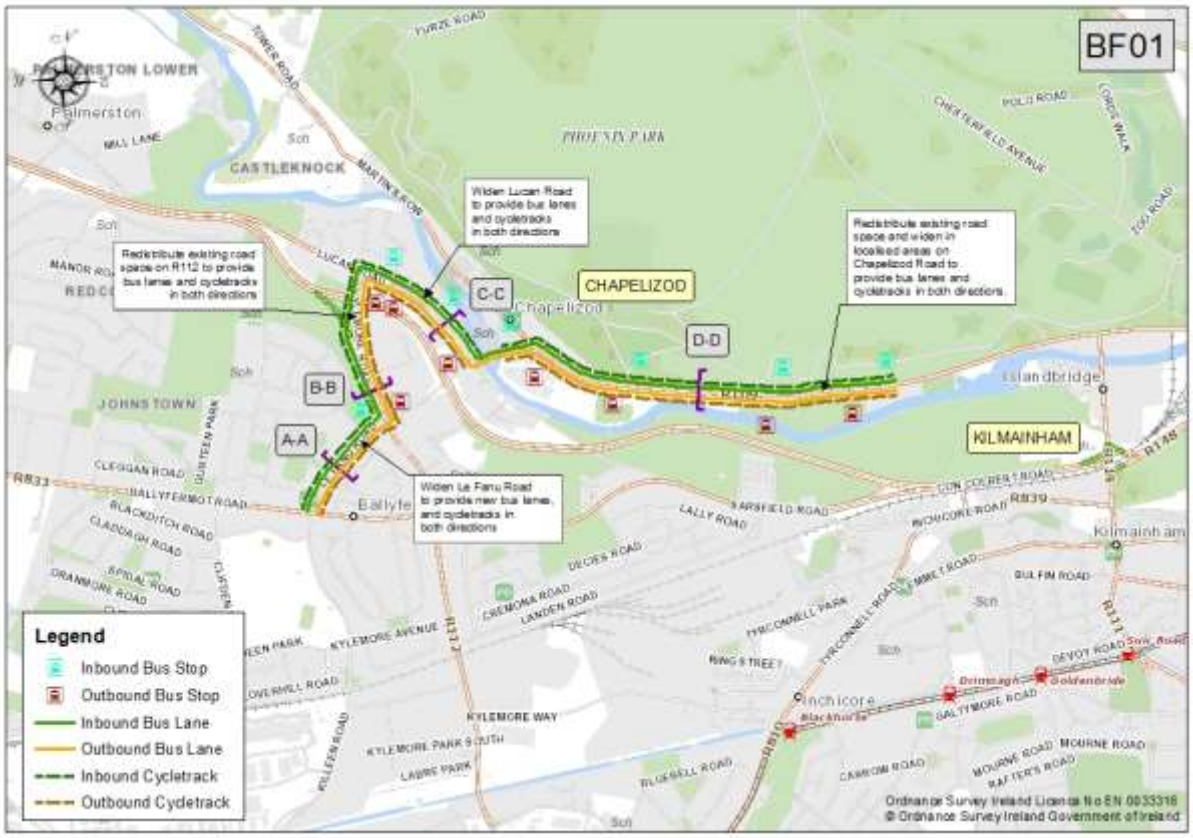


Figure 6.3: Route Option BF01 Indicative Scheme Design

This route option travels along Le Fanu Road from its junction with the R833 (Ballyfermot Road) to its junction with the R112 (Kylemore Road). It is proposed to provide bus lanes, new and upgraded cycle tracks and footpaths in both directions along this length as shown in **Figure 6.4** below. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Widening would be a combination of private and public land take, including setting back of boundaries and utilising grass verges. Approx. 190m of boundary would be set back by 3m to accommodate the widening adjacent to St Johns National School and St Johns College Secondary School, 100m of existing boundary would be set back by 3m to accommodate the widening at Rosemount Drive Housing estate potentially reducing the sizes of back gardens. The junction at; the intersection of Ballyfermot Road and La Fanu Road, and the intersection of La Fanu Road and Kylemore Road would be upgraded to provide bus priority by providing bus lanes right up to the stop lines of junctions. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

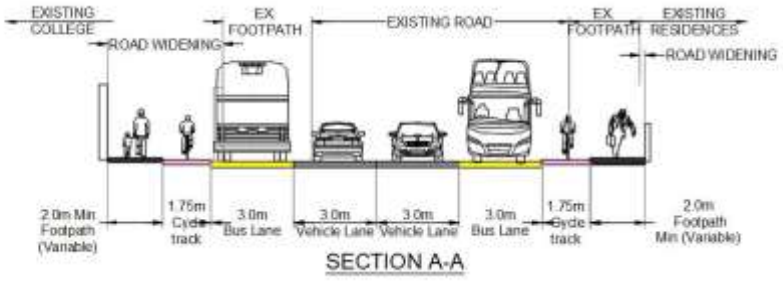


Figure 6.4: BF01 Cross-Section A-A

The route then travels along Kylemore Road (R112) to its junction with the Lucan Road .It is proposed to provide bus lanes, cycle tracks and pedestrian facilities in both directions along this section of road as shown in **Figure 6.5** below. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Along the entire length of this section there is adequate space available for widening as there are grass verges in both directions that can be utilised to facilitate the proposed scheme. A significant number of young trees in the grass verges would be removed to cater for the widening. The junction at the intersection of Kylemore Road the Lucan Road would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junction and upgrading the traffic signals for improved bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

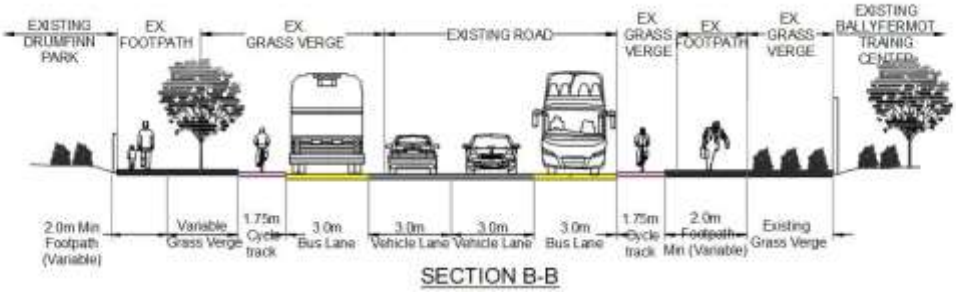


Figure 6.5: BF01 Cross-Section B-B

It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions on Lucan Road between the Kylemore Road and Chapelizod Road junctions as shown in **Figure 6.6**. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Road widening is required for this entire section in order to provide these facilities with large areas of land take from private residences required especially from the Knock Riada housing estate. A significant number (approx. 14 no.) of gardens that are on embankment belonging to existing residents on the inbound approach to the junction of the Lucan Road and Chapelizod Road would be required to accommodate the route option and would also require further regrading of already very steep driveways. The junction at the intersection of the Lucan Road and Chapelizod Road would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junction and upgrading the traffic signals for improved bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

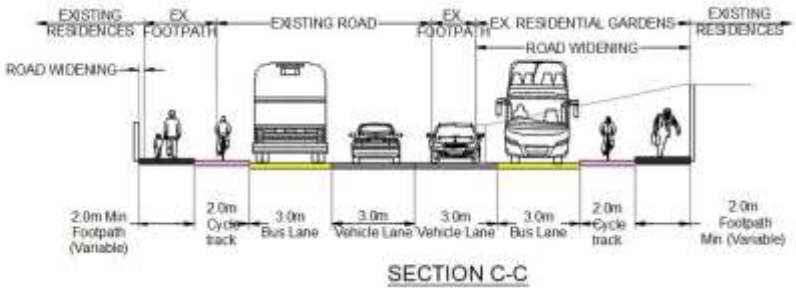


Figure 6.6: BF01 Cross-Section C-C

The route continues to travel along Chapelizod Road to the option's end point on the Chapelizod Road. It is proposed to provide bus lanes, cycle tracks and cycle facilities in both directions along this section except on the existing bridge over the River Liffey at Chapelizod Village. It is not feasible to provide cycle facilities at this location due to lack of space and average speeds of busses currently using this route suggest that delays are often experienced in this location, therefore cyclists and buses would share space along this short length. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible.

Both public and private land take is required along Chapelizod Road in order to provide the proposed facilities, generally affecting the side closest to the River Liffey and various sports clubs in that area. A typical section along this road is shown in **Figure 6.7** below. Widening would be required in the form of setting back private boundaries. Approx. 150m of boundary would be set back by 4m to accommodate the widening adjacent to the King's Hall housing estate and 260m of existing inbound boundary would be set back by 3m to accommodate the widening immediately after Linders Renault Chapelizod. Further widening would be required by setting back the boundary on the side of the River Liffey by 4m over a length of 500m, potentially affecting green recreational areas used by different sports clubs, along with removing a number of trees. The junction at the intersection of the Chapelizod Road with main Street would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junction. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

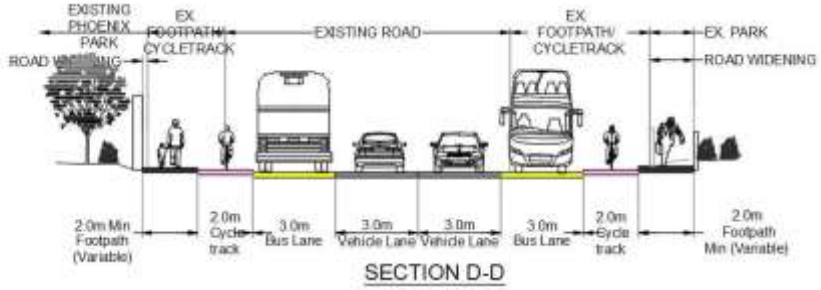


Figure 6.7: BF01 Cross-Section D-D

Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

Other issues considered as part of the analysis were:

- Journey time is approximately 10 – 11 minutes
- Large amount of land take required, much of it from residential, recreational and school properties
- Existing bus stops and pedestrian crossings to be upgraded
- Existing pedestrian crossings to be upgraded to toucan crossings

6.2.2 Route Option BF02

This route option is shown in **Figure 6.8** below.

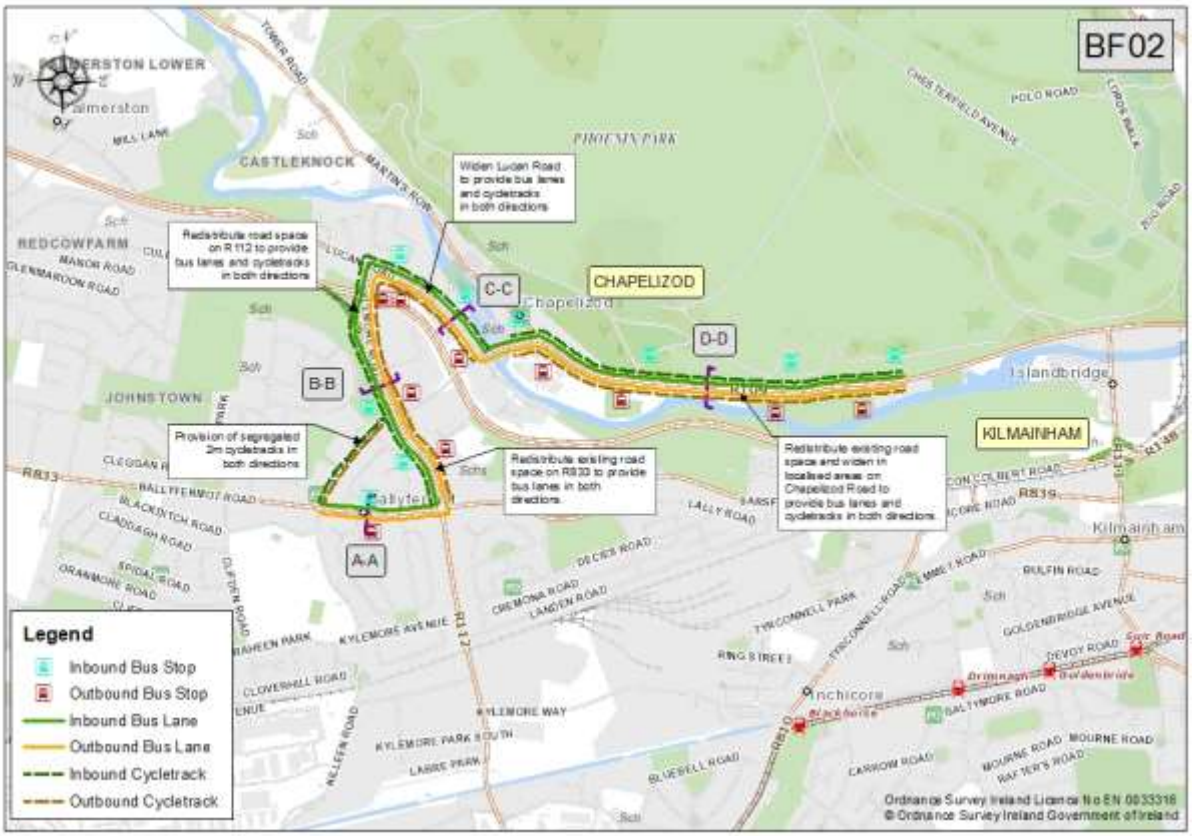


Figure 6.8: Route Option BF02 Indicative Scheme Design

This route travels along the R833 (Ballyfermot Road) to the roundabout junction with the R112 (Kylemore Road) and continues along the Kylemore Road to its junction the Lucan Road (R109). From here the route travels onto the bridge over on the River Liffey on the Chapelizod Road and runs along the perimeter of the Phoenix Park.

There are a number of pinch points along this section of the R833 (Ballyfermot Road) which precludes the provision of bus lanes and cycle tracks together on the Ballyfermot Road. It is proposed to provide new and upgraded bus lanes and footpaths in both directions along this length as shown in **Figure 6.9** below. As cycle tracks are not feasible on the Ballyfermot Road, due to the proximity of residential properties approaching the junction of Ballyfermot Road and Kylemore Road, an alternate cycle route is proposed. Inbound cyclists approaching the junction of the Ballyfermot Road and La Fanu Road would travel along the La Fanu Road and join up with the CBC route section where the La Fanu Road intersects with the Kylemore Road. Outbound cyclists would travel this route in reverse. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise the potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts).

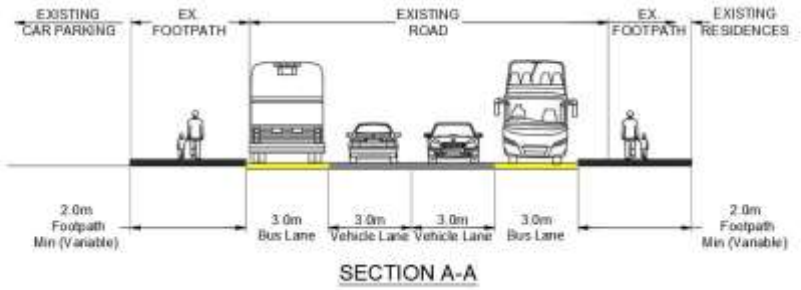


Figure 6.9: BF02 Cross- Section A-A

Along the R112 (Kylemore Road) from its junction with Ballyfermot Road, it is proposed to provide bus lanes, cycle tracks and pedestrian facilities in both directions by redistributing the existing road space. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The Kylemore Road from the Ballyfermot Road to the Le Fanu Road has a number of schools that use on street parking. This parking would be removed in order to accommodate the proposed scheme. As a result it would be difficult to redistribute this parking elsewhere on the school grounds. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

From the Le Fanu Road junction on the Kylemore Road, this route section is the same as BF01 and cross-sections B-B, C-C and D-D are found in **Figure 6.5**, **Figure 6.6** and **Figure 6.7** respectively. New bus stops on both sides are proposed adjacent to the Spar Grocery Store on the Ballyfermot Road. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Other issues considered as part of the analysis were:

- Journey time is approximately 11 – 12 minutes
- Cycle tracks provided where possible
- Large amount of land take required, much of it from residential properties
- Existing bus stops and pedestrian crossings to be upgraded

6.2.3 Route Option BF03

This route option is shown in **Figure 6.10** below.

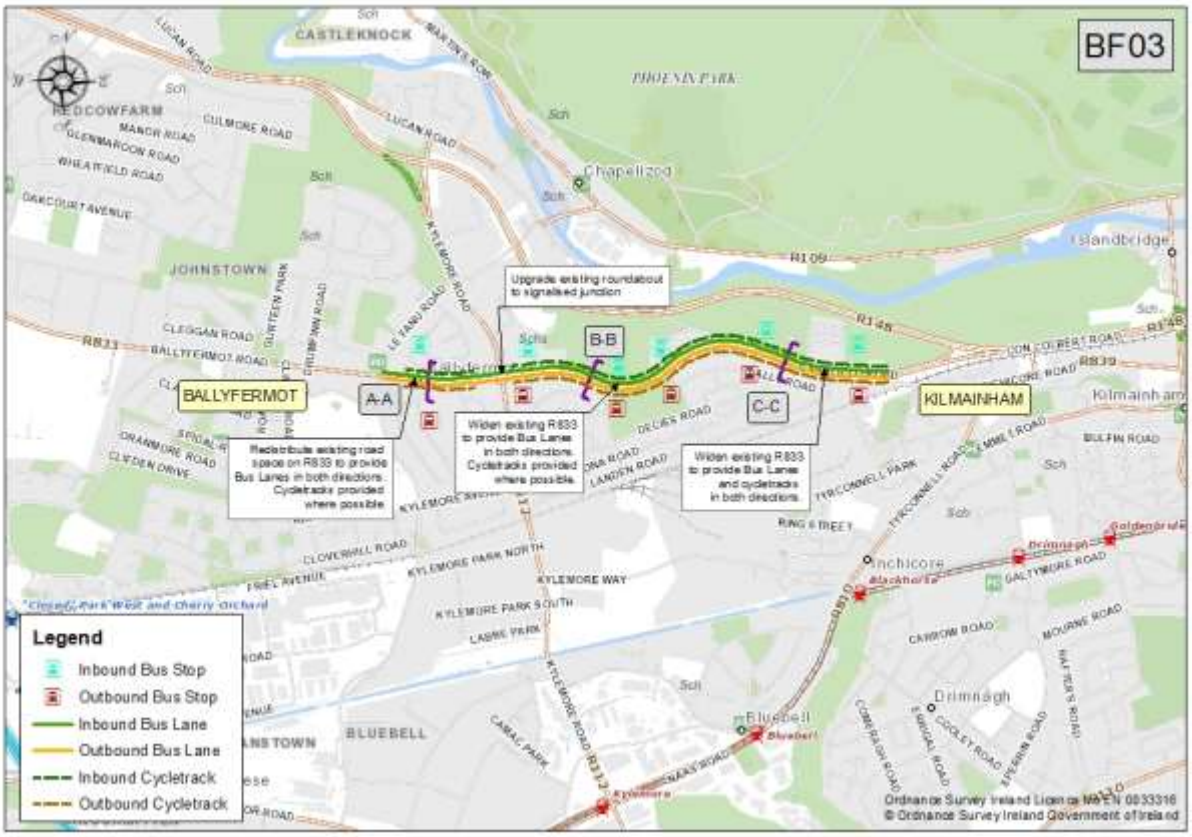


Figure 6.10: Route Option BF03 Indicative Scheme Design

This route travels along the R833 (Ballyfermot Road) from it junction with Le Fanu Road and continues onto the Sarsfield Road until its junction with the Con Colbert Road.

It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the entire length of this route. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there are two locations on the Ballyfermot Road where cycle tracks are not feasible due the proximity of residential properties. These are approx. 100m east of the junction of Ballyfermot Road and La Fanu Road in both directions and approx. 130m on the western approach to the junction of the Ballyfermot Road and the Kylemore Road in both directions. Therefore cyclists and buses would share space along theses short lengths. A more typical cross-section in this area is shown in **Figure 6.11**. Widening would be required in the form of setting back of road kerbing on the street running parallel to the Ballyfermot Road. Approx. 80m of boundary would be set back by 1m to accommodate the widening adjacent to the Bank of Ireland and similarly 20 m of existing boundary would be set back by 1m to accommodate the widening adjacent to the Ballyfermot Credit Union potentially impacting on car parking adjacent to the row of businesses. It is estimated that 14 car parking spaces may be affected by the widening. Alternative parking could be accommodated on adjacent side streets. The pedestrian footpath would be reduced in the inbound and outbound direction to 1.8m to reduce the impact of the widening. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts). Furthermore the junction at the intersection of the Ballyfermot Road and La Fanu Road would be upgraded to provide

bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junction.

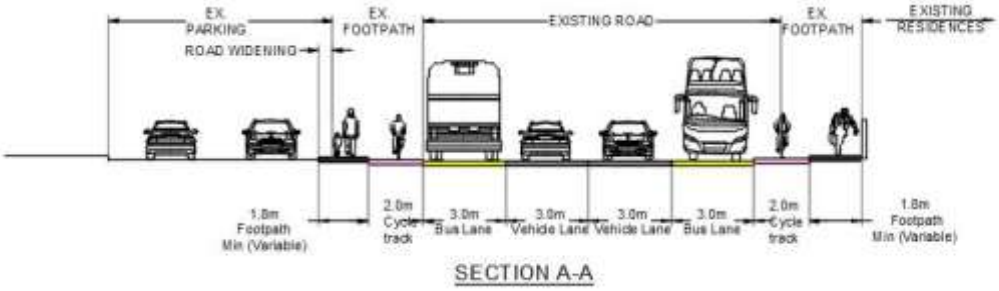


Figure 6.11: BF03 Cross- Section A-A

It is proposed to undertake urban renewal works along the main street in Ballyfermot village as part of this scheme, in keeping with the 'Dublin City Development Plan 2011-2017'. This would involve the upgrade of the main street in terms street scaping including paving works and street furniture that will help make the street more pedestrian friendly. This work would create a vibrant and sustainable new urban area with work, living and recreational opportunities, based around high quality public transport nodes. Furthermore it will provide the following:

- a safe and vibrant mixed use environment
- a place with distinctive urban character, based on urban design principles with strong physical and psychological linkages to the city
- a strong sense of place for the local residents and working population
- a series of nodal spaces at key junctions to act as place markers

The route continues to travel along the Ballyfermot Road. It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this section as shown in **Figure 6.12**. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Widening would be required in the form of setting back private boundaries in this section. Approx. 400m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to the Saint Raphael's National School, Ballyfermot Family resource centre and De La Salle National School potentially impacting on green space and removal of a number of trees. Approx. 250m of boundary fence would be set back by 5m to accommodate the widening adjacent to the Markiewicz Park on the Ballyfermot Road potentially impacting on green space and removal of a number of trees. Existing boundary walls would be set back by approx. 1m for 27 residential properties (while at the same time retaining a 5m zone to the front of the houses) outbound on the Ballyfermot Road before its junction with the O' Hogan Road potentially impacting on front gardens. Further widening would be required, approx. 300m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to the Steeples housing estate, D10 Autos, United Tyres, Saint Laurence Court and Saint Laurence Glen on the Ballyfermot Road potentially impacting on commercial parking spaces (parking could still be accommodated within the business premises), back and front gardens and removal of a number of trees. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

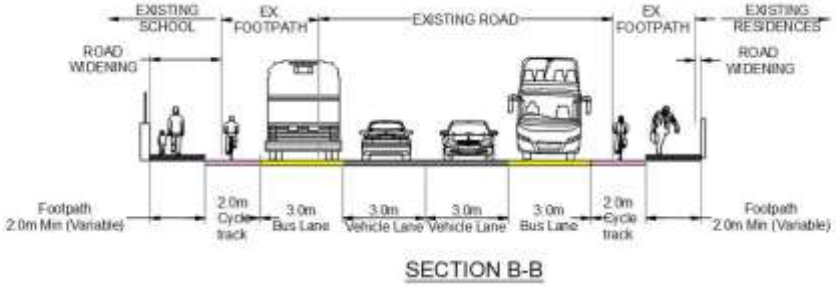


Figure 6.12: BF03 Cross-Section B-B

Figure 6.13 below shows a typical section on the approach to the junction with Landen Road on the Ballyfermot Road. Some private land-take is required from front gardens of residences on the approach to the junction in this location although this has been minimised. It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Widening would be required along the Sarsfield Road in the form of setting back both private and public boundaries. Approx. 300m of boundary wall would be set back by 5m to accommodate the widening adjacent to the Longmeadows Pitch and Putt Club potentially impacting on green space. Approx. 100m of boundary wall would be set back by 5m to accommodate the widening adjacent to Ruby's Public House, Paddy Power and 6 residential properties along Meadow View (while at the same time retaining a 5m zone to the front of the houses) potentially impacting on customer parking and front gardens. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m

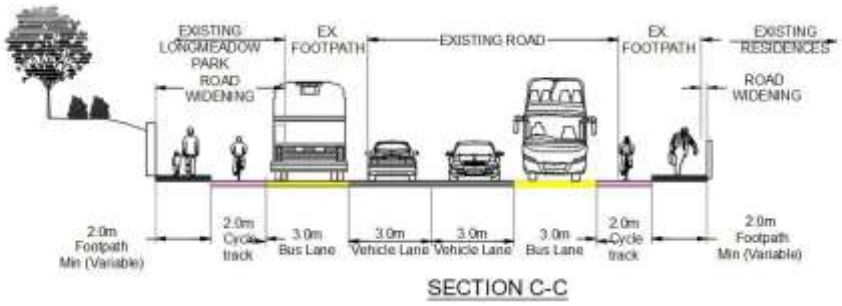


Figure 6.13: BF03 Cross-Section C-C

Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; adjacent to O Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course on the Sarsfield Road, along with the upgrade of all existing pedestrian crossings to toucan crossings along the entire route section. New bus stops on both sides are proposed adjacent to the Spar Grocery Store on the Ballyfermot Road and one no. outbound stop on the Ballyfermot Road on approach to its junction with the Kylemore Road.

Other issues considered as part of the analysis were:

- Journey time is approximately 6.5 – 7.5 minutes
- Cycle tracks provided where possible but some shared with bus lanes for short sections
- Large area of private and public land take required
- Existing bus stops and pedestrian crossings to be upgraded

6.2.4 Route Option BF04

This route option is shown in Figure 6.14 below.

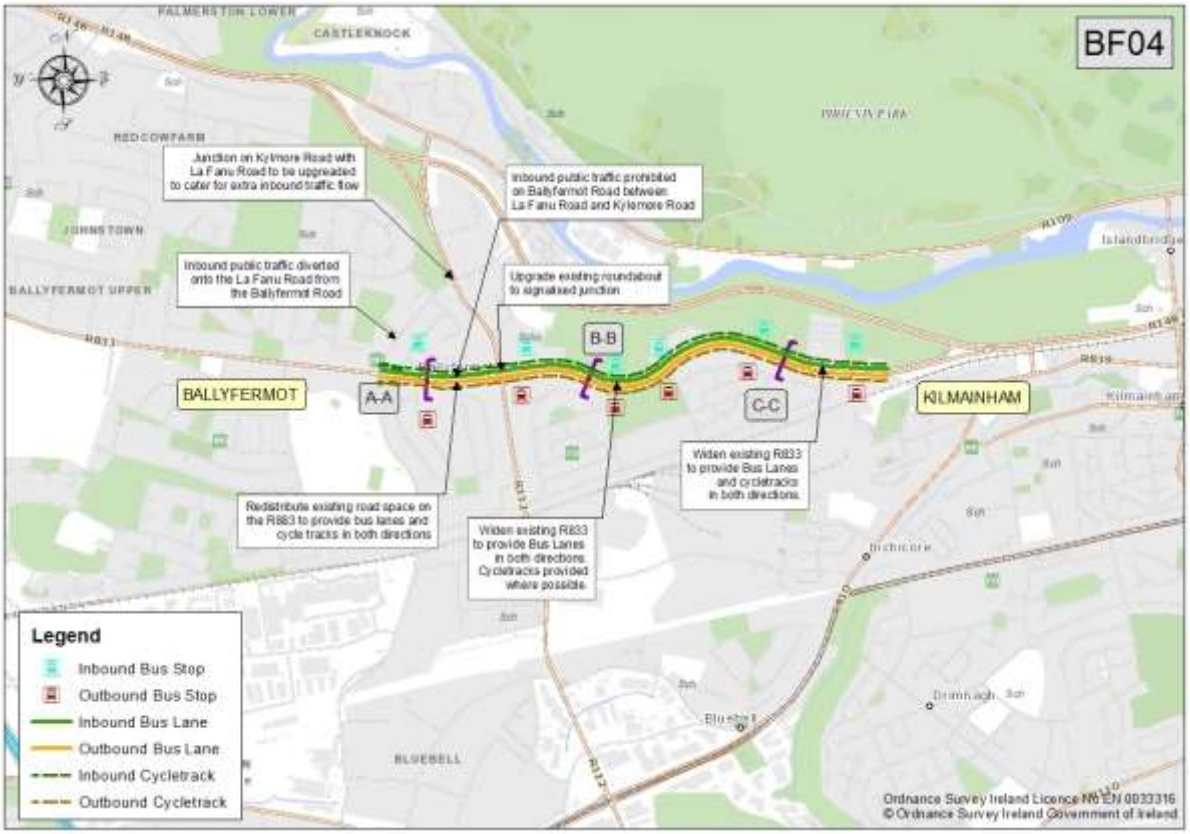


Figure 6.14: Route Option BF04 Indicative Scheme Design

This route travels along the R833 (Ballyfermot Road) from it junction with Le Fanu Road and continues onto the Sarsfield Road until its junction with the Con Colbert Road.

It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the entire length of this route. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Unlike route option BF03, this option would provide cycle tracks all through Ballyfermot Village. In order to achieve this, inbound public traffic through Ballyfermot Village would be prohibited, therefore only allowing outbound public traffic to travel through the village as shown in **Figure 6.15** below. Inbound public traffic traveling on the Ballyfermot Road would turn left onto La Fanu Road to its intersection with the Kylemore Road. From here inbound traffic would travel along the Kylemore Road to its intersection with the Ballyfermot Road and to the point where it turns left towards the city centre and re-joins the Ballyfermot Road. Outbound traffic would operate as normal and travel through Ballyfermot Village. The extra space created by the exclusion of an inbound traffic lane would be redistributed to accommodate bus lanes, cycle tracks and pedestrian facilities in both directions, along with creating an improved public space in front of the businesses in Ballyfermot village. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts). On the La Fanu Road and the Kylemore road, extensive paving works would be undertaken to bring their pavements up to standard in order to deal with the added traffic volume. The Kylemore Road from the Ballyfermot Road to the Le Fanu Road has a number of schools that use on street parking. This parking would be removed in order to accommodate the proposed scheme. As a result it would be difficult to redistribute this parking elsewhere on the school grounds.

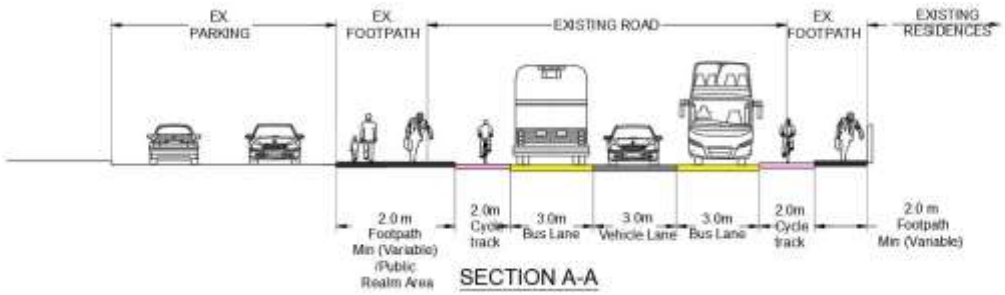


Figure 6.15: BF04 Cross-Section A-A

It was observed that traffic traveling through the Ballyfermot Road and Kylemore Road roundabout from Ballyfermot village towards the city centre was 1053 vehicles in the AM peak (7:00-9:30hars) and 726 vehicles in the PM peak (16:30-19:00 hrs). Outbound from the city centre to Ballyfermot village, it was observed that traffic travelling through the Ballyfermot Road and Kylemore Road roundabout was 488 vehicles in the AM peak and 777 vehicles in the PM peak.

For this reason inbound traffic through Ballyfermot village would be prohibited, and diverted via the La Fanu Road and the Kylemore Road. On the Ballyfermot Road in the inbound direction, at its intersection with La Fanu Road, the road space on approach to the junction will be distributed to allow for a left turning lane to cater for the traffic that is prohibited from traveling through Ballyfermot Village. The existing junction of Kylemore Road and La Fanu Road would have its signalised junction upgraded to accommodate the added traffic volumes that currently travel through Ballyfermot Village. Similarly an extended left turn traffic lane would be required on the Kylemore Road on approach to its junction with the Ballyfermot Road.

Prohibiting outbound traffic through Ballyfermot Village was also investigated. However as can be seen from the existing traffic figures, a large figure of outbound traffic would require to turn right onto the Kylemore Road from the Ballyfermot Road and again onto the Ballyfermot Road from the La Fanu Road. Therefore prohibiting inbound traffic is deemed the most favourable option in term of traffic flow.

From the Kylemore Road junction on the Ballyfermot Road, this route section continues onto the Sarsfield Road until its junction with the Con Colbert Road which is the same as route option BF03 and cross-sections B-B and C-C are found in **Figure 6.12**, and **Figure 6.13** respectively.

It is proposed to undertake urban renewal works along the main street in Ballyfermot village as part of this scheme, in keeping with the 'Dublin City Development Plan 2011-2017'. This would involve the upgrade of the main street in terms street scaping including paving works and street furniture that will help make the street more pedestrian friendly. This work would create a vibrant and sustainable new urban area with work, living and recreational opportunities, based around high quality public transport nodes. Furthermore it will provide the following:

- a safe and vibrant mixed use environment
- a place with distinctive urban character, based on urban design principles with strong physical and psychological linkages to the city
- a strong sense of place for the local residents and working population
- a series of nodal spaces at key junctions to act as place markers

Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings. New bus stops on both sides are proposed adjacent to the Spar Grocery Store on the Ballyfermot Road.

Other issues considered as part of the analysis were:

- Journey time is approximately 6.5 – 7.5 minutes
- Cycle tracks provided where possible but some shared with bus lanes for short sections

- Large area of private and public land take required
- Existing bus stops and pedestrian crossings to be upgraded

6.2.5 Section 2: Route Options Assessment Summary

The Stage 2 Route Options Assessment – Multi Criteria Appraisal summary tables for this section are include in Appendix A2. The relative ranking of the route options for each assessment sub-criteria is shown in **Table 6.2** below:

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

Assessment Criteria	Assessment Sub-Criteria	BF01	BF02	BF03	BF04
Economy	Capital Cost				
	Transport Reliability and Quality of Service				
Integration	Land Use Integration				
	Residential, Employment and Educational Catchments				
	Transport Network Integration				
	Cycling Integration				
Accessibility & Social Inclusion	Key Trip Attractors				
	Deprived Geographic Areas				
Safety	Road Safety				
	Pedestrian Safety				
Environment	Archaeology, Architectural and Cultural Heritage				
	Flora and Fauna				
	Soils and Geology				
	Hydrology				
	Landscape and Visual				
	Air Quality				
	Noise & Vibration				
	Land Use Character				

In general, route options BF03 and BF04 stand out as being the best choices for this section. They are the most economic option as they are the most direct route and, as such, also have the shortest and most reliable journey time. Regarding cost there is little between the BF03 and BF04. The difference is as a result of the extra junction works and surface improvements that BF04 would require.

BF03 and BF04 also serve the largest catchment in all of the 5, 10 and 15 minute walking distances and links these areas directly with Liffey Valley and the City Centre without the need for further bus interchanges.

Additionally, there are some environmental benefits to BF03 and BF04 as the route options through Chapelizod involve travelling through areas near the River Liffey and through an Architectural Conservation Area.

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

Table 6.3: Section 2: Route Options Assessment Summary (Main Criteria)

Assessment Criteria	BF01	BF02	BF03	BF04
Economy				
Integration				
Accessibility & Social Inclusion				
Safety				
Environment				

Based on the assessment undertaken, route option BF03 and BF04 appear to offer more benefits over other options. However the omission of an inbound traffic lane through Ballyfermot Village requires the redistribution of this traffic around the village via the La Fanu Road and the Kylemore Road. This may lead to inbound traffic using surrounding residential streets as 'rat runs' in order to access Ballyfermot village, instead of accessing the village from the Kylemore Road. Furthermore as inbound traffic is diverted off the Ballyfermot Road onto La Fanu Road, it may not reroute back onto the Ballyfermot Road, and instead may travel into Chapelizod Village creating major traffic congestion. For these reasons route option BF04 is not preferred.

Route option BF03 is therefore preferred for the following reasons:

- It's comparatively lower capital cost coupled with the opportunity for journey time reliability and bus service efficiency;
- Serves a larger population catchment
- It has less impact on the environment compared to other options.

Based on the multi-criteria assessment undertaken for this section of the study area, **route option BF03** is the preferred route option for MCA Section 2: Le Fanu Road to Sarsfield Road.

7. Study Area Section 3: Sarsfield Road to Christchurch

7.1 Stage 1: Route Options Assessment - Sifting

All of the feasible routes within the study area section are identified in **Figure 7.1** below. Although there are a number of possible, long end-to-end routes in the area, these have been subdivided in order to allow the maximum number of possible route combinations and to account for changes in character along roads, e.g. major changes in width etc. Route option VR31 is included in both Section 2 and Section 3 as it overlaps without any change in road character.

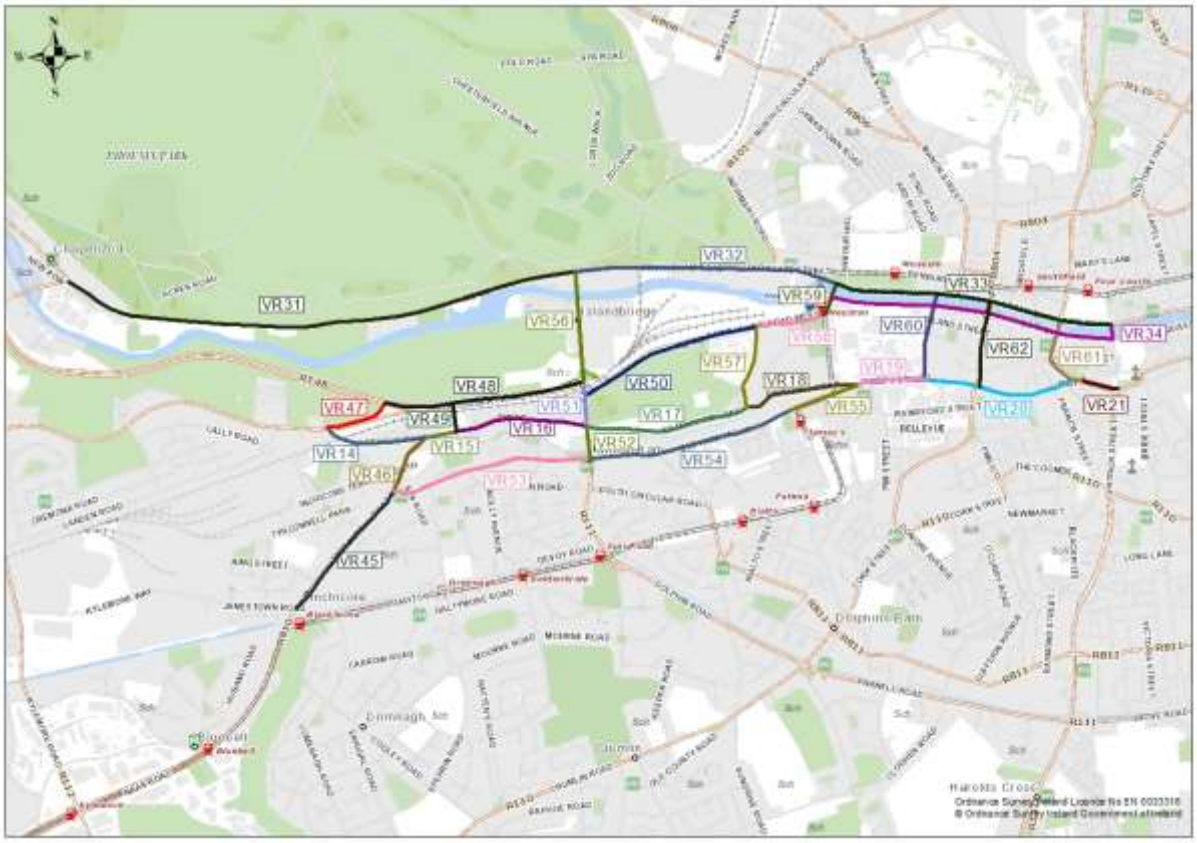


Figure 7.1: Section 1 Route Options

These routes were then assessed as part of a high level "sifting" process in order to determine their suitability for the Core Bus Corridor. This assessment is summarised in **Table 5.1** below.

Table 7.1: Section 3 Sarsfield Road to Christchurch – Route Option Sifting (Stage 1) Summary

Route Option Number	Comments	Pass/Fail
VR14	Sarsfield Road from junction with R833 (Ballyfermot Road) to junction with R839 at Inchicore Road. This route consists of 1 one-way all vehicle lane with a contra flow bus lane. The existing carriageway width varies from 7m up to 10m. However, there is a considerable volume of parking along this route that is predominantly residential in nature. As a result, vehicles using this route are forced to cross into the contra flow bus lane on a number of occasions, impacting the usefulness and reliability of that facility. This existing parking may possibly be relocated to the rear of these residential properties. The limited space available along the route means that land-take is not an option. Further bus priority measures may be difficult to provide in this location although removing parking would increase journey speed. Given the importance of serving the various connecting routes, this route is considered to be suitable for this core bus corridor. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Pass
VR15	Section of R839 (Inchicore Road) from junction with Sarsfield Road to junction with Memorial Road. This route consists of 1 all-vehicle lane in both directions and is relatively wide at approximately 9m. However, there is on-road parking on one side of the route that is residential in nature. This parking cannot be relocated and the properties have no space for driveways. As a result, there is limited scope for land-take and bus priority measures along this route are not feasible. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Fail
VR16	Section of R839 (Inchicore Road) from Memorial Road to R111 at South Circular Road. This route is one-way in the outbound direction, with 1 all-vehicle lane and a two-way cycle lane. There is on-road parking for a long stretch of the route that is residential in nature. This parking cannot be relocated and the properties have no space for driveways. The feasibility of providing bus priority facilities is minimal on this route given the inability to remove the parking and the limited space available even with a large area of land-take. Additionally, a section of the route from the junction with the R111 has recently been considerably narrowed and traffic calmed. This route is designated as a secondary cycle route and facilities for cyclists would need to be considered.	Fail

Route Option Number	Comments	Pass/Fail
VR17	Kilmainham Lane. This is a very narrow urban laneway with 2 directional traffic and on-street parking along a large section of its length. The width of this route varies but is generally less than 6m wide and both the horizontal and vertical are unsuitable for busses. Most of the on-street parking is residential in nature and could not be relocated while the properties have no space for driveway. It is unlikely that land-take along this route is feasible as there is a stone retaining wall and large difference between it and the neighbouring grounds of the Irish Museum of Modern Art. This route is designated as a secondary cycle route, further restricting the available space. As a result, this route is not feasible for a core bus corridor route.	Fail
VR18	Bow Lane West from junction with Kilmainham Lane to junction with R810 at James Street. This route is also a narrow urban road approximately 5m wide for the majority of its length. There is on-street parking for residential properties for a section of the route which cannot be relocated and where properties have no space for driveways. This route is designated as a secondary cycle route, further restricting the available space. Land-take along this route is not a feasible option due to the proximity of the buildings either side of it and as such this route is not considered to be suitable for a core bus corridor.	Fail
VR19	Section of R810 (James's Street) from junction with Bow Lane West to junction with Watling St. This is a wide regional road with 1 all-vehicle lane in both directions along with bus lanes. Continuous bus lanes were constructed recently along this route and as such it is a suitable route for a core bus corridor.	Pass
VR20	Section of R810 (Thomas Street) from junction with Watling St. to junction with R108 at Lower Bridge St. This is a wide regional road with 1 all-vehicle lane in both directions along with bus lanes. Continuous bus lanes were constructed recently along a long section of this route. Land-take is not a feasible option on this route due to the proximity of the building lines on either side. Further bus priority measures may be possible with redistribution of existing road space but careful consideration of the needs of cyclists and vehicular traffic is required. This route is designated as a secondary and primary cycle route.	Pass
VR21	Section of R108 (High Street) from junction with R810 (Thomas Street) to junction with R137 (Patrick's Street) at Christ Church. This route is a wide regional road with 3 all-vehicle lanes inbound and 2 all-vehicle lanes outbound separated by a median. There is a bus lane outbound for most of this route. Additional bus priority measures inbound may be feasible by redistributing existing road space, subject to consideration of traffic impacts. As this route is designated as a primary cycle route, additional space may be required to provide these facilities.	Pass

Route Option Number	Comments	Pass/Fail
VR31	Section of R109 (Chapelizod Road) from junction in Chapelizod village to junction with R111 at South Circular Road. This route generally consists of a wide (approximately 9m wide in most locations) regional road with 1 all-vehicle lane in both directions. There is an existing outbound bus lane along the route for approximately 800m on the approach to Chapelizod village. Further bus priority measures in one direction could possibly be provided within the existing carriageway extents, while measures in both directions could feasibly be provided with land-take from the surrounding green areas. As this route is designated as a primary cycle route, additional width may be required. The delay experienced along this route is minimal and as such is suitable for a core bus corridor.	Pass
VR32	Section of R109 (Conyngham Road) from junction with R111 (South Circular Road) to junction to Frank Sherwin Bridge. This route generally consists of a wide regional road with 1 all-vehicle lane in both directions with a number of additional turning lanes. There is an existing inbound bus lane along the route except for a short section between the main entrance to the Phoenix Park at Chesterfield Avenue and Infirmary Road. Creating a continuous bus lane inbound and providing bus facilities outbound may be feasible by redistribution of road space subject to consideration of traffic impacts. This route is designated as a primary cycle route and as such additional space may be required.	Pass
VR33	Section of North Quays from Frank Sherwin Bridge to Fr. Matthews Bridge. This route consists of 1 to 2 all-vehicle lanes with a wide bus lane. As existing bus priority measures currently exist along the entire route it is considered suitable for a core bus corridor. Further bus priority measures may be provided here subject to the overall plan for Dublin City Centre traffic. This route is currently designated as a primary cycle route and as such, additional space for cyclists may also be required.	Pass
VR34	Section of South Quays from Fr. Matthews Bridge to Frank Sherwin Bridge. This route generally consists of 2 all-vehicle lanes and a bus lane, except for a short section between Liam Mellow's Bridge and James Joyce Bridge and on approach to Heuston Station, where no bus lanes are present. Further bus priority measures to ensure this bus lane is continuous may be feasible subject to consideration of the impact on traffic leaving the Quays area.	Pass

Route Option Number	Comments	Pass/Fail
VR45	Section of R810 (Tyrconnell Road) from junction with Jamestown Road to junction with Emmet Road. This route is a typical regional road with an approximate width of 9m and 1 all-vehicle lane in both directions. There is on-street parking of a residential nature in a number of locations where properties front directly onto the road. This parking cannot be relocated elsewhere. In order to provide bus priority facilities along this route, large areas of land-take would be required from a large number of residential properties along with land-take from a school and church. Considering this land-take in addition to the parking issue and failure of other connecting routes, this route is not considered suitable for a core bus corridor.	Fail
VR46	Section of R839 (Grattan Crescent) from junction with Emmet Road to junction with Sarsfield Road. This route is a wide stretch of regional road with 1 all-vehicle lane in both directions and additional turning lanes on approach to junctions. There is an outbound bus lane along the majority of the route, although it becomes a left turning lane on approach to Emmet Road. There is also an inbound bus lane on the approach to the junction to Sarsfield Road, which joins with the contra flow bus lane on that road. There is on-street parking on both sides of the road on approach to the junction with Sarsfield Road. Further bus priority facilities would be difficult to provide along sections of this route due to the proximity of building lines in the vicinity of the Emmet Road junction. However, given the importance of serving trip attractors along this and connecting routes, this route is considered to be suitable for this core bus corridor.	Pass
VR47	Section of R833 (Con Colbert Road) from junction with Sarsfield Road to junction with R148. This route consists of a wide approach road with 2 all-vehicle lanes approaching the R148 inbound and a wide slip road off from the R148 outbound. These are separated by a grass median and significantly diverge close to the R148. Given the existing width of the carriageway in both directions, it is feasible that bus priority measures could be provided within the extents of the existing roadway.	Pass
VR48	Section of R148 (Chapelizod Bypass) from junction with R833 (Con Colbert Road) to junction with R111 at South Circular Road. The majority of this route consists of 2 all-vehicle lanes in both directions with additional bus lanes. The outbound bus lane is not continuous for a short section but further improvements for bus priority in this location are feasible.	Pass

Route Option Number	Comments	Pass/Fail
VR49	Section of R839 (Memorial Road) from junction with Inchicore Road to junction with R148 (Chapelizod Bypass). This route is one-way with 2 all-vehicle lanes. The existing carriageway is quite narrow at less than 7m in most locations with a pinch-point at a railway overbridge. This route is designated as a secondary cycle route. Given the lack of accessibility of this route and the narrowness at the pinch point outlined above, it is not considered to be suitable for a core bus corridor.	Fail
VR50	Section of R148 (St. John's Road West) from junction with R111 (South Circular Road) to junction at Memorial Road. This route consists of 1 all-vehicle lane and a bus lane inbound and 2 all-vehicle lanes and a bus lane outbound separated by a narrow margin and large level difference.	Pass
VR51	Section of R111 (South Circular Road) from junction with R839 (Inchicore Road) to junction with R148 (St. John's Road West). This route generally consists of 1 all-vehicle lane in both directions with turning lanes developed along its route. Advisory cycle lanes are also present. The existing carriageway is wide, at approximately 12m in most locations. Provision of bus priority measures is feasible in this location although some land-take may be required.	Pass
VR52	Section of R111 (South Circular Road) from junction with R839 (Inchicore Road) to junction with Emmet Road. This route generally consists of 1 all-vehicle lane in both directions with turning lanes developed along its route. Advisory cycle lanes are also present. The existing carriageway is relatively wide, at approximately 10m. Provision of bus priority measures are feasible on this route, although a small section of land-take may be required.	Pass
VR53	Emmet Road from junction with R810 at Tyrconnell Road to junction with R111 at South Circular Road. This route is generally, a wide regional road with 1 all-vehicle lane in both directions. There is approximately 350m of inbound bus lane on the approach to the junction with South Circular Road. There is a considerable quantity of on-street parking spaces along this route, much of which is residential in nature. Some of the residential properties have sufficient space for driveways, while many do not. As a result, it would be difficult to remove much of this parking and sufficient land-take for bus priority measures would not be feasible due to proximity of building lines in a number of locations. However, some improvements to bus priority measures may be possible and given the importance of serving trip attractors along this and connecting routes, this route is considered to be suitable for this core bus corridor.	Pass

Route Option Number	Comments	Pass/Fail
VR54	Section of R810 from junction with R111 at South Circular Road to junction at entrance to St. James' Hospital. This route is a relatively narrow regional road (generally 7m wide) with 1 all-vehicle lane in both directions. There is on-street parking of a residential nature in a number of locations where parking could not be relocated and the properties have insufficient space for driveways. Bus priority measures would be difficult to provide along this route given the proximity of building lines on both sides of the road. However, given the importance of serving trip attractors along this route, such as St. James' Hospital this route should be considered for the core bus corridor. An ITS solution to improve bus reliability along this route should be considered.	Pass
VR55	Section of R810 (Old Kilmainham/Mount Brown/James's Street) from junction at entrance to St. James' Hospital to junction with R810 at James's Street. This route is relatively wide with an approximately 12m carriageway. The route consists of 1 all-vehicle lane inbound and 1 – vehicle lane outbound. Luas tracks inbound separate these lanes while the outbound tracks share the same space as the outbound all-vehicle lane. There is a section of inbound bus lane from the hospital entrance but it ends a considerable distance from the junction with Thomas St. Bus priority measures may be possible for this route by use of an ITS solution and possibly extending the inbound bus lane.	Pass
VR56	Section of R111 (South Circular Road) from junction with R148 (St. John's Road West) to junction with R109 at Conyngham Road. This route consists of 1 all-vehicle lane in both directions with advisory cycle lanes. The existing carriageway varies in width considerably, with a pinch point at the bridge over the River Liffey. It may be feasible to provide bus priority facilities for long sections of this route, however, they could not be provided over the bridge owing to the lack of space. Given the connectivity of this route, it is considered to be suitable for a core bus corridor.	Pass
VR57	Military Road from junction with Kilmainham Lane to junction with R148 (St. John's Road West). This route is a relatively wide local road with 1 all-vehicle lane in both directions. There is on-street parking along this route although it appears to be unregulated and could be removed. There is scope for bus priority facilities to be provided along this route with land-take from adjacent commercial properties. However, given the lack of connectivity of this route due to the failure of VR17 and VR18 this is not considered to be a suitable route for the core bus corridor.	Fail
VR58	Section of R148 (St. John's Road West) from junction with Military Road to Heuston Station. This route consists of 1 all-vehicle lane and a bus lane inbound and 2 all-vehicle lanes outbound. Bus priority measures could be implemented by some local widening into the central median.	Pass

Route Option Number	Comments	Pass/Fail
VR59	Section of R148 (St. John's Road West) from Heuston Station to Wolfe Tone Quay. This route consists of 2 all-vehicle lanes in both directions up to the junction with Victoria Quay. The route then traverses the Frank Sherwin Bridge, which is a wide, one-way route with no clearly defined lanes. Bus priority measures could be introduced inbound by means of road markings, while outbound is subject to the same concerns as VR59.	Pass
VR60	Watling St. from junction with Quays to junction with R810 at Thomas St. This route is a narrow, one-way urban road with on-street parking in a number of locations. Due to the proximity of the building lines along the majority of this route, there is no scope for land-take. As a result, provision of bus priority measures is not feasible.	Fail
VR61	Section of R108 (Lower Bridge Street) from Quays to junction with R810 at Thomas St. This route is a wide, regional road with 2 all-vehicle lanes in both directions for the majority of its length. Bus priority measures could feasibly be introduced along this route by redistributing existing road space, subject to consideration of the impact on traffic entering and exiting the city centre.	Pass
VR62	Bridgefoot St. from Quays to junction with R810 at Thomas Street. The majority of this route is a very wide local road with a central median. However, the section of this route from the Quays to the junction with Usher St. is a narrow, one-way road with residential parking along its length. Given the close proximity of building lines along this section of the route, there is no scope for land-take. As a result, provision of bus priority measures is not feasible.	Fail

Following this Stage 1 'sifting' process 22 of the 31 routes assessed passed the initial analysis and were progressed to the next assessment stage. The remaining routes are shown in **Figure 7.2** below.

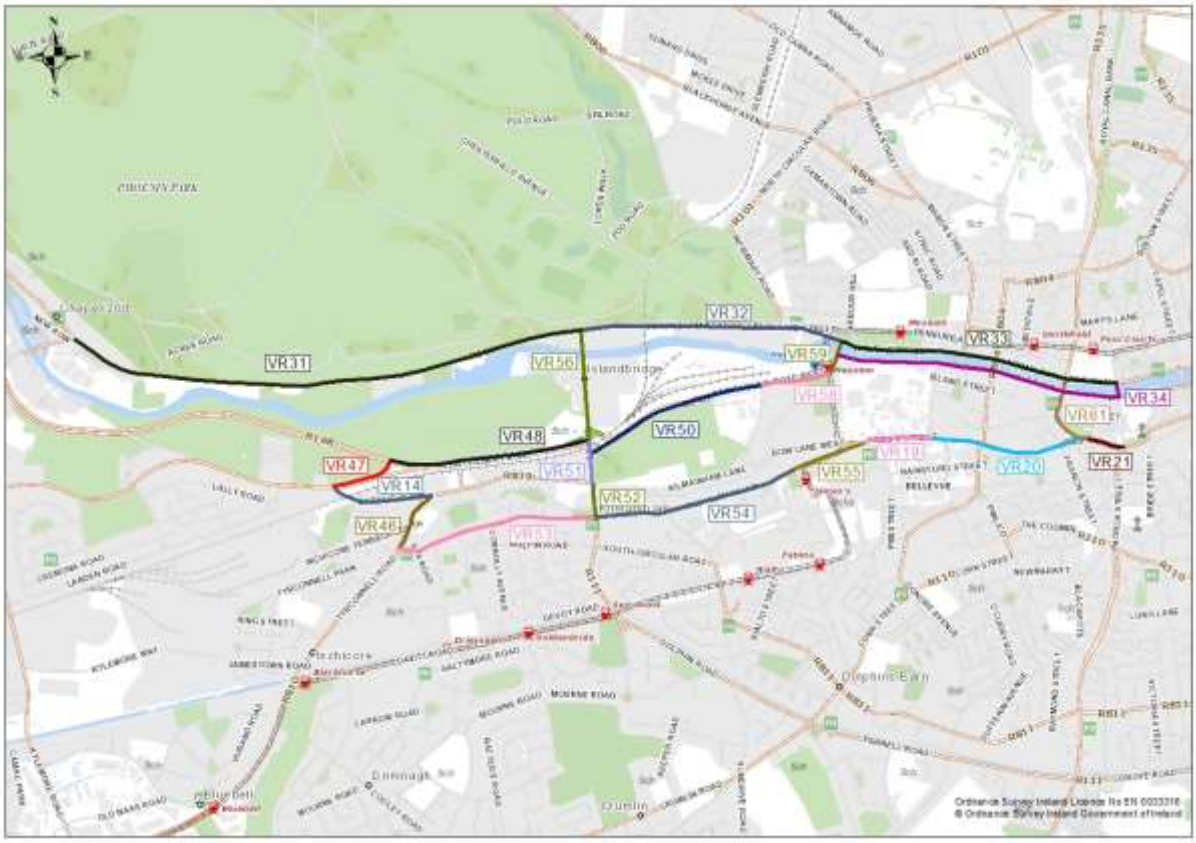


Figure 7.2: Section 3 Route Options Remaining After Stage 1 Sifting

7.2 Stage 2: Route Options Assessment – Multi-Criteria Analysis

The remaining routes in this section were combined to form 10 distinct routes through the area. In addition, there were a number of possible options assessed using traffic management solutions along some of the routes. In total, 10 possible route options were defined and are analysed in the following section. These route options are labelled CCT01 to CCT10 and are discussed in detail below. Given that it was not feasible to form various routes from point to point in this section due to severance by the River Liffey, routes start approximately along a north-south line through the Sarsfield Road/Con Colbert Road junction.

7.2.1 Route Option CCT01

This route option is shown in **Figure 7.3** below.

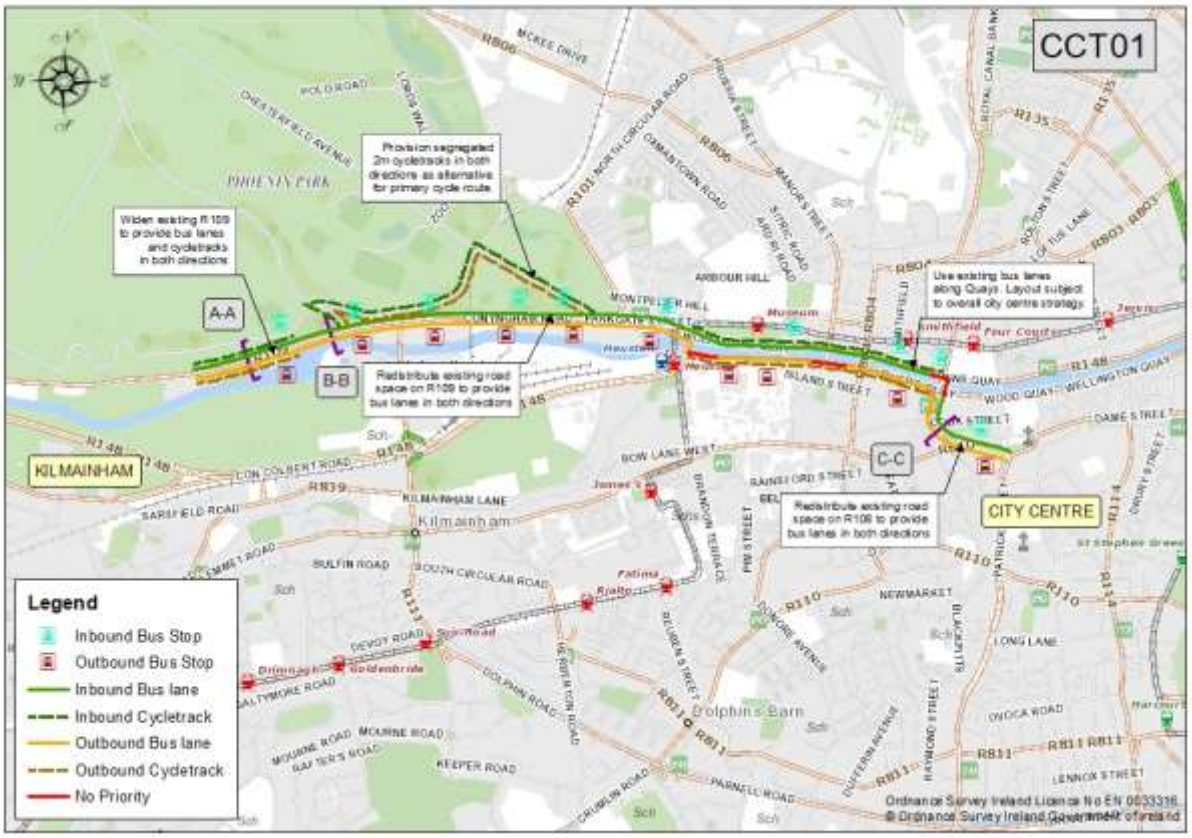


Figure 7.3: Route Option CCT01 Indicative Scheme Design

This route option begins at the end point of Route Option BF01 and BF02 from MCA Study Area 'Section 2: Le Fanu Road to Sarsfield Road'. It travels along the R109 (Conyngham Road) from this point until joining the quays before utilising Lower Bridge Street and the R108 to access the Christchurch area.

It is proposed to provide bus lanes and pedestrian footpaths in both directions along this length of this route section i.e. the Chapelizod Road and Conyngham Road. Due to the proximity of adjacent properties and a high retaining wall associated with the Phoenix Park along this section, dedicated cycling facilities are not feasible. However for the first 430m of this route option cycle facilities are proposed on both sides. From here until the western end of the quays, cyclists and buses would share the bus lane. As an alternative for cyclists, it is proposed to provide cycle tracks through the Phoenix Park via the Kyber Road, Wellington Road and Chesterfield Avenue, re-joining the CBC route on Park Gate Street. Outbound cyclists would be able to travel this route in the reverse direction and would be provided with toucan crossings at the Islandbridge Gate House and the Parkgate Street entrance to the Phoenix Park.

Some land take from private owners would be required in order to provide the required cross-section as shown in **Figure 7.4**. The typical cross-section along the R109 at Conyngham Road for most of this route is as **Figure 7.5** below. Widening would be required in the form of setting back private boundaries. Approx. 430m of boundary would be set back by 2.5m to accommodate the widening adjacent; to the Garda Boat Club, Commercial Rowing Club and UCD boat club potentially effecting green space and removing a number of trees, along with setting back of a private boundary wall adjacent to the Salmon Pool Apartments potentially impacting on residential parking. Over the entire length of this route section (Chapelizod Road and Conyngham Road) there is restricted on street parking available that is used by adjacent residential and business properties, this would be removed to accommodate inbound and outbound bus lanes. This parking could be accommodated within the adjacent properties. However this is not the case with on street parking inbound on Parkgate Street where it would be retained.

An inbound traffic lane would be removed adjacent to The Criminal Courts of Justice and replaced with an inbound bus lane. Again due to the proximity of adjacent building lines, cycle facilities are not feasible along Parkgate Street.

The route option would continue along Wolfe Tone Quay, Sarsfield Quay, Ellis Quay, Arran Quay and over the Father Mathew Bridge in the inbound direction. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). It is proposed to provide new and upgraded cycle tracks and pedestrian facilities along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. No priority inbound bus lane would be provided on approach (approx. 50m) to and on the Father Mathew Bridge due to the lack of available space. Similarly cycle tracks are not feasible on the bridge due to the lack of available space.

Outbound the route travels on the southern side of the River Liffey along Usher's Quay, Usher's Island, Victoria Quay and over the Frank Sherwin Bridge, and re-joins the inbound section of the route on Wolfe Tone Quay. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). No priority bus lane would be provided (same as existing on site situation) due to the proximity of adjacent building lines for approx. 200m on approach to and after the James Joyce Bridge, and 150m on approach to Frank Sherwin Bridge over the River Liffey. The existing space on the Frank Sherwin Bridge would be distributed to provide a priority outbound bus lane. It is proposed to provide new and upgraded cycle tracks and pedestrian facilities along this section except for the section over the bridge over the River Liffey, where cyclists would share road space with public traffic. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

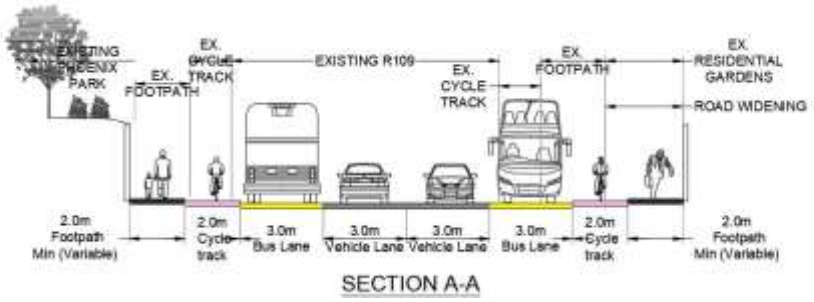


Figure 7.4: CCT01 Cross-Section A-A

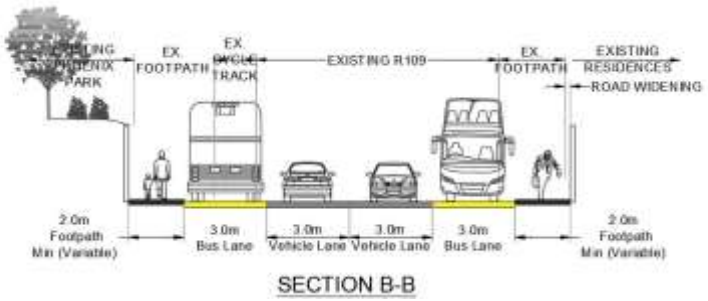


Figure 7.5: CCT01 Cross-Section B-B

This route section continues on from Father Mathew Bridge onto Bridge Street, where it terminates at the end of High Street. It is proposed to provide new bus lanes and upgraded footpaths in both directions along the length of this route section. Due to the proximity of adjacent building lines along this section, dedicated cycling facilities are not feasible and would share space with buses.

The existing road space along this section would be redistributed to accommodate the proposed scheme. An inbound traffic lane would be removed along this section to accommodate the proposed bus lane. Similarly in the outbound direction, a public traffic lane on High Street and Lower Bridge Street would be removed, on Upper Bridge Street the existing traffic lane would be realigned to form a public traffic lane and priority bus lane as shown in **Figure 7.6** below. This will reduce the traffic capacity in the area. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

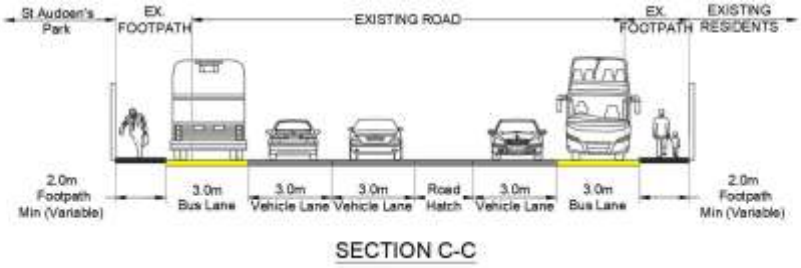


Figure 7.6: CCT01 Cross-Section C-C

Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

Other issues considered as part of the analysis were:

- Journey time is approximately 18 – 19.5 minutes
- Cycle tracks provided where required by GDA Cycle Network Plan or alternative provided except short section where shared bus and cycle lane is required
- Alternative cycle route is circuitous
- Existing bus stops and pedestrian crossings to be upgraded
- Transport links with Heuston Station and Red Line Luas within short walking distance
- Some existing parking would be removed on the R109 in order to accommodate the bus and cycle facilities
- Traffic capacity reduced on Lower Bridge Street which may lead to congestion issues
- Some private land take required
- Route option only available if busses travel through Chapelizod
- Catchment does not include areas around Inchicore and Kilmainham

7.2.2 Route Option CCT02

This route option is shown in **Figure 7.7** below.

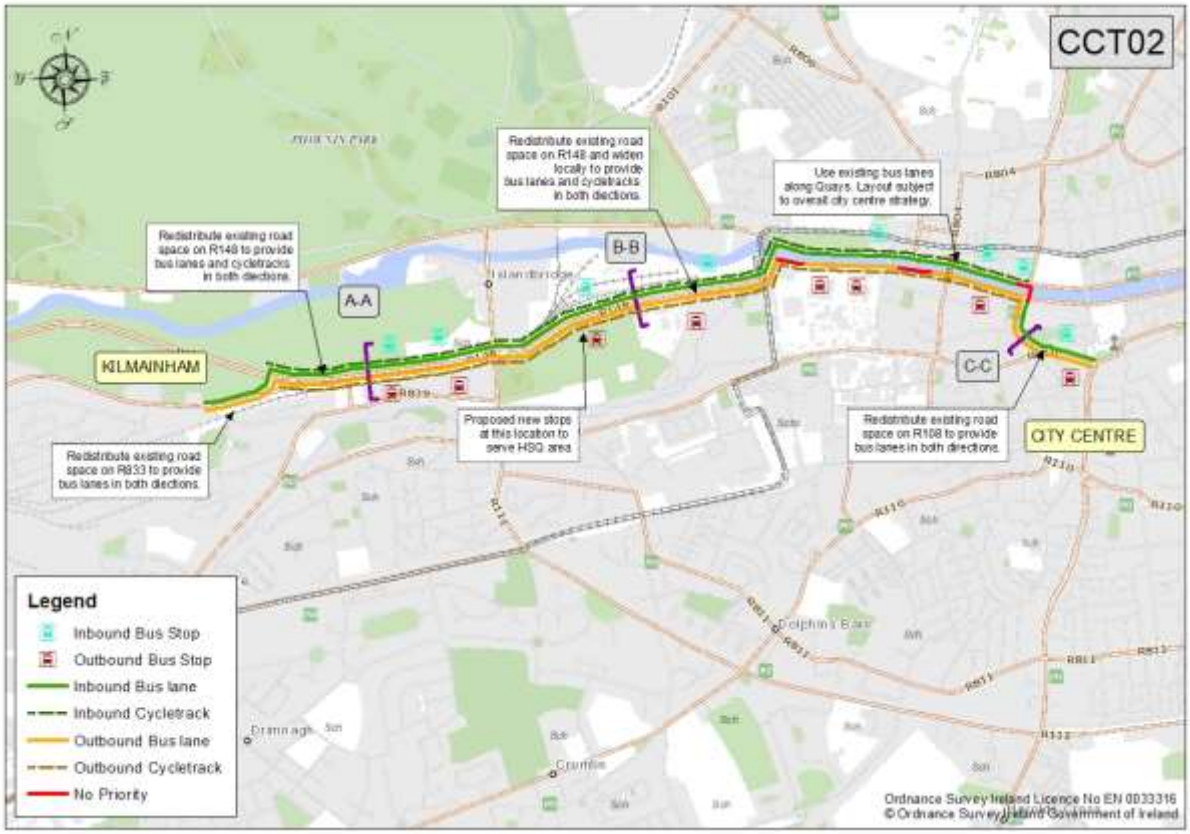


Figure 7.7: Route Option CCT02 Indicative Scheme Design

This route travels along Con Colbert Road and the R148 (St. John's Road West) before entering the City Centre via the North and South Quays. It then utilises Lower Bridge Street and the R108 to access the Christchurch area. Bus lanes are proposed along the entire route except at some localised areas through junctions, and cycle tracks are provided where required by the Cycle Network Plan.

On the Con Colbert Road, it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this length of the route section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible as shown in **Figure 7.8** below. The existing road space on approach to the junction to Con Colbert Road and South Circular Road will redistributed to accommodate bus lanes up to the stop lines. As a result, an inbound and outbound public will be removed. The number of all-vehicle lanes would be maintained as far as practical in order to ensure traffic capacity at this key junction is not overly reduced.

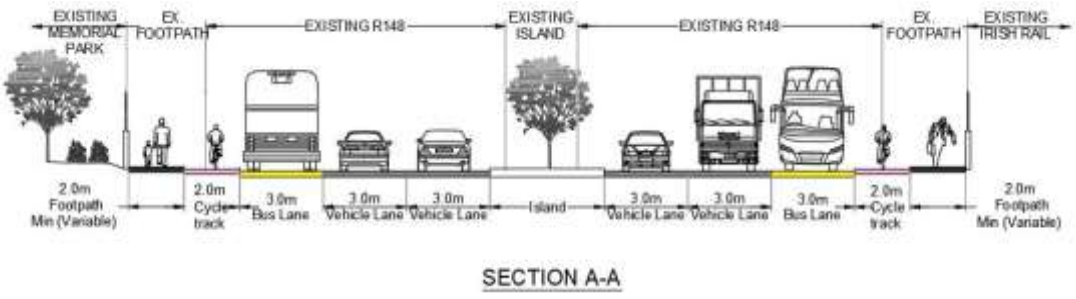


Figure 7.8: CCT02 Cross-Section A-A

From this junction to the quays, it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the R148 (St. John's Road West) by means of redistributing road space as shown in **Figure 7.9**. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In general, this will require a reduction in the central median, resulting in the removal of a number of young trees. One all-vehicle lane (reduced width of 3m) inbound and two all-vehicle lanes (reduced width of 3m) outbound will be maintained in order to allow traffic exiting the city to do so as in the current situation.

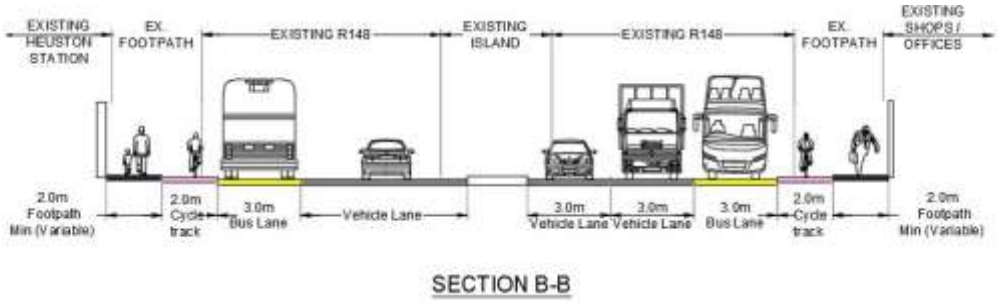


Figure 7.9: CCT02 Cross-Section B-B

Some land take is required on the approach to the junction of the R148 and South Quays in order to provide bus priority to the stop line. This land would be taken from green space adjacent to the Luas line at Heuston Station. Inbound busses would then travel along the existing bus lanes on the North Quays and outbound busses along the South Quays, subject to changes as part of the overall strategy for Dublin City Centre. In order to facilitate the extra space required for a proposed outbound bus lane and a cycle track in both directions, the existing taxi queuing lane outside Heuston Station will be removed. An increased area for taxi waiting could be accommodated within the Station.

The route option would continue over the Frank Sherwin Bridge along Wolfe Tone Quay, Sarsfield Quay, Ellis Quay, Arran Quay and over the Father Mathew Bridge in the inbound direction. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). It is proposed to provide new and upgraded cycle tracks and pedestrian facilities along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. No priority inbound bus lane would be provided on approach (approx. 50m) to and on the Father Mathew Bridge due to the lack of available space. Similarly cycle tracks are not feasible on the bridge due to the lack of available space.

Outbound the route travels on the southern side of the River Liffey along Usher's Quay, Usher's Island, Victoria Quay, and re-joins the route on St Johns Road West. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). No priority bus lane would be provided (same as existing situation) due to the proximity of adjacent building lines for approx. 200m on approach to and after the James Joyce Bridge, and 150m on approach to Frank Sherwin Bridge over the River Liffey. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

This route section continues on from Father Mathew Bridge onto Bridge Street, where it terminates at the end of High Street. It is proposed to provide new bus lanes and upgraded footpaths in both directions along the length of this route section. Due to the proximity of adjacent building lines along this section, dedicated cycling facilities are not feasible. The existing road space along this section would be redistributed to accommodate the proposed scheme. An inbound traffic lane would be removed along this section to accommodate the proposed bus lane. Similarly in the outbound

direction, a public traffic lane on High Street and Lower Bridge Street would be removed, on Upper Bridge Street the existing traffic lane would be realigned to form a public traffic lane and priority bus lane as shown in **Figure 7.10** below. This will reduce the traffic capacity in the area. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

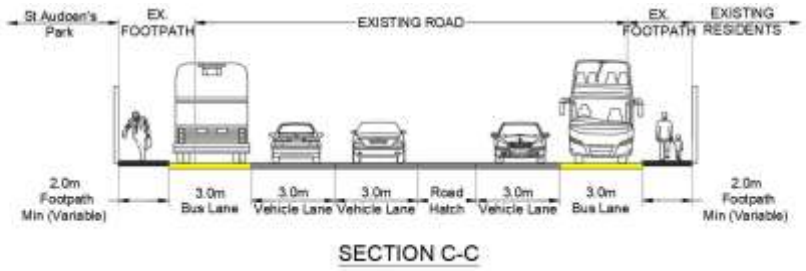


Figure 7.10: CCT02 Cross-Section C-C

Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

New bus stops would be provided in both directions on Con Colbert Road adjacent to the entrance of Royal Hospital Kilmainaham.

Other issues considered as part of the analysis were:

- Journey time is approximately 18 – 18.5 minutes
- Cycle tracks provided where required by GDA Cycle Network Plan
- Existing bus stops and pedestrian crossings to be upgraded and new bus stops provided opposite Royal Hospital Kilmainham
- Direct transport links with Heuston Station and Red Line Luas
- Some existing parking and taxi ranks would be removed in order to accommodate the bus and cycle facilities
- Some public land take required

7.2.3 Route Option CCT03

This route option is shown in **Figure 7.11** below.

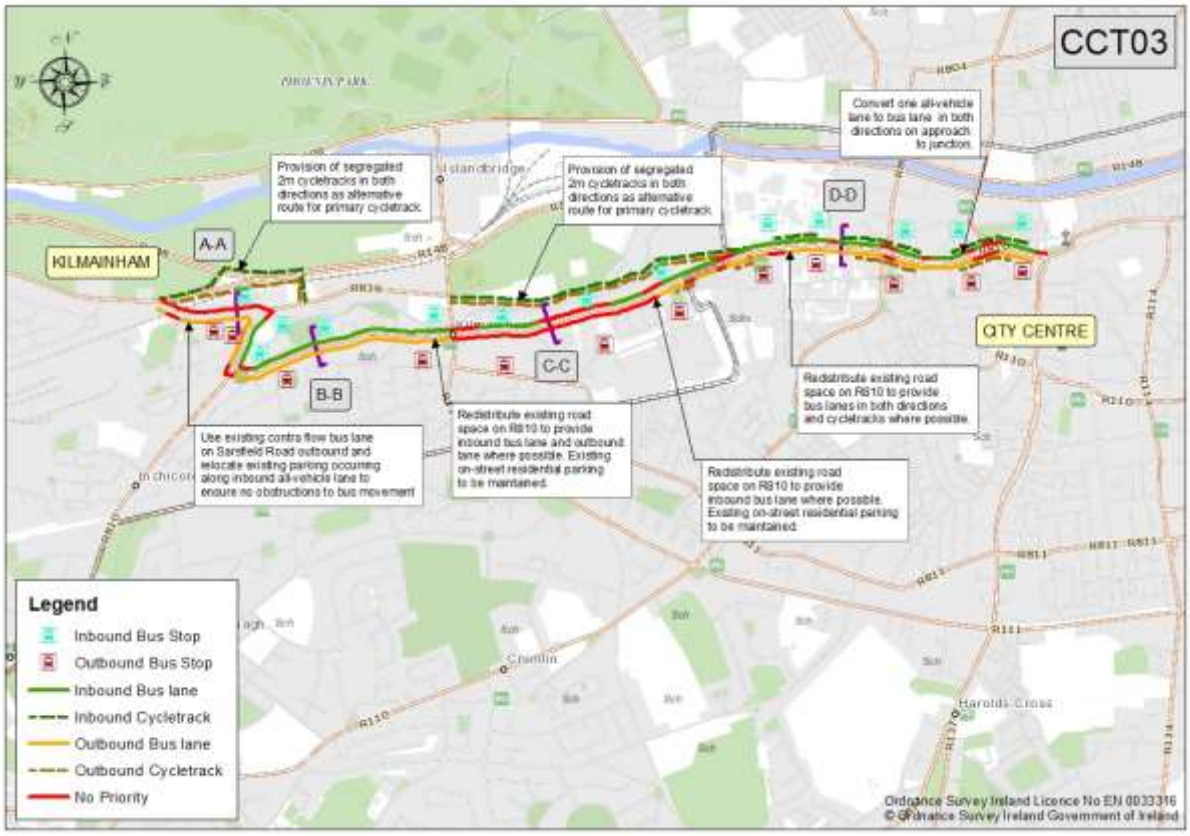


Figure 7.11: Route Option CCT03 Indicative Scheme Design

This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates on High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as shown in **Figure 7.12** below. Due to the localised narrowing at the location of the railway over bridge on the Sarsfield Road, an outbound bus priority lane is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). Outbound cyclist could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

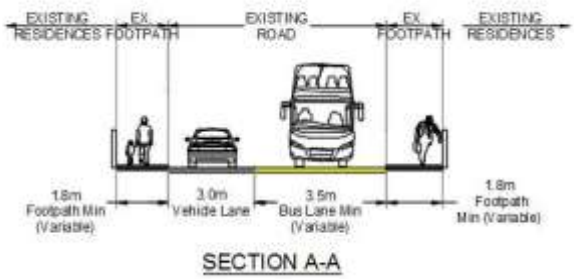


Figure 7.12: CCT03 Cross-Section A-A

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). A typical section along Emmet Road, where bus lanes can be provided in both directions is shown in **Figure 7.13.** Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section.

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. For the first 70m, inbound, on the Emmet Road priority bus lanes would not be provided, due to the proximity of adjacent building lines. Outbound on the Emmet Road at its junction with Saint Vincent Street, a bus gate is proposed at the junction. The signals would operate to give priority to outbound buses and ensure the space between the bus gate and the bus priority ‘right turn’ at the junction of Emmet Road and Graton Cresent would remain clear.

As part of the analysis of this route, alternative parking arrangements were investigated for the existing on-street residential parking along the R810 on Emmet Road and Old Kilmainham. The majority of this parking is located outside of terraced houses with no gardens or space of any kind to the front of the property, which rules out the possibility of providing new driveways for these residences. In a small number of locations, residences have existing front gardens, however, these are small and generally have large level differences, making provision of driveways not feasible. Relocation of the existing parking was also investigated, however, the majority of adjacent side streets already have on-street residential parking on them and could not accommodate additional parking. In addition, in a number of locations, there are no adjacent side streets available within a reasonable walking distance to the residences along the R810. In order to maximise the length of bus lane it is proposed to remove some of the existing on-street parking inbound on the Emmet Road from Turvey Avenue to the South Circular Road and to construct an alternative parking area off-street in an existing grassed area adjacent the Orchard Apartments on the Emmet Road.

On street parking spaces adjacent; to Saint Michael’s Parish Community Centre, Coffey’ Pub would be removed to accommodate the proposed scheme. Alternative formal on street parking to mitigate the loss of parking is proposed to adjacent to Saint Michael’s Church, Massey Brothers Funeral Home, Tom Tavey’s Pub, opposite Inchicore College of Further Education (removal of trees to accommodate formal parallel parking spaces). These alternative parking areas will also act as loading bays for commercial business along Emmet Road.

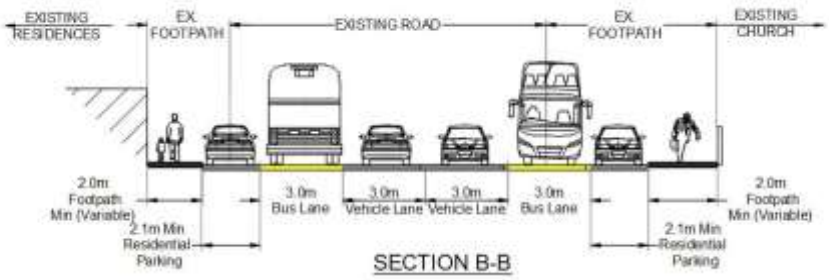


Figure 7.13: CCT03 Cross-Section B-B

From the junction at the R111 (South Circular Road) the core bus corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route. Inbound bus lanes have been prioritised in these cases. **Figure 7.14** below shows a typical cross-section for much of this part of the route where no bus lanes can be provided. Inbound priority bus lanes are proposed; 250m section adjacent to Kearn's Place, 150m section adjacent to Mount Brown Service Station and 250m section at the location where the red line Luas intersects with James's Street. Outbound priority bus lanes are proposed for 220m section adjacent to the entrance to Saint James Hospital on James's Street. Cycle facilities are not proposed along this section as previously discussed. An alternative cycle facility would be accommodated along Kilmainham Lane and Bow Lane West, where it re-joins the route section on James's Street. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. As existing space along this alternative section is limited due to the proximity of adjacent building lines, cyclists would share the road space with public traffic. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. Car parking would be retained along this route where possible.

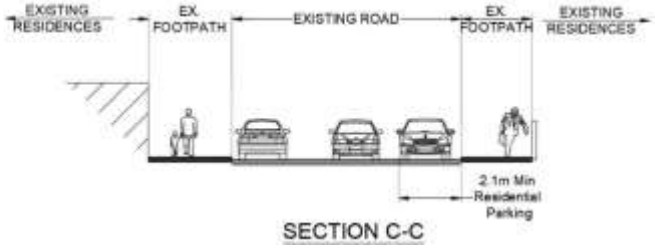


Figure 7.14: CCT03 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.15**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in

the area slightly. Priority bus lanes in both directions are proposed along this section, and cyclists would share space with buses.

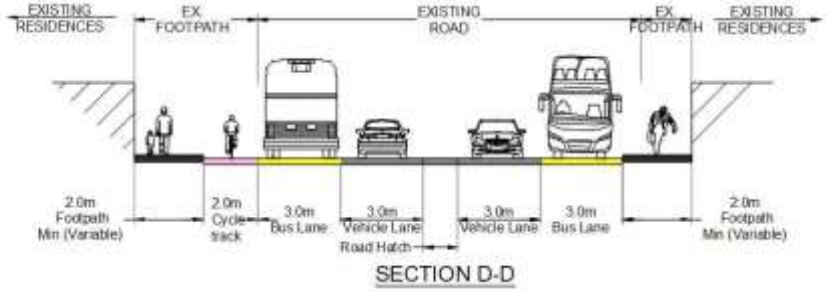


Figure 7.15: CCT03 Cross-Section D-D

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 20 – 20.5 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded
- Direct transport links with Red Line Luas with Heuston Station within walking distance
- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.4 Route Option CCT04

This route option is shown in **Figure 7.16** below.

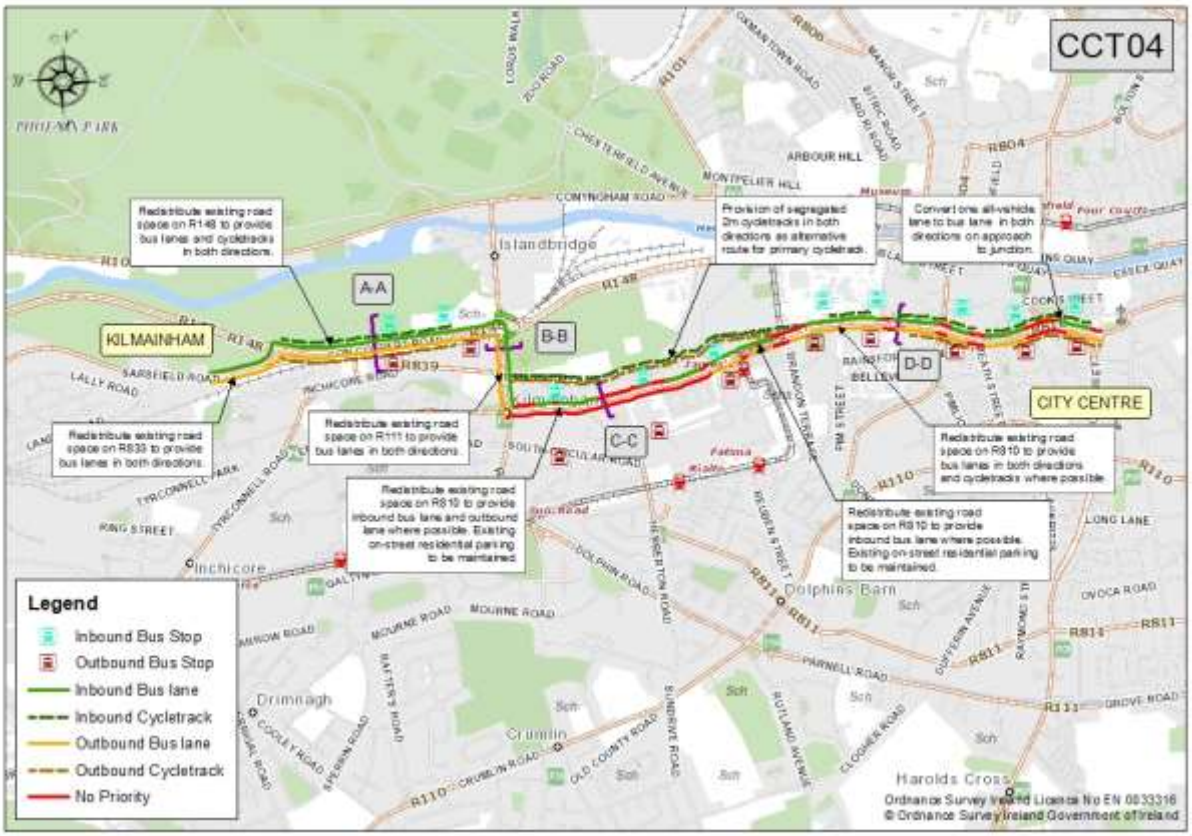


Figure 7.16: Route Option CCT04 Indicative Scheme Design

This route travels along Con Colbert Road, the R148, R111 and the R810 to the Christchurch area. This involves travelling along Old Kilmainham, Mount Brown, James's Street and Thomas Street.

Along Con Colbert Road it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this length of this route section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible as shown in **Figure 7.17** below. The existing road space on approach to the junction to Con Colbert Road and South Circular Road will redistributed to accommodate bus lanes up to the stop lines, and through the intersection. As a result, an inbound and outbound public traffic lane will be removed. The number of all-vehicle lanes would be maintained as far as practical in order to ensure traffic capacity at this key junction is not overly reduced.

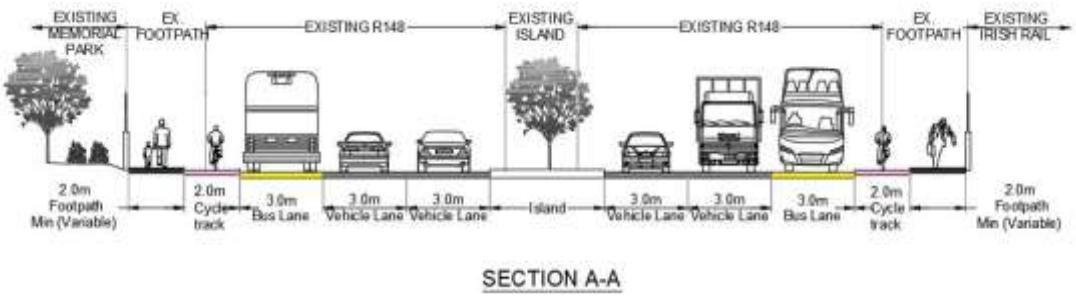


Figure 7.17: CCT04 Cross-Section A-A

It is proposed to provide bus lanes in both directions along the South Circular Road (R111) from its junction with Con Colbert Road and Old Kilmainham. A public traffic lane in both directions on South Circular Road (between Con Colbert Road and Kilmainham Lane) would be removed, and the existing road space redistributed (between Kilmainham Lane and Old Kilmainham), in order to accommodate a single public traffic lane and priority bus lane as shown in **Figure 7.18** below. Due to the lack of available space dedicated cycle facilities are feasible along the South Circular Road, therefore cyclists and buses would share space along this length. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

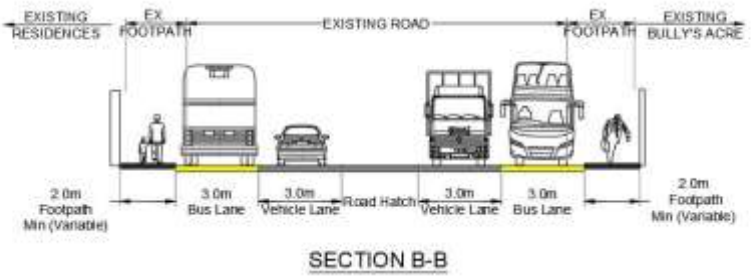


Figure 7.18: CCT04 Cross-Section B-B

From the junction at the R111 (South Circular Road) the core bus corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route. Inbound bus lanes have been prioritised in these cases. **Figure 7.19** below shows a typical cross-section for much of this part of the route where no bus lanes can be provided. Inbound priority bus lanes are proposed; 250m section adjacent to Kearn's Place, 150m section adjacent to Mount Brown Service Station and 250m section at the location where the red line Luas intersects with James's Street. Outbound priority bus lanes are proposed for 220m section adjacent to the entrance to Saint James Hospital on James's Street. Cycle facilities are not proposed along this section as previously discussed. An alternative cycle facility would be accommodated along Kilmainham Lane and Bow Lane West, where it re-joins the route section on James's Street. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. As existing space along this alternative section is limited due to the proximity of adjacent building lines, cyclists would share the road space with public traffic. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. Car parking would be retained along this route where possible.

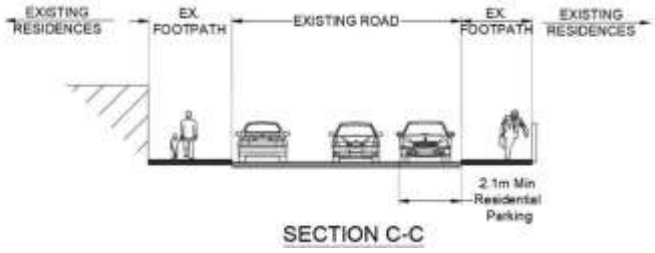


Figure 7.19: CCT04 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.20**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. The cycle

tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, and cyclists would share space with buses.

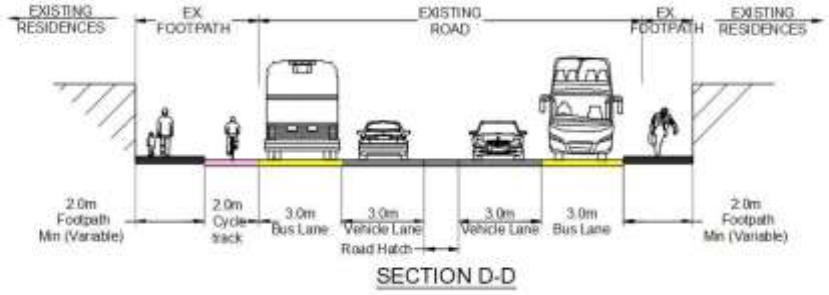


Figure 7.20: CCT04 Cross-Section D-D

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

One new bus stops would be provided inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 18.5 – 20.5 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded
- Direct transport links with Red Line Luas with Heuston Station within walking distance
- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.5 Route Option CCT05

This route option is shown in **Figure 7.21** below.

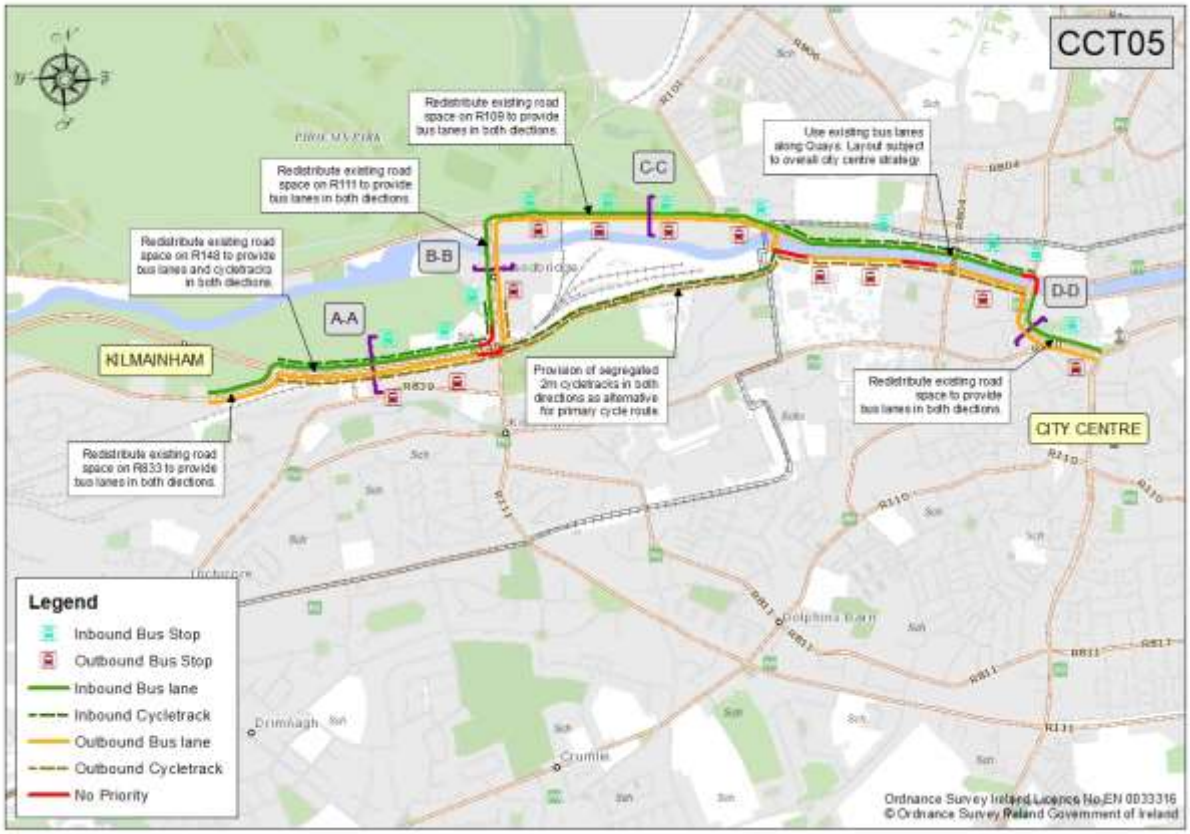


Figure 7.21: Route Option CCT05 Indicative Scheme Design

This route travels along Con Colbert Road (R148), turns onto South Circular Road where it continues onto the Conyngham Road adjacent to the Phoenix Park. From here it joins the Quays and terminates at the Christchurch area via Lower Bridge Street.

It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the Con Colbert Road section of this route option. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible as shown in **Figure 7.22** below. The existing road space on approach to the junction to Con Colbert Road and South Circular Road would be redistributed to accommodate bus lanes up to the stop lines. Further widening will be undertaken on the left turn slip (inbound) and on a route that travels outbound around the intersection to accommodate dedicated cycle tracks. The number of all-vehicle lanes would be maintained as far as practical in order to ensure traffic capacity at this key junction is not overly reduced, and would have reduced traffic lane widths to 3m. Widening would be undertaken by reducing the width of central medians along this section of the route option. A significant number of young trees in the grass verges would be removed to cater for the widening. It is proposed to upgrade all existing pedestrian facilities around this junction to toucan crossings.

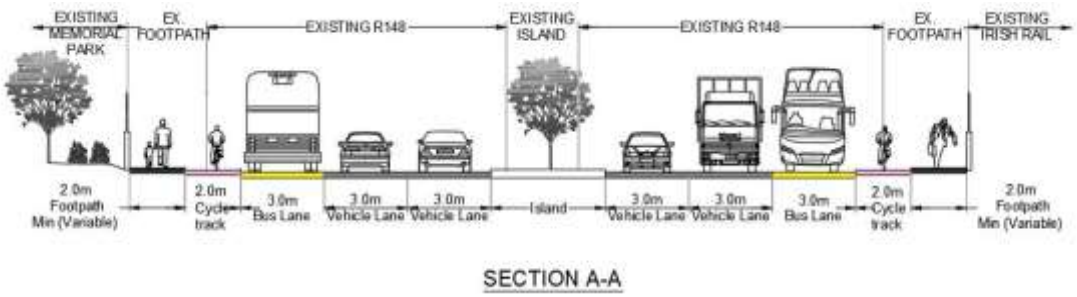


Figure 7.22: CCT05 Cross-Section A-A

From here the route travels onto the South Circular Road. It's proposed to provide priority bus lanes and upgraded pedestrian facilities along its length by means of redistributing the existing road space. Priority bus lanes are not feasible for a section of 50m that travels onto the bridge over the River Liffey.

Currently there is restricted on street parking available along the length of this route section. This parking would be removed in order to accommodate priority bus lanes. There are also a number of mature trees along this section and would be required to be removed in order to facilitate the scheme. **Figure 7.23** shows the proposed cross-section along the South Circular Road (R111).

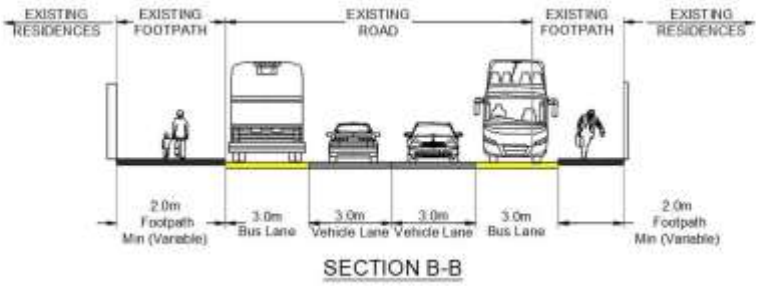


Figure 7.23: CCT05 Cross-Section B-B

It is proposed to provide bus lanes and pedestrian footpaths in both directions along the Conyngham Road from its junction with South Circular Road to the Quays. Due to the proximity of adjacent properties and a high retaining wall associated with the Phoenix Park along this section, dedicated cycling facilities are not feasible, see **Figure 7.24** below. From here until the western end of the quays, cyclists and buses would share the bus lane. As an alternative route for cyclists, it is proposed to provide cycle tracks in both directions along Saint John's Road West from its junction with South Circular Road to the Frank Shewin Bridge, re-joining the CBC route on the Quays. Outbound cyclists would be able to travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Over the entire length of this route section (Conyngham Road) there is restricted on street parking available that is used by adjacent residential and business properties, this would be removed to accommodate inbound and outbound bus lanes. Alternative parking could be accommodated within the adjacent properties. However this is not the case with on street parking inbound on Parkgate Street where it would be retained. An inbound traffic lane would be removed adjacent to The Criminal Courts of Justice and replaced with an inbound bus lane. Again due to the proximity of adjacent building lines, cycle facilities are not feasible along Parkgate Street.

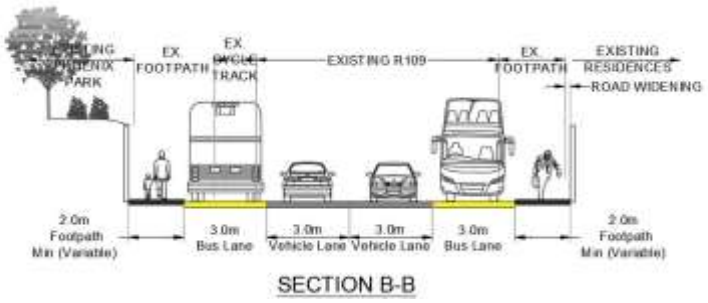


Figure 7.24: CCT05 Cross-Section C-C

The route option continues along Wolfe Tone Quay, Sarsfield Quay, Ellis Quay, Arran Quay and over the Father Mathew Bridge in the inbound direction. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). It is proposed to provide new and upgraded cycle tracks and pedestrian facilities along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. No priority inbound bus lane would be provided on approach (approx. 50m) to and on the Father Mathew Bridge due to the lack of available space. Similarly cycle tracks are not feasible on the bridge due to the lack of available space.

Outbound the route travels on the southern side of the River Liffey along Usher's Quay, Usher's Island, Victoria Quay and over the Frank Sherwin Bridge, and re-joins the route inbound on Wolfe Tone Quay. It is proposed to use the existing bus lanes along the quays (subject to changes as part of the overall strategy for Dublin City Centre). No priority bus lane would be provided (same as existing on site situation) due to the proximity of adjacent building lines for approx. 200m on approach to and after the James Joyce Bridge and 150m on approach to Frank Sherwin Bridge over the River Liffey. The existing space on the Frank Sherwin Bridge would be distributed to provide a priority outbound bus lane. It is proposed to provide new and upgraded cycle tracks and pedestrian facilities along this section except for the section over the bridge over the River Liffey, where cyclists would share road space with public traffic. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

This route section continues on from Father Mathew Bridge onto Bridge Street, where it terminates at the end of High Street. It is proposed to provide new bus lanes and upgraded footpaths in both directions along the length of this route section. Due to the proximity of adjacent building lines along this section, dedicated cycling facilities are not feasible, therefore cyclists and buses would share space along this length.

The existing road space along this section would be redistributed to accommodate the proposed scheme. An inbound traffic lane would be removed along this section to accommodate the proposed bus lane. Similarly in the outbound direction, a public traffic lane on High Street and Lower Bridge Street would be removed, on Upper Bridge Street the existing traffic lane would be realigned to form a public traffic lane and priority bus lane as shown in **Figure 7.25** below. This will reduce the traffic capacity in the area. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

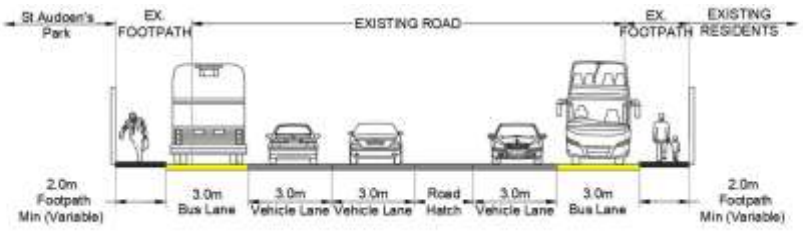


Figure 7.25: CCT05 Cross-Section D-D

Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

Other issues considered as part of the analysis were:

- Journey time is approximately 20.5 – 21 minutes
- Cycle tracks provided where required by GDA Cycle Network Plan or alternative provided except short section where shared bus and cycle lane is required
- Existing bus stops and pedestrian crossings to be upgraded
- Transport links with Heuston Station and Red Line Luas within short walking distance
- Some existing parking would be removed on the R109 and R148 in order to accommodate the bus and cycle facilities

7.2.6 Route Option CCT06

This route option is shown in **Figure 7.26** below.

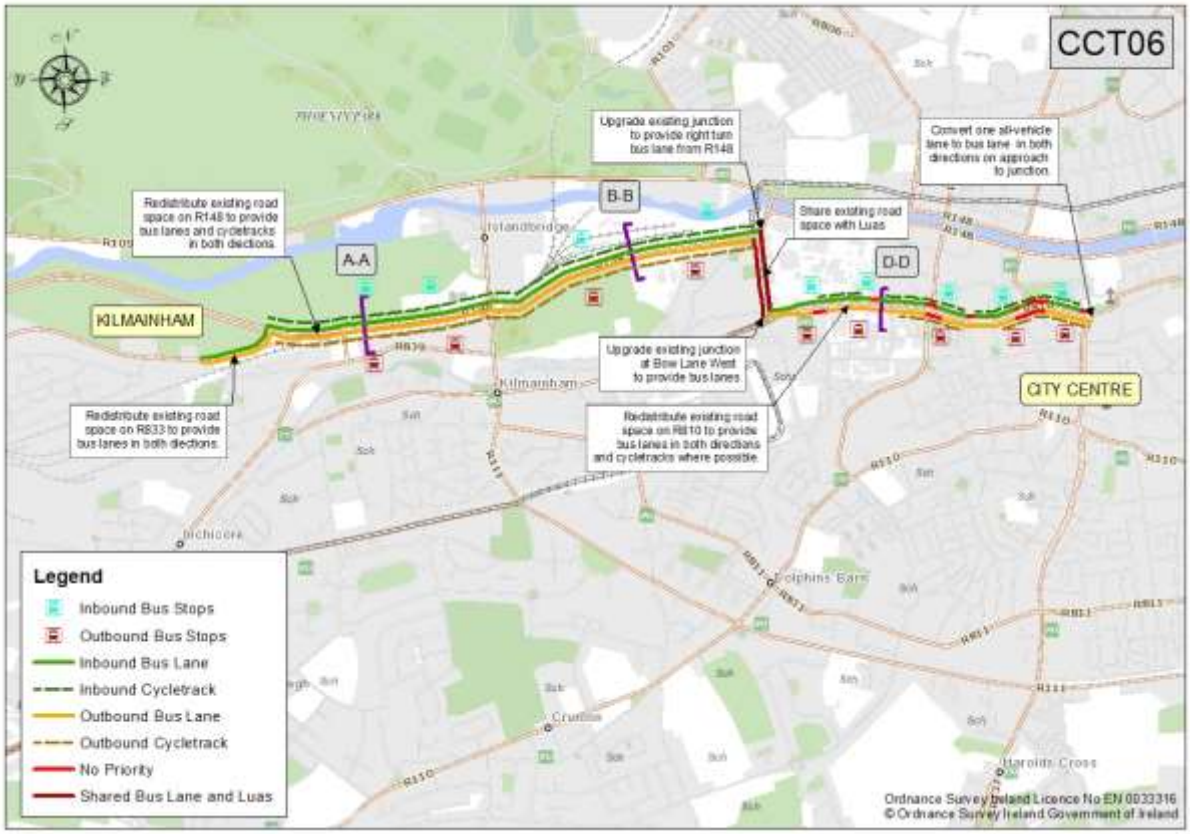


Figure 7.26: Route Option CCT06 Indicative Scheme Design

This route travels along Con Colbert Road and the R148 (St. John's Road West) and turns onto Steeven's lane, where the CBC would share space with the Red Line Luas. It then continues onto Bow Lane West, Thomas Street and terminates at the end of High Street.

Along the Con Colbert Road from with its junctions with Chapelizod Bypass, it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this length. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible as shown in **Figure 7.27** below. Widening would be undertaken by means of redistributing road space. In general, this will require a reduction in the median on either sides and the central median, resulting in the removal of a number of trees. One all-vehicle lane inbound and two all-vehicle lanes outbound will be maintained in order to allow traffic exiting the city to do so as in the current situation. Some redesign of the junction between the R148 and R111 is required in order to provide bus priority through the junction along with cycle tracks. The junction between R148 and R111 would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. Some redesign of the junction is required in order to provide bus priority through the junction along with cycle tracks. Therefore an inbound and outbound public traffic will be removed to accommodate the proposed bus priority. At the number of all-vehicle lanes would be maintained as far as practical in order to ensure traffic capacity at this key junction is not overly reduced.

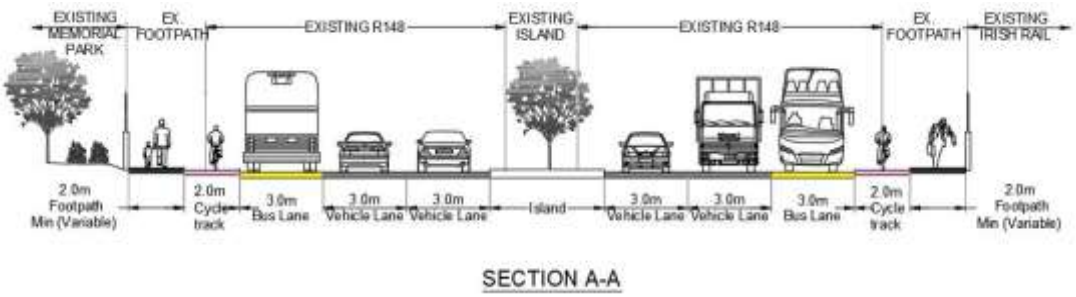


Figure 7.27: CCT06 Cross-Section A-A

From this junction on Saint John's Road West to its intersection with Steeven's lane, it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the R148 (St. John's Road West) by means of redistributing road space as shown in **Figure 7.28**. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In general, this will require a reduction in the central median between the two carriageways, resulting in the removal of a number of young trees. One all-vehicle lane (reduced width of 3m) inbound and two all-vehicle lanes (reduced width of 3m each) outbound would be maintained in order to allow traffic exiting the city to do so as in the current situation. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. In order to facilitate the extra space required for a proposed outbound bus lane and a cycle track in both directions, the existing taxi queuing lane outside Heuston Station would be removed. An increased area for taxi waiting could be accommodated within the Station. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

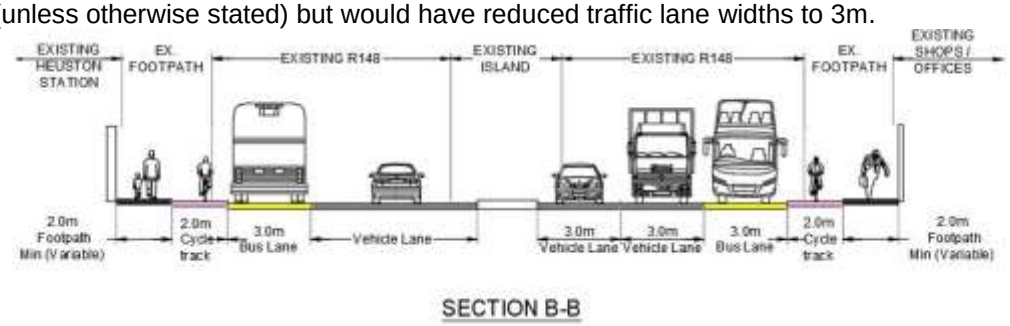


Figure 7.28: CCT06 Cross-Section B-B

This route option provides an inbound right turn bus lane at the Steven's Lane junction for busses travelling from the R148. The core bus corridor would then share the existing tram lanes in both directions with the Luas along Steeven's Lane. Provision of this right turn lane and redesign of this junction would require some land take from the open green space to the front of Dr. Steeven's Hospital. Due to the lack of available apace on this section and safety concerns with possible conflict with buses and trams, cycle tracks are not feasible along this section.

From Steeven's Lane it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.29**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street

to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets.

All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. At the intersection of Steeven's Lane and Bow Lane West, localised widening in the form of adjacent public realm space will be required to accommodate bus lanes and cycle tracks. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, and cyclists would share space with buses.

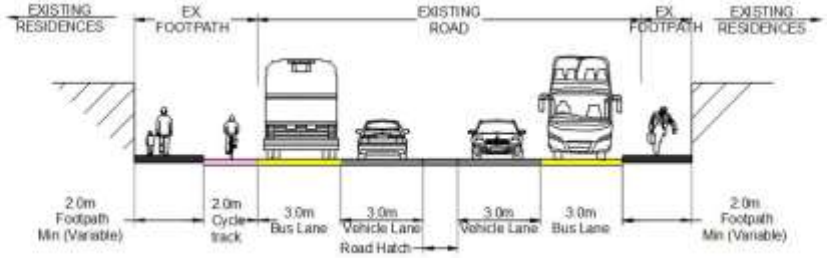


Figure 7.29: CCT06 Cross-Section D-D

Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

New bus stops would be provided; in both directions on Con Colbert Road adjacent to the entrance of Royal Hospital Kilmainaham, and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 15.5 – 16 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded and new bus stops provided opposite Royal Hospital Kilmainham
- Direct transport links with Heuston Station and Red Line Luas
- Some existing parking and taxi ranks adjacent to Heuston Station would be removed in order to accommodate the bus and cycle facilities
- Some private land take required
- James' Street Hospital served by stops at Bow Lane West/James' Street, requiring short walk to campus

7.2.7 Route Option CCT07

This route option is shown in **Figure 7.30** below.

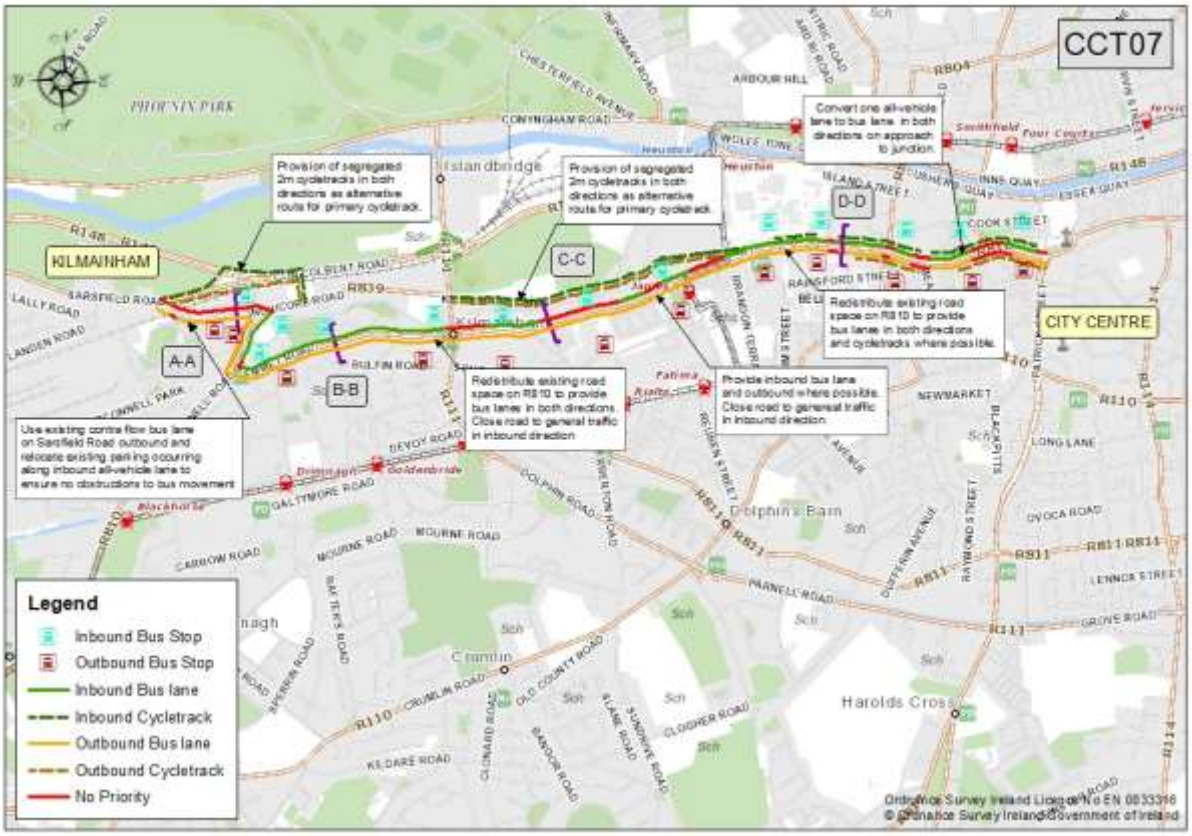


Figure 7.30: Route Option CCT07 Indicative Scheme Design

This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates on High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of building lines and, as such, it is proposed to leave the existing layout as shown in **Figure 7.31** below. Due to the localised narrowing of the railway over bridge on the Sarsfield Road, outbound bus priority is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section of road. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road. Outbound cyclist could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

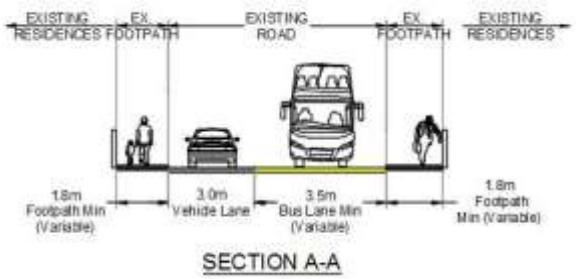


Figure 7.31: CCT07 Cross-Section A-A

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). A typical section along Emmet Road (R810), where bus lanes can be provided in both directions is shown in **Figure 7.32.** Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section. In order to allow further bus lanes to be provided along this route, it is proposed to close the entire section of the R810 (Emmet Road, Old Kilmainham, Mount Brown, James's Street) to general traffic in the outbound direction. By removing one all-vehicle lane, this allows inbound bus lanes to be provided along the entire (1.4km) section of this route while outbound bus lane provision is approximately 2.2km. Therefore by removing an outbound traffic lane, full bus priority could be achieved along the Emmet Road while at the same time retaining all existing on street parking.

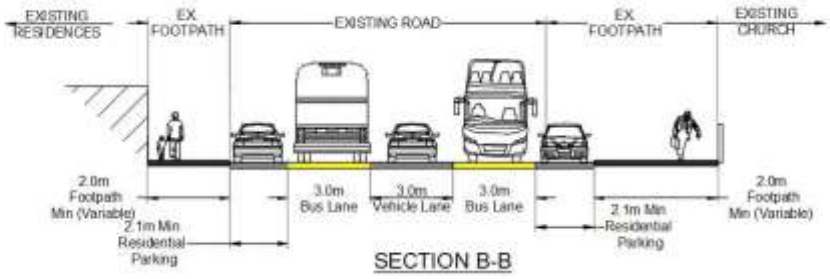


Figure 7.32: CCT07 Cross-Section B-B

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

From the junction at the R111 (South Circular Road) the core bus corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route. As previously discussed, it is proposed to close the entire section of the R810 (Emmet Road, Old Kilmainham, Mount Brown, James's Street) to general traffic in the outbound direction. **Figure 7.33** below shows a typical cross-section of the route where no inbound bus lane can be provided due to the lack of available space, whereas an outbound priority bus lane can be provided. Inbound priority bus lanes are proposed; 250m section adjacent to Kearn's Place, 150m section adjacent to Mount Brown Service Station and 250m section at the location where the red line Luas intersects with James's Street. Outbound priority bus lanes are proposed along the entire length of Old Kilmainham, Mont Brown and James's Street. Therefore by removing an outbound traffic lane, increased bus priority could be achieved along this section while at the same time retaining all existing on street

parking. Cycle facilities are not proposed along this section as previously discussed. An alternative cycle facility would be accommodated along Kilmainham Lane and Bow Lane West, where it re-joins the route section on James's Street. As existing space along this alternative section is limited due to the proximity of adjacent building lines, cyclists would share the road space with public traffic. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

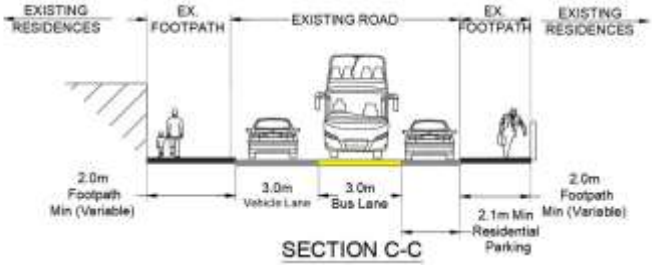


Figure 7.33: CCT07 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.34**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, and cyclists would share space with buses.

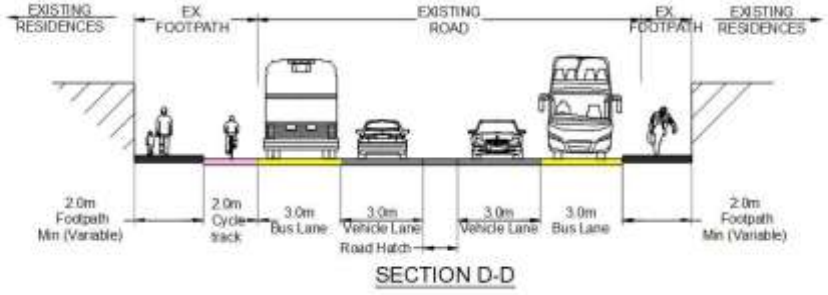


Figure 7.34: CCT07 Cross-Section D-D

As part of the analysis of this route, the routing of existing general traffic was considered. Traffic travelling outbound from the City Centre would reroute to alternative routes such as the R148 (St. John's Road West) via Bow Lane West and Military Road or the R110 (Cork Street) if travelling to the southwest of Dublin and beyond.

Traffic travelling inbound in the direction of St. James's Hospital would continue to use the R810 at Emmet Road and Old Kilmainham/Mount Brown/St. James's Street. The plans for the new National Children's Hospital include a new access to a car park from the R810 at Mount Brown. Both this and the existing access on St. James's Street would be accessible in the inbound direction only with traffic

travelling from the City Centre likely to use the alternative hospital access off Brookfield Road, via Cork Street and South Circular Road. The possibility of upgrading adjacent roads to cater for the diverted traffic was also considered. Bow Lane West and Kilmainham Lane are the most obvious alternative routes in the vicinity, however, these are generally narrow roads with poor horizontal and vertical alignments. It would be difficult to widen these roads and provide adequate alignments for them to take the additional volume of traffic along with due to the proximity of the buildings along Bow Lane West and the large stone retaining wall along the boundary of the grounds of the Irish Museum of Modern Art. A large amount of land take from this land would be required along with a large, new retaining wall along Kilmainham Lane. It is, therefore, not considered to be feasible. Widening of other possible routes is not considered to be beneficial as they generally join the Cork Street (R110) or Con Colbert Road (R148).

The area around Emmet Road could be accessed by means of a local loop formed by the R839 (Inchicore Road), Grattan Crescent, Emmet Road and R111 (South Circular Road). Inchicore Road would remain one-way outbound only with Emmet Road becoming one-way inbound only.

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 18 – 20 minutes
- Cycle tracks provided where possible
- No land-take required
- Existing bus stops and pedestrian crossings to be upgraded
- Direct transport links with Red Line Luas with Heuston Station within walking distance
- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.8 Route Option CCT08

This route option is shown in **Figure 7.35** below.

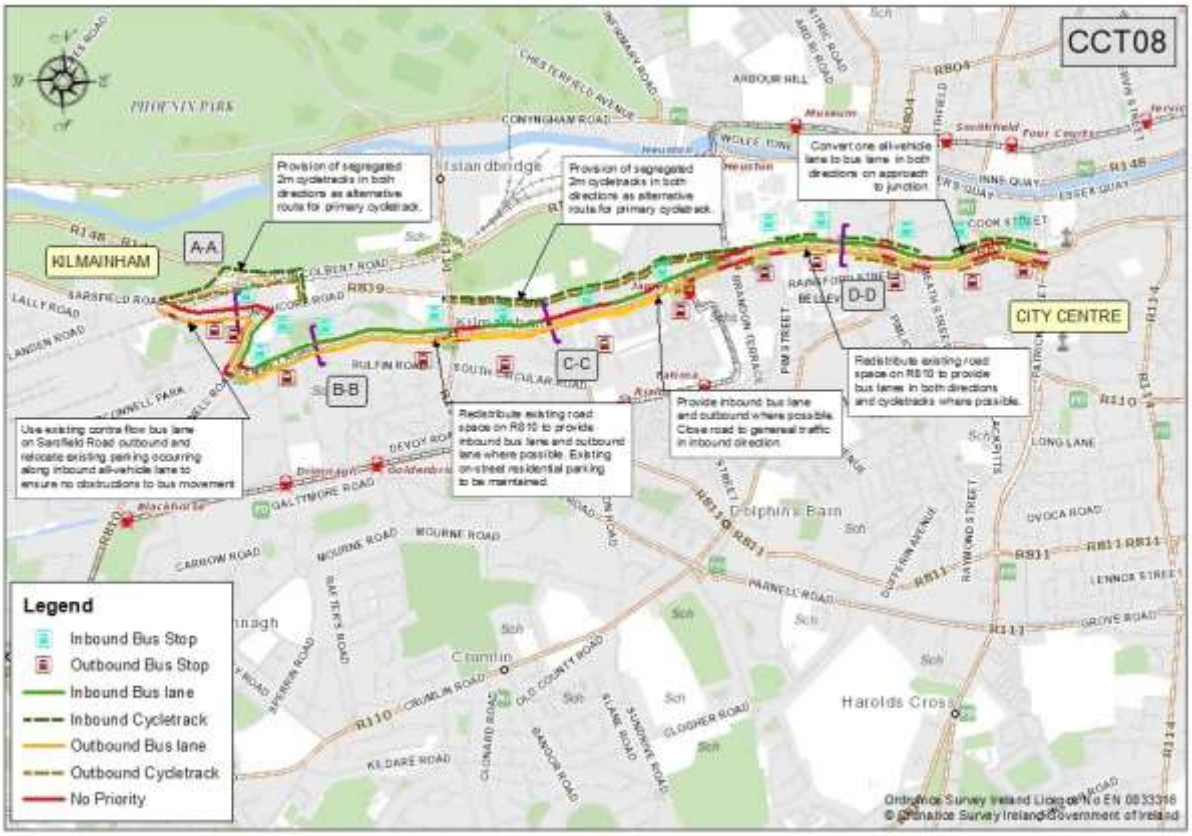


Figure 7.35: Route Option CCT08 Indicative Scheme Design

This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates on High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as shown in **Figure 7.36** below. Due to the localised narrowing at the location of the railway over bridge on the Sarsfield Road, an outbound bus priority lane is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). Outbound cyclists could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

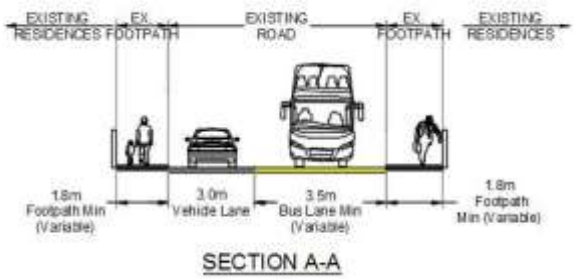


Figure 7.36: CCT08 Cross-Section A-A

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). A typical section along Emmet Road, where bus lanes can be provided in both directions is shown in **Figure 7.37.** Unlike route option CCT07, CCT08 maintains two-way public traffic along the Emmet Road. Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section.

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. For the first 70m, inbound, on the Emmet Road priority bus lanes would not be provided, due to the proximity of adjacent building lines. Outbound on the Emmet Road at its junction with Saint Vincent Street, a bus gate is proposed at the junction. The signals would operate to give priority to outbound buses and ensure the space between the bus gate and the bus priority ‘right turn’ at the junction of Emmet Road and Graton Cresent would remain clear.

As part of the analysis of this route, alternative parking arrangements were investigated for the existing on-street residential parking along the R810 on Emmet Road and Old Kilmainham. The majority of this parking is located outside of terraced houses with no gardens or space of any kind to the front of the property, which rules out the possibility of providing new driveways for these residences. In a small number of locations, residences have existing front gardens, however, these are small and generally have large level differences, making provision of driveways not feasible. Relocation of the existing parking was also investigated, however, the majority of adjacent side streets already have on-street residential parking on them and could not accommodate additional parking. In addition, in a number of locations, there are no adjacent side streets available within a reasonable walking distance to the residences along the R810. In order to maximise the length of bus lane it is proposed to remove some of the existing on-street parking inbound on the Emmet Road from Turvey Avenue to the South Circular Road and to construct an alternative parking area off-street in an existing grassed area adjacent the Orchard Apartments on the Emmet Road.

On street parking spaces adjacent; to Saint Michael’s Parish Community Centre, Coffey’ Pub, inbound on the Emmet road from Turvey Avenue to the South Circular Road would be removed to accommodate the proposed scheme.

Alternative formal on street parking to mitigate the loss of parking is proposed to adjacent to Saint Michael’s Church, Massey Brothers Funeral Home, Tom Tavey’s Pub, opposite Inchicore College of Further Education (removal of trees to accommodate formal parallel parking spaces). These alternative parking areas will also act as loading bays for commercial business along Emmet Road.

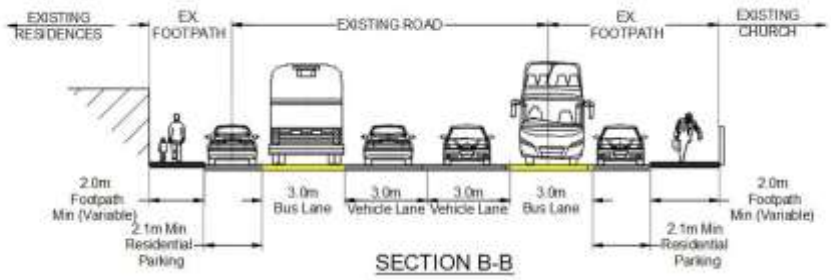


Figure 7.37: CCT08 Cross-Section B-B

From the junction at the R111 (South Circular Road) the core bus corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route. It is proposed to close the entire section of the R810 (Old Kilmainham, Mount Brown, James's Street) to general traffic in the outbound direction. **Figure 7.38** below shows a typical cross-section of the route where no inbound bus lane can be provided due to the lack of available space, where as an outbound priority bus lane can be provided. Inbound priority bus lanes are proposed; 250m section adjacent to Kearn's Place, 150m section adjacent to Mount Brown Service Station and 250m section at the location where the red line Luas intersects with James's Street. Outbound priority bus lanes are proposed along the entire length of Old Kilmainham, Mont Brown and James's Street. Therefore by removing an outbound traffic lane, increased bus priority could be achieved along this section while at the same time retaining all existing on street parking. Cycle facilities are not proposed along this section as previously discussed. An alternative cycle facility would be accommodated along Kilmainham Lane and Bow Lane West, where it re-joins the route section on James's Street. As existing space along this alternative section is limited due to the proximity of adjacent building lines, cyclists would share the road space with public traffic. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

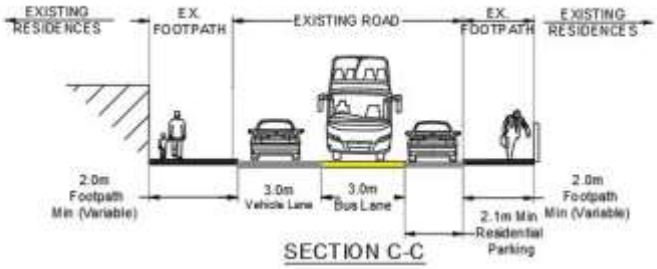


Figure 7.38: CCT08 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.39**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and

improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section. Cyclists would share space with buses along this section.

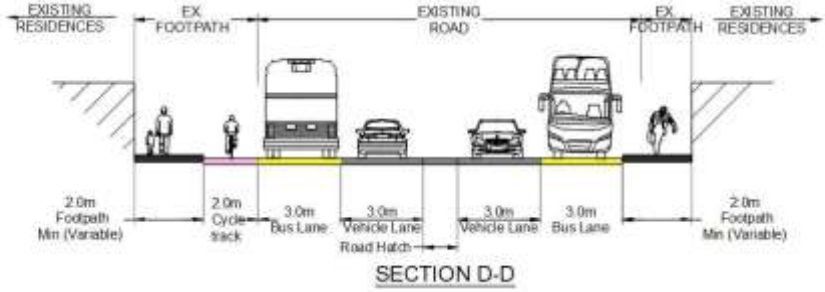


Figure 7.39: CCT08 Cross-Section D-D

As part of the analysis of this route, the routing of existing general traffic was considered. Traffic travelling outbound from the City Centre would reroute to alternative routes such as the R148 (St. John's Road West) via Bow Lane West and Military Road or the R110 (Cork Street) if travelling to the southwest of Dublin and beyond.

Traffic travelling inbound in the direction of St. James's Hospital would continue to use the R810 at Emmet Road and Old Kilmainham/Mount Brown/St. James's Street. The plans for the new National Children's Hospital include a new access to a car park from the R810 at Mount Brown. Both this and the existing access on St. James's Street would be accessible in the inbound direction only with traffic travelling from the City Centre likely to use the alternative hospital access off Brookfield Road, via Cork Street and South Circular Road.

The possibility of upgrading adjacent roads to cater for the diverted traffic was also considered. Bow Lane West and Kilmainham Lane are the most obvious alternative routes in the vicinity, however, these are generally narrow roads with poor horizontal and vertical alignments. It would be difficult to widen these roads and provide adequate alignments for them to take the additional volume of traffic along with due to the proximity of the buildings along Bow Lane West and the large stone retaining wall along the boundary of the grounds of the Irish Museum of Modern Art. A large amount of land take from this land would be required along with a large, new retaining wall along Kilmainham Lane. It is, therefore, not considered to be feasible. Widening of other possible routes is not considered to be beneficial as they generally join the Cork Street (R110) or Con Colbert Road (R148).

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 18 – 20 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded
- Large area of private land-take required
- Direct transport links with Red Line Luas with Heuston Station within walking distance
- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.9 Route Option CCT09

This route option is shown in **Figure 7.40** below.

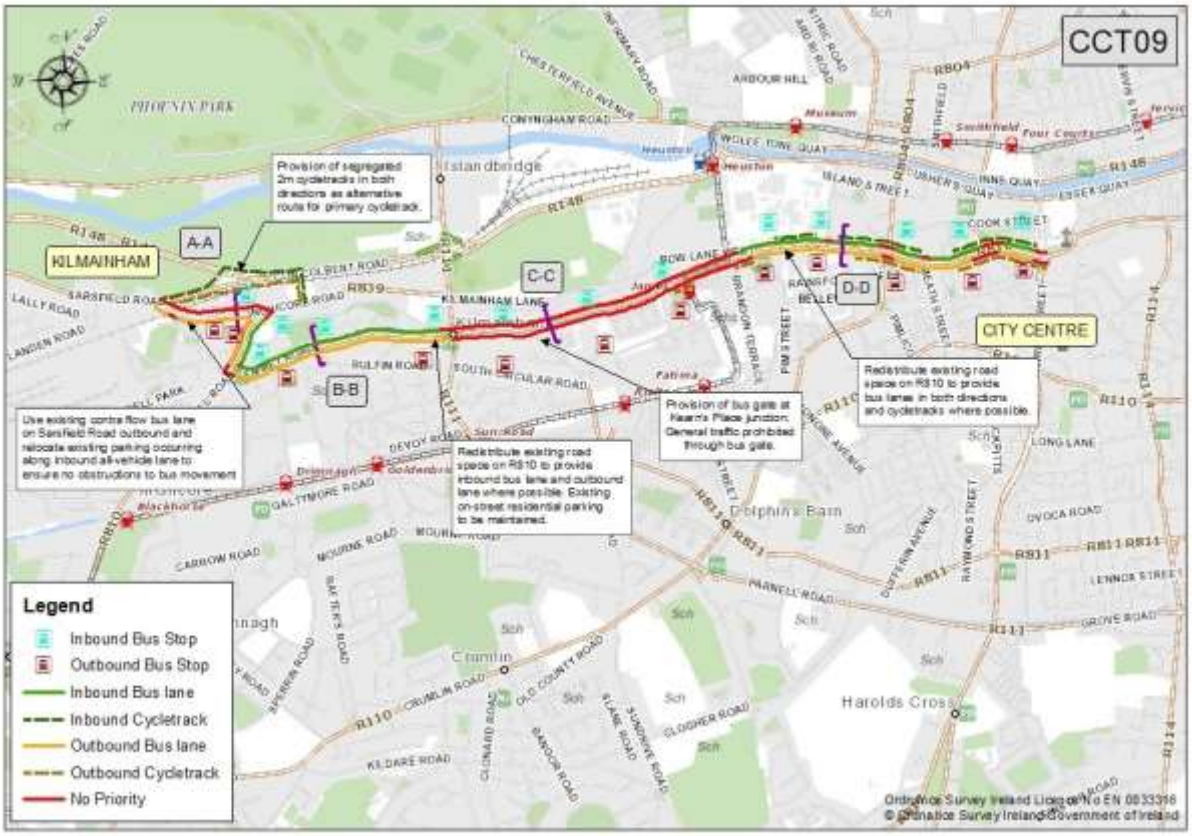


Figure 7.40: Route Option CCT09 Indicative Scheme Design

This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates on High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as shown in **Figure 7.41** below. Due to the localised narrowing at the location of the railway over bridge on the Sarsfield Road, an outbound bus priority lane is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). Outbound cyclist could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

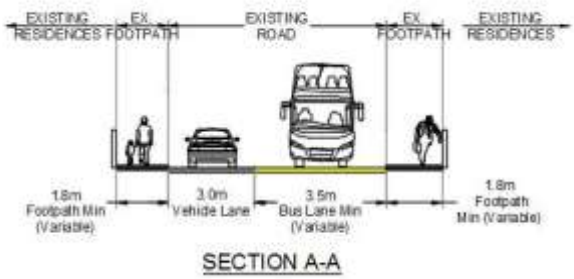


Figure 7.41: CCT09 Cross-Section A-A

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). A typical section along Emmet Road (R810), where bus lanes can be provided in both directions is shown in **Figure 7.42.** Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section. In order to allow further bus lanes to be provided along this route, it is proposed to close this entire section of the Emmet Road (R810) between its junctions with the R839 (Tyrconnell Road) and the R111 (South Circular Road) to general traffic in the outbound direction. Therefore by removing an outbound traffic lane, full bus priority could be achieved along the Emmet Road while at the same time retaining all existing on street parking.

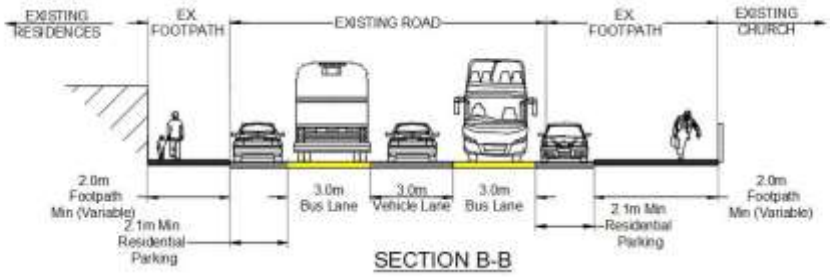


Figure 7.42: CCT09 Cross-Section B-B

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority.

The area around Emmet Road could be accessed by means of a local loop formed by the R839 (Inchicore Road), Grattan Crescent, Emmet Road and R111 (South Circular Road). Inchicore Road would remain one-way outbound only with Emmet Road becoming one-way inbound only.

From the junction at R111 (South Circular Road), the Core Bus Corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route section. **Figure 7.43** below shows a typical cross-section for much of this part of the route where no bus lanes can be provided. In order to promote a level of bus priority along this section, a bus gate is proposed adjacent to Kearn's Place on Old Kilmainham. This bus gate would be controlled by traffic signals and a retractable bollard (bollard would be controlled by vehicle identification software). It would allow for buses and cyclists to pass in both directions, but general public traffic would not be permitted to pass. As a result no through public traffic would be permitted along Old Kilmainham, Mount Brown and James's Street between the junctions of South Circular Road and Bow Lane West.

The bus priority attained along this section as a result of the bus gate would improve bus travel times and journey time reliability greatly in both directions without any impact regarding land take, and on-street parking from adjacent residential and business properties. However local traffic would still be permitted to access the area. Due to the provision of the bus gate and the reduced levels of traffic along the R810 at Old Kilmainham, Mount Brown and St. James's Street, priority bus lanes and cycle facilities are not required. Buses and cyclists would share road space with local traffic along this section. As a result, it is not proposed to provide an alternative cycle route along Bow Lane West and Kilmainham Lane for this route option. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Due to the location of the bus gate, traffic travelling outbound to St. James's Hospital from the city centre would be able to access the existing main entrance to St. James's Hospital (as existing situation) on James's Street, along with a planned access to the National Children's Hospital on Mount Brown. However inbound traffic from Emmet Road would not be able to access these entrances (because of the location of the bus gate), therefore an alternative traffic route is proposed to access the National Children's Hospital via a proposed new car park entrance to be constructed as part of the National Children's Hospital on Brookfield Road, via South Circular Road. Inbound traffic looking to access St James's Hospital, an alternative route is proposed by rerouting along Kilmainham Lane, Bow Lane West and James's street.

Inbound traffic from Emmet Road wishing to access the city centre would be diverted away from Old Kilmainham onto, for example, the R148 (St. John's Road West) or R110 (Cork Street) via South Circular Road. Outbound on Old Kilmainham at its junction with the South Circular Road, due to the reduced inbound traffic volume, an existing traffic 'no right turn' restriction would be removed.

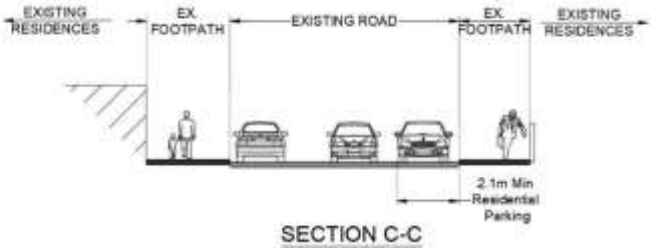


Figure 7.43: CCT09 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.44.** Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section. Cyclists would share space with buses along this section.

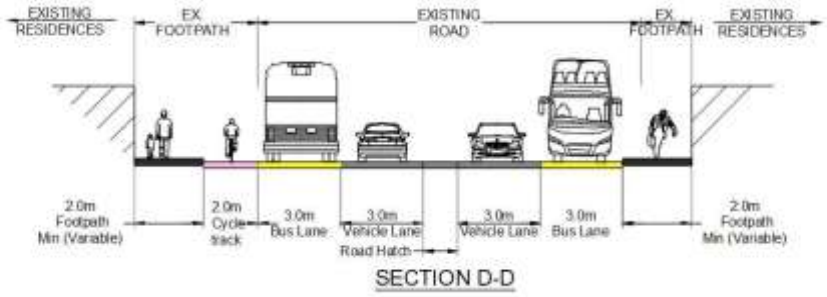


Figure 7.44: CCT09 Cross-Section D-D

As part of the analysis of this route, the re-routing of existing general traffic was considered. Traffic travelling outbound from the City Centre would reroute to alternative routes such as the R148 (St. John's Road West) via Bow Lane West and Military Road or the R110 (Cork Street) if travelling to the southwest of Dublin and beyond. Inbound traffic travelling towards the city centre would be rerouted along South Circular Road to St John's Road West or Cork Street. The possibility of upgrading adjacent roads to cater for the diverted traffic was also considered. Bow Lane West and Kilmainham Lane are the most obvious alternative routes in the vicinity, however, these are generally narrow roads with poor horizontal and vertical alignments. It would be difficult to widen these roads and provide adequate alignments for them to take the additional volume of traffic along with due to the proximity of the buildings along Bow Lane West and the large stone retaining wall along the boundary of the grounds of the Irish Museum of Modern Art. A large amount of land take from this land would be required along with a large, new retaining wall along Kilmainham Lane. It is, therefore, not considered to be feasible. Widening of other possible routes is not considered to be beneficial as they generally join the Cork Street (R110) or Con Colbert Road (R148).

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 18– 19 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded
- Large area of private land-take required
- Direct transport links with Red Line Luas with Heuston Station within walking distance
- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.10 Route Option CCT10

This route option is shown in **Figure 7.45** below.

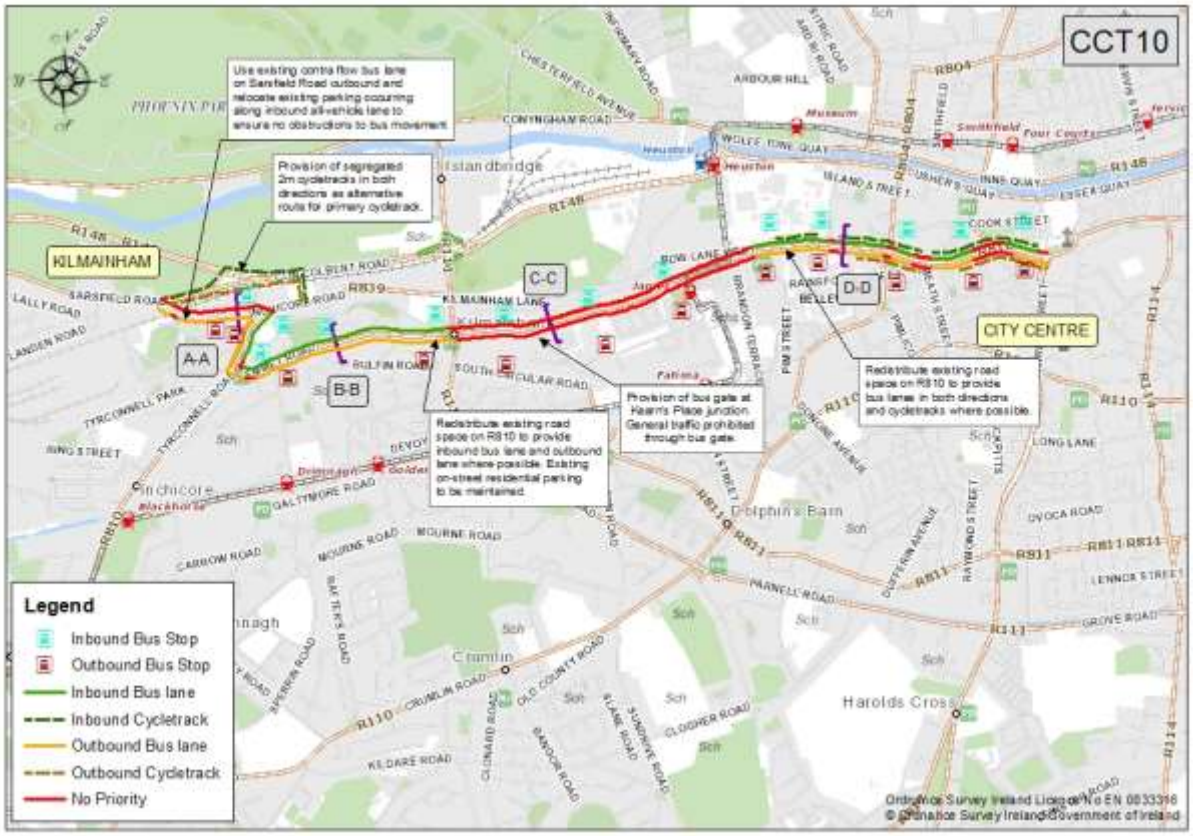


Figure 7.45: Route Option CCT10 Indicative Scheme Design

This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates on High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as shown in **Figure 7.46** below. Due to the localised narrowing at the location of the railway over bridge on the Sarsfield Road, an outbound bus priority lane is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). Outbound cyclist could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

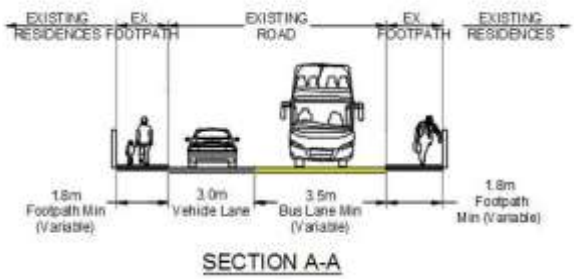


Figure 7.46: CCT10 Cross-Section A-A

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). A typical section along Emmet Road (R810) is shown in **Figure 7.47.** Unlike route option CCT09, CCT10 maintains two-way public traffic along the Emmet Road. Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section.

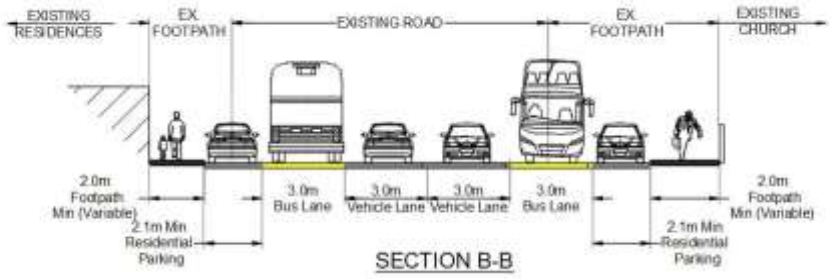


Figure 7.47: CCT10 Cross-Section B-B

All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. For the first 70m, inbound, on the Emmet Road priority bus lanes would not be provided, due to the proximity of adjacent building lines. Outbound on the Emmet Road at its junction with Saint Vincent Street, a bus gate is proposed at the junction. The signals would operate to give priority to outbound buses and ensure the space between the bus gate and the bus priority 'right turn' at the junction of Emmet Road and Graton Cresent would remain clear.

As part of the analysis of this route, alternative parking arrangements were investigated for the existing on-street residential parking along the R810 on Emmet Road and Old Kilmainham. The majority of this parking is located outside of terraced houses with no gardens or space of any kind to the front of the property, which rules out the possibility of providing new driveways for these residences. In a small number of locations, residences have existing front gardens, however, these are small and generally have large level differences, making provision of driveways not feasible. Relocation of the existing parking was also investigated, however, the majority of adjacent side streets already have on-street residential parking already on them and could not accommodate additional parking. In addition, in a number of locations, there are no adjacent side streets available within a reasonable walking distance to the residences along the R810. In order to maximise the length of bus lane it is proposed to remove some of the existing on-street parking inbound on the Emmet Road from Turvey Avenue to the South Circular Road and to construct an alternative off street parking in an existing grassed area adjacent the Orchard Apartments on the Emmet Road.

On street parking spaces adjacent; to Saint Michael's Parish Community Centre, Coffey' Pub, inbound on the Emmet Road from Turvey Avenue to the South Circular Road would be removed to accommodate the proposed scheme.

Alternative formal on street parking to mitigate the loss of parking is proposed to adjacent to Saint Michael's Church, Massey Brothers Funeral Home, Tom Tavey's Pub, opposite Inchicore College of Further Education (removal of trees to accommodate formal parallel parking spaces). These alternative parking areas will also act as loading bays for commercial business along Emmet Road.

From the junction at R111 (South Circular Road), the Core Bus Corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route section. **Figure 7.48** below shows a typical cross-section for much of this part of the route where no bus lanes can be provided. In order to promote a level of bus priority along this section, a bus gate is proposed adjacent to Kearn's Place on Old Kilmainham. This bus gate would be controlled by traffic signals and a retractable bollard (bollard would be controlled by vehicle identification software). It would allow for buses and cyclists to pass in both directions, but general public traffic would not be permitted to pass. As a result no through public traffic would be permitted along Old Kilmainham, Mount Brown and James's Street between the junctions of South Circular Road and Bow Lane West. The bus priority attained along this section as a result of the bus gate would improve bus travel times and journey time reliability greatly in both directions without any impact regarding land take, and on-street parking from adjacent residential and business properties. However local traffic would still be permitted to access the area. Due to the provision of the bus gate and the reduced levels of traffic along the R810 at Old Kilmainham, Mount Brown and St. James's Street, priority bus lanes and cycle facilities are not required. Buses and cyclists would share road space with local traffic along this section. As a result, it is not proposed to provide an alternative cycle route along Bow Lane West and Kilmainham Lane for this route option. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Due to the location of the bus gate, traffic travelling outbound to St. James's Hospital from the city centre would be able to access the existing main entrance to St. James's Hospital (as existing situation) on James's Street, along with a planned access to the National Children's Hospital on Mount Brown. However inbound traffic from Emmet Road would not be able to access these entrances (because of the location of the bus gate), therefore an alternative traffic route is proposed to access the planned National Children's Hospital via a proposed new car park entrance to be constructed as part of the new hospital on Brookfield Road, via South Circular Road. Inbound traffic looking to access St James's Hospital would be rerouted, via South Circular Road along Kilmainham Lane, Bow Lane West and James's street.

Inbound traffic from Emmet Road wishing to access the city centre would be diverted away from Old Kilmainham onto, for example, the R148 (St. John's Road West) or R110 (Cork Street) via South Circular Road. Outbound on Old Kilmainham at its junction with the South Circular Road, due to the reduced inbound traffic volume, an existing traffic 'no right turn' restriction would be removed.

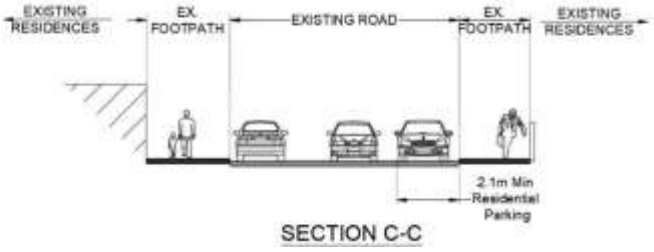


Figure 7.48: CCT10 Cross-Section C-C

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median as shown in **Figure 7.49**. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for

approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, and cyclists would share space with buses.

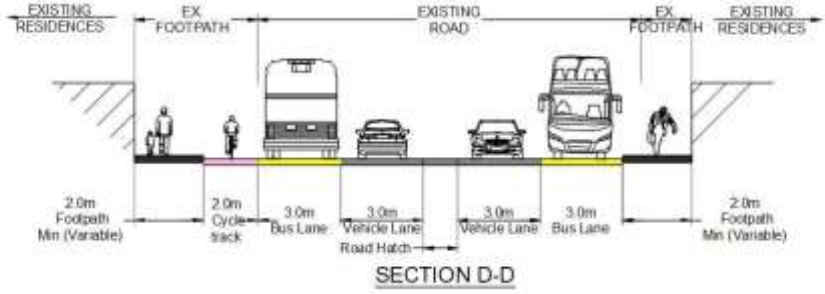


Figure 7.49: CCT10 Cross-Section D-D

As part of the analysis of this route, the re-routing of existing general traffic was considered. Traffic travelling outbound from the City Centre would reroute to alternative routes such as the R148 (St. John's Road West) via Bow Lane West and Military Road or the R110 (Cork Street) if travelling to the southwest of Dublin and beyond. Inbound traffic travelling towards the city centre would be rerouted along South Circular Road to St John's Road West or Cork Street. The possibility of upgrading adjacent roads to cater for the diverted traffic was also considered. Bow Lane West and Kilmainham Lane are the most obvious alternative routes in the vicinity, however, these are generally narrow roads with poor horizontal and vertical alignments. It would be difficult to widen these roads and provide adequate alignments for them to take the additional volume of traffic along with due to the proximity of the buildings along Bow Lane West and the large stone retaining wall along the boundary of the grounds of the Irish Museum of Modern Art. A large amount of land take from this land would be required along with a large, new retaining wall along Kilmainham Lane. It is, therefore, not considered to be feasible. Widening of other possible routes is not considered to be beneficial as they generally join the Cork Street (R110) or Con Colbert Road (R148).

Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

Other issues considered as part of the analysis were:

- Journey time is approximately 17.5 – 18.5 minutes
- Cycle tracks provided where possible
- Existing bus stops and pedestrian crossings to be upgraded
- No land-take required
- Direct transport links with Red Line Luas with Heuston Station within walking distance

- James's Street Hospital served by stops at vehicle entrance adjacent to the James's Street Post Office

7.2.11 MCA Section 3: Route Options Assessment Summary

The Stage 2 Route Options Assessment – Multi Criteria Appraisal summary tables for this section are include in **Appendix A3**. The relative ranking of the route options for each assessment sub-criteria is shown in Table 7.2 below:

Table 7.2: Section 3 Route Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	CCT 01	CCT 02	CCT 03	CCT 04	CCT 05	CCT 06	CCT 07	CCT 08	CCT 09	CCT 10
Economy	Capital Cost										
	Transport Reliability and QoS										
Integration	Land Use Integration										
	Residential, Employment, Educational Catchments										
	Transport Network Integration										
	Cycling Integration										
Accessibility & Social Inclusion	Key Trip Attractors										
	Deprived Geographic Areas										
Safety	Road Safety										
	Pedestrian Safety										
Environment	Archaeology, Architectural and Cultural Heritage										
	Flora and Fauna										
	Soils and Geology										
	Hydrology										
	Landscape and Visual										
	Air Quality										
	Noise & Vibration										
	Land Use Character										

In general, each route option has some issues, however, CCT10 provides the most beneficial route by providing the best balance between cost, reliability and catchments.

Routes CCT01, CCT02 and CCT05 are not considered to be feasible as they do not serve the large areas around Inchicore and St. James' while also adding additional busses onto the already congested quays.

Routes that travel along Emmet Road and Old Kilmainham/James Street serve a larger catchment than the other options while also servicing key areas around Inchicore and Kilmainham. All of these routes serve St. James' Hospital and the proposed Children's Hospital directly, while stops on CCT06 for this area are approximately 300m further away from the main entrance.

Although route option CCT06 has many benefits, it is considered to be less beneficial as a public transport route due to its inability to serve the areas around Inchicore and Kilmainham and, therefore routes that travel along the R810 are preferred.

It is difficult to provide the required level of service in the both directions for all of CCT03, CCT07, and CCT08 due to the inability to provide continuous bus lanes along the R810 at various locations at Emmet Road, Old Kilmainham and St. James's Street. Delays in this area would cause knock on effects to the reliability of the core bus corridor or would require additional resources to ensure the schedule is adhered to. All of CCT07, CCT08, CCT09 and CCT10 would impact on the general traffic in the area with the existing volumes being diverted to other adjacent roads. The extent of this impact will require further detailed traffic modelling and is outside the scope of this report.

Route Option CCT10 is generally the most beneficial route from a public transport perspective as the provision of continuous bus lanes along most of the route along with the bus gate adjacent to Kearn's Place ensures bus priority and reliability. Of the routes that travel along the R810, CCT10 provides the best balance of economy and reliability while having a similar traffic impact to similar routes. Old Kilmainham and St. James's Street remain accessible to local traffic except at the bus gate location. It is also, noted that national policy is to promote the use of sustainable transport modes while reducing reliance on private cars.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is shown in **Table 7.4** below.

Table 7.4: Section 3 Route Options Assessment Summary (Main Criteria)

Assessment Criteria	CCT 01	CCT 02	CCT 03	CCT 04	CCT 05	CCT 06	CCT 07	CCT 08	CCT 09	CCT 10
Economy										
Integration										
Accessibility & Social Inclusion										
Safety										
Environment										

Although the assessment has shown that there is little difference between the options, route option CCT10 is the preferred option for the following reasons:

- Has marginally lower capital costs than some of the other route options
- Provides the most benefits and advantages overall regarding the different criteria used to assess the routes

Based on the multi-criteria assessment undertaken for this section of the study area, **route option CCT10** is the preferred route option for MCA Section 3: Sarsfield Road to Christchurch. Further investigation and modelling is recommended to determine the overall impact to general traffic in line with NTA policy and Dublin City Centre strategy.

8. Emerging Preferred Route

8.1 Introduction

Sections 5 to 7 of this report present the detailed appraisal of the potential route options for each of the three study areas. Route options identified as part of the "spiders-web" analysis were assessed in accordance with the methodology as set out in Section 4 including a sifting process and detailed multi-criteria analysis.

Combining the preferred route options for each of these sections gives the end-to-end Emerging Preferred Route (EPR).

This section of the report describes the emerging preferred route and the concept scheme design developed. Concept scheme design drawings are included in **Appendix B**.

8.2 Recommended Preferred Route

The Emerging Preferred Route is shown in **Figure 8.1** below and is described in this section in the Liffey Valley to Christchurch direction.

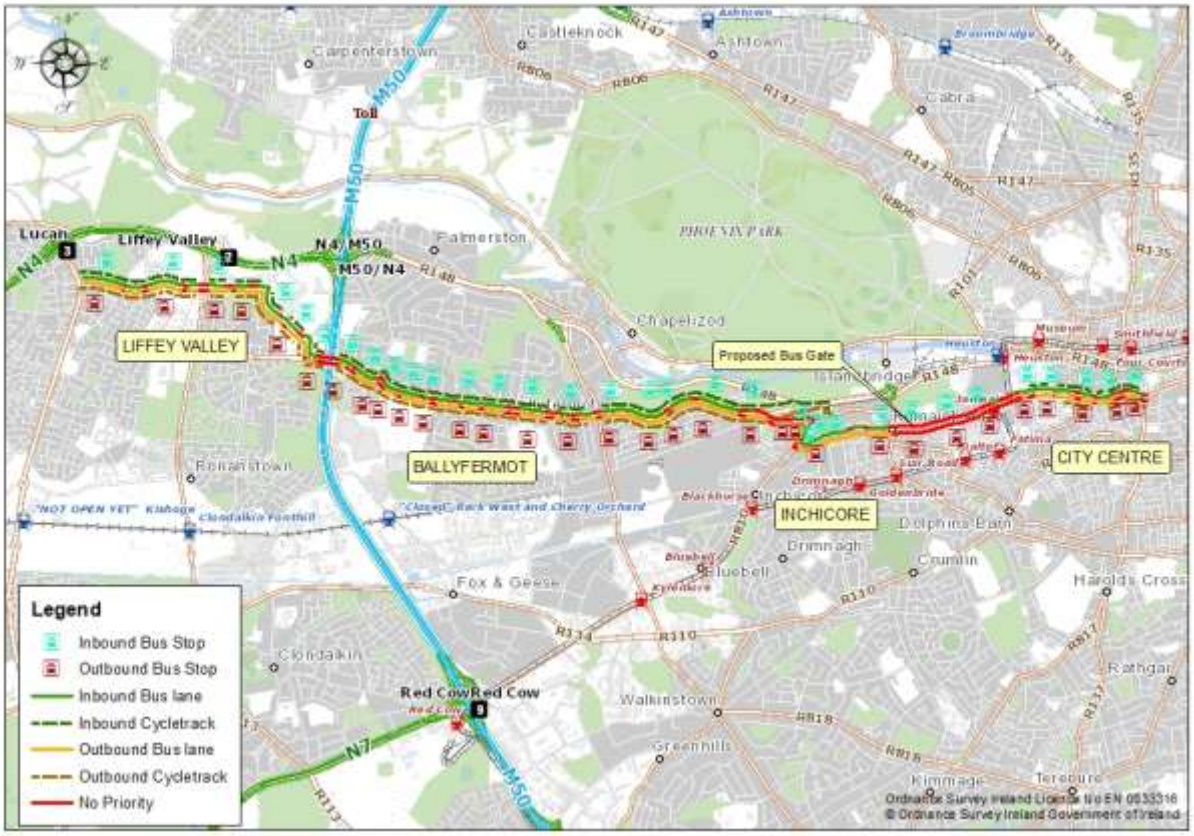


Figure 8.1: Emerging Preferred Route

Describing the emerging preferred route in the Liffey Valley to city centre direction, the CBC commences on Ballyowen Road from its junction with Willsbrook Road, continuing on St Lomans Road to where it travels onto to the distributor road to the west of Liffey Valley shopping centre. From here it joins the Coldcut Road and continues to the bridge over the M50. Along this section, it is proposed; to provide new and upgraded cycle and pedestrian facilities, and to redistribute the existing road space to provide new bus lanes in both directions. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there would be an exception for approx. 170m section where the proposed route travels onto the bridge over the M50. Due to the existing cross sectional width of the bridge, provision

of dedicated bus and cycle facilities are not feasible. Buses would share space with general road traffic. Cyclists would share a 3m wide path on either side of the bridge with pedestrians. The junction and roundabouts along the Ballyowen Road (roundabout with Liffey Terrace) and Saint Lomans Road (roundabout with Liffey Avenue and entrance with St Edmunds) would be upgraded to signalised junctions and would provide bus lanes up the stop lines along with dedicated left turning traffic lanes. The existing roundabouts along the Liffey Valley distributor road would be upgraded to provide improved bus priority, by providing bus lanes to the stop lines along with bus lanes through the roundabout. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New bus stops on both sides are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive and on the St Lomans Road adjacent to Saint Edmunds Park. New toucan crossings are proposed on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings.

After travelling onto the bridge over the M50 the proposed CBC route continues along the Coldcut Road and joins the Ballyfermot Road. The CBC route travels through Ballyfermot Village and continues onto the Sarsfield Road. Priority bus lanes are proposed along the entire length of this section. It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the entire length of this route. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there are two locations in Ballyfermot Village where cycle tracks are not feasible due the proximity of residential properties. Significant amounts of public and private land take would be required on the Ballyfermot Road and Sarsfield Road between the junctions of Kylemore Road and Con Colbert Road to accommodate the proposed facilities. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts). Furthermore the junctions at the intersection of the Ballyfermot Road with; the Coldcut Road and La Fanu Road would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junctions. New bus stops on both sides are proposed on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital. Furthermore new bus stops are proposed opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; adjacent to O' Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course, along with the upgrade of all existing pedestrian crossings to toucan crossings along the entire route section. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

From the junction of Sarsfield Road and Con Colbert Road, the CBC turns south east along Sarsfield Road, where it joins Grattan Cresent. At the intersection of Grattan Cresent and Emmet Road the CBC travels along Emmet Road, Old Kilmainham, Mount Brown and James's Street. From here the route joins Thomas Street and terminates at the end of High Street. Due to the proximity of adjacent residential and commercial properties, priority bus lanes and cycle tracks are not feasible in many locations. Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as is. An alternative cycle facility is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width,

along with 2m minimum width for footpaths where possible. It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). Alternative parking arrangements are proposed on Emmet Road to facilitate the loss of on street parking by the provision of alternative off street parking in an existing grassed area adjacent to the Orchard Apartments on Emmet Road.

From the junction at R111 (South Circular Road), the Core Bus Corridor continues along the R810 (Old Kilmainham/Mount Brown/James's Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route section. Therefore a bus gate is proposed adjacent to Kearn's Place on Old Kilmainham. This bus gate would be controlled by traffic signals and a retractable bollard (bollard would be controlled by vehicle identification software). This bus gate would allow for buses and cyclists to pass in both directions, but general public traffic would not be permitted to pass. As a result no through public traffic would be permitted along Old Kilmainham, Mount Brown and James's Street between the junctions of South Circular Road and Bow Lane West. The bus priority attained along this section as a result of the bus gate would improve bus travel times and journey time reliability greatly in both directions without any impact regarding land take, and on-street parking from adjacent residential and business properties. However local traffic would still be permitted to access the area. Due to the provision of the bus gate and the reduced levels of traffic along the R810 at Old Kilmainham, Mount Brown and St. James's Street, priority bus lanes and cycle facilities are not required. Buses and cyclists would share road space with local traffic along this section. As a result, it is not proposed to provide an alternative cycle route along Bow Lane West and Kilmainham Lane for this route option. It is proposed to retain car parking along this section where possible.

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median. This allows for the provision of cycle tracks along with bus lanes where space permits. However this section of the route is designated as a primary cycle route, therefore, there are a number of sections where shared bus and cycle lanes are required in order to accommodate cyclists. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, where cyclists would share space with buses. New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

8.3 Route Catchments

The residential catchment areas for the Emerging Preferred Route for 5, 10 and 15 minutes walk are shown in **Figure 8.2**.

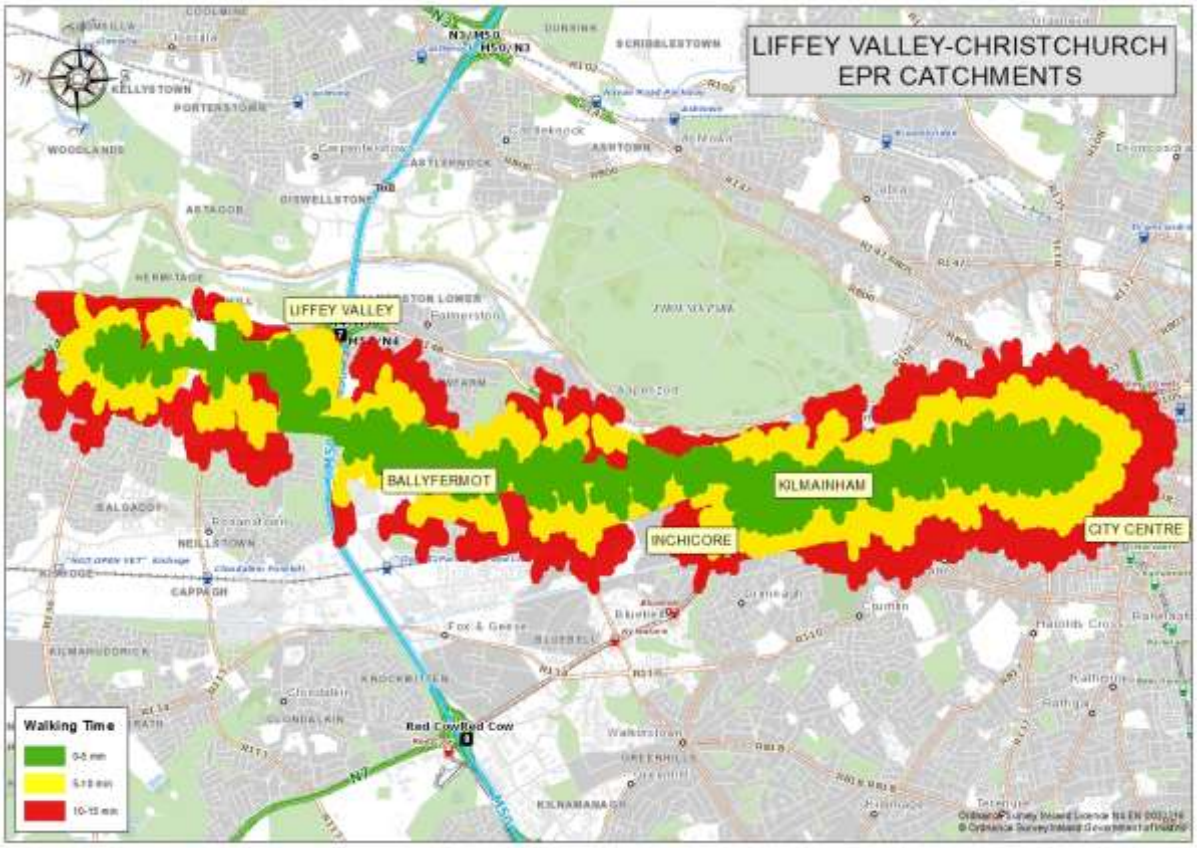


Figure 8.2: EPR Walking Catchments

Table 8.1 below shows the data for these catchments in numerical format for the residential, employment and education populations. These have been derived from 2011 Census data.

Table 8.1: EPR Catchments

Walk Distance From Stops	Residential Population	Employment Population	Education Population
0 – 5 mins	34965	22827	6362
5 – 10 mins	29602	21326	9324
10 – 15 mins	35643	32054	20352
15 mins (total)	**100210**	**76207**	**360738**

8.4 Concept Scheme Design Sections Descriptions

8.4.1 Section 1: Ballyowen Road to Le Fanu Road (Dwgs 16_080_00_1070 – 1084)

Length of Scheme Section: *4.8km*

Indicative Infrastructure Cost: *€23m*

Indicative Land Acquisition Cost: *€1.4m*

Total Indicative Cost of Scheme Section: *€24.2m*

It is proposed to provide priority bus lanes along with new and upgraded cycle tracks and pedestrian facilities on the Ballyowen Road from its junction with Willsbrook Road, along Saint Lomans Road to its junction with the Fonthill Road. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In order to provide bus lanes, upgraded cycle and footpath facilities along this section, land take would be required in the form of the adjacent grass verge in both directions. Furthermore there would be a number of young trees in the grass verge that would also be removed in order to facilitate widening. Further widening will be required in the form of setting back public park boundaries in this section. Approx. 200m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to Hermitage Park impacting on green space, approx. 170m of existing boundary wall would be set back by 2m to accommodate the widening adjacent to Mount Andrew Park resulting in the removal of a number of trees and green space and approx. 350m of existing boundary fence would be set back by 3m to accommodate the widening adjacent to Oakview Nursing Home resulting in the removal of a number of trees and green space. On approach to the junction of Saint Lomans Road and Fonthill Road, in the inbound direction, the existing boundary fence would be set back by 1m over a length of 50m in both directions to accommodate widening associated with a left turning traffic lane. The junction and roundabouts along the Ballyowen Road (roundabout with Liffey Terrace) and Saint Lomans Road (roundabout with Liffey Avenue and entrance with St Edmunds) would be upgraded to signalised junctions and would provide bus lanes up the stop lines along with dedicated left turning traffic lanes. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New toucan crossings are proposed on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park. Throughout this section where there is a proposal to upgrade intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings. New bus stops on both are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive and on the St Lomans Road adjacent to Saint Edmunds Park.

It is proposed to provide bus lanes and cycle tracks in both directions around Liffey Valley by redistributing the existing road space and generally narrowing the existing central medians. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing roundabouts along this route section will be upgraded to allow for improved bus priority. Bus lanes will be provided right up to the stop lines and through the roundabouts, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations). Two all-vehicle lanes will be maintained in both directions on this route section including the existing roundabouts in order to ensure traffic capacity in the area is not negatively impacted. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

New toucan crossings are proposed; on the Liffey Valley Road adjacent to the Liffey Valley Motor Hall, on the western arm of the roundabout adjacent to Greenfort lawns, and on the north western arm of the roundabout adjacent to Greenfort Crescent. All existing pedestrian crossings located along this section would be upgraded to toucan crossings. New bus stops on both sides are proposed; on the Liffey Valley Road west of the Liffey Valley Motor Company and on the Liffey Valley Road adjacent to the Liffey Valley Retail Park. Throughout this section where there are proposed intersections,

pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings.

It is proposed to provide priority bus lanes along with new and upgraded cycle tracks and pedestrian facilities on the Coldcut Road from its junction with the entrance to Liffey Valley Shopping Centre along the Ballyfermot Road to its intersection of the La Fanu Road. However there would be an exception for approx. 170m section where the proposed route travels onto the bridge over the M50. Due to the existing cross sectional width of the bridge, provision of dedicated bus and cyclist facilities are not feasible. Buses would share space with general road traffic. Cyclists would share a 3m wide path on either side of the bridge with pedestrians. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. In order to provide bus lanes, upgraded cycle and footpath facilities along this section, land take would be required in the form of the adjacent grass verge in both directions. Furthermore there would be a number of young trees in in the grass verge that would also be removed in order to facilitate widening. Further widening will be required in the form of setting back public and private boundaries in this section. On the Coldcut road approx. 180m of boundary wall would be set back by 4.5m to accommodate widening adjacent to Palmers Drive impacting on boundary hedging and approx. 140m of existing boundary wall would be set back by 5m to accommodate the widening adjacent to Palmers Walk resulting in the removal of boundary hedging. Widening into public green space will be required on the inbound approach the intersection of Coldcut Road and Ballyfermot Road in order to accommodate a left turn traffic lane and a priority bus lane all the way to the stop line. On the Ballyfermot Road approx. 40m of boundary wall would be set back by 2m to accommodate widening adjacent to Cherry Orchard Industrial Estate and approx. 60m of existing boundary wall would be set back by 1.5m to accommodate the widening adjacent to Cherry Orchard Hospital resulting in the removal of green space. Approx. 60m of existing boundary wall would be set back by 6m to accommodate the widening adjacent to Cherry Orchard Service Station resulting in the removal of parking area. Between this point and Cleggan Road resident's parallel parking in the inbound direction would be removed to facilitate the widening required for the scheme. This parking, approx. 25 spaces, would be accommodated in existing driveways and could be redistributed to surrounding streets. On the inbound approach of the intersection of Ballyfermot Road and the Le Fanu Road, approx. 30m of existing boundary wall would be set back by 5m to accommodate a left turn traffic lane and a priority bus lane provided all the way to the stop line, adjacent to the Paddy Power Bookmakers, Haven Pharmacy and Fowlers Public House.

The existing junctions on the Coldcut Road at the entrance to Liffey Valley Shopping Centre and its intersection with Cloverhill Road would be upgraded to provide improved bus priority through the junction. This would be achieved by providing bus lanes to the stop lines along with dedicated right turning bus priority lane into Liffey Valley Shopping Centre, and left turning traffic lane onto Cloverhill Road. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. New toucan crossings are proposed on the Ballyfermot Road at the intersections of Clifden Road and Drumfinn Road. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Throughout this section where there are proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings to toucan crossings. As previously outlined, no dedicated bus lanes are provided on the bridge over the M50. In order to provide a level of bus priority in this section traffic lights are proposed on the approaches on either side of the bridge. These lights would be adjusted to maximise the right of way times for buses. Furthermore new bus stops are proposed opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road, on both sides on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital.

8.4.2 Section 2: Le Fanu Road to Sarsfield Road (Dwgs 16_080_00_1084 – 1094)

Length of Scheme Section: *2.2km*

Indicative Infrastructure Cost: *€11.1m*

Indicative Land Acquisition Cost: *€6m*

Total Indicative Cost of Scheme Section: *€17.1m*

It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along the entire length of this route. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. However there are two locations on the Ballyfermot Road where cycle tracks are not feasible due the proximity of residential properties. These are approx. 100m east of the junction of Ballyfermot Road and La Fanu Road in both directions and approx. 130m on the western approach to the junction of the Ballyfermot Road and the Kylemore Road in both directions. Therefore cyclists and buses would share space along theses short lengths. Widening would be required in the form of setting back of road kerbing on the street running parallel to the Ballyfermot Road. Approx. 80m of boundary would be set back by 1m to accommodate the widening adjacent to the Bank of Ireland and similarly 20 m of existing boundary would be set back by 1m to accommodate the widening adjacent to the Ballyfermot Credit Union potentially impacting on car parking adjacent to the row of businesses. It is estimated that 14 car parking spaces may be affected by the widening. Alternative parking could be accommodated on adjacent side streets. The pedestrian footpath would be reduced in the inbound and outbound direction to 1.8m to reduce the impact of the widening. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. The existing roundabout on the Ballyfermot Road with its intersection with the Kylemore Road would be upgraded to a signalised junction in order to minimise potential delays and improve bus priority. Bus lanes will be provided right up to the stop lines of this junction, along with the provision of left turn lanes for public traffic (where there is large left turning traffic volumes form on site observations and traffic counts). Furthermore the junction at the intersection of the Ballyfermot Road and La Fanu Road would be upgraded to provide bus priority. This would be achieved by implementing bus lanes right up to the stop lines of the junction.

It is proposed to undertake urban renewal works along the main street in Ballyfermot village as part of this scheme, in keeping with the 'Dublin City Development Plan 2011-2017'. This would involve the upgrade of the main street in terms street scaping including paving works and street furniture that will help make the street more pedestrian friendly. This work would create a vibrant and sustainable new urban area with work, living and recreational opportunities, based around high quality public transport nodes. Furthermore it will provide the following:

- a safe and vibrant mixed use environment
- a place with distinctive urban character, based on urban design principles with strong physical and psychological linkages to the city
- a strong sense of place for the local residents and working population
- a series of nodal spaces at key junctions to act as place markers

The route continues to travel along the Ballyfermot Road. It is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Widening would be required in the form of setting back private boundaries in this section. Approx. 400m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to the Saint Raphael's National School, Ballyfermot Family resource centre and De La Salle National School potentially impacting on green space and removal of a number of trees. Approx. 250m of boundary fence would be set back by 5m to accommodate the widening adjacent to the Markiewicz Park on the Ballyfermot Road potentially impacting on green space and removal of a number of trees. Existing boundary walls would be set back by approx. 1m for 27 residential properties (while at the same time retaining a 5m zone to the front of the houses) outbound on the Ballyfermot Road before its junction with the O' Hogan Road potentially impacting on

front gardens. Further widening would be required, approx. 300m of boundary wall would be set back by 3.5m to accommodate the widening adjacent to the Steeples housing estate, D10 Autos, United Tyres, Saint Laurence Court and Saint Laurence Glen on the Ballyfermot Road potentially impacting on commercial parking spaces (parking could still be accommodated within the business premises), back and front gardens and removal of a number of trees. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

On the Sarsfield Road, it is proposed to provide new and upgraded bus lanes, cycle tracks and pedestrian facilities in both directions along this section. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. Widening would be required along the Sarsfield Road in the form of setting back both private and public boundaries. Approx. 300m of boundary wall would be set back by 5m to accommodate the widening adjacent to the Longmeadows Pitch and Putt Club potentially impacting on green space. Approx. 100m of boundary wall would be set back by 5m to accommodate the widening adjacent to Ruby's Public House, Paddy Power and 6 residential properties along Meadow View (while at the same time retaining a 5m zone to the front of the houses) potentially impacting on customer parking and front gardens. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; adjacent to O Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course on the Sarsfield Road, along with the upgrade of all existing pedestrian crossings to toucan crossings along the entire route section. New bus stops on both sides are proposed adjacent to the Spar Grocery Store on the Ballyfermot Road and one no. outbound stop on the Ballyfermot Road on approach to its junction with the Kylemore Road.

8.4.3 Section 3: Sarsfield Road to Christchurch (Dwgs 16_080_00_1094 – 1104)

Length of Scheme Section: *4.4km*

Indicative Infrastructure Cost: *€13.9m*

Indicative Land Acquisition Cost: *€0.1m*

Total Indicative Cost of Scheme Section: *€14m*

This route links up with Section 2: Le Fanu Road to Sarsfield Road, on the Sarsfield Road at its intersection with the Con Colbert Road. This route travels along Sarsfield Road, Grattan Crescent and the R810 to the Christchurch area. This involves travelling along Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and terminates at the end of High Street.

Sarsfield Road is currently a one-way road with a contra-flow bus lane. It is not feasible to provide additional bus priority measures inbound due to the proximity of residential building lines and, as such, it is proposed to leave the existing layout as is. Due to the localised narrowing at the location of the railway over bridge on the Sarsfield Road, an outbound bus priority lane is not feasible for approx. 50m at this location. Also, due to lack of space, it is not feasible to provide cycle facilities along this section. As this is a designated primary cycle route, an alternative is proposed along the R148 and Memorial Road. It is proposed to provide new cycle tracks and pedestrian facilities in both directions along this alternative route section. It is proposed to upgrade junctions on the Chapelizod Bypass with the Con Colbert Road and Memorial Road to allow for the crossing of cyclists, therefore existing pedestrian crossings at the intersection of Con Colbert Road and Memorial Road would be upgraded to toucan crossings. Inbound cyclists would cross Memorial Road via a new toucan crossing and continue along Memorial Road (against the flow of traffic, as Memorial Road is a one-way street) and

link up with the Inchicore Road (where an existing two-way on-road cycle lane is in operation). Outbound cyclist could travel this route in the reverse direction. The cycle tracks would provide a raised adjacent dedicated facility of 2m minimum width, along with 2m minimum width for footpaths where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide new and upgraded bus lanes and pedestrian facilities on the R839 (Grattan Crescent) in both directions between the Sarsfield Road and Emmet Road junctions. As discussed previously cycle facilities are not feasible, however cyclists and buses would share the bus lanes along this route section. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

It is proposed to provide bus lanes in both directions where possible on the R810 (Emmet Road) between the junction with the R839 (Tyrconnell Road) and the R111 (South Circular Road). Unlike route option CCT09, CCT10 maintains two-way public traffic along the Emmet Road. Again due to the proximity of adjacent building lines, cycle facilities are not feasible along this section. All junctions along the proposed route would be upgraded to improve bus priority. Bus lanes will be provided right up to the stop lines of the junctions where possible, along with upgraded signals in order to minimise potential delays and improve bus priority. For the first 70m, inbound, on the Emmet Road priority bus lanes would not be provided, due to the proximity of adjacent building lines. Outbound on the Emmet Road at its junction with Saint Vincent Street, a bus gate is proposed at the junction. The signals would operate to give priority to outbound buses and ensure the space between the bus gate and the bus priority ‘right turn’ at the junction of Emmet Road and Graton Cresent would remain clear.

As part of the analysis of this route, alternative parking arrangements were investigated for the existing on-street residential parking along the R810 on Emmet Road and Old Kilmainham. The majority of this parking is located outside of terraced houses with no gardens or space of any kind to the front of the property, which rules out the possibility of providing new driveways for these residences. In a small number of locations, residences have existing front gardens, however, these are small and generally have large level differences, making provision of driveways not feasible. Relocation of the existing parking was also investigated, however, the majority of adjacent side streets already have on-street residential parking already on them and could not accommodate additional parking. In addition, in a number of locations, there are no adjacent side streets available within a reasonable walking distance to the residences along the R810. In order to maximise the length of bus lane it is proposed to remove some of the existing on-street parking inbound on the Emmet Road from Turvey Avenue to the South Circular Road and to construct an alternative off street parking in an existing grassed area adjacent the Orchard Apartments on the Emmet Road. Furthermore it is proposed to retain car parking along the Emmet Road where possible. On street parking spaces adjacent; to Saint Michael’s Parish Community Centre, Coffey’ Pub, inbound on the Emmet Road from Turvey Avenue to the South Circular Road would be removed to accommodate the proposed scheme. Alternative formal on street parking to mitigate the loss of parking is proposed to adjacent to Saint Michael’s Church, Massey Brothers Funeral Home, Tom Tavey’s Pub, opposite Inchicore College of Further Education (removal of trees to accommodate formal parallel parking spaces). These alternative parking areas will also act as loading bays for commercial business along Emmet Road.

From the junction at R111 (South Circular Road), the Core Bus Corridor continues along the R810 (Old Kilmainham/Mount Brown/James’s Street) to the junction with Bow Lane West. Due to the proximity of building lines along this route, it is difficult to provide bus lanes along much of the route section. In order to promote a level of bus priority along this section, a bus gate is proposed adjacent to Kearn’s Place on Old Kilmainham. This bus gate would be controlled by traffic signals and a retractable bollard (bollard would be controlled by vehicle identification software). It would allow for buses and cyclists to pass in both directions, but general public traffic would not be permitted to pass. As a result no through public traffic would be permitted along Old Kilmainham, Mount Brown and James’s Street between the junctions of South Circular Road and Bow Lane West. The bus priority attained along this section as a result of the bus gate would improve bus travel times and journey time reliability greatly in both directions without any impact regarding land take, and on-street parking from adjacent residential and business properties. However local traffic would still be permitted to access

the area. Due to the provision of the bus gate and the reduced levels of traffic along the R810 at Old Kilmainham, Mount Brown and St. James's Street, priority bus lanes and cycle facilities are not required. Buses and cyclists would share road space with local traffic along this section. As a result, it is not proposed to provide an alternative cycle route along Bow Lane West and Kilmainham Lane for this route option. It is proposed to retain car parking along this section where possible. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m.

Due to the location of the bus gate, traffic travelling outbound to St. James's Hospital from the city centre would be able to access the existing main entrance to St. James's Hospital (as existing situation) on James's Street, along with a planned access to the National Children's Hospital on Mount Brown. However inbound traffic from Emmet Road would not be able to access these entrances (because of the location of the bus gate), therefore an alternative traffic route is proposed to access the planned National Children's Hospital via a proposed new car park entrance to be constructed as part of the new hospital on Brookfield Road, via South Circular Road. Inbound traffic looking to access St James's Hospital would be rerouted, via South Circular Road along Kilmainham Lane, Bow Lane West and James's street.

Inbound traffic from Emmet Road wishing to access the city centre would be diverted away from Old Kilmainham onto, for example, the R148 (St. John's Road West) or R110 (Cork Street) via South Circular Road. Outbound on Old Kilmainham at its junction with the South Circular Road, due to the reduced inbound traffic volume, an existing traffic 'no right turn' restriction would be removed.

From here it is proposed to provide bus lanes in both directions along Thomas Street to High Street, generally by redistributing the existing road space and reducing the width of the central median. Due to the proximity of adjacent building lines dedicated cycle facilities are not feasible for sections along Thomas Street. Cycle facilities on Thomas Street are proposed inbound; for approx. 160m on approach to Watling Street, between the junctions of Watling Street and Bridgefoot Street and on approach and through the junction of Thomas Street and High Street. Outbound cycle facilities on Thomas Street are proposed; for approx. 250m on approach and after the Bridgefoot Street junction, and on approach and through the junction of Thomas Street and High Street. However this section of the route is designated as a primary cycle route, therefore, shared bus and cycle lanes are required in order to accommodate cyclists where no dedicated cycle tracks are feasible. On street parking and associated commercial loading bays would be removed along Thomas Street from its junction with Watling Street to its intersection with High Street. Alternative on-street parking and loading bays could be accommodated on surrounding side streets. All junctions along the proposed section will be upgraded to improve bus priority. Bus lanes will be provided (where possible) right up to the stop lines of the junctions, along with upgraded signals in order to minimise potential delays and improve bus priority. The existing traffic lane layout would be maintained throughout the section (unless otherwise stated) but would have reduced traffic lane widths to 3m. On High Street, it is proposed to convert an existing all-vehicle lane to a bus lane on the approach to the junction at Christchurch which may reduce traffic capacity in the area slightly. Priority bus lanes in both directions are proposed along this section, where cyclists would share space with buses.

As part of the analysis of this route, the re-routing of existing general traffic was considered. Traffic travelling outbound from the City Centre would reroute to alternative routes such as the R148 (St. John's Road West) via Bow Lane West and Military Road or the R110 (Cork Street) if travelling to the southwest of Dublin and beyond. Inbound traffic travelling towards the city centre would be rerouted along South Circular Road to St John's Road West or Cork Street. The possibility of upgrading adjacent roads to cater for the diverted traffic was also considered. Bow Lane West and Kilmainham Lane are the most obvious alternative routes in the vicinity, however, these are generally narrow roads with poor horizontal and vertical alignments. It would be difficult to widen these roads and provide adequate alignments for them to take the additional volume of traffic along with due to the proximity of the buildings along Bow Lane West and the large stone retaining wall along the boundary of the grounds of the Irish Museum of Modern Art. A large amount of land take from this land would be required along with a large, new retaining wall along Kilmainham Lane. It is, therefore, not considered to be feasible. Widening of other possible routes is not considered to be beneficial as they generally join the Cork Street (R110) or Con Colbert Road (R148). Throughout this section where there are

proposed intersections, pedestrian crossing facilities in the form of toucan crossings would be provided, along with the upgrading of all existing pedestrian crossings along the route to toucan crossings. New bus stops would be provided; one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street.

8.5 Concept Scheme Design Summary

8.5.1 Proposed Infrastructure

The Emerging Preferred Route is approximately 11.4 km long from end to end. The concept scheme design included in Appendix B shows the extent of the infrastructure proposed to deliver this CBC.

The existing bus priority infrastructure along the EPR is approximately 20% (2.2km) in the inbound direction and only 16% (1.8km) in the outbound direction. The proposed scheme would improve bus priority infrastructure to approximately 82% (9.35km) in the inbound direction and 83% (9.5km) in the outbound. There are two main areas where bus priority cannot be provided in either direction: at the existing bridge over the M50 on the R833 at Coldcut Road and along the R810 at Old Kilmainham, Mount Brown and James's Street. Given the traffic volumes on Coldcut Road at this junction location and the short length of road with no bus priority, it is not anticipated that delay will be experience at that location while the provision of the bus gate on the R810 adjacent to the Kearn's Place junction will remove the majority of traffic on this road, thus ensuring bus travel times and reliability are maintained.

In general, the proposed scheme will provide increased bus priority through junctions by providing bus lanes to the stop lines. In particular, the conversion of roundabouts to signalised junctions will help to ensure bus priority in congested areas. Taken with the significantly increased dedicated bus lanes, this increased priority will ensure journey time reliability and reduce delays. Bus priority is not provided in either direction at the existing bridge on the R833 over the M50, although delays are not expected at this location.

In addition to bus priority, new and upgraded cycle facilities are proposed along the entire length of the proposed CBC route, except for the sections along Coldcut Road (bridge over the M50), Sarsfield Road, Emmet Road, Old Kilmainham, Mount Brown and James's Street. An alternative cycle route is proposed via Con Colbert road, Memorial Road and the Inchicore Road for the Emmet Road section of the route. Due to the reduced traffic on Old Kilmainham/Mount Brown/James's Street, as a result of a proposed bus gate, cyclists would share space with buses and local traffic along this section of the route option. Dedicated raised adjacent cycle tracks (in both directions) of 2m minimum width in accordance with the National Cycling manual would be provided, along with the provision of 2m wide footpaths (in both directions) where possible. A bus gate to allow right turn only for buses is proposed in the outbound direction on Emmet Road at its intersection with Grattan Cresent. Pedestrian safety would also be improved at a number of junctions due to signalised crossings and reduced speeds. Furthermore new toucan crossings are proposed; on the Ballyowen Road adjacent to Larkfield Way and on the Saint Lomans Road adjacent to Saint Edmunds Park, on the Liffey Valley Road adjacent to the Liffey Valley Motor Hall, on the western arm of the roundabout adjacent to Greenfort lawns on the Liffey Valley Road, and on the north western arm of the roundabout adjacent to Greenfort Crescent on the Liffey Valley Road, on the Ballyfermot Road at the intersections of Clifden Road and Drumfinn Road, adjacent to O Hogan Road on the Ballyfermot Road and adjacent to Longmeadows pitch and putt course on the Sarsfield Road, along with the upgrade of all existing pedestrian crossings to toucan crossings.

As part of the proposed scheme, new bus stops are proposed; on the Ballyowen Road adjacent to the entrance to Ballyowen Drive and on the St Lomans Road adjacent to saint Edmunds Park, on the Liffey Valley Road west of the Liffey Valley Motor Company and adjacent to the Liffey Valley Retail Park. The new stops on Ballyowen Road increases the catchment of the CBC to a number of large residential areas to the south of the N4 while those around Liffey Valley provide a number of stops to access various parts of Liffey Valley.

Further stops are proposed; opposite existing stops, outbound adjacent to Coldcut Cresent and inbound adjacent to Palmers Walk on the Coldcut Road, on both sides on the Ballyfermot Road adjacent to the entrance to Cherry Orchard Hospital, adjacent to the Spar Grocery Store on the Ballyfermot Road and one no. outbound stop on the Ballyfermot Road on approach to its junction with the Kylemore Road, one inbound on Grattan Cresent adjacent to the entrance of Grattan Cresent Park and one inbound on Thomas Street adjacent to its junction with Saint Augustine Street. These stops would increase overall CBC catchment potential.

8.5.2 Cost Estimate

A high level cost estimate was prepared based on the concept scheme design discussed above. From this, the proposed CBC scheme infrastructure cost is expected to be approximately €55m - €60m.

8.5.3 Scheme Benefits

The main bus service linking the area around Liffey Valley to the City Centre is the 40 (Liffey Valley Shopping Centre towards Charlestown Shopping Centre), a long cross-city route. This route begins in Liffey Valley before taking a circuitous route around Ronanstown and Neilstown Road before travelling towards city centre on the R833 at Coldcut Road. From there the route continues on the R833 through Ballyfermot before using Sarsfield Road and Grattan Cresent to access Emmet Road. It then continues on the R810 at Old Kilmainham, Mount Brown, James's Street and Thomas Street to Christchurch.

The proposed route follows this existing service for most of its length but with significantly upgraded bus priority measures, particularly along the R810 at Emmet Road and Old Kilmainham. This results in reductions to journey times while also allowing reliability by providing bus lanes in the majority of locations. Existing average travel times for the 40 route were calculated by using the Automatic Vehicle Location (AVL) data provided by Dublin Bus and are compared to the proposed travel times in **Table 8.1 and Table 8.2** below. For comparison reasons the travel time for the CBC route (proposed travel time) is presented from end to end, (Ballyowen Road to High Street), whereas the existing travel times (bus route 40) are taken from Liffey Valley Shopping Centre (Stop No. 4795) to Saint Audoen's Church (Stop No. 2001).

Table 8.1: Inbound Travel Time Comparison

Route Section	Peak Hour Existing Travel Time (Mins)	Proposed Travel Time (Mins)
Ballyowen Road to Le Fanu Road	26:19	16:16
Le Fanu Road to Sarsfield Road	13:25	06:25
Sarsfield Road to Christchurch	25:32	17:50
Total Travel Time	**65:16**	**40:31**

Table 8.2: Outbound Travel Time Comparison

Route Section	Peak Hour Existing Travel Time (Mins)	Proposed Travel Time (Mins)
Christchurch to Sarsfield Road	18:25	17:42
Sarsfield Road to Le Fanu Road	07:23	06:25
Le Fanu Road to Ballyowen Road	20:55	16:23
Total Travel Time	**45:36**	**40:30**

This reflects the benefits of an uncongested network. Therefore a bus priority network allows buses to move along the route quicker and with more reliable journey times.

Key to the provision of a high quality bus network is journey time reliability which makes the system more efficient in terms of number of people moved by the same level of vehicles and driver resources, in addition to user satisfaction in terms of reliability of their journey time and bus arrivals. This scheme will address the current journey time variability at key locations including Ballyfermot Village, Cloverhill Road on the Coldcut Road, O' Hogan Road on the Ballyfermot Road, Saint James's Hospital on James's Street and Kearn's Place on Old Kilmainham.

In reference to GDA Cycle Network Plan, the scheme will deliver 7km of new and upgraded Primary Cycling route Nos. 7A and 7, linking Liffey Valley to the City Centre. The cycle facilities proposed would provide a raised adjacent dedicated facility of 2m minimum width where possible. These cycle route sections include:

- Roundabout of Fonthill Road/Liffey Valley Road to the junction of Ballyfermot Road/Kylemore Road following the Liffey Valley Road, Coldcut Road and Ballyfermot Road.
- 0.7km of the Sarsfield Road to its intersection with Grattan Cresent
- Old Kilmainham, Mount Brown, James's Street, Thomas Street, Cornmarket Street and High Street
- An alternative cycling route is proposed on the Con Colbert Road and Memorial road to accommodate non feasible cycling facilities on Sarsfield Road

It will also deliver 1.2km and 0.3km of new Secondary Cycle route Nos. 7A and 7D, which link up with the previously mentioned Primary Cycle routes. The cycle facilities proposed would provide a raised adjacent dedicated facility of 2m minimum width where possible. These cycle route sections include:

- The intersection of St Lomans Road and Ballyowen Road to the roundabout of Fonthill Road and Liffey Valley Road
- A section of Grattan Cresent from its junction with Sarsfield Road to its junction with Emmet Road

The proposed route will also provide a direct route to Liffey Valley with interchanges with other local busses possible. It will also provide an opportunity to provide an enhanced urban environment, particularly at Ballyfermot Village.

9. 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.

Appendix A – Stage 2 Route Options Assessment Summary Tables

Appendix A1 – MCA Section 1: Ballyowen Road to Le Fanu Road

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
Economy	Capital Cost	***Total Indicative Cost:*** €5.6m ***Indicative Scheme Infrastructure Works Cost:*** (€5.6m) • Redistribute existing road space and widen locally on R113 from junction with Ballyowen Road to junction with R833 to provide bus lanes and cycle tracks in both directions. • Redistribute existing road space on R833 from junction with R113 to junction at Liffey Valley access road to provide bus lanes in both directions. • Upgrade existing roundabout junction between R833 and Neilstown Road to signalised junction to ensure bus priority. • Upgrade all existing bus stops along route. ***Land Acquisition Cost:*** (€0m) • 1100 m^2 public land	***Total Indicative Cost:*** €4.3m ***Indicative Scheme Infrastructure Works Cost:*** (€4.3m) • Redistribute existing road space on Liffey Valley distributor road to provide bus lanes and cycle tracks in both directions. Maintain existing 2 all-vehicle lanes in both directions. • Alterations to existing junction between Liffey Valley access road and R833 • Upgrade all existing bus stops along route and provision of new bus stops. ***Land Acquisition Cost:*** (€0m) • No land take required
	Rank		
	Transport Reliability and Quality of Service	Journey time: 4 – 4.5 minutes Length of route: 1.6 km	Journey time: 4 – 4.5 minutes Length of route: 1.4 km

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
		Priority: Full bus priority provided for 95% of inbound and outbound routes.	Priority: Full bus priority provided for 95% of inbound and outbound routes.
	Rank		
Integration	Land Use Integration	Area surrounding route is already substantially developed with little opportunity to encourage further in most areas. The area along this route is generally industrial/commercial along Fonthill and residential elsewhere.	Land around Liffey Valley Town Centre is zoned to provide future commercial and retail developments. Given the likely development of this area in the near future, a high quality public transport servicing the centre directly would be beneficial.
	Rank		
	Residential, Employment and Educational Catchments	***Residential Population Catchment*** • 2817 within 5 minute walk of route • 5806 within 10 minute walk of route • 12239 within 15 minute walk of route ***Employment Catchment*** • 1675 within 5 minute walk of route • 2080 within 10 minute walk of route • 5750 within 15 minute walk of route ***Educational Catchment (1st, 2nd and 3rd Levels)*** • 659 within 5 minute walk of route • 1631 within 10 minute walk of route • 2660 within 15 minute walk of route	***Residential Population Catchment*** • 1912 within 5 minute walk of route • 3734 within 10 minute walk of route • 9943 within 15 minute walk of route ***Employment Catchment*** • 3376 within 5 minute walk of route • 3398 within 10 minute walk of route • 5125 within 15 minute walk of route ***Educational Catchment (1st, 2nd and 3rd Levels)*** • 587 within 5 minute walk of route • 587 within 10 minute walk of route • 1247 within 15 minute walk of route
	Rank		

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
	Transport Network Integration	This route option follows that of a number of Dublin Bus services including the main services to Liffey Valley.	This route option follows that of a number of Dublin Bus services including the main services to Liffey Valley. There is scope to provide a bus interchange at Liffey Valley shopping centre. Provision of a high capacity public transport service to Liffey Valley would help to reduce the reliance on private cars to travel to the area. This would help reduce congestion around Liffey Valley and the N4 accessing it.
	Rank		
	Cycling Integration	The section of this route along Fonthill Road is designated as a primary cycle route, while the section on Coldcut Road is designated as a feeder route. Cycle tracks to the appropriate level of service can be provided along the entire route.	This route is designated as a primary cycle route. Cycle tracks to the appropriate level of service can be provided along the entire route.
	Rank		
Accessibility & Social Inclusion	Key Trip Attractors	***Education*** • St. Kevin's Community College • St. Bernadettes Junior NS • St. Bernadettes Senior NS • St. Mary's Junior School ***Health*** • Hermitage Medical Clinic ***Retail/Leisure*** • Sections of Liffey Valley Retail Park • Fonthill Retail Park	***Education*** • St. Kevin's Community College • St. Bernadettes Junior NS • St. Bernadettes Senior NS ***Health*** • Hermitage Medical Clinic ***Retail/Leisure*** • Liffey Valley Shopping Centre • Liffey Valley Retail Park • Ballyfermot Village

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
		• Clarion Hotel	• Clarion Hotel
	Rank		
	Deprived Geographic Areas	The South Dublin – Clondalkin RAPID area is within 10 minutes walk of the route. There are 7 disadvantaged areas, 9 very disadvantaged areas and 1 extremely disadvantaged area, as shown on the Pobal deprivation maps, within 10 minutes walk of the route.	The South Dublin – Clondalkin RAPID area is within 10 minutes walk of the route. There are 3 disadvantaged areas and 5 very disadvantaged areas, as shown on the Pobal deprivation maps, within 10 minutes walk of the route.
	Rank		
Safety	Road Safety	***No. of junctions:*** 2 signalised junctions 2 roundabouts ***Vehicle Accident Data (since 2005)*** 35+ minor 1 serious	***No. of junctions:*** 1 signalised junction 5 roundabouts ***Vehicle Accident Data (since 2005)*** 5+ minor
	Rank		
	Pedestrian Safety	Footpaths are available on both sides along this route. Pedestrian crossings within 50m of 0 of 5 stops. ***Pedestrian Accident Data (since 2005)*** 6 minor 1 serious	Footpaths are available on both sides along this route. Pedestrian crossings within 50m of 4 of 6 stops. ***Pedestrian Accident Data (since 2005)*** 2 minor
	Rank		
Environment	Archaeology, Architectural and Cultural	There are no recorded monuments/places along the route. There are no protected structures identified along the route.	There are no recorded monuments/places along the route. There are no protected structures identified along the route.

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
	Heritage		
	Rank		
	Flora and Fauna	Land-take may impact grass land and verge areas along the existing carriageway extents. Some trees may need to be removed. There may be some effects to local flora and fauna due to the removal of these areas.	As this route is contained within the existing road reservation, including widening into the central median, it is unlikely to have any effect to the flora and fauna in the area.
	Rank		
	Soils and Geology	In general the route uses the existing carriageway reservation for the majority of its route. As such, there is little risk of affecting the existing geology of the area.	In general the route uses the existing carriageway reservation for the majority of its route. As such, there is little risk of affecting the existing geology of the area.
	Rank		
	Hydrology	There are no areas along this route identified as being at risk from fluvial flooding and the route does not cross any major watercourses.	There are no areas along this route identified as being at risk from fluvial flooding and the route does not cross any major watercourses.
	Rank		
	Landscape and Visual	This route makes use of existing road corridors along its length. Some widening is required, although land take is required from existing grass verge areas. There will be some impact to visual amenity due to wider roads in some residential areas.	This route makes use of existing road corridors along its length. The route is contained within the existing road reservation through the Liffey Valley area and as such would have little impact in terms of landscape and visual amenity.
	Rank		
	Air Quality	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in air pollution. However, where widening is required locally it is generally	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in air pollution. Any road widening required will utilise the existing central

Assessment Criteria	Assessment Sub-Criteria	Route Option LV01	Route Option LV02
		removed from any sensitive receptors such as commercial or residential buildings.	median along the road within Liffey Valley. As a result, it is unlikely to impact on sensitive receptors.
	Rank		
	Noise & Vibration	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. There may be some widening required locally but this is generally removed from any sensitive receptors such as commercial or residential buildings.	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. Any road widening required will utilise the existing central median along the road within Liffey Valley. As a result, it is unlikely to impact on sensitive receptors.
	Rank		
	Land Use Character	Route option is generally contained within existing road reservations and therefore would not adversely impact on land use character.	Route option is generally contained within existing road reservations and therefore would not adversely impact on land use character.
	Rank		

Appendix A2 – MCA Section 2: Le Fanu Road to Sarsfield Road

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
Economy	Capital Cost	***Total Indicative Cost:*** €23.5m ***Indicative Scheme Infrastructure Works Cost:*** (€16.1m) • Widen Le Fanu Road from junction with R833 to junction with R112 to provide bus lanes and cycle tracks in both directions. • Redistribution of existing road space on Kylemore Road from junction with Le Fanu Road to junction with Lucan Road to provide bus lanes and cycle tracks in both	***Total Indicative Cost:*** €20.9m ***Indicative Scheme Infrastructure Works Cost:*** (€16.1m) • Redistribution of existing road space on R833 from Le Fanu Road to Kylemore Road to provide bus lanes in both directions with cycle tracks where possible. • Upgrade existing roundabout between R833 and R113 to signalised junction. • Redistribution of existing road space on Kylemore Road from junction with Le Fanu Road to junction with Lucan Road to provide bus lanes and cycle	***Total Indicative Cost:*** €17.1m ***Indicative Scheme Infrastructure Works Cost:*** (€11.1m) • Redistribution of existing road space on R833 from Le Fanu Road to Kylemore Road to provide bus lanes in both directions with cycle tracks where possible. • Upgrade existing roundabout between R833 and R112 to signalised junction. • Widen R833 to provide bus lanes and cycle	***Total Indicative Cost:*** €17.5m ***Indicative Scheme Infrastructure Works Cost:*** (€11.5m) • Removal of inbound traffic at the junction of the R833 and Le Fanu Road to the junction of the R833 and Kylemore road. Redistribution of existing road space on R833 from Le Fanu Road to Kylemore Road to provide bus lanes in both directions and cycle

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		directions. • Widening of Lucan Road from junction with Kylemore Road to junction with Chapelizod Road to provide bus lanes and cycle tracks in both directions • Alterations to junction between Lucan Road and Chapelizod Road to provide ITS system to give bus priority inbound to bridge over River Liffey. • Widening of Chapelizod Road to provide bus lanes and cycle tracks in both directions. • Upgrade existing	tracks in both directions. • Widening of Lucan Road from junction with Kylemore Road to junction with Chapelizod Road to provide bus lanes and cycle tracks in both directions • Alterations to junction between Lucan Road and Chapelizod Road to provide ITS system to give bus priority inbound to bridge over River Liffey. • Widening of Chapelizod Road to provide bus lanes and cycle tracks in both directions. • Upgrade existing bus stops.	tracks in both directions from R112 to Con Colbert Road. • Upgrade existing bus stops. • Provision of new bus stops	tracks/lanes in both directions. • Upgrade of junction between Kylemore Road and Le Fanu road to cater for the resultant volume of left turning traffic from the junction of R833 and Le Fanu Road. • Upgrade of surface on Le Fanu Road between R833 and Kylemore Road. • Upgrade existing roundabout between R833 and R112 to signalised junction. • Widen R833 to provide bus lanes and cycle

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		bus stops. ***Land Acquisition Cost:*** (€7.4m) • 700 m^2 public land • 4900 m^2 private land • 56 private properties affected	***Land Acquisition Cost:*** (€4.8m) • 700 m^2 public land • 3150 m^2 private land • 39 private properties affected	***Land Acquisition Cost:*** (€6.0m) • 1150 m^2 public land • 4000 m^2 private land • 51 private properties affected	tracks in both directions from R112 to Con Colbert Road. • Upgrade existing bus stops ***Land Acquisition Cost:*** • (€6.0m) • 1150 m2 public land • 4000 m2 private land • 51 private properties affected
	Rank				
	Transport Reliability and Quality of Service	Journey time: 10 – 11 minutes Length of route: 3.5 km Priority: Full bus priority	Journey time: 11 – 12 minutes Length of route: 3.8 km Priority: Full bus priority provided	Journey time: 6 – 6.5 minutes Length of route: 2.2 km Priority: Full bus priority	Journey time: 6 – 6.5 minutes Length of route: 1.9 km (add 900m for redistribution of inbound traffic)

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		provided for 95% of inbound route including through signalised junctions. Bus priority not feasible at Chapelizod Bridge. Full bus priority provided for 95% of outbound route including through signalised junctions. Bus priority not feasible at Chapelizod Bridge and on its approach outbound.	for 95% of inbound route including through signalised junctions. Bus priority not feasible at Chapelizod Bridge. Full bus priority provided for 95% of outbound route including through signalised junctions. Bus priority not feasible at Chapelizod Bridge and on its approach outbound.	provided for 100% of inbound route including through junctions. Full bus priority provided for 100% of outbound route including through signalised junctions.	Priority: Full bus priority provided for 100% of inbound route including through junctions. Full bus priority provided for 100% of outbound route including through signalised junctions.
	Rank				
Integration	Land Use Integration	Most of area surrounding route is already substantially developed with little opportunity to encourage further. Route integrates well with land use zoning identified in County	Most of area surrounding route is already substantially developed with little opportunity to encourage further. Route integrates well with land use zoning identified in County Development Plans.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. Route integrates well with land use zoning identified in County	Most of area surrounding route is already substantially developed with little opportunity to encourage further. Route integrates well with land use zoning

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		Development Plans.		Development Plans.	identified in County Development Plans.
	Rank				
	Residential, Employment and Educational Catchments	***Residential Population Catchment*** • 3171 within 5 minute walk of route • 5773 within 10 minute walk of route • 9446 within 15 minute walk of route ***Employment Catchment*** • 751 within 5 minute walk of route • 1787 within 10 minute walk of route • 2016 within 15 minute walk of route	***Residential Population Catchment*** • 5669 within 5 minute walk of route • 7488 within 10 minute walk of route • 16464 within 15 minute walk of route ***Employment Catchment*** • 1432 within 5 minute walk of route • 1890 within 10 minute walk of route • 6506 within 15 minute walk of route	***Residential Population Catchment*** • 7469 within 5 minute walk of route • 9997 within 10 minute walk of route • 20234 within 15 minute walk of route ***Employment Catchment*** • 1276 within 5 minute walk of route • 1735 within 10 minute walk of route • 4792 within 15 minute walk of route	***Residential Population Catchment*** • 7469 within 5 minute walk of route • 9997 within 10 minute walk of route • 20234 within 15 minute walk of route ***Employment Catchment*** • 1276 within 5 minute walk of route • 1735 within 10 minute walk of route • 4792 within 15 minute walk of

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		Educational Catchment (1st, 2nd and 3rd Levels) • 527 within 5 minute walk of route • 2932 within 10 minute walk of route • 3161 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 1738 within 5 minute walk of route • 2936 within 10 minute walk of route • 4190 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2887 within 5 minute walk of route • 2891 within 10 minute walk of route • 4645 within 15 minute walk of route	route ***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2887 within 5 minute walk of route • 2891 within 10 minute walk of route 4645 within 15 minute walk of route
	Rank				
	Transport Network Integration	This route option follows the route of a number of Dublin Bus services that travel in to the city centre from Lucan and Leixlip for most of its length. As these routes generally do not serve the area around Liffey Valley, this route is not as beneficial to	This route option follows the route of a number of Dublin Bus services that travel in to the city centre from Lucan and Leixlip for most of its length. As these routes generally do not serve the area around Liffey Valley, this route is not as beneficial to the aim of this corridor.	This route option follows the route of a number of Dublin Bus services that travel in to the city centre from Liffey Valley and the surrounding area.	This route option follows the route of a number of Dublin Bus services that travel in to the city centre from Liffey Valley and the surrounding area.

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		the aim of this corridor.			
	Rank				
	Cycling Integration	This route is designated as a primary cycle route along most of its length. It is not feasible to provide segregated cycle facilities at Chapelizod Bridge due to the proximity of building lines. There are no obvious alternative routes for this primary cycle route to travel.	This route is designated as a primary cycle route along most of its length. It is not feasible to provide segregated cycle facilities at along a section of the R833 and at Chapelizod Bridge due to the proximity of building lines. An alternative route for the primary cycle route on the R833 could be provided on Le Fanu Road travelling north before coming back south on Kylemore Road and re-joining the R833. However, there are no obvious alternative routes available in Chapelizod.	The entirety of this route is designated as a primary cycle route. There are two very short sections along this route, at Ballyfermot Village where segregated cycle facilities cannot be provided due to the proximity of building lines. Given that this is the direct route for cyclists in this area, sharing of space for short sections of the route would be more beneficial to all road users than trying to redirect cyclists to a less desirable route.	The entirety of this route is designated as a primary cycle route. Removing an inbound traffic lane provides space for cycle tracks and lanes throughout this route.

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
	Rank				
Accessibility & Social Inclusion	Key Trip Attractors	***Education*** • St. Gabriels NS • St. John's College De La Salle • Ballyfermot College of Further Education • St. Michael's NS • St. Raphaeils NS • Scoil Mhuire • De La Salle NS • St. Dominic's Secondary School, Ballyfermot • Kylemore College • FAS Ballyfermot Training Centre	***Education*** • St. Gabriels NS • St. John's College De La Salle • Ballyfermot College of Further Education • St. Michael's NS • St. Raphaeils NS • Scoil Mhuire • De La Salle NS • St. Dominic's Secondary School, Ballyfermot • Kylemore College • FAS Ballyfermot Training Centre • St. Laurence's NS • St. Patrick's NS ***Health*** • St. Mary's Hospital ***Retail/Leisure*** • Ballyfermot Village • Chapelizod Village • Phoenix Park	***Education*** • St. Gabriels NS • St. John's College De La Salle • Ballyfermot College of Further Education • St. Michael's NS • St. Raphaeils NS • Scoil Mhuire • De La Salle NS • St. Dominic's Secondary School, Ballyfermot • Kylemore College • FAS Ballyfermot Training Centre	Education • St. Gabriels NS • St. John's College De La Salle • Ballyfermot College of Further Education • St. Michael's NS • St. Raphaeils NS • Scoil Mhuire • De La Salle NS • St. Dominic's Secondary School, Ballyfermot • Kylemore College • FAS Ballyfermot Training Centre • Inchicore NS Retail/Leisure • Ballyfermot Village • Inchicore Village

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		• St. Laurence's NS • St. Patrick's NS ***Health*** • St. Mary's Hospital ***Retail/Leisure*** • Ballyfermot Village • Chapelizod Village • Phoenix Park		• Inchicore NS ***Retail/Leisure*** • Ballyfermot Village • Inchicore Village ***Employment*** • Kylemore Industrial Estates	Employment Kylemore Industrial Estates
	Rank				
	Deprived Geographic Areas	The Dublin – Ballyfermot RAPID area is within 10 minutes walk of the route. There are 15 disadvantaged areas, as shown on the Pobal deprivation	The Dublin – Ballyfermot RAPID area is within 10 minutes walk of the route. There are 20 disadvantaged areas, as shown on the Pobal deprivation maps, within 10 minutes walk of the route.	The Dublin – Ballyfermot RAPID area is within 10 minutes walk of the route. There are 34 disadvantaged areas and 3 very disadvantaged areas,	The Dublin – Ballyfermot RAPID area is within 10 minutes walk of the route. There are 34 disadvantaged areas and 3 very disadvantaged areas,

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		maps, within 10 minutes walk of the route.		as shown on the Pobal deprivation maps, within 10 minutes walk of the route.	as shown on the Pobal deprivation maps, within 10 minutes walk of the route.
	Rank				
Safety	Road Safety	***No. of junctions:*** 5 signalised ***Vehicle Accident Data (since 2005)*** 15 minor 1 serious	***No. of junctions:*** 6 signalised ***Vehicle Accident Data (since 2005)*** 25 minor 2 serious	***No. of junctions:*** 3 signalised ***Vehicle Accident Data (since 2005)*** 25+ minor	***No. of junctions:*** 4 signalised ***Vehicle Accident Data (since 2005)*** 25+ minor
	Rank				
	Pedestrian Safety	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 5 of 15 stops. ***Pedestrian Accident Data (since 2005)*** 1 minor	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 7 of 17 stops. ***Pedestrian Accident Data (since 2005)*** 12 minor 1 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 5 of 12 stops. ***Pedestrian Accident Data (since 2005)*** 15 minor 3 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 5 of 12 stops. Pedestrian Accident Data (since 2005) 15 minor 3 serious
	Rank				

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
Environment	Archaeology, Architectural and Cultural Heritage	There is 1 recorded monument/place, along this route at Chapelizod Bridge. It is not intended to alter the layout of this existing bridge. Eight protected structures are identified along the route. However, it is not intended to directly affect any of these. The route passes through the Chapelizod architectural conservation area. Large sections of the route through Chapelizod are identified as being in a conservation area.	There is 1 recorded monument/place, along this route at Chapelizod Bridge. It is not intended to alter the layout of this existing bridge. Eight protected structures are identified along the route. However, it is not intended to directly affect any of these. The route passes through the Chapelizod architectural conservation area. Large sections of the route through Chapelizod are identified as being in a conservation area.	There are no recorded monuments/places identified along this route. One protected structure is identified along the route. However, it is not intended to directly affect this structure.	There are no recorded monuments/places identified along this route. One protected structure is identified along the route. However, it is not intended to directly affect this structure.
	Rank				

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
	Flora and Fauna	Land take may impact on areas of grassland and parkland. Widening of Chapelizod Road may impact sensitive flora and fauna adjacent to the River Liffey.	Land take may impact on areas of grassland and parkland. Widening of Chapelizod Road may impact sensitive flora and fauna adjacent to the River Liffey.	Land-take may impact grass land in parkland areas. The extent of land-take in these areas is small and the removal of trees in an urban parkland environment is unlikely to have major effects on the local flora and fauna.	Land-take may impact grass land in parkland areas. The extent of land-take in these areas is small and the removal of trees in an urban parkland environment is unlikely to have major effects on the local flora and fauna.
	Rank				
	Soils and Geology	In general the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required, there is little risk of affecting the existing geology of the area	In general the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required, there is little risk of affecting the existing geology of the area	In general the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required, there is little risk of affecting the existing geology of the area	In general the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required, there is little risk of affecting the existing geology of the area
	Rank				
	Hydrology	This route crosses the River Liffey and runs alongside the river for	This route crosses the River Liffey and runs alongside the river for a	Risk of flooding along this route is minimal and the route does	Risk of flooding along this route is minimal and the route does

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		a large section. Short sections of the route are identified as being at risk from flooding in 1 in 100 year event.	large section. Short sections of the route are identified as being at risk from flooding in 1 in 100 year event.	not cross any major watercourses.	not cross any major watercourses.
	Rank				
	Landscape and Visual	This route makes use of existing road corridors along its length. Some impact on landscape and visual aesthetics in locations where widening is required, including grass parkland and public amenity areas along with residential areas.	This route makes use of existing road corridors along its length. Some impact on landscape and visual aesthetics in locations where widening is required, including grass parkland and public amenity areas along with residential areas.	This route makes use of existing road corridors along its length. Some impact on landscape and visual aesthetics in locations where widening is required, including grass parkland and public amenity areas along with residential areas.	This route makes use of existing road corridors along its length. Some impact on landscape and visual aesthetics in locations where widening is required, including grass parkland and public amenity areas along with residential areas.
	Rank				
	Air Quality	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		an increase in pollutants. Some road widening is required along this route in the vicinity of residential areas.	pollutants. Some road widening is required along this route in the vicinity of residential areas.	an increase in pollutants. Some road widening is required along this route in the vicinity of residential areas.	an increase in pollutants. Between the junctions of the R833/Le Fanu Road and R833/Kylemore road, there will be no inbound traffic, therefore slightly reducing the effect traffic will have on air quality in this section. Some road widening is required along this route in the vicinity of residential areas.
	Rank				
	Noise & Vibration	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. Some road widening	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. Some road widening is required along this route	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. Some road widening	Where road widening is required, traffic may be relocated closer to sensitive areas, possibly resulting in an increase in noise and vibration. Between the junctions

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		is required along this route in the vicinity of residential areas.	in the vicinity of residential areas.	is required along this route in the vicinity of residential areas.	of the R833/Le Fanu Road and R833/Kylemore road, there will be no inbound traffic, therefore slightly reducing the effect traffic will have on Noise and Vibration in this section. Some road widening is required along this route in the vicinity of residential areas.
	Rank				
	Land Use Character	Route option has some impact on existing land use as extensive widening is required. Land acquisition is generally taken from open green spaces, however, large areas of land would also be required from various	Route option has some impact on existing land use as extensive widening is required. Land acquisition is generally taken from open green spaces, however, large areas of land would also be required from various private land owners and residences.	Route option has some impact on existing land use as widening is required along most of the route. Land acquisition is generally taken from open green spaces, however, large areas of land would also be	Route option has some impact on existing land use as widening is required along most of the route. Land acquisition is generally taken from open green spaces, however, large areas of land would also be

Assessment Criteria	Assessment Sub-Criteria	Route Option BF01	Route Option BF02	Route Option BF03	Route Option BF04
		private land owners and residences.		required from various private land owners and residences.	required from various private land owners and residences.
	Rank				

Appendix A3 – MCA Section 3: Sarsfield to Christchurch

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
Economy	Capital Cost	***Total Indicative Cost:*** €16.7m ***Indicative Scheme Infrastructure Works Cost:*** (€15.5m) • Redistribute existing road space and widen locally on R109 to junction with R111 to provide bus lanes in both directions. Cycle tracks provided where possible before joining shared lane. • Alterations to junction between R111 and R109 to provide bus priority. • Redistribute existing road space along R109 from junction with R111 to quays to provide bus lanes in both directions. • Signalise existing priority junction between R109 and Frank Sherwin Bridge to provide bus priority. • Use existing bus lanes on north and south quays for inbound and outbound operation. • Redistribute	***Total Indicative Cost:*** €14.8m ***Indicative Scheme Infrastructure Works Cost:*** (€14.8m) • Redistribute existing road space along R148 from Con Colbert Road junction to junction with South Circular Road to provide bus lanes and cycle tracks in both directions. • Alter existing junction of R148 and R111 to provide continuous bus lanes and cycle tracks through junction as far as practically possible. • Redistribute road space and widen in localised areas on R148 from junction with R111 to Heuston Station to provide bus lanes and cycle tracks in both directions. • Widen R148 on approach to Frank Sherwin Bridge inbound to provide bus lanes and cycle tracks where possible. • Use existing bus	***Total Indicative Cost:*** €21.3m ***Indicative Scheme Infrastructure Works Cost:*** (€18.6m) • Use existing contra flow bus lane on Sarsfield Road outbound and relocate existing parking occurring along inbound all-vehicle lane to ensure no obstructions to bus movement. • Redistribution of existing road space on R839 from junction with Sarsfield Road to junction with Emmet Road to provide bus lanes in both directions. • Redistribution of space on Emmet Road to provide inbound bus lane and outbound bus lane where possible. Existing residential parking to be maintained. • Redistribute existing road space on R810 from R111	***Total Indicative Cost:*** €14.3m ***Indicative Scheme Infrastructure Works Cost:*** (€14.3m) • Redistribute road space along R148 from Con Colbert Road junction to junction with South Circular Road to provide bus lanes and cycle tracks in both directions. • Alter existing junction of R148 and R111 to provide right turn bus lane to R111. • Redistribute existing road space on R111 to provide bus lanes in both directions. • Redistribute existing road space on R810 from R111 junction to Thomas St to provide inbound bus lane where possible. • Redistribute existing road space on R810 from Thomas St to Christchurch to	***Total Indicative Cost:*** €16.8m ***Indicative Scheme Infrastructure Works Cost:*** (€16.8m) • Redistribute existing road space along R148 from Con Colbert Road junction to junction with South Circular Road to provide bus lanes and cycle tracks in both directions. • Redistribute existing road space on R111 to provide bus lanes in both directions. • Redistribute existing road space along R109 from junction with R111 to quays to provide bus lanes in both directions. • Signalise existing priority junction between R109 and Frank Sherwin Bridge to provide bus priority. • Use existing bus lanes on north and south quays for inbound and outbound operation. • Redistribute	***Total Indicative Cost:*** €17.0m ***Indicative Scheme Infrastructure Works Cost:*** (€16.75m) • Redistribute existing road space along R148 from Con Colbert Road junction to junction with South Circular Road to provide bus lanes and cycle tracks in both directions. • Alter existing junction of R148 and R111 to provide continuous bus lanes and cycle tracks through junction as far as practically possible. • Redistribute road space and widen in localised areas on R148 from junction with R111 to Heuston Station to provide bus lanes and cycle tracks in both directions. • Alter existing junction between R148 and Steeven's Lane to provide right turn bus lane. • Share existing tram lane with	***Total Indicative Cost:*** €20.3m ***Indicative Scheme Infrastructure Works Cost:*** (€20.3m) • Use existing contra flow bus lane on Sarsfield Road outbound and relocate existing parking occurring along inbound all-vehicle lane to ensure no obstructions to bus movement. • Redistribution of existing road space on R839 from junction with Sarsfield Road to junction with Emmet Road to provide bus lanes in both directions. • Redistribution of space on Emmet Road to provide bus lanes in both directions where possible. Road to be closed to general traffic in outbound direction. Existing residential parking to be maintained. • Redistribute	***Total Indicative Cost:*** €23.9m ***Indicative Scheme Infrastructure Works Cost:*** (€21.2m) • Use existing contra flow bus lane on Sarsfield Road outbound and relocate existing parking occurring along inbound all-vehicle lane to ensure no obstructions to bus movement. • Redistribution of existing road space on R839 from junction with Sarsfield Road to junction with Emmet Road to provide bus lanes in both directions. • Redistribution of space on Emmet Road to provide outbound bus lane along with inbound where possible. Existing residential parking to be maintained. • Redistribute existing road space on R810 from R111 junction to	***Total Indicative Cost:*** €17.6m ***Indicative Scheme Infrastructure Works Cost:*** (€14.9m) • Use existing contra flow bus lane on Sarsfield Road outbound and relocate existing parking occurring along inbound all-vehicle lane to ensure no obstructions to bus movement. • Redistribution of existing road space on R839 from junction with Sarsfield Road to junction with Emmet Road to provide bus lanes in both directions. • Redistribution of space on Emmet Road to provide inbound bus lane along with outbound where possible. Existing residential parking to be maintained. • Install bus gate on R810 at Kearn's Place junction.	***Total Indicative Cost:*** €14.0m ***Indicative Scheme Infrastructure Works Cost:*** (€13.9m) • Use existing contra flow bus lane on Sarsfield Road outbound and relocate existing parking occurring along inbound all-vehicle lane to ensure no obstructions to bus movement. • Redistribution of existing road space on R839 from junction with Sarsfield Road to junction with Emmet Road to provide bus lanes in both directions. • Redistribution of space on Emmet Road to provide bus lanes in both directions where possible. Road to be closed to general traffic in outbound direction. Existing residential parking to be maintained. • Install bus gate

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		existing road space on Lower Bridge St and R108 to provide bus lanes in both directions. • Provision of cycle tracks in both directions through Phoenix Park as alternative cycle route • Upgrade existing bus stops.	lanes on north and south quays for inbound and outbound operation. • Redistribute existing road space on Lower Bridge St and R108 to provide bus lanes in both directions. • Upgrade existing bus stops.	junction to Thomas St to provide inbound bus lane where possible. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road, Kilmainham Lane and Bow Lane West as alternative for primary cycle route. • Provision of new off-street car parking on Emmet Road to replace lost residential on-street parking. • Upgrade existing bus stops	provide bus lanes in both directions and cycle tracks where possible. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road, Kilmainham Lane and Bow Lane West as alternative for primary cycle route.	existing road space on Lower Bridge St and R108 to provide bus lanes in both directions. • Provision of cycle tracks in both directions along R111 and R148 as alternative cycle • Upgrade existing bus stops. • Provision of cycle tracks along R148 from R111 junction to quays as alternative for primary cycle route. ***Land Acquisition***	Luas. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Upgrade existing bus stops ***Land Acquisition***	existing road space on R810 from R111 junction to Thomas St to provide bus lanes in both directions where possible. Road to be closed to general traffic in outbound direction. Existing on-street parking to be maintained. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road, Kilmainham Lane and Bow Lane West as alternative for primary cycle route. • Upgrade existing bus stops	Thomas St to provide bus lanes in both directions where possible. Road to be closed to general traffic in outbound direction. Existing on-street parking to be maintained. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Provision of new off-street car parking on Emmet Road to replace lost residential on-street parking. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road, Kilmainham Lane and Bow Lane West as alternative for primary cycle route. • Upgrade existing bus stops	General traffic prohibited from travelling through bus gate. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Provision of new off-street car parking on Emmet Road to replace lost residential on-street parking. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road as alternative for primary cycle route. • Upgrade existing bus stops	on R810 at Kearn's Place junction. General traffic prohibited from travelling through bus gate. • Redistribute existing road space on R810 from Thomas St to Christchurch to provide bus lanes in both directions and cycle tracks where possible. • Provision of cycle tracks on Con Colbert Road, R148, Memorial Road as alternative for primary cycle route. • Upgrade existing bus stops • Provision of new bus stops

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		Land Acquisition Cost: (€1.2m) • 750m² private land • 9 private properties affected	***Land Acquisition Cost:*** (€0m) • 120 m² public land	***Land Acquisition Cost:*** (€2.7m) • 1800 m² private land • 26 private properties affected	***Land Acquisition Cost:*** (€0m) • No land take required	***Cost:*** (€0m) • No land take required	***Cost:*** (€0.25m) • 170 m² private land	***Land Acquisition Cost:*** (€0m) • No land take required	***Land Acquisition Cost:*** (€2.7m) • 1800 m² private land • 26 private properties affected	***Land Acquisition Cost:*** (€2.7m) • 1800 m² private land • 26 private properties affected	***Land Acquisition Cost:*** (€0m) • No land take required
	Rank										
	Transport Reliability and Quality of Service	Journey time: 18 – 19.5 minutes Length of route: 3.6 km Priority: Full bus priority provided for 95% of inbound route including through signalised junctions. Bus priority not achievable for a short stretch on the R109 on approach to the junction with R111. Full bus priority provided for 95% of outbound route including through signalised junctions. Bus priority not achievable for a short stretch on the R109 after the junction with R111.	Journey time: 18 – 18.5 minutes Length of route: 3.8 km Priority: Full bus priority provided for 100% of inbound route including through signalised junctions. Full bus priority provided for 95% of outbound route including through signalised junctions. Bus priority not achievable through junction of R148 and R111.	Journey time: 20 – 20.5 minutes Length of route: 4.2 km Priority: Full bus priority provided for 70% of inbound route including through signalised junctions. Priority not achievable on Sarsfield Road and various sections of the R810 between the R111 junction and St James' Hospital Entrance. Full bus priority provided for 70% of outbound route including through signalised junctions. Priority not achievable on the various sections of the R810 at Old Kilmainham and Emmet Road.	Journey time: 18.5 – 20.5 minutes Length of route: 3.9 km Priority: Full bus priority provided for 85% of inbound route including through signalised junctions. Priority not achievable on various sections of the R810 between the R111 junction and St James' Hospital Entrance. Full bus priority provided for 75% of outbound route including through signalised junctions. Priority not achievable on the majority of the R810.	Journey time: 20.5 – 21 minutes Length of route: 4.1 km Priority: Full bus priority provided for 85% of inbound route including through signalised junctions. Priority not achievable on R111 at bridge over River Liffey. Full bus priority provided for 75% of outbound route including through signalised junctions. Priority not achievable on R111 at bridge over River Liffey and through junction between	Journey time: 15.5 – 16 minutes Length of route: 3.8 km Priority: Full bus priority provided for 95% of inbound route including through signalised junctions. Shared lane with LUAS and hospital access traffic on Steven's Lane Full bus priority provided for 95% of outbound route including through signalised junctions. Shared lane with LUAS and hospital access traffic on Steven's Lane and priority but this should not	Journey time: 18 – 20 minutes Length of route: 4.2 km Priority: Full bus priority provided for 70% of inbound route including through signalised junctions. Priority not achievable on Sarsfield Road and sections of the R810 at Old Kilmainham and James Street. Reliability may be impacted by congestion in these areas. Full bus priority provided for 95% of outbound route including through signalised junctions.	Journey time: 18– 20 minutes Length of route: 4.2 km Priority: Full bus priority provided for 75% of inbound route including through signalised junctions. Priority not achievable on Sarsfield Road and sections of the R810 at Old Kilmainham and James Street. Reliability may be impacted by congestion in these areas. Full bus priority provided for 95% of outbound route including through signalised junctions. Priority not achievable on some short sections of the R810 at Emmet Road.	Journey time: 18 – 19 minutes Length of route: 4.2 km Priority: Full bus priority provided for 60% of inbound route including through signalised junctions. Priority not achievable on Sarsfield Road. Continuous bus lanes not feasible along entirety of Emmet Road although queue relocation should avoid potential for busses to be delayed. Full bus priority provided for 65% of outbound route including through signalised junctions. Provision of bus gate along the R810 at Kearn's Place ensures that general traffic is removed except	Journey time: 17.5 – 18.5 minutes Length of route: 4.4 km Priority: Full bus priority provided for 60% of inbound route including through signalised junctions. Priority not achievable on Sarsfield Road. Full bus priority provided for 65% of outbound route including through signalised junctions. Provision of bus gate along the R810 at Kearn's Place ensures that general traffic is removed except

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
				Reliability is difficult to guarantee due to inability to provide bus lanes in areas where congestion is currently experienced.		R111 and R148.	adversely affect reliability.			for access. This would improve bus travel times and reliability along this section.	for access. This would improve bus travel times and reliability along this section without the need for full bus priority.
	Rank										
Integration	Land Use Integration	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.	Most of area surrounding route is already substantially developed with little opportunity to encourage further. This route integrates well with the land use and objectives identified in the DCC City Development Plan.
	Rank										
	Residential, Employment and Educational Catchments	***Residential Population Catchment*** • 14803 within 5 minute walk of route • 35336 within 10 minute walk of route • 57506 within 15 minute walk of route ***Employment Catchment*** • 12388 within 5 minute walk of route • 29969 within 10 minute walk of route • 66299 within 15 minute walk of route	***Residential Population Catchment*** • 16597 within 5 minute walk of route • 41042 within 10 minute walk of route • 65879 within 15 minute walk of route ***Employment Catchment*** • 14582 within 5 minute walk of route • 37180 within 10 minute walk of route • 67842 within 15 minute walk of route	***Residential Population Catchment*** • 23197 within 5 minute walk of route • 45715 within 10 minute walk of route • 71638 within 15 minute walk of route ***Employment Catchment*** • 17280 within 5 minute walk of route • 37618 within 10 minute walk of route • 68089 within 15 minute walk of route	***Residential Population Catchment*** • 19231 within 5 minute walk of route • 42602 within 10 minute walk of route • 69044 within 15 minute walk of route ***Employment Catchment*** • 17045 within 5 minute walk of route • 36887 within 10 minute walk of route • 67159 within 15 minute walk of route	***Residential Population Catchment*** • 16047 within 5 minute walk of route • 40998 within 10 minute walk of route • 66234 within 15 minute walk of route ***Employment Catchment*** • 13108 within 5 minute walk of route • 32042 within 10 minute walk of route • 67789 within 15 minute walk of route	***Residential Population Catchment*** • 16983 within 5 minute walk of route • 40591 within 10 minute walk of route • 68329 within 15 minute walk of route ***Employment Catchment*** • 15197 within 5 minute walk of route • 37047 within 10 minute walk of route • 66656 within 15 minute walk of route	***Residential Population Catchment*** • 23197 within 5 minute walk of route • 45715 within 10 minute walk of route • 71638 within 15 minute walk of route ***Employment Catchment*** • 17280 within 5 minute walk of route • 37618 within 10 minute walk of route • 68089 within 15 minute walk of route	***Residential Population Catchment*** • 23197 within 5 minute walk of route • 45715 within 10 minute walk of route • 71638 within 15 minute walk of route ***Employment Catchment*** • 17280 within 5 minute walk of route • 37618 within 10 minute walk of route • 68089 within 15 minute walk of route	***Residential Population Catchment*** • 23197 within 5 minute walk of route • 45715 within 10 minute walk of route • 71638 within 15 minute walk of route ***Employment Catchment*** • 17280 within 5 minute walk of route • 37618 within 10 minute walk of route • 68089 within 15 minute walk of route	***Residential Population Catchment*** • 23197 within 5 minute walk of route • 45715 within 10 minute walk of route • 71638 within 15 minute walk of route ***Employment Catchment*** • 17280 within 5 minute walk of route • 37618 within 10 minute walk of route • 68089 within 15 minute walk of route

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		Educational Catchment (1st, 2nd and 3rd Levels) • 1951 within 5 minute walk of route • 8388 within 10 minute walk of route • 30426 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2213 within 5 minute walk of route • 9437 within 10 minute walk of route • 31763 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2685 within 5 minute walk of route • 10393 within 10 minute walk of route • 31690 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2197 within 5 minute walk of route • 9805 within 10 minute walk of route • 30497 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2210 within 5 minute walk of route • 9395 within 10 minute walk of route • 31765 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2156 within 5 minute walk of route • 9806 within 10 minute walk of route • 30448 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2685 within 5 minute walk of route • 10393 within 10 minute walk of route • 31690 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2685 within 5 minute walk of route • 10393 within 10 minute walk of route • 31690 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2685 within 5 minute walk of route • 10393 within 10 minute walk of route • 31690 within 15 minute walk of route	***Educational Catchment (1st, 2nd and 3rd Levels)*** • 2685 within 5 minute walk of route • 10393 within 10 minute walk of route • 31690 within 15 minute walk of route
	Rank										
	Transport Network Integration	This route follows that of a number of Dublin Bus services that serve the Lucan and Leixlip areas. However, these existing bus routes do not serve the Liffey Valley or Ballyfermot areas. This route is within a short walk of Heuston Station and the red line Luas. Busses would be required to use the quays, adding further bus traffic to an already saturated link.	This route follows that of a number of express Dublin Bus services and Bus Eireann that serve the Lucan and Leixlip areas. However, these existing bus routes do not serve the Liffey Valley or Ballyfermot areas. This route serves Heuston Station and the red line Luas directly. There is a significant overlap between this route and the Lucan – City Centre Core Bus Corridor and busses would be required to use the quays, adding further bus traffic to an already saturated link.	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot. This route serves the red line Luas directly at St. James' Hospital, where an interchange is possible.	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot for most of its length. This route serves the red line Luas directly at St. James' Hospital, where an interchange is possible. Removal of traffic lanes on the R111 would lead to serious traffic issues, particularly at the junction of the R148 and R111.	This route follows that of a number of Dublin Bus services that serve the Lucan and Leixlip areas. However, these existing bus routes do not serve the Liffey Valley or Ballyfermot areas.	This route follows that of a number of express Dublin Bus services and Bus Eireann that serve the Lucan and Leixlip areas. However, these existing bus routes do not serve the Liffey Valley or Ballyfermot areas. This route serves Heuston Station and the red line Luas directly, while also serving the areas around Thomas Street and James Street.	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot on Thomas Street only. This route serves the red line Luas directly at St. James's Hospital, where an interchange is possible. Route requires Emmet Road and Old Kilmainham/James Street to be closed to general traffic in the outbound direction. This would force traffic travelling from the city centre to reroute, most probably onto the R148 via Military Road or on to the R110 if coming from further inside the city centre. These routes would then	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot on Thomas Street only. This route serves the red line Luas directly at St. James's Hospital, where an interchange is possible. Route requires route to be closed to general traffic in the outbound direction. This would force traffic travelling from the city centre to reroute, most probably onto the R148 via Military Road or on to the R110 if coming from further inside the city centre. These routes would then become increasingly saturated.	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot on Thomas Street only. This route serves the red line Luas directly at St. James's Hospital, where an interchange is possible. Route requires a bus gate on the R810 at Kearn's Place, effectively closing the road to general traffic except for access. This would force traffic travelling towards the city centre to reroute, most probably onto the R148 and the quays or on to the R110 if coming from further outside the city centre. These routes would then become	This route follows that of the main Dublin Bus services to Liffey Valley and Ballyfermot on Thomas Street only. This route serves the red line Luas directly at St. James's Hospital, where an interchange is possible. Route requires a bus gate on the R810 at Kearn's Place, effectively closing the road to general traffic except for access. This would force traffic travelling towards the city centre to reroute, most probably onto the R148 and the quays or on to the R110 if coming from further outside the city centre. These routes would then become

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
								become increasingly saturated. Traffic wishing to access areas along the R810, in particular a number of trip attractors along Emmet Road would be forced to divert in a circuitous manner to access the area Traffic travelling through the city and to St. James's Hospital and future Children's Hospital would be also diverted in a circuitous manner to access the hospital car parks.	Traffic travelling through the city and to St. James's Hospital and future Children's Hospital would be also diverted in a circuitous manner to access the hospital car parks.	increasingly saturated. Access to St. James's Hospital and future Children's Hospital would still be available in both directions but people wishing to access properties along Old Kilmainham may be forced to travel in a circuitous manner.	increasingly saturated. Access to St. James's Hospital and future Children's Hospital would still be available in both directions but people wishing to access properties along Old Kilmainham may be forced to travel in a circuitous manner.
	Rank										
	Cycling Integration	This route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along a number of sections of the R109 due to the proximity of building lines. An alternative for this primary cycle route can be provided on the R111 and R148 before re-joining at the north and south quays. However, there is a 400m section of the R109 on approach to the junction with the R111 where no alternatives can be	This route is designated as a secondary cycle route for its entire length before joining the primary route along the quays. It is possible to provide cycle tracks along the entire length of this route.	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along Sarsfield Road and the R810 from its junction with the R111 to the junction with Bow Lane West due to the proximity of building lines. An alternative for the primary cycle route on Sarsfield Road can be provided on the R148 and Memorial Road while an alternative for the R810 can be provided on Kilmainham Lane	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along the R810 from its junction with the R111 to the junction with Bow Lane West due to the proximity of building lines. An alternative for the primary cycle route on the R810 can be provided on Kilmainham Lane and Bow Lane West. It is not feasible to provide cycle lanes along with bus lanes on the R111 from the	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along a number of sections of the R109 due to the proximity of building lines. An alternative for this primary cycle route can be provided on the R148 before re-joining at the north and south quays. It is not feasible to provide cycle lanes along with bus lanes on the R111 from the R148 junction to the R109 junction due to proximity of	This route is designated as a secondary cycle route for its entire length before joining a primary route at Thomas Street. It is not feasible to provide cycling infrastructure along Steeven's Lane and there is no obvious alternative for this route. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along Sarsfield Road and the R810 from its junction with the R111 to the junction with Bow Lane West due to the proximity of building lines. An alternative for the primary cycle route on Sarsfield Road can be provided on the R148 and Memorial Road while an alternative for the R810 can be provided on Kilmainham Lane	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along Sarsfield Road and the R810 from its junction with the R111 to the junction with Bow Lane West due to the proximity of building lines. An alternative for the primary cycle route on Sarsfield Road can be provided on the R148 and Memorial Road. As traffic volumes will be largely reduced by the introduction of a bus gate on Old	The majority of this route is designated as a primary cycle route. It is not feasible to provide cycle tracks along with bus lanes along Sarsfield Road and the R810 from its junction with the R111 to the junction with Bow Lane West due to the proximity of building lines. An alternative for the primary cycle route on Sarsfield Road can be provided on the R148 and Memorial Road. As traffic volumes will be largely reduced by the introduction of a bus gate on Old

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		provided.		and Bow Lane West. It is not feasible to provide cycle lanes on the R839 from Sarsfield Road to Emmet Road junctions due to proximity of building lines. This is currently designated as a secondary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas	R148 junction to the R810 junction due to proximity of building lines. This is currently designated as a primary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas.	building lines. This is currently designated as a primary cycle route and no alternative exists.	number of areas.	and Bow Lane West. It is not feasible to provide cycle lanes on the R839 from Sarsfield Road to Emmet Road junctions due to proximity of building lines. This is currently designated as a secondary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas	and Bow Lane West. It is not feasible to provide cycle lanes on the R839 from Sarsfield Road to Emmet Road junctions due to proximity of building lines. This is currently designated as a secondary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas	Kilmainham/James Street, the primary cycle could remain on these roads without need for segregation. It is not feasible to provide cycle lanes on the R839 from Sarsfield Road to Emmet Road junctions due to proximity of building lines. This is currently designated as a secondary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas	Kilmainham/James Street, the primary cycle could remain on these roads without need for segregation. It is not feasible to provide cycle lanes on the R839 from Sarsfield Road to Emmet Road junctions due to proximity of building lines. This is currently designated as a secondary cycle route and no alternative exists. Thomas Street is designated as a primary cycle track. It is proposed to provide cycle lanes along with bus lanes in this area where possible, although shared lanes are required in a number of areas
	Rank										
Accessibility & Social Inclusion	Key Trip Attractors	***Education*** • St. John of God School • Various City Centre Schools	***Education*** • Inchicore NS • Inchicore College of Further Education • St. John of God School • Various City Centre Schools	***Education*** • Inchicore NS • Mercy Secondary School • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • St. John of God School • Various City Centre Schools	***Education*** • Inchicore NS • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • Mercy Secondary School • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • Mercy Secondary School • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • Mercy Secondary School • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools	***Education*** • Inchicore NS • Mercy Secondary School • Inchicore College of Further Education • St. John of God School • Canal Way Educate Together • Various City Centre Schools

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		Health • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Phoenix Park • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Saint James's Gate Brewery ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. Patrick's University Hospital • St. James' Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts	***Health*** • St. James' Hospital • St. Patrick's University Hospital ***Retail/Leisure*** • Irish Museum of Modern Art • Kilmainham Gaol • National Museum of Ireland • Guinness Storehouse • Christchurch Cathedral • St. Patrick's Cathedral • Smithfield • Dame St. area ***Employment*** • Heuston South Quarter • Dublin City Centre West • Dublin City Centre South-West • Saint James's Gate Brewery • Inchicore Village ***Other*** • Criminal Courts of Justice • Four Courts
	Rank										
	Deprived Geographic Areas	The Dublin – South Inner City and Dublin – North West Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City	The Dublin – South West Inner City, Dublin – South Inner City

Clifton Scannell Emerson Associates

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		RAPID area are within 10 minutes' walk of this route. There are 14 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 14 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 23 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 21 disadvantaged areas and 9 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 15 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 24 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 23 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 23 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 23 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.	and Dublin – North West Inner City RAPID area are within 10 minutes' walk of this route. There are 23 disadvantaged areas and 10 very disadvantaged areas, as shown on Pobal deprivation maps, within 10 minutes' walk of the route.
	Rank										
Safety	Road Safety	***No. of junctions:*** 16 signalised 1 priority ***Vehicle Accident Data (since 2005)*** 75+ minor 2 serious 2 fatal	***No. of junctions:*** 18 signalised ***Vehicle Accident Data (since 2005)*** 80+ minor 4 serious 1 fatal	***No. of junctions:*** 10 signalised ***Vehicle Accident Data (since 2005)*** 105+ minor 4 serious	***No. of junctions:*** 13 signalised ***Vehicle Accident Data (since 2005)*** 115+ minor 4 serious	***No. of junctions:*** 18 signalised 1 priority ***Vehicle Accident Data (since 2005)*** 75+ minor 2 serious 2 fatal	***No. of junctions:*** 13 signalised ***Vehicle Accident Data (since 2005)*** 90+ minor 3 serious	***No. of junctions:*** 10 signalised ***Vehicle Accident Data (since 2005)*** 105+ minor 4 serious	***No. of junctions:*** 10 signalised ***Vehicle Accident Data (since 2005)*** 105+ minor 4 serious	***No. of junctions:*** 10 signalised ***Vehicle Accident Data (since 2005)*** 105+ minor 4 serious	***No. of junctions:*** 10 signalised ***Vehicle Accident Data (since 2005)*** 105+ minor 4 serious
	Rank										
	Pedestrian Safety	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 4 of 20 stops. ***Pedestrian Accident Data (since 2005)*** 25 minor 3 serious 1 fatal	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 5 of 22 stops. ***Pedestrian Accident Data (since 2005)*** 21 minor 4 serious 1 fatal	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 12 of 24 stops. ***Pedestrian Accident Data (since 2005)*** 34 minor 2 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 11 of 20 stops. ***Pedestrian Accident Data (since 2005)*** 25 minor 2 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 6 of 22 stops. ***Pedestrian Accident Data (since 2005)*** 27 minor 3 serious 1 fatal	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 10 of 17 stops. ***Pedestrian Accident Data (since 2005)*** 18 minor 3 serious 1 fatal	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 12 of 24 stops. ***Pedestrian Accident Data (since 2005)*** 34 minor 2 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 12 of 24 stops. ***Pedestrian Accident Data (since 2005)*** 34 minor 2 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 12 of 24 stops. ***Pedestrian Accident Data (since 2005)*** 34 minor 2 serious	Footpaths are available on both sides for the majority of this route. Pedestrian crossings located within 50m of 12 of 24 stops. ***Pedestrian Accident Data (since 2005)*** 34 minor 2 serious
	Rank										
Environment	Archaeology, Architectural and Cultural Heritage	There are 12 recorded monuments/places, along this route, 11 of which are along the quays. 45 protected structures are	There are 12 recorded monuments/places, along this route, 11 of which are along the quays. 45 protected structures are	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected	There are 14 recorded monuments/places, along this route, 11 of which are along the quays. 65 protected structures are	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 65 protected	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected	There are 20+ recorded monuments/places, along this route, most of which are along Thomas Street. 64 protected

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		identified along the route, 42 of which are listed buildings along the quays. It is not intended to affect any of these protected structures or monuments. The route passes through the conservation area along the River Liffey and Phoenix Park and would affect these areas. It also passes through the conservation area along the quays but does not impact on these areas.	identified along the route, 42 of which are listed buildings along the quays. It is not intended to affect any of these protected structures or monuments. The route passes adjacent to the conservation areas at the IMMA, Heuston Station and through the conservation area along the quays but does not impact on these.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the architectural conservation area at Thomas Street but does not impact on this.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the conservation area adjacent to the IMMA and the architectural conservation area at Thomas Street but does not impact on these.	identified along the route, 42 of which are listed buildings along the quays. It is not intended to affect any of these protected structures or monuments. The route passes through the conservation area along the River Liffey and Phoenix Park and would affect these areas. It also passes through the conservation area along the quays but does not impact on these areas.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. Land take is required from the curtilage of Steeven's Hospital which is a protected structure. The route passes adjacent to the conservation areas at the IMMA, Heuston Station and through the architectural conservation area at Thomas Street but does not impact on these.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the architectural conservation area at Thomas Street but does not impact on this.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the architectural conservation area at Thomas Street but does not impact on this.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the architectural conservation area at Thomas Street but does not impact on this.	structures are identified along the route, the vast majority of which are listed buildings along Thomas Street. It is not intended to affect any of these protected structures or monuments. The route passes through the architectural conservation area at Thomas Street but does not impact on this.
	Rank										
	Flora and Fauna	There is minimal land take required along the route. However, some land take may be required adjacent to the River Liffey, which may have an effect on the local flora and fauna.	There is minimal land take required along the route. The small amount required is generally fill material in embankments of low ecological value and would have little effect on flora and fauna.	There is some land take required as part of this route. However, the land required is generally from the front of residences and from a disused green area fronting the existing road. As such, it is unlikely that the land take required will have a major effect on the local flora and fauna.	There is no land take required along this route and the route is contained within existing road reservations. As the route is in an urban town area, there would be minimal effect on flora and fauna	There is virtually no land take required along this route and the route is generally within existing road reservations. As the required land take is in an urban town area, there would be minimal effect on flora and fauna.	The route is generally contained within the existing road reservation. A small area of land take is required from an area of embankment and from the formal gardens to the front of Steeven's Hospital. It is unlikely that removal of green space in these areas would have a major effect on local flora and fauna.	There is no land take required along this route and the route is generally within existing road reservations. As such, there would be minimal effect on flora and fauna.	There is some land take required as part of this route. However, the land required is generally from the front of residences and from a disused green area fronting the existing road. As such, it is unlikely that the land take required will have a major effect on the local flora and fauna.	There is some land take required as part of this route. However, the land required is generally from the front of residences and from a disused green area fronting the existing road. As such, it is unlikely that the land take required will have a major effect on the local flora and fauna.	There is no land take required along this route and the route is generally within existing road reservations. As such, there would be minimal effect on flora and fauna.
	Rank										
	Soils and Geology	Given the very small area of land-take required and its location within	Given the very small area of land-take required and its location within	Given the largest area of land take required along this route is from a	Given that the route is contained within existing road reservations	Given that the route is contained within existing road reservations	Given the very small area of land-take required and its location within	Given that the route is contained within existing road reservations	Given the largest area of land take required along this route is from a	Given the largest area of land take required along this route is from a	Given that the route is contained within existing road reservations

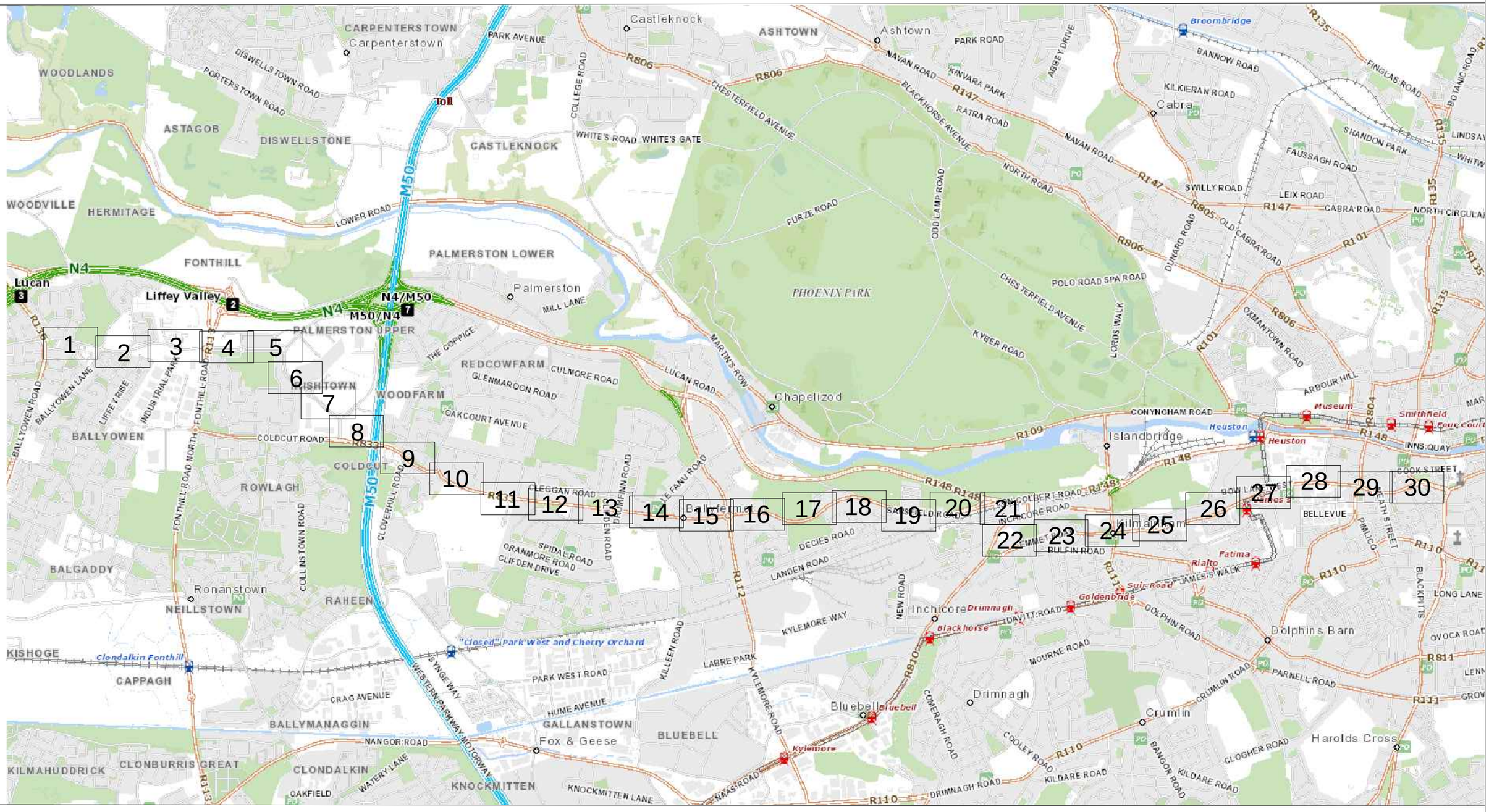
Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		the existing carriageway reservation it is unlikely that this route would have any appreciable effects on soils and geology in the area.	the existing carriageway reservation it is unlikely that this route would have any appreciable effects on soils and geology in the area.	disused green space that fronts Emmet Road it is unlikely that this route would have any appreciable effects on soils and geology in the area.	there is minimal risk of any effects to the soils and geology in the area.	there is minimal risk of any effects to the soils and geology in the area.	the existing carriageway reservation it is unlikely that this route would have any appreciable effects on soils and geology in the area.	there is minimal risk of any effects to the soils and geology in the area.	disused green space that fronts Emmet Road it is unlikely that this route would have any appreciable effects on soils and geology in the area.	disused green space that fronts Emmet Road it is unlikely that this route would have any appreciable effects on soils and geology in the area.	there is minimal risk of any effects to the soils and geology in the area.
	Rank										
	Hydrology	This route crosses the River Liffey at Frank Sherwin Bridge and at and travels along both the north and south quays. A section of the route runs parallel to the river adjacent to the Phoenix Park. Areas along both north and south quays are identified as being at risk from flooding in the 1 in 10 year event. Additionally, a short section of the route adjacent to the Phoenix Park is identified as being at risk from flooding in a 1 in 100 year event.	This route crosses the River Liffey at Frank Sherwin Bridge and travels along both the north and south quays. Areas along both north and south quays are identified as being at risk from flooding in the 1 in 10 year event.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event. It is proposed to construct the alternative parking for residents on Emmet Road in an area that is identified as being in the flood plain of the Cammock River.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event.	This route crosses the River Liffey at Frank Sherwin Bridge and at Islandbridge and travels along both the north and south quays. Areas along both north and south quays are identified as being at risk from flooding in the 1 in 10 year event. Additionally, a short section of the route at the Islandbridge bridge is identified as being at risk from flooding in a 1 in 1000 year event.	Only a very short section of this route along the R148 is identified of being at risk in the 1 in 1000 year event.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event. It is proposed to construct the alternative parking for residents on Emmet Road in an area that is identified as being in the flood plain of the Cammock River.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event. It is proposed to construct the alternative parking for residents on Emmet Road in an area that is identified as being in the flood plain of the Cammock River.	A section of this route along the R810 is identified as being at risk from a 1 in 10 year flood event.
	Rank										
	Landscape and Visual	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity. Where road widening is required adjacent to the River Liffey, there would be	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.	This route generally makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity, although there may be some localised effects where it is proposed to	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.	This route generally makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity, although there may be some localised effects where it is proposed to	This route generally makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity, although there may be some localised effects where it is proposed to	This route makes use of existing road corridors along its length. There is little impact to the landscape or visual amenity.

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		some detrimental effects to the landscape and visual amenity of the route.		construct car parking in an existing green space.					construct car parking in an existing green space.	construct car parking in an existing green space.	
	Rank										
	Air Quality	Widening along the route is confined to areas adjacent to the River Liffey and as such would not affect sensitive receptors in terms of air quality.	Widening along the route is confined to areas at the Con Colbert Road junction and is located along an existing embankment. There would be minimal increase in air pollution to sensitive receptors.	Widening is required in some areas along Emmet Road. As a result of this widening, some air pollution may be experienced in adjacent sensitive residential receptors.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route.	As the route is generally within the existing road reservations, it is unlikely to have much effect on air quality.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route	Widening is required in some areas along Emmet Road. As a result of this widening, some air pollution may be experienced in adjacent sensitive residential receptors.	Widening is required in some areas along Emmet Road. As a result of this widening, some air pollution may be experienced in adjacent sensitive residential receptors.	Widening is required in a very localised area along Grattan Crescent. The effects of this widening are minimal in terms of increases in air quality.
	Rank										
	Noise & Vibration	Widening along the route is confined to areas adjacent to the River Liffey and as such would not affect sensitive receptors in terms of noise and vibration.	Widening along the route is confined to areas at the Con Colbert Road junction and is located along an existing embankment. There would be minimal increase in noise and vibration to sensitive receptors.	Widening is required in some areas along Emmet Road. As a result of this widening, some increase in noise and vibration may be experienced in adjacent sensitive residential receptors.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in noise and vibration for sensitive receptors along the route.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route.	This route is contained within the existing road reservation and no widening is proposed. As a result, there would be minimal increases in air pollution for sensitive receptors along the route.	Widening is required in some areas along Emmet Road. As a result of this widening, some increase in noise and vibration may be experienced in adjacent sensitive residential receptors.	Widening is required in some areas along Emmet Road. As a result of this widening, some increase in noise and vibration may be experienced in adjacent sensitive residential receptors.	Widening is required in a very localised area along Grattan Crescent. The effects of this widening are minimal in terms of increases in noise and vibration.
	Rank										
	Land Use Character	Route option has some impact on existing land use where widening is required adjacent to the River Liffey although The majority of the route is within the existing road reservation. Some existing car parking spaces may be lost along the R109 in order to provide bus priority. However,	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Some existing car pay and display parking spaces may be lost along the R148 in the vicinity of Heuston Station in order to provide bus priority. However, this parking is not	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are generally retained along Emmet Road and R810 as these cannot be adequately relocated. A number of spaces	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are retained along the R810 as these cannot be adequately relocated. Loading bays at shops along the	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Some existing car parking spaces may be lost along the R109 in order to provide bus priority. However, this parking is not considered critical and can be relocated.	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Some existing car pay and display parking spaces may be lost along the R148 in the vicinity of Heuston Station in order to provide bus priority. However, this parking is not	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are retained along Emmet Road and R810 as these cannot be adequately relocated. Loading bays at	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are generally retained along Emmet Road and R810 as these cannot be adequately relocated. A number of spaces	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are generally retained along Emmet Road and R810 as these cannot be adequately relocated. A number of spaces	Route option has little impact on existing land use as it is generally contained within the existing road reservation. Existing residential car parking spaces are retained along Emmet Road and R810 as these cannot be adequately relocated. Loading bays at

Assessment Criteria	Assessment Sub-Criteria	Route Option CCT01	Route Option CCT02	Route Option CCT03	Route Option CCT04	Route Option CCT05	Route Option CCT06	Route Option CCT07	Route Option CCT08	Route Option CCT09	Route Option CCT10
		this parking is not critical and can be relocated.	considered critical and can be relocated. In addition, the existing Taxi rank at Heuston Station may need to be relocated.	on Emmet Road would be lost with alternative parking being made available for some of these. Loading bays at shops along the route will be retained where possible.	route will be retained where possible.		considered critical and can be relocated. In addition, the existing Taxi rank at Heuston Station may need to be relocated.	shops along the route will be retained where possible.	on Emmet Road would be lost with alternative parking being made available for some of these. Loading bays at shops along the route will be retained where possible.	on Emmet Road would be lost with alternative parking being made available for some of these. Loading bays at shops along the route will be retained where possible.	shops along the route will be retained where possible.
	Rank										

Appendix B – Emerging Preferred Route Concept Scheme Drawings

A3



0 10 100

Liffey Valley To City Centre Key Plan

A3

HERMITAGE PARK

BALLYOWEN GROVE

BALLYOWEN DRIVE

BALLYOWEN COURT

BALLYOWEN ROAD

BALLYOWEN RD

LARKFIELD CLOSE

LARKFIELD AVENUE

LARKFIELD WAY

LARKFIELD SQUARE

BALLYOWEN HALL

ROAD WIDENING AND LAND TAKE REQUIRED

0+000

0+100

0+200

0+300

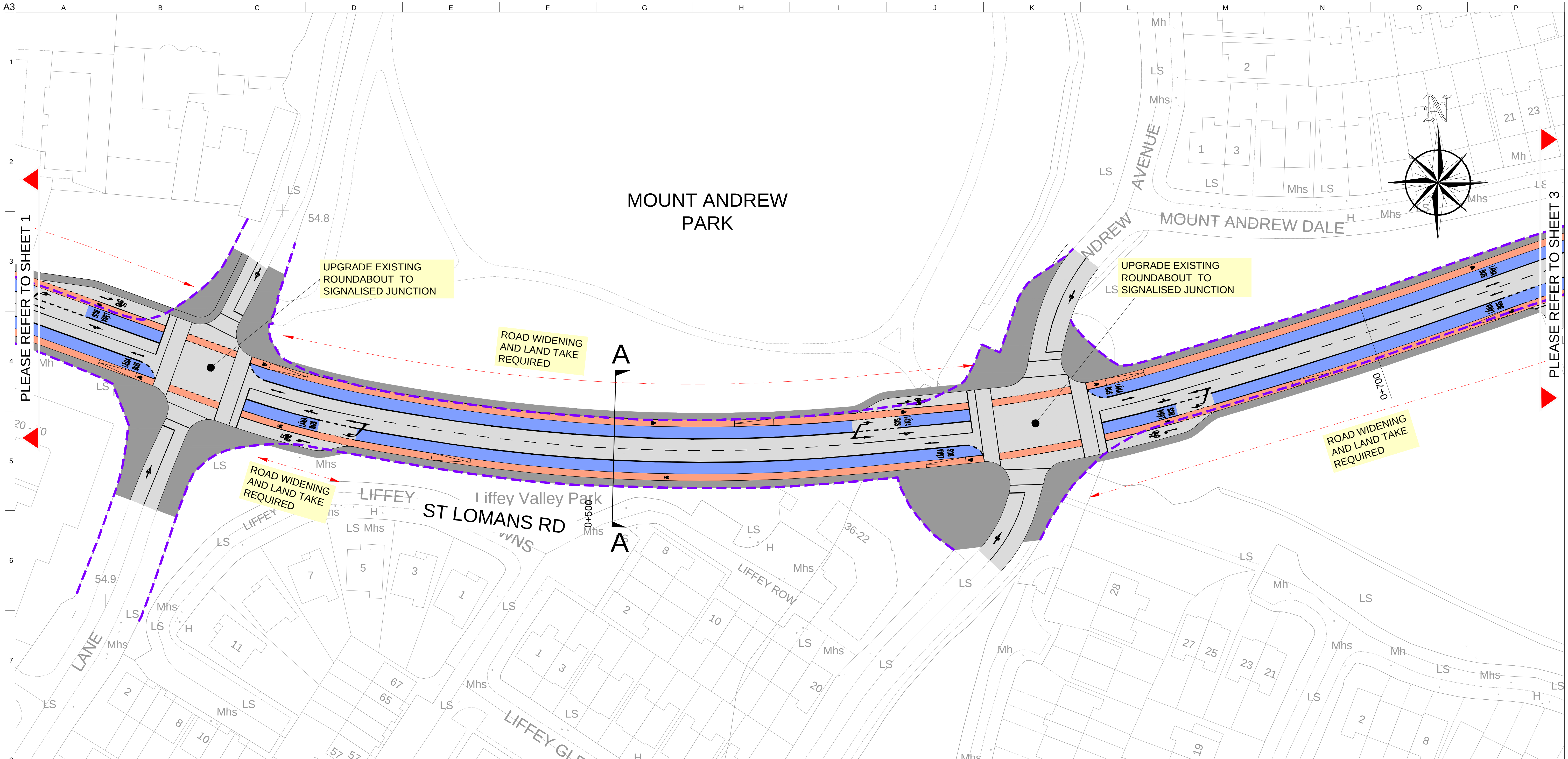
PLEASE REFER TO SHEET 2

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -

Liffey Valley To City Centre Sheet 1 of 30


MOUNT ANDREW
PARK
UPGRADE EXISTING
ROUNDABOUT TO
SIGNALISED JUNCTION
UPGRADE EXISTING
ROUNDABOUT TO
SIGNALISED JUNCTION
ROAD WIDENING
AND LAND TAKE
REQUIRED
ROAD WIDENING
AND LAND TAKE
REQUIRED
ROAD WIDENING
AND LAND TAKE
REQUIRED
PLEASE REFER TO SHEET 1
PLEASE REFER TO SHEET 3
MOUNT ANDREW DALE
ST LOMANS RD
Liffey Valley Park
LIFFEY ROW
LIFFEY VIEW
AVENUE
A
A
0+500
0+700
54.8
54.9
0 10 100
Ordnance Survey Ireland Licence No EN 0033316
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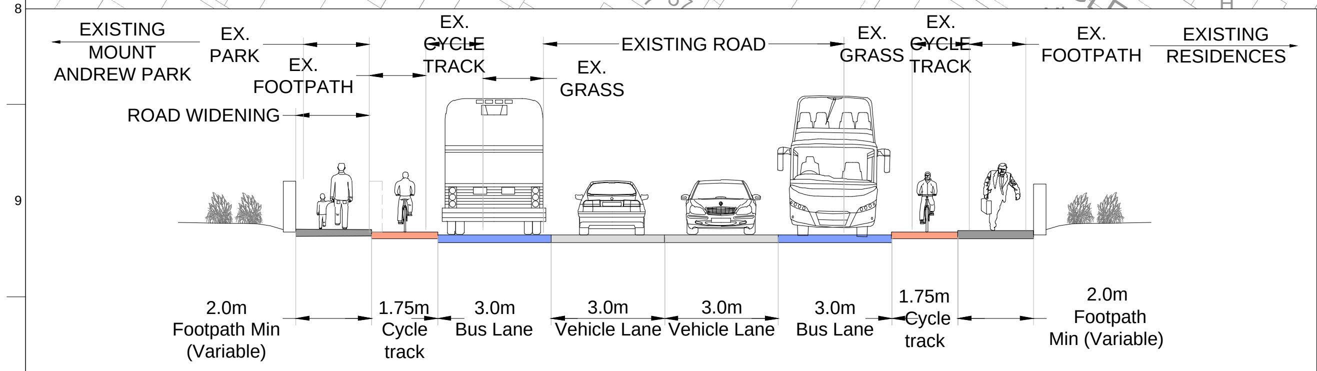
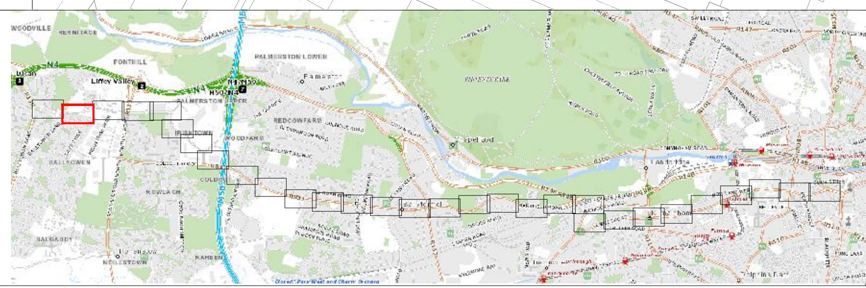

EXISTING
MOUNT
ANDREW PARK
EX.
PARK
EX.
FOOTPATH
ROAD WIDENING
EX.
CYCLE
TRACK
EXISTING ROAD
EX.
GRASS
EX.
GRASS
EX.
CYCLE
TRACK
EX.
FOOTPATH
EXISTING
RESIDENCES
2.0m
Footpath Min
(Variable)
1.75m
Cycle
track
3.0m
Bus Lane
3.0m
Vehicle Lane
3.0m
Vehicle Lane
3.0m
Bus Lane
1.75m
Cycle
track
2.0m
Footpath
Min (Variable)

SECTION A-A

EXISTING BOUNDARY -	PROPOSED CARRIAGEWAY -
EXISTING KERB -	PROPOSED ROAD RAMP -
POSSIBLE LAND ACQUISITION -	PROPOSED CYCLETRACK-
PROPOSED ROAD KERBS -	PROPOSED FOOTPATH -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -	GRASS VERGE-
PROPOSED BUS STOP -	PARKING AREA-
PROPOSED SHARED SURFACE -	LUAS LANE -
	CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 2 of 30

A3

PLEASE REFER TO SHEET 2

PLEASE REFER TO SHEET 4

EXISTING JUNCTION TO RE SIGNALISED

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

ST LOMANS RD

ST. EDMUND'S PARK

HANNAH SQUARE

JULIET SQUARE

Area under construction

Hannah Square

Oak View

0+800

0+900

1+000

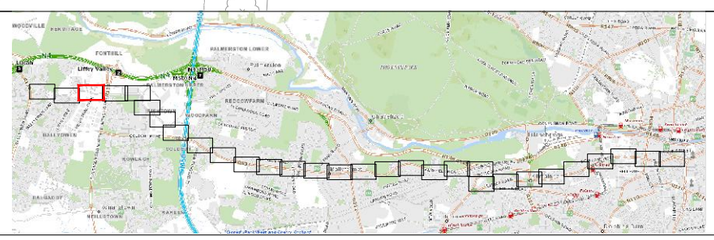
1+100

0 10 100

N

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 3 of 30

A3

EXISTING ROUNDABOUT TO BE MAINTAINED

EXISTING ROUNDABOUT LAYOUT TO BE MODIFIED TO ACCOMMODATE BUS LANES

EXISTING ROAD TO BE WIDENED INTO MEDIAN AS REQUIRED

Car Park

SHANCASTLE DRIVE

HILL ROAD

PLEASE REFER TO SHEET 3

PLEASE REFER TO SHEET 5

1+200

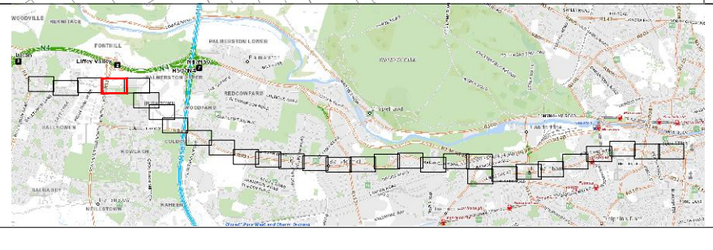
1+300

1+400

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 4 of 30

A3

EXISTING ROAD TO BE WIDENED INTO MEDIAN AS REQUIRED

EXISTING ROUNDABOUT LAYOUT TO BE MODIFIED TO ACCOMMODATE BUS LANES

PLEASE REFER TO SHEET 4

PLEASE REFER TO SHEET 6

QUARRYVALE PARK

Ramp

Car Park

Car Park

1+500

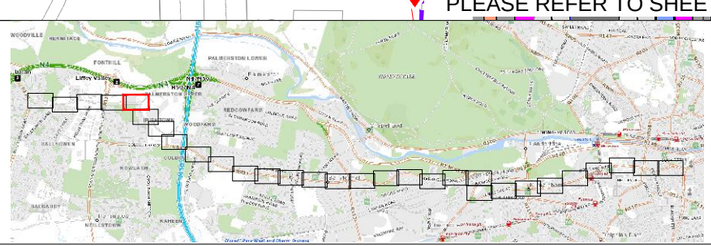
1+600

1+700

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 5 of 30

A3

PLEASE REFER TO SHEET 5

LIFFEY VALLEY
SHOPPING CENTRE

EXISTING ROAD TO BE
WIDENED INTO MEDIAN
AS REQUIRED

1+800

1+900

2+000

GREENFORT

LAWNS

GARDENS

LAWNS

CENT

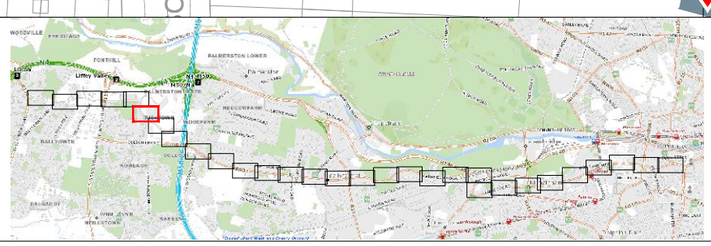
Ramp

PLEASE REFER TO SHEET 7

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE /
SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

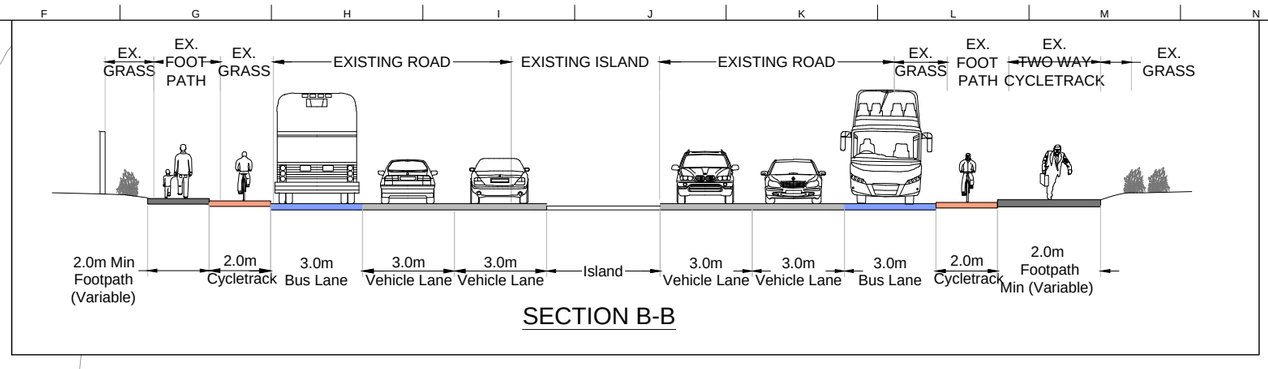
PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 6 of 30

A3

PLEASE REFER TO SHEET 6



SECTION B-B

EXISTING ROUNDABOUT LAYOUT TO BE MODIFIED TO ACCOMMODATE BUS LANES

EXISTING ROAD TO BE WIDENED INTO MEDIAN AS REQUIRED

EXISTING ROUNDABOUT LAYOUT TO BE MODIFIED TO ACCOMMODATE BUS LANES

2+000

2+100

2+200

2+300

B

B

Mh

LS

Barkhill Retail Park

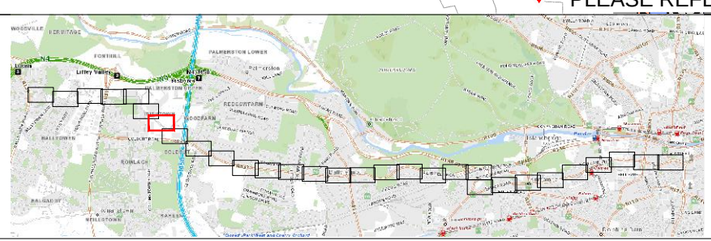
Car Park

0 10 100

PLEASE REFER TO SHEET 8

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 7 of 30

A3

PLEASE REFER TO SHEET 7

EXISTING ROAD TO BE WIDENED INTO GRASS VERGE AS REQUIRED

EXISTING JUNCTION LAYOUT TO BE MODIFIED TO ACCOMMODATE NEW BUS AND CYCLIST FACILITIES

PROPOSED BUS GATE, CUE RELOCATION FACILITY

TRAFFIC SIGNALS AT ADJACENT JUNCTIONS TO BE SEQUENCED TO ENSURE BUS PRIORITY.

2+300

2+400

2+500

2+600

2+700

COLDCUT RD

Car Park

Health Club

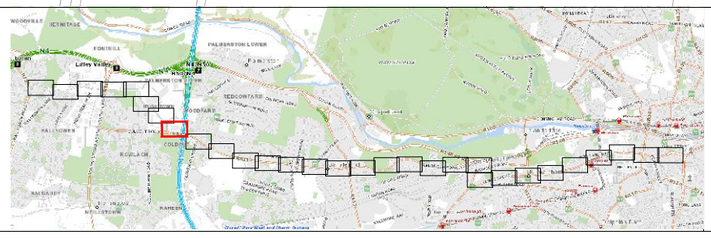
M50

BM 63.94

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 8 of 30

PLEASE REFER TO SHEET 9

A3

PLEASE REFER TO SHEET 8

PALMERS DRIVE

PALMERS ROAD

PALMERS

PALMERS WALK

COLDCUT CRESCENT

COLDCUT PARK

COLDCUT RD

CLOVERHILL RD

WHITETHORN WAY

WHITETHORN CRESCENT

ROAD WIDENING AND LAND TAKE REQUIRED

EXISTING JUNCTION LAYOUT TO BE MODIFIED TO ACCOMMODATE NEW BUS AND CYCLIST FACILITIES

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

2+800

2+900

3+000

3+100

BUS

BUS

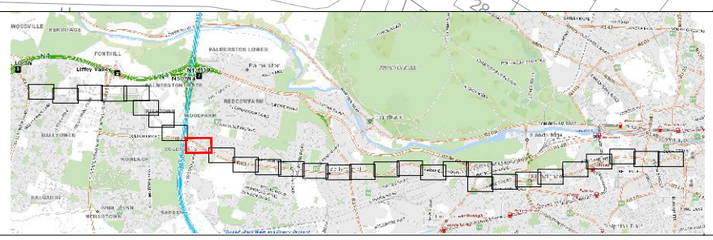
BUS

BM 55.71

PLEASE REFER TO SHEET 10

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -
PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 9 of 30

A3

KENNELSFORT ROAD UPPER

CHERRY ORCHARD INDUSTRIAL ESTATE

CHERRY ORCHARD HOSPITAL

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

PLEASE REFER TO SHEET 9

PLEASE REFER TO SHEET 11

WHITETHORN DRIVE

3+200

3+300

3+400

3+500

Ramp

Car Park

Cherry Orchard Hospital

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -
PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -

Liffey Valley To City Centre Sheet 10 of 30

A3

BALLYFERMOT ROAD

PLEASE REFER TO SHEET 10

PLEASE REFER TO SHEET 12

CHERRY ORCHARD HOSPITAL

BALLYFERMOT PRIMARY CARE CENTRE

Car Park

Saint Vincent's E.C.D.S

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

3+600

3+700

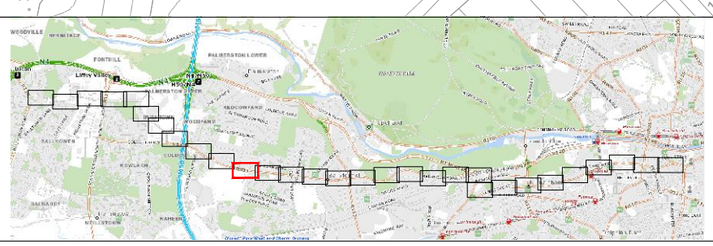
3+800

3+900

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 11 of 30

A3

EXISTING PARALLEL ACCESS ROADS TO BE REMOVED

PLEASE REFER TO SHEET 11

PLEASE REFER TO SHEET 13

CLEGGAN ROAD

BALLYFERMOT ROAD

BLACKDITCH ROAD

BLACKDITCH DRIVE

Church (Cath)

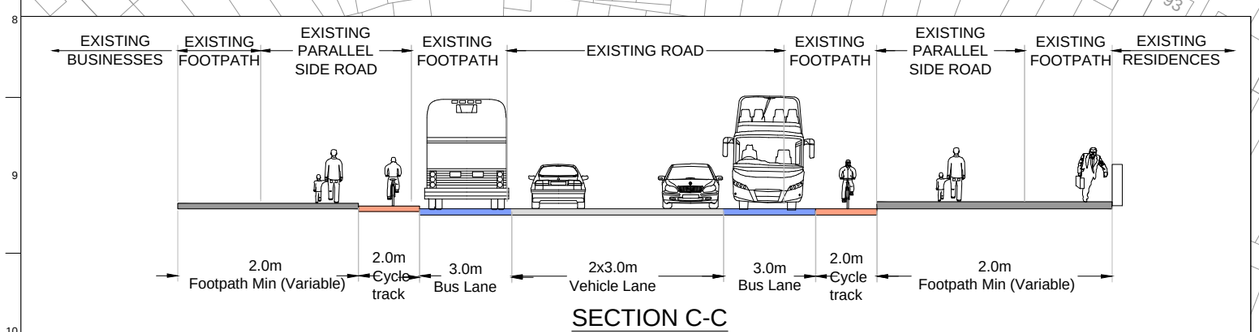
4+000

4+100

4+200

C

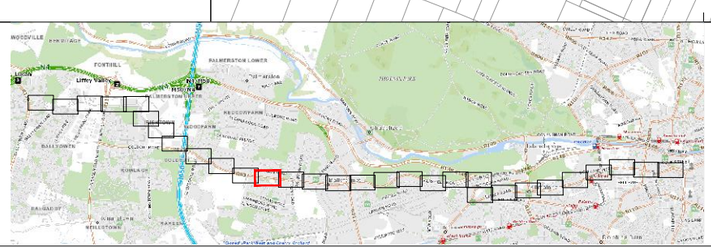
C



SECTION C-C

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



0 10 100

Liffey Valley To City Centre Sheet 12 of 30

A3

PLEASE REFER TO SHEET 12

PLEASE REFER TO SHEET 14

C

C

4+300

4+400

4+500

4+600

EXISTING PARALLEL ACCESS ROADS TO BE REMOVED

EXISTING PARALLEL ACCESS ROADS TO BE REMOVED

DRUMFINN AVENUE

DRUMFINN ROAD

BLACKDITCH ROAD

Community Centre

Eastern Health Board Clinic

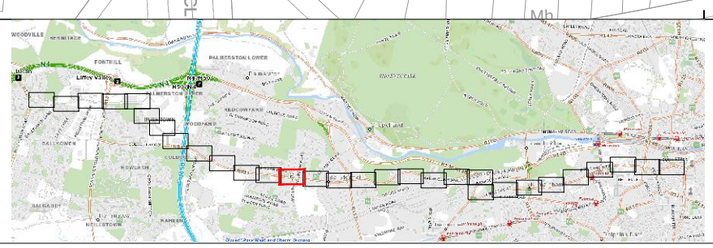
BM 47.29

BM 45.01

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 13 of 30

A3

ROSSMORE AVENUE

BALLYFERMOT ROAD

LE FANU RD

COLEPARK ROAD

Car Park

PO

Bank

BM 40.91

40.2

41.2

39.3

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

PLEASE REFER TO SHEET 13

ALLEL ACCESS REMOVED

PLEASE REFER TO SHEET 15

4+700

4+800

4+900

5+000

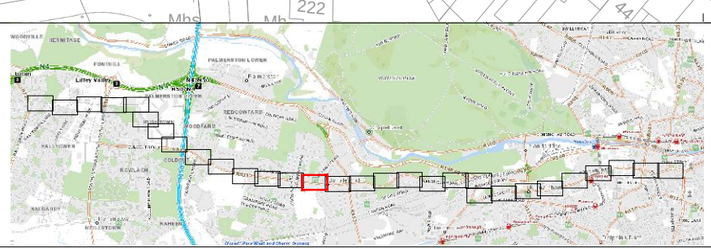
D

D

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 14 of 30

A3

UPGRADE EXISTING ROUNDABOUT TO SIGNALISED JUNCTION

ROAD WIDENING AND LAND TAKE REQUIRED

KYLEMORE RD

COLEPARK AVENUE

COLEPARK DRIVE

BALLYFERMOT ROAD

Church (Cath)

Father Lemass Court

BM 36.85

PLEASE REFER TO SHEET 14

PLEASE REFER TO SHEET 16

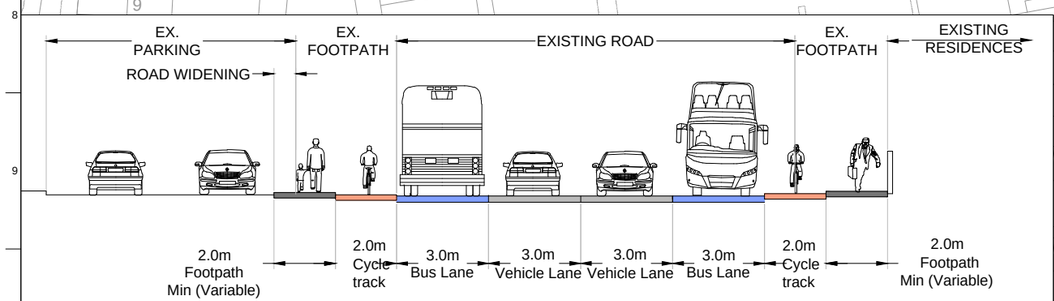
5+000

5+100

5+200

D

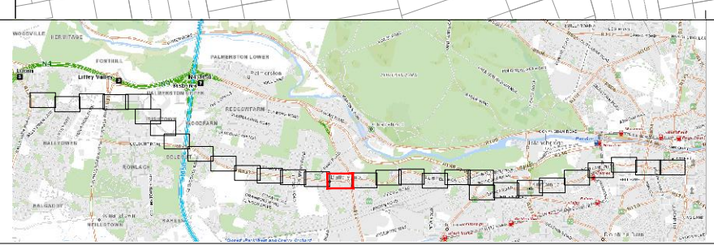
D



SECTION D-D

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



0 10 100

Liffey Valley To City Centre Sheet 15 of 30

A3

Schools

SCHOOLS

School

SCHOOL

LYNCH'S LANE

THOMOND ROAD

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

BALLYFERMOT ROAD

5+400

5+500

5+600

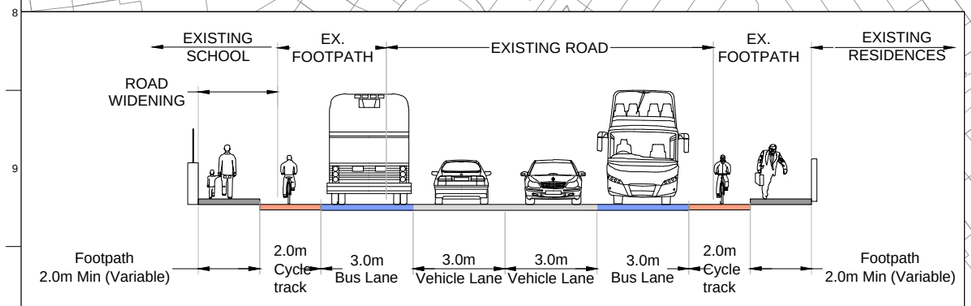
5+700

E

E

PLEASE REFER TO SHEET 15

PLEASE REFER TO SHEET 17

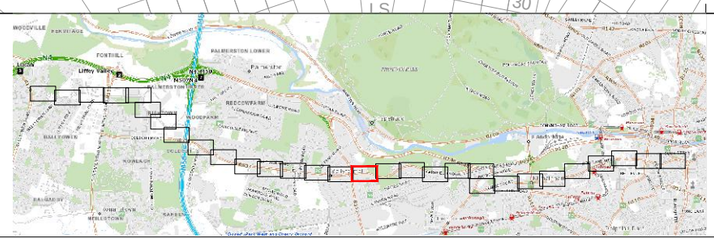


SECTION E-E

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 16 of 30

A3

BALLYFERMOT ROAD

MARKIEWICZ PARK

National School

THE STEEPLES

(1-14)

(15-28)

(29-42)

(43-52)

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD WIDENING AND LAND TAKE REQUIRED

PLEASE REFER TO SHEET 16

PLEASE REFER TO SHEET 18

5+800

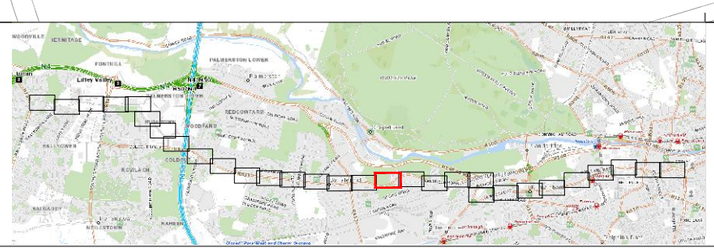
5+900

6+000

ED Bdy

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -
PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 17 of 30

A3

PITCH & PUTT COURSE

ST.LAURENCE'S RD

St. Lawrence's Glen

Clubhouse

ROAD WIDENING AND LAND TAKE REQUIRED

BALLYFERMOT ROAD

SARSFIELD ROAD

LALLY ROAD

G MOORE ROAD

St' Michael's Tce

6+200

6+300

6+400

6+500

PLEASE REFER TO SHEET 17

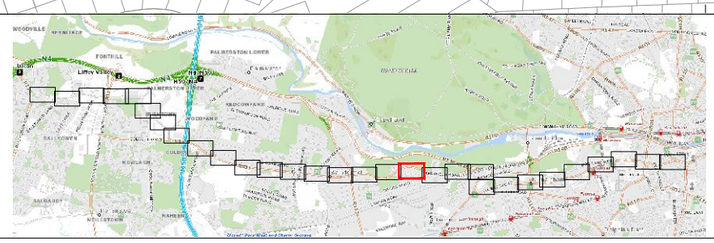
PLEASE REFER TO SHEET 19

F

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 18 of 30

A3

PLEASE REFER TO SHEET 18

PLEASE REFER TO SHEET 20

F

F

ROAD WIDENING AND LAND TAKE REQUIRED

ROAD TO BE WIDENED INTO EXISTING MEDIAN WHERE REQUIRED

FIRST AVENUE

ST MARY'S AVENUE WEST

LANDEN ROAD

LALLY ROAD

Father Bidone Court

BLOCK A 1-32

BLOCK B 33-60

BLOCK C 61-104

BLOCK D 105-138

BLOCK E 139

Oak House 1-6

Car Park

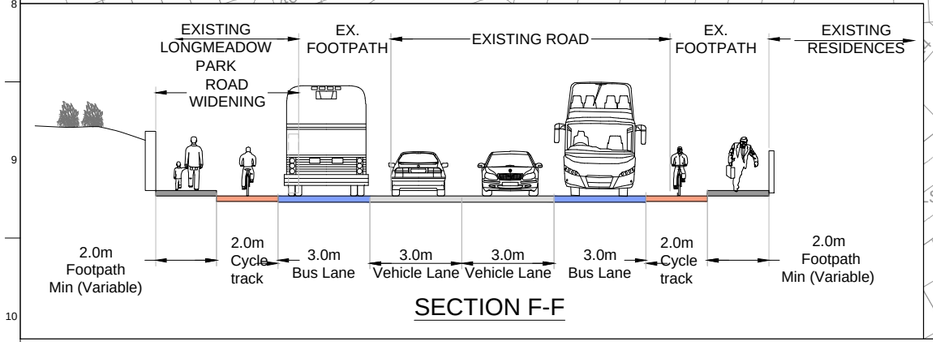
Platform

EAST TI

6+600

6+700

6+800

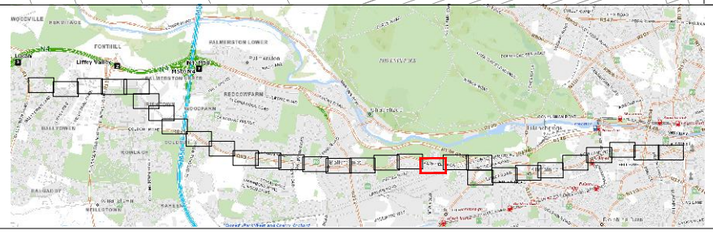


SECTION F-F

0 10 100

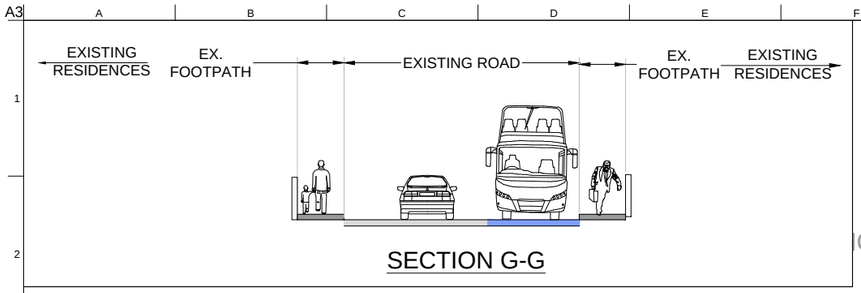
EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 19 of 30

A3



SECTION G-G

EAST TIMOR PARK

EAST TIMOR PARK

PROVIDE CYCLE TRACKS AS ALTERNATIVE FOR PRIMARY CYCLE ROUTE

EXISTING ROAD LAYOUT TO BE MAINTAINED

RAILWAY LINE

SARSFIELD ROAD

INCHICORE TERRACE NORTH

Wheaton Court

Floraville

Car Park

Hall

BLOCK E 139-200

1-25

Mast

BM 22.35

PLEASE REFER TO SHEET 19

PLEASE REFER TO SHEET 21

6+900

7+000

7+100

7+200

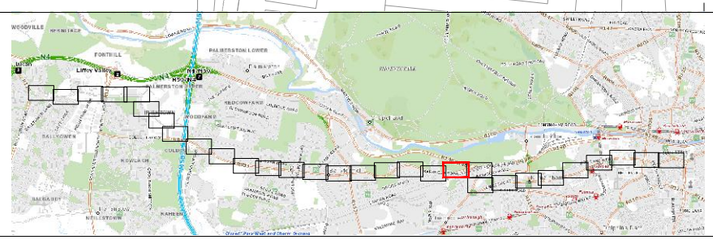
G

G

0 10 20 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -

PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 20 of 30

A3

PROVIDE CYCLE TRACKS AS ALTERNATIVE FOR PRIMARY CYCLE ROUTE

7+600

INCHICORE ROAD

Woodfield Cottages

WOODFIELD PLACE

Woodfield Mews

Central Computer Unit

Central Computer Unit

Altham Court

Altham Court

7+300

7+400

7+500

7+700

7+800

PLEASE REFER TO SHEET 20

PLEASE REFER TO SHEET 22

ED Bdy

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
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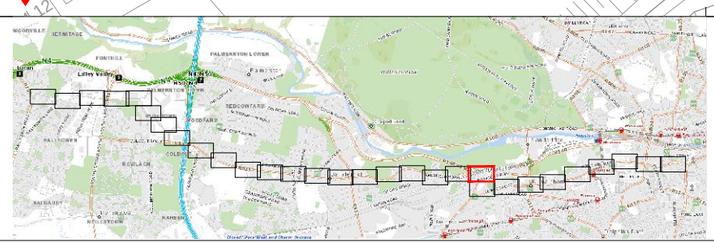
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



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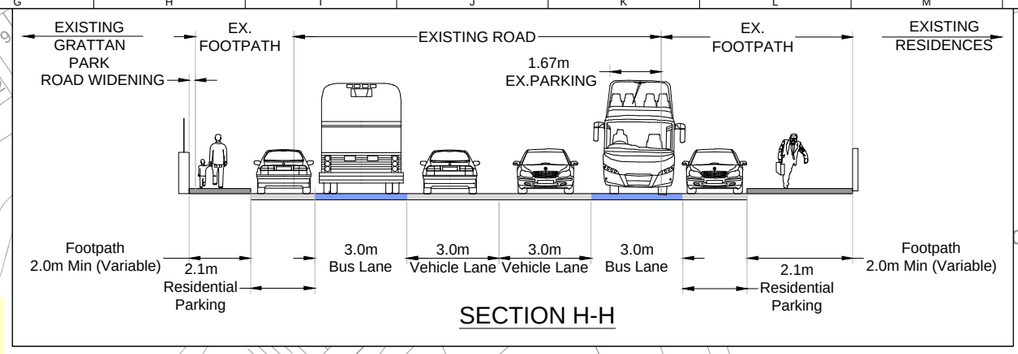
A3

PLEASE REFER TO SHEET 21



SECTION H-H

EXISTING GRASS VERGE AND TREES TO BE REMOVED TO ACCOMMODATE BUS LANES

PROPOSED SIGNALISED JUNCTION

GRATTAN CRESCENT

TYRCONNELL ROAD

EMMET ROAD

Altham Court

Hall

Factory

River Court Apts

Workmen's Club

James Plunkett House

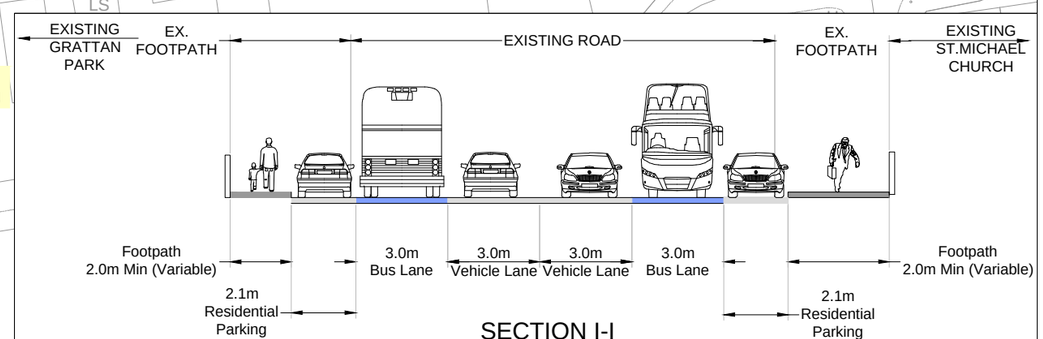
Health Centre

Church (Cath)

Grotto

Car Park

The Works 5

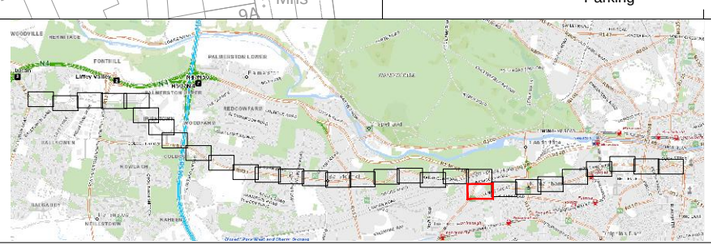


SECTION I-I

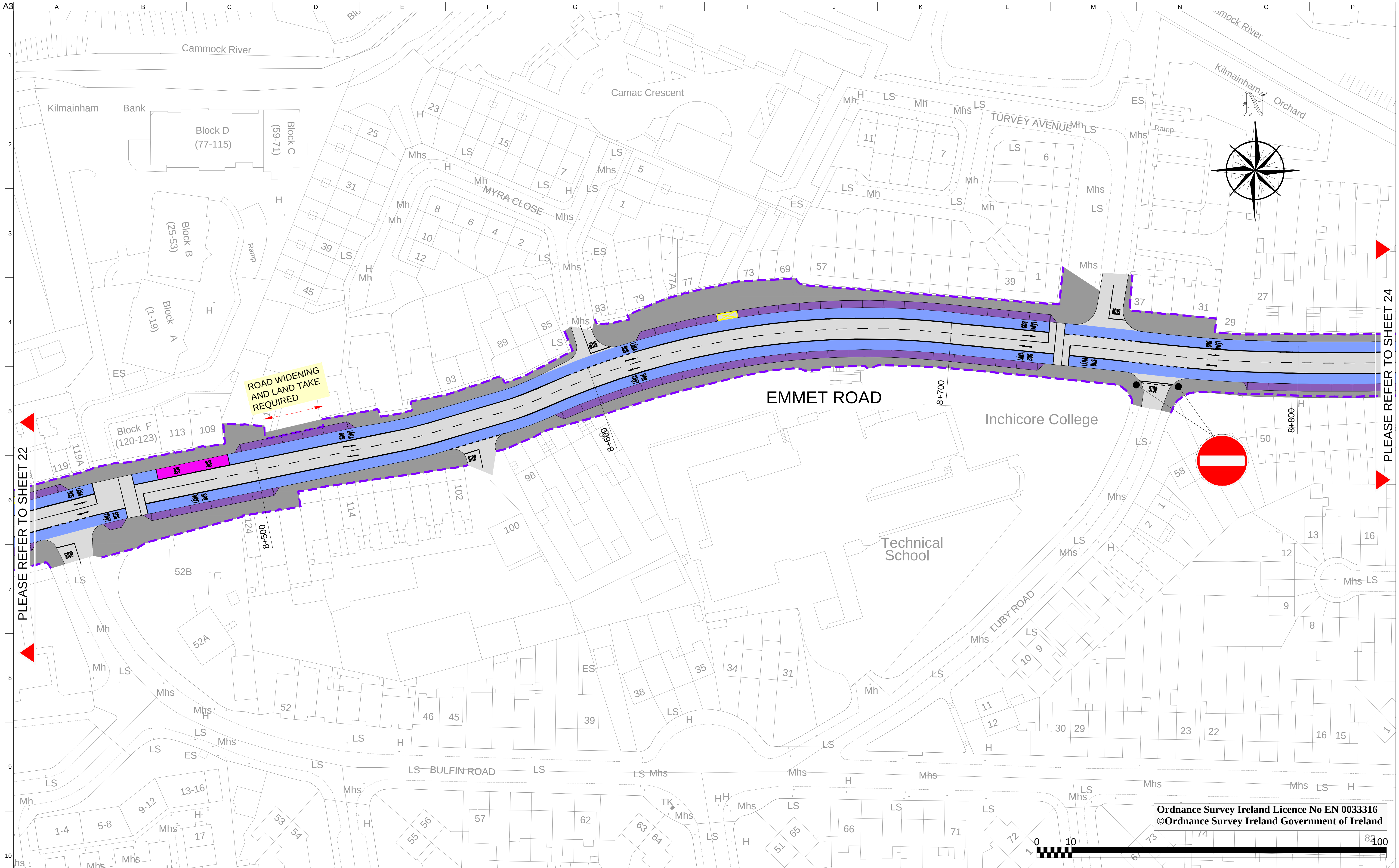
PLEASE REFER TO SHEET 23

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -
PROPOSED BUS STOP -
PROPOSED SHARED SURFACE -
PROPOSED CARRIAGEWAY -
PROPOSED ROAD RAMP -
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 22 of 30


Cammock River
Kilmainham Bank
Block D (77-115)
Block C (59-71)
Block B (25-53)
Block A (1-19)
Block F (120-123)
Camac Crescent
MYRA CLOSE
TURVEY AVENUE
Kilmainham Orchard
ROAD WIDENING AND LAND TAKE REQUIRED
EMMET ROAD
8+500
8+600
8+700
8+800
Inchicore College
Technical School
LUBY ROAD
BULFIN ROAD
PLEASE REFER TO SHEET 22
PLEASE REFER TO SHEET 24
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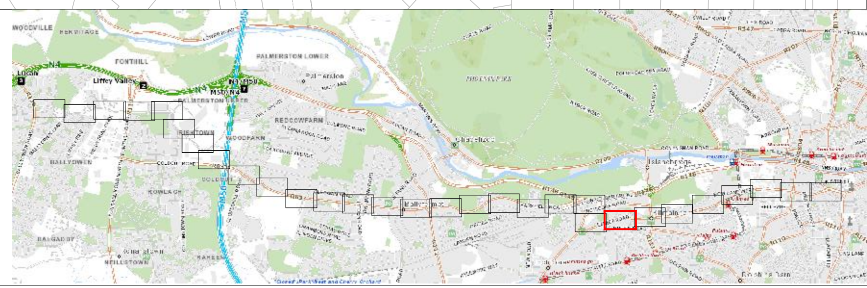
0 10 100

EXISTING BOUNDARY -	
EXISTING KERB -	
POSSIBLE LAND ACQUISITION -	
PROPOSED ROAD KERBS -	
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -	
PROPOSED BUS STOP -	
PROPOSED SHARED SURFACE -	
PROPOSED CARRIAGEWAY -	
PROPOSED ROAD RAMP -	
PROPOSED CYCLETRACK-	
PROPOSED FOOTPATH -	
GRASS VERGE-	
PARKING AREA-	
LUAS LANE -	
CONCRETE ISLAND -	



Liffey Valley To City Centre Sheet 23 of 30

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PROVIDE ALTERNATIVE RESIDENTIAL PARKING FOR ADJACENT HOUSES ON NORTHERN SIDE OF EMMET ROAD

PLEASE REFER TO SHEET 23

PLEASE REFER TO SHEET 25

Kilmainham Jail (Museum)

Court House

SOUTH CIRCULAR ROAD

Cammock River

OLD KILMAINHAM

MILLBROOK TCE

CARRICKFOYLE TCE

LADY LANE

KEARNS

Kearns Court

Tower Terrace

Prospect Tce

Ashmount Court

Library

BULFIN GARDENS

Area under construction

Bulfin House

ED Bdy

St James's Wood

Factory

Ramp

8+900

9+000

9+100

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0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
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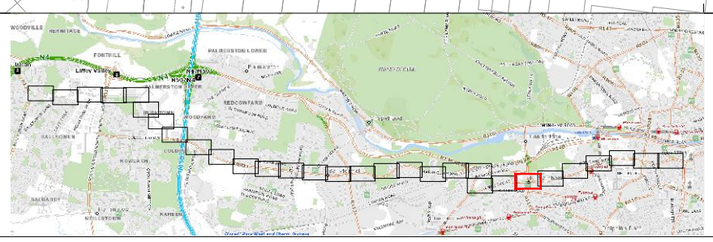
PROPOSED CYCLETRACK-
PROPOSED FOOTPATH -
GRASS VERGE-
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 24 of 30

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PLEASE REFER TO SHEET 24

PLEASE REFER TO SHEET 26

EXISTING ROAD LAYOUT TO BE MAINTAINED

PROPOSED BUS GATE TO ALLOW BUS THROUGH TRAFFIC ONLY

PROPOSED LAND TAKE REQUIRED

PROPOSED ST JAMES' NATIONAL CHILDREN'S HOSPITAL ENTRANCE

Cammock River

Old Cammock Bridge

KILMAINHAM LANE

St John's Terrace

St. John's Well Way

Knocknarrow Tce

Camac View Apts. (1-20)

Millbrook (1-40)

THE STEPS

TOWN LANE

Tower Terrace

Kearns Court

KEARN'S PLACE

Shannon Tce

Factory

St Maignenn's Tce

CAMERON SQUARE

BROOKFIELD ROAD

9+200

9+300

9+400

9+500

J

J

SECTION J-J

EXISTING RESIDENCES | EX. FOOTPATH | EXISTING ROAD | EX. FOOTPATH | EXISTING RESIDENCES

Footpath 2.0m Min (Variable) | 3.65m Vehicle Lane | 3.65m Vehicle Lane | Footpath 1.8m Min (Variable)

0 10 100

EXISTING BOUNDARY -
EXISTING KERB -
POSSIBLE LAND ACQUISITION -
PROPOSED ROAD KERBS -
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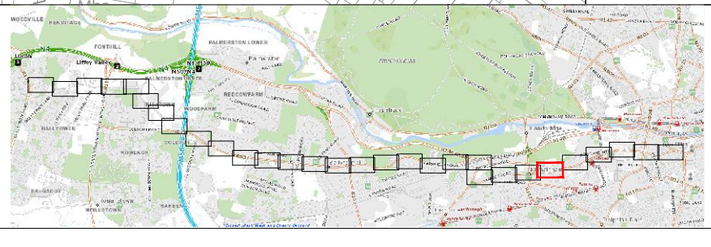
PARKING AREA-
LUAS LANE -
CONCRETE ISLAND -



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PLEASE REFER TO SHEET 27

PLEASE REFER TO SHEET 25

MOUNT BROWN

CEANNT FORT

ST. JAMES'S HOSPITAL

Bow Bridge Place

Irwin Court

Irwin Court

Bow Bridge Court 1-46

Bowbridge House

Bow Bridge Business Centre

Cammock Apts

Millbrook Court (1-40)

Faulkner's Terrace

St John's Tce

Willie Bermingham Place

Cromwells Quarters

Hostel

Factory

King House

Tatony House

Chandlers' Guild Apts

Manor Hall

Quinn Avenue

0 10 100

EXISTING BOUNDARY -
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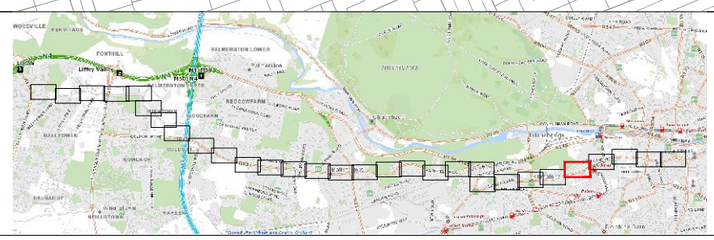
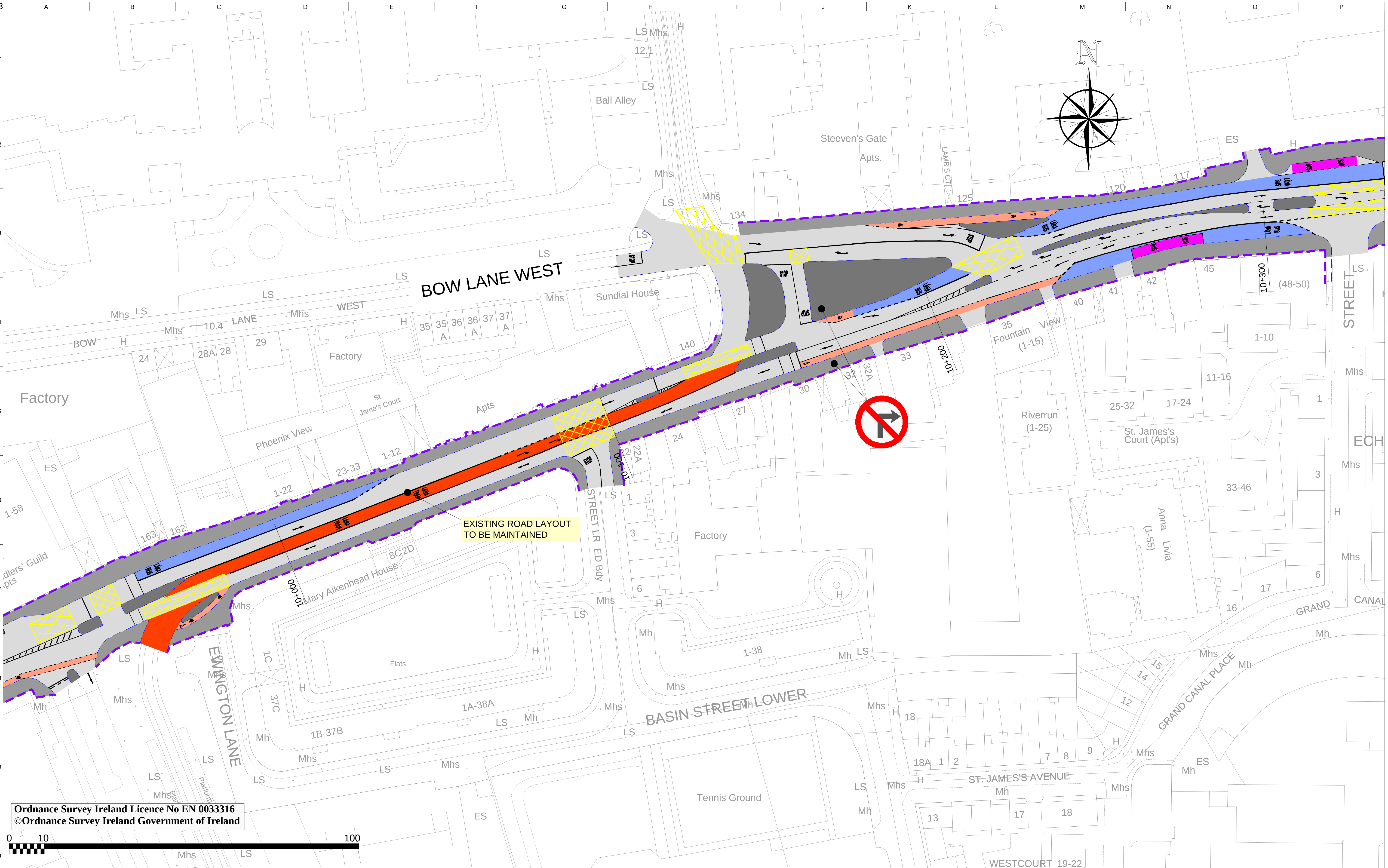
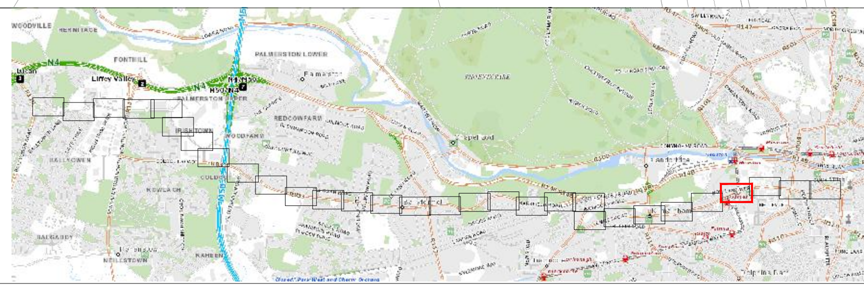
LUAS LANE -
CONCRETE ISLAND -



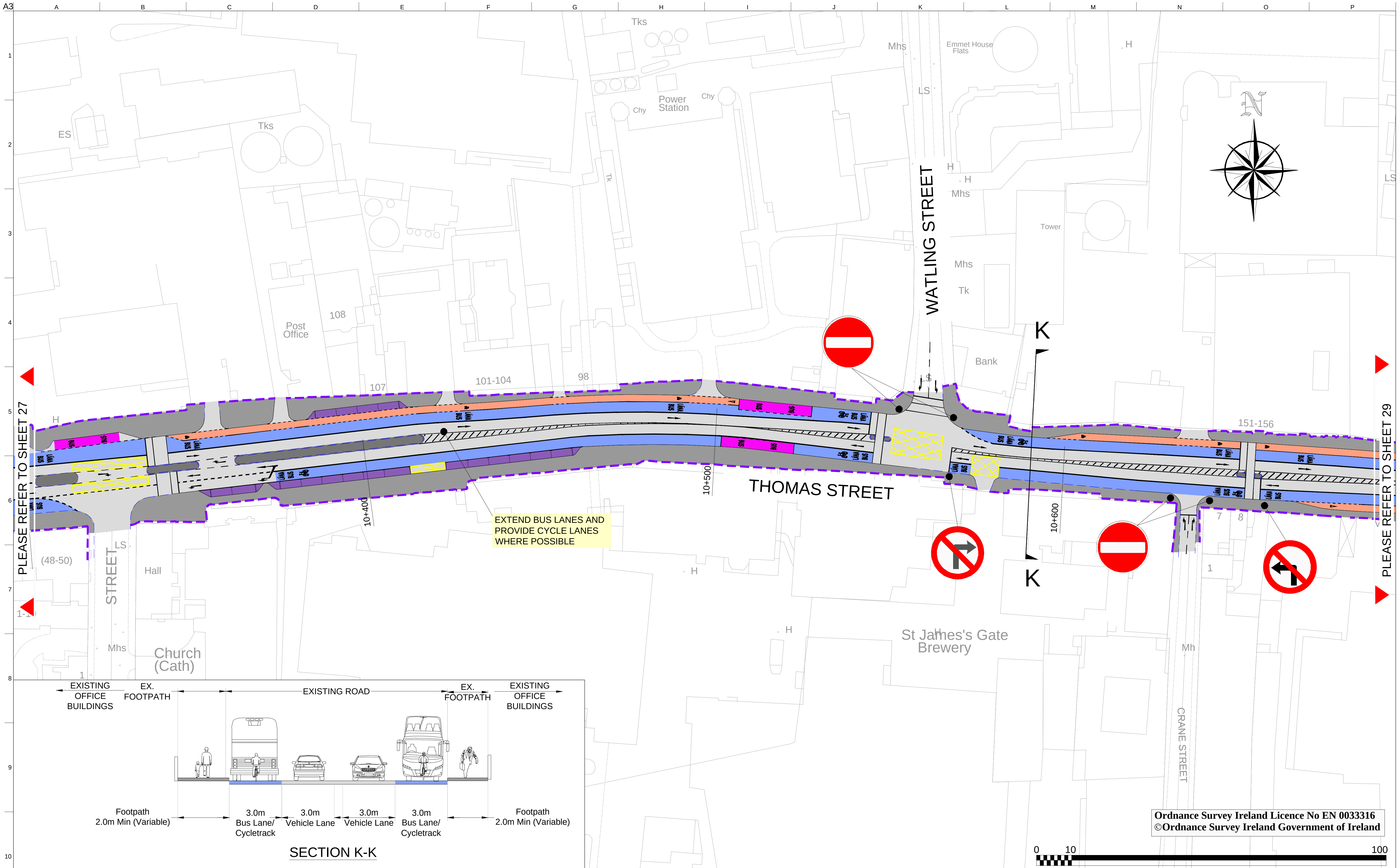
Liffey Valley To City Centre Sheet 26 of 30



EXISTING BOUNDARY -	PROPOSED CARRIAGEWAY -
EXISTING KERB -	PROPOSED ROAD RAMP -
POSSIBLE LAND ACQUISITION -	PROPOSED CYCLETRACK-
PROPOSED ROAD KERBS -	PROPOSED FOOTPATH -
PROPOSED BUS LANE / SHARED BUS AND CYCLETRACK -	GRASS VERGE-
	PARKING AREA-
PROPOSED BUS STOP -	LUAS LANE -
PROPOSED SHARED SURFACE -	CONCRETE ISLAND -



Liffey Valley To City Centre Sheet 27 of 30



WATLING STREET
THOMAS STREET
STREET
CRANE STREET
PLEASE REFER TO SHEET 27
PLEASE REFER TO SHEET 29
K
K
Post Office
Power Station
Emmet House Flats
Bank
Tower
Hall
Church (Cath)
St James's Gate Brewery
108
107
101-104
98
151-156
(48-50)
10+400
10+500
10+600
EXTEND BUS LANES AND PROVIDE CYCLE LANES WHERE POSSIBLE
EXISTING OFFICE BUILDINGS
EX. FOOTPATH
EXISTING ROAD
EX. FOOTPATH
EXISTING OFFICE BUILDINGS
Footpath 2.0m Min (Variable)
3.0m Bus Lane/ Cycletrack
3.0m Vehicle Lane
3.0m Vehicle Lane
3.0m Bus Lane/ Cycletrack
Footpath 2.0m Min (Variable)
SECTION K-K
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0
10
100

EXISTING BOUNDARY -	PROPOSED CARRIAGEWAY -
EXISTING KERB -	PROPOSED ROAD RAMP -
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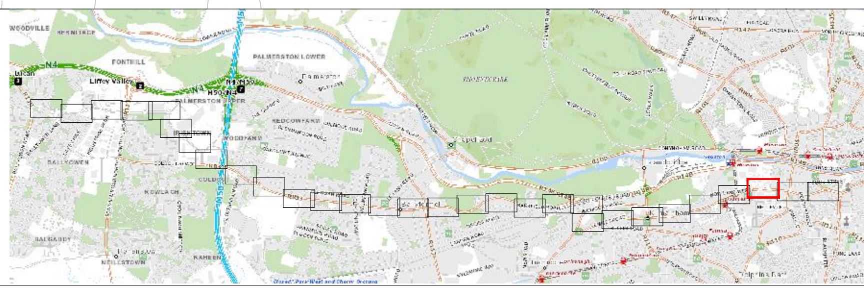
PROPOSED BUS STOP -	LUAS LANE -
PROPOSED SHARED SURFACE -	CONCRETE ISLAND -



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PLEASE REFER TO SHEET 28

PLEASE REFER TO SHEET 30

BRIDGEFOOT STREET

OLIVER BOND STREET

THOMAS STREET

MEATH STREET

HANBURY LANE

MARSHAL LANE

RAINSFORD STREET

EXTEND BUS LANES AND PROVIDE CYCLE LANES WHERE POSSIBLE

10+700

10+800

10+900

11+000

Marshal Court Apts.

Car Park

Emmet House

Social Welfare Offices

Millar's Hall

College

Ramp

Church (Cath)

Priory

Area under construction

Hostel

Park

Grave Yard

Hanbury Court

Hanbury Mews

Hanbury Hall

Hall

Church (Cath)

Factory

Chy

Grotto

0 10 100

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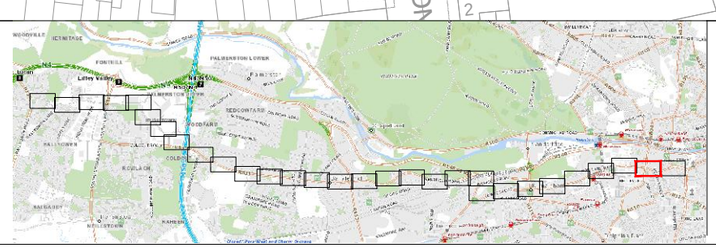

Liffey Valley To City Centre Sheet 29 of 30

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EXISTING ALL-VEHICLE LANE WESTBOUND TO BE REMOVED TO ACCOMMODATE BUS AND CYCLE LANES

PLEASE REFER TO SHEET 29

0 10 100

EXISTING BOUNDARY -
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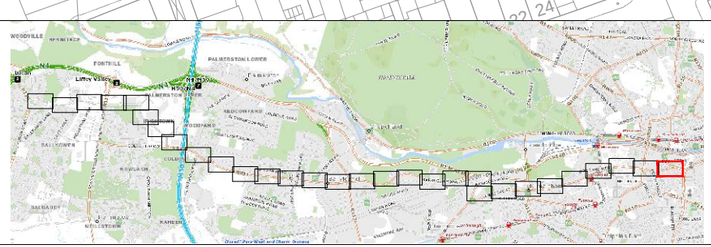

Liffey Valley To City Centre Sheet 30 of 30

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