

Core Bus Corridor 2: Swords - Preliminary Submission

1.0 Introduction

Dublin Cycling Campaign is the advocacy group for cycling in Dublin. Dublin Cycling Campaign is the leading member of Cyclist.ie, the Irish Cycling Advocacy Network (ICAN), and wants to make Dublin a safe and friendly place for everyone of all ages to cycle.

We welcome the proposed Swords to City Centre as it has the potential to deliver a high-quality cycle route for its entire route. We understand that the NTA is currently at a preliminary concept design, this is reassuring as many of the details of the proposed cycling facilities are poor. We look forward to future engagement with the NTA to refine the details in later stages so that we can produce a high-quality result similar to the Fairview/North Strand cycle route.

However, we do we wish to raise a number high-level issues within these concept designs.

2.0 General Observations

2.1 There are good changes already

Though we are critical of parts of the concept design there are already huge improvements for pedestrians and cyclists within this concept design. These include:

- The removal of two large roundabouts that were hostile to pedestrians and cyclists
- The addition of 24 new pedestrian crossings along the route, with a good mix of new mid-block crossings and adding pedestrian crossings to junction arms without them
- The removal of 4 slip lanes (unfortunately 12 retained)

- That 28 of 57 bus stops have bus stop bypass (more work to do here)
- The creation of a cycle route from the edge of Swords to the city centre
- The removal of a general traffic lane on Dorset street in order to create more space for pedestrians and cyclists

3.0 Route Observations

3.1 Primary Cycle Route Width

This CBC will deliver Primary Route 2A and a short section of Primary Route 3 of the GDA Cycle Network Plan (CNP). The target quality of service for primary routes in CNP is A+/A. Below is an extract from section 2.3 of the Written Report of CNP, which outlines the desired width of primary cycle routes as 2.5m.

Basis for Target Quality of Service

ROUTE TYPE	PRIMARY / NATIONAL	PRIMARY	SECONDARY	
Cycle Volume Existing (3 hour peak period)	n/a	200 -1000	100-500	
Target QoS - Width Factor	A+	A+/A	A/B	
	Two abreast + overtaking Width = 2.5m	Two abreast + overtaking Width = 2.5m	Single file + overtaking Width = 1.75m	
Target QoS - Other Factors	A	В	В	

We recognise that achieving a 2.5m wide cycle track on all portions of this route may be challenging, however it is possible to achieve this width along large segments of the route.

3.2 Buffer Space

The NTA's National Cycle Manual (NCM), section 1.7.4, requires that there is a buffer space of either a hard paved area or grass verge between the cycle track and the roadway when the AADT and 85th percentile speeds are both high, such as Swords Road.

This buffer space increases the comfort level for cyclists (one of the five needs of a cyclist). It also allows for overtaking using the full width of the cycle track, without partially overhanging the adjacent lane.

We encourage the design team to, where possible, match the design of "Cycle Track Behind Verge" on page 67 of the NCM, which has grass/planted buffer between the cycle track and the road.

1.7.4 Guidance Graph



There is no guidance within the NCM for the size of this buffer space (the area marked in blue in the cycle track image above). However, this design guidance from the UK maybe useful:

Speed Limit (km/h)	Desirable Minimum Horizontal Separation (m)	Absolute Minimum Horizontal Separation (m)
50	0.5	N/A
60	1.0	0.5
80	2.0 (including any hard strip)	1.5 (including any hard strip)
100	2.5 (including any hard strip)	2.0 (including any hard strip)
120	3.5 (including any hard strip)	3.0 (including any hard strip)

UK Interim Advice Note 195/16 for Cycle Traffic and the Strategic Road Network

This is of particular concerns along the first section of the route from Swords to the M50 along the R132, which has high AADT and a 60km/h speed limit. Another area of concern is for the cyclist diversion parallel to the N50 Santry Bypass, which also has high AADT and a 60km/h speed limit.

3.3 Large Junctions with Slip Lanes

There are 12 slip lanes retained within these concept designs. Providing cycle lanes across slips lanes is not recommended by the NTA's National Cycle Manual (section 4.4.4). These slip lanes should be removed (DMURS 4.4.3) or converted into pocket turns where complete slip lane removal isn't possible. Examples on maps 9, 18 and 19.

3.4 Junction Design

Many of the proposed junctions on this Core Bus Corridor, like on the Clongriffin CBC, do not meet the criteria in the NTA's National Cycle Manual. There is a widespread use of streaming lanes (an orphaned cycle lane between two traffic lanes) at junctions along this route. Including:

- Pinnock Hill (75m pocket turn)
- Airside Junction (60m and 40m pocket turns)
- Naul Road Junction (80m and 50m pocket turns)
- South Corballis Road
- Coolock Lane Junction (55m pocket turn)

In section 4.4.4, on junction approaches the manual states that:

- Streaming cycle lanes can only be used in low traffic speed environments where there is minimal speed differential between cyclists and adjacent traffic
- Streaming is not suitable along HGV routes
- The permitted weaving area for traffic to cross the cycle lane must be clearly indicated and limited to no more than 10.0m long so as to reduce vehicular speed, and profiled line markings should be considered for the solid white line beyond the weaving area
- Streaming cycle lanes should only be used beside right or left hand pockets (i.e. distinct lanes dedicated to turning movements) and should not exceed 30.0m in length

In essence the use of streaming cycle lanes at junctions on a road like the Swords Road is against the manual. This route is a HGV route, with a large speed differential between cyclists and traffic. These concept junction designs are not suitable for all ages and abilities.



A demonstration of this junction design from German cycling advocates

The only way to safely move cyclists through these large junctions and protect traffic capacity is by using segregated junctions similar to the North Strand/Fairview cycle routes. There is a good explanation of the principles of this design at <u>www.protectedintersection.com</u>.

Here's an example fully segregated junction design concept for the Pinnock Hill Roundabout. The space exists at many of these large junctions to provide a fully segregated design within the existing road envelope.



Concept design by @LkCycleDesign

3.5 Integration with the wider GDA Cycle Network Plan

This route intersects with a number of other cycle routes included in the GDA Cycle Network Plan. Where possible, the tail ends of cycle lanes of these routes should be constructed as part of the Core Bus Corridor. That will ensure that these junctions don't need to be re-designed when future cycle projects are progressed.

Routes that intersect are:

- Airside and Boroimhe Road, SW6
- SW5, Swords Route
- Naul Road, F7A Inter-urban Route
- Santry Greenway, by Northwood Avenue
- Coolock Lane and Santry Ave, Secondary NO5
- Collins Avenue, Primary NO4
- Griffith Avenue, Secondary NO3
- Clonliffe Avenue, Secondary NO2
- Belvidere Road, Secondary C8

- North Circular Road, Secondary C8
- Gardiner Row/Denmark Street, Primary 2B

3.6 Bus Stop Bypasses

There are 29 locations where there are no bus stop bypasses. Bus stop bypasses are recommended by the NTA's National Cycle Manual given the frequency of buses along this route.

We encourage the design team to look into all possible options for including bus stop bypasses. The first iteration of the North Strand route had few bus stop bypassed, the final design has all bus stops bypassed.

There are many examples where bypassing should be possible, for example in areas where the footpath is +4m wide, examples include maps 19, 31 and 35. There are also many examples of green space, institutional or commercial land behind bus stops that should be considered for CPO if no other option can be found. Examples include maps 14, 17, 18 and 28.

3.7 Side Roads

Welcome the use of traffic calming measures on some local access roads that join this route. Particularly in maps 14 and 29.

However, we'd like to see techniques like this rolled out along the whole route. The use of continuous footpaths and cycle tracks over side roads will encourage pedestrian and cyclist priority and increase safety. We'd also like to see corner radii analysed along the route.

3.8 Parking Inside Cycle Lanes

There are a number of locations where car parking is located inside of the cycle lane. Best practice would be to route the cycle track on the inside of the car parking and to provide a buffer space between the car parking and the cycle track for the 'door zone'. Examples of this design are on maps 27, 32, 35.

It would also be nice to see more loading bays included in future designs particularly in Drumcondra and along Dorset Street. Without adequate loading capacity delivery vehicles tend to park on cycle tracks.

3.9 Shared Paths

On the section of this CBC along the R132 there is extensive use of shared paths. We recognise that many of these will probably be low volume for pedestrians. These shared paths seem to start and stop fairly frequently (example map 9). We'd encourage the NTA to upgrade the existing shared paths along this section to create continous cycle paths. This is probably necessary anyway given that primary cycle routes should be 2.5m wide (section 3.1 of this submission).

Shared paths are discouraged by the NTA's National Cycle Manual (section 1.9.3) as they provide a poor quality of service for both pedestrians and cyclists. Cyclists on shared surfaces must also cycle slower in order to safely share the space. Given the distance of Swords from even the north city the route will only be attractive if cyclists can achieve some speed.

3.10 Two-way Cycle Tracks on R132

The R132 just south of Swords is a wide road and isn't easily crossable. We welcome the use of two-way cycle tracks along this road, as that provides a high quality of service in the area. This is because cyclists have a more direct route with fewer delays from crossing the road. We encourage the design team to more extensively use two-way cycle tracks along the R132, example areas are map 3, 4 and 5. On map 5 there is no legal way for outbound cyclists seeking to turn onto Kettle's Lane or to join the two-way cycle track on the other side of the road after using the crossing (which we assume is a toucan crossing).

Providing a high-quality route for cyclists along here is particularly important for multi-modal sustainable travel as the future Fosterstown MetroLink station is here too.

3.11 Santry Diversion

We have some concerns over the multi-criteria analysis behind the Santry Diversion. As we mentioned in section 3.2 there is a missing buffer space between the two-way cycle track and the Santry Bypass, which is a safety concern. The other safety concern is around the lack of passive surveillance, particularly under Shantalla Bridge and by the Port Tunnel intervention shaft (map 25).

3.12 Santry Diversion Multi-Criteria Analysis

We have concerns behind the multi-criteria analysis used to choose option SY1c as the preferred option. We would like to see the multi-criteria analysis repeated with the following issues addressed to determine if option SY1c remains the most preferred option.

Assessment Criteria	Assessment Sub- Criteria	SY1a	SY1b	SY1c	SY1d
Economy	Capital Cost				
	Transport Reliability and Quality of Service				
Integration	Land Use Integration				
	Residential Population and Employment				
	Transport Network Integration				
	Cycling Integration				
Accessibility & Social Inclusion	Key Trip Attractors				
	Deprived Geographic Areas				
Safety	Road Safety				
Environment	Archaeology and Cultural Heritage				
	Architectural Heritage				
	Flora and Fauna				
	Soils and Geology				
	Hydrology				
	Landscape and Visual				
	Air Quality				
	Noise & Vibration				
	Land Use Character				

Table 5.1: Santry Route Options Assessment Summary (Sub-Criteria)

3.12.1 Cycling Integration Criteria

All options scored the same on cycling integration. The two options that include the cyclist diversion along the N50 do not provide the same level of cycle network integration as the two options that provide cycle tracks along the Swords Road. The Santry diversion route provides poor connectivity to the local area and it only useful to cyclists without an origin or destination within the Santry or Shanowen Road area. Both options SY1a and SY1d both provide significant advantages in cycling integration over the route options that use the N50 diversion.

3.12.2 Air Quality and Noise and Vibration Criteria

Option SY1d has moderate disadvantages compared to other schemes the same as option SY1b. This seems odd as SY1d does not move motor vehicles closer to receptors along the route. The extra width for SY1d is in cycle lanes, which cause no air or noise pollution. SY1d has the same motor vehicle carriageway width as option SY1c meaning we would expect similar impacts. However, in the analysis SY1c has significant advantages, whereas SY1d has moderate disadvantages. The multi-criteria analysis table (page A8) mentions for SY1d "*therefore it is not considered that air quality would change*". The final score for air and noise criteria for SY1d do not make sense.

3.12.3 Cross-section SY1d

The cross-section for SY1d is 17.5m. However, there is a 3.5m traffic lane proposed. This could be reduced to a 3m reducing the width of the corridor to 17m. Reducing the cycle lanes to 1.75m would yield a 16.5m corridor, further reducing the land take required. This would improve the results of this option under the Land Use Character, Landscape and Visual and Capital Cost criteria.



3.12.4 Road Safety Criteria

The road safety criteria only analysed the number of junctions on each route option. It did not take into account the lack of safe cycling facilities provided to local cycling trips if they must take place in the bus lane. If this is factored in it should provide a moderate disadvantage to options SY1b and SY1c.

3.13 Santry Local Trips

Even if option SY1c remains the most preferred option we worry that local cycling trips will be difficult given the lack of cycle lanes on Swords Road. We recognise that between Lorcan Road and Shantalla Bridge there is an inconsistent road cross-section. At both ends the cross-section is more than 20 metres wide. The section between The Comet and Shantalla Bridge it is greater than 15m wide. However, between houses No 251 and No 282 the cross-section varies between 13.7 metres and more 16 metres.

Alternative 1: With a cross-sectional area of 15m, which currently exists for most of the corridor, it is possible to provide a cycle track in one direction. We'd suggest an outbound (uphill) cycle track. This option would allow for the completion of local journeys to places like Shanowen Road and the Omni Shopping Centre. This would require CPO to remove a small number of pinch points that cause the inconsistent cross-section. This is unlikely to have any impact on car parking potential in front gardens as houses either currently have no car parking or can park multiple cars in their front garden.



Alternative 2: We strongly encourage the design team to investigate achieving this 16.6m cross-section just between Shanowen Road and Omni Shopping Centre, which would enable more people to cycle to the shops and local amenities in Santry Village, as well as enabling cyclists to make a right turn from Swords Road onto Shanowen Road. Shanowen Road is a key link to many local residential areas and the desire line for cyclists heading from the Swords area to DCU.



3.14 Opportunity for Multimodal Travel

Multi-modal travel between bike and bus could be encouraged as these designs progress. A first step would be to provide sheltered sheffield stands near bus stops along this route, giving a particular focus to where orbital cycle routes intersect with this Core Bus Corridor. Given the CBC will host a super high-frequency bus route the desire for people to cycle to the CBC makes multimodal travel likely if correctly encouraged.

3.15 Complete Primary Route 2A

There is only 640m of Primary Route 2A that is not being provided as part of this Core Bus Corridor. This section would connect cyclists directly into Swords village instead of leaving them just outside the town at the Pinnock Hill junction. We'd encourage the NTA to consider adding section to this scheme in order to complete this missing link.

3.16 Missing Link to Beaumont Area

Inbound cyclists from the Beaumont area have been provided with a cycle track, however, there is no route provided for outbound cyclists (map 25). There are two potential solutions, either provide cycle lanes on Shantalla bridge, which might have implications on the number of turning lanes or provide a two-way cycle track on Ellenfield Park side of the Santry bypass.

3.17 Missing Link Larkhill Road

A short section of Larkhill Road (map 25) is currently one-way, exiting onto the Swords Road. The NTA should consider making this road two-way for cyclists. This will allow a cycling connection between this residential area and two schools on Larkhill Road with the new cycle route.

3.18 Removal of Cycle Lanes on Gardiner Street

We note that cycle lanes are being removed from Gardiner Street. We also not that Gardiner Street is not a designated cycle route on the GDA Cycle Network Plan. However, what alternative route for cyclists is being provided?

3.19 Map 19

Map 19 contains a large number of problems wish we'd like to see addressed in future iterations. We welcome the cycle lanes that link to the Omni Shopping centre. The inbound cycle lanes at Church Lane junction don't line up. Santry Avenue's slip lane should be removed, the junction narrowed and the staggered pedestrian crossings removed. The outbound cycle lane shouldn't turn into a shared bus lane if there is space for 3 traffic lanes. There are two bus stop bypasses missing in this area, one by a large footpath and one by green space.

If the NTA opts to restrict access through Lorcan Road or adjacent residential streets to prevent rat running, as a result of removing the inbound general traffic lane from Swords Road, that access restriction will be cycling permeable.

4.0 Conclusion

We trust that our observations will be taken into account as the design for this scheme progresses from a concept design to a preliminary design. We look forward to engaging with the NTA as the design progresses. Kevin Baker/Colm Ryder Dublin Cycling Campaign % Tailor's Hall, Back Lane, Dublin 8

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