



Core Bus Corridor 12: Rathfarnham - Preliminary Submission

1.0 Introduction

Dublin Cycling Campaign is a registered charity that advocates for better cycling conditions in Dublin. Dublin Cycling Campaign is the leading member of Cyclist.ie, the Irish Cycling Advocacy Network (ICAN). We want to make Dublin a safe and friendly place for everyone of all ages to cycle.

We are generally supportive of the proposals as there are some significant improvements for cyclists in these proposals. However, there are areas of serious concern like the cyclist diversion on Rathfarnham Road or the discontinuous cycle tracks near Terenure.

Option A in Rathmines is the only viable option. It correctly prioritises sustainable transport modes. Option B is completely unacceptable and a clear breach of Irish planning and transport policy.

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.

2.0 General Observations

There are good changes

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

- The narrowing of certain stretches of the corridor to two or three vehicular lanes in order to make space for segregated cycle tracks. In particular, we welcome the inclusion of cycle tracks on Aungier Street and South Great George's Street.

- The provision of 9 new pedestrian crossing and the removal of a number of staggered crossings
- The removal of five slip lanes
- The use of raised entry treatment for the side roads connecting to Rathmines Road

2.2 Cycling for All

Dublin Cycling Campaign advocates for better cycling facilities that will enable people of all ages and abilities to cycle. Currently, the people who cycle in Dublin are not representative of the general population. Cyclists tend to be adult, male and brave. This is a result of the relatively poor quality of cycling infrastructure, and no coherent cycle network in Dublin.

Without a doubt the BusConnect's proposals, if implemented, will make cycling safer in Dublin. However, they will not enable people of all ages and all abilities to cycle because of the lack of segregation in many places. This will prevent cycling from realising its full potential as a transport solution in Dublin.

Many of our observations refer to the lack of segregation provided by the current designs at various locations. Along the routes there are segregated cycle tracks, but at some locations segregated cycle tracks become painted cycle lanes in order to allow for on-street parking or inline bus stops. At junctions cyclists are mixed back in with traffic. This loss of segregation will not enable people of all ages and all abilities to move to cycling. There are design solutions to these problems, like parking-protected cycle tracks, bus stop bypasses for cyclists, or using fully segregated junction designs like the Dutch-style protected junction.

2.3 Scheme Objectives - Pedestrian Inclusion

The scheme objectives, included in this CBC Route Selection Report, mention bus priority provision, and implementing the GDA Cycle Network Plan along this corridor to the specified quality of service. There is no mention of pedestrians in the scheme objectives. Pedestrians are, more often than not, bus users in the end.

We note that there are many pedestrian improvements already contained in the proposals. However, there are a number of pedestrian issues within these designs like staggered pedestrian crossings, which hinder efficient pedestrian movement. We recommend that pedestrians also be included in the scheme objectives in later rounds of this process. This is to ensure that pedestrians are not disadvantaged by the

proposals. It should be noted that both the Dublin City Council Development Plan (section 8.4) and DMURS (section 2.2.2), include a transport mode hierarchy that places pedestrians first, cyclists second, public transport third, goods vehicles fourth and general traffic fifth. This also applies to all other Dublin Local Authorities.

2.4 Primary Cycle Route Width

This CBC will deliver on most of Primary Route 10 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 the 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+ Two abreast + overtaking Width = 2.5m	A+/A Two abreast + overtaking Width = 2.5m	A/B Single file + overtaking Width = 1.75m
Target QoS - Other Factors	A	B	B

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 by widening into the median or using grass verges beside the proposed cycle track. In constrained areas a cycle track width of 2m is acceptable, but should be implemented with caution.

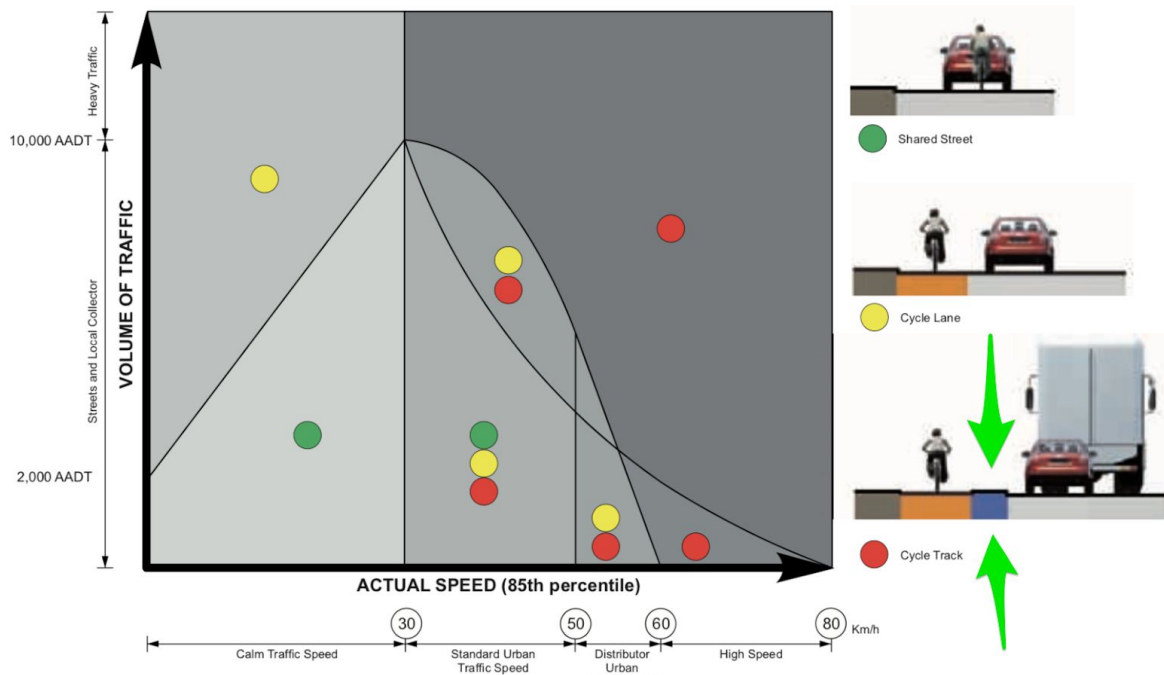
2.5 Buffer Space

The NTA's own National Cycle Manual (NCM), section 1.7.4, recommends that there should be 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.

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 traffic lane. It is important to point out that the buffer space is not an area that should be cycled on and it should not be included in the width of the cycle track.

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

Rationalising the number of right turn locations could allow for the central median to be narrowed so that a grass verge buffer space can be provided between the cycle track and the road.



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

2.6 Junction Design

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

In section 4.4.4, on junction approaches the NCM 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*
- *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 goes against the manual advice. These concept junction designs are also not suitable for all ages and abilities.



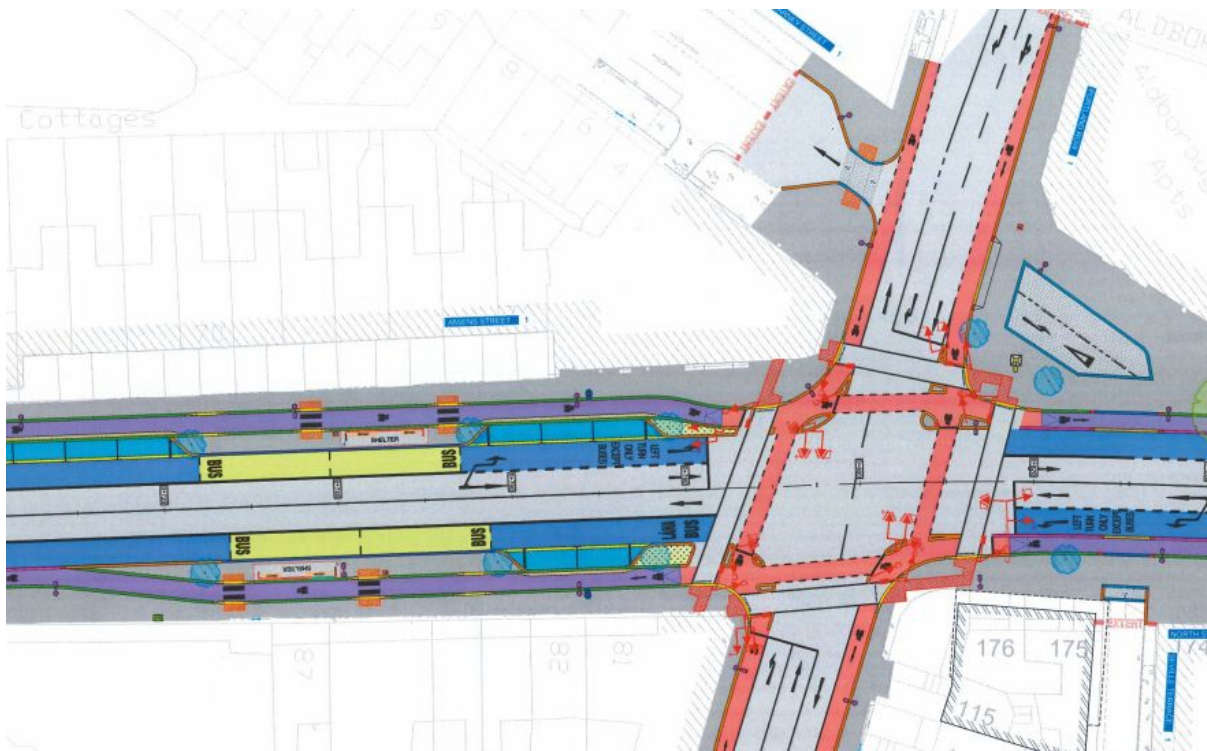
A demonstration of how the proposed junction design does not enable cycling for people of all ages and all abilities

Greater segregation for cyclists is needed at major junctions along the route in order to enable and encourage more people to cycle. Segregated cycle tracks alongside roads

provide segregation through space. 'At junction' segregation should be provided through specific allocated crossing time instead. Cyclists should be provided with their own set of traffic lights and their own phase, sometimes combined with the pedestrian phase on parallel crossings. This means that cyclists are never moving at the same time as traffic that would cross their path.

2.6.1 Protected Junction Design

This form of junction design has been achieved along the soon to be constructed North Strand/Fairview cycle route project from Dublin City Council and the NTA. It uses a modified version of the protected junction design. The protected junction design also allows for right hand turns for cyclists.



5 Lamps Junction along North Strand - Junction Design Template

The junction design also segregates pedestrians and cyclists by providing parallel crossings and designated spaces. This would eliminate shared spaces for pedestrians and cyclists. Shared spaces are disliked by pedestrians, cyclists and by people with disabilities. Parallel crossings also mean that cyclists don't have to use islands in the middle of the road that frequently are too small for bikes to easily manoeuvre around.

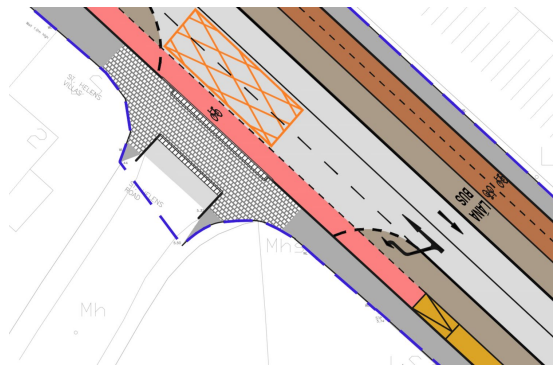
There is a good explanation of the principles of this design at www.protectedintersection.com.

2.7 Side Roads

At side roads it should be clear that cyclists and pedestrians have priority over traffic exiting or entering to or from the main road.

2.7.1 Continuous Footpaths/Entry Treatment

Infrastructure treatments, such as entry treatment or continuous footpaths/cycle tracks, encourage and promote priority for pedestrians and cyclists. They also encourage lower speeds. In general this would be exemplified by a raised table exit/entry from all side roads.



A raised continuous footpath over a side road as part of the proposed Merrion Gates to Blackrock Scheme - AECOM/ROD for NTA

2.7.2 Buffer Space Design

An alternate method for providing for safer minor road junctions is to bend the cycle track away from the road at the junction. This provides better visibility for cyclists by moving them out of the blind zones of turning vehicles. It can also provide space for turning vehicles to wait for cyclists to pass by. Priority for cyclists over minor roads needs to be reinforced with this design. The cycle track should also be clear to motorists, the use of red surface treatment to mark the conflict area is a must.



With this design the area between the road and the cycle track places the cyclist well outside the blind zone of the truck and clearly visible to the driver without the use of mirrors. The use of different surface treatment, in this case block paving, helps to highlight the conflict, indicates a change in driving conditions from main road to side road, and acts as a traffic calming measure.

This kind of design could be suitable on some of the outer sections of the Malahide Road where the cycle track will cross over entrances to industrial areas or garages. It's important at these locations to ensure the cycle track does not place cyclists in HGVs' blind zones.

2.8 Integration with GDA Cycle Network Plan

A single cycle route is only useful to people if their origin and destination are on or near the cycle route. A cycle network, where many cycle routes are connected together is far more useful to people. Similar to how a bus network is more useful than a single bus route.

This cycle route intersects with a number of other cycle routes included in the GDA Cycle Network Plan. This route should plan for the connection with these current or future cycle routes. Where possible, the ends of cycle lanes/tracks on these routes linking into the CBC cycle route 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 network projects are progressed.

2.9 Bus Stop Bypasses

Bus stop bypasses for cyclists should be the norm, as part of these designs. There are many reasons we'd encourage the design team to include bus stop bypasses at all bus stop locations:

- Bus stop bypasses are recommended by the NTA's National Cycle Manual, given the frequency of buses along this route
- Bus stop bypasses remove conflict between buses and cyclists. There is nothing more terrifying, particularly for a beginner or tentative cyclist, than a 30 ton bus pulling into a bus stop on top of you
- Buses will operate more efficiently at stops because bus drivers will not need to wait for a slow cyclist to pass the bus stop before pulling in

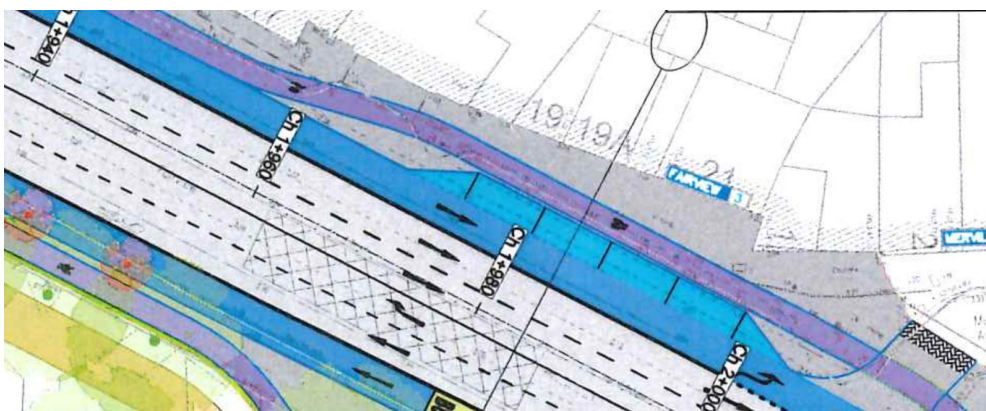
2.9.1 Bus Stop Locations

There is a strong case to be made for the rationalisation of bus stop locations. We strongly urge the review of bus stop locations and frequency. This will ensure greater efficiency of the bus service but also allow for greater consideration of the preferred bus stop bypass design for safety of all commuters.

2.10 Parking Inside Cycle Lanes

Car parking should ideally not be located inside the proposed cycle track. This implies that the cycle track will convert into a painted cycle lane and cyclists will lose segregation from traffic.

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'. A parking protected cycle was the design used for the recent Fitzwilliam Street cycle route by Dublin City Council, and the North Strand/Fairview cycle route at Marino Mart.



An example parking protected cycle track in the North Strand/Fairview cycle route AECOM/ROD for Dublin City Council/NTA. Cycle track in purple. Parking in light blue.

2.11 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 covered Sheffield stands with CCTV coverage near bus stops along this route, giving a particular focus to where orbital network cycle routes intersect with this Core Bus Corridor. As the CBC will host a super high-frequency bus route it makes it more likely that people will cycle to the spine, and avail of an efficient bus service.

2.12 Development of Public Realm

We urge the Bus Connects team to clearly indicate where these benefits will arise along all the newly designed routes, as these positive developments will be critical in 'selling' the project, as was the case for the North Strand/Fairview cycle route.

3.0 Route Observations

3.1 Grange Road Junction

There is an odd angle between the streaming cycle lane and the left-traffic lane on Grange Road. This angle is not an approved horizontal transition in the National Cycle Manual and it will lead to cyclists and traffic merging unexpectedly. This will place cyclists in danger. Using the available space an alternate design should be found.

Nutgrove Avenue already has segregated cycle tracks, but they start 10 m away from this junction. This arm of the junction should be reconfigured to properly connect these cycle tracks.

3.2 Bus Stops on Grange Road

There are two bus stops on Grange Road without bus stop bypasses. The inbound bus stop is only 160m from the previous bus stop and should be relocated or omitted. The outbound bus stop could be converted to a bus stop bypass if 1-2m of more space is CPO'd.

There is no pedestrian crossing near these bus stops, which seems unusual as there is also a school along here.

3.3 Butterfield Avenue Junction

Butterfield Avenue (map 2) is secondary route 10. We welcome the removal of the slip lane turns. The proposed cycle lanes are welcome but they look quite narrow. Could they be widened by reducing the width of the median island?

Additionally, we recommend that the cycle lane approaching Rathfarnham Road continue into the junction, and a corner island be installed. There would be three benefits to this design:

1. Cyclists turning left would need only yield to cyclists already on Rathfarnham Road, or crossing pedestrians.
2. It would prevent other vehicles from encroaching on the cycle lane as they turn left.
3. It would give right turning cyclists a safe space to wait. Waiting to turn right while traffic turns left around you can be a scary experience for many cyclists.

It is not possible for a cyclist to turn right from Butterfield Avenue onto Rathfarnham Road. the traffic light sequence should be designed in such a way as to facilitate this movement without conflict with left turning vehicles.

The toucan crossing is difficult to access for cyclists, and this puts cyclists in needless conflict with pedestrians. We recommend that a jug turn be installed here.

3.4 Rathfarnham Castle Entrance

The Rathfarnham Castle Entrance (map 3) should be converted to be more of a right angle to the main road. The current design allows and encourages motorists to cut across the cycle track at speed.

3.5 Main Street/Castleside Drive Junction

We are concerned about the conflict between general traffic turning left onto Main Street, and inbound cyclists continuing straight. If these two movements will be happening at the same time, then a number of changes to the junction should be introduced:

1. The bus stop line should be move back a little to ensure cyclists are not obscured by a stopped bus.
2. The cycle track should be on a raised table to make it clear that turning motor traffic is expected to yield.
3. We think that consideration should also be given to using a flashing amber arrow to make this priority even more clear.

If the Brookvale Road detour is removed (as we discuss in section 3.7), and the cycle tracks stay on Rathfarnham Road, then the concerns mentioned above also apply to traffic turning left onto Castleside Drive.

3.5 Dodder Greenway Connection

More should be done to allow a connection between this Core Bus Corridor and the Dodder Greenway on map 3 through the Church Grounds, which is a designated connection as part of the approved Dodder Greenway Part 8.

3.6 Brookvale Road Detour

This proposed diversion is completely unacceptable (map 3-4). The laneway is nowhere near wide enough to be a shared space between pedestrians and cyclists, even if the proposed limited widening is implemented.

There are existing good quality mandatory cycle lanes on this section of Rathfarnham Road that these proposals remove without a viable alternative provided. Alternative arrangements need to be considered like traffic diversions or removing one bus lane to maintain the cycle lanes.



The existing laneway

3.7 Dodder Park Road Junction

The design for this junction (map 4) seems to ignore the already approved plans to upgrade this junction as part of the Dodder Greenway, which intersects with the Core Bus Corridor at this location. The approved Dodder Greenway junction design provides a full range of motion for cyclists. If necessary those designs should be altered to include better bus priority.

All arms of this junction are part of the GDA Cycle Network Plan, three of them being primary cycle routes.

3.8 Pearse Bridge

The position of the two-way cycle track and the footpath on the inbound side of the bridge (map 4) should be swapped. This will reduce the number of shared spaces and conflict points between pedestrians and cyclists.

Also, if the Brookvale Road detour is removed, then outbound cyclists will have to cross the road twice within 100 m in order to access the bidirectional cycle track. Therefore, under these circumstances, we would prefer unidirectional bike tracks over the proposed bidirectional track.

3.9 Rathdown Park Junction

The cycle tracks at this location (map 5) should not include shared space with pedestrians. The cycle track should continue straight through with cyclists expected to wait at the same red light as general traffic.

3.10 Terenure Road East Junction

There is a safety issue at this junction for cyclists turning right from Rathfarnham Road onto Terenure Road East (map 6). On Rathfarnham Road cyclists have a dedicated lane but on Terenure Road East they do not. Cyclists and buses are expected to merge together mid-junction. This is particularly dangerous because a cyclist unfamiliar with the junction is unlikely to notice the problem until the last second.

Potential solutions include providing an ASL (advanced stopping location) across the bus lane at this location. This would allow cyclists making a right turn to place themselves in front of the bus thus removing the merging conflict on the turn.

However, this solution depends on the cyclists being able to get in front of the bus before the green light. A more reliable solution would be to keep Terenure Road East at two lanes near the junction. This could be achieved by allowing outbound traffic on Terenure Road East only as far as Aldi. This would also address the poor quality of cycling infrastructure on this road more generally by eliminating the need for an outbound bus lane. This option would be particularly credible if the direction of one way traffic on Rathmines Road could be reversed to be inbound only.

3.11 Terenure Road East Speed Limit

Adding a 30 km/h speed limit to this section of Terenure Road East (map 6-7) is a poor plaster for the issue of having no cycle tracks on this section of road. This speed limit should be self-evident. Given the road conditions it is not clear that it will be. The road is 3-4 lanes wide with no traffic calming other than 3 m wide traffic lanes. Painting large 30 km/h roundels on the traffic lanes would be an improvement. Bus-friendly raised pedestrian crossings or other similar active traffic calming measures should be introduced.

3.12 Terenure Road East / Rathgar Road Junction

A poor sacrifice of the cycle track for 60 m at this junction (map 7-8) could be changed so that bus priority is maintained and a cycle track provided. Buses and cyclists coming from Rathgar Road could be placed on their own green light phase. This means that the bus could drive in the general traffic lane, removing the need for the bus lane for this short 60m stretch, freeing up space for a cycle track to the junction. This would be similar to how this junction is handled for buses and cyclists inbound at the top of Rathgar Road.

3.13 Pinch Points

We welcome the use of bus priority lights in order to maintain a continuous cycle track through the two pinch points on Rathgar Road by Leicester Avenue (map 9) and on Rathmines Road Lower by Castlewood Avenue (map 11). This is a good compromise solution that maintains safety for cyclists while still maintaining a good level of bus priority.

3.14 Rathmines Road Upper Junction

This junction (map 11A) should be redesigned as part of this Core Bus Corridor. The existing junction design has a large number of staggered pedestrian crossings and uses a large amount of space. Rationalising the size of the junction would free up space to provide cycle lanes on Rathmines Road Upper at the junction (it's secondary route 10E) and provide for improved public realm.

3.15 Rathmines Road Lower

We welcome the raised entry treatment on all side roads along Rathmines Road Lower. Some of the bus stops could potentially be converted into bus stop bypasses within the existing space or through minor repositioning. Many of the bus stops are only

200m away from each other so some rationalisation of the number of bus stops would also be appropriate.

3.16 Harcourt Road (Map 15A)

A rationalisation of the number of traffic lanes could allow for a contra-flow cycle track on Harcourt Road (secondary route C7) and the widening of the existing cycle lane to National Cycle Manual standards. If the two turning lanes can be reduced to one right turn lane then a general traffic lane on Camden Street Upper could also be removed. This would free up space for an outbound cycle track and wider footpaths.

3.17 Camden Street Lower

We will hold off on commenting on Camden Street Lower until the next design stage when the NTA will have had an opportunity to examine more cycle facilities on this street.

3.18 South Great George's Street

The removal of a traffic lane in order to provide segregated cycle tracks is most welcome. In order to preserve bus priority and to make the area more pedestrian friendly, traffic on George's Street and Aungier Street could be bus, taxi, and delivery vehicle only. Through traffic would be required to use Clanbrassil Street, while access to the car parks would be maintained from Clanbrassil Street via Golden Lane, and from St Stephen's Green via York Street.

We also welcome the use of speed tables at all junctions in order to encourage low traffic speeds. There are a few loading bays that seem to overhang into the cycle lane this should be resolved. All of these loading bays on this road are very busy and have long operating hours (including during rush hour). These cycle lanes will be completely unusable whenever there is a loading vehicle present.

Our preferred solution would be for the cycle track to go behind the loading bays. Given the obvious space constraints on this road, this is likely not feasible.

An alternative arrangement would be to install a bidirectional cycle track on the western side of South Great George's Street and Aungier Street. This option has a number of benefits:

1. Six of the 8 existing loading bays on this stretch of road are on the eastern side of the road, so this would eliminate most conflict points.

2. Where conflict points still arise, a bidirectional track can occupy less space than two unidirectional tracks. This makes loading bay bypasses possible where otherwise there would not be enough space.

The conflict points with this design are listed below:

1. The two loading bays at the Fade Street junction are being consolidated into one on the other side of the road. Instead, those bays should stay where they are to eliminate any interaction with the cycle track.
2. There's small loading bay at the junction with York Street. The combined carriageway and loading bay is over 12.5 m wide. The cycle track could be narrowed to 3 m here, leaving space for a 1.1 m buffer between the cycle track and the 2.4 m wide loading bay.
3. The large loading bay outside Tesco at the junction with Kevin Street. Again here, the road is relatively wide. There's space to widen the road if necessary, the left turn lane could be removed, and the cycle track could be narrowed.
4. Bus stops. Currently, the bus stops are too close together. A bus stop must be installed at the Kevin Street junction as it is an interchange point. Another stop should be at Stephen Street (400 m away).
5. Junctions. Traffic turning across the cycle track onto Peter Road and Longford Street Little puts cyclists at risk. We recommend that a turning restriction be introduced for Peter Road, and also considered for Longford Street Little. If turning restrictions are not possible, then cyclists should get their own signal, as on the Grand Canal Cycleway.

We welcome the tiny indication that the NTA will enable contraflow cycling on Exchequer Street, which would be a huge win for cyclist permeability in the area.

3.19 Option B Before Canal

We completely reject Option B between Rathgar Road and the Canal as an unworkable option.

1. The proposal is in breach of a multitude of national and local transport policies by prioritising private motor traffic above sustainable transport modes such as walking and cycling
2. The Option B route avoids Rathmines village, a key destination for cyclists. Rathmines Road Lower is primary route 10 of the GDA Cycle Network Plan, diversions from these routes are not allowed in key district centres

3. It fails to provide a direct route, which is one of the five needs of a cyclist in the National Cycle Manual
4. The Option B route provides low levels of personal security as there is no passive surveillance along large segments of the route. Personal safety is one of the five needs of a cyclist in the National Cycle Manual
5. Rathmines Road Lower is already one of the most popular cycling routes into the city, where cyclists outnumber private motor traffic during morning peak
6. Building four traffic lanes through Rathmines Village would destroy the sense of place. This is not appropriate for Rathmines Village as it is a key district centre in the Dublin City Development Plan

3.20 Option B Canal to the City

We welcome the proposals for Option B from the Grand Canal to the City. These proposals are shared by the Kimmage Core Bus Corridor and would deliver sections of Primary Route 9 of the GDA Cycle Network Plan. We especially welcome the closure of Heytesbury Street/New Bride Street to through traffic.

On New Bride Street we have two recommendations. To close off the two traffic lanes outside DIT Kevin Street or reduce it to one-traffic lane. Closure would allow for a increase in the public realm at this location. We'd also recommend that an advanced stop location (ASL) and associated feeder cycle lane be installed on New Bridge Street inbound. This will give cyclists a minor advantage by allowing them get to the head of the junction. It will also optically narrow the traffic lane reducing speeds.

We are a little disappointed that the cycle route is not continued up Bride Street to complete primary route 9, or at least as far as Bulley Alley Street/Golden Lane, which is primary route 8. Under the proposed BusConnects Network Redesign there are no buses operating on Bride Street. This would allow for the existing bus lane to be reallocated to segregated cycle tracks and wider footpaths.

4.0 Conclusion

There are some hard choices to make as part of this corridor. The NTA should follow the transport hierarchy and priority sustainable transport modes.

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.

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