Galway Cycling Campaign
Feachtas Rothaíochta na Gaillimhe

Bus Rothaíochta na Gaillimhe – Cnoc na Cathrach

cyclist.ie the Irish Cycling Advocacy Network

02 January 2020

FAO: An Bord Pleanála

Case Number: 305982 (Strategic Housing Development)
http://www.ballymoneenroadshd.com/

Applicant: Glenveagh Living Limited

Development Description: Development of 332 no. apartments, a creche and all associated site works.

Development Address: Gort na Bró, Rahoon, Galway.

Introduction

The Galway Cycling Campaign (GCC) is an advocacy group established in 1998 to make Galway cycling-friendly. We currently have approximately 40 paid members in Galway City and County and are we are represented on the and are active member groups of the Galway Environmental Network and the Galway City Community Network (part of the Public Participation Network).

Our objectives are:

1. to get more people cycling and make it an everyday form of transport
2. make the roads safer for everyone
2. improve services and infrastructure for people who cycle walk and use public transport and
4. educate the public and decision makers.

We are a member group of Cyclist.ie. Cyclist.ie is the federation of cycling advocacy groups, greenway groups, and bike festivals on the island of Ireland - http://cyclist.ie/. Cyclist.ie is the Irish member of the European Cyclists' Federation - https://ecf.com/. The common vision of GCC, Cyclist.ie and ECF is that cycling becomes a normal part of transport and everyday life for all ages and abilities.

The Galway Cycle Bus (https://galwaycyclebus.weebly.com) is a community initiative which was founded in 2018 to ensure that primary-school children in Knocknacarra can cycle to school safely. It consists of a group of organisers and volunteers who manage and escort children and their parents on a daily route to the two largest primary schools in this suburb.

Members of both groups (Galway Cycling Campaign and the Galway Cycle Bus) are concerned that aspects of the development in its current form would limit cycling and walking as a practical and safe means of travel between this residential area and amenities, schools and places of employment nearby. There is inadequate provision for traffic-free walking and cycling links through the proposed development. The provision for cycling on roads adjoining and within the scope of the development is inadequate, incoherent and likely to lead to unnecessary conflict between pedestrians and cyclists. We also believe that the facilities for bicycle parking are below the recommendations in terms of quantity and design standards do not meet those of best practice.

What follows are some specific observations and concerns from both groups on the above application. *We would welcome an opportunity to meet developers or planners to explore our concerns in greater detail.*

Summary of concerns

1. The provision of cycle parking - we have concerns regarding the adequacy of quantity, security, accessibility and convenience of these.

2. Permeability - cycling and walking links to adjacent developments are inadequate and fail to meet local and national planning standards. Only a single through pedestrian route through the site is apparent, with no cycling routes through the development indicated.

3. Two-way cycle tracks are too narrow with poor design legibility for those wishing to access/egress for contra-flow cycling. There is also an apparent underlying assumption that people will cycle across zebra-crossings, in spite of this being against traffic regulations.

4. Cycle lanes should not be within the circulation of roundabouts as is clearly stated in the National Cycle Manual.

5. Raised, two-way cycle tracks terminating at shared space areas at signalised junctions will create unnecessary conflict between people cycling and walking.

6. The use of narrow stacking lanes in a manner that removes road capacity from people on bikes is unacceptable and should be revised.

7. Junctions with internal or minor roads - these should have raised, continuous footways, in particular at the entrance to the Podium Car Park

8. The proposed arrangement for the Link Road and bus bay would require boarding bus passengers to queue on a dedicated, bi-directional cycle lane and alighting bus passengers to egress onto the same lane, with people cycling potentially coming from both directions.

9. Construction activity relating to HGV movements into the site should be restricted to outside the opening and closing times of the nearby schools.

10. We note several instances in Appendix 3.1 “Transport and Traffic Assessment” prepared by Atkins Ireland relating to cycling that appear to grossly misunderstand the current environment for cycling in the area and the needs of people cycling. Such misunderstanding undermines the rationale behind any provision for cycling and its suitability for the current scheme. There is no evidence of engagement with cycling stakeholders in the proposed Mobility Management Plan.

Concern 1. Provision of cycle parking spaces

Quantity of cycle parking

We note that the quantity of bicycle - proposed spaces for 677 bicycles - is below what would be required for sustainable development according to national guidelines.

Regarding the residential aspect of this development; the Department of Housing, Local Government and Planning has issued a document on 'Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities' (March 2018, source: https://www.housing.gov.ie/planning/guidelines/apartments/design-standards-new-apartments-guidelines-planning-authorities-march). This includes guidance for bicycle parking and storage in new apartment developments:

In terms of quantity, these guidelines state:

> **Section 4.17 p.24**
>
> **Quantity** – a general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at least 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units.

Based on these ratios, and the size of the residential development (332 apartments with a total of 551 bedrooms) **a total of 551 long-term bicycle spaces for residents and 166 spaces for visitors to the residential areas alone would be required (717 in total)**.

Furthermore, this figure does not include bicycle parking provision required for customers and staff at the proposed retail units and the creche, and for visitors to the public amenity. The National Cycle Manual contains detailed guidance for cycle parking quantity, for both residential and non-residential developments (see Figure 1.a). This should be used to inform the minimum quantity for the provision of cycle parking for the non-residential components of the development.

Location	Minimum number of bicycle parking spaces
Housing developments	2 private secure bicycle spaces per 100 sq.m (note –design should not require bicycle access via living area) 1 visitor bicycle space per two housing units
Offices	10% of employee numbers, (subject to minimum of 10 bicycle places or one bike space for every car space, whichever is the greater)
Schools	10% of pupil registration numbers, minimum 10 places Consider separate teacher / employee parking
Other developments	1 bike space for every car space
Shops	1 space per 100 sq m
Public Transport pick-up points (Rail, tram, taxi Ranks & QBCs)	2.5% of number of daily boarders at that point / station, subject to minimum of 10 bicycle places
Off-street car-parks (incl. Multi-storey)	10% of total car-spaces, subject to a minimum provision of 50 spaces
Park and Ride locations	Consider sheltered parking at P+R
On-street (public)	Minimum of 5-10 spaces, depending on expected level of usage
Events	5% of forecast attendees
NOTE: *The above guidance does not preclude the need for compliance with the requirements of the Planning and Development Acts and associated Regulations. The designer should consult with the local Planning Authority for clarification and/or further information in this regard.*	

Figure 1.a National Cycle Manual guidance on minimum number of cycle parking spaces.

We do not believe any required increase in the quantity would be excessive, given the low number of car-parking spaces in the development, and the proximity of this location to major employment centres: at Parkmore Industrial Estate, Mervue, NUIG, UHG, Merlin Park, GMIT, and all retail centres, amenities, schools and services. It is also notable that this development is sited alongside a key cycling route on the Western Distributor Road (subject to further improvement) as per the Galway City Development Plan and the Galway Transport Strategy. So the potential for this development to be a “cycling residence” is a strong possibility and should be facilitated to encourage sustainable development in this area.

Location of cycle parking

We note that only Blocks A, B and F have designated, indoor cycle parking (386 indoor spaces with 291 surface spaces). Residents of Blocks D and E should have provision of cycle parking spaces within their own blocks/buildings to ensure optimal convenience, security and accessibility. Surface cycle parking spaces should be considered appropriate for visitor spaces rather than spaces for residents. Based on our calculations above there should be 551 indoor, secure cycle parking spaces distributed within each block and according to the size of each, with 166 surface cycle parking spaces for visitors to the residential component plus another additional appropriate amount of surface cycle parking spaces for those travelling to the

amenities (public plaza, retail and restaurant/café units in Block D) within the development.Where possible, surface cycle parking should be covered.

Table 9: Cycle Parking

Cycle Parking	No. of Spaces
Block A	64
Block B	70
Block F	252
Surface Stand Spaces	291
Total	*677*

Figure 1.b Extract from Planning Report and Statement of Consistency of the current application (p.19) detailing the quantity and distribution of cycle parking provision.

Design and accessibility of cycle parking

No details are provided as to the specific design of the internal cycle parking racks.
In drawings **P18179-RAU-ZZ-XX-DR-A-SLP-7100 - GA Plan Level 00 Block E_F** and **P18179-RAU-ZZ-XX-DR-A-SLP-7000 - GA Plan Level 00 Block A_B_C_D** the internal floor areas for cycle parking are indicated as being 43m², 54m² and 166m² for 64, 70 and 252 cycle parking spaces in Block A, B and F respectively. It is unclear whether such provisions can be provided within the designated areas. We speculate that two-tier racks would be necessary for such provision, which are suitable for parking in areas of high density. If so, it is paramount that any such designs be of high quality and be gas-assisted to ensure useability of the upper racks. In addition such racks are not suitable for all cycle users or cycle types including families using cargo bikes, those with mobility impairments using trikes or recumbent bikes and other non-standard cycle types. A small proportion of additional Sheffield stand U-type racks within the indoor, secure areas should be provided for users of such cycles to ensure universal access and should be designated as such.

Recommendations:

- *Cycle parking quantity should be increased commensurate with the size of the various components of the development and in accordance with national sustainable development guidelines.*
- *A total of 551 secure, indoor, ground-floor cycle parking spaces for residents should be distributed between each residential block according to size of each block, in line with the appropriate ratios in sustainable guidelines.*
- *A total of 166 surface cycle parking spaces should be provided for visitors to the residential component*
- *If provision is using two-tier cycle racks, a small proportion (5%) of indoor, secure parking spaces should be provided additionally for users of non-standard cycles in the form of Sheffield U-type stands.*

Concern 2. Permeability, cycling and walking connectivity

Cycling and walking links through this development appear to be lacking. We have identified only a single through pedestrian route through the site, and there are no apparent cycling routes through the development.

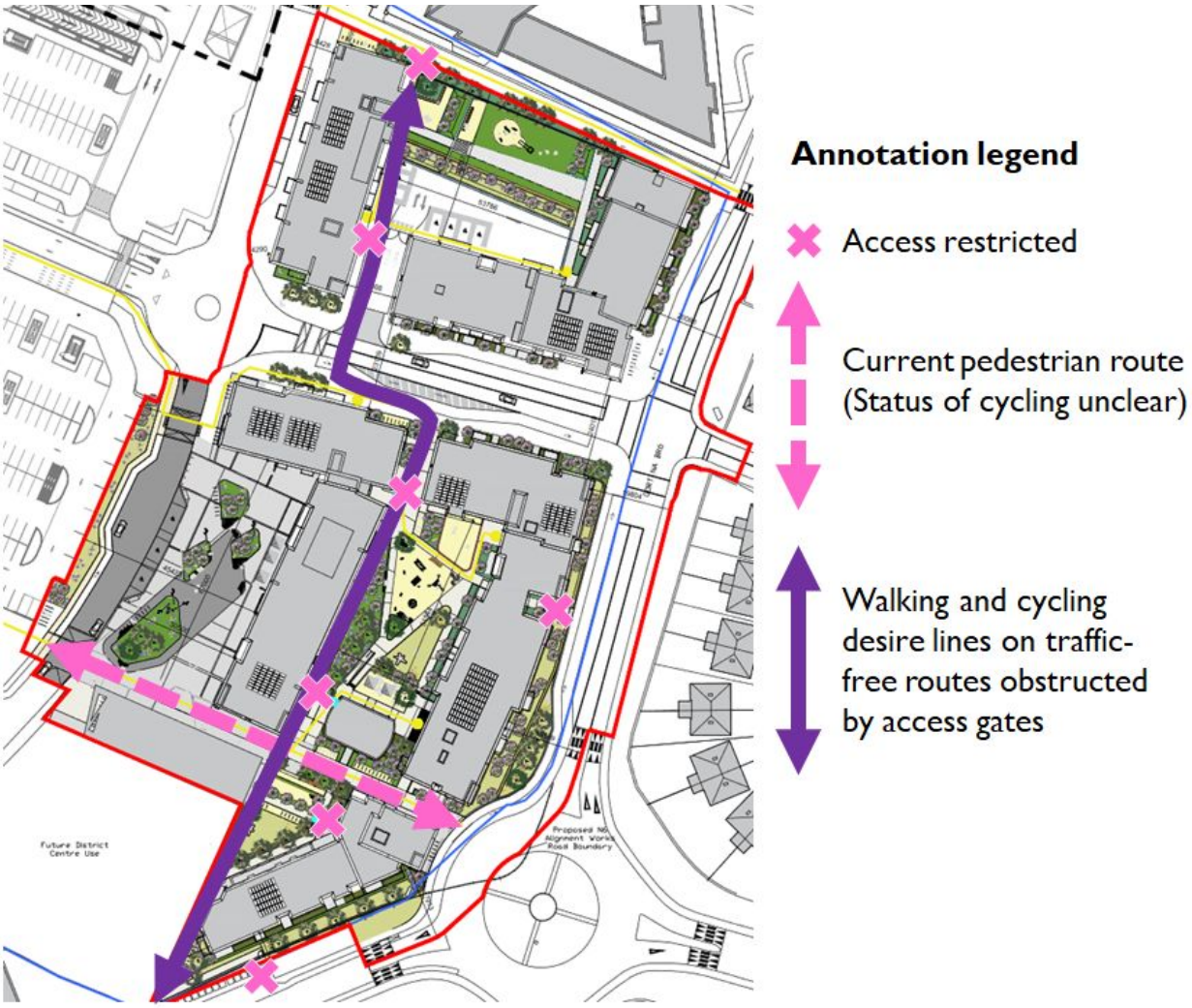


Figure 2.a Annotated extract from drawing P18179-RAU-ZZ-XX-DR-A-SLP-1017 “Pedestrian Route” for proposed development. In the proposal there is only a single through route for walking with no obvious connectivity provided for cycling. An illustrative desire line for people walking and cycling wishing to avoid busy traffic environments is overlaid. This is mostly restricted by access gates, but also by the lack of entry points of the development onto the Western Distributor Road.

Drawings indicate controlled access gates giving 24-hour access to residents at various points on the perimeter and the interior of the development. It is unclear whether these will be open for restricted times for access to the general public.

We also refer to an obvious inadequacy in the Planning Report & Statement of Consistency document of the current application in relation to permeability and walking and cycling connectivity. In relation to the requirements of "**Section 3.6 Cycling and Walking"** of the **Galway City Development Plan** which states that developments must:

> Promote, facilitate and maintain maximum connectivity and permeability for pedestrians and cyclists in the design of new developments and in upgrading existing developments in accordance with the Design Manual for Urban Roads and Streets (2013) and Permeability a best practice guide (NTA, 2015)

the response to this requirement in this application in the Statement of Consistency (p.14) states:

> A total of 677 bicycle parking spaces are provided in the scheme.

Cycle parking is completely unrelated to the matter of cycling and walking connectivity (permeability) and does not address any of the stated requirements of the relevant section of the Galway City Development Plan. In our view this response illustrates either a gross misunderstanding of this requirement or an attempt to hand-wave away the inadequacies of the scheme in this regard. An extract from p.14 of the Planning Report & Statement of Consistency in relation to this requirement is posted below for greater clarity.

Section 3.6 Cycling and Walking	Promote, facilitate and maintain maximum connectivity and permeability for pedestrians and cyclists in the design of new developments and in upgrading existing developments in accordance with the *Design Manual for Urban Roads and Streets (2013)* and *Permeability a best practice guide (NTA, 2015)*	A total of 677 bicycle parking spaces are provided in the scheme.

Figure 2.b Extract from p.14 of the Planning Report & Statement of Consistency document of the current application.

This has important consequences for the route cyclists, often young and less experienced, must choose to take in order to reach their destinations, and make cycling and walking less appealing for those who currently do not do so.

"**Permeability Best Practice Guide**" produced by the National Transport Authority on2015 provides further guidance on this matter.
(https://www.nationaltransport.ie/wp-content/uploads/2011/12/Permeability_Best_Practice_Guide_NTA_20151.pdf)

Recommendation: *The proposed development needs greater connectivity via traffic-free walking and cycling routes through the site which is in accordance with national and local planning standards. Any private links should be designed to facilitate cycling for residents also.*

Concern 3. Two-way cycle tracks and zebra crossings

3.1 General concerns.

The scheme as submitted includes short sections or fragments of two-way roadside cycle tracks or shared use footway. Cycling on the wrong side of the road is associated with increased risk of collisions with motor vehicles at junctions. Two-way roadside cycle-tracks are also associated with large increases in collisions at junctions. The underlying cause is that turning drivers are not accustomed to looking in unexpected directions for oncoming traffic before making turns.

There is a role for two-way roadside cycle tracks but only if the junction designs are carefully managed and only if they integrate with the rest of the network in a coherent manner.

The use of two-way cycle tracks in the context of this development involves the insertion of random sections of two-way cycle track into the network in a manner that is not coherent and is not carefully managed. Their use in this context does not take account of the wider network design which involves one-way cycle tracks on each side of the road. This creates a risk that persons will start cycling from this development using a cycle track of one type and then move to using other cycle tracks to cycle on the wrong side of the road - because the design will make this the most obvious option.

For example these fragments of two-way cycle tracks are used in a manner and location that could result in people on bikes feeling directed to circulate a roundabout in an anti-clockwise rather than clockwise direction. Roundabouts are already a junction type that carries high-risk of collisions for two-wheelers.

We note below that the best option may be to eliminate this design altogether.

3.2 Proposed design widths: Departure from standards.

We note that the proposed two-way cycle lanes are 2.75m wide. Given the location near a school and the general traffic environment, this is insufficient.

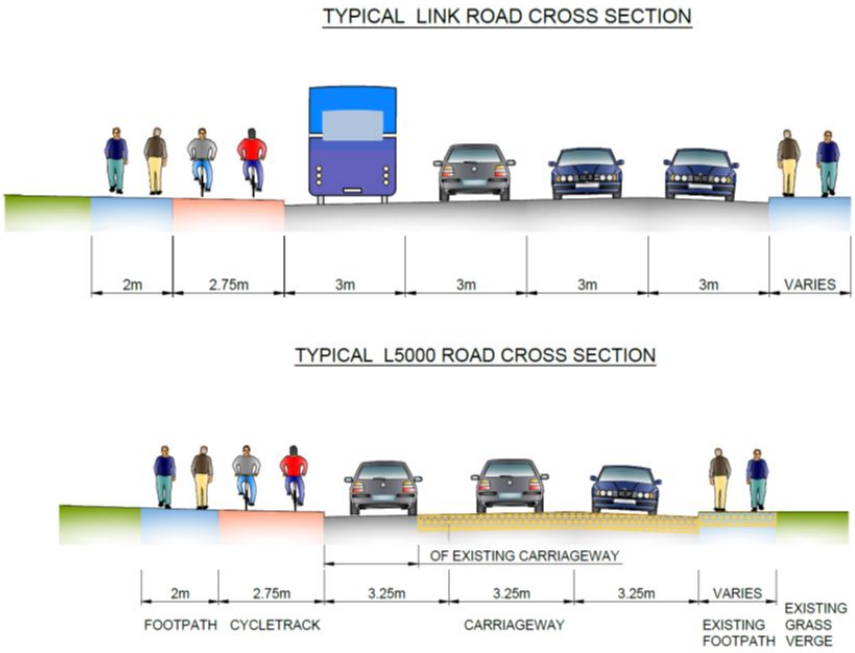
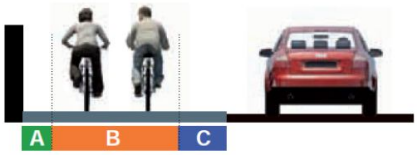


Figure 3.a Cross-sections provided from drawing HT0102 “General Arrangement”. Both indicate a two-way cycle-track of 2.75m.



A Inside Edge		B Cycling Regime		C Outside Edge		D Additional Features	
Kerb	0.25m	Single File	0.75m	30kph, 3.0m wide lane	0.50m	Uphill	0.25m
						Sharp bends	0.25m
Channel Gully	0.25m	Single File + Overtaking, Partially using next lane	1.25m	50kph, 3.0m wide lane	0.75m	Cyclist stacking, Stopping and starting	0.50m
Wall, Fence or Crash Barrier	0.65m	Basic Two-Way	1.75m	Raised kerb, dropped Kerb or physical barrier	0.50m	Around primary schools, Interchanges, or for larger tourist bikes	0.25m
Poles or Bollards	0.50m	Single File + Overtaking, Partially using next lane	2.00m	Kerb to vegetation etc. (ie. cycleway)	0.25m	Taxi ranks, loading, line of parked cars	1.00m (min 0.8m)
		2 Abreast + overtaking (tracks and cycleways)	2.50m			Turning pocket cyclists	0.50m

Figure 3.b Extract from National Cycle Manual for minimum width of cycle facility for given features. The particular features evident for this scheme have been highlighted in yellow. This would result in a minimum two-way cycle-track width of 3.25m with a preferable width of 4m (enabling two-way cycling with overtaking).

Furthermore, there is little apparent “design legibility” for how those wishing to access/egress for contra-flow cycling should do so.

Zebra crossings are a type of signalised pedestrian crossings which people on bicycles are not legally allowed to use. There is also an apparent underlying assumption that cyclists will use zebra-crossings to transition to the roadway to enter or at the end of such contra-flow sections. It is unclear whether the designer of this scheme expects cyclists to either dismount and walk or cycle to cross these. The former approach directly undermines the coherence and convenience of cycling, key requirement of any valid transport mode. The latter is illegal. A design which gives people cycling only these two options to make progress is patently a poor one.

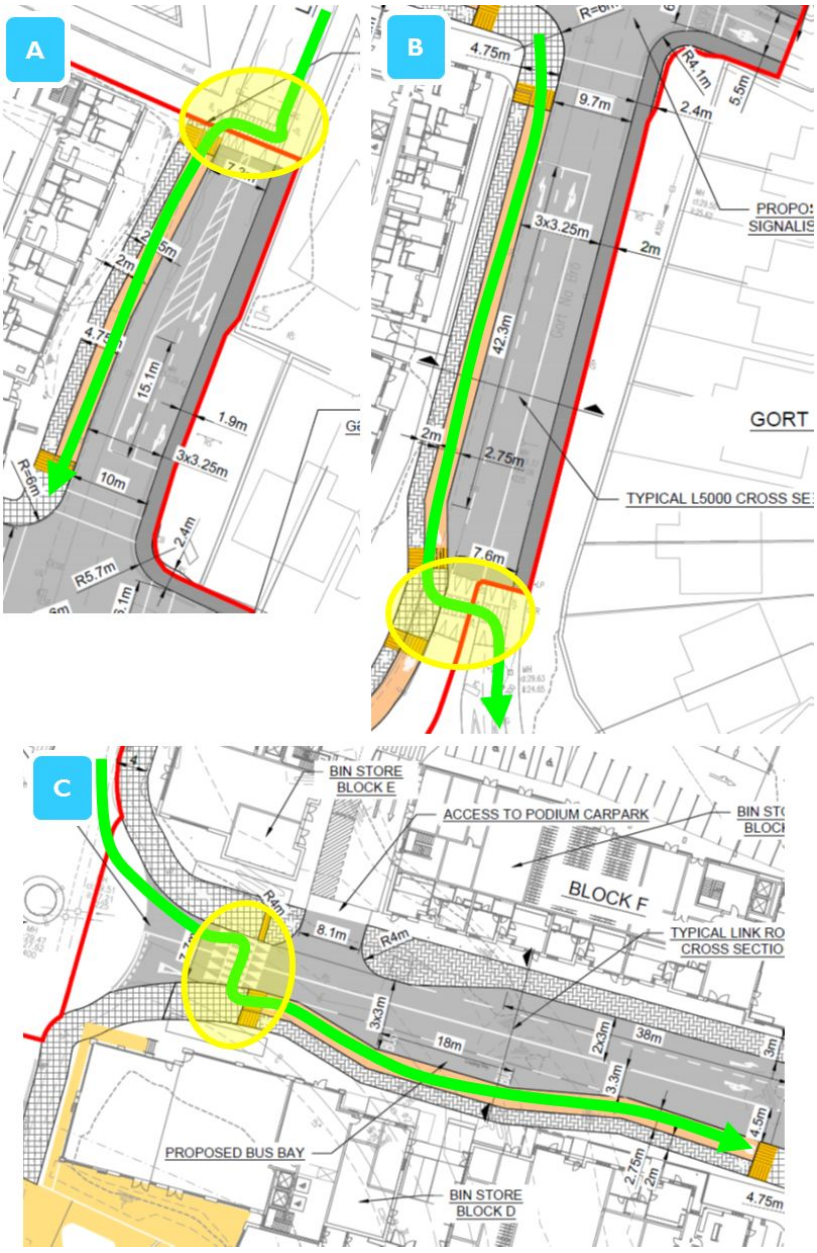


Figure 3.c Extracts from HT0102 “General Arrangement” annotated with the anticipated “contra-flow” routes (green lines in direction of arrow). The only feasible transition areas to enter

the contra-flow (panel A and C) and to exit the contra-flow (panel B) are given at zebra-crossings. Given it is not legal to cycle on zebra-crossings, the implication is that cyclists must dismount to transition to/from any contra-flow cycle lane.

Recommendation

- *The proposed two-way cycle tracks create a fundamental and haphazard design change within a short section of the overall network in a manner that could encourage behaviours associated with substantial increased in the risk of junction collisions.*
- *The proposed two-way cycle track is much too narrow given its context and is not in accordance with national best practice.*
- *The design legibility is poor to enter and exit the contra-flow aspects of the two-way cycle lane, and relies on cyclists either dismounting and transitioning at zebra-crossings or cycling across them illegally.*
- *The best option would be to remove two way cycling facilities in favour of cycle tracks on either side of the road with the direction of traffic. This should however be coherent with the overall context including junction layouts and alternative traffic-free routes nearby.*

Concern 4. Cycle facilities on roundabouts

We note with concern that an apparent two-way cycling facility (or one tied directly into a two-way cycle track) has been placed within the circulating section of the Gort na Bró roundabout, in the proposed design - see Figure 4.a. It is not clear whether this is a raised cycle track or a painted, on-road cycle lane. In either case, this has the effect of encouraging/pressuring cyclists taking the second or later exits (travelling straight-ahead or turning right) to expose themselves to "left-hooks" by motor vehicles. The design also creates the possibility that people on bikes will feel directed to continue their wider journeys by circulating the roundabout in an anti-clockwise direction.

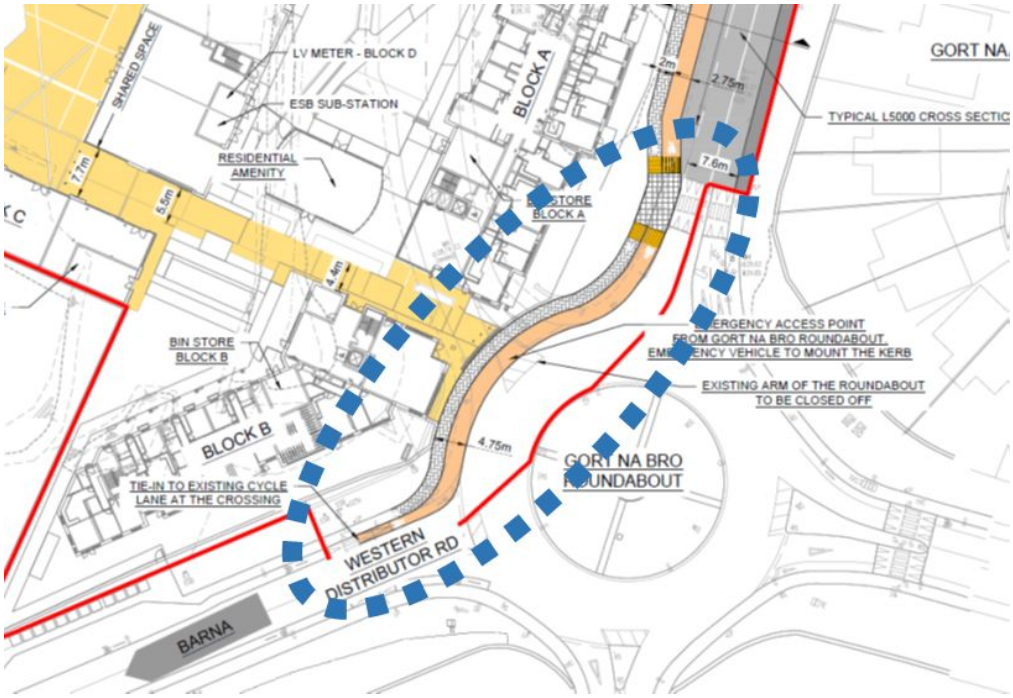


Figure 4.a Extract from drawing HT0102 "General Arrangement" with section of on-road cycle lane within the Gort na Bró roundabout indicated within dashed-blue area.

The National Cycle Manual is clear on this matter:

> **Section 4.8.2 Integration or Segregation and Roundabout Capacity**
> ***No Cycle Lanes on Roundabouts***
> Cycle lanes should not be included in the circulating section of roundabouts. Cyclists should be either mixed with traffic on roundabouts in a single circulating lane (i.e. cycle logos in the traffic lane, no cycle lane) or else segregated from traffic by physical means.
> ***Roundabout Capacity***
> Depending on the traffic balance between arms, single lane roundabouts can accommodate up to 20,000 – 25,000 vehicles per day. It is important to remember that the capacity of a roundabout is the total number of vehicles using, and not the number approaching it from any one arm.

Cyclists can mix with traffic at roundabouts with traffic volumes of less than 6,000 vehicles per day. These are cost effective and space efficient.
Segregation is necessary above 6,000 vehicles per day, and specific design features must be introduced to ensure the safety of cyclists.

We anticipate also that traffic volumes on this multi-lane roundabout are already far in excess of the 6,000 vehicles per day criterion for segregation at this location. We also recommend that the arms of the Gort na Bró roundabout within the bounds of this development be reduced to a single lane. Referring to relevant sections of the National Cycle Manual:

Section 4.8.1 Cycle Friendly Roundabouts
The design principles are very similar to those for Side Roads of T-junctions.

- Multi-lane approaches are not recommended, as vehicles in the outer approach lane preclude eye contact between traffic on the inner approach lane and cyclists on the roundabout
- Double or multiple gyratory lanes are not cycle friendly due to traffic weaving and the risk of side swipe

Recommendation

- *The proposed cycling facility within this section of the Gort na Bró roundabout should be removed, in accordance with national and international best practice.*
- *An alternative traffic-free route in the design should be identified and provided for people cycling from the Western Distributor Road heading northwards, particularly children travelling to Gaelscoil Mhic Amhlaigh. This route should run through the development and be fully separated from the roundabout and the unnamed L5000 road to be redesigned.*
- *The Gort na Bró roundabout should be reduced to a single lane entry for all arms within the scope of this development, again in line with the National Cycle Manual.*

Concern 5. Shared facilities between pedestrian and cyclists

We note that a key feature at the proposed signalised junction is for two-way, raised cycle tracks to terminate at shared space areas at signalised junctions. This will create unnecessary conflict between people walking and cycling, and result in children cycling and walking to and from school, in addition to others cycling and walking in both directions being squeezed into a relatively narrow area.

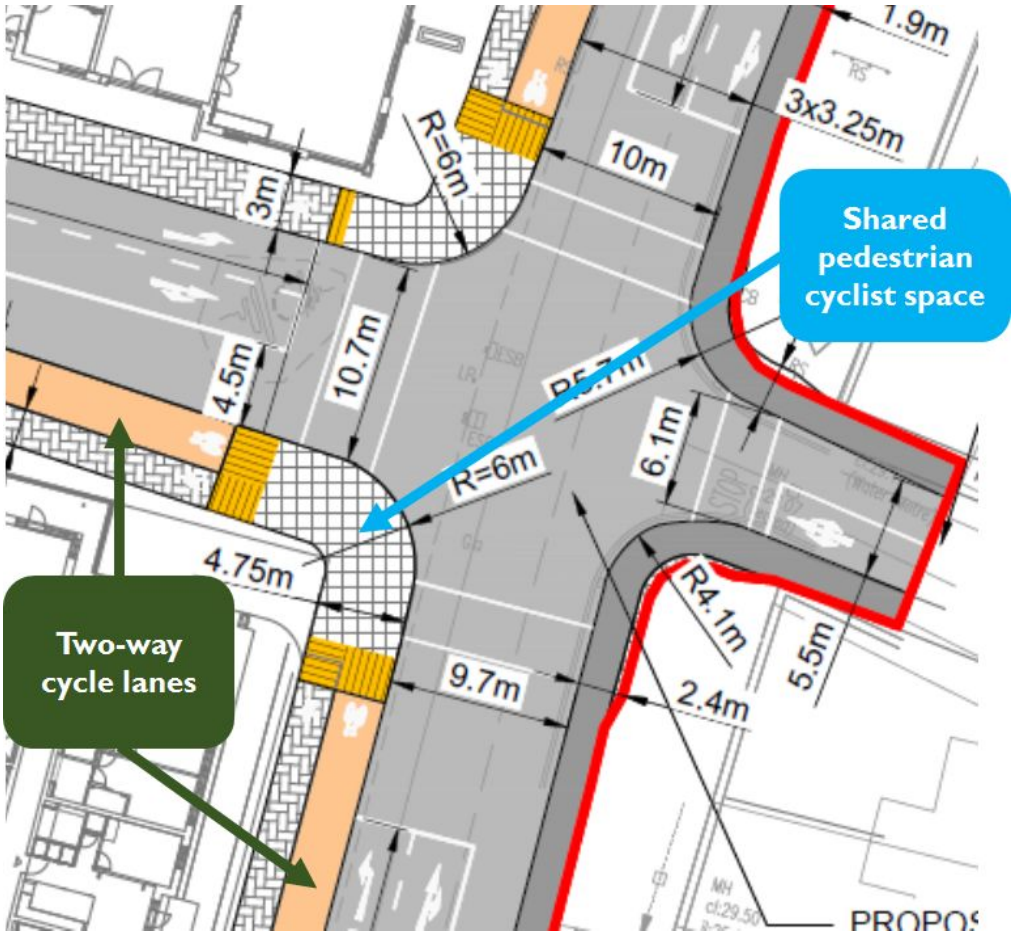


Figure 5.a Extract from drawing HT0102 “General Arrangement” with section of

The National Cycle Manual contains the following guidance on shared facilities:

> **Section 1.9 Pedestrians and Cyclists**
> Shared facilities between pedestrians and cyclists generally result in reduced Quality of Service for both modes and should not be considered as a first option.
>
> **Section 1.9.3 Shared Facilities**
> Shared facilities are disliked by both pedestrians and cyclists and result in reduced quality of service for both modes. With the exception of purpose-designed shared streets, shared facilities should be avoided in urban areas as far as possible.

> Shared facilities might be appropriate at locations where footpaths are wide and the volume of pedestrians and cyclists is low, e.g. in low-density towns and cities, and suburban or recreational areas.

This guidance is clear; shared space especially in areas such as this should be avoided if possible. This issue is exacerbated by the presence of cyclists travelling in both directions on such shared space. Furthermore, as pedestrians and cyclists will be gathering on this relatively small area of junction to cross at toucan crossings, queueing will be haphazard, and it is possible there will be overspill at busy morning periods. The cross-section of shared space on the north-western arm of the junction is only 3m which is clearly inadequate for such a purpose.

Alternative junction configurations exist which can fully separate cyclists from motor-traffic, and minimise pedestrian cyclist conflict, while working within the standards of UK and Irish traffic signals. We refer to projects such as the Manchester to Chorlton Cycle Way (https://secure.manchester.gov.uk/info/500352/roadworks_and_closures/7840/manchester_to_chorlton_cycle_way). Similar designs are at proposal stage for the National Transport Authority for Bus Connects projects and we recommend designs for this scheme follow similar concepts with guidance from National Transport Authority engineers.

Figure 5.b Extract from Manchester to Chorlton Cycle Way scheme with design of protected cycling intersection.

Recommendations

- *The proposed design for shared space at the signalised junction in this development is inferior for both walking and cycling and should be removed.*

- *Alternative junction configurations which ensure the safety and convenience of walking and cycling should be used.*

Concern 6. Space to cycle safely and conveniently

Observations

Reduction in width of carriageway

We note that the treatment of the lanes at the proposed junctions indicate a lane widths of 3.25m or less. But in several cases no separate space is provided for cycling.

At the proposed traffic signals at Gort Na Bro the following lane widths are seen.

North Arm - 3 x 3.25m lanes
East Arm - Gort Na Bro - 5.5m total so 2 x 2.75m
South Arm - 3 x 3.25m lanes
West Arm - exiting lane starts at 4.5m going west narrowing to 3.5 - entering lanes are both 3m

This does not comply with long established best practice.

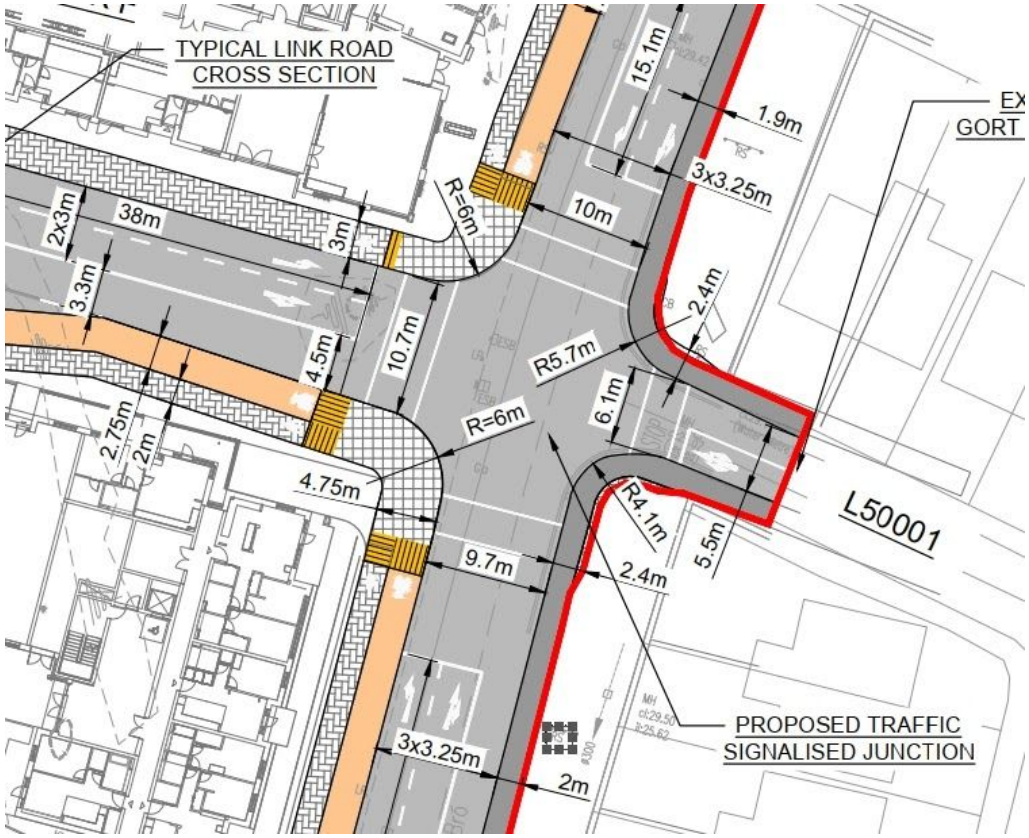


Figure 6.a *Extract from planning application drawing showing use of unsuitable and narrow lane widths at the new link road junction.*

The issue of the negative effects of narrow lanes and engineered pinch points has long been a concern for people who use bicycles and has been raised repeatedly in various submissions to Galway City Council. The National Cycle Policy Framework defines road narrowing schemes as a cycling unfriendly intervention that requires remedial treatment.

> **NCPF Page 20**
> **Policy 2.6 Remedial Measures**
> We will carry out remedial measures on existing cyclist-unfriendly urban roads with a special focus on roundabouts, multi-lane one way streets and road narrowing schemes.

In effect in narrow lanes with heavy traffic unprotected people on bicycles are being used as a form of mobile traffic calming. When queues of vehicles form cyclists are similarly obstructed from maintaining progress and may take to the footpaths. Examples of this in Galway can be found on Bishop O'Donnell Road and on Fr. Griffin Road at the fire station where the city council has chosen to remove road space from cyclists so as to store queueing cars. It was also tried previously on the Old Dublin Road at Renmore when, despite warnings from the Galway Cycling Campaign, the outbound lane was narrowed to provide an inbound bus lane. As predicted, outbound traffic could not pass cyclists and a second scheme was required to widen the road.

Parkin 2005 (Lancashire the Cyclists' County) discusses the matter as follows;

> A "tight" cross-section is too narrow for a motor vehicle to overtake a bicycle within the lane. Motor vehicles following cycle traffic within a tight cross-section, or suddenly braking to do so, can be very intimidating. Cycle traffic can operate comfortably in a tight cross-section only if the speeds and volumes are low and overtaking by using the outside or oncoming lane is easy. The creation of a tight cross-section, for example by footway widening, may be considered in urban central locations, but can be intimidating for cyclists being followed by motor vehicles.

Guidance on cycling infrastructure is starkly simple here: mixed or shared street cycling on narrow lanes should only be allowed where there is little or no through traffic and traffic speeds are low. Thus unless meaningful and systematic reductions in through traffic, traffic speed, and removal of HGVs is ensured, then this is entirely incompatible with best practice to ensure the safety and appeal of cycling on these streets. Roads elsewhere in this development use lane widths of 4.6m and these work quite well for cyclists provided traffic speeds and volumes are kept low.

Table 4.1.1 Cross-section comments and mitigation

	Spacious	Critical	Tight
Definition	Sufficient room to safely overtake cycle traffic	Dangerous close overtaking	No room within the lane for overtaking of cycle traffic
Dimensions	At 30 mph: 4.20m (cars only) or 5.05m (HGVs) At 20mph: 3.75m (cars only) or 4.60m (HGVs)	3.10 to 3.75 metres	3.10 metres or less (cars) or 3.60 metres or less (with HGV traffic)
Comment	• acceptable at most speeds but more space or separation needed as speed increases.	• not advised as it encourages dangerous overtaking; • more acceptable if it is easy to overtake (e.g. little oncoming traffic, no central island).	• only normally acceptable for short distances; • speeds lower than 20mph; • good visibility; • more acceptable if next to lanes that allow easy overtaking (e.g. no barrier, little traffic).
Mitigation		• reduce speeds; • an advisory cycle lane or cycle logos within the main carriageway may help to boost cyclists' confidence and keep traffic to the right.	• reduce speeds; • wide advisory cycle lane to alert drivers to cycle traffic presence and lack of overtaking space.
Application	Main roads, distributor roads with cycle lanes	Not recommended without off-carriageway cycle path	Residential roads

Figure 6.a *Derived from Dutch guidance issued in 1993 this extract from Lancashire the Cyclists County explains why using narrow lanes is only acceptable in particular circumstances.*

Advanced stacking locations

We note the absence of any advanced stacking locations or advanced stop lines (ASLs) in any of the junction design schematics.

The provision ASLs is recommended by the NCM in the following context:

> ASLs are used at signalised junctions to facilitate stacking of higher volumes of straight ahead cycle movements, and also to accommodate right-turning cycle movements. They permit cyclists to stop and wait in a forward position, ahead of stopped vehicular traffic.

It is important to provide these only in the presence of a cycle lane. The NCM gives the following condition:

> ASLs must always be "fed" by a cycle lane to ensure that cyclists can pass stationary traffic and get to them. If no feeder cycle lane can be provided, do not introduce an ASL on its own, as this will only frustrate cyclists and encourage them to mount the footpath etc. to access the ASL.

We note junction design drawings in the planning application do not contain such features,

Figure 6.b *Image from NCM showing advanced stacking location/advanced stop line for cyclists.*

Recommendations

- *Reduced traffic lane widths are unacceptable without (1) provision of segregated space for cycling, or (2) reduction in the volume of motor traffic via removal of through motor-traffic.*

- *If cycle facilities are not being provided roads elsewhere in this development use lane widths of 4.6m and these work quite well for cyclists provided traffic speeds and volumes are kept low. This standard should be kept for safety and convenience of cycling.*

- *Any cycling facilities should be of a sufficient width and be part of a coherent network for cycling, including junction treatments.*

Concern 7. Treatment of minor junctions

The design of junctions at minor roads or entrances such as at the Podium Car Park contains dipped/dished kerbs to lower the footpath to road level, with tactile paving. Instead of this design feature, we propose raised, "continuous footways" across such junctions. This maintains the height of the existing footpath for the pedestrian when crossing, with markings indicating pedestrian priority at such intersections. See Figure 7.a for examples of the raised footway feature. This reflects and reinforces the law regarding the priority of pedestrians at minor junctions and entrances relative to turning traffic (*S.I. No. 294 of 1964. Road Traffic General Bye-Laws, 1964. Bye-Law 22 (2) and(3)*).

Here we reference the **Design Manual for Urban Streets:**

> Section **4.4.7 Horizontal and Vertical Deflection** (p114)
> "Raised tables, or platforms, may be placed strategically throughout a network to promote lower design speeds, slow turning vehicles at junctions and enable pedestrians to cross the street at grade. Key locations where these should be considered include:
> At entrance treatments where Local streets meet Arterial and Link streets
> To reinforce a change between design speeds (such as at entrance treatments)."

For further discussion of these points about prioritising pedestrian safety at minor road junctions in an urban environment see: https://rdrf.org.uk/2018/05/30/1859/

Figure 7.a Examples of raised crossings at junctions on main roads meeting minor roads, emphasising the legal priority of pedestrians and cyclists going straight ahead over entering/exiting motor traffic, and slowing same motor traffic in the process.

Recommendation

Raised continuous footways should be provided at minor road junctions and entrances. In this case at the entrance to the Podium Car Park. This is in accordance with national best practice.

Concern 8. Location of bus bay on proposed Link Road

The proposed arrangement for the Link Road and bus bay would require boarding bus passengers to queue on a dedicated, bi-directional cycle lane and alighting bus passengers to egress onto the same lane, with people cycling in both directions at the point of entry/exit. The potential for such conflicts represent an unacceptable hazard which attenuates any increase in safety of this proposed cycle track arrangement.

We understand this bus bay will be be a terminus for the #405 bus service. To avoid the stated conflict between people cycling and using the bus at this location, we propose that the bus bay be relocated to within the large car-park of the Gateway Retail Centre development adjacent to the site of development. The landowner is the same for both developments. There is a large weather protected area in front of the shops suitable or a dedicated shelter could be constructed within the car-park for such a purpose. It is notable that the car-park is rarely at capacity so would be capable of accommodating such a relatively small space.

This relocation will have the additional effect of making public transport more appealing for potential passengers with shelter provided and with greater proximity of a bus terminus to a retail park and coffee shops upon alighting or while waiting. Precedent exists for bus termini in Galway to be on privately owned land. For example, at the other terminus of the #405 bus service the bus waits directly outside the Hewlett Packard/DXC/Microfocus office block within the Ballybrit Business Park Campus.

Recommendation

The current location for the bus bay should be removed to the adjacent Gateway Retail Park carpark to create a more appealing public transport terminus for passengers and avoid potential conflicts between bus passengers and people cycling.

Concern 9. Construction activity relating to HGV movements into the site

Construction activity relating to heavy goods/construction vehicles (HGV) movements, even with the provision of a site marshall, into the site should be restricted to outside the opening and closing times of the nearby schools.

We have observed that other recent developments in Knocknacarra, including the recent development at the neighbouring Gateway Retail Centre, have taken little to no account of the safety of the hundreds of vulnerable road users, mostly school children in the neighbourhood walking and cycling to and from the schools in the area.

Figure 9.a Observations of construction vehicles operating during school opening times near schools and on routes to schools in Knocknacarra, in the vicinity of the proposed development. It is clear that such vehicles are entirely inappropriate for such a road environment at these times.

HGVs during school morning trips both during the construction phase represent a particular hazard in this regard. The design of these vehicles does not ensure sufficient “viewing coverage” for drivers around these vehicles and being struck by a HGV represents a disproportionate cause of death for many pedestrians and cyclists in urban environments.

We do not believe this hazard has been taken fully into account in Chapter 4 of EIAR “Population and Human Health” of the application (see Section 4.7.2.1). In particular the Mitigation steps outlined should involve the restriction of construction traffic during school opening and closing times. This is in line with choosing the most effective option from the standard hierarchy of controls of risk i.e. removal of the risk before considering other options.

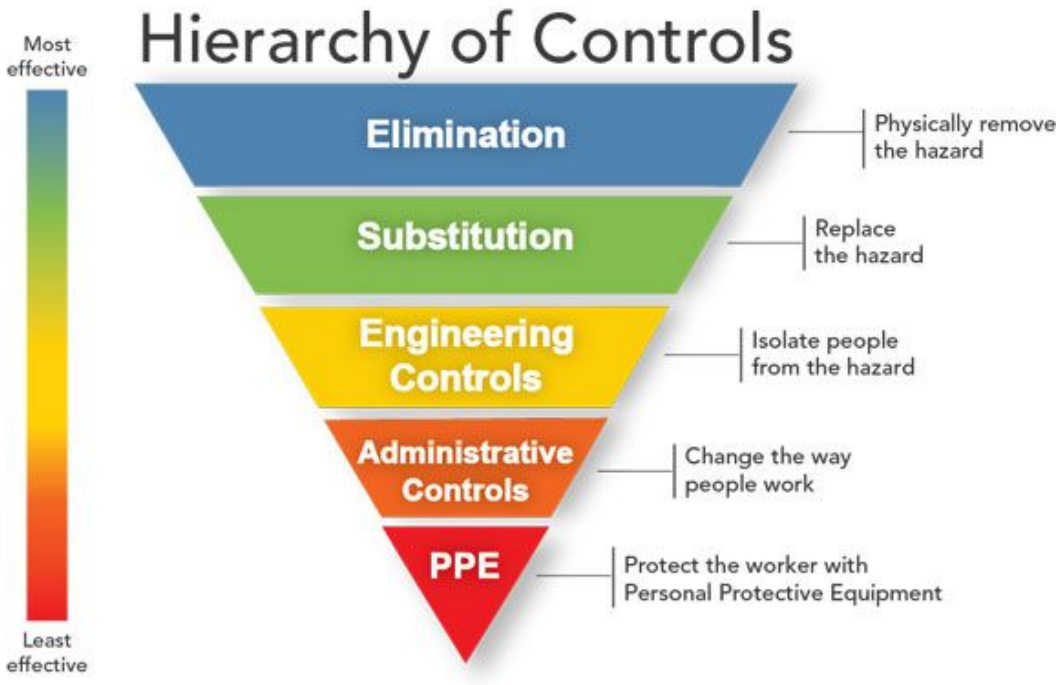


Figure 9.b Hierarchy of risk controls, taken from the National Institute for Occupational Safety and Health (NIOSH).

Recommendation

To prevent the significant hazard of heavy construction and goods vehicles travelling to/from and entering and exiting the development, we propose an exclusion time for such vehicles entering/exiting the site during school term for heavy goods vehicles entering the site during construction between e.g. 08:00-08:45 and 14:30-15:00 to ensure that HGVs will not be entering and exiting this site during the morning school trip, where we observe that hundreds of children may be walking and cycling to the adjacent school.

Concern 10. Appendix 3.1 Transport and Traffic Assessment

On page 18 the report states that "*routes are mainly cyclist friendly with dedicated cycle lanes*" which is asserted without evidence, and are at odds with the experiences of those who currently cycle in the area and those who are reluctant to do so. We would argue that the very existence of a Cycle Bus illustrates the deficit of cycling friendly roads and infrastructure in the area. Cycle lanes are unprotected and no provision is provided for cyclists to proceed safely through multi-lane roundabouts on the Western Distributor Road. Such assertions without basis, illustrate a poor understanding of the needs of those cycling and this is manifested in the inadequate roads and cycle lane arrangements for the proposed development.

In addition we note that the Cycle Bus and its route is mentioned in this section, but would like to point out that there have been no efforts by the developer or the local authority to consult or engage with the Cycle Bus organisers and participants as to whether this traffic and roads arrangements here will cater to the needs of both children cycling to school independently, with their parents or with the Cycle Bus. We also note that there is no evidence of efforts to include those cycling and walking, either as local groups or as individuals, as stakeholders in the Mobility Management Plan.

Recommendations

- *Developers should include local cycling groups, including the Galway Cycling Campaign and the Galway Cycle Bus as stakeholders in their Mobility Management Plan.*

- *Consultant engineers involved in the devising this scheme should obtain direct knowledge and experience of the conditions of cycling in the locality to obtain by actually cycling there. We would welcome them on a trip to school with the Galway Cycle Bus.*

Overall recommendation

The proposal should be amended to reflect these considerations and specific recommendations.

The intense mixing of cyclists and pedestrians, as is likely to occur in the current proposal, is concerning and should be removed from the design.

We stress that any single recommendation listed here is unlikely to yield a safe and attractive walking and cycling environment in and around this development. Junction treatments, motor-traffic lane-stacking, permeability and on-road cycle facilities should all be treated in a holistic and coherent manner to achieve this desired outcome.

On behalf of the committee

Galway Cycling Campaign

And on behalf of the organisers of

Galway Cycle Bus