

Templeville Road

Options Selection Report

National Transport Authority

November 2023

Quality information

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1. Introduction

The National Transport Authority (NTA) Cycling Design Office (CDO), on behalf of South Dublin County Council (SDCC), has commissioned a preliminary design of improved provision for cyclists on Templeville Road, to include the Templeogue Road junction and Wainsfort Roundabout. The aim is to widen the existing shared use facility across the bridge over the River Dodder and then provide a stepped cycle track facility along Templeville Road and continue for approximately 1km west up to and including to Wainsfort Roundabout.

1.1 Background

The scheme will connect the recently constructed cycle tracks on Templeville Road, which currently terminate on the west side of Wainsfort Road roundabout, to the bridge over the River Dodder on Springfield Avenue and the Dodder Greenway. The proposal for the linear section of the route between the Wainsfort Road roundabout and Springfield Road is a stepped cycle track facility adjacent to the carriageway, tightening of corner radii on side roads and realigning footways to create continuous footways on side roads. Between Templeogue Road junction and Dodder Greenway. The scheme includes proposals to provide a stepped cycle track along Springfield Avenue which will then transition into a widened shared use provision across the bridge over River Dodder on Springfield Avenue. A revised layout for Wainsfort Road roundabout has been developed to improve provision for cycle and pedestrian movements through the junction. An interim layout will also be required where the scheme crosses the R137 Templeogue Road junction (full redesign being proposed under BusConnects). The scheme additionally includes school area improvement works on Fortfield Park in the vicinity of St Pius X Boys National School, the works include provision of an additional footway to connect Templeville Road with the entrance to the school.

1.2 Study Area

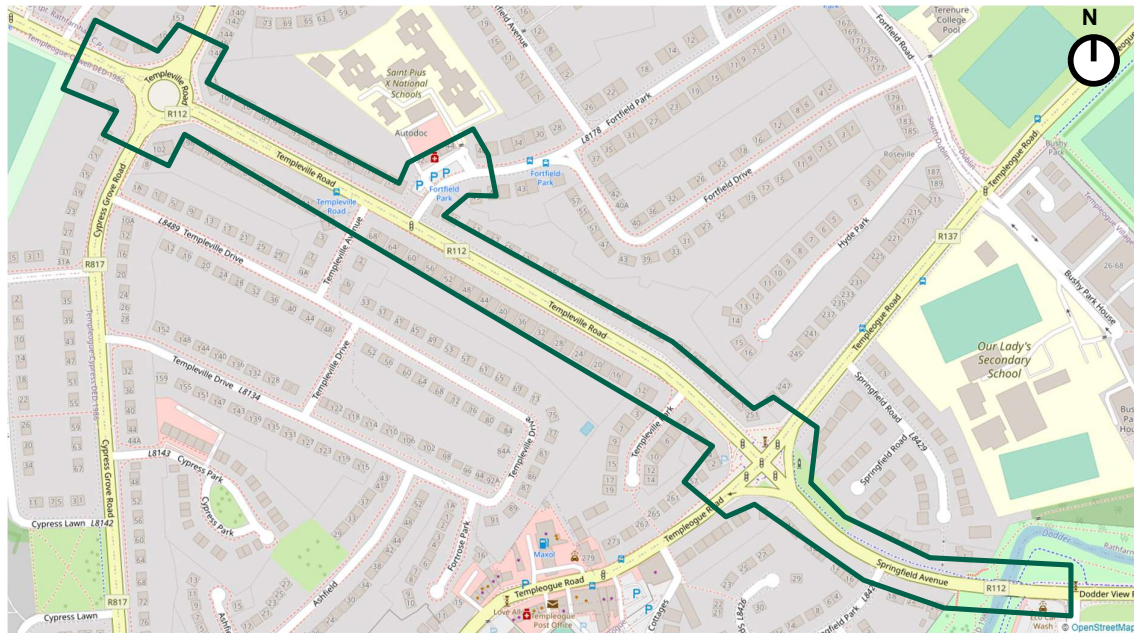


Figure 1 – Study Area

The study area is approximately 1km in length between the Wainsfort Road roundabout and the tie in at the eastern side of the bridge over the River Dodder.

2. National and Local Plans

2.1 Context

The scheme is supported by plans at National and Local Levels. This scheme provides an opportunity to address objectives, including encouraging active travel, improving cyclists' safety and increased accessibility for all road users. Examples of such plans are:

National Plans

- National Sustainable Mobility Policy
- National Development Plan (NDP) 2021-2030
- Climate Action Plan 2023
- National Investment Framework for Transport in Ireland (NIFTI)
- Ireland's Government Road Safety Strategy 2021-2030

Local Plans

- South Dublin County Council Road Safety Plan 2022-2023
- South Dublin County Development Plan 2022-2028

2.2 Project Need

Given the amenities and destinations on Templeville Road, the need to improve cyclist and pedestrian provisions in order to facilitate safer commutes and promote active travel along the road has been identified. The proposed scheme will also have the benefit of connecting to the recently constructed cycle track provision on Templeville Road as well as offering a connection to the Dodder Greenway scheme on the eastern side of the River Dodder bridge.

2.3 Objectives

The specific design objectives are outlined below:

- Deliver a Primary Cycle Route on Templeville Road between Wainsfort Road roundabout and Springfield Avenue.
- Provide improved pedestrian access and connection to Fortfield Park area surrounding St Pius X Boys National School.
- Provide continuous, accessible walking, wheeling and cycling facilities that will encourage active travel.
- Enhance the amenity and connectivity along the route and provide links to other existing and proposed cycling and walking routes.
- Design a scheme that can be delivered as a Rapid Implementation Scheme (i.e., provide a facility within existing road boundaries, ideally through Section 38 process, without the need for land acquisition or Environmental Impact Assessment).
- Design in accordance with requirements of Cycle Design Manual and Design Manual for Urban Roads and Streets (DMURS) principles; and
- Develop a scheme that is consistent with national and local plans.

3. Design Guidance

3.1 Standards

- Design Manual for Urban Roads and Streets (DMURS)
- NTA Cycle Design Manual (September 2023)
- TII – Standard Construction Details Series 5100
- TII - Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated, and compact grade separated junctions)

4. Existing Conditions

4.1 Wainsfort Road Roundabout

The four-armed roundabout at Templeville Road / Wainsfort Road features two lane entries on all arms, with single lane exits on all arms and a circulatory carriageway width of approximately 6.0m. Whilst the roundabout has two lane entry it only has one circulatory lane, with an on carriageway advisory cycle lane also circulating the roundabout. Although there is only one circulatory lane, road users have been observed circulating the roundabout adjacent to each other; effectively creating two circulatory lanes.

The roundabout features pedestrian footway on all arms, however there is only one uncontrolled crossing point on the Wainsfort Road arm and an informal uncontrolled crossing on Cypress Grove Road. The cycle lane is not continuous between the cycle lanes on the roundabout and the westbound lane on Templeville Road; cyclists continuing westbound on Templeville Road must either join the carriageway at the exit arm and re-join the cycle lane further down the road or access the onwards bound raised cycle track via one of the existing driveways with ingress/egress onto the roundabout.

The roundabout features eight driveways of varying widths, with access onto the circulatory section of the roundabout. Vehicle movements to and from these driveways are required to pass over the advisory cycle lane.

4.2 Linear Section: Wainsfort Road to River Dodder

The linear section of Templeville Road included in this design stretches from the Wainsfort Road roundabout to the bridge over the River Dodder. The carriageway measures 9.0m in width and is a 50kph road with one traffic lane in each direction. This section is lined with grass verges that contain trees, street furniture and driveways. Pedestrian footways are provided on both sides of the road and there is a controlled crossing point as part of the signalised junction with Fortfield Park, and at the signalised junction between Templeville Road/ Templeogue Road.

Throughout this section of the scheme there are currently a variety of cycleway types. From Wainsfort Road roundabout to the Templeogue junction is a carriageway level advisory cycle lane on both sides of the road; this runs for 620m. Through the signalised junction there is then no dedicated cycle provision. Cycle facilities recommence on the eastern side of the junction. On the northern side of the carriageway, travelling eastbound, there is an off carriageway shared use facility, this runs for approximately 250m to the toucan crossing within the signalised junction at the eastern scheme extents. The cycle provision continues east of this point, outside of the scheme extents.

On the southern side of the carriageway between the Templeogue junction and the River Dodder bridge there is an additional 70m of on carriageway advisory cycle lane that joins the footway to become a shared use path from outside number 16 Springfield Avenue until the scheme extents at the signalised crossing on the eastern side of the River Dodder. The section of shared use path is approximately 200m and terminates at the toucan crossing.



Figure 2 and Figure 3 – Existing conditions on Templeville Road

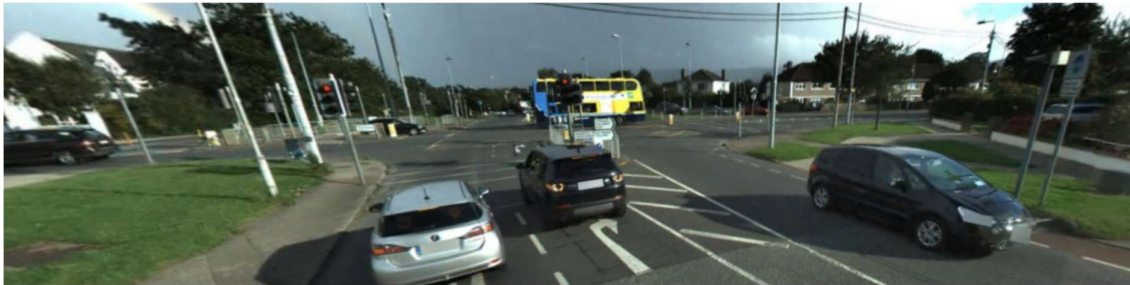
Many of the existing cycle facilities do not meet minimum desirable width standards as set out in the Cycle Design Manual 2023. The use of narrow advisory cycle lanes, with dashed edge lines as are present along much of the corridor are no longer recommended.

The section of Templeville Road within the design is primarily residential. Both sides of the road are lined with driveways featuring dropped kerb vehicular crossovers for driveway access. There are also driveways on the signalised junction and roundabout (see section 4.1).

4.3 Templeville Road / Templeogue Road Junction

The junction of Templeville Road / Templeogue Road is currently a four-arm signalised junction. The south-western crossing of Templeogue Road and the south-eastern crossing of Templeville Road are single phase pedestrian crossings, while the north-eastern crossing of Templeogue Road and north-western crossing of Templeville are staggered crossings. There are two lanes on all entry arms aside from southwest bound traffic on Templeogue Road which is single lane. There are also left turn slip lanes from and onto the south-eastern end of Templeville Road. The left slip from Springfield Avenue to R137 features a cycle lane with light segregation (bollards/pole cones).

Longer term, subject to the Statutory Planning Application and Statutory Consultation, the proposed BusConnects Dublin Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme will re-configure this junction layout.



Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Figure 4 – Signalised junction viewed from Templeville Road, facing northwest.



Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Figure 5 – Signalised junction viewed from Templeville Road, facing southeast.



Figure 6 – Single phase crossing across Templeville Road



Figure 7 – Staggered crossing across Templeville Road



Figure 8 – Templeville Road roundabout at intersection with Wainsfort Road/Cypress Grove Road

4.4 Templeville Road Phase 1

Templeville Road Cycle Improvement Scheme (Phase 1) has recently been constructed to provide stepped cycle tracks in both directions and commences west of the Wainsfort Road roundabout. The proposals at Wainsfort Road roundabout will tie into these newly completed works.



Figure 9 – Extents of Templeville Road Phase 1 works

4.5 Fortfield Park - School Improvement Area

In addition to the initial scheme brief, upon the request of the client, improvement works have now been proposed in the area of St Pius x Boys National School on Fortfield Park.

Northeast from Templeville Road along Fortfield Park is a stretch of approximately 80m of existing road layout, comprising carriageway, footways, and informal crossing provisions. On the north side of the carriageway there is currently no footway provided adjacent to the road, however there is a footway setback from the road behind a small, grassed area. There are currently issues around uncontrolled parking with vehicles entering and exiting the carriageway across the kerb line into the controlled parking area.

This area also provides access to St Pius X Boys National School, as such there is a need for school bus drop off and pick up in this area. There is currently a one-way system in place around the controlled parking area, however at busy times access may be limited for larger vehicles and as such some have been witnessed making movements against the current no entry signs. At present there is limited dropped kerb points to access the footway adjacent to the southbound traffic lane.

5. Opportunities and Constraints / Issues

Key constraints and opportunities / issues that were considered as part of the design are listed in Table 1 below.

Table 1 – Scheme opportunities and constraints

Opportunities	Constraints/Issues
The area around Fortfield Park and the local school could be improved, and conflict points could be removed and/or reduced.	Issue: There is limited parking in this area and any improvements to pedestrian access will have an impact on motor vehicles and parking in the locality.
Signalised junction can be improved to aide cyclist movements.	Constraint: There are existing utility poles and boxes which obstruct pedestrian and cyclist desire lines, particularly at the roundabout, many of which are costly or difficult to relocate.
Several side road junctions with large junction mouth radii can be narrowed as part of proposals.	Constraint: Templeville Road is lined with many properties which require driveway access. The roundabout comprises of four entry/exit arms. There are eight driveways which all have ingress/egress onto the circulatory lane, an additional two accessed from the immediate entry arms, which are not of a set size and as such create a significant challenge to the designs.
Integration with cycle infrastructure in surrounding areas to expand the cycle network and improve continuity.	Issue: There are currently several sections of the cycle route which vary from on-road to off-road, particularly on the Cypress Grove Road section of the Wainsfort Road roundabout – these require realignment.
Existing traffic calming measures can be retained to ensure traffic is slowed to the speed limit of 50kph	Issue: Poor drainage and ponding of water was observed during a site visit. Additionally, raising the level of the existing cycle lane to form a stepped cycle track will require existing gullies to be relocated. New drainage may be required in areas which are not adjacent to the existing storm water network.
The roundabout currently only features one crossing point on the Wainsfort Road arm. The need to add additional crossing points on the remaining arms has been identified.	Constraint: The spaces between the driveways are currently filled with large grass verges, these provide both greenery and some level of drainage. There are also several trees along Templeville Road, which will need to be considered throughout the design process.
	Constraint: The Wainsfort Road roundabout is traversed by the 54a bus route heading along Templeville Road in both directions. The route operates seven days a week with a 30-minute frequency during peak hours Monday-Saturday and one hour frequency on a Sunday. The roundabout sees a bus movement every 15 minutes during weekday peak hours and every 30 minutes on a Sunday. The bus operates 0630 - 2330 Monday to Saturday and 0900 - 2300 on Sundays.

6. Option Development

During the concept and option selection phase of the project, a list of design options was initially considered for the Wainsfort Road roundabout, linear sections, the signalised junction and Fortfield Park.

Wainsfort Road Roundabout

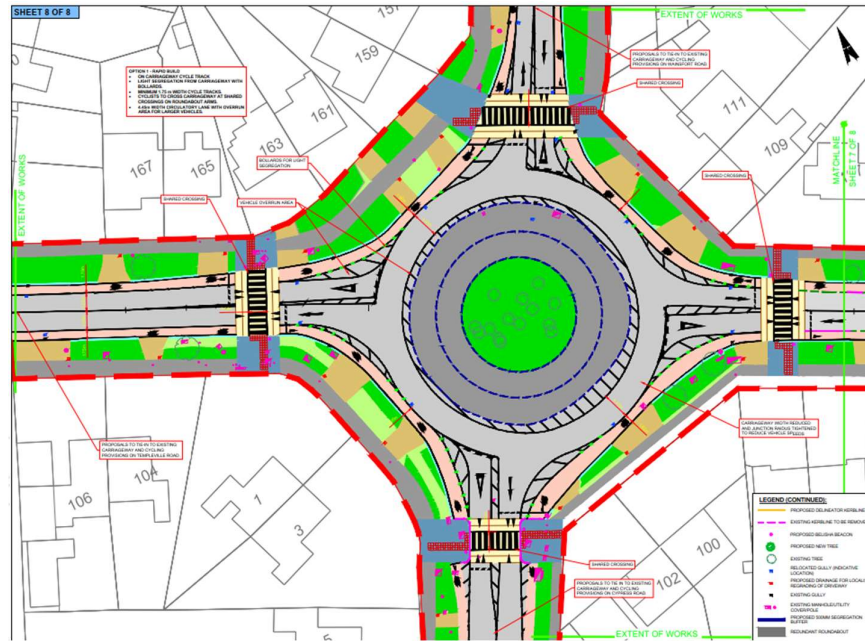


Figure 10 – Option 1: Rapid Build segregation by means of road markings and bollards.

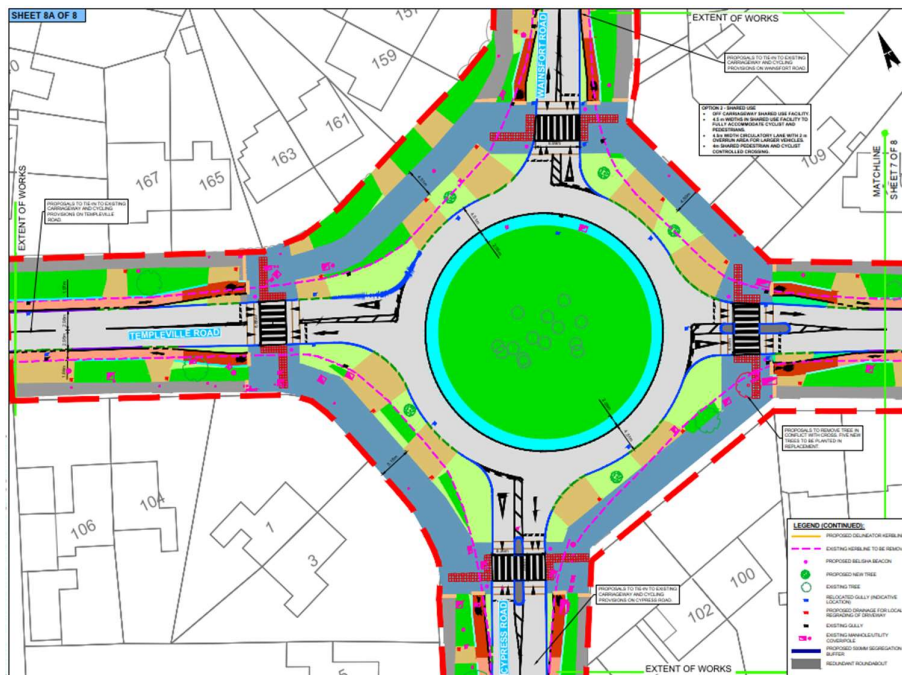


Figure 11 – Option 2: Segregated Roundabout with Shared Active Travel Facilities

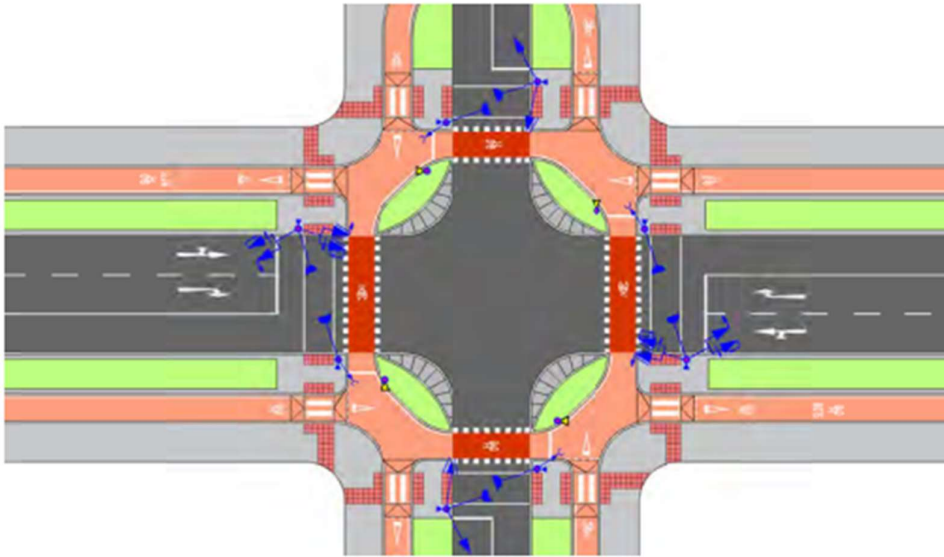


Figure 14 – Option 5: Protected Junction (NTA Protected Junction 4.83)

NTA (2023). *Cycle Design Manual*. [online] p.108. Available at: https://www.nationaltransport.ie/wp-content/uploads/2023/08/Cycle-Design-Manual_Sept.-2023_High-Res.pdf [Accessed 19 Oct. 2023].

Wainsfort Road Roundabout

Table 2 – Description of roundabout options and comments

Option	Description	Comments
1. Rapid Build segregation by means of road markings and bollards	Minor alterations to existing layout – cyclists are protected by use of light segregation bollards. New pedestrian and cyclist crossings installed.	Rapid installation. Low cost. Limited improvements to safety. Minimal disruption during construction. Design does not follow pedestrian and cyclist desire lines.
2. Segregated Roundabout with Shared Active Travel Facilities	Existing off carriageway areas to be widened to create shared use space for both cyclists and pedestrians to circulate the roundabout out of conflict with vehicular traffic. Shared pedestrian and cyclist crossing to be provided on all arms.	Offers significant reduction in interaction between cyclists and vehicular traffic. However, this option does increase the risk posed by interactions between cyclists and pedestrians within the shared use space. Significant costs for installation.
3. Protected Roundabout with Cycle Priority	As with Option 2 a significant build out of the off-carriageway sections of the roundabout would be required. Provision of a fully segregated cycle track and pedestrian footway. Fully segregated pedestrian and cyclist crossing points.	Offers significant reduction in interaction between cyclists and vehicular traffic without increasing risk of pedestrian/cyclist conflict. Significant build costs. Longest construction time and consequently greatest disruption during construction.
4. Partially Protected Roundabout with Cycle Priority	This design features minimal build out on to the circulatory lanes of the roundabout. Segregation is in the form of a 500mm buffer strip. Cyclists are fully segregated using this buffer strip with additional protection provided in the form of space, as a result of redundant roundabout space. Crossings are aligned to follow desire lines whilst also being fully segregated.	This design features many of the benefits of the Protected Roundabout with Cycle Priority roundabout whilst also minimising build duration and cost, due to the reduction in build out. Cyclists and pedestrians benefit from addition protection through full segregation.
5. Protected Junction	A protected is a form of signalised junction. This would be a signalised junction with pedestrians and cyclists' movement controlled separately to vehicle movements. Both cyclists and pedestrians would be segregated from vehicle traffic	This layout would likely be unfeasible given its specific layout and the existing layout of the intersection due to the high number of driveways and the need to completely re-landscape the intersection. A review of this solution was carried out as a desktop exercise only. No designs were produced.
6. Do Nothing	Retain existing arrangements. No additional cycle infrastructure to be provided.	Cheapest option. Does not meet any objectives or policy aims. Retains a layout not in line with Cycle Design Manual that may pose a significant barrier to people deciding to cycle in the area.

Linear Section - Wainsfort Road to River Dodder

Table 3 – Description of linear options and comments

Option	Description	Comments
1. Light segregation	Provide mandatory or advisory cycle lanes with light segregation such as road markings and/or bollards. Existing pedestrian provisions to be retained.	No improvement in accessibility for pedestrians. While cycling provision is improved, there are safety concerns regarding light segregation as vehicular traffic may disregard the road markings and bollards, and drive or park in the cycle lane. Cheaper than full segregation. Advisory cycle lanes not recommended by Cycle Design Manual (2023).
2. Full segregation	Provide mandatory cycle track with full segregation in the form of a stepped cycle track. Pedestrian desire lines and crossings to be reviewed.	Major improvements to both pedestrian and cyclist provisions. Best option in terms of safety and accessibility. Most expensive option.
3. Do Nothing	Retain existing arrangements. No additional cycle infrastructure to be provided.	Does not improve the safety or continuity of provision from Templeville Phase 1. Does not meet any objectives or policy aims.

Templeville Road / Templeogue Road Junction

Table 4 – Description of signalised junction options and comments

Option	Description	Comments
1. Cycle stage within existing signals	This option proposes a cycle facility which continues through the junction of Templeville Road in both directions (eastbound and westbound). It is proposed to alter the existing western staggered crossing, to a straight across crossing, which allows pedestrian to cross in one stage and accommodates the proposed cycle lanes through the junction. The remaining signals and pedestrian crossings are to remain in situ. Mandatory protected cycle lanes have been proposed for the dedicated left turns to improve the safety for cyclists.	Cheapest option. Offers improvement to existing infrastructure with minor disruption.
2. Toucan crossings within existing pedestrian crossing	This option consists of 4m wide toucan crossings on each arm of the signalised junction where cyclists can cross towards their direction of travel. Proposals are to tie into existing cycling provisions on Templeogue Road.	This option would provide a combined pedestrian / cyclist toucan crossing. The toucan crossing will increase the travel and waiting times for cyclists, as they would be required to cross in multiple stages rather than passing through the junction in a single movement as is currently the case. Although this proposal introduces potential conflict between pedestrians and cyclists the width is in line with the recommendation of the cycle design manual and is a commonly used solution, including at the next signal junction on Springfield Avenue/Fairways. Extensive civil works are required to accommodate toucan crossings and therefore the cost to build this option would be significantly higher. SDCC have noted that it is preferred for minimal works to be undertaken at this junction, as it is envisaged that BusConnects will be making improvements to this junction in the future.
3. Do Nothing	Retain existing arrangements.	Does not provide any additional continuous cycle facility provision from Templeville Road to Springfield Avenue. Does not meet any objectives or policy aims. Avoids any abortive works head of the proposed BusConnects Dublin Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme.

Fortfield Park – School Improvement Area

Table 5 – Description of Fortfield Park – School Improvement Area options and comments

Option	Description	Comments
1. Pedestrian crossings and footway installation	Provide pedestrian footway with dropped kerb crossings on Fortfield Park left hand side to provide improved access to school area.	Light touch option with low cost. Leaves some issues, such as uncontrolled parking unresolved.
2. Full redesign	Would require a full redesign of the scheme area looking at formalising the school bus drop off, parking around the shopping area and pedestrian footways.	The most expensive option but has the greatest opportunity to provide reduced conflict between motorist and pedestrians in this area.
3. Do Nothing	Retain existing arrangements.	Does not provide any additional footway connection, dropped kerb crossings. Area remains a conflict point for pedestrian and vehicle movements.

7. Option Assessment

Multi-Criteria Analysis (MCA)

An MCA was undertaken on the various options for each of four scheme elements: the linear section, the signalised junction, the Wainsfort Road roundabout and the school improvement area. The MCA included the recommended assessment criteria in the Transport Appraisal Framework (TAF): Transport User Benefits and Other Economic Impacts, Accessibility Impacts, Social Impacts, Land Use Impacts, Safety Impacts, Climate Change Impacts, Local Environmental Impacts.

Below is a summary of the assessment outcomes. A full copy of each of the assessments can be found in Appendix B.

Table 6 – MCA – TAF – Assessment Outcome Summary

Scheme Element	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Wainsfort Road Roundabout	4th	3rd	Joint 1st	Joint 1st	Not Feasible	5th
Linear Section	2nd	1st	3rd			
Signalised Junction	1st	2nd	3rd			
Fortfield Park School Improvement Scheme	2nd	1st	3rd			

Further details

7.1 Option Assessment Conclusions

Following the MCA these are the emerging preferred options:

Wainsfort Road Roundabout - Option 3 (Protected Roundabout with Cycle Priority) and 4 (Partially Protected Roundabout with Cycle Priority) joint 1st. Option 4 has now emerged as the preferred option when build costs and disruption to the local community have been further taken in to account.

Linear Section - Option 2 (stepped cycle track)

Signalised Junction - Option 1 (cycle stage within existing signals)

Fortfield Park School Improvement Area - Option 2 (full redesign). However, Option 1 (pedestrian crossings and footway installation) is the preferred option at the school improvement area, as this does offer an improvement on the existing set up at minimal costs. However, should greater funding be released in the future, Option 2 would then be preferable. Further details of each option within the proposals can be found below.

7.2 Wainsfort Road Roundabout

7.2.1 Option 1 – Rapid Build segregation via road markings and bollards

A rapid build design which is based on the NTA National Cycle Manual Design (2011) 4.8.4.3, this manual has now been superseded and the new Cycle Design Manual (2023) does not have a specific design which mirrors this one. The design features segregated entry and exit cycle lanes which then join a segregated cycle lane in the circulatory section of the roundabout. Cyclists and vehicles are separated using bollard segregation. The design encourages cyclists to cross the entry/exit arms at the shared use crossings with pedestrians.

It has not been possible to incorporate a buffer strip between cyclists and vehicles in this option due to the constraints placed on the design by the eight driveways around the roundabout. Instead, light segregation in the form of bollards has been provided. The carriageway circulatory lane has been narrowed to 4m in line with guidance with a 2m over run section on the inside of the circulatory area to allow for larger vehicle movements. The entry and exit radii have also been tightened to 6m to help control vehicle entry speeds.

7.2.2 Option 2 – Segregated Roundabout with Shared Active Travel Facilities

A design based on the NTA Cycle Design Manual design TL 703 Segregated Roundabout with Shared Active Travel Facilities. The design features several key similarities to Option 1 including the carriageway circulatory lane having been narrowed to 4m in line with guidance with a 2m over run section on the inside of the circulatory area to allow for larger vehicle movements. The entry radii have also been tightened to 6m to help control vehicle entry speeds.

The key design features which differ from Option 1 is a segregated cycle track which does not bring cyclists onto the carriageway. Instead, the segregated cycle track comes to an end with a yield sign, at this point cyclists enter a shared space with pedestrians, in this space cyclists can traverse the roundabout using shared crossings. There is clear delineation between the footway and the shared space using tramline tactile paving. This option offers a safe route across the roundabout for both pedestrians and cyclists, including vulnerable user groups. A large proportion of verge must be removed as they significantly diminish the shared space available, but areas that are currently part of the carriageway are to be converted to verges after the circulatory lane is narrowed.

The current design still leaves open a level of conflict between cyclists and pedestrians.

7.2.3 Option 3 – Protected Roundabout with Cycle Priority

Designed based on NTA Cycle Design Manual guidance TL701 Protected Roundabout with Cycle Priority, this option has several similarities to Option 2 but offers a significant improvement in terms of reduction in conflict between cyclists and pedestrians.

Most pedestrian footways and cycle tracks are 2m, aside from occasional variations at local pinch points. As with Option 1 and 2, it features a carriageway circulatory lane reduction to 4m with a 2m overrun. There are also overrun buffers on the roundabout exit shoulders.

In this design all driveways have been rationalised to 3.6m wide. This significantly reduces the conflict zone for pedestrians and cyclists with cars accessing properties. However, in order to offer suitable lines of sight, the driveways all feature access splays of 5.4m.

7.2.4 Option 4 – Partially Protected Roundabout with Cycle Priority

This option is a modification to options one and three. It incorporates the benefits of rapid build together with many of the advantages of the Option 3 design. The key features of this design include reducing the roundabout circulatory width reduced to 4m with a 1.25m overrun for larger vehicles, this alongside roundabout entry arms being reduced in width, will help to slow traffic. Entry and exit radii have further been reduced to slow traffic entering and exiting roundabout.

The design features a fully segregated cycle track around the off-carriageway section of the roundabout with protection provided in the form of 500mm segregation buffer. Driveways have been rationalised to 3.6m along main length with 5.4m access splays. Additional buffering around the cycle track is provided by an area of former roundabout carriageway.

The design also features 2.4m pedestrian crossing provided on each arm with 2m segregated cycle crossing on each arm.

One of the main advantages of this design is the volume of build out being minimised, this helps to reduce costs. There is also minimal shared use space between cyclists and pedestrians, this helps to reduce conflict.

This option represents a significant improvement to the existing roundabout whilst balancing cost, speed of implementation and improvement in safety.

7.2.5 Option 5 – Protected Junction

The 2023 Cycle Design Manual offers some options for existing roundabouts. Another option to be considered for the Wainsfort Road roundabout is Design TL501 Protected Junction from the Cycle Design Manual.

A protected junction is a form of signalised junction and as such would require the full removal of the existing roundabout in order to create an entirely new road layout.

A protected junction has a specific form of signalisation as part of its design, this option offers a high level of control of both cyclist and vehicle movements, and excellent cyclist and pedestrian safety through means of physical segregation from vehicles, however existing site constraints will limit its implementation.

The driveways would have a high level of interference with the proposed crossing layout as well as creating significant conflict points when vehicles are attempting to emerge on to the signalised junction. It would also make it hard to offer suitable pedestrian crossing lines on all four arms without significant deviation from the design.

The design also appears to primarily set up for a geometric road layout with only minor deviation and with significant space. The spacing may be difficult to comply with without a full rebuild of the entire interchange. The current geometry of the site is slightly offset, which is mitigated through the circular nature of the roundabout, but to achieve this with a linear design, it would require a full site clearance.

The implementation of this design on the proposed site would be extremely difficult given the current site restrictions. It would also likely have a high impact on Sustainable Urban Drainage (SUDs) in the area as there would be a significant increase in non-permeable surfaced area which would have a potential impact on surface run off and drainage. Furthermore, the design does not consider vehicular driveways. This design was only considered as a desktop exercise. No formal design drawing was created.

7.2.6 Option 6 – Do Nothing

Option 6 “do nothing” does not provide any additional safety enhancements for active travel users and fails to meet the overall scheme objectives.

7.2.7 Preferred option

Option 4 is the preferred option for the Wainsfort Road roundabout because it offers cyclists and pedestrians safe segregated routes through the roundabout, it also reduces the opportunities for roundabout collisions and conflict through lane width reduction. Option 4 brings many of the benefits of Option 3 but with a significantly reduced build cost, reduced construction disturbance and a lower environmental impact due to the reduction in overall build out.

7.3 Linear section

7.3.1 Option 1 – Light Segregation

Light segregation would look to implement mandatory cycle lanes throughout the scheme, as an upgrade to the existing cycle lanes. Line markings would also be refreshed. In some areas additional light segregation would be implemented using bollards. Whilst this option would be considerably cheaper than full segregation there would remain a high risk of vehicles parking within the cycle lane and creating conflict between vehicles and cyclists.

Light segregation does not make any proposals for improvements to pedestrian infrastructure and desire lines such as junction improvement works. This means pedestrians will continue to have potential conflict points during junction crossings.

However due to a significantly lower level of intervention this option would have a much shorter build time compared to full segregation.

7.3.2 Option 2 – Full Segregation

7.3.3 Wainsfort Roundabout to Signalised Junction

Kerbs have been used to create segregated stepped cycle tracks on both sides of Templeville Road, following minimum desirable widths as set out in the Cycle Design Manual 2023. The segregated stepped cycle track width has been calculated using the width calculator within the Cycle Design Manual (providing for a kerb on the inside edge, single file cycling regime and 50kph, 3.0m wide lane on the outside edge). Drainage gullies have been moved to the new kerb line.

Along the extents of Templeville Road are frequent driveway accesses which have been provided for by using the guidance found in the Cycle Design Manual 4.3.6 Entrances and Driveways. Dropped kerbs have been placed along the outside edge of the segregated stepped cycle track to allow for vehicular access to the driveways. The provision of a continuous surface material reinforces the continuity of cyclist priority across the entrance.

Across the side road junctions, a red-coloured surface commencing 5m in advance of the side road and ending 5m after the side road has been provided to improve legibility, as guided by the Cycle Design Manual. The cycle

lane continues across the mouth of the junction, therefore vehicles on the side road make a two-stage progress, first across the pedestrian crossing area and then across the cycle lane to enter the carriageway.

Side road junctions have been tightened to a radius of 4.5m on Templeville Avenue and Templeville Park, and to a radius of 6m on Fortfield Park to allow for the 54A bus movement. Raised tables at the side road junctions have been introduced to create a continuous footway along Templeville Road. The raised tables have been designed in accordance with the guidance found in the Traffic Management Guidelines 6.13.3. Footways have been realigned to create continuous footways on the side roads, and a 2.4m pedestrian crossing width has been provided across the raised table as guided by the DMRUS. An additional 0.5m buffer has been proposed either side of the of the main 2.4m crossing in order to reduce the likelihood of anyone with a visual impairment coming into conflict with the ramped section of the raised table.

Existing drainage infrastructure has been amended to align with the edge of stepped cycle facility at carriageway level to ensure the carriageway sufficiently drains. Existing gullies are relocated to the proposed edge of carriageway, and additional gullies may be required where the stepped cycle track ramps up/down to carriageway level to ensure there is no water pooling at the end of ramps. Once the proposed 3D ground model is available during the detailed design phase an assessment will be conducted.

7.3.4 Templeogue Road Junction to Springfield Road

After the signalised junction, the stepped cycle track continues along Springfield Avenue using the same approach as in the linear section before the signalised junction. The side road junction at Springfield Park has been tightened to a radius of 4.5m and a raised table introduced to create a continuous footway along Springfield Avenue.

7.3.5 Springfield Road to Signalised Junction with Dodder View Road / Fairways

At the bridge over the River Dodder, the existing shared use facilities have been widened to a width of 3m in accordance with the Cycle Design Manual 4.2.7 Greenways and Shared Active Travel Facilities. The eastbound transition between the segregated stepped cycle track and the widened shared use facility consists of utilisation of the Springfield Road junction. This avoids conflicting with the existing driveway, utility pole and street furniture. The existing off-carriageway cycle track has been removed beyond the tie in location. The westbound transition ties directly into the widened shared use facility across the bridge over the River Dodder. The scheme ties into the existing provisions at the signalised junction with Dodder View Road / Fairways.

7.3.6 Option 3 – Do Nothing

Option 3 “do nothing” does not provide any additional safety enhancements for active travel users and fails to meet the overall scheme objectives.

7.3.7 Preferred option

Option 2 is the preferred option for the linear sections of Templeville Road as this offers the greatest improvements in terms of safety and overall experience for users of the Templeville Road. Option 2 also achieves the scheme objectives. Whilst Option 2 is the most expensive option it also offers the highest level of end user benefit.

7.4 Signalised Junction

7.4.1 Option 1 – Cycle stage within existing signals

This option consists of the proposed cycle facility on both sides of Templeville Road travelling through the junction and connecting to existing cycle provisions on Templeogue Road. On approach to the junction, the segregated stepped cycle track is ramped down to carriageway level and continues with high friction red surfacing through the junction, before being ramped back up on Springfield Road. To accommodate the extra width required for the cycle track on the Templeville Road side of the junction, the existing traffic island has been shifted south to allow for a straight ahead and left lane, and a right lane, both of a minimum of 3m width. The pedestrian crossing at this location has been designed as a straight across junction rather than a 2-way staggered crossing as is existing. There is an Advanced Stop Line (ASL) for cyclists on the approaches to the junction, and in the middle of the junction is a yellow box to prevent vehicles from waiting there. At the northern side of the junction there is a proposed tie in with existing cycle facilities through the dedicated left turn lane. The shared use provision on footway is to be removed and a 1.5m wide protected cycle lane with red surfacing and bollards to be provided along the dedicated left turn lane, to tie into the proposed cycle track on Springfield

Avenue. At the southern side of the junction the design proposed to tie into existing cycle facilities on Templeogue Road and to utilise the existing protected cycle lane on the dedicated left turn lane. The cycle lane on the dedicated left turn lane is to be resurfaced with red surfacing.

7.4.2 Option 2 – Toucan crossings within existing pedestrian crossing

This option consists of 4m wide toucan crossings on each arm of the signalised junction where cyclists can cross towards their direction of travel. Proposals are to tie into existing cycling provisions on Templeogue Road. The segregated stepped cycle track transitions via a dropped kerb to an on footway shared use provision on approach to the junction before the toucan crossings where cyclists can then access the crossings. To accommodate the extra width required for the cycle track on the Templeville Road, the existing traffic island has been shifted south to allow for a straight ahead and left lane, and a right lane, both of a minimum of 4m width. The pedestrian crossing at this location has been designed as a straight across junction rather than a 2-way staggered crossing as is existing. At the northern and southern side of the junction the existing layout at the dedicated left turn lane is to remain as existing (apart from the 4m wide Toucan crossing width), with existing dropped kerbs being utilised for cyclists to join the segregated stepped cycle track after the junction. This design was only considered as a desktop exercise. No formal design drawing was created.

7.4.3 Option 3 – Do Nothing

Option 3 “do nothing” does not provide any additional safety enhancements for active travel users and fails to meet the overall scheme objectives.

7.4.4 Preferred option

Option 1 is the preferred option. This is because Option 2 identifies cyclist conflict points with pedestrians, longer waiting and crossing times for cyclists to make manoeuvres and the cost of build is higher than Option 1. In addition to this, the future BusConnects project is due to re-design this junction in the future therefore Option 1 provides suitable cycling provisions onto the existing junction layout.

7.5 Fortfield Park – School Improvement Area

7.5.1 Option 1 – Light Touch

Option 1 would involve the creating of a continuous footway provision from Templeville Road to the entrance of St Pius X Boys National School. This footway would be created through the surfacing of a strip of grassed area on the left-hand side at the entrance to Fortfield Park. The second section of footway would be created through the segregation, with bollards of an area of parking opposite the amenities at Fortfield Park. These two areas together with the provision of uncontrolled crossing would provide a continuous footway for pedestrians wishing to access the school from Templeville Road. This option would also look to formalise the school bus parking. The exit to the scheme would also benefit from significant junction reduction. This in turn would reduce the crossing width at this location. This would remain a no entry junction.

7.5.2 Option 2 – Full Redesign

Option 2 would share many of the same key features as Option 1 but with the addition of formalisation of the parking arrangements surrounding the Fortfield Park amenities. This would allow for a better flow of vehicles along the one-way system. The existing concrete island would be replaced with one of a reduced size allowing for better vehicle movements. The improved parking layout and flow would also help to mitigate the risk of vehicles ignoring the no entry signs on this junction thus reducing potential conflicts.

7.5.3 Option 3 – Do Nothing

Option 3 do nothing does not provide any additional safety enhancements for active travel users and fails to meet the overall scheme objectives.

7.5.4 Preferred option

Although Option 2 would bring significant benefits to the area Option 1 is the current preferred option due to the rapidity with which it could be delivered. Option 1 would have significantly lower build costs and could be rolled out within a very short period of time. A full redesign of the area may be something which could be considered in the longer term.

7.5.5 Typical Cross Sections

Two typical cross sections have been produced, identifying varying verge and stepped cycle track widths along Templeville Road. A location plan accompanies each cross section to identify the specific location. The cycle track height in relation to the verge and the use of the verge as a horizontal buffer has been approved by SDCC.



Figure 15 - Location Plan for Typical Cross Section A

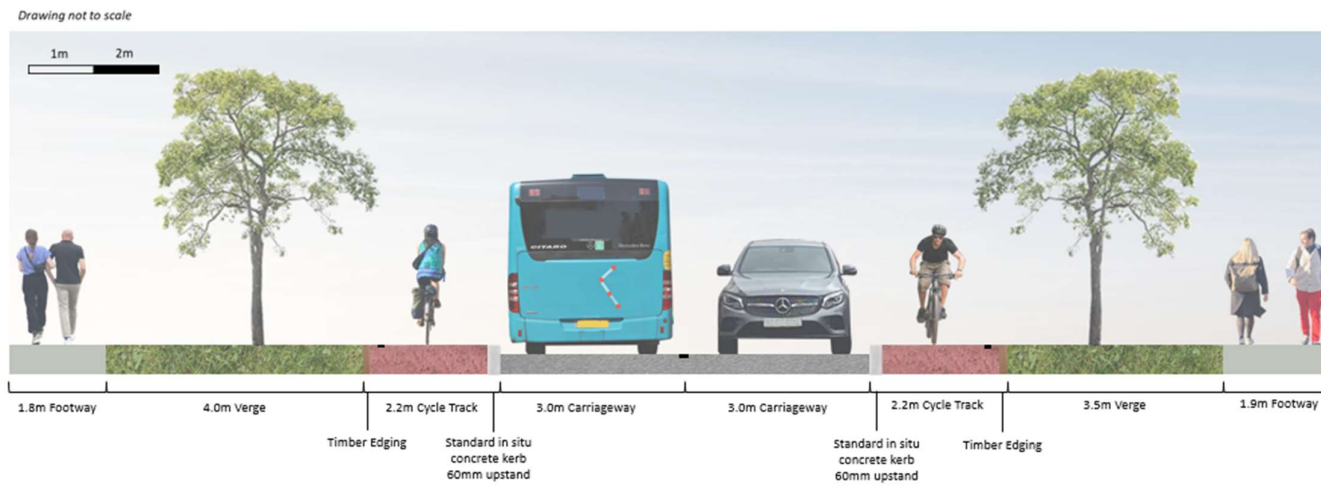


Figure 16 – Typical Cross Section A

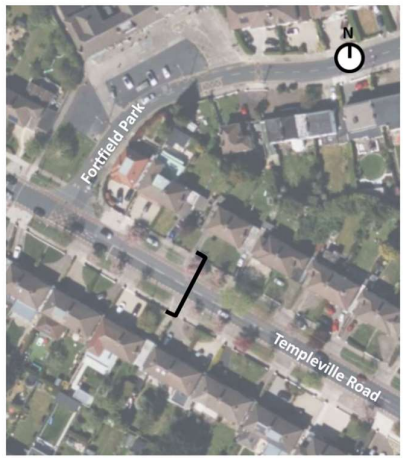


Figure 17 – Location Plan for Typical Cross Section B

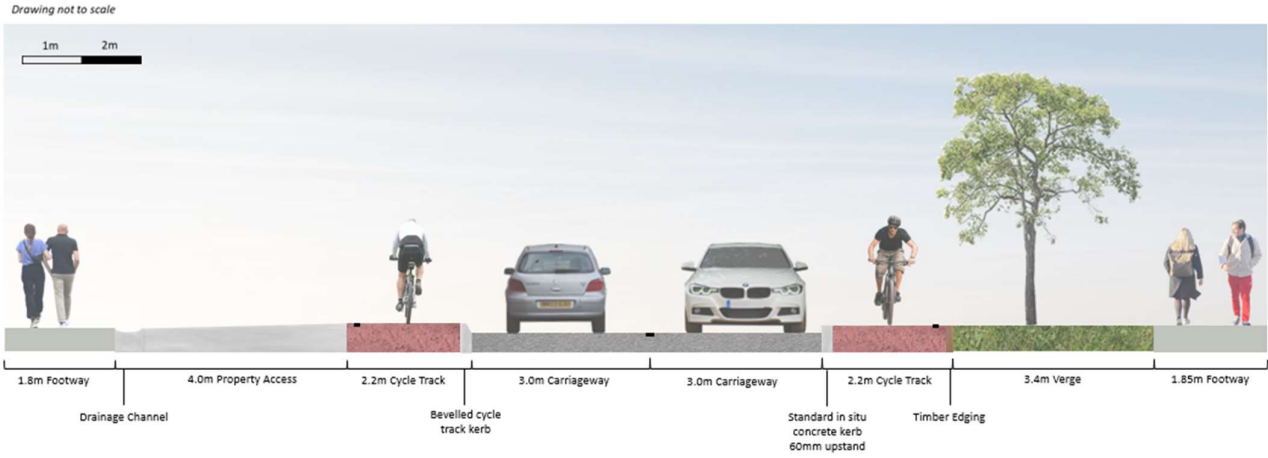


Figure 18 – Typical Cross Section B

