

The background is a vibrant red color. It is decorated with several abstract geometric shapes and circles. In the top left, there is a green quarter-circle and a blue circle. In the top right, there is a blue circle with a white center and a dark blue horizontal bar. In the bottom left, there is a blue circle with a white center and a dark blue vertical bar. In the bottom right, there is a large green quarter-circle, a red quarter-circle, and a dark blue semi-circle. The text is positioned in the upper left quadrant of the red area.

Appendix M1
Design Quality Audit

Roughan & O'Donovan

BusConnects Core Bus Corridors

Ringsend to City Centre Core Bus
Corridor

Quality Audit

Roughan & O'Donovan

BusConnects Core Bus Corridors

Ringsend to City Centre Core Bus Corridor

Quality Audit

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1 Quality Audit Report

1.1 Introduction

This report results from a Quality Audit on the proposed Ringsend to City Centre Core Bus Corridor Scheme, carried out at the request of Mr Eoin O’Catháin of Roughtan & O’Donovan.

The Quality Audit was undertaken by Mr Antonis Papadakis (MSc, MIEI), of PMCE Ltd., in March 2023 in general accordance with the Design Manual for Urban Roads and Streets, and considers the following elements:

- Access Audit (Appendix A)
- Walkability Audit (Appendix B)
- Non-Motorised User Audit (Appendix C)
- Cycle Audit (Appendix D)
- Stage 1 Road Safety Audit (Appendix E)

In addition to examining the documents supplied, the Quality Auditor visited the site of the proposed measures on the 8th March 2023. Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were high, pedestrian and cyclist volumes were moderate and traffic speeds were considered to be generally within the posted speed limit.

1.2 Proposed Scheme

BusConnects is the National Transport Authority’s (NTA) programme to improve bus and sustainable transport services. It is a key part of the Government’s policies to improve public transport and address climate change in Dublin and other cities. The aim of BusConnects is to deliver an enhanced bus system that is better for the city, its people and the environment. BusConnects is included in the Programme for Government “Our Shared Future” 2020, as well as within the following Government strategies:

- The National Development Plan 2018 - 2027
- Transport Strategy for the Greater Dublin Area 2016 – 2035
- The Climate Action Plan 2019

Part of the overall BusConnects Programme is to create 16 radial core bus corridors (CBC). A CBC is an existing road with bus priority so that buses can operate efficiently, reliably and punctually. This generally means full length dedicated bus lanes on both sides of the road from start to finish of each corridor or other measures to ensure that buses are not delayed in general traffic congestion. The bus lanes are typically alongside segregated cycle lanes/tracks where feasible and general traffic.

The Ringsend to City Centre corridor travels in an east-west direction along the Quays and through the city centre. The route can be summarised as follows, and is illustrated in Figure 1-1:

Ringsend to City Centre (Route 16): The Ringsend to City Centre CBC commences at Talbot Memorial Bridge. The route encompasses bus lane and cycle infrastructure on both the north and south quays connecting Dublin City Centre with the Docklands and onto Ringsend & Irishtown. Priority for buses is provided along the entire length of the North Quays, from the Custom House to the 3-Arena at Tom Clarke Bridge, consisting of dedicated bus lanes in each direction.

Segregated two-way cycle tracks will be provided in the campshires on both sides of the River Liffey. A cycle route will extend through Ringsend and Irishtown towards the Poolbeg Peninsula.

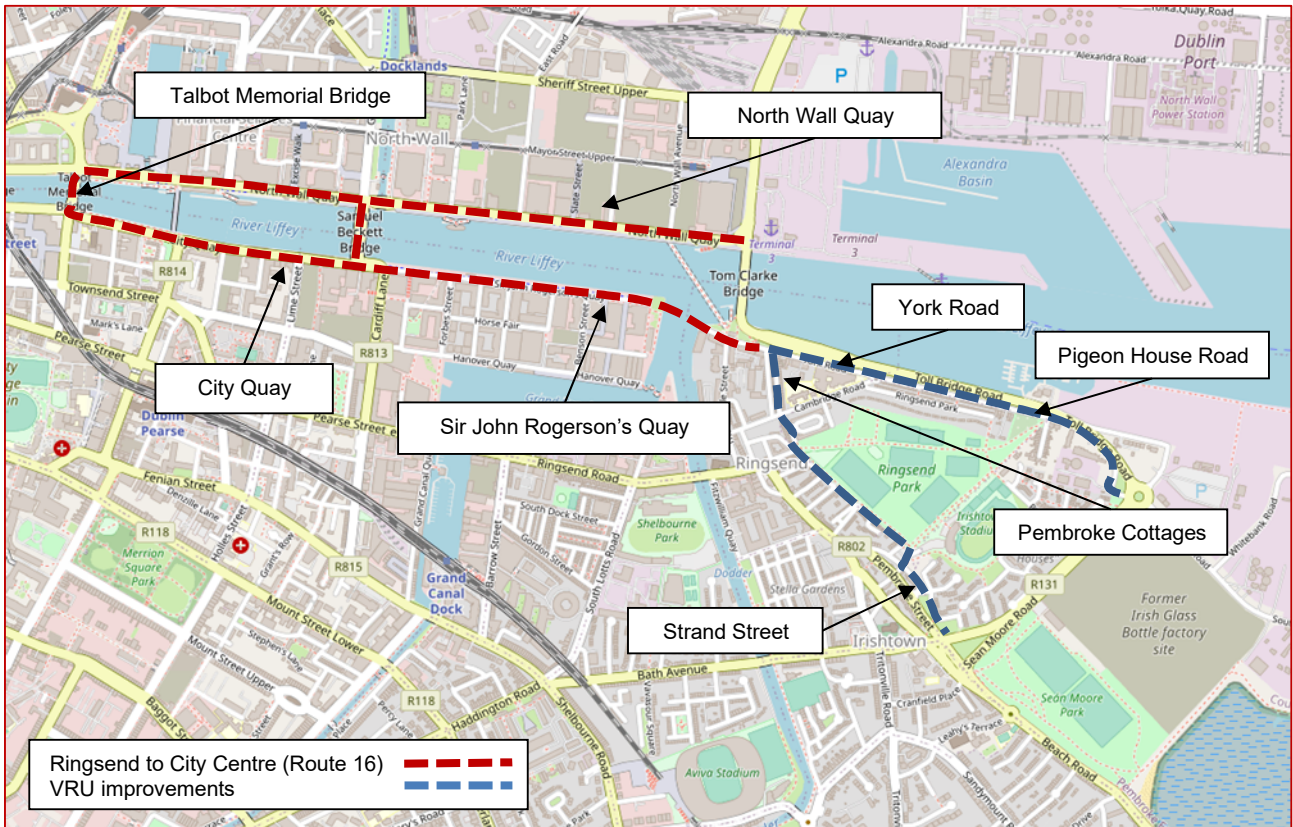


FIGURE 1-1: LOCATION PLAN

The key roads on the route are highlighted in Figure 1-1, and comprise urban streets with 50kph speed limits, high pedestrian and cyclist volumes, existing bus stops and bus lanes, signalised junctions, pedestrian crossings, public lighting and a mix of public amenities (shops, parks, carparks etc.). As well as improvements to Route 16, pedestrian and cycle improvements are proposed on York Road, Pigeon House Road, Pembroke Cottages and Strand Street.

1.3 Existing Environment

1.3.1 Pedestrian & Cyclist Provisions

On the northern side of the River Liffey, along the R801 Regional Road (Custom House Quay/North Wall Quay), an advisory eastbound cycle lane is provided on the northern side of the road, and an off-road westbound cycle track on the southern side of the road, extending east to Sean O' Casey Bridge where, further east, both cyclist facilities merge onto the carriageway. To the east of the North Wall Quay/Commons Street signalised junction, the advisory cycle lane on the northern side of the quay and the off-road cycle track recommence. The advisory cycle lane terminates at the North Wall Quay/New Wapping Street Junction. The off-road cycle track continues east to Dublin Drawbridge, however it is discontinuous at this section due to local narrowing of the footpath caused by heritage features such as existing buildings opposite Excise Walk, which locally redirects cyclists onto the carriageway. From Dublin Drawbridge eastwards the off-road cycle track transitions to a two-way protected cycle lane which continues until they tie-in with the carriageway at the East Wall/North Wall Quay Roundabout, crossing sections of shared path throughout this section.

On the southern side of the River Liffey, along the R813 Regional Road (City Quay/Sir John Rogerson Quay), a two-way off-road cycle track is provided on the northern side of the road continuing eastwards. To the east of the 'Diving Bell', the cycle track narrows significantly until it terminates at the location where the River Liffey meets the River Dodder. No cyclist facilities are currently provided along York Road or Pigeon House Road, however, Dublin City Council is currently (March 2023) trialling vehicular access restrictions on Pigeon House Road. The restriction prevents motorists on Pigeon House Road from accessing the Sean Moore Road Roundabout, and vice versa allowing movements for cyclists only.

Footpaths are currently provided on both sides of the carriageway throughout the extents of the Scheme.

1.3.2 Public Transport

There are existing bus stops along the proposed route of the Ringsend to City Centre CBC scheme.

The nearest bus stops to the Ringsend to City Centre CBC route are listed in Table 1-1.

TABLE 1-1 BUS ROUTES OPERATING WITHIN THE PROPOSED SCHEME

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
IFSC	2498	Eastbound	100m east of the Junction between Custom House Quay and Talbott Memorial Bridge	33D/33X	Custom House Quay/St Stephen's Green to Portrane
				41X	UCD Belfield towards Knocksedan
				60	John Rogerson's Quay to Red Cow Luas
				142	Portmarnock to UCD Belfield
				151	Docklands (East Road) to Foxborough (Balgaddy Road)
				500/500N/500X/501/503/505/505X/506/507/533	From Swords to Dublin City
				912	Grange Rath to Dublin City
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
Docklands, CHQ	2499	Eastbound	300m east of the junction between Custom House Quay and Talbott Memorial Bridge	33D/33X	Custom House Quay/St Stephen's Green to Portrane
				41X	UCD Belfield towards Knocksedan
				60	John Rogerson's Quay to Red Cow Luas
				33D/33X	Custom House Quay/St Stephen's Green to Portrane
				142	Portmarnock to UCD Belfield
				151	Docklands (East Road) to Foxborough (Balgaddy Road)
				500/500N/500X/501/503/505/505X/506/507/533	From Swords to Dublin City
				980	Dublin to Ballybay
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre
				109A	Busaras to Abbey Road
				100X	Holles Street (Dublin) to Long Walk (Dundalk)
				101X	Aston Village (Drogheda) to Termonabbey (Dublin)
				193	Ashbourne Fire Station to Merrion Street
194/194A	Ballybin Roundabout to Merrion Street				

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
North Wall Quay	6252	Westbound	300m east of the junction between Custom House Quay and Talbott Memorial Bridge	33D/33X	Custom House Quay/St Stephen's Green to Portrane
				60	John Rogerson's Quay to Red Cow Luas
				142	Portmarnock to UCD Belfield
				500/500N/500X/501/503/505/505X/506/507/533	From Swords to Dublin City
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre
				100X	Holles Street (Dublin) to Long Walk (Dundalk)
				133X	Dublin Airport to Wicklow Gaol
Docklands, CHQ	-	Eastbound	300m east of the junction between Custom House Quay and Talbott Memorial Bridge	191	Eden Quay to Stadalt Cross, Mountain View
				912	Grange Rath to Dublin City
Guild Street	7397	Westbound	300m east of Sean O' Casey bridge	60	John Rogerson's Quay to Red Cow Luas
				142	Portmarnock to UCD Belfield
				740	Dublin to Wexford
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
Convention Centre	7398	Westbound	100m east of Samuel Beckett Bridge	142	Portmarnock to UCD Belfield
				100X	Holles Street (Dublin) to Long Walk (Dundalk)
				500/500N/500X/501/503/505/505X/506/507/533	From Swords to Dublin City
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre
Irish Building North Wall Quay	7611	Westbound	330m east of Samuel Beckett Bridge	735	Dublin to Limerick
				736	Dublin Airport to Waterford
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre
New Wapping Street	2501	Eastbound	330m east of Samuel Beckett Bridge	33D/33X	Custom House Quay/St Stephen's Green to Portrane
				41X	UCD Belfield towards Knocksedan
				151	Docklands (East Road) to Foxborough (Balgaddy Road)
				142	Portmarnock to UCD Belfield
				100X	Holles Street (Dublin) to Long Walk (Dundalk)
				500/500N/500X/501/503/505/505X/506/507/533	From Swords to Dublin City
				G1	From Spencer Dock towards Red Cow Luas
				G2	From Spencer Dock towards Liffey Valley Shopping Centre

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
Br an Phoirt Thoir	7623	Eastbound	130m west of Tom Clarke Bridge	22	Dublin Airport to Ballina
				23	Dublin Airport to Sligo
				33D/33X	Custom House Quay/St Stephen's Green to Portrane
				41X	UCD Belfield towards Knocksedan
				142	Portmarnock to UCD Belfield
				151	Docklands (East Road) to Foxborough (Balgaddy Road)
				109A	Busaras to Abbey Road
				100X	Holles Street (Dublin) to Long Walk (Dundalk)
				101X	Aston Village (Drogheda) to Termonabbey (Dublin)
				500/500N/500X/50 1/503/505/505X/50 6/507/533	From Swords to Dublin City
				193	Ashbourne Fire Station to Merrion Street
				194/194A	Ballybin Roundabout to Merrion Street
				912	Grange Rath to Dublin City
				702	Greystones to Dublin City Centre
703	Killiney to Dublin City Centre				
Dublin 3Arena Point Village & Ringsend	-	Eastbound	130m west of Tom Clarke Bridge	784	Dublin Airport to Kelly's Corner Harcourt Luas

Bus Stop (Name)	Bus Stop (Number)	Direction	Bus Stop Location	Bus Route	Travelling between
North Wall Quay	-	Eastbound	100m west of Tom Clarke Bridge	980A	Dublin to Ballybay
John Rogersons Quay	7512	Westbound	10m east of Sir Rogerson Quay/Asgard Road	60	John Rogerson's Quay to Red Cow Luas
Dublin City South, George's	-	Westbound	20m east of Mount Talbott Bridge junction with George's Quay	853	Dublin City South, George's Quay to Tolka Quay (Irish Ferries Terminal)

1.3.3 Local Amenities

The scheme is located in close proximity to a number of amenities along its route. The location of the proposed scheme provides the passengers using the CBC with access to a wide range of amenities within a short walking distance of the bus stops along the route. These include various parks, cafes, restaurants, dental clinics, churches, pharmacies, as well as many other amenities.

Table 1-2 below provides a list of amenities located close to the proposed scheme.

TABLE 1-2: LOCAL AMENITIES CLOSE TO THE PROPOSED SCHEME

Amenity	Closest Bus Stop (name/number)	Distance (approx.)	Journey Time on Foot (approx.)
Docklands Dental	John Rogerson's Quay/7512	100m	1min
Diving Bell	John Rogerson's Quay/7512	86m	1min
Life Pharmacy Hanover Quay	John Rogerson's Quay/7512	150m	2min
KBC Bank	John Rogerson's Quay/7512	170m	3min
BrewDog Outpost Dublin Bar	John Rogerson's Quay/7512	450m	5min
The Ferryman Pub	John Rogerson's Quay/7512	240m	3min
Dockers Pub	John Rogerson's Quay/7512	550m	7min
Elizabeth O' Farell Park	John Rogerson's Quay/7512	750m	9min
Citytest Testing Centre	Dublin City South George's Quay	77m	1min
Immaculate Heart of Mary Catholic Church	Dublin City South George's Quay	110m	2min
City Quay promenade	Dublin City South George's Quay	90m	1min
Custom House Quay promenade	IFSC/2498	30m	1min
Scotiabank Ireland	IFSC/2498	20m	1min
IFSC House	IFSC/2498	20m	1min
EPIC The Irish Emigration Museum	IFSC/2498	130m	3min
CHQ Dublin	Docklands, CHQ/2499	60m	1min
The Jeanie Johnston Tourist Attraction	Docklands, CHQ/2499	80m	1min
Samuel Beckett Bridge	Convention Centre/7398	170m	2min
Convention Centre	Convention Centre/7398	65m	1min
Dublin Drawbridge	Convention Centre/7398	55m	1min
Grand Canal	Convention Centre/7398	150m	2min
3Arena	Br an Phoirt Thoir/7623	10m	1min

1.4 Summary of Individual Audit Findings

The following table summarises the issues identified by the component audits of this Quality Audit, including the recommended changes or actions to address these issues.

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
1	<p>Signal Time during Pedestrian Phases</p> <p>Unclear if sufficient time will be allocated to the pedestrian phases at all crossings within the scheme for a mobility impaired/elderly pedestrian to complete the crossing during the time provided.</p>	A.2.1	B.2.2			Sufficient time will be provided during the pedestrian phase at signalised crossings within the scheme for all pedestrians to cross the carriageway within a single phase.
2	<p>Lack of Pedestrian Facilities between Pembroke Cottages and the Dodder Bridge/Tom Clark Bridge</p> <p>No pedestrian facilities have been indicated between the Zebra crossings at Pembroke Cottages, the new Dodder Sustainable Transport Bridge, and the Tom Clarke Bridge.</p>	A.2.2	B.2.3		E.3.10	A pedestrian footpath, which ties in with a controlled crossing of York Road, will be provided between Pembroke Cottages and the new Dodder Sustainable Transport Bridge/Tom Clarke Bridge.
3	<p>Lack of Crossing Facilities at the North Wall Quay/Tom Clarke Bridge</p> <p>There may be a likely pedestrian desire line to/from the narrow footpath on the western side of the Tom Clarke Bridge and the area around the 3-Arena on East Wall Road.</p> <p>There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout on the northern side of the Tom Clarke Bridge.</p>	A.2.3	B.2.4		E.3.12	This junction is outside the scope of this project and is being progressed separately by DCC. The issue will be brought to DCC's attention.
4	<p>Footpath Effective Width</p> <p>It is unclear if the proposed footway width at the junction between Samuel Beckett Bridge and Sir John Rogerson Quay can safely accommodate the likely volume of pedestrians at this location, in particular during peak times.</p>	A.2.4	B.2.5		E.3.14	These are existing footpaths at this location and there is insufficient cross-section within the existing carriageway to increase these any further.

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
5	<p>Tactile Paving Provision</p> <p>Tactile paving not indicated at controlled & uncontrolled pedestrian crossings, and also at the interface between segregated pedestrian/cyclist facilities and shared surfaces.</p>	A.2.5			E.4.1	<p>Appropriate tactile paving will be provided at all controlled & uncontrolled pedestrian crossings, and also at the interface between segregated pedestrian/cyclist facilities and shared surfaces.</p> <p>Measures will also be provided at the proposed “floating island” bus stops to ensure that visually impaired public transport users are guided safely to/from the bus stop and the adjacent footpath.</p>
6	<p>Trees Overhanging the Footpath</p> <p>Trees/vegetation may encroach onto, or overhang, the footpath presenting obstacles to pedestrians.</p>	A.2.6	B.2.6			<p>Trees and other items of roadside furniture within the scheme will be specified, and located, so as not to present obstacles/hazards to pedestrians or cyclists.</p>
7	<p>Lack of Guidance Paving at ‘Floating Island’ Bus Stops</p> <p>Absence of Guidance Tactile Paving through the shared area at floating island bus stop locations.</p>	A.2.7				<p>Guidance Tactile Paving will be provided to guide visually impaired pedestrians to/from the footpath & the bus stop.</p>
8	<p>Insufficient Floating Island Width</p> <p>Insufficient island width may increase the risk of pedestrians, waiting for a bus, blocking the cycle track and pedestrian/cyclist collisions.</p>	A.2.8		D.2.6		<p>The floating islands at bus stops along the route will be wide enough to accommodate the expected volume of pedestrians.</p>
9	<p>Visually-impaired Pedestrians would be Guided to the Carriageway at York Road</p> <p>Pedestrians wishing to continue from the proposed Dodder bridge to York Road will be required to share the carriageway with motorised vehicles and, therefore, the section would be inaccessible to visually impaired pedestrians.</p>	A.2.9				<p>A safe route/zone for visually impaired pedestrians will be provided between Dodder Bridge and York Road.</p>

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
10	<p>Lack of Crossing Facilities at the Cambridge Road Roundabout</p> <p>There may be a likely pedestrian desire line to/from the narrow footpath on each side of the York Road/Cambridge Road mini-roundabout. There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout across Cambridge Road.</p>	A.2.10	B.2.7			Likely pedestrian desire lines, and demand for vulnerable road users, at the York Road/Cambridge Road roundabout will be identified and pedestrian facilities provided, where necessary.
11	<p>Cyclists Approaching at High Speeds</p> <p>During the site visit, a number of southbound cyclists were observed travelling at high speed between the segregated cycle track and the shared surface within the south-eastern quadrant of Samuel Beckett Bridge.</p>	A.2.11	B.2.8			Measures will be provided to encourage cyclists to reduce their speed when approaching the shared surface.
12	<p>Insufficient Pedestrian Crossing Width</p> <p>The pedestrian crossing widths indicated appear to be relatively narrow given the likely volumes of pedestrians during peak times, particularly near the Convention Centre (e.g. on the northern & southern side of the Samuel Beckett Bridge).</p>		B.2.1		E.3.6	<p>Space constraints prevent a blanket provision of 4m wide crossings everywhere within the scheme. Where space allows we have widened all crossings to up to 4m.</p> <p>At Beckett Bridge south however, the design is especially constrained by levels and opening bridge paraphernalia and the layout as constructed is the most that can be achieved at this location. The existing crossing layout is being retained with enhancements to the footpaths and cycle facilities on each side where practicable.</p>

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
13	<p>Lack of Separation between the Cycle Tracks and General Traffic</p> <p>There is a lack of separation (vertical or kerb/bollard) indicated between the proposed two-way cycleway on the eastern side of the Talbot Memorial Bridge. Insufficient separation between the proposed cycle tracks and general traffic on Talbot Memorial Bridge could increase the risk of cyclists mixing with the general traffic, particularly turning left onto City Quay.</p>			D.2.1	E.3.1	The cycle tracks on Talbot Memorial Bridge will be physically separated from general traffic and, where possible, from the footway also.
14	<p>Potential for Large Vehicles to Encroach onto Cycle Track</p> <p>It is unclear if the left-turn lane from Talbot Memorial Bridge onto City Quay can accommodate the swept path of a large vehicle without encroachment into the adjacent two-way cycle track.</p>			D.2.2	E.3.2	Separation will be provided between the carriageway and the cycle track, and a swept-path analysis will be undertaken to ensure that all vehicles can complete this turn within the proposed road layout.
15	<p>Trees Overhanging the Cycle Track</p> <p>Tree planting is indicated on North Wall Quay, between CH A550 and CH A700. The tree canopies may, as they mature, overhang the cycle track. Low hanging tree canopies may present an obstacle to cyclists on the two-way cycle track.</p>			D.2.3	E.3.8	The tree species chosen, when mature, will have canopies that will not present a hazard to vehicles travelling in the adjacent bus lane, or to cyclists on the two-way cycle track.
16	<p>Removal of Vehicle Restrictions on Pigeon House Road</p> <p>Dublin City Council is currently (March 2023) trialling a vehicle restriction on Pigeon House Road. The restriction prevents motorists on Pigeon House Road from accessing the Sean Moore Road Roundabout, and vice versa. It is unclear if the Ringsend to City Centre Core Bus Corridor Scheme proposes to remove the restriction on through-traffic on the Pigeon House Road.</p>			D.2.4	E.3.13	The Design team will consult with Dublin City Council to understand the trial's conclusions before determining whether the restriction should be retained or removed.

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
17	<p>Complicated Turning Arrangements to Access Side Roads</p> <p>The proposed arrangement for cyclists to access side roads at a number of locations on the south quays (e.g. at Forbes Street) from the two-way cycle track appears unnecessarily complicated.</p>			D.2.5	E.4.3	A safe means of travel will be provided for cyclists between the two-way cycle track and side roads on the south quays.
18	<p>Potentially Unsafe Cyclist Entry to the Roundabout</p> <p>A two-way cycle track is indicated on the southern side of North Wall Quay adjacent to the westbound traffic lane. Eastbound cyclists in the two-way cycle track approaching the East Wall Road/North Wall Quay/Tom Clarke Bridge roundabout would enter the circulating carriageway at a location where drivers turning left from Tom Clarke Bridge, exiting the roundabout, and increasing the risk of conflicts between cyclists entering the roundabout and vehicles exiting it.</p>			D.2.7		This junction is outside the scope of this project and is being progressed separately by DCC. The issue will be brought to DCC's attention.
19	<p>Vehicles may to Enter the Cycle Track</p> <p>There is a risk that some drivers may attempt to enter the proposed shared paths to the south-west of the East Wall Road/North Wall Quay Roundabout, conflicting with non-motorised road users on the path.</p>			D.2.8		This junction is outside the scope of this project and is being progressed separately by DCC. The issue will be brought to DCC's attention.
20	<p>Parking at York Road</p> <p>During the site visit, a number of vehicles were observed parked on the southern side of York Road, and within the grass verge on its northern side, leading to a reduced effective width within the carriageway that can be used by vehicles.</p>			D.2.9		<p>Measures will be provided to keep the York Road carriageway free of parked vehicles.</p> <p>If there is a demand for parking at this location formal parking spaces will be provided within the verge, outside the shared surface carriageway.</p>

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
21	<p>Full Height Kerb</p> <p>The absence of a dropped kerb at the locations where cyclists may enter/exit the cycle track when traveling to/from Canon Mooney Gardens and at Pembroke Cottages where it intersects with Pigeon House Road may lead to cyclists having to mount/dismount a full height kerb.</p>			D.2.10		A dropped kerb with an upstand that can be detected by visually impaired pedestrians, but also safely traversed by cyclists, will be provided.
22	<p>Bicycle Parking</p> <p>It is unclear if cycle parking will be provided along the scheme, and if provided, if it will be sheltered.</p>			D.2.11		A review of the need for bicycle parking along the route will be undertaken and a variety of bicycle parking provided, as necessary, at suitable locations within the scheme.
23	<p>Cycle Friendly Gullies</p> <p>Unclear if, and what type of, gullies are to be proposed within the Scheme. If gullies located within cycle tracks are not cycle-friendly there is a risk that cyclists may swerve into the traffic lane to avoid these.</p>			D.2.12		Gullies within cycle tracks will be cycle-friendly.
24	<p>Lack of Signalised Push Button Units</p> <p>Unclear if signalised push button units will be provided to allow cyclists to call a crossing phase from within the cycle track.</p>			D.2.13		At future design stages, the signal layout will be reviewed and measures provide for cyclists where possible.
25	<p>Cyclist Movements on Sean O'Casey bridge</p> <p>Cyclist access to Sean O'Casey Bridge is currently prohibited with 'No Cyclists' signage provided on both sides of the bridge.</p> <p>However, during the site visit, a significant volume of cyclists was observed using the bridge, regardless of the restriction, presumably as it is the shortest route between the north and south quays. Should this practice continue this may restrict pedestrian movement across the bridge.</p>			D.2.14		This bridge is outside the scope of this project. The issue will be brought to DCC's attention.

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
26	<p>Small Islands Arrangement</p> <p>Small islands proposed at signalised junctions may be impractical to sign, and lead to these islands being struck.</p>				E.3.3	All physical islands will accommodate traffic signs and provide at least 450mm between the kerb and sign edge.
27	<p>Risk of General Traffic Turning Left across Straight-Ahead Bus Movements</p> <p>Details of the proposed signal phasing have not been provided at this stage in the design process. Where “Bus Priority Signals” are proposed, it is unclear if the general traffic lane will be held while buses proceed, and conversely that buses will be held while general traffic proceeds.</p>				E.3.4	The general traffic lane and bus and cycle lane(s) will operate during separate signal phases.
28	<p>Visibility</p> <p>It is unclear what type of signal supports (e.g. standard height, high mast, cantilever, etc) are proposed at the signalised crossing located on the North Wall Quay.</p> <p>There is a risk that the traffic signal location on the southern footway, which is offset from the carriageway, may be outside a driver’s eyeline on approach to the signalised crossing, and possibly blocked by the nearby buildings either side of the crossing.</p>				E.3.5	Drivers will have adequate visibility to the upcoming signals.
29	<p>Swept Paths</p> <p>It is unclear if buses are intended to turn left from Spencer Dock onto the Samuel Beckett Bridge. If this manoeuvre is anticipated in the future, the proposed road layout may not accommodate the swept path of a bus undertaking this manoeuvre. Similarly, it is unclear if a large vehicle or a bus can undertake a left turn from Samuel Beckett Bridge onto the North Wall Quay without encroaching into the opposing traffic lane, or mounting the kerb on the inside of the turn.</p>				E.3.7	A swept-path analysis will be undertaken at each junction to confirm that large vehicle movements can be accommodated safely within the proposed road layout.

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
30	<p>Insufficient 'No Straight Ahead' Advance Warning Sign</p> <p>A sign has been indicated on the Sir John Rogerson's Quay, which advises drivers that they cannot proceed east on the new Dodder Public Transport Bridge. The position of the sign may be too late to prevent some drivers inadvertently travelling this far east.</p>				E.3.9	<p>Drivers can continue to turn right at the location of the sign via Steven's Walk and Green Street East.</p> <p>Larger HGVs that don't use Steven's Walk can continue to use Benson Street. It is noted that 5+ axle HGV's are not permitted to use Sir John Rogerson's Quay as a haul route and there are several 3.5T parking bans on the streets perpendicular to discourage such large vehicles from entering the area.</p> <p>It is not possible to provide any other statutory vehicle limit signs at Benson Street without potentially affecting the allowance for buses and coaches to continue through the junction. In the event a large HGV does find itself beyond Benson Street and unable to turn down Steven's Walk, they can continue through the Bus Gate and accept a fine.</p> <p>The proposed bus gate is not affecting any existing rights of way therefore all other road users will continue to use the existing streets as they currently do.</p>
31	<p>Close Proximity of Signals</p> <p>It is unclear if it is proposed to provide signals on the new Dodder Sustainable Transport Bridge for access to the rowing club. The road layout indicated implies that signals</p>				E.3.11	<p>Measures will be provided at the rowing club signals to reduce the risk of eastbound drivers misinterpreting</p>

Item No.	Summary of Issue	Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	Action
	will be provided to facilitate access across the sustainable transport bridge carriageway and the two-way cycle track.					the first set of signals as applying to the downstream junction.

Appendix A: Access Audit

A.1 Introduction

The purpose of this Access Audit is to review the proposed Scheme, and the existing surrounding environment, to assess if it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, or disability. The Audit considers a number of aspects of the proposed Scheme, including wayfinding, lighting, tonal contrast of proposed materials, gradients, the provision of kerbs and/or dropped kerbs as appropriate, etc.

A.2 Access Audit Findings

A.2.1 Signal Time during Pedestrian Phases

Information regarding the signal timings have not been provided to the Audit Team and it is therefore unclear if sufficient time will be allocated to the pedestrian phases at all crossings within the scheme for a mobility impaired/elderly pedestrian to complete the crossing during the allocated time.

Recommendation

Ensure sufficient time is provided during the pedestrian phase such that mobility impaired/elderly pedestrians can complete the crossing at all locations within the time provided.

A.2.2 Pedestrian Facilities between Pembroke Cottages and the Dodder Bridge/Tom Clark Bridge

No pedestrian facilities have been indicated between the Zebra crossings at Pembroke Cottages, the new Dodder Sustainable Transport Bridge, and the Tom Clarke Bridge. It is therefore unclear how pedestrians in the Ringsend and Irishtown residential catchment areas will access the footways on the new Dodder Sustainable Transport Bridge or the existing Tom Clarke Bridge.



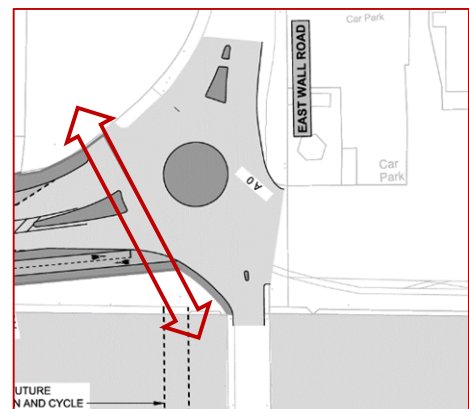
Recommendation

A pedestrian footpath, which ties in with a controlled crossing of York Road, should be provided between Pembroke Cottages and the new Dodder Sustainable Transport Bridge/Tom Clarke Bridge.

A.2.3 Crossing Facilities at the North Wall Quay/Tom Clarke Bridge

There may be a likely pedestrian desire line to/from the narrow footpath on the western side of the Tom Clarke Bridge and the area around the 3-Arena on East Wall Road.

There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout on the northern side of the Tom Clarke Bridge to cater for this pedestrian desire line and allow pedestrians to travel between the footpaths on each side of the carriageway.

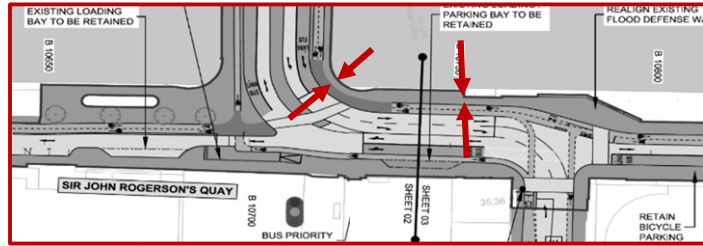


Recommendation

Identify likely pedestrian desire lines and demand for vulnerable road users between Tom Clarke Bridge and East Wall Road and provide pedestrian facilities where necessary.

A.2.4 Footpath Effective Width

It is unclear if the proposed footway width at the junction between Samuel Beckett Bridge and Sir John Rogerson Quay can safely accommodate the likely volume of pedestrians at this location, in particular during peak times.

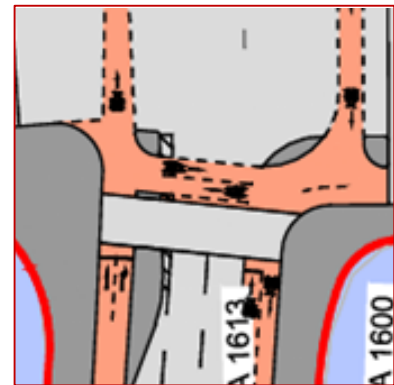


Recommendation

Ensure the footway is wide enough to accommodate the expected volumes of pedestrians.

A.2.5 Tactile Paving Provision

While tactile paving has not been indicated at this early stage in the design process, it will be required at all controlled & uncontrolled pedestrian crossings, and also at the interface between segregated pedestrian/cyclist facilities and shared surfaces, for example the shared surface which extends out to the “floating island” bus stop arrangements.



A lack of tactile paving within the scheme would lead to difficulties for the visually impaired in locating pedestrian crossings and being advised of transitions between shared, and segregated, facilities.

Recommendation

Appropriate tactile paving should be provided at all controlled & uncontrolled pedestrian crossings, and also at the interface between segregated pedestrian/cyclist facilities and shared surfaces.

In addition, measures will be required at the proposed “floating island” bus stop arrangements to ensure that visually impaired public transport users are guided safely to/from the bus stop and the adjacent footpath.

A.2.6 Trees Overhanging the Footpath

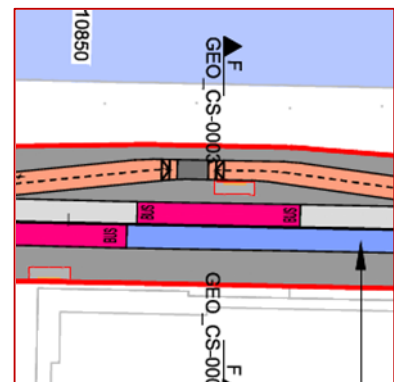
It is unclear from the drawings provided which trees are to be retained, and which are to be removed. A number of trees have been indicated positioned adjacent to the proposed footpath which may obstruct pedestrian movement.

Recommendation

Ensure retained/new trees, or other items of roadside furniture, do not present obstacles/hazards to pedestrians.

A.2.7 Lack of Guidance Paving at ‘Floating Island’ Bus Stops

The general arrangement at ‘floating island’ bus stops includes extending a shared surface from the footpath to the edge of the traffic lane (e.g. a ‘Pedestrian Priority’ area catering for pedestrians, passengers and cyclists) with the cycle track joining the shared area through the bus stop location. At this early stage in the design process no tactile paving (either warning or guidance) has yet been indicated. An absence of Guidance Tactile Paving could result in increased difficulties for the visually impaired who may be unaware of how to access or leave the floating island when boarding/alighting a bus.



Recommendation

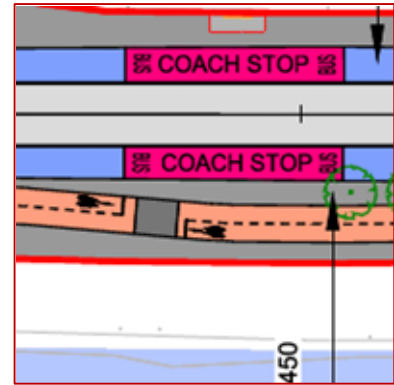
Guidance Tactile Paving should be provided to guide visually impaired pedestrians to/from the footpath & the bus stop.

A.2.8 Floating Island Width

The width of the floating island at bus stops on North Wall Quay within the scheme is not indicated on the drawings provided, however, they appear to be narrow. Should pedestrians waiting for a bus, particularly wheelchair users, choose to wait within the islands, there is a possibility that these would not be able to accommodate the passenger volumes.

Recommendation

Ensure the floating island at the coach bus stop along the route can accommodate pedestrians.

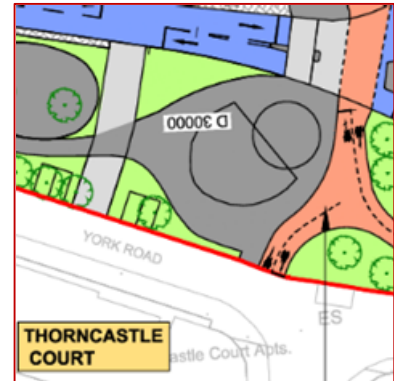


A.2.9 Visually-impaired Pedestrians would be Guided to the Carriageway at York Road

Pedestrians wishing to continue from the proposed Dodder bridge to York Road will be required to share the carriageway with motorised vehicles and, therefore, the section would be inaccessible to visually impaired pedestrians.

Recommendation

The proposed route should be made accessible to visually impaired pedestrians so that pedestrians are not required to share a carriageway with motorised vehicles.



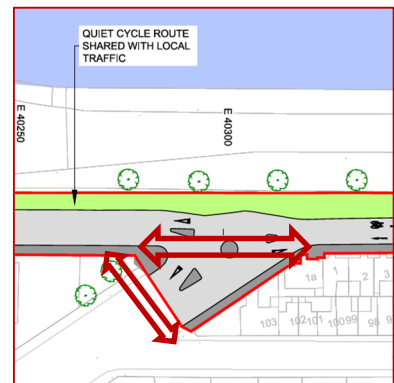
Where this is not possible, a 'safe zone' for the visually impaired, free of vehicular traffic, should be provided with clear access between the footpath and this area provided.

A.2.10 Lack of Crossing Facilities at the Cambridge Road Roundabout

There may be a likely pedestrian desire line to/from the narrow footpath on each side of the York Road/Cambridge Road mini-roundabout. There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout across Cambridge Road to cater for this pedestrian desire line and allow pedestrians to travel between the footpaths on each side of the carriageway.

Recommendation

Identify likely pedestrian desire lines and demand for vulnerable road users at the York Road/Cambridge Roundabout and provide pedestrian facilities where necessary.



A.2.11 Cyclists Approaching at High Speeds



During the site visit, a number of southbound cyclists were observed travelling at high speed between the segregated cycle track and the shared surface within the south-eastern quadrant of Samuel Beckett Bridge.

Cyclists travelling at high speeds may result in pedestrians being deterred/discouraged from using the shared surface and, therefore, being unable to use the shared space to the greatest extent possible.

Recommendation

Measures should be provided to encourage cyclists to reduce their speed when approaching the shared surface before re-joining the cycle track at Sir John Rogerson's Quay.

Appendix B: Walking Audit

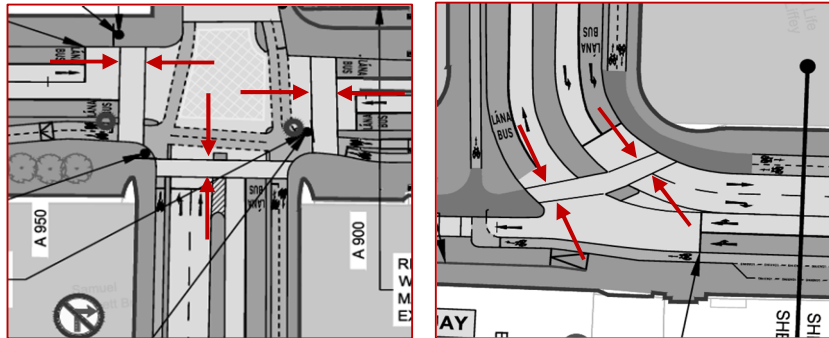
B.1 Introduction

The purpose of this Walking Audit is to review the proposed Scheme, and the existing surrounding environment, to assess if it can be readily and comfortably traversed by pedestrians, that the needs of pedestrians have been prioritised over cyclists & vehicles, and that footpaths are continuous and wide enough to cater for the anticipated number of pedestrians.

B.2 Main Report

B.2.1 Insufficient Pedestrian Crossings Width

The pedestrian crossing widths indicated appear to be relatively narrow given the likely volumes of pedestrians during peak times, particularly near the Convention Centre (e.g. on the northern & southern side of the Samuel Beckett Bridge). This may lead to the proposed crossings failing to accommodate the volume of both pedestrians and cyclists using them which may lead to these road users being unable to cross within the extents of the dropped kerbs and road markings resulting in some pedestrians and cyclists having to mount/dismount kerbs when entering/exiting the carriageway.



This may be of increased concern on the southern side of the Samuel Beckett Bridge, which is a Toucan crossing.

Recommendation

Provide signalised crossings at least 4m wide (Ref: DMURS section 4.3.2, page 92).

B.2.2 Signal Time during Pedestrian Phases

Information regarding the signal timings have not been provided to the Audit Team and it is therefore unclear if sufficient time will be allocated to the pedestrian phases at all crossings within the scheme for a mobility impaired/elderly pedestrian to complete the crossing during the allocated time.

Recommendation

Ensure sufficient time is provided during the pedestrian phase such that mobility impaired/elderly pedestrians can complete the crossing at all locations within the time provided.

B.2.3 Pedestrian Facilities between Pembroke Cottages and the Dodder Bridge/Tom Clark Bridge

No pedestrian facilities have been indicated between the Zebra crossings at Pembroke Cottages, the new Dodder Sustainable Transport Bridge, and the Tom Clarke Bridge. It is therefore unclear how pedestrians in the Ringsend and Irishtown residential catchment areas will access the footways on the new Dodder Sustainable Transport Bridge or the existing Tom Clarke Bridge.



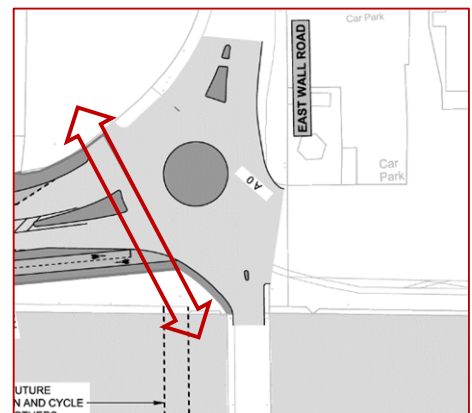
Recommendation

A pedestrian footpath, which ties in with a controlled crossing of York Road, should be provided between Pembroke Cottages and the new Dodder Sustainable Transport Bridge/ Tom Clarke Bridge.

B.2.4 Crossing Facilities at the North Wall Quay/Tom Clarke Bridge

There may be a likely pedestrian desire line to/from the narrow footpath on the western side of the Tom Clarke Bridge and the area around the 3-Arena on East Wall Road.

There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout on the northern side of the Tom Clarke Bridge to cater for this pedestrian desire line and allow pedestrians to travel between the footpaths on each side of the carriageway.

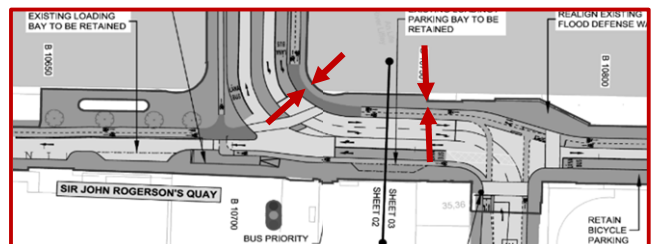


Recommendation

Identify likely pedestrian desire lines and demand for vulnerable road users between Tom Clarke Bridge and East Wall Road and provide pedestrian facilities where necessary.

B.2.5 Footpath Effective Width

It is unclear if the proposed footway width at the junction between Samuel Beckett Bridge and Sir John Rogerson Quay can safely accommodate the likely volume of pedestrians at this location, in particular during peak times.



Recommendation

Ensure the footway is wide enough to accommodate the expected volumes of pedestrians.

B.2.6 Trees Overhanging the Footpath

It is unclear from the drawings provided which trees are to be retained, and which are to be removed. A number of trees have been indicated positioned adjacent to the proposed footpath which may obstruct pedestrian movement.

Recommendation

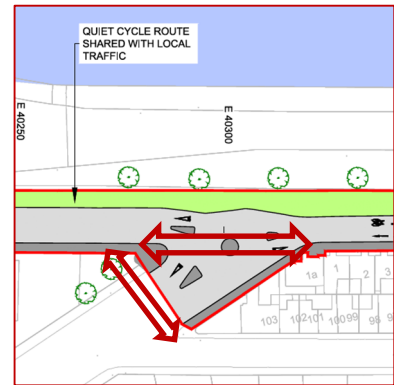
Ensure retained/new trees or other items of roadside furniture do not present obstacles/hazards to pedestrians.

B.2.7 Crossing Facilities at the Cambridge Road Roundabout

There may be a likely pedestrian desire line to/from the narrow footpath on each side of the York Road/Cambridge Road mini-roundabout. There are no existing, or proposed, pedestrian crossing facilities in the vicinity of the existing roundabout across Cambridge Road to cater for this pedestrian desire line and allow pedestrians to travel between the footpaths on each side of the carriageway.

Recommendation

Identify likely pedestrian desire lines and demand for vulnerable road users at the York Road/Cambridge Roundabout and provide pedestrian facilities where necessary.



B.2.8 Cyclists Approaching at High Speeds



During the site visit, a number of southbound cyclists were observed travelling at high speed between the segregated cycle track and the shared surface within the south-eastern quadrant of Samuel Beckett Bridge.

Cyclists travelling at high speeds may result in pedestrians being deterred/discouraged from using the shared surface and, therefore, being unable to use the shared space to the greatest extent possible.

Recommendation

Measures should be provided to encourage cyclists to reduce their speed when approaching the shared surface before re-joining the cycle track at Sir John Rogerson’s Quay.

Appendix C: Non-Motorised User Audit

C.1 Introduction

The purpose of a Non-Motorised User (NMU) Audit is to review the proposed Scheme, and the existing surrounding environment, to assess if it will cater comfortably for all non-motorised road users, of all ages and abilities, and that the needs of these vulnerable road users have been prioritised over vehicular traffic.

For the proposed Scheme separate Access, Walking & Cycling Audits have been undertaken (ref Appendix A, Appendix B & Appendix D), and these should be referred to for findings in relation to NMUs.

Appendix D: Cycle Audit

D.1 Introduction

The purpose of this Cycle Audit is to review the proposed Scheme, and the existing surrounding environment, to assess if it will cater comfortably for cyclists, of all ages and abilities, and that the needs of cyclists have been prioritised over vehicular traffic.

D.1.1 Existing Cyclist Facilities

The Ringsend to City Centre Core Bus Corridor (CBC) commences at Talbot Memorial Bridge, where there are existing single lane cycle tracks on both sides of Talbot Memorial Bridge.

At the northern side of the River Liffey, along the R801 Regional Road (Custom House Quay/North Wall Quay), an advisory eastbound cycle lane is provided on the northern side of the road, and an off-road westbound cycle track on the southern side of the road, extending east to Sean O' Casey Bridge where, further east, both cyclist facilities merge onto the carriageway. To the east of the North Wall Quay/Commons Street signalised junction, the advisory cycle lane on the northern side of the quay and the off-road cycle track recommence. The advisory cycle lane terminates at the North Wall Quay/New Wapping Street Junction. The off-road cycle track continues east to Dublin Drawbridge, however it is discontinuous at this section due to local narrowing of the footpath caused by heritage features such as existing buildings opposite Excise Walk, which locally redirects cyclists onto the carriageway. From Dublin Drawbridge eastwards the off-road cycle track transitions to a two-way protected cycle lane which continues until they tie-in with the carriageway at the East Wall/North Wall Quay Roundabout, crossing sections of shared path throughout this section.

On the southern side of the River Liffey, along the R813 Regional Road (City Quay/Sir John Rogerson Quay), a two-way off-road cycle track is provided on the northern side of the road continuing eastwards. To the east of the 'Diving Bell', the cycle track narrows significantly until it terminates at the location where the River Liffey meets the River Dodder.

No cyclist facilities are currently provided along York Road or Pigeon House Road, however, Dublin City Council is currently (March 2023) trialling vehicular access restrictions on Pigeon House Road. The restriction prevents motorists on Pigeon House Road from accessing the Sean Moore Road Roundabout, and vice versa allowing movements for cyclists only.

D.1.2 Proposed Cyclist Facilities

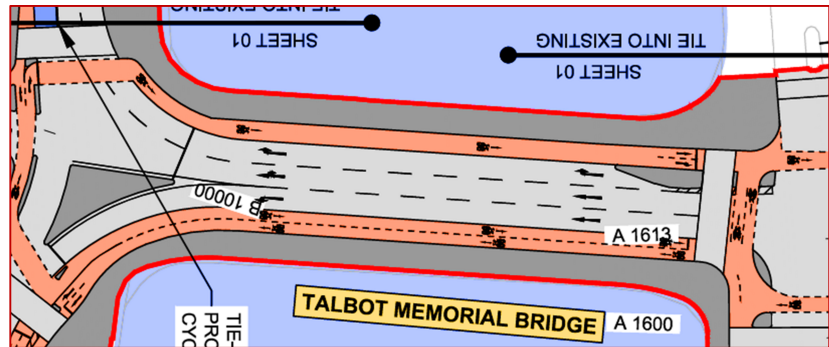
The route encompasses cycle infrastructure on both the north and south quays connecting Dublin City Centre from Talbot Bridge with the Docklands and onto Ringsend & Irishtown.

Segregated two-way cycle tracks will be provided in the campshires on both sides of the River Liffey. The cycle track will transition to a shared surface on either side of 'floating island' bus stops along the proposed route, with the shared surface extending between the island bus stops, across the cycle track, and to the rear of the existing footpath. Cyclists on the cycle track would be required to give way to pedestrians crossing between the footpath and floating island at these locations.

A cycle route will extend through Ringsend and Irishtown towards the Poolbeg Peninsula where shared surfaces between cyclists and motorists are proposed.

D.2 Main Report

D.2.1 Lack of Separation between the Cycle Tracks and General Traffic



There is a lack of separation (vertical or kerb/bollard) indicated between the proposed two-way cycleway on the eastern side of the Talbot Memorial Bridge. Insufficient separation between the proposed cycle tracks and general traffic on Talbot Memorial Bridge could increase the risk of cyclists mixing with the general traffic, particularly turning left onto City Quay.

The existing northbound cycle lane on the western side of Talbot Memorial Bridge is located adjacent to the footpath and separated from the trafficked carriageway by a kerb. It is unclear from the drawing provided if this arrangement is to be retained.

Recommendation

The cycle tracks on Talbot Memorial Bridge should be physically separated from general traffic, and if possible from the footway also.

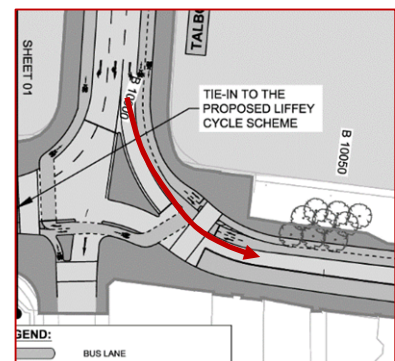
D.2.2 Potential for Large Vehicles to Encroach onto Cycle Track

It is unclear if the left-turn lane from Talbot Memorial Bridge onto City Quay can accommodate the swept path of a large vehicle without encroachment into the adjacent two-way cycle track.

Vehicles encroaching upon the two-way cycle track would obstruct cyclists within the cycle track.

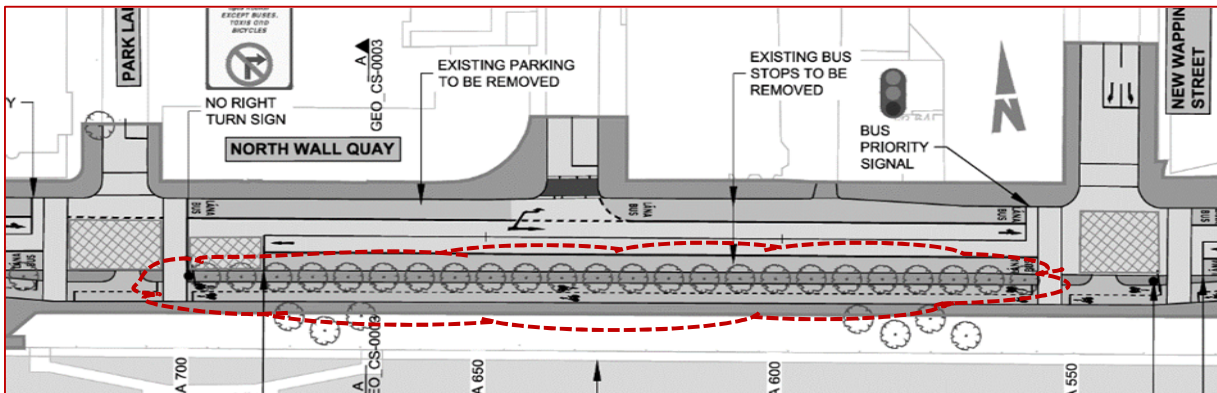
Recommendation

It is recommended that separation be provided between the carriageway and the cycle track, and that a swept-path analysis is undertaken to ensure that all vehicles can complete this turn within the proposed road layout.



D.2.3 Trees Overhanging the Cycle Track

Tree planting is indicated on North Wall Quay, between CH A550 and CH A700. The tree canopies may, as they mature, overhang the cycle track. Low hanging tree canopies may present an obstacle to cyclists on the two-way cycle track.



Recommendation

Care will be required during the subsequent Design Development phases to ensure that the tree species chosen have canopies, when mature, that will not present a hazard to vehicles travelling in the adjacent bus lane, or to cyclists on the two-way cycle track.

D.2.4 Removal of Vehicle Restrictions on Pigeon House Road

Dublin City Council is currently (March 2023) trialling a vehicular access restriction on Pigeon House Road. The restriction prevents motorists on Pigeon House Road from accessing the Sean Moore Road Roundabout, and vice versa. It is unclear if the Ringsend to City Centre Core Bus Corridor Scheme proposes to remove the restriction on through-traffic on the Pigeon House Road.

Removing any existing restrictions could result in a significant diversion of traffic through the relatively narrow local streets to the west of this location, along which it is intended to route cyclists to/from the new facilities on Sir John Rogerson’s Quay.



Recommendation

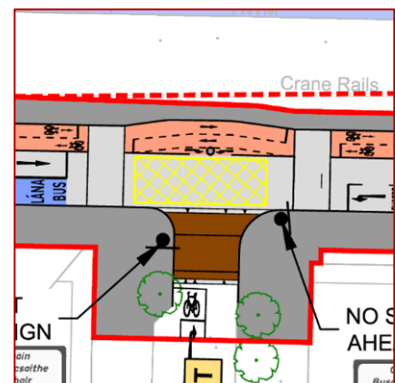
The Design team should consult with Dublin City Council to understand the trial’s conclusions before determining whether the restriction should be retained or removed.

D.2.5 Complicated Turning Arrangements to Access Side Roads

The proposed arrangement for cyclists to access side roads at a number of locations on the south quays (e.g. at Forbes Street) from the two-way cycle track appears unnecessarily complicated.

Recommendation

Cyclists should be guided to use the adjacent toucan crossings to access the side roads at these locations, and the complicated arrangements should be omitted.

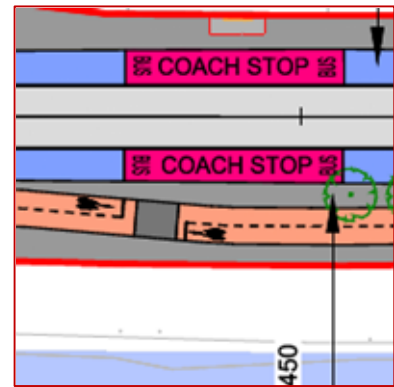


D.2.6 Cycle Lane Blocked by Passengers

The width of the floating islands at bus stops on North Wall Quay within the scheme is not indicated on the drawings provided, however, they appear to be narrow. Should pedestrians waiting for a bus choose to wait within the islands, there is a risk that they could encroach into the cycle track where they would impede cyclists.

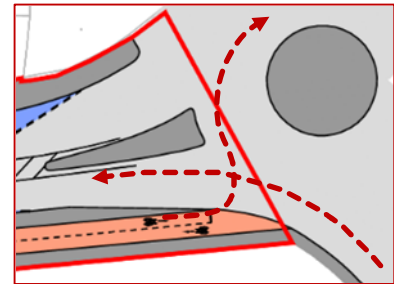
Recommendation

Ensure the floating islands at bus stops throughout the route can accommodate pedestrians such that do not encroach into the cycle track.



D.2.7 Potentially Unsafe Cyclist Entry to the Roundabout

A two-way cycle track is indicated on the southern side of North Wall Quay adjacent to the westbound traffic lane. Eastbound cyclists in the two-way cycle track approaching the East Wall Road/North Wall Quay/Tom Clarke Bridge roundabout would be required to enter the circulating carriageway at a location where motorised vehicles turning left from Tom Clarke Bridge would be exiting the roundabout increasing the risk of conflicts between cyclists entering the roundabout and vehicles exiting it.



The potential future pedestrian and cycle bridge at this location is acknowledged and, if constructed, would go some way to resolving this issue as it would allow left-turning cyclists to use this bridge rather than the circulating carriageway. The issue, however, would still remain for cyclists travelling from the eastbound cycle track to East Wall Road.

Recommendation

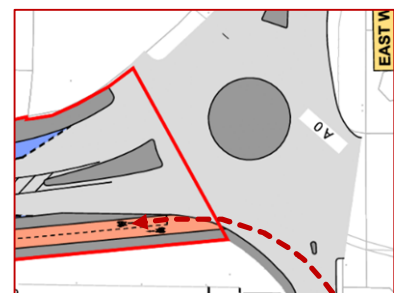
The proposed layout should be amended to provide a safe route for cyclists turning left from the eastbound cycle track and East Wall Road.

D.2.8 Vehicles may Enter the Cycle Track

There is a risk that some drivers, when turning left from Tom Clarke Bridge to North Wall Quay, may mistake the two-way cycle track for a traffic lane and inadvertently enter the cycle track increasing the risk of conflicts with cyclists.

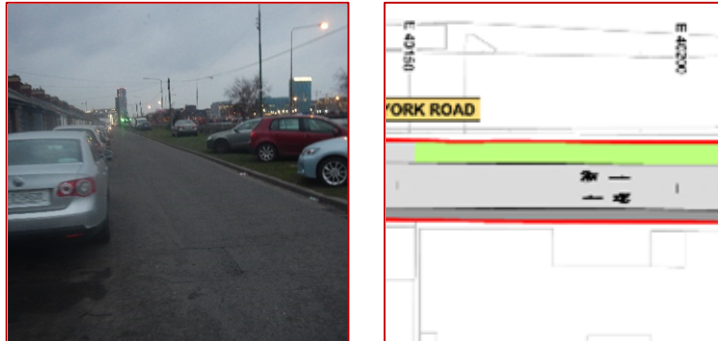
Recommendation

Measures should be provided to increase a driver's awareness of the two-way cycle track and prevent deliberate, or unintentional, entry to the cycle track.



D.2.9 Parking at York Road

During the site visit, a number of vehicles were observed parked on the southern side of York Road, and within the grass verge on its northern side, leading to a reduced effective width within the carriageway that can be used by cyclists and vehicles.



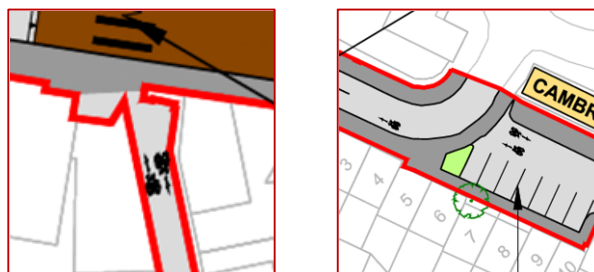
A shared surface for cyclists and vehicles is indicated on York Road as part of the proposed scheme. Should this parking continue within the proposed shared surface, the reduced width may impede cyclist movements.

Recommendation

Measures should be provided to prevent parking within the shared surface on York Road.

D.2.10 Full Height Kerb

The absence of a dropped kerb at the locations where cyclists may enter/exit the cycle track when travelling to/from Canon Mooney Gardens and at Pembroke Cottages where it intersects Pigeon House Road may lead to cyclists having to mount/dismount a full height kerb.



Recommendation

Dropped kerbs, with an upstand that can be detected by a visually impaired pedestrian but safely traversed by cyclists, should be provided at the entrance to/exit from the cycle track.

D.2.11 Bicycle Parking

It is unclear if cycle parking will be provided along the scheme, particularly at locations that may generate increased cycle traffic (i.e. parks, shops etc.), and, if provided, if it will be sheltered. Users may be discouraged from using cycle stands if they believe the locations are unsafe, or if their bicycle will be exposed to the weather.

Recommendation

Secure, and covered, bicycle parking should be provided at suitable locations throughout/along the scheme, particularly at destinations which would generate increased cycle traffic, and located in areas away from high pedestrian volumes.

Also, the proposed bicycle parking facilities should accommodate a mix of bicycles in order to cater for the widest possible mix of cyclists (e.g. standard bicycles, cargo bicycles, hand-operated bicycles, etc.).

D.2.12 Cycle Friendly Gullies

At this early stage in the design process, details regarding drainage and the location of gullies, if any, have not been provided to the Audit Team. It is therefore unclear if, and what type of, gullies are to be proposed within the Scheme. If gullies, not suitable for cyclists, are located within cycle tracks there is a risk that cyclists may swerve into the traffic lane to avoid these.

Recommendation

At detailed design stage, if gullies are required within cycle tracks ensure that cycle friendly gullies are provided, and that they are flush with the surrounding pavement.

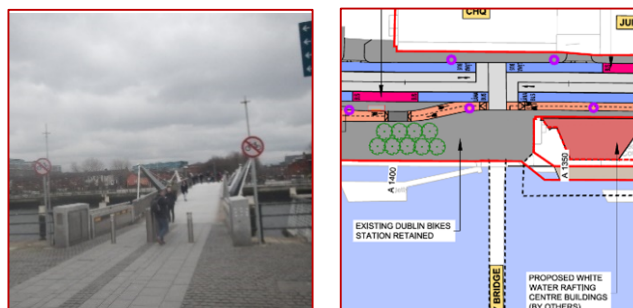
D.2.13 Lack of Signalised Push Button Units

At this early stage in the design process, details regarding signalised push button units to allow cyclists to call a crossing phase have not been provided. Cyclists at toucan crossings and signalised intersections within the scheme may, therefore, not be able to receive a green signal to cross the carriageway, which may lead to cyclist frustration resulting in them performing a crossing manoeuvre without waiting for the signal.

Recommendation

Push button units and cycle signal heads should be provided to enable cyclists to call a crossing phase safely and comfortably from within the cycle track.

D.2.14 Cyclist Movements on Sean O'Casey Bridge



Cyclist access to Sean O'Casey Bridge is currently prohibited with 'No Cyclists' signage provided on both sides of the bridge.

However, during the site visit, a significant volume of cyclists was observed using the bridge, regardless of the restriction, presumably as it is the shortest route between the north and south quays. Should this practice continue this may restrict pedestrian movement across the bridge.

Recommendation

Either modify the layout of the existing bridge, and the area on the quays at either side, so that it can be used safely by both pedestrians and cyclists, or provide enhanced measures to prevent cyclists from using the bridge.