Dublin City Council / National Transport Authority

Point Roundabout Improvement Scheme

Part 8 Report

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Ove Arup & Partners Ireland Ltd

Arup
50 Ringsend Road
Dublin 4
Ireland
www.arup.com

ARUP

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Executive Summary

The junction of North Wall Quay, East Wall Road and the East Link Bridge, also known as the Point Roundabout, is located in the Dublin Docklands area, to the north of the River Liffey. It is a key junction for pedestrians, cyclists and vehicular traffic travelling between areas north and south of the River Liffey.

The junction is currently a three-arm roundabout with no formal crossings for pedestrians and cyclists. There are high volumes of pedestrians, cyclists and vehicular traffic travelling through the junction during the peak commuter periods. This often results in high levels of queuing along the East Link Bridge during the PM peak period. During events at the 3Arena there is significant pedestrian activity in the area as well as pick-up and drop-off activity along North Wall Quay and East Wall Road.

The existing vehicular access to Dublin Port (Terminal 3) is located on East Wall Road and is a left-in, left-out junction. This junction arrangement results in additional HGV movements along East Wall Road as traffic exiting the Port must use the Point Roundabout to U-turn before travelling northwards.

The Point Roundabout Improvement Scheme looks to improve the road network in the local area for all road users by providing dedicated pedestrian and cycle crossing facilities at the Point Roundabout junction as well as improving the facilities along East Wall Road.

As part of the scheme it is proposed to upgrade the Point Roundabout junction to a three-arm signalised junction with a left-turn slip lane from North Wall Quay to East Wall Road. This junction will include toucan crossings to accommodate pedestrians and cyclists on North Wall Quay and the East Link Bridge.

It is also proposed to improve the traffic management in the area by providing an additional traffic lane northbound along East Wall Road and by relocating the Port access to the Sheriff Street Upper/East Wall Road junction.

The upgrade of this junction will result in the requirement of a new access arrangement for Dublin Port to accommodate northbound movements. The scheme proposes to provide a new access to Dublin Port by providing a fourth arm at the signalised junction of East Wall Road and Sheriff Street Upper. This new access will enable the closure of the existing left-in left-out access to Dublin Port along East Wall Road and rationalise the number of junctions along East Wall Road.

Additionally, to improve traffic management in the area, it is proposed to widen East Wall Road to provide an additional northbound lane along with a cycle track and footpath. The second lane northbound will provide additional capacity for vehicles travelling from North Wall Quay onto East Wall Road while also helping to ease the levels of queuing on the East Link Bridge.

As the provision of safe and convenient pedestrian and cycle crossing facilities requires a reduction in junction capacity, there will be slight increases in queuing on certain junction approaches.

Traffic modelling shows that there will be a small increase in queuing during the peak commuter periods on the East Wall Road and East Link Bridge arms of the Point junction.

At the junction of East Wall Road and Sheriff Street Upper, it is estimated that there will be a small increase in queuing on East Wall Road (North) during the AM and PM peak hour periods.

The main benefit of the scheme will be the significant improvement to pedestrian and cycle facilities in the area, especially crossing facilities at the junction of North Wall Quay and East Wall Road. Pedestrians and cyclists will be able to cross this junction in a safe and convenient manner.

The additional northbound lane will ease the levels of queuing currently experienced on the East Link Bridge while allowing northbound traffic to pass buses which stop ‘online’ along East Wall Road.

1 Introduction

Dublin City Council is seeking Part 8 planning approval to carry out the Point Roundabout Improvement Scheme. The scheme proposes to upgrade the existing roundabout junction to a signalised junction with dedicated pedestrian and cycle crossing facilities. It is also proposed to provide an additional traffic lane northbound along East Wall Road and to relocate the Port access (Terminal 3) to the East Wall Road / Sheriff Street Upper junction.

This document has been prepared in accordance with Part 8 of the Planning and Development Regulations, 2001 as amended. The report should be read in conjunction with the Part 8 Planning drawings (listed in Section 4).

2 Site Context

2.1 Location and Existing Junction Configuration

The site area for the Point Roundabout Improvement Scheme is located in the Dublin Docklands area north of the River Liffey, extending from the East Link Bridge to the Sheriff Street Upper / East Wall Road junction. On the east side of the road is Dublin Port while on the west side of the road is the '3Arena', the Gibson Hotel and the 'Point Village'. The R131 Point Roundabout is a three-armed priority roundabout, with a fourth arm providing a gated access to the Port which is rarely used. The R131 route, connecting from Strand Road along Sean Moore Road and East Wall Road to the Dublin Port Tunnel, is considered to be a critical regional road 'artery' to the east of Dublin City Centre. East Wall Road is the key HGV route on the east side of Dublin, as set out in the 'DCC HGV Management Strategy'.

The Strategy bans 5+ axle vehicles during the hours of 07.00-19.00 seven days a week within the Dublin central area, bounded on the east side by East Wall Road and East Link Bridge.

The site location along with the main road links and junctions within the site area is presented in **Figure 1**.

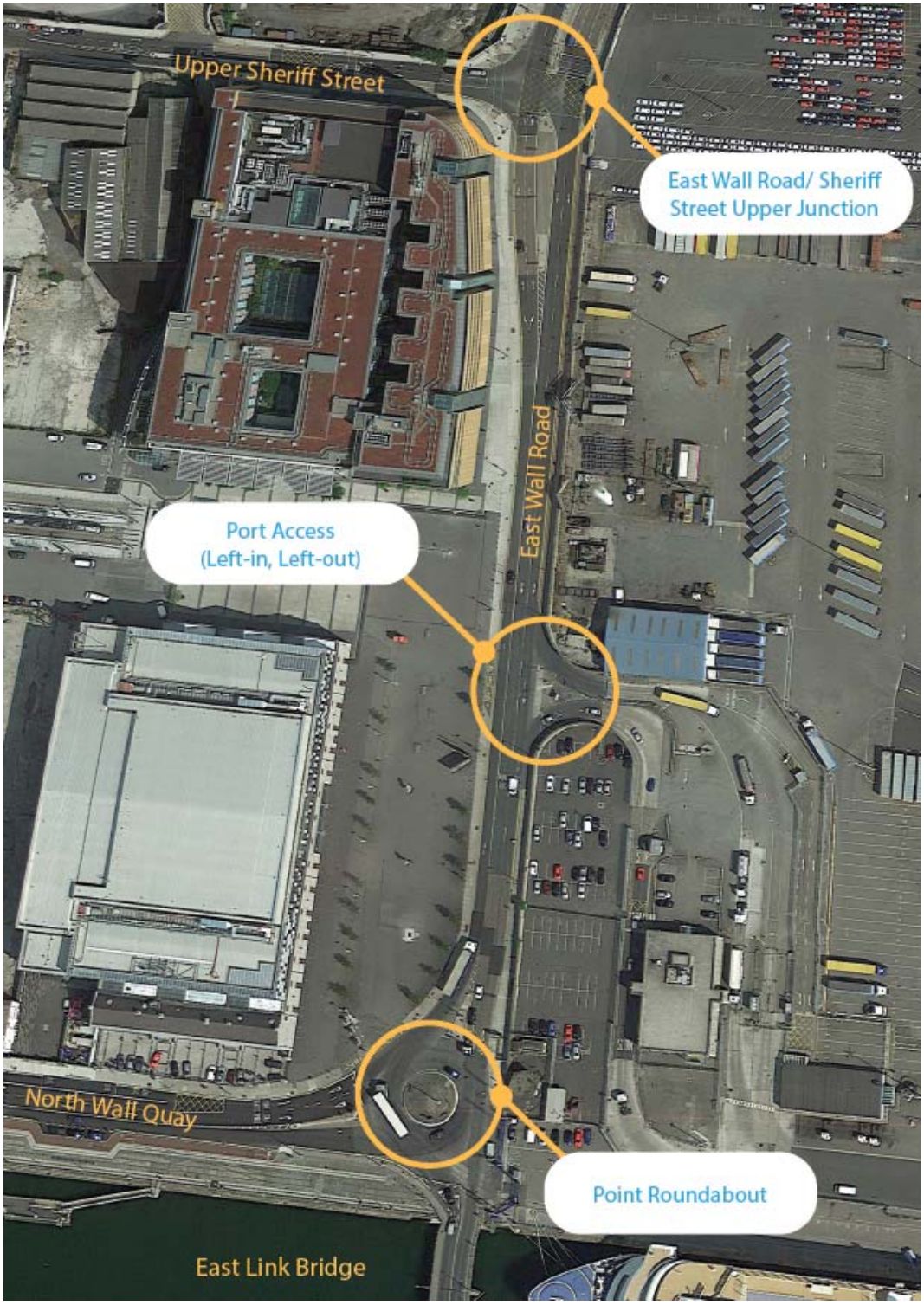

Figure 1: Site Location

2.2 Local Road Links

- **R131 East Wall Road:** This is a single carriageway which connects the R132 North (and the Port Tunnel) with Dublin Port, North Wall Quay and the East Link Bridge. There are two traffic lanes running southbound and one traffic lane running northbound.

- **R131 East Link Bridge:** This is a single carriageway bridge with a single lane in both directions and narrow footpaths on each side. The bridge connects areas to the north and south of the River Liffey. The bridge is a lifting bridge and is occasionally closed to traffic for short periods of time.
- **North Wall Quay:** This is a single carriageway road running between the Samuel Beckett Bridge and the Point Roundabout. Between New Wapping Street and the Point Roundabout there are two lanes eastbound (one traffic lane and one bus lane) and one traffic lane running westbound.

2.3 Existing Junctions

- **R131 Point Roundabout:** This is a three-arm roundabout with a 'high-kerbed' roundabout structure (c. 0.5 m upstand). The North Wall Quay and East Wall Road approaches have two entry lanes and one exit lane. The East Link Bridge arm has a single entry and exit lane. There is a gated access to Dublin Port off this arm which is used occasionally.
- **R131 East Wall Road / Dublin Port Access:** This is a left-in, left-out priority junction which is the access to Dublin Port Terminal 3 (the P&O Terminal). Northbound vehicles exiting the Port from this access must circulate the R131 Point Roundabout.
- **R131 East Wall Road / Sheriff Street Upper:** This is a three-arm signalised junction with the north-south and south-north movements dominant. The East Wall Road (South) approach has two entry lanes, the East Wall Road (North) approach has three entry lanes (one is right turn only) and the Sheriff Street Upper approach has two entry lanes (one left-turn only, one right-turn only). There are controlled pedestrian crossing facilities at this junction.

2.4 Existing Road Network Issues

There are a number of issues in relation to the current road network operation along East Wall Road and at the Point roundabout junction, including:

- Poor provision for pedestrians and cyclists crossing at the Point Roundabout junction;
- Variable and unpredictable delays to traffic at peak times, especially when there is an event at the 3Arena;
- The Port Access (Terminal 3) junction currently functions as a simple left-in, left-out junction, with traffic exiting the Port using the 'Point Roundabout' to U-turn and travel northwards along East Wall Road, unnecessarily adding to HGV traffic volumes at the roundabout;
- Slow moving HGVs on the Point Roundabout, especially U-turning vehicles, are a particular source of delays to general traffic;
- The roundabout operation does not allow opportunities for bus priority measures; and
- No lay-by for buses along East Wall Road. This is particularly a problem northbound along East Wall Road as there is no opportunity for vehicles to overtake buses when stopped without crossing into the opposing traffic lane.

2.5 Public Transport

Public transport in the area consists of bus (Dublin Bus, Aircoach, Swords Express and other private bus services) and Luas services. There is an existing northbound bus stop along East Wall Road (between the 3Arena and Point Village Shopping Centre). Buses stop 'on-line' at this location, meaning vehicles cannot overtake stationary buses without crossing a solid white line and entering the southbound traffic lane.

There is also an 'on-line' bus stop southbound lane along East Wall Road, just north of the left-in, left-out Dublin Port access. The 747 Airlink, Aircoach and Swords Express stop at this location upon request.

The Luas Red Line terminates at 'The Point' stop. The stop is located just to the north of the 3Arena.

2.6 Pedestrian and Cyclist Facilities

Footpaths are provided along both sides along East Wall Road and North Wall Quay. The footpaths are generally wide and in good condition, while pedestrians also tend to use the open area adjacent to the 3Arena. There are narrow footpaths on each side of the East Link Bridge.

There are no formal crossing points for pedestrians (i.e. signalised or toucan crossings) on any arm of the roundabout. The nearest pedestrian crossing is along North Wall Quay, 150 m west of the junction.

In terms of cycle facilities, there is a cycle track southbound between the junction of Sheriff Street Upper and the left-in, left-out Port access. There is a two-way cycle track along the south side of North Wall Quay which terminates just before the Point Roundabout.

The nearest Dublin Bikes station is along North Wall Quay, approximately 500 m west of the Point roundabout.

2.7 Existing Traffic Movements

Traffic counts were carried out at a number of junctions in the study area, including at the Point Roundabout, the East Wall Road / Dublin Port Access junction and the East Wall Road / Sheriff Street Upper junction.

The vehicle traffic flows during the AM peak hour (08:00-09:00) and the PM peak hour (17:00-18:00) are presented diagrammatically in **Figure 2**.

As can be seen, at the Point Roundabout and at the East Wall Road / Sheriff Street junction, the dominant movements are the straight through movements in the AM and PM peak hours. It can also be seen that 20 vehicles are 'U-turning' at the roundabout during the AM peak hour and 50 vehicles during the PM peak hour. These 'U-turning' vehicles are predominantly HGV's originating from Dublin Port.

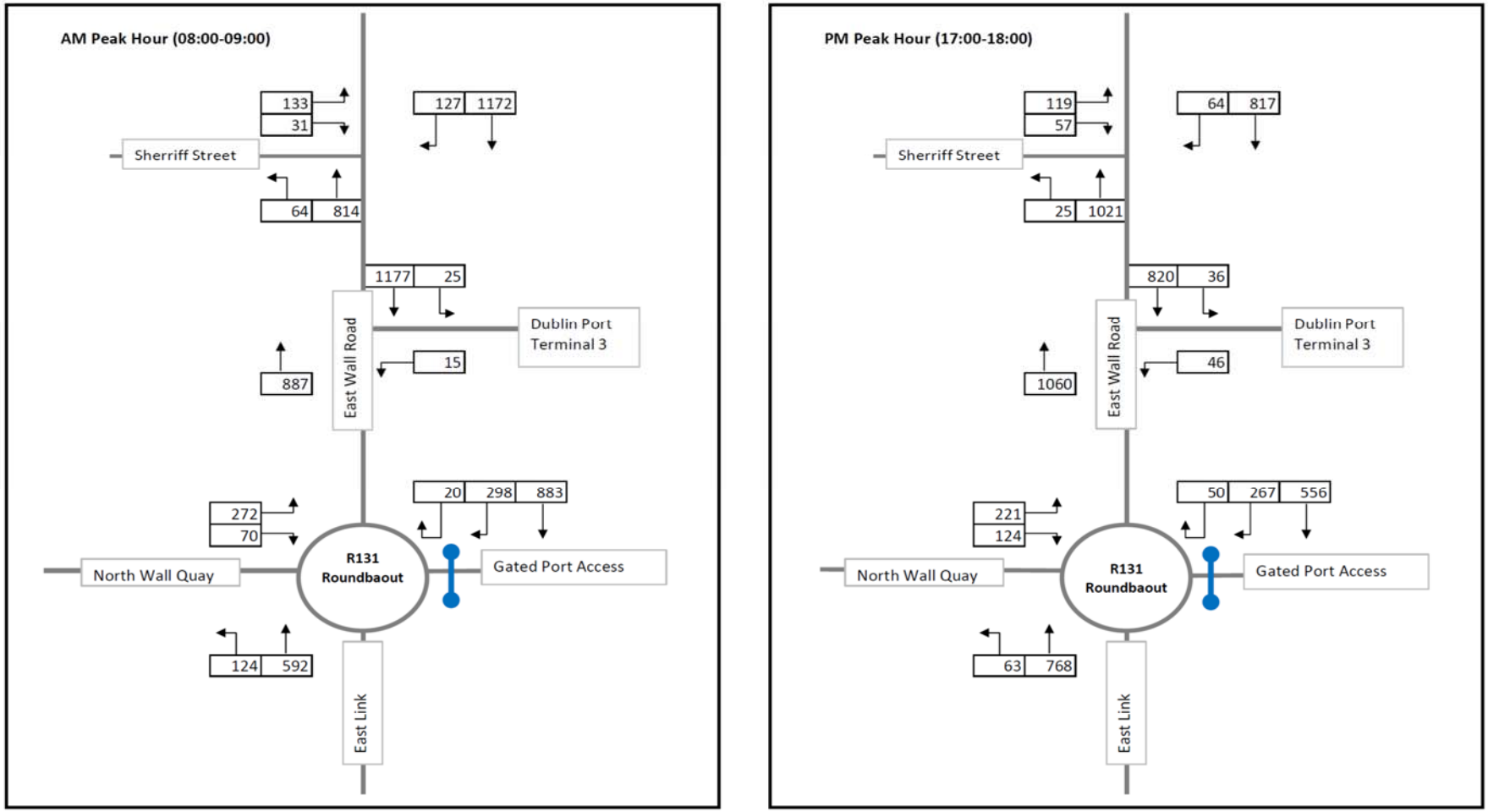

Figure 2: AM and PM peak hour flow diagrams

3 Scheme Proposals

3.1 Scheme objectives and criteria

The following is a list of the Scheme objectives which guided the preliminary design. The design should:

- Be compatible with existing road network operation;
- Facilitate existing traffic patterns (i.e. allow greater junction capacity for the dominant movements);
- Facilitate existing Port operations;
- Facilitate non-motorised users demand (desire) lines by providing safe crossings;
- Be compatible with future development plans (i.e. Cruise Business in Dublin Port);
- Facilitate greater connectivity between the city and the port and docklands;
- Provide infrastructure to support cruise tourism;
- Minimise impacts on the existing infrastructure and underground services; and
- Tie in with North Wall Quay QBC, thus allowing bus priority.

3.2 General Scheme Proposals

Taking into account the main scheme objectives and criteria, it was deemed that the proposals should include:

- Signalisation of the existing Point Roundabout junction (incorporating it into Dublin City Councils's SCATS Urban Traffic Control system);
- Accommodation of HGV movements on East Wall Road by providing a new signalised access to the Port; and
- Provision of formal pedestrian / cyclist crossing facilities at the upgraded Point Roundabout junction.

4 Proposed Scheme

The main features of the proposed scheme are listed below and shown in **Figure 3**:

- Provision of a new 3-arm signalised T-junction with a left turn slip lane from North Wall Quay to East Wall Road in place of the existing 3-arm Point roundabout junction;
- Provision of dedicated crossing facilities for pedestrians and cyclists at the new signalised T-junction;
- Widening of East Wall Road to provide an additional lane northbound along with pedestrian and cycle facilities;
- Upgrade and the provision of new cycle facilities southbound along East Wall Road;
- Closure of existing left-in, left-out junction to Dublin Port off East Wall Road; and
- Provision of new access to Dublin Port at the junction of East Wall Road / Sheriff Street Upper.

The following engineering drawings are attached to this report:

- T0100 – 01 Site Location Map
- T0100 – 02 Existing Site Layout
- T0100 – 03 Proposed Scheme General Arrangement

Figure 3: Proposed Scheme Layout

4.1 Traffic Assessment

To assess the likely impact of the proposal, a traffic model of the Point Roundabout and East Wall Road / Sheriff Street Upper junction was developed. The modelling used the existing traffic flows for the AM and PM peak hour periods. A comparison of the queue lengths on the junction arms for the 'existing' and 'proposed' layouts is presented in **Table 1**.

Table 1: Peak Hour Traffic Modelling Results

Junction/Approach	**Maximum Queue Lengths (Vehs) AM Peak**		**Maximum Queue Lengths (Vehs) PM Peak**	
	Existing	Proposed	Existing	Proposed
Point Junction				
East Wall Road	15	18	7	19
East Link Bridge	12	15	17	25
North Wall Quay	8	6	21	5
East Wall Rd/ Sheriff St Upper Junction				
East Wall Road (N)	12	17	4	7
East Wall Road (S)	14	14	12	14
Sheriff Street Upper	12	17	17	15
New Port Access	-	6	-	6
Existing Port Access	2	-	0	-

*Based on traffic counts carried out in March 2012

Traffic modelling shows that there will be an increase in queuing during peak periods on the East Wall Road and East Link Bridge arms of the Point junction while queue lengths along North Wall Quay will be reduced.

At the East Wall Road / Sheriff Street Upper junction, it is estimated that there will be a small increase in queuing on East Wall Road (North) during the AM and PM peak hour periods.

It is noted that higher levels of queuing often occur at these junctions as a result of northbound buses stopping along East Wall Road and events at the 3Arena.

4.2 Scheme Appraisal

The scheme appraisal is based on a scoring system referred to in the National Transport Authorities Project Management Guidelines (PMG's) and described under the specific headings of:

- Environment;
- Safety;
- Economy;
- Accessibility & Social Inclusion; and
- Integration.

The scoring system is outlined in **Table 2**:

Table 2: Scheme Appraisal Scoring System

Highly Negative	Moderately Negative	Slightly Negative	Neutral	Slightly Positive	Moderately Positive	Highly Positive
-3	-2	-1	0	+1	+2	+3

4.2.1 Environment

The objective of the environment appraisal is to assess whether the scheme provides for a high level of protection of the environment and contributes positively to the environment with a view to promoting sustainable development.

The Point Roundabout Improvement Scheme will provide a high quality and attractive physical environment for all road users by:

- Promoting modal shift from private cars to walking, cycling and public transport embracing the Smarter Travel initiatives outlined in 'Greater Dublin Area 2011-2030 Vision';
- Providing part of the Proposed Greater Dublin Area Cycle Network Plan; and
- Enhancing the public realm facilitating increased pedestrian and cycle activity.

HGV's would no longer be required to circulate the roundabout at this junction in order to travel northbound when exiting the Port. The improvements in pedestrian and cycle facilities will also encourage walking and cycle in the area. The provision of the second northbound lane on East Wall Road will help to reduce congestion and stop-start driving at junctions.

These measures will provide an improved environment for the area.

Appraisal Result: Moderately Positive + 2

4.2.2 Safety

The improvements to the junction and road layout as part of the Point Roundabout Improvement Scheme will provide a safer environment for all road users with a particular emphasis on cyclists and pedestrians.

Crossing facilities are currently inadequate, particularly considering the high volumes of pedestrians attracted by the 3Arena, Point Village, the Point Luas stop and the East Wall Road bus stop. The scheme aims to improve the area for non-motorised users and vulnerable road users by:

- Addressing substandard pedestrian crossing points and facilities at junctions, particularly for those with mobility impairments;
- Formalising cycle facilities in a busy traffic environment, particularly at junctions; and
- Removing HGV traffic unnecessarily circulating the roundabout;

The Road Safety Authority accident database shows one fatal and one serious incident in the time period 2005-2012 as well as a number of minor collisions between pedestrians and vehicles on North Wall Quay and East Wall Road. The scheme provides signalised pedestrian and cycle crossing facilities and removes a large number of HGV traffic from the Point Roundabout junction.

These measures will provide a safer environment for all users.

Appraisal Result: Highly Positive +3

4.2.3 Economy

The Point Roundabout Improvement Scheme will encourage the economic development of area, especially with the Port's aim to develop a cruise terminal business as outlined in their latest masterplan (Dublin Port Company Masterplan 2012 - 2040).

The main economic benefits associated with the scheme include but are not limited to the following:

- Construction jobs within the local area;
- Improved access to the 3Arena, Point Village, Dublin Port and other businesses;
- Improved pedestrian and cycle facilities;
- Improved access to the Point Luas stop; and
- Journey time savings for HGV's and other traffic accessing and departing the Port.

Appraisal Result: Slightly Positive +1

4.2.4 Accessibility & Social Inclusion

The scheme is located close to the historically disadvantaged areas in Dublin's North Inner city. The area within the vicinity of the scheme has been transformed over the past decades with the development of the IFSC and docklands area. The scheme has a prime position linking North and South Dublin via the East Link Bridge.

Improvements in Accessibility and Social Inclusion measures play an important role in the NTA's Transport Strategy and it is with this in mind that the Point Roundabout Improvement scheme concentrates on improving the transport facilities in the following areas:

- Improvements in pedestrian and cycle crossing facilities by providing toucan crossings;
- Improvements in access for mobility impaired with the introduction of dedicated facilities at the Point Roundabout junction
- Strengthening community ties within the East Wall area by improving accessibility;
- Junctions which are designed to meet the needs of pedestrians and cyclists whilst being managed to reduce congestion; and
- Establishing East Wall Road as an attractive north-south route for pedestrians and cyclists.

Appraisal Result: Slightly Positive +1

4.2.5 Integration Appraisal

The Point Roundabout Improvement scheme aims to meet the integration objectives set out in the below listed documents:

- 'GDA 2011 – 2030 Vision';
- 'North Lotts and Grand Canal Dock Planning Scheme 2014';
- 'National Cycle Planning Policy Framework 2009-2020';
- 'The Greater Dublin Area Cycle Network Plan'; and
- 'Dublin Port Masterplan 2012-2040'.

In relation to the **GDA 2030 Vision**, the scheme meets the objectives of WCY6 and WCY12

- The provision of tactile paving and the raising of carriageways or lowering of kerbs at pedestrian crossing points and the provision of audible signals at controlled crossing points, where appropriate, to assist mobility and hearing impaired people and those with buggies or prams; (WCY6)
- Revisions in junction layouts where appropriate, to reduce pedestrian crossing distances, provide more direct pedestrian routes and reduce the speed of turning traffic; (WCY6)
- The provision of zebra crossing points or pedestrian signals on all junction arms, at junctions where it is likely to be beneficial to pedestrian safety or convenience, starting with junctions on major roads and with higher pedestrian numbers; (WCY6)
- Provision of wheelchair and buggy friendly pedestrian islands where islands are provided at crossing points. (WCY6)
- Improving cyclist priority and safety at junctions (WCY12);
- Providing high quality segregated cycle lanes, or off road cycle tracks, where speeds or volumes of traffic remain high (WCY12);

Appraisal Result: Moderately Positive +2

A summary of the scheme appraisal results are presented in **Table 3** below.

Table 3: Scheme Appraisal Summary Results

Appraisal Criteria	Environment	Safety	Economy	Accessibility and Social inclusion	Integration
Appraisal Result	+2 (Moderately Positive)	+3 (Highly Positive)	+1 (Slightly Positive)	+1 (Slightly Positive)	+2 (Moderately Positive)

5 Summary and Conclusion

This Part 8 report been prepared in accordance with Part 8 of the Planning and Development Regulations, 2001 as amended. It sets out the existing situation in terms of traffic management and pedestrian and cycle facilities at the Point Roundabout junction and along East Wall Road.

The Point Roundabout Improvement Scheme has been designed to provide a safer and improved junction as well as providing a new access to Dublin Port which will reduce the number of HGV's at the junction.

The preliminary design for the scheme is a signalised T–junction with a left turning slip lane from North Wall Quay to East Wall Road and an additional northbound traffic lane along East Wall Road. The scheme provides pedestrian and cycling facilities which the existing junction is currently lacking.

A new access to the Port, by providing an additional arm at the East Wall Road/ Sheriff Street Upper junction is also proposed to accommodate the closure of the left-in, left-out access to the Port off East Wall Road.

Traffic modelling shows that there will be an increase in queuing during peak periods on the East Wall Road and East Link Bridge arms of the Point junction while queue lengths along North Wall Quay will be reduced.

At the East Wall Road / Sheriff Street Upper junction, it is estimated that there will be a small increase in queuing on East Wall Road (North) during the AM and PM peak hour periods.