Chapter 16 Material Assets and Land





Chapter 16

Material Assets and Land

16.1 Introduction

This chapter of the EIAR discusses the impact of the proposed River Suir Sustainable Transport Bridge on Material Assets and Land which includes economic and cultural assets.

Other impacts on Material Assets and Land are also addressed throughout this EIAR, particularly in the following sections:

Table 16.1 EIAR Chapters Relevant to Material Assets

Chapter	Title	Relevant Aspect
5	Traffic and Transport	Loss of Parking
6	Population and Human Health	Human beings
8	Soils & Geology	Natural Resources
9	Hydrogeology	Groundwater
10	Hydrology	Water
11	Landscape and Visual	Views
12	Noise and Vibration	Noise environment
13	Air Quality and Climate	Air Quality
14	Archaeological and Cultural Heritage	Cultural Assets
15	Architectural Heritage	Architectural Assets

Material assets are defined as physical resources in the environment, which may be either of human or natural origin. A development may affect material assets if it involves any of the following:

- Acquisition of land;
- Demolition of buildings;
- Revaluation of or change in the development potential of adjoining lands / properties; or
- Restructuring of city dynamics.

The lands required for the proposed development have already been acquired by Waterford City & County Council as part of a Compulsory Purchase Order (CPO) approved by An Bord Pleanála (PL24 .CH3344) in October 2018. The proposed development will also involve the lease of foreshore subject to a separate application to the Department of Housing, Planning and Local Government Marine Planning – Foreshore Unit and the removal of a section of marina. A property in this context includes residential, commercial and community property and lands which are zoned for development or have planning permission.

This assessment also identifies the positive impacts that this proposed development will have, such as the amenity the development will provide.

16.2 Methodology

In order to address the potential impacts to material assets, a number of impact categories have been examined, including:

- Demographics, employment, tourism and cultural assets;
- Community facilities including journey times, social activities and severance;
- Traffic and public transport;
- Utilities; and
- Marina and river navigation

This chapter describes the receiving environment, determines the significance of the impact of the proposed development on material assets and presents mitigation measures which will be implemented to alleviate impacts. The assessment methodology has considered the following guidelines:

- Advice notes on current practice in the preparation of Environmental Impact Statements (Environmental Protection Agency (EPA), 2003);
- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002);
- Environmental Impact Assessment of National Road Schemes A Practical Guide (NRA, 2008); and
- Guidelines on the Treatment of Tourism in an Environmental Impact Statement (Fáilte Ireland, 2007).

The following draft guidance documents have also been consulted:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Draft May 2017; and
- Advice Notes for Preparing Environmental Impact Statements, Draft September 2015.

Reference has also been made to the detailed guidelines provided in the UK Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3 Environmental Assessment Techniques, particularly Part 6 'Land-use' and Part 8 'Pedestrians, Cyclists, Equestrians and Community Effects'.

The methodology for the assessment of the significance of impact on material assets comprised of a desktop survey of available mapping and information to identify the baseline environment. The following sources of information were consulted in the process of this assessment:

- 2016 Census of Ireland; Central Statistics Office (CSO) 2016;
- 2011 Census of Ireland; CSO 2011
- Waterford City Development Plan 2013-2019 Planning and zoning objectives and mapping;
- Kilkenny County Development Plan 2014-2020;
- Ferrybank Belview Local Area Plan 2017;
- Pobal.ie Mapping
- Myplan.ie Mapping; and
- Fáilte Ireland studies and reports on cycleways.

In addition to the sources listed above, aerial photography and a site layout plan of the existing area and proposed development were consulted. Site visits have also been carried out throughout the project.

16.3 Existing Environment

16.3.1 Land

The land at the north and south landing points are owned by Waterford City and County Council. The south landing area however is leased to a company who currently operate it as a car park. This area and the adjacent road have been subject to the compulsory purchase order (CPO) process from the respective business interests. Furthermore, the marina at pontoon C (hereafter referred to as the floating jetty) which is being removed as part of the proposed development, is owned and operated by Waterford City and County Council. The construction of the proposed piers in the River Suir are subject to a foreshore licence which is being applied for as part of the project. The proposed bridge will connect Waterford City centre with the development within the North Quays Strategic Development Zone (SDZ). Therefore, it is key infrastructure for the successful development of the north quay lands, as identified in the National Planning Framework: Ireland 2040 Our Plan, the North Quays Strategic Development Zone Planning Scheme, the Waterford City Development Plan and the Waterford and Kilkenny Planning and Land Use Study.

16.3.2 Demographics, Employment, Tourism and Cultural Assets

Waterford City is recognised as a Gateway City in the South East of Ireland and is the largest economic centre in the South East. The economic activity of the city is dominated by the commercial, retail, industrial and tourism industries. Additionally, major sources of employment within the city include the Health Service Executive (HSE), government offices, the Department of Education and Waterford Institute of Technology (WIT).

Waterford City is the largest urban area in the South East of Ireland and is an important tourism centre with good transport linkages for both public and private transport. Waterford City is located within Ireland's Ancient East which is a Fáilte Ireland tourism initiative, see Plate 16.1. The aim of the initiative is to attract visitors to areas in Ireland which are renowned for historical features. It is expected that tourism will increase in Waterford City and County as a result of this investment and promotional drive.

The 2016 Census employment data for the Waterford City 'Centre A' ED shows that there were 293 people working in this ED and the Ferrybank ED shows that 310 people were working in this ED. Commerce and trade were the largest industries in the Waterford City Centre A ED followed by professional services and manufacturing. Professional services was the largest industry in the Ferrybank ED followed by manufacturing industries and commerce and trade.



Plate 16.1 Image Presenting Ireland's Ancient East, Source: www.irelandsancienteast.com

Waterford City 'Centre A' had a labour force population of 702 in the 2016 Census. Out of this population, 87 were recorded as unemployed having lost or given up a previous job. Ferrybank ED had a labour force population of 754 in the 2016 Census. Out of this population, 65 were recorded as unemployed having lost or given up a previous job. On foot was reported as the most popular means of travel to work in Waterford City 'Centre A' whilst the car was the most popular means of travel to work in the Ferrybank ED.

16.3.3 Community Facilities

In terms of community facilities, the city offers a large selection of restaurants, cafes, hotels, bars and shops along with visitor attractions such as museums. These facilities have developed in the area over many years and provide important attractions to potential visitors. Additionally, a number of shopping centres of regional importance are located in close proximity to the study area including City Square Shopping Centre and George's Court Shopping Centre.

Within the study area, the marina and the car parks are the most important community facilities. The marina is an important facility for local and visiting boat owners. Waterford City hosted the 2005 and 2011 Tall Ships Races which attracted

approximately 500,000 people to the city. In addition, people within Waterford City use the existing river front walkway along the South Quay on a regular basis for recreational purposes.

There are a number of sports facilities located within and on the outskirts of the city. The Waterford Greenway, Ferrybank Sports Ground, the Regional Sports Centre and Carriganore Sports Campus are important sports facilities in the outskirts of the city.

16.3.4 Traffic and Public Transport

The road transport network within the study area is comprised of a walkway along the South Quay river front, the R680 regional road and the R711 Dock Road along the North Quay. Cycle lanes and footpaths are provided in both directions along the R680 but no cycle facilities currently exist along the R711 Dock Road, resulting in a hostile environment for cyclists as they are required to compete with heavy, fast flowing traffic. Waterford City is connected to major surrounding regions, towns and cities through bus and train services and there is a high concentration of commuting traffic to, from and through Waterford City.

16.3.5 Utilities

The underground and overhead utilities were mapped at the River Suir Sustainable Transport Bridge location using services record data followed up with site reconnaissance. The following utility providers were contacted to request services records:

- Gas Networks Ireland
- ESB (Electricity Supply Board)
- Irish Water
- Virgin Media
- EIR
- Local Authority (Public Lighting, Stormwater, Drainage and Traffic)
- Telecoms/ Cable TV/ Broadband: EIR, Vodafone, Aurora Telecom, BT, Centrecom, Three Ireland, ENET, Virgin Media, ESB Telecoms

Responses were received from all providers with the exception of Aurora Telecom and Three Ireland. Centrecom, ESB Telecoms and Vodafone fixed apparatus have confirmed that they do not have any services in the area.

No overhead services are present. The following services have been identified at the River Suir Sustainable Transport Bridge landing area on the South Quays;

- Gas Network Ireland services
- ESB Medium Voltage (MV)/ Low Voltage (LV), lighting, underground
- Irish Water watermains
- Local Authority (Sewer mains, traffic cables, public lighting)
- Telecom/ Cable TV/ Broadband (BT, EIR, ENET and& Virgin Media)

Information obtained from the 2007 report "Waterford City Centre Pedestrian Bridge – Design Options Report – October 2007" highlights that a number of services exist at the South Quay landing area, namely Bord Gais, Eircom and ESB network services.

The public lighting and power services running parallel to the quay will require diversion as part of the bridge works. The other services listed in Table 16.2 will require diversion/protection as part of the bridge southern approach being developed by WCCC. The requirement for this will be investigated at detailed design stage. No diversions will be required on the North Quays.

16.3.6 Marina and River Navigation

The floating jetty parallel to Meagher's Quay at the Clock Tower, is owned and operated by Waterford City and County Council (WCCC). The pontoon is 238m in length and is capable of receiving vessels on both the river side and the land side. The pontoon comprises a fixed platform and floating jetties which are retained in position using tubular steel piles. Construction works will involve the removal of 5 piles from the existing pontoon and the provision of 4 new piles.

While the marina is currently at approximately 70% occupancy, it is hoped that capacity will increase to 100% occupancy in the future. The marina receives approximately 150 visiting vessels during the summer months (April to Oct).

The floating jetty is designed to accommodate 40 vessels. The pontoon is used all year round and is busiest during the summer months. There is an existing security gate for accessing the pontoon which requires a code to operate. However fencing at both sides of the security gate is currently inadequate as it is mountable.

The floating jetty is a popular berthing area as the River Suir is deep at this section and is not affected by silting. It is also popular as it is close to the city centre and has a number of adjacent facilities for boat owners including wifi, showers, toilets and laundry facilities.

The average vessel length is approximately 9.7m. The maximum vessel length using the jetty has been observed as approximately 34m. The average vessel breadth is approximately 3.3m and the maximum vessel breadth is approximately 5.1m.

Two commercial companies are located upstream of Rice Bridge (Fastnet Shipping Ltd. and South East Tug Services Ltd.). Furthermore, during storms, fishing trawlers moor upriver, just below Rice Bridge on both north and south wharfs. The opening span of the Rice Bridge is 25m, however the largest breadth of vessel currently travelling along the River Suir in Waterford City is approximately 18.3m and the average vessel breadth is approximately 13m.

There is a requirement to remove two sections of the existing South Quay flood wall to allow the construction of a relocated and a new gangway to the re-configured marina jetties, to the east and west of the existing jetty.

16.4 Predicted Impacts

16.4.1 Construction Impacts

16.4.1.1 Demographics, Employment, Tourism and Cultural Assets

The construction phase is not expected to have a significant impact on the demography, employment, tourism or cultural assets of the area due to the scale of the project. It is anticipated that approximately 20-25 construction workers will be employed over a period of approximately 18 months. While the nature of the construction works will not be attractive to tourists due to visual, noise, air quality and

traffic impacts, the small nature of the construction works will not result in significant impacts with regards to the tourism of the area.

The overall impact on demographics, employment, tourism and cultural assets is considered to be minor, temporary and negative.

16.4.1.2 Community Facilities

The construction phase will cause a certain amount of loss of amenity, disruption and inconvenience to residents and visitors. This disruption and inconvenience will be related to traffic and also to the generation of noise and dust, issues which are commonly associated with the construction of infrastructure projects.

Access will be maintained for vehicles, pedestrians and cyclists along the R680 and along Dock Road at all times during the construction phase. The existing riverfront walkway along the South Quay will be obstructed during construction and recreational users will be required to cross the R680 for a short section during this period. Several pedestrian crossing facilities in the vicinity of the proposed bridge location will assist in the provision of this diversion.

Construction activity associated with the proposed development will give effect to temporary impacts on surrounding commercial and residential receptors due to:

- Construction noise;
- Dust emissions;
- Restricted access; and
- Disturbance of services.

The activity of machinery and transport vehicles will generate noise emissions in the immediate vicinity of the proposed site. Furthermore, dust generated during construction may cause annoyance or nuisance to recreational users of the South Quay, business owners and surrounding residents.

The removal of car parking spaces to the west and east of the Clock Tower during construction has the potential to impact on convenience for car users and therefore impacts upon business in this area of Waterford City.

16.4.1.3 Traffic and Public Transport

During construction, the R711 Dock Road and the R680 will remain open to vehicular traffic, pedestrians and cyclists at all times. The riverfront walkway will be temporarily obstructed by the construction site. The overall impact on traffic and public transport is considered to be minor, temporary and negative during construction. Traffic and public transport impacts are discussed in Chapter 5 Traffic and Transport.

16.4.1.4 Utilities

The public lighting and power services running parallel to the South Quay will require diversion as part of the construction works. The other services listed in Table 16.2 will require diversion/protection as part of the bridge southern approach.

On the North Quays no diversions will be required because the existing watermains will be removed to facilitate the SDZ proposal.

The use of the floating jetty will be prohibited during construction.

Table 16.2 Existing Services Impacted by the Construction of the Proposed Development

North Quays
Watermains
South Quays
Rising Main (protection required)
Storm Water (local carpark)
ESB Underground
Telecom Underground (ESB)
Public Lighting Underground
Bord Gais
Traffic Light Underground
Unidentified Underground Services have also been picked up by GPR survey

16.4.1.5 Marina and River Navigation

There will be a permanent loss of approximately 140m of berthing facilities from the existing Waterford marina which will result in a permanent negative impact. The construction phase will require the permanent re-location of vessels currently using the marina at the proposed crossing point to an alternative marina downstream. Reorganisation of the existing vessel arrangement will be required.

The construction of the piers will be carried out from a jack-up barge, the position of which will impact upon upstream and downstream navigation and navigable access to the marina, however sufficient space will be available at all times.

Construction works will prove inconvenient to the marina berth-holders but dredging works, the Tall Ship's Races and various other events in the past have required the temporary relocation of vessels from the floating jetty and a similar process can be put in place to seamlessly rearrange the vessels as necessary. Noise and dust emissions generated during construction may cause annoyance to marina users. The east Marina (located at the Millennium Plaza) will remain operational during construction and operation of the proposed development.

16.4.2 Operational Impacts

16.4.2.1 Demographics, Employment, Tourism and Cultural Assets

The operation of the proposed development will encourage tourism in the area and will maintain commercial and residential rents and property values. It is predicted that the development will result in an increase in population in the wider local area which will result in an increase in demand for housing and development and for local services, thereby enhancing economic activity and employment within the area. The proposed development will add to the existing tourist amenities in the area.

The project will bring a greater demand for facilities associated with tourism and will benefit existing businesses in the area, in particular in the service sector (hotels, cafes, restaurants etc.). Waterford City Development Plan 2013-2019 highlights the need to focus on sustainable tourism. There is the potential for Waterford City to become a cycling hub, acting as a link between the Waterford Greenway and the New Ross to Waterford Greenway, thus further increasing the positive economic impact of the proposed development. Cycle tourism is a growing market and cycle tourists tend to stay longer in a destination and therefore have more time to add to the local economy.

Furthermore, the proposed development will be a key piece of infrastructure providing connectivity between Waterford City centre and Ferrybank, the proposed transport hub and the proposed development within the North Quays SDZ.

16.4.2.2 Community Facilities

The most significant negative impacts of the operation of the proposed development to those living in and using the area include the removal of 150 car parking spaces to the east and west of the Clock Tower and the removal of approximately 140m of berthing facilities. The removal of the section of the floating jetty and its subsequent non-re-instatement will result in a 20% loss in berthing facilities for the marina and a corresponding 20% loss in revenue. The bridge will provide pedestrian access to additional parking facilities on the north quays, commensurate with the scale and type of city centre development which is planned for the Strategic development Zone.

There will be no severance of facilities or direct loss of land for residential or commercial properties as part of the proposed development. The operation of the proposed development will have an overall positive impact on community facilities due to enhanced accessibility and attractiveness of the area which in turn will encourage tourism in the area and will maintain commercial and residential rents and property values.

The development will be accessible from nearby schools, community facilities and workplaces and will therefore improve pedestrian, cyclist and public transport accessibility to these facilities. Schools along Abbey Road in Ferrybank will benefit greatly from the proposed development due to the increased connectivity with these schools and Waterford City Centre.

Encouraging sustainable transport modes has the potential to improve the quality of life for people locally. There has been an increasing issue of rising obesity levels in Ireland in recent years, with the World Health Organisation (WHO) describing it as a 'global epidemic'. Sustainable modes of transport, including walking and cycling, enhances personal health, fitness and well-being. Sustainable transport can also improve the local air quality and noise pollution levels, having a positive impact on human health.

During operation, it is not considered that there will be significant effects experienced due to light pollution or privacy impacts as the area is currently a well-lit, urban area. There is the potential for increased anti-social behaviour and a greater risk to security due to the increase in numbers of passers-by and due to the proximity of the proposed bridge with the marina. However, it is expected that the provision of an open and lit area will deter groups from loitering due to the increased visibility.

The proposed development is a crucial piece of infrastructure which will enable the concentric development of the city and will provide for an increase in population of 30, 000 people on the north side of the River Suir, in line with the targets set out in the National Planning Framework (NPF).

The connectivity of Ferrybank and the SDZ development with Waterford City Centre is a huge benefit to the local and surrounding communities. The vitality, vibrancy and quality of life that this proposed development will bring to Waterford City and Ferrybank will be a major positive impact to the city and the region. The development will enhance the attractiveness of the city for residents, businesses and tourists.

16.4.2.3 Traffic and Transport

The proposed development will provide safer traffic and transport facilities as cyclists and pedestrians will have alternative transport options. During operation the proposed development is expected to have positive impacts on air quality and noise pollution due to the consequent removal of vehicular traffic from the area.

Bridge will allow for greater connectivity by alternative and sustainable means of transport to the north side of the river.

16.4.2.4 Utilities

It is not proposed to provide subterranean utility connection across the opening span of the new bridge. However, two service troughs will be included along the length of the bridge such that in the event that the river is closed to larger vessel traffic at a future date, and the bridge is no longer required to open, the ends of the opening span bascule sections could be permanently closed (welded) providing a continuous trough for services for the length of the bridge. The bridge abutment structure will provide suitable openings in the ballast wall in line with the bridge deck trough to allow services to pass without future modifications.

16.4.2.5 Marina and River Navigation

The removal of the upper section of the floating jetty and subsequent non-reinstatement of same will result in a 20% loss in berthing facilities and a corresponding 20% loss in revenue. All vessels currently berthing at the floating jetty will be accommodated elsewhere in the marina during operation.

Approximately 20 berths will be permanently removed from the floating jetty and relocated to a jetty approximately 470m downstream. These 20 berths comprise 14 long-term berths and 6 visiting berths.

The existing security gate for the marina is adequate for the likely increase in passing traffic. However, the fencing approaching the gate will require replacement and will need to be improved as it is currently possible to access the jetty at the sides of the gate.

It is expected that the increased numbers of passers-by will reduce the occasion for anti-social behaviour. Furthermore, it is expected that the provision of an open and lit area will deter groups from loitering.

16.5 Mitigation Measures

16.5.1 Construction

During construction, the following mitigation measures are proposed for the River Suir Sustainable Transport Bridge:

- Measures to control the production of dust will be put in place by the contractor (refer to Chapter 13 Air Quality and Climate which presents a series of measures to control dust);
- Noise mitigation will be provided during construction of the development.
 Measures to mitigate noise impacts on sensitive receptors are detailed within
 Chapter 12 Noise and Vibration. The contractor will work within stringent
 construction limits and guidelines to protect residential and commercial
 amenities.

- A Traffic Management Plan will be implemented during construction in order to minimise disruption to local residents, commercial business operators and the general public.
- Access will be maintained for vehicles, pedestrians and cyclists at all times during the construction phase.
- The new drainage system along the South Quay will be designed to ensure that the current drainage situation will not be impacted and there will be no increased risk of flooding as a consequence of the River Suir Sustainable Transport Bridge;
- Any services that are interfered with, including services to the marina, as a result
 of the proposed development will be repaired or replaced without unreasonable
 delay;
- It is anticipated that a combination of a sufficiently open and lit area will be enough to prevent groups from congregating. More secure gates will be installed at the marina gangways to ensure a higher level of protection for boat owners as a result of increased numbers of passers-by;
- Communication will be maintained with the Port of Waterford and the Harbour Master during construction works;
- Compensatory car parking spaces are available across Waterford City. New car
 parks have recently opened in the city. Directional signage will be erected to
 assist visitors. The development of the SDZ area will result in increased parking
 facilities in the area; and
- The removal of berths will be compensated at the marina downstream.

All construction works will be temporary and will be carried out in line with best practice guidelines thus minimising the impacts to the receiving communities. The contractor will work within stringent construction limits and guidelines to protect surrounding amenities. As discussed in Chapter 4 of this EIAR, a Construction Environmental Management Plan (CEMP) will be implemented by the contractor and will ensure commitments included in the statutory approvals are adhered to.

Further specific mitigation measures related to Material Assets are described in Chapter 5 Traffic and Transport, Chapter 11 Landscape and Visual, Chapter 12 Noise and Vibration and Chapter 13 Air Quality and Climate of this EIAR. All mitigation measures are summarised in Chapter 18 of this EIAR.

16.5.2 Operation

The majority of impacts relating to Material Assets as a result of the proposed development are positive. Specific mitigation measures related to material assets include the replacement and improvement of the existing security fencing approaching the gate to the jetty. This will be required as a result of the increased numbers of passers-by and to deter anti-social behaviour. Security cameras and suitable lighting will also be installed to prevent loitering and anti-social behaviour. During operation, the vitality and vibrancy that this proposed development will bring to Waterford City will be a major benefit to the city and the South-East region of Ireland.

16.6 Residual Impacts

There will be no adverse residual impacts on material assets as a result of the proposed River Suir Sustainable Transport Bridge subject to adherence to best practice and implementation of the mitigation measures outlined in the relevant EIAR chapters. During the construction phase the removal of berths from the floating jetty

and the removal of 150 car parking spaces will cause some disruption. Disruption during the construction phase will be temporary in nature and minor in magnitude.

The vitality and vibrancy that this proposed development will bring to Waterford City through linkages and connectivity will be a major benefit to the city centre and throughout the region. During operation, the proposed development will provide an additional amenity to the area with positive impacts for the local community, residents and business owners with regard to increased tourism, economic benefits and potential health improvements. It is predicted that the development will attract many users once in operation. The proposed development has the potential to positively restructure the dynamics of the city and revaluate or change the development potential of adjoining lands / properties.

Table 16.4 Assessment of the Impact of the Proposed Development on Material Assets

Impact	Receptor Type	Positive/ Negative	Impact Significance	Mitigation	Residual Impact
Employment during construction	Employment	Positive	Slight	Not required	Slight
Discouragement of tourism during construction	Tourism	Negative	Moderate	Best practice guidelines will be followed by the Contractor to minimise disruption. Contractor will adopt and adhere to all mitigation in this EIAR.	Slight
Obstruction of riverfront walkway during construction	Community Facility	Negative	Slight	No mitigation proposed. Recreational users of the riverfront walkway will be directed to cross to the other side of the R680 for this short section. The footpath on the south side of the R680 will be capable of receiving the additional footfall.	Slight
Nuisance during construction (noise and dust emissions)	Residents, visitors, business owners	Negative	Moderate	Dust Management Plan will be put in place. Best practice guidelines will be adhered to by the Contractor, particularly in regard to noise levels and working hours.	Slight

Impact	Receptor Type	Positive/ Negative	Impact Significance	Mitigation	Residual Impact
Removal of 150 car parking spaces from the South Quay	Residents, visitors, business owners	Negative	Moderate	Compensatory car parking spaces are available in City Square Shopping Centre, Railway Square Car Park, Waterside Car Park and Clyde Wharf Car Park.	Slight
Utility diversion	Marina users	Negative	Slight	All utilities will be repaired or replaced without unreasonable delay	Slight
Loss of section of berthing facilities	Marina users	Negative	Significant	Relocation of vessels downstream	Moderate
Navigation impacts due to presence of jack- up barge in the river	River users	Negative	Moderate	Communication with the Port of Waterford and the Harbour Master during construction. Ensure navigation passage available at all times.	Slight
Enhancement of the service industry and tourism during operation	Tourism	Positive	Moderate	Not required	Moderate
Enhancement of economic activity	Residents, visitors, business owners	Positive	Moderate	Not required	Moderate
Enhanced accessibility to services and facilities	Residents, visitors, business owners	Positive	Significant	Not required	Significant
Improved quality of life for locals	Residents, visitors, business owners	Positive	Significant	Not required	Significant
Improved air quality and reduced noise pollution	Residents, visitors, business owners	Positive	Slight	Not required	Slight
Reduced anti- social behaviour	Residents, visitors, business owners	Positive	Moderate	Improved fencing leading to the marina security gate on the South Quay. Security cameras will be installed and the area will be suitably lit.	Slight

16.7 Conclusions

The construction of the proposed sustainable transport bridge will potentially increase the walking catchment from the City Centre to the areas north of the River Suir to include a population of approximately 4,000 people, and the cycling catchment to include 7,400 people, in line with the NPF which predicts a future population of 30,000 people on north side of the River Suir. It is expected that, as the proposed development will connect the existing Déise Greenway with the proposed Waterford-New Ross greenway, it may attract approximately 150,000-200,000 users annually. Furthermore, Barronstrand Street carries approximately 2.3 million users annually. If the retail spine is to continue to the proposed shopping centre within the north quays SDZ in the future, it is predicted that the bridge may carry approximately 4 million users annually.

It is considered that the proposal will have limited adverse impacts during the construction phase which is, by its nature, temporary. The removal of 150 car parking spaces from the South Quay and the removal of approximately 140m² of berthing facility from the floating jetty are considered the most significant permanent impacts associated with the project. In contrast, the operation of the development will provide many significant positive impacts to the city and wider region. Specific significant positive impacts relating to the operational phase of the proposal include:

- Providing alternative sustainable transport options including cycling, walking and public transportation along a safe and secure route which is segregated from private vehicles;
- Providing indirect health benefits through the provision of safer facilities for recreational users which will increase and encourage the opportunity for physical exercise;
- Providing connectivity to the proposed transport hub on the north quay, including the relocated train station;
- Providing a new amenity for Waterford City, thereby enhancing the attractiveness of the city to tourism and increasing the economic potential of the city;
- Providing linkages and connectivity, thereby enabling the concentric development of the city which, when realised, will act as an economic driver for the region. Aiding integration of the SDZ with Waterford City and the integration of the North Quay and the South Quay. Aiding integration of the existing Waterford Greenway and the proposed New Ross to Waterford Greenway and aiding integration of the Ferrybank area, particularly schools on Abbey Road, with Waterford City; and
- Providing positive impacts on material assets due to enhanced accessibility and attractiveness of the area which in turn will maintain commercial and residential rents and property values.