

AVISON
YOUNG

URBAN -
AGENCY

SYSTRA

Kilmainham - Inchicore Development Strategy

Baseline Report

September 2020





Introduction

This Report has been prepared following an Inception Meeting between Dublin City Council (Client) and Avison Young, who have been appointed to prepare a Development Strategy for the Kilmainham-Inchicore area. This Report is split into four themes;

- Planning Context
- Movement
- Placemaking
- Environment

The information contained in this Report has been produced through an existing baseline analysis combined to identify the main challenges and opportunities to urban growth and development.

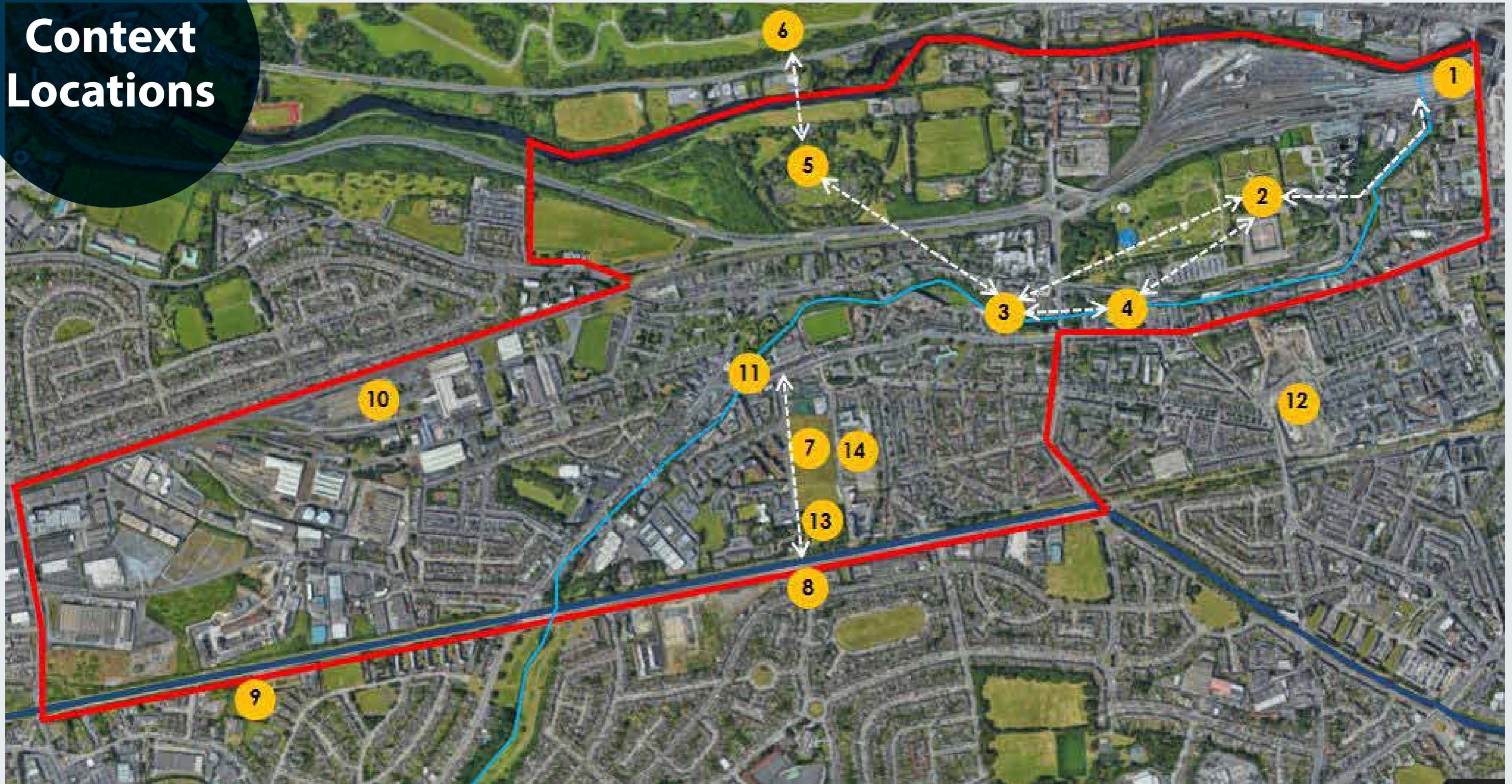
The purpose of this Report is to inform the preparation of a Development Strategy for the Kilmainham-Inchicore area which will in turn be used in the next iteration of the Dublin City Development Plan and the introduction of a new wider Strategic Development and Regeneration Strategy.

The Development Strategy will be responsible for identifying key projects to be brought forward as part of Call 3 of the Urban Regeneration and Development Fund in 2021.

Contents

Theme 1 - Planning Context	6
Theme 2 - Movement	14
Theme 3 - Placemaking	24
Theme 4 - Environment	44

Context Locations



- | | | | | |
|----------------------|--|--------------------------|----------------------|---------------------------|
| 1 Heuston Station | 2 Royal Hospital Kilmainham (IMMA) | 3 Kilmainham Gaol | 4 Kilmainham Mills | 5 Irish War Memorial Park |
| 6 Phoenix Park | 7 Emmet Road | 8 Drimnagh LUAS | 9 Irish Water | 10 Irish Rail Works |
| 11 Inchicore Village | 12 St. James's Hospital / National Children's Hospital | 13 Goldenbridge Cemetery | 14 Richmond Barracks | |

KEY:

- = Study Area Boundary
- = Camac River
- = Grand Canal

Theme 1 – Planning Context



Definition of the Study Area

The twin communities of Kilmainham-Inchicore lie approximately 4km due west from Dublin city centre along one of the main access routes from west and south to the city. The area has an approximate population of 17,406 residents with 8003 households according to the Census of 2016 with a wide mix of zonings, including residential, mixed-service facilities, enterprise and employment, community and institutional and SDRA 9 – St. Michael's Estate. The area houses industrial and light engineering infrastructure with several medium sized industrial estates evident and the landmark CIE engineering works including CIE rail networks, signalling, maintenance and other operational functions. Employment levels are largely in line with national trends but with levels of long-term unemployment and social deprivation in isolated pockets within the community. The development strategy is envisioned to encompass the following electoral districts: Kilmainham B, Kilmainham C, Inchicore A, Ushers A and Ushers F.

Key Area Assets

The Jack Nolan report highlights the central assets within the Kilmainham-Inchicore area and their significance.

The Grand Canal: The canal is an excellent amenity in the area with cycle and walkways well maintained and in regular use but as was indicated to Mr. Nolan, the canal also has significant unrealised potential

The Camac River Valley: The river is

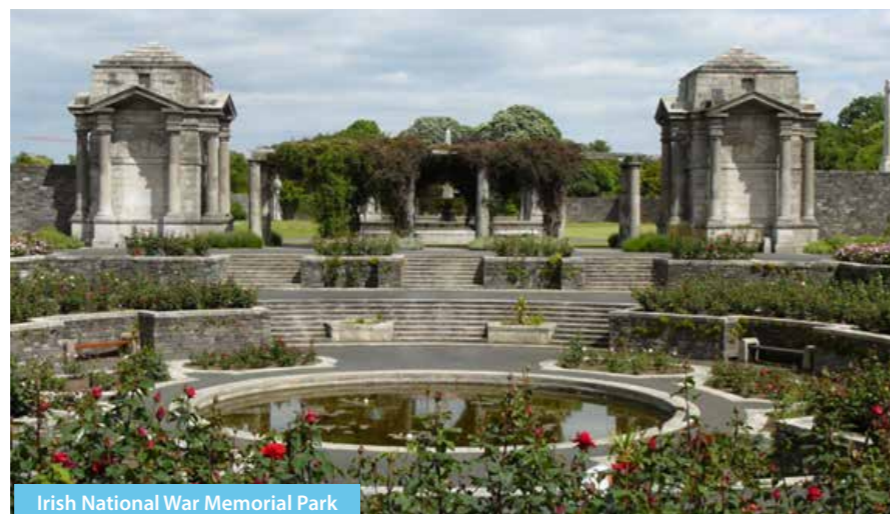
another underdeveloped asset that enters Inchicore flowing northeast from the Landsdowne Valley in Drimnagh. It flows east through Inchicore and on through Kilmainham and under Bow Bridge station. Much of its course is now covered by buildings. DCC have been proactive in developing plans and opinions to create public access and spaces along the river

course with the medium term ambition of turning it into a greenway and cycle/walkway for the general public and communities of Kilmainham-Inchicore.

The Irish National War Memorial Gardens: This is a notable asset in the area that has significant potential for increased access and usage by local communities and visitors alike.



Irish National War Memorial Park



Irish National War Memorial Park

Goldenbridge Cemetery: The Glasnevin Trust manages the cemetery and has ambitious plans to incorporate the cemetery into the tourism trail of the Kilmainham-Inchicore area.

Richmond Barracks: The Barracks was extensively renovated in 2016 and converted into the modern facility that is evident today with an exhibition hall, renovated classrooms and vibrant café. With careful planning and foresight it can have significant future potential as a tourist attraction.

Kilmainham Jail: This national museum is now the third most visited tourist attraction in Ireland.

Kilmainham Courthouse: As part of the Kilmainham Jail experience it forms an integral part of the historical experience of visitors to the Kilmainham – Inchicore area.

Kilmainham Mill: The Mill has been acquired by DCC and is currently being assessed for restoration as a museum and milling experience centre that will showcase Irish industrial history and offer opportunities for Irish arts and crafts to flourish in the area in a bespoke setting that can enhance tourism and the craft industry in the area. The mill site is quite extensive and the imaginative plans of DCC outlined by Mr. Nolan offer real potential not just for tourism, but for the community and cultural life of the area.

The Irish Museum of Modern Art (IMMA): The IMMA was established by the Government of Ireland in 1990 as the first national institution for the presentation and collection of modern and contemporary art. It is located in a wonderful historical setting on 48 acres of land in the centre of Kilmainham. The IMMA is an extraordinary asset, culturally, historically and socially for the area and indeed the wider city. It is now recognised as a significant and dynamic presence in the Irish and international arts arena. It also contains a small but wonderful museum that illustrates the history of the Royal Hospital (RHK) and the many episodes of history in which it featured. IMMA is set within the grounds of RHK and this offers a unique setting for the enjoyment of visitors and residents in the area. The gardens provide an important recreation and amenity area to Kilmainham and surrounding areas.

National Children's Hospital: The development of the National Children's Hospital on the St. James's Hospital Campus will bring about approximately 8,000 jobs into the area. This brings about opportunities for further development in the health sciences and innovation sector with the HSE potentially having plans for the future redevelopment of their Davitt Road site into a Digital Health Hub.



Kilmainham Gaol



Royal Hospital Kilmainham (IMMA)



Heuston Station and River Liffey



Public Realm at Kilmainham Gaol

Jack Nolan Report

The Jack Nolan Report was commissioned by the Department of Housing, Planning and Local Government on behalf of Minister of State Damien English T.D. It outlines a strategic action plan to improve the area not just for the present, but for future generations. The plan is intended to provide guidance and opportunities to the community, residents, city planners, business and developers alike.

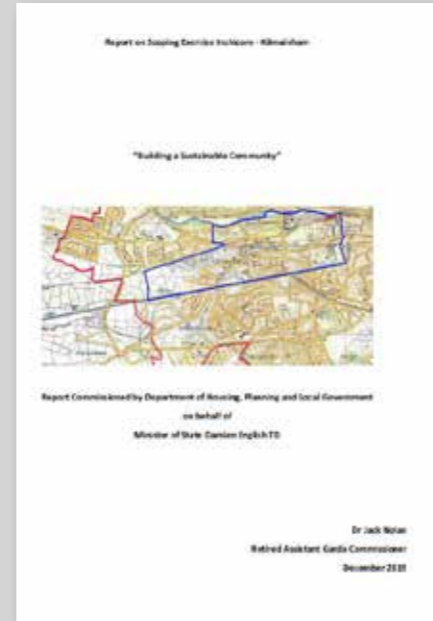
The aim for the area is to create opportunities to enhance and strengthen community bonds. This can be done by facilitating long-term occupancy and taking into consideration the housing needs of children, young adults, families and older people. There is an aim of creating a civic space and multi-use civic centres on Emmet Road which links to other amenities in the area and maximises community integration including any new development in the area. It is also an aim to maximise environmental considerations such as orientation, daylight, access to public amenities such as children playgrounds and other amenities. Furthermore, maximisation of the potential of the leisure and sports facilities for the use of the entire community is also a priority.

One of the objectives of this strategic action plan is to harness the historical potential of the area. The Kilmainham-Inchicore area has a wealth of historical landmark sites and buildings with almost limitless potential for attracting visitors and the local community alike. It has potential from a historical, military, cultural and nature perspective. What is crucial to put this objective into action is to develop

clear and historical trails around Inchicore and Kilmainham and to market the area as the historical military quarter of Dublin. Moreover, to commence the restoration of Kilmainham Mill.

Another objective of the plan is to improve the local environment of Kilmainham-Inchicore. Inchicore is in need of improvements physically and visually. The environmental concerns of the community can be eased with investments in public lighting, footpaths, street furniture, traffic management innovations and further access to funding for shop front renovations. It is vitally important that proposed developments in housing and transport do not negatively impact on either the visual appearance or environmental condition of the area. The fear of repeating the mistakes of the past surfaces in the most preliminary of conversations on what should happen to the site on Emmet Road/ St. Michael's Estate. The preferred housing design for any future developments being considered appears to be one that sustains a community through lifestyle stages creating a mixture of occupants and age profiles in a well designed and constructed environment with good supporting facilities and services.

Should these plans come to fruition, both employment and entrepreneurship in the Kilmainham-Inchicore area would flourish. The Mill renovation and development of a historical military quarter would create a vibrant museum sectors adding to Dublin's heritage, attracting visitors and communities alike.



Kilmainham Mill and the Wider Area

Reimagining Dublin 8 and Kilmainham-Inchicore offers potential to develop a truly historical military and museum quarter in the area. This quarter can become a historical and cultural hub offering a variety of attractions, interests and cultural experiences. An attractive longer-term inclusion in the quarter would be a Transport Museum and Visitor Experience. Developing this concept within the current CIE lands in Inchicore would create a genuine link to the history of the CIE works and generate commercial opportunities for CIE, Fáilte Ireland and the communities of Kilmainham-Inchicore.

The potential to develop across the Camac River from Emmet Road Inchicore to Kilmainham Jail would bring this amenity more into the Inchicore village heartland. The restoration of the dis-used Kilmainham Mill should be prioritized in the short-medium term. This will attract a particular type of tourist or visitor to the area who

are interested in the culture, heritage and history. There will be commercial benefit to the shops, cafés and hotels of the area. The restoration will feed into the heritage and conservation of the area and promote community resource development. This project will act as a positive aspect for the Development Strategy and we will ensure the goals of the conservation plan align with our strategy.

The people of Kilmainham-Inchicore want to create a sustainable community, a place where people want to live and work now and in the future. A sustainable community meets the diverse needs of existing and future residents, is sensitive to the environment and contributes to a high quality of life. They are safe and inclusive, well planned, well-built and well run and offer equality of opportunity and good service for all. The wishes of the Kilmainham-Inchicore community include a safe environment, good educational

facilities, reliable public transport, reliable garda presence, a continuum of care for young people and for older people, a revamped village centre for Inchicore, a central community and civic hub in the area, improved shopping opportunities, improved parking and more green space.



National and Regional Policy

The National Planning Framework (NPF) and the Regional Spatial and Economic Strategy for the Eastern and Midland Region (RSES) set out high level goals and objectives in relation to compact urban growth and the greater use of brownfield development sites.

National Strategic Outcome 1 within the NPF identifies the importance of Compact Growth through infill development in cities and towns across the country. The focus of these such developments will be on liveability, quality of life, economic development, accessibility and transport.

In conjunction with national policy, a key component of the RSES is *"A focus on contained growth and reduced sprawl by targeting infill and brownfield lands in existing built-up areas"*.

Dublin City Development Plan 2016-2022

There are various references to the Kilmainham – Inchicore area in the Dublin City Development Plan 2016-2022. The plan outlines a number of objectives which would greatly benefit Kilmainham-Inchicore.

Objective MTO31: To initiate and/or implement the following road improvement schemes and bridges within the six year period of the development plan, subject to the availability of funding and environmental requirements and compliance with the "Principles of Road Development" set out in the NTA Transport Strategy. One of the listed roads is the Kilmainham/South Circular Road.

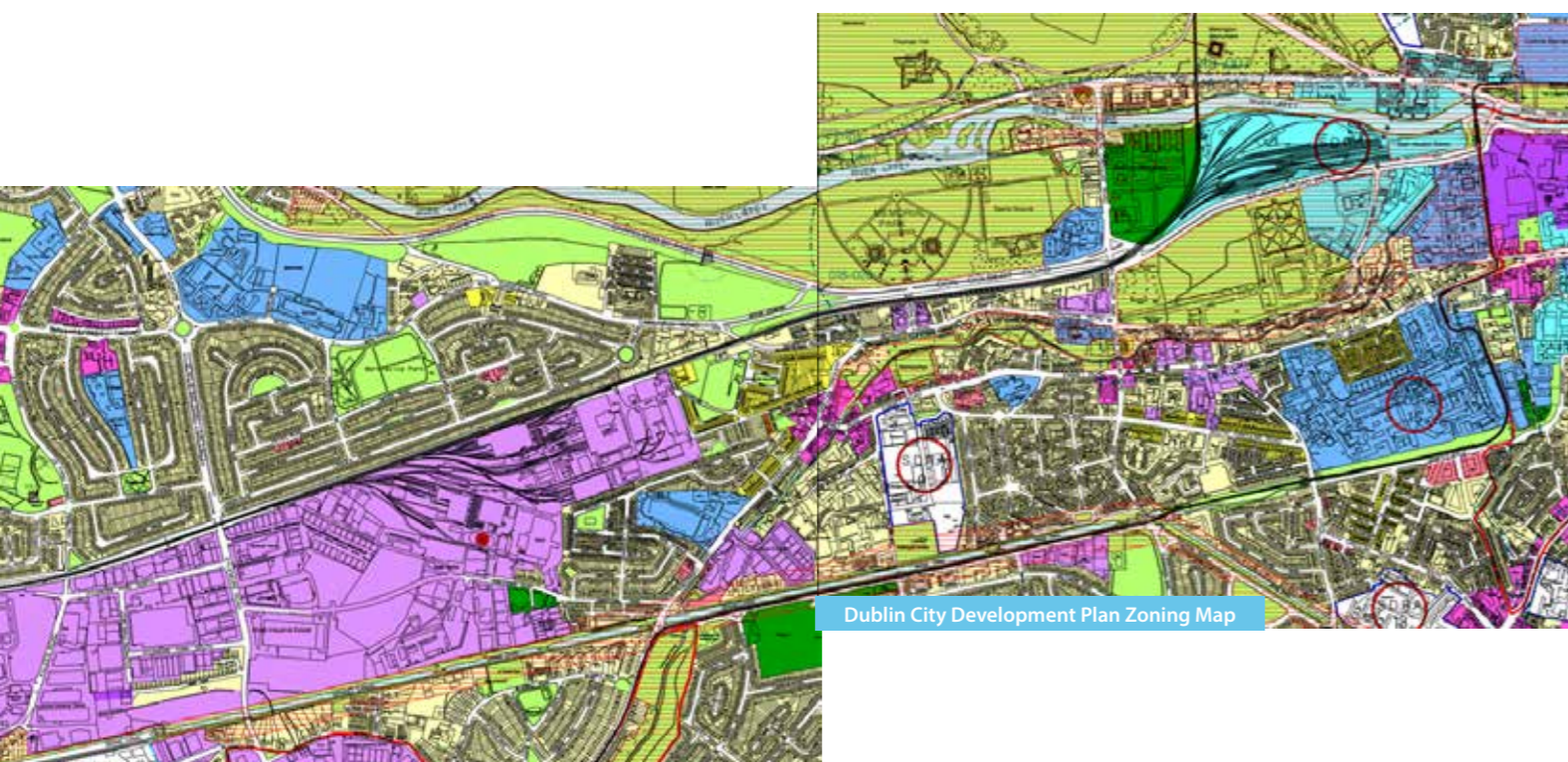
Objective CHCO10: To support the implementation of the Kilmainham Mill Conservation Plan.

Objective CHCO27: To support the cultural development of those cultural quarters including the North Georgian City and O'Connell Street Quarter and the Heuston/Royal Hospital Quarter and promote linkage to the historic village of Kilmainham/ Inchicore (including industrial heritage sites such as the old mill at Rowerstown Lane, Bluebell) focusing on underutilised amenity resources, increased permeability, and encouraging a vibrant area in which to work and live while having regard to the grain and historic character of these areas.

Objective CHCO30: To seek to provide a "revolutionary" or "green" trail in the city, linking sites such as Boland's Mills, GPO, Moore Street, Dublin Castle, Kilmainham Jail and Richmond Barracks, Mount Street

Bridge, the Mendicity Institute, Arbour Hill, The Four Courts, Annesley Bridge and North King Street similar to that in Boston, which can be a significant tourist attraction.

There is further commitment to improving pedestrian and cycle linkages throughout with a particular focus on seeking new linkages and improvements from St. John's Road to the Royal Hospital Kilmainham via Heuston South Quarter. The Council will foster and nurture the potential of a newly identified diverse cultural quarter extending from the Heuston/ Royal Hospital Quarter outwards to the historic villages of Inchicore and Chapelizod, incorporating special natural and built heritage characteristics of the Camac River Valley and Drimnagh Castle. The development of a high-quality, vibrant, mixed-use urban quarter will be promoted; new facilities will be located in accessible locations and will maximise the opportunities to connect with the wider neighbourhood. The development will complement the regeneration of Inchicore by encouraging a natural extension of the village centre eastwards along the Emmet Road, providing strong connections between the site and functions of the village centre for which a local environmental improvement plan is proposed.



Dublin City Development Plan Zoning Map

Census Information

The results of the 2016 Census helps to give an insight into the population breakdown of Kilmainham – Inchicore and the surrounding areas.

1. Inchicore A

The total population in this Electoral District designated as 02106 was 2,392 of which males numbered 1,201 and females were 1,191. The total housing stock was 1,170 of which vacant households (excluding holiday homes) numbered 122.

2. Kilmainham B

The total population in this Electoral District designated as 02109 was 2,414 of which Males numbered 1,191 and Females were 1,223. The total housing stock was 1,241 of which vacant households (excluding holiday homes) numbered 147.

3. Kilmainham C

The total population in this Electoral District designated as 02110 was 5,186 of which Males numbered 2,550 and Females were 2,636. The total housing stock was 2,320 of which vacant households (excluding holiday homes) numbered 140.

4. Ushers A

The total population in this Electoral District designated as 02152 was 3,930 of which males numbered 2,029 and females were 1,901. The total housing stock was 1,928 of which vacant households (excluding holiday homes) numbered 136.

5. Ushers F

The total population in this Electoral District designated as 02157 was 3,484 of which males numbered 1,701 and females were 1,783. The total housing stock was 1,344 of which vacant households (excluding holiday homes) numbered 64.



USE ZONING OBJECTIVES

Zone Z1	To protect, provide and improve residential amenities		Zone Z9	To preserve, provide and improve recreational amenity and open space and green networks	
Zone Z2	To protect and/or improve the amenities of residential conservation areas		Zone Z10	To consolidate and facilitate the development of inner city and inner suburban sites for mixed-uses, with residential the predominant use in suburban locations, and office/retail/residential the predominant uses in inner city areas	
Zone Z3	To provide for and improve neighbourhood facilities		Zone Z11	To protect and improve canal, coastal and river amenities	
Zone Z4	To provide for and improve mixed-services facilities		Zone Z12	To ensure that existing environmental amenities are protected in the predominantly residential future use of these lands	
Zone Z5	To consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity		Zone Z14	To seek the social, economic and physical development and/or rejuvenation of an area with mixed use of which residential and "Z6" would be the predominant uses	
Zone Z6	To provide for the creation and protection of enterprise and facilitate opportunities for employment creation		Zone Z15	To protect and provide for institutional and community uses	
Zone Z7	To provide for the protection and creation of industrial uses and facilitate opportunities for employment creation				
Zone Z8	To protect the existing architectural and civic design character, and to allow only for limited expansion consistent with the conservation objective				

Theme 1 - Planning Context

A number of different Strengths, Weaknesses, Opportunities and Threats have been identified as part of the baseline analysis of planning information.

It will be seen throughout this Report that many of the items raised in this section are reflected in the Transport, Urban Design

and Environment sections. This provides the Team with a greater insight into the future growth of the Kilmainham-Inchicore area.

This SWOT Analysis will continue to be updated as the project progresses and will benefit from stakeholder engagement to expand its reach.

#	Strengths
1	Significant number of Cultural Heritage Assets in the area incl. Kilmainham Gaol, IMMA, Irish War Memorial Gardens etc.
2	Strong public transport linkages including buses, mainline rail at Heuston Station and Luas Red Line (9 no. stops)
3	St James's Hospital, St Patricks Hospital and Dr Steeven's Hospital and including future National Children's Hospital cluster
4	Established village centre at Inchicore
5	River Liffey, Camac River Blueway and The Grand Canal provide contiguous amenity

#	Opportunities
1	Opportunity to develop a mixed use development including railway heritage museum at Inchicore Railway Works
2	Opportunities for enhanced linkages to Irish War Memorial Gardens and Phoenix Park
3	Emmet Road and other residential opportunity sites, including Heuston Station
4	Kilmainham Mill site potential as a cultural/community amenity asset
5	Dart Underground represents potential future linkage to the Inchicore Works
6	Covid-19 and physical distancing requirements provide enhanced public realm allocation opportunities
7	Heuston Gateway

#	Weaknesses
1	Lack of public realm / pedestrian linkage between key Cultural Heritage Assets
2	Car dominance within study area
3	Severance issues with railway line to Heuston
4	Severance issues with River Liffey at Islandbridge
5	Lack of connection of green infrastructure
6	Poor access to and contiguous linkage to and between parks/green areas

#	Threats
1	Economic downturn
2	Lack of shared vision between both village clusters
3	Institutional silos
4	Potential lack of clarity in respect of major transport project delivery; BusConnects, Dart Underground etc.

Theme 2 - Movement



The purpose of this section is to review and analyse existing public transport infrastructure serving the study area and public transport proposals that will benefit the area into the future.

Existing Public Transport Network

Kilmainham and Inchicore Areas are particularly well connected by public transport as shown on the Figure 1 below and outlined below:

- Dublin Bus routes 40, 13 and 123 connect the area with the city centre,

with weekday frequencies of 9min or less. Other routes serving the lands with less frequency are 79, 25, 69 and 68;

- Heuston Railway Station, on the Kildare Line, is approximately 30 minutes away from Grattan Crescent/Emmet Road junction. InterCity Services to Heuston run throughout the day from Cork, Limerick, Galway, Waterford and Tralee stopping at regional towns along the way. Commuter services run from Athlone, Portlaoise and Carlow with additional services provided on these routes

during busy peak periods;

- Luas Red Line runs along the border of the study area, parallel to the Grand Canal, this service is from Tallaght/Saggart to the Point. The frequency is approximately 4min weekday and it connects the area with Heuston Station, Busáras, Connolly Station and the Docklands.

Figures 2 and 3 shown overleaf highlight the walking catchment areas within 30 and 15 minutes from Heuston Railway Station along with 15 minutes from the Luas Red Line Stops. Broadly the full study area is within these catchments.

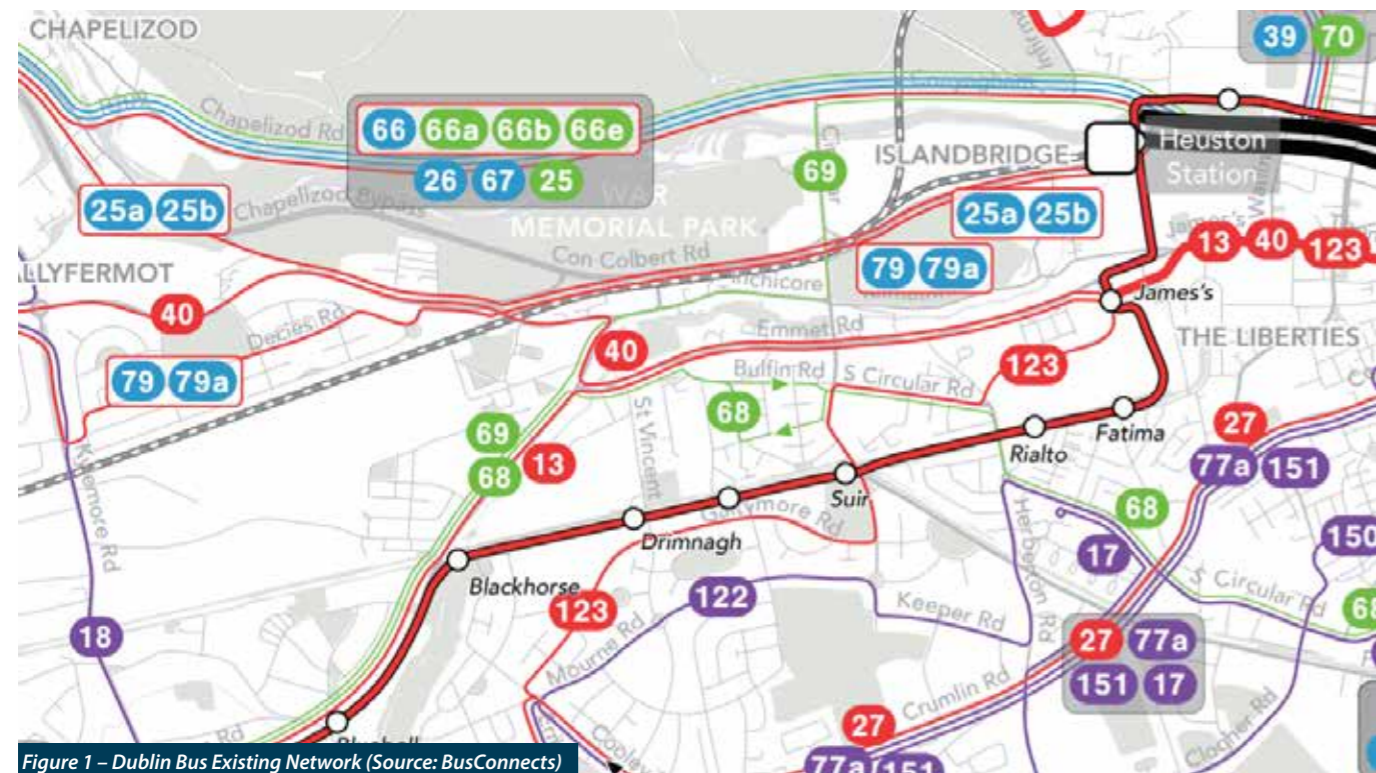


Figure 1 – Dublin Bus Existing Network (Source: BusConnects)

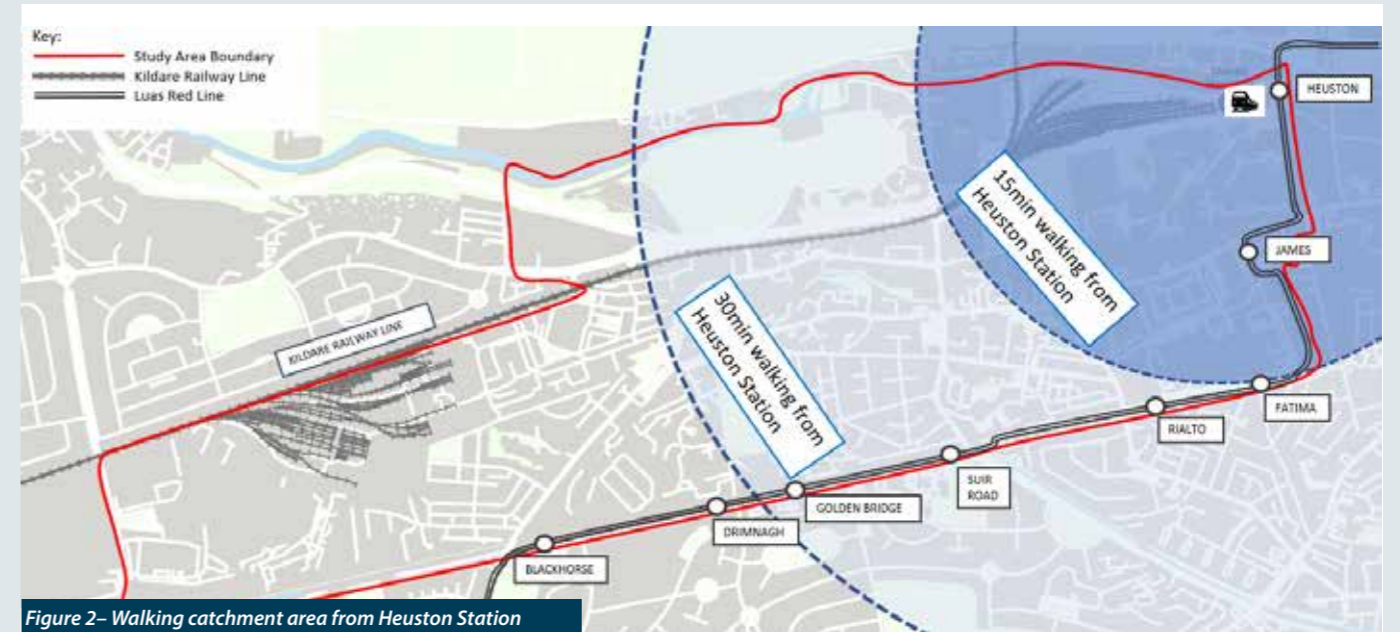


Figure 2– Walking catchment area from Heuston Station

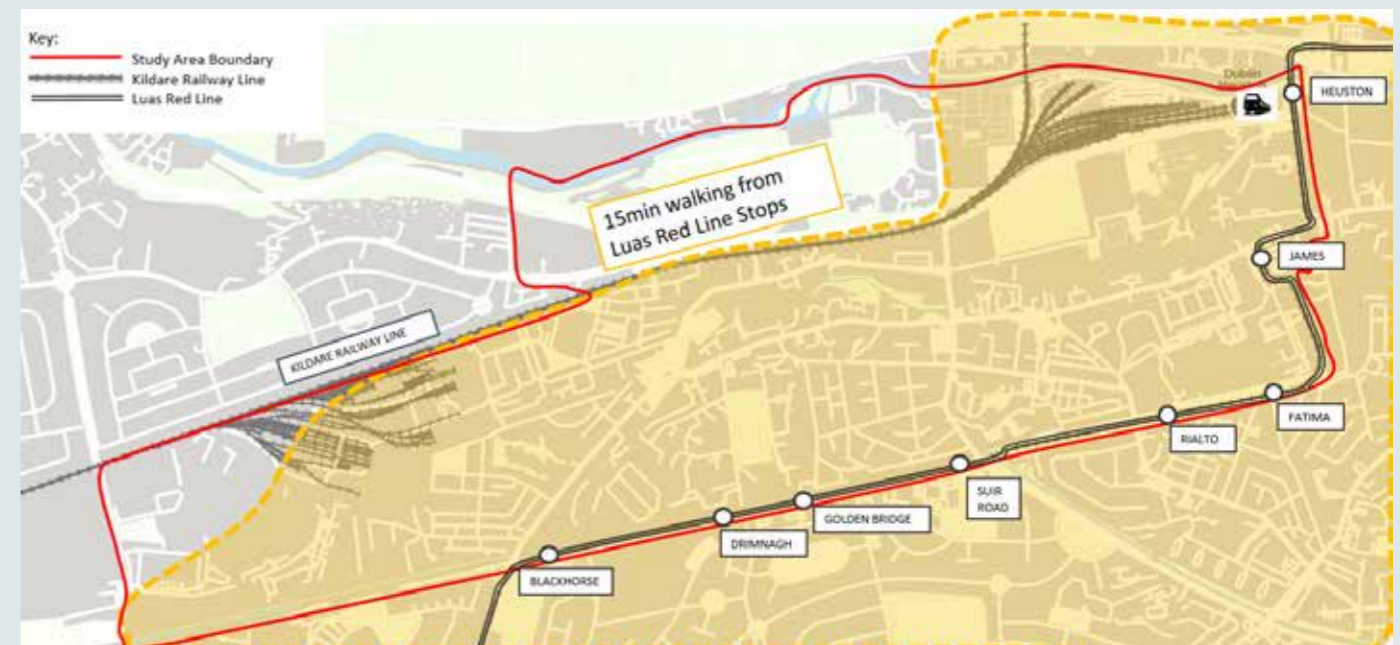


Figure 3– Walking catchment area from Luas Red Line Stops

The existing public transport provision in the areas of Kilmainham and Inchicore results in a mode share of 30% using public transport for work/education trips. This figure is higher than the average for Dublin City and suburbs (22%). Source: Small Area Population Statistics (SAPS) from the 2016 Census data, commuting mode shares.

To get the most benefit out of the existing public transport provision, local improvements could be incorporated

to enhance accessibility and customer experience to existing facilities. For example:

- by upgrading the existing footbridge at Drimnagh Luas stop to universal access (wheelchair);
- by improving the existing bus stops waiting areas, i.e. provide shelter/benches, Real Time Information, timetables, etc;

- by providing direct links to the Luas stops and bus stops, increasing the permeability in the area and improving the environment, i.e. lighting, footways improvements, pedestrian crossing on desire lines, etc.

These potential measures and others will be described in more detailed in the Kilmainham – Inchicore Development Strategy, with special emphasis on the connectivity to the opportunity sites.

Planned Public Transport Proposals

Several public transport upgrades are planned which will benefit existing and future residents, and businesses, of Kilmainham and Inchicore Areas. They include BusConnects, DART Expansion Programme and Luas Line F.

BusConnects

BusConnects is a major investment programme to improve and enhance the bus network of Dublin. It aims to overhaul the current system through a 10-year programme of integrated actions to deliver a more efficient, reliable, integrated and better bus system with a capacity to carry for more people. As part of this programme there are a number of initiatives planned including:

- Delivery of a network of new or improved core bus corridor to improve journey times and reliability;

- New network of cycle lanes/tracks;
- Redesign of bus network with higher frequency spine routes, new orbital services and increased services;
- New bus stops and shelters with improved signage and information;
- Improvement to ticketing and fare structures.

There are total 16 Core Bus Corridors (CBC) which the Preferred Routes have been published and a second round of public consultation was open until the 17th of April 2020. The NTA has decided that there will be a further public consultation regarding the CBC Projects later this year. Two of the corridors will influence travel behaviour in the study area;

- CBC 6, Lucan to City Centre, runs along R148 Chapelizod Bypass, Con Colbert Road, St John's Road West and Frank Sherwin Bridge.

- CBC 7, Liffey Valley to City Centre, runs along Sarsfield Road, the R839 along Grattan Crescent, along Emmett Road, Old Kilmainham, Mount Brown and James's Street.

Both corridors are classified as spines with frequencies of 6-8 minutes.

In addition, a new orbital route is planned along Herberton Road, connecting Heuston Station to Sandymount, and a Loop Service route along Herberton Road, South Circular Road, Custom House, North Circular Road and Phibsborough.

Other City Bound Routes in the study area are numbers 14, 22, 23, 93 and 95.

Figure 4 below illustrates the proposed Dublin Bus Revised Bus Network in Kilmainham and Inchicore Area.



Figure 4 – Dublin Area Revised Bus Network (Source: BusConnects)

BusConnects scheme proposals include the delivery of cycle infrastructure along the corridor routes in accordance with the National Transport Authority's GDA Cycle Network Plan. Junction upgrade measures along the corridor are also proposed with improvements to walking and cyclist

facilities. This provides an opportunity to create tie-ins locally, resulting in more a permeable, and better integrated, cycling and walking network within the study area.

As an example, Con Colbert Rd / South

Circular Rd / St. John's Rd West Junction will be modified to accommodate additional bus lane, cycle tracks and new pedestrian crossings as shown in Figure 5 below.

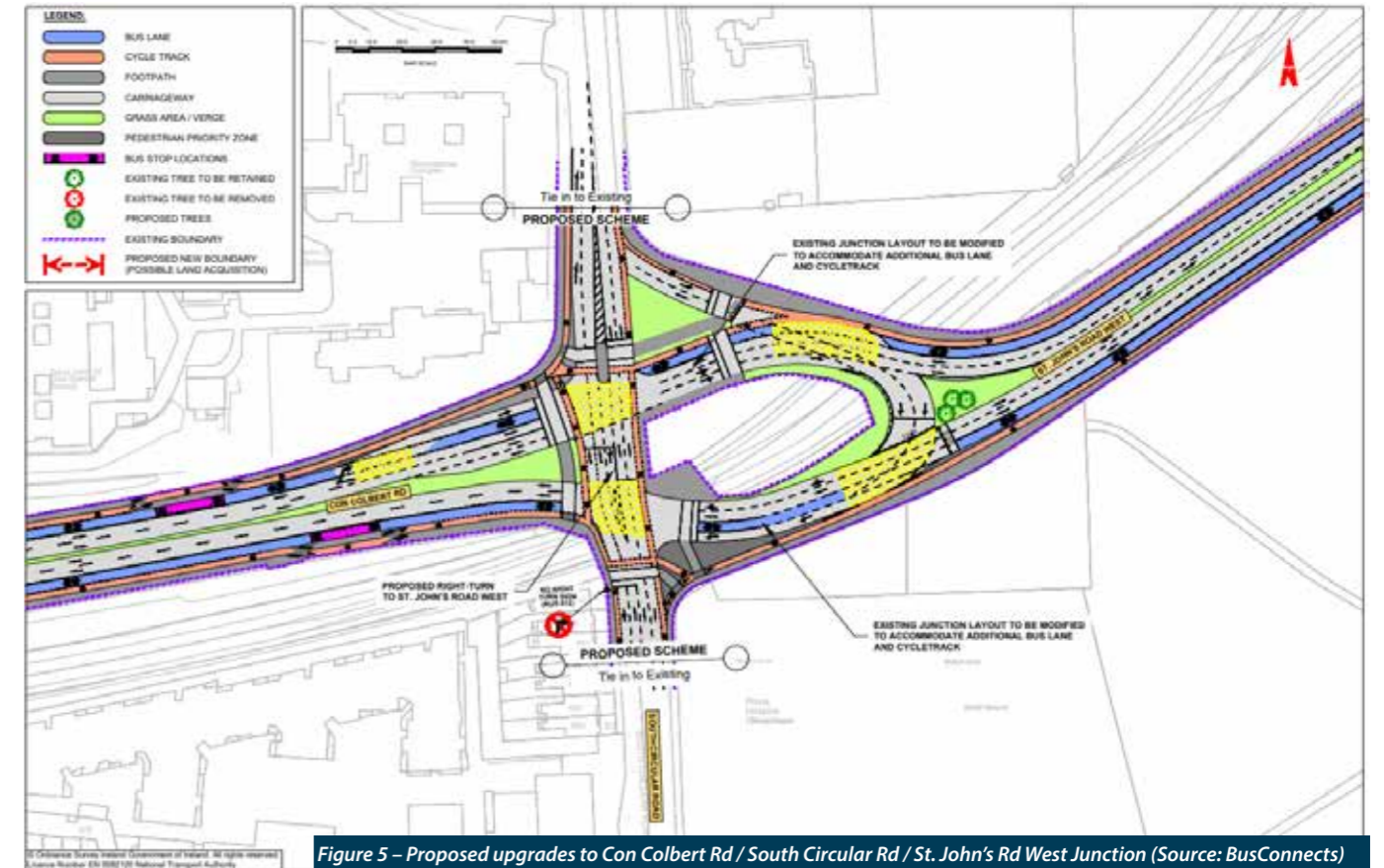


Figure 5 – Proposed upgrades to Con Colbert Rd / South Circular Rd / St. John's Rd West Junction (Source: BusConnects)

DART Expansion Programme

The DART Expansion Programme is an integral part of the NTA's Transport Strategy for the Greater Dublin Area: 2016-2035 and the National Development Plan 2027. DART Expansion is set to expand the heavy rail capacity, frequency, and connectivity in Dublin City Centre and the GDA, whilst transitioning heavy rail across the GDA to a more sustainable traction power supply. It will enable the operation of increased service frequencies to

support the existing and future demand for rail travel.

The DART Expansion programme includes for the 4-tracking of the Kildare railway line from Dublin Heuston to Parkwest, electrification of the line to Hazelhatch, reconfiguration of the platforms at Parkwest, and provision of a station at Kylemore Road. These improvements will enable Irish Rail to increase the frequency of trains along this corridor to a minimum of 10 per hour. The increase in service

frequency, in combination with the provision of longer trains, will increase the capacity of this line from 4,500 passengers per hour per direction to over 13,000 passengers per hour per direction by 2027.

The new station at Kylemore will provide a direct connection for passengers to the City Centre and Docklands areas via the Phoenix Park Tunnel. Furthermore, residents accessing the potential Kylemore station will be able to interchange at

Glasnevin to avail of the MetroLink and DART Maynooth line services, as well as the Luas green line at Broombridge. These interchange opportunities will service the radial and orbital needs of the future residents of the development lands, providing convenient access to

key destinations such as the Airport or employment centre north and south of the city. This will help alleviate existing capacity issues on the Luas Red Line.

The DART Underground is a projected new 5.2km tunnel with connecting lines.

It will pass under the Docklands area by Spencer Dock, beneath the River Liffey before curving westwards beneath Pearse IE station and St Stephen's Green. It is also planned to have a station at Inchicore.



Figure 6 – Public Transport Network 2027 (Source: National Transport Authority)

Line F Lucan Luas

As part of the Greater Dublin Area Transport Strategy 2016-2035, the NTA propose the delivery of another Light Rail line connecting the city centre to Lucan (Line F) via Liffey Valley, Ballyfermot Village, and Kylemore

- before joining the existing red line at Blackhorse. Whilst the line is only at feasibility stage, opportunity will exist for passengers to interchange with heavy rail services at Kylemore and Red Line Luas services at Blackhorse. In accordance with the Transit Orientated Development principles

established in the brief, opportunities will exist to deliver compact / high density developments at the important transport nodes to encourage sustainable travel.

A combined map of the planned public transport proposals is shown on Figure 7.



Figure 7 – Planned Public Transport Infrastructure

Walking and Cycling Network

Existing Walking and Cycling Network Kilmainham and Inchicore walking facilities are generally in good condition with some localised gaps in footpath continuity, crossings on desire lines, etc. The movements west-east are facilitated along main roads, secondary roads and the existing towpath along the Grand Canal. However, the north-south movements encounter several challenges as the railway line, Grand Canal, Luas line and major roads create a severance for north-south links through the area.

Existing cycling facilities are shown on

Figure 8 below. There have been recent minor improvements to the network such as the provision of bus lanes, shared by cyclists, along Emmet Road.

The walking mode share to work/ education in the Kilmainham and Inchicore areas is 19%, similar than for Dublin City and suburbs (20%). While, the cycling mode share is 17%, higher than the average for Dublin City and suburbs (7.9%). Source: Small Area Population Statistics (SAPS) from the 2016 Census data, commuting mode shares.

The touristic attractions in Kilmainham and Inchicore area are within a reasonable distance to attract tourists to walk/

cycle to the area. The walking distance between two of the key tourist attractions in Dublin, Kilmainham Gaol and Christ Church Cathedral, is approximately 30min, while the cycling distance is approximately 9min. Proposals to improve the existing linkages between the study area and the city centre will be incorporated in the Kilmainham – Inchicore Development Strategy. These initiatives will include the 'Dubline' route from Trinity College to Kilmainham Gaol, the trail is identified in the Dublin City Development Plan as a project that can improve tourism and also the area surrounding the trail.

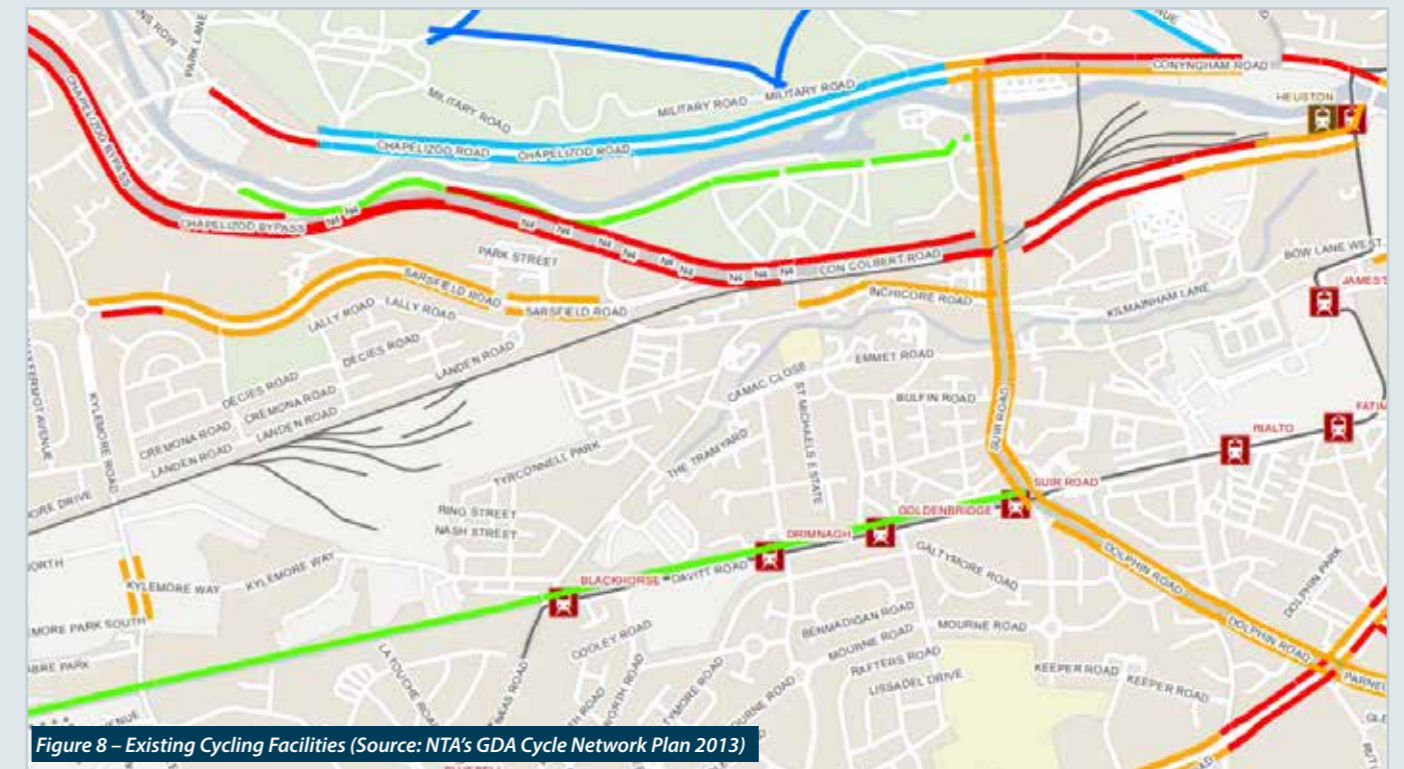


Figure 8 – Existing Cycling Facilities (Source: NTA's GDA Cycle Network Plan 2013)

- Legend:**
- B1 - Bus Lane (no cycle lane)
 - C1 - Cycle Track - separated from road
 - C2 - Cycle Track - immediately adjacent
 - C3 - Cycle Lane (even within Bus Lane)
 - G1 - Cycle Trail or Greenway
 - S2 - Shared Walking & Cycling
 - Study Area
 - County Council Boundaries
 - Greenline Tram Stops
 - Redline Tram Stops
 - Stations

Planned Walking and Cycling Proposal

River Camac Greenway

The consideration of a pedestrian/cycle route along the Camac River is included in the Dublin City Development Plan 2016-2022 and a proposed route is shown on the National Transport Authority's Cycle Network Plan (2013) for the Greater Dublin Area.

The proposed Camac Greenway would add strategic linkages and increased permeability across the Kilmainham and Inchicore Area.

As indicated in the tender brief, in 2010 preliminary design was completed by the City Council of a continuation of the Lansdowne Valley Cycle Route from Inchicore to Kilmainham. The design includes development of green areas along the Camac, bridges across the Camac and linkages between the river and the surrounding streets. No other design work was completed, and the project has not progressed since 2010.

AECOM Consulting Engineers were appointed in October 2019 to undertake

the Camac River Restoration and Flood Alleviation Scheme. River Camac Greenway will be linked to the outcomes of this scheme.

Grand Canal Greenway

The Grand Canal Greenway follows the canal towpath and it extends from Ringsend in Dublin City to the River Shannon in County Offaly. Recently completed route sections include from 12th Lock at Inchicore (Blackhorse) to the 3rd Lock in Lucan.

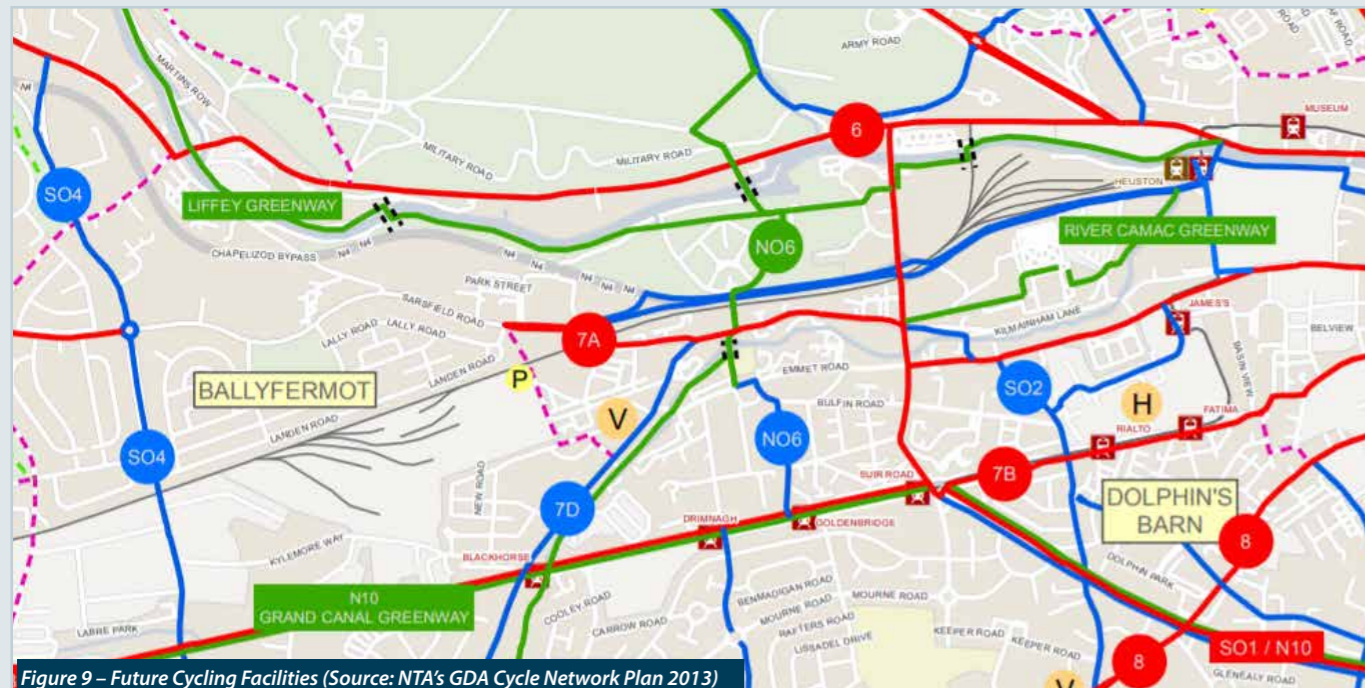
Dublin City Council has developed the preliminary design of the 4km section between Blackhorse Bridge and Portobello. As indicated in the tender brief, this project is currently on hold awaiting the redesign of Harold's Cross Bridge which is currently being undertaken by the National Transport Authority as part of the Bus Connects project and will directly impact the scheme. Scope changes may need to be incorporated into the overall Preliminary Design following the NTA study. It is envisaged that the project may be in a position to resume in Q3 2020, following NTA redesign of the bridge.

GDA Cycle Network Plan

The NTA's GDA Cycle Network Plan includes a number of primary, secondary and feeder pedestrian/cycle routes in the study area as illustrated on Figure 9 below. Provision of some of these routes will be through the NTA's BusConnects projects as highlighted previously. Similarly, the River Camac Greenway and the Grand Canal Greenway outlined above will also contribute to the delivery of the Cycle Network Plan.

Another key project, the Liffey Greenway, is proposed to run along the Liffey River and traverse the War Memorial Gardens. The plan includes three proposed footbridges as shown on Figure 9 below.

The proposed variation of the Dublin City Development Plan to facilitate a proposed pedestrian/cycle bridge over the River Liffey at War Memorial Gardens has been delayed due to COVID-19. This bridge will link the Memorial Gardens to the north bank of the River Liffey and the Phoenix Park at a new entrance and Gathering Place on Chapelizod Road.



Road Network

A major traffic route runs through the study area connecting Dublin City Centre to the M50, N4 and N7. The R148 (Chapelizod Bypass, Con Colbert Road, St John's Road West) provides connectivity to the M50 and N4. Meanwhile the R810 (Grattan Crescent, Tyrconnell Road, Naas Road) provides connectivity to the M50 at N7 Newlands Cross Junction.

The South Circular Road and R111 Suir Road also provide strategic function, carrying traffic which has been diverted away from the Dublin City Centre with key bridge crossings of the Grand Canal and Islandbridge.

Figure 10 below shows the existing regional roads and major junctions in the area.



Theme 2 - Movement

A Strengths, Weaknesses, Opportunities and Threats in relation to traffic and transport have been outlined in the following tables.

These have been produced according to the baseline information presented in the previous section.

#	Strengths
1	Well connected by public transport, i.e. bus, luas and railway
2	Within 5km cycling distance of City Centre, major employment areas, educational facilities including Third Level, recreational amenities such as Phoenix Park
3	Strong links to National and Regional Roads
4	High mode share on sustainable transport modes: public transport, walking and cycling

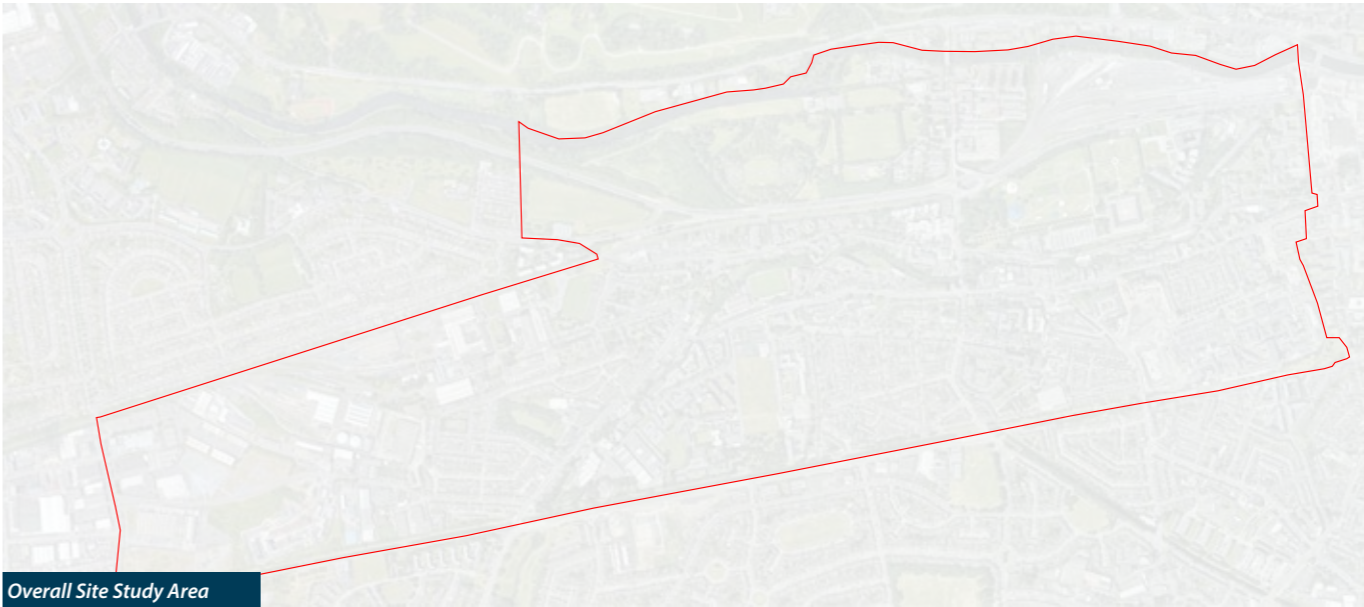
#	Opportunities
1	Delivery of Bus Connects, including a network of improved core bus corridor, higher frequencies, new orbital services and improved bus stops
2	DART Expansion programme with frequent services and provision for new stations at Kylemore and Heuston West (subject to assessment), and the DART Underground
3	Delivery of the GDA Cycle Network Plan
4	Light rail line connecting the city centre to Lucan (Line F)
5	Opportunities to deliver compact/high density developments at the important transport nodes to encourage sustainable travel
6	Proposals to improve the existing linkages between the study area to the City Centre.
7	River Camac Greenway and Grand Canal Greenway
8	Connection north-south through delivery of opportunity sites incorporating walking and cycling links to improve permeability
9	Potential to generate tourist/visitor activity due to proximity of high quality tourist amenities nearby

#	Weaknesses
1	Railway line, Grand Canal, Luas line and major roads create a severance for north-south links through the area
2	Limited existing cycle facilities with provision only along some links
3	Localised gaps in footpath continuity and crossings along desire lines
4	Major junctions difficult to negotiate for pedestrian and cyclists

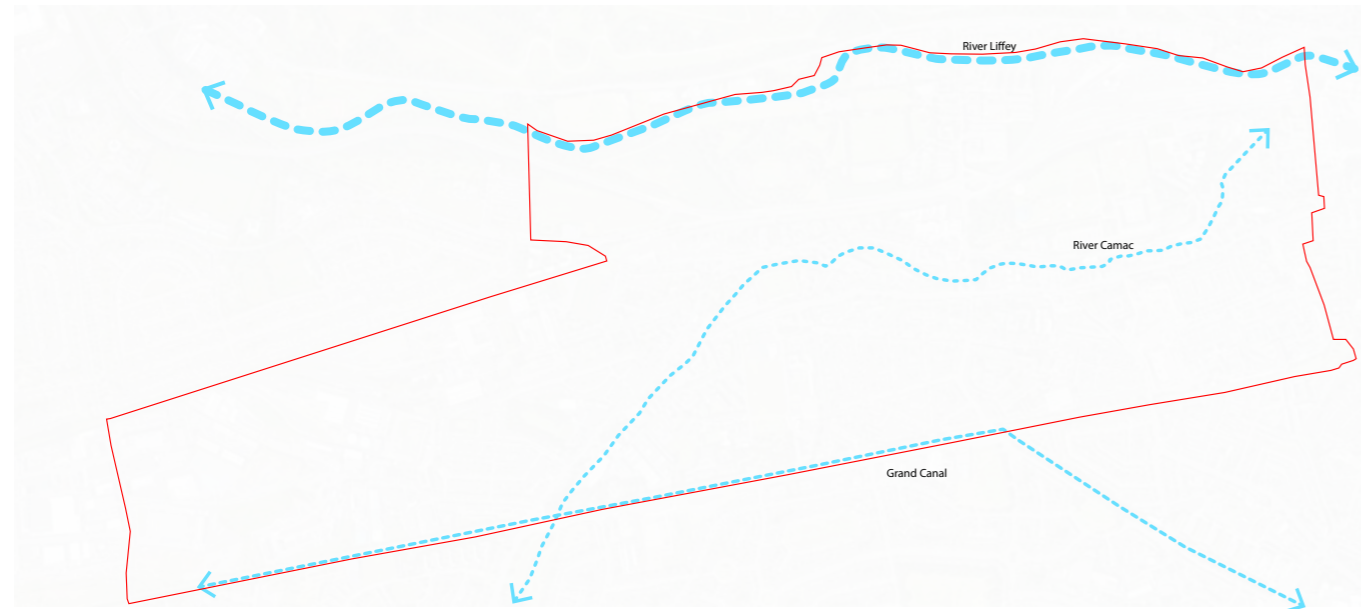
#	Threats
1	Delay in delivery of Bus Connects scheme and/or DART Expansion
2	Delay in delivery of walking & cycling facilities
3	The cost of delivering expensive infrastructure, such as pedestrian/cyclist bridges across the railway line or canal.
4	Integration between transport and street design, e.g. high walking and cycling permeability, well lit, continuous and consistent infrastructure, active frontage through day/night, sitting, etc.
5	Road width availability to provide accessibility for all road users
6	Consideration will need to be given to the location and phasing-in of the development lands in combination with the delivery of transport enhancements on the network
7	Too many transport changes proposed; risk of area being 'under construction' for many years which particularly affects desire to walk. In addition, the risk of waiting for other schemes to commence so that suitable tie-ins or continuous routes can be provided.
8	Potential for transport schemes delivered by multiple parties to be disconnected. Need to ensure DCC, BusConnects and DART Expansion proposals speak to one another in terms of delivery and final design. The schemes overlap in many instances so there is also the risk of re-works in the same area. DCC build a cycle scheme which subsequently gets replaced by works associated with BusConnects for example; noting that neither BusConnects or DART Expansion have planning permission so designs are not finalised.

Theme 3 - Placemaking

Overall Site Study Area



River and Water Bodies



River and water bodies



Camac River



Grand Canal



River Liffey

Camac River

Images of the camac river which show its limited width. While a Blueway strategy including a boardwalk is an opportunity for the area pending public consultation it may be impractical at points on the camac. A Strategy of opening it up visually may be possible in specific locations.

Grand Canal

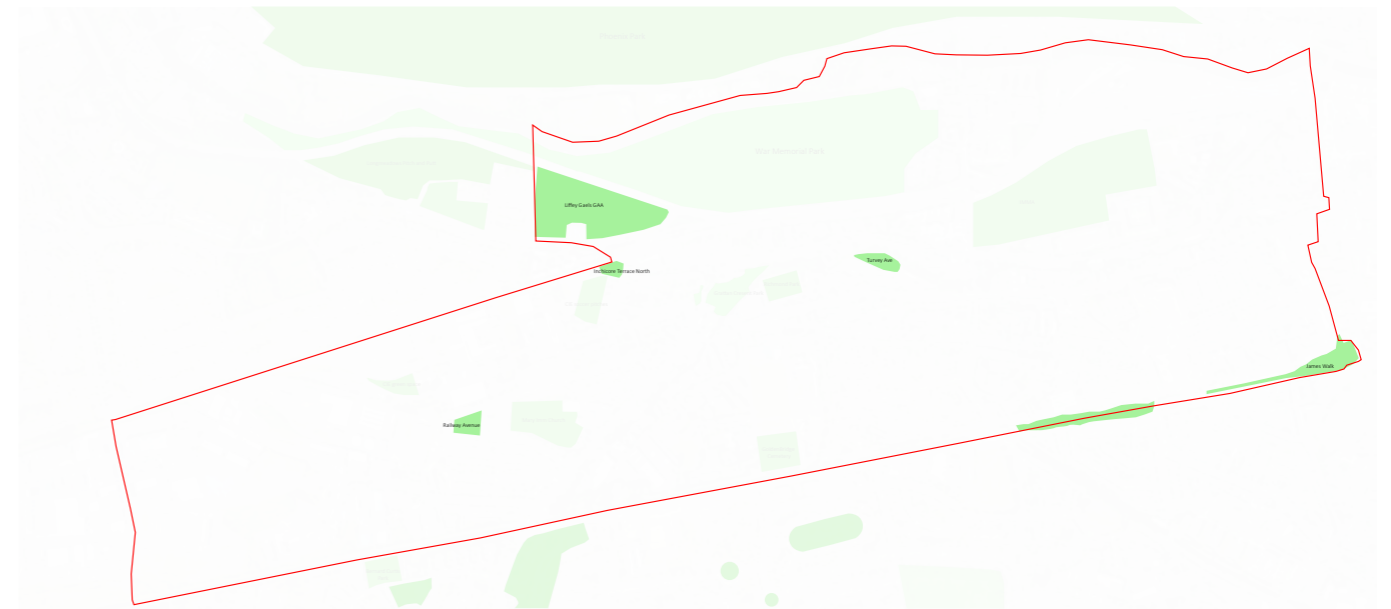
The Grand canal provides a tarmac walkway on one side of the body of water the walkway could be defined better and have a hierarchy between cyclists, pedestrians etc. The grand canal boasts a high level of biodiversity of both flora and fauna. A better connection with other areas of the canal is possible.

River Liffey

The river liffey forms the edge of one side of the War Memorial Gardens. This area provides scenic views of the river but is not used to it's full potential due to a lack of connection from adjacent areas.

Under Utilized Green Space

This section exams spaces that have been under utilized in terms of designed landscape; planting, aesthetics, biodiversity.



Under Utilized Green Space

Turvey Ave. & Inchicore Terrace

While green spaces are essentially grassed spaces which provide some anemity value however could be upgraded with better plant species to make them both aesthetically pleasing but also richer in their biodiversity value. Boundary treatments could be upgraded and made more inviting.



Turvey Ave

Liffey Gaels

While this is an important social venue and well used it could be more aestheically pleasing with a wider variety of planting, better boundary treatment making it a more inviting space as it holds a very important urban position in the area.



Liffey Gaels GAA

Railway Ave.

While Railway Ave. is a well maintained community park with MUGA facilities and a playground it lacks a diverse range of planting and trees which would increase overall biodiversity. The majority of the park remains open grassed space and the edge of the park could be a planted one and not fenced.



Inchicore Terrace



Railway Ave.

James' Walk

James' walk is a unique space in terms of it's proximity to the Grand Canal, however it's edge with the Luas red line could be better defined. The space could be more inviting by well defined circulation and paving and more diverse planting along the canal.

High Quality Green Space

This section on high quality spaces is based on various factors such as; social, aesthetic, historical and biodiversity value



High Quality Green Space



Grattan Park

Grattan Park

This park has a very prominent location and a wide variety of plants and tree types which gives a high biodiversity as well as aesthetic value. Coupled with that it has well used and carefully designed amenity spaces.

War Memorial Park

Designed by Lutyens, this is one of his finest gardens. It has social, historical and biodiversity value. Due to its location it is the main park in the area of any scale. its social value for exercise and amenities which were not thought through at the time of its original conception could be an area of potential improvement.



War Memorial Park

Institutional Green Space/ Open Space



Institutional Green Space/ Open Space

IMMA

The Irish Museum of Modern Art sits on a unique 48 acres of land in the heart of Dublin 8. Located on the site includes a formal garden of the Royal Hospital Kilmainham, large open green space used for cultural events and the planted area of Bully's acre. The site plays a crucial cultural and social role within the city.

Bernard Curtis Park

The Bernard Curtis Park is the location of an all weather sports field. This well maintained sports facility plays a crucial role within the local community and is the home to Inchicore Athletic Football Club. This facility is an artificial grass area meaning there is no planting or scope for biodiversity.

Richmond Park

Richmond Park is the 5'000 capacity football stadium, home to St. Patrick's Athletic. The stadium acts as a node within the context of the wider city.

Goldenbridge Cemetery

The Goldenbridge cemetery is located on two acres of land in Inchicore. It plays a significant role in the historical context of Roman Catholic Dublin. It is 19th Century 'Garden Cemetery'. It is well maintained and laid out. There is a large diversity of tree planting here.

Mary Imm Church

The Mary Immaculate Church ground's cover a large enclosed area behind the church. Site is mainly grass with a tree lined perimeter.

CIE soccer pitches/ green space

The CIE soccer pitches consist of a large area of land with little to no planting or trees. The entire area is grass covered. The perimeter is fenced meaning there is a strong disconnection from public view.

The other CIE space is located inside the Irish Rail Works site adjacent to train maintenance facilities. The green space consists of grassed lawn and minimal tree planting.

Large Parks and Amenity Areas



Large Parks and Amenity Areas

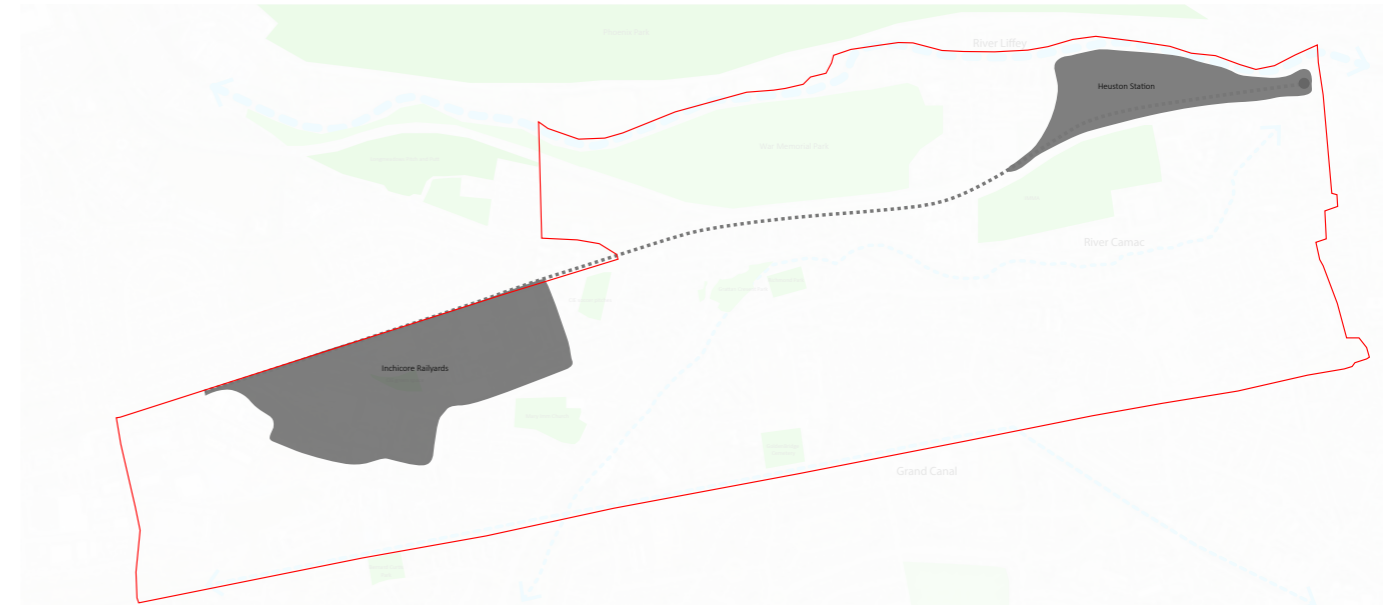
Phoenix Park

The Phoenix Park is highly important for biodiversity within Dublin City and is extremely valuable for the people of Dublin and its visitors. 50% of the mammal species found in Ireland and about 40% of bird species are found within the park. The problem is the lack of connection over the river liffey from Inchicore.

Longmeadows Pitch & Putt

Longmeadows pitch and putt is a public golf course. The site occupies a relatively large plot of land west of the War Memorial Gardens. The frequently cut lawn of a golf course means biodiversity does not flourish. The northern edge of the site consists of a dense deciduous forest blocking noise from the Chapelizod bypass.

Rail Infrastructure



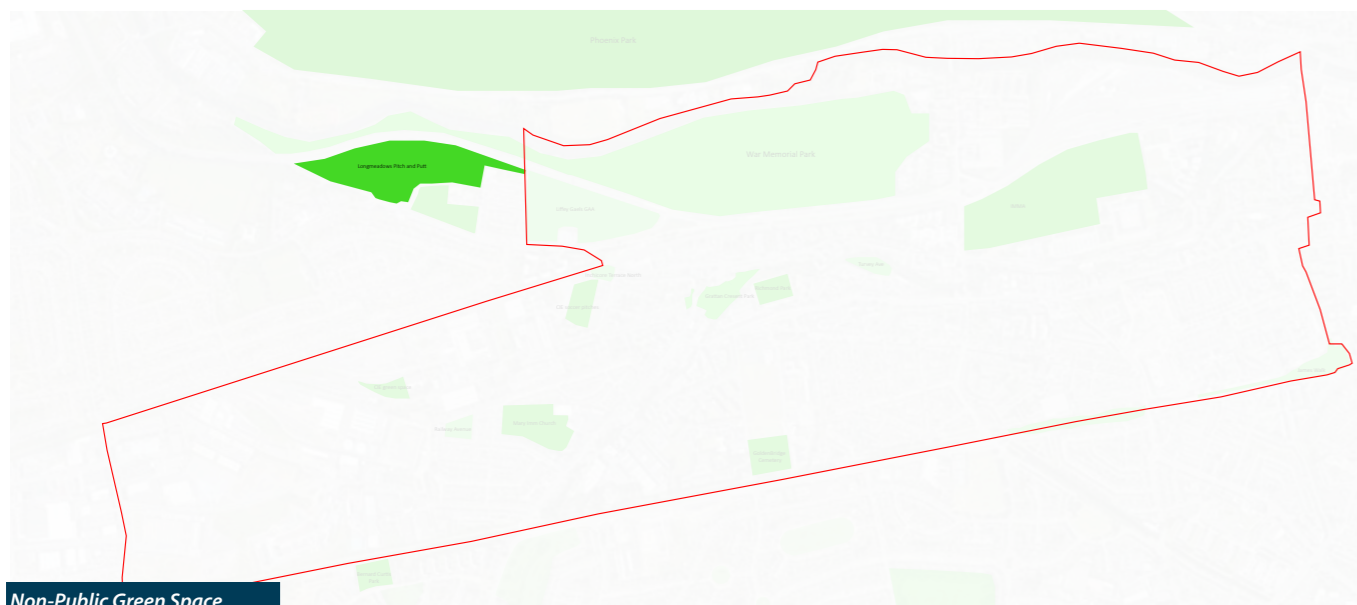
Irish Rail Works Site

The site is responsible for the overhaul, repair, servicing of locomotives and rolling stock. It occupies a large area in the west of Inchicore. The area holds a vernacular value as a site of historical industry. This historical significance is reflected in the naming of adjacent streets and buildings. The potential for the site to be redeveloped utilizing its unique character and infrastructure is high.

Heuston Station site

Heuston station acts as a significant landmark and node on the Eastern edge of the overall study area. Well serviced by city wide transport such as the Luas. There is a distinct lack of pedestrian connection between Heuston station and the rest of the site. The station is well connected eastwards but not so much westwards and this includes development potential of the Heuston Station lands.

Non-Public Green Space



Non-Public Green Space



Heuston Station

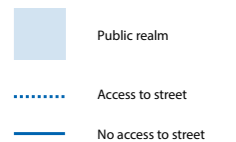
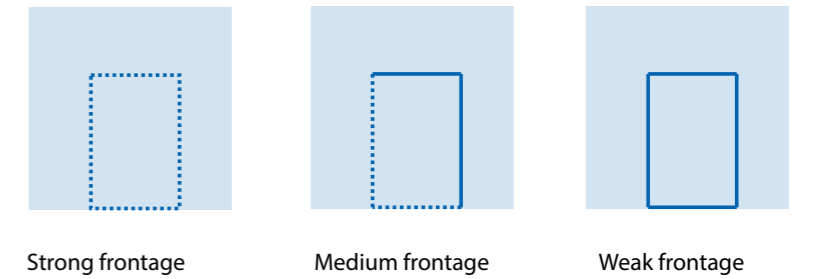
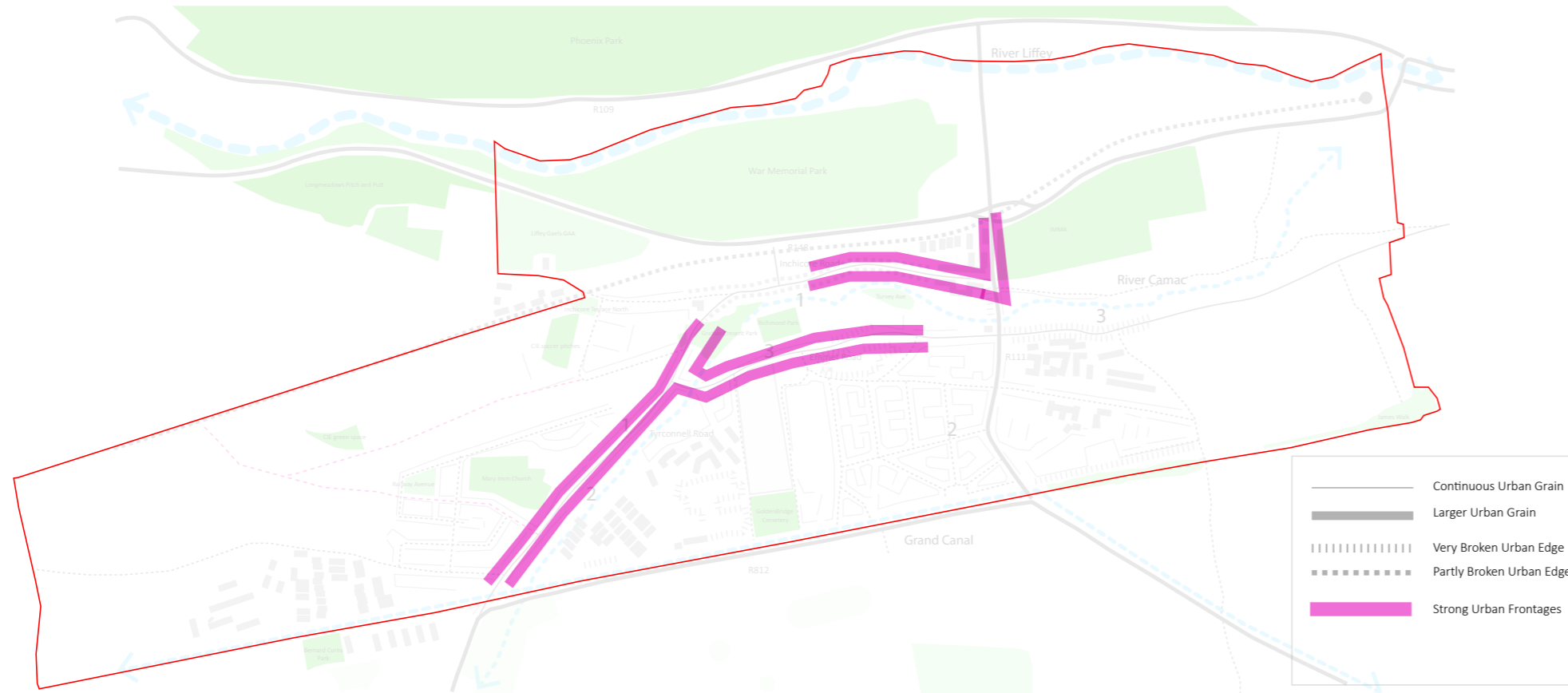


Irish Rail Works Site

Strong Urban Frontages

Urban Grain, Frontages and Principal Streetscapes

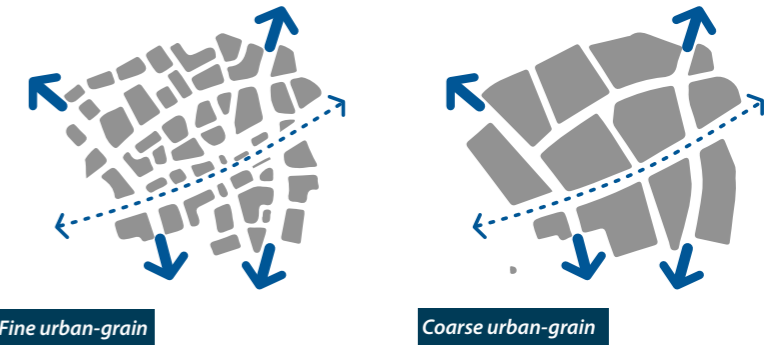
Urban frontage refers to street frontages where there is an active visual engagement between those in the street and those on the ground and upper floors of buildings. This quality is assisted where the front facade of buildings, including the main entrance, faces and opens towards the street.



Good Urban Form

Urban Grain, Frontages and Principal Streetscapes

Urban form refers to a description of the pattern of plots in an urban block. When this pattern consists of small plots it is described as fine urban-grain. When the the pattern consists of large plots it is described as coarse urban-grain



Good Urban Form

Urban form relates to the physical characteristics that make up built-up areas. This includes shape, size, density and the configuration of settlements.
 Good urban form relates to an area where there is a fine urban grain closest to the centre of the town/neighbourhood. This is the area where the greatest pedestrian movement occurs and a fine urban-grain allows a diverse pattern of uses. With good urban form we see a gradual change from a fine urban-grain to a coarse urban-grain as you move away from the commercial centre.



Kickham Road



Tyrconnell Road

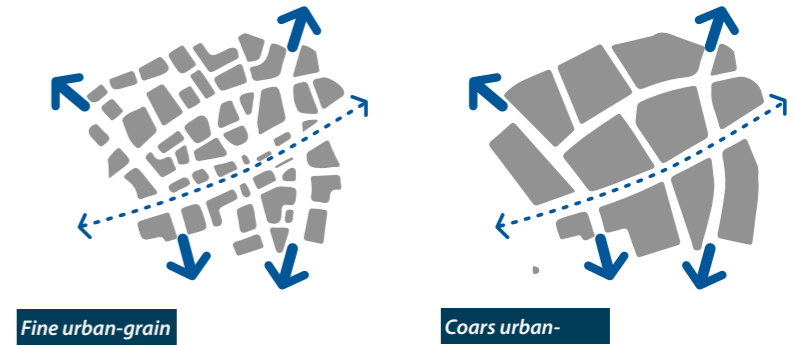


Emmet Road

Poor Urban Form

Urban Grain, Frontages and Principal Streetscapes

Urban form refers to a description of the pattern of plots in an urban block. When this pattern consists of small plots it is described as fine urban-grain. When the the pattern consists of large plots it is described as coarse urban-grain



Poor Urban Form

Poor urban form relates to an urban-grain that does not follow an order. Plots of coarse urban-grain are found within or immediately adjacent to areas of fine urban-grain. Poor urban form also relates to an urban grain that is not compact leading to loss of space or space that is not optimized. Broken edges and edges that are not well defined also contribute to poor urban form.



Emmet Road



Emmet Road

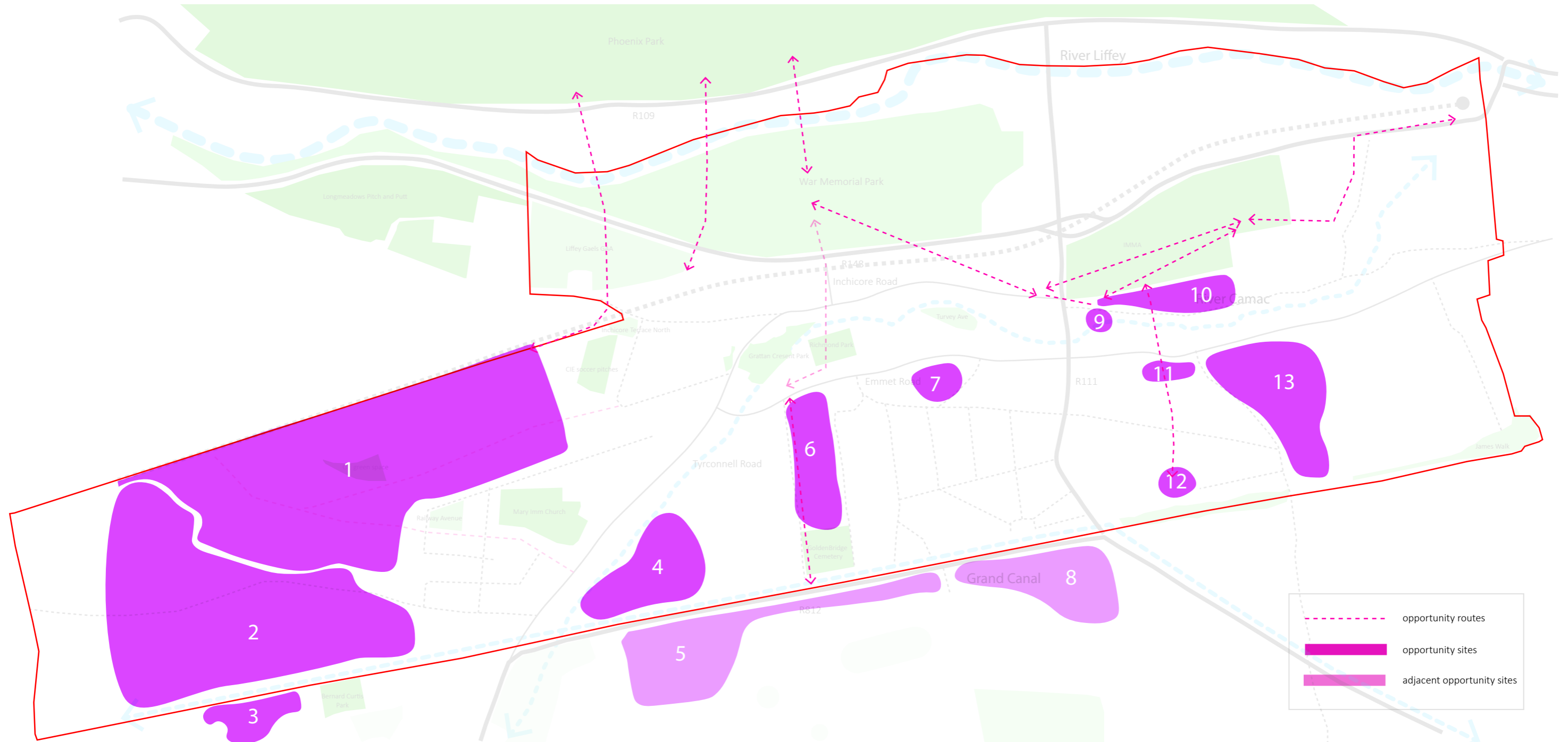


Goldenbridge Industrial Estate

Major Junctions and Interfaces



Opportunity Sites



- 1. Irish Rail Works site
- 2. Industrial Estate (Kylemore)
- 3. Space behind Bluebell Community Center
- 4. Tyrconnell Rd. & Goldenbridge Walk intersection
- 5. Space south of Davitt Road
- 6. St. Michael's Estate
- 7. Inchicore College of Further Education
- 8. Good Counsel GAA club
- 9. S. Circular Road & Kilmainham Mill
- 10. Car Park
- 11. Old Kilmainham Road
- 12. Office of Public Works - Furniture Division
- 13. Old Kilmainham Road & Brookfield Road

- opportunity routes
- opportunity sites
- adjacent opportunity sites

Theme 3 - Placemaking

The below SWOT analysis has been formulated based on the urban design analysis undertaken in the previous section.

Many of the items highlighted have been reiterated for effect which demonstrates their importance in the overall preparation of the Kilmainham-lichicore Development Strategy.

#	Strengths
1	The geographical position of the study area close to Dublin City Centre
2	The setting of the Kilmainham-Inchicore area with the River Liffey to the north and the Grand Canal to the south
3	The proximity of the study area to the Phoenix Park
4	Strong retail frontage onto the main streets
5	The adjacent heritage sites/park (Kilmainham Gaol & War Memorial Park)
6	Proximity to Luas Red Line and Rail links

#	Opportunities
1	Industrial sites, e.g. Irish Rail Works, with potential for regeneration / re-use
2	Pedestrian access routes to War Memorial Park, Liffey Gaels and Phoenix Park
3	Removal of on-street parking on the main street (increases pedestrian space)
4	Mixed density housing developments on underused sites
5	Improved cycling connectivity along the Canal

#	Weaknesses
1	Lacking connection and to nearby amenities such as; War Memorial Park, Liffey Gaels and Phoenix Park
2	Car centric main street / retail street discourages pedestrian access
3	Lack of cycling connections, infrastructure

#	Threats
1	Increase in traffic
2	Fragmentation of key sites
3	Gentrification / damage to existing community

Theme 4 - Environment



Background Paper

This paper identifies the environmental considerations that may be applicable to the delivery of Development Strategy for Kilmainham - Inchicore. In Addition, it outlines how climate change presents

the greatest environmental challenge for development, planning and the continuity of services into the future. However, effective adaptation measures can help to alleviate some of the negative

consequences associated with climate change, ensuring that Kilmainham and Inchicore contribute to the transition to a low carbon society in Dublin.



Climate Context

Evidence and research to date demonstrates a clear appreciation that greenhouse gas emissions, including carbon dioxide and methane, are responsible for climate change. The Intergovernmental Panel on Climate Change (IPCC) advise that greenhouse gas emissions have increased by 70% between 1970 and 2004 due to human activity, meaning that human activity is the driving factor for climate change. The changing climate will have significant implications for Ireland's governmental institutions; economy; society; and

environment. Adapting to these challenges is critical and will require a concerted effort at all levels of government and society to move to a holistic and robust strategy to reduce greenhouse gas emissions and adapt the built environment to a more inclement climate.

As set out within the National Adaptation Framework, adaptation not only depends on action by all levels of government but also on the active and sustained engagement of all stakeholders, including

sectoral interests; the private sector; communities; and individuals. Most adaptation measures to date in Ireland have been reactive in nature and given the increased knowledge of climate change impacts, it is now necessary to adopt a planned approach to adaptation so that we are better placed to deal with the short and long term impacts of climate change.

Policy Overview

"formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to ... facilitate adequate adaptation to climate change."

United Nations Framework Convention on Climate Change

As set out within the National Adaptation Framework, a substantial body of international and EU climate change policy now exists to guide the development of national policy. These policies frame the objective of transitioning to climate resilience and realising inherent opportunities.

COP21/Paris Agreement: Commitment on governments to reduce greenhouse gas emissions by 40% before 2030. The Irish Government have committed to reducing emissions by 2020 and 2030 relative to 2005 levels.

Local Authorities EU agreements: Local authorities are required to monitor at County level, energy consumption, CO2 emissions and to report on the progress of relevant action plans.

National Climate Policy: This policy establishes the fundamental national objective of achieving transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. It sets out the context for the objective, clarifies the level of greenhouse gas mitigation ambition envisaged, and establishes the process to pursue and achieve the overall objective.

Climate Action and Low Carbon Development Act 2015: Two main aims: to design a national mitigation plan to reduce or prevent greenhouse emissions; and the development of a National Adaptation Framework to reduce the negative effects of climate change.

Climate Action Plan 2019: The Plan sets out governance arrangements including carbon-proofing policies, establishment of carbon budgets, a strengthened Climate Change Advisory Council and greater accountability to the Oireachtas.

National Mitigation Plan: A whole-of-government Plan, reflecting in particular the central roles of the key Ministers responsible for the sectors covered by the Plan namely – electricity generation; the built environment; transport, and agriculture. The Plan sets out measures that lay the foundations for transitioning Ireland to a low carbon, climate resilient and environmentally sustainable economy by 2050.

National Adaptation Framework (Planning for a Climate Resilient Ireland):The NAF sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts.

National Planning Framework: The National Planning Framework represents a key opportunity in ensuring that the climate implications of our spatial choices are fully considered and addressed from the top of the planning hierarchy. The planning process provides an established means through which climate change adaptation objectives can be integrated and implemented at local level.

Dublin City Council (DCC) Development Plan 2016-2022: The Development Plan sets out that Dublin City should aspire to becoming as carbon neutral as possible and make every effort to increase energy efficiency and unlock renewable energy potential.

Dublin City Council Climate Change Action Plan: The Action Plan sets out how the Council will improve energy efficiency and reduce greenhouse gas emissions in its own buildings and operations, while making Dublin City a more climate-resilient region. The Action Plan sets out four key targets for the council area which are:

1. A 33% improvement in the Council's energy efficiency by 2020;
2. A 40% reduction in the Council's greenhouse gas emissions by 2030;
3. To make Dublin a climate resilient region, by reducing the impacts of future climate change-related events; and
4. To actively engage and inform citizens on climate change.



National Context

Ireland has a number of key climate challenges, such as sea level rise, pluvial and fluvial flooding, extreme weather events and extreme temperatures. Ireland has been set national targets under various EU directives that have been transposed as statutory instruments, and these directives require that certain targets for energy efficiency, renewable energy and greenhouse gas reductions are achieved by 2020, namely:

- 20% reduction in non-emissions trading scheme (ETS) greenhouse gas emissions relative to 2005 levels;
- Raising the share of EU energy consumption produced by renewable resources to 20% (adjusted to 16% for Ireland);
- 20% improvement in the EU's energy efficiency; and
- In line with the National Energy Efficiency Action Plan (NEEAP), the DLAs are committed to achieving a 33% improvement in energy efficiency for their own operations.

According to the Environmental Protection Agency, in 2018 Ireland's provisional greenhouse gas emissions were estimated to be 60.51 million tonnes (carbon dioxide equivalent) which is 0.2% lower than emissions in 2017, following a 1.0% decrease in emissions reported for 2017. Emissions reductions have been recorded in 7 of the last 10 years. However, in the agriculture, transport, residential, manufacturing/ industrial, commercial and public sectors, emission trends have increased making the achievement of Ireland's long-term decarbonisation goals ever more difficult. Arresting this growth is a challenge in the context of a growing economy but one which must be addressed by households, business, farmers and communities if Ireland is to reap the benefits of a low-carbon economy.



Dublin City Context

Dublin City covers an area of 117 km², and comprises of 52km of coastline including Dublin Port and the Liffey Estuary. Three main rivers – The Liffey, The Tolka and the Dodder flow through the city, in addition to a number of small rivers such as the Wad, Poddle, Santry, Mayne and the Camac.

Dublin City's geographic and demographic characteristics make it vulnerable to certain risks, e.g. heat absorption and flooding.

In terms of future climate risks for DCC, the Climate Change Action Plan identifies five key impact areas which encompasses the following:

1. Critical Infrastructure and the Built Environment;
2. Transport;
3. Biodiversity;
4. Waste Management; and
5. Water Resources.

An examination of the Dublin City's Baseline Emissions Report 2016 prepared by Codema provides the baseline emission information in relation to a number of sectors related to the above that include residential, commercial, transport, social housing, municipal, agriculture, waste and wastewater. The baseline information highlights those sectors where progress is required in Dublin City in relation to reducing carbon emissions and identifying appropriate mitigation strategies that will in turn alleviate the impact of climate change on the County.

Residential – key facts and figures:

- Total residential emissions were 974,000 tonnes of CO₂ in 2016;
- Total delivered energy for the residential sector in Dublin City for 2016 was 3,596 GWh;
- Terraced houses made up 34% of the total housing stock, followed by semi-detached houses (29%), apartments (26%) and detached houses (11%); and
- Apartments were the least carbon intensive type of housing, emitting 4.20 tCO₂/apartment. Detached houses were the most carbon intensive type of housing, emitting 9.46 tCO₂.

Dublin City's Residential Emissions by Dwelling Type

In terms of CO₂ per unit, apartments performed the best while detached houses performed the worst. Detached, semi-detached and terraced houses make up the majority of the housing stock built before 2001 in Dublin City.

The highest emissions in the residential sector come from natural gas and electricity, which contribute 52% and 41% respectively.

Dublin City's Transport Modal Split in Journeys

The total emissions from transport in 2016 amounted to 697,700 tonnes of CO₂ equivalent, which were made up of carbon dioxide, methane and nitrous oxide. Diesel was the main fuel source for both public and private transport; it made up 75% of total emissions. This was followed by gasoline at 25% and electricity at 0.2% of total emissions.

Dublin City's Housing Emissions by Dwelling Type

Apartments produced the least emissions per unit, at 2.92 tCO₂ per apartment. These were followed by detached, semi-detached and terraced houses, emitting 3.47, 3.93 and 3.97 tonnes of CO₂ per dwelling, respectively. Therefore, from this analysis, apartments were the least CO₂ emitting type of dwelling. Meanwhile, terraced houses produced the most CO₂ per dwelling type in 2016.

At a regional level, the greatest number of social housing units were built in Dublin City in the period between 1919 and 1970. The period between 2009 and 2016 showed a 15% reduction in CO₂ emissions in DCC's social housing stock due to continuous upgrades.

Dublin City's Commercial Properties by Category

Industrial uses, retail, hospitality and offices were the main CO₂ emitters, as altogether they made up 92% of the commercial sector's total emissions.

Commercial – key facts and figures:

- Total emissions in 2016 amounted to 934,000 tonnes of CO₂; of this, 806,700 tonnes came from the services sector and 127,300 tonnes came from the industrial sector;
- Total final energy used in 2016 by the commercial sector was 2,550 GWh

Transport – key facts and figures:

- Total final emissions from transport were 697,700 tonnes of CO₂eq;
- Total energy use in transport was 2,672 GWh;
- Private and commercial transport made up 43% of Dublin City's modal split; this was followed by walking at 30%, public transport at 20%, and cycling at 7%; and
- Transport emissions mainly come from diesel (75%), followed by gasoline (25%), and electricity (0.2%)

Municipal – key facts and figures:

- Total final emissions produced by DCC in 2016 were 38,800 tonnes of CO₂;
- Total final energy used in 2016 in DCC was 117 GWh;
- Buildings and facilities were the largest consumers of energy in the municipality, making up 62% of the total energy consumption;
- Buildings & Facilities contributed 55% to total emissions in DCC, followed by public lighting
- 33%, and municipal fleet at 12%
- The majority (63%) of DCC's carbon emissions came from electricity, followed by gas (23%) and diesel (12%).

Five Pillars for Action for Dublin City

As set out within the NAP, it is clear that climate change considerations need to be taken into account in the planning-related decision making process. Aligned to this, adaptation considerations in the planning and building standards processes is considered the most appropriate way of increasing the resilience of the built environment. Effective planning reduces vulnerability to the negative effects of climate change by integrating climate considerations into decision making in



order to avoid inappropriate forms of development in vulnerable areas, and promoting compact development in less vulnerable areas.

The DCC Climate Action Plan identifies five key action areas for the County which

include: (i) energy and buildings; (ii) transport; (iii) flood resilience; (iv) nature-based solutions; and (v) resource management. Commentary on each of these sectors is set out as follows.

(i) Energy and Buildings

The built environment accounted for 12.7% of Ireland's greenhouse gases in 2017, comprised of residential emissions, and emissions from commercial and public services. In 2017, DCC consumed

163 GWh of primary energy across its buildings and public lighting, which amounted to 35,010 tonnes of CO₂. Through better energy planning using energy mapping, improvements in building energy efficiency, use of renewables, and increased innovation,

DCC will reduce the emissions from its operations and service delivery. The Council has targeted a 40% reduction in its greenhouse gas emissions by 2030.

With regards to the preparation of future County Development Plans, Strategic Development Zone Planning Schemes and Local Area Plans, there is an opportunity to develop or further develop integrated and standalone 'Climate Change' chapters that address both climate change mitigation and adaptation. Future spatial planning policies and objectives can become more spatially based, having regard to mapping

areas suitable for energy networks, district heating projects, larger scale renewable energy projects, areas suitable for sustainable urban drainage systems and green infrastructure etc in the urban context.

The location, layout and design of development being brought forward in Dublin City should accommodate predicted future climate change impacts without requiring major redesign and redevelopment in the future.

(ii) Transport

Total final emissions from transport were 731,000 tonnes of CO₂eq for 2016. The transport sector will play a key role for the County in enabling a transition to a low-carbon economy and society as public transport passenger journeys are increasing. At a national level, in 2019, passenger journeys increased by almost 24 million, or 9% compared to 2018.

As set out within the Development Plan, the Council seeks to rebalance transport and mobility within the County by promoting ease of movement by sustainable modes (including walking,

cycling and public transport) and reducing speed limits to 30km in certain areas and the introduction of traffic calming measures. Furthermore, the Council is committed to ensuring that best practice urban design principles are applied to all new development.

In order to ensure an efficient, reliable and effective bus system, it is intended, as part of the Strategy, to develop the Core Bus network to achieve, as far as practicable, continuous priority for bus movement on the portions of the Core Bus Network within the Metropolitan Area. This will mean enhanced bus lane provision on corridors, removing current delays on

the bus network in the relevant locations and enabling the bus to provide a faster alternative to car traffic along these routes, making bus transport a more attractive alternative for road users.

The Council also seeks to ensure there are opportunities to make walking and cycling more attractive, and to increase the proportion of daily journeys undertaken on foot or by bicycle. Ambitious targets for the expansion of cycling networks, greenways, and infrastructure that will support even more sustainable modes of travel in the County can assist with meeting the reduction in emissions.

(iii) Flood Resilience

Flooding is an ongoing challenge for the Dublin Region. Climate change is expected to increase the frequency and/or duration of heavy rainfall events.

Flood maps have been prepared for future climate scenarios, and the proposed community-scale measures are set out in the flood risk management plans.

Together with the Office of Public Works (OPW) and neighbouring local authorities, DCC is actively working to implement

Projects and programmes that align with the EU Floods Directive and Water Framework Directive.

DCC is working to adapt areas that are vulnerable to flooding by using comprehensive flood risk mapping. The Council is looking at measures that include natural and engineered solutions.

While flood alleviation incorporating nature-based solutions is DCC's preferred response, there are certain areas of the City that are not suited to soft solutions. Therefore, DCC is building physical

flood defenses, specifically walls and Dutch dams along the North and South Campshires that take into consideration the increased risk from climate change. Additionally, DCC is actively researching alternatives to physical flood defenses such as zoning policies to restrict further development in at risk areas.

(iv) Nature-based Solutions

Nature-based solutions are critical in climate change adaptation; they can play an important role not only for biodiversity and ecosystems, flood prevention and carbon sequestration, but also in temperature regulation, water quality, erosion prevention, and filtering pollutants from the air and water.

DCC recognizes its role in protecting Ireland's rich biodiversity and the ecosystem services provided by Ireland's natural heritage. By ensuring that plans and policies developed and implemented by the Council undergo environmental assessment and appropriate assessment to align with The National Biodiversity Action Plan and key EU directives, DCC will safeguard Ireland's natural heritage for future generations.

Planning for the inclusion of green infrastructure and greenways in the urban environment can help in making the urban environment more liveable. The continued promotion of appropriate green infrastructure is also a key aspect of the planning system and the 2013 Local Area Plans Guidelines, which note the contribution that a green infrastructure approach can make to climate change mitigation and adaptation.

(v) Resource Management

DCC is working to reduce the production of waste and protect the environment from contamination of hazardous waste materials and general litter.

A priority for DCC is to review procurement procedures and identify opportunities to source local, environmentally-friendly products for use

in its operations.

To develop sustainably, Dublin City must decouple population and economic growth from carbon usage, whilst building into its environment, its places and its economy the resilience to respond to a changing climate. The National Adaptation Framework defines climate resilience as being 'the capacity of a system, whether physical, social or

ecological, to absorb and respond to climate change and by implementing effective adaptation planning and sustainable development.

Environmental Analysis

An Environmental Analysis has been included as part of this Report due to the shift towards more environmentally sustainable living and climate change adaptation.

While the Kilmainham-Inchicore study area is relatively small in terms of area, it contains many environmental assets which contribute to the wider Dublin City context.

# Strengths		# Weaknesses	
1	Irish National War Memorial Gardens and surrounding green space	1	Information availability
2	The Grand Canal as an amenity asset	2	Lack of connectivity with Rivers and the Canal
3	The Camac River Valley	3	Infrastructure to deal with catastrophe
4	Grattan Park	4	Public knowledge of climate change adaptation measures
# Opportunities		# Threats	
1	Opportunity for waterfront development onto the Camac River / Grand Canal	1	Flood risk events from Rivers and Canal
2	Additional greenways, blueways and cycle routes in the area (reduce car dominance)	2	Lack of future investment opportunities
3	Innovative flood maintenance solutions to unlock more developable land	3	Potential extreme weather
4	Funding opportunities to provide investment for environmental led projects	4	Urban sprawl of Dublin City Centre



EXEMPLAR

Ile Seguin Rives de Seine Boulogne Billancourt (Paris)

Architects: Patrick Chavannes

Landscape Architects: Thierry Laverne and Christian Devillier

Area: 74 Ha

Date : 2006-ongoing

Ile Seguin Rive de Seine is a masterplan located in the Paris metropolitan area in the city of Boulogne-Billancourt. It takes place on the lands formerly occupied by the Renault Group. One architect and two landscape architects led the overall masterplan with a superblocks premise.

Each superblock has its own lead architect and landscape architect who coordinate a team of more or less 8 architects. This process reduces significantly the timetable as a group of 10 buildings will share the same timeline (planning, construction, etc). The scheme is structured around a landscape core connecting public spaces and residential units.

The Masterplan contains three levels of street hierarchy and the main avenues to inner pedestrian spaces are held together by a continuous landscape that connects them to the river. The riverfront provides protection from flooding events.

Courtyards Plots: 100x100m urban plots

Central Park: 120x750m, 2,4ha

Building heights: 6-10 storeys

Distances: 40m (main road) to 10m (secondary roads)

This exemplar relates back to the core Development Strategy insofar as it is an underutilised area within a European capital with development potential through former industrial lands with connections to the river which has many other environmental assets. It was also important to recognise the transport arrangement necessary to facilitate such a development within an already busy urban environment and this project recognised the challenges that come with that.



EXEMPLAR

Abode Cambridge

Architects: Proctor & Matthews Architects

Landscape Architects: PLACE

Date: 2014; **Area:** 6,4 ha; **Housing:** 306u

with education facilities, sports and recreation, health and community facilities and local shopping facilities

Value: £45 m

Abode at Great Kneighton is part of a major new housing and mixed-use development in South Cambridge. The design consists of a hierarchy of spaces and housing types to suit the transition from urban to rural edge. This gives form to the existing infrastructure and a sense of arrival at the entrance to the neighbourhood, before moving sequentially towards a more relaxed morphology that addresses the adjacent countryside.

At the entrance the large formal 'Great Court' tries to visually absorb the existing highways infrastructure and provides a suitable gateway. Beyond the Great Court is a series of mews terraces. The use of brick here echoes the Great Court, while their more modest scale provides a sense of transition. Each house in the mews has a ground level rear garden space with a raised courtyard terrace at first floor.

This exemplar demonstrates how sustainable housing can be integrated into an urban context and is very important in terms of the principles it introduces for urban planning and placemaking.



Stakeholder Engagement

Extensive consultation was undertaken as part of the baseline analysis process with a number of identified stakeholders. These included staff members of Dublin City Council, personnel of State and Semi-State Agencies such as the National Transport Authority, Transport Infrastructure Ireland, Land Development Agency, Office of Public Works and Irish Water. Local Elected Members were also briefed on the preparation of this Development Strategy and all individuals were invited to share their views, opinions and ideas which would inform the process.

The SWOT Analysis presented as part of this Report has been informed by the stakeholder engagement process to date and this enables the Project Team to prepare the Strategy with the most relevant and up-to-date information available.

Conclusion

This Report showcases the various opportunities for future development and connectivity in both Kilmainham and Inchicore. Our strategic assessment highlights the social and cultural assets of the area which are of benefit to the on-going projects being carried out and which will inform the development options for the City Council to pursue in order to support regeneration within the area.

The key location, diverse mix of zonings and combination of environmental and cultural assets including the River Camac, the Grand Canal, The Irish National War Memorial Gardens, Richmond Barracks and Kilmainham Mill. Through these linked assets the strategy will seek to foster prosperity, employment opportunities and promote linkages with Dublin City Centre.

The redevelopment of Kilmainham Mill in the short to medium term for tourism potential and commercial benefit will also seek to consolidate the heritage assets of the area, this will act as a positive for the Development Strategy and will further the primary goal of creating a sustainable community.

The promised transport upgrades, increased pedestrian and cycle permeability and identified opportunity sites will benefit existing and future residents and businesses of the Kilmainham and Inchicore area. Bus Connects, the Dart expansion and the development of both the Camac and Grand Canal Greenway will create local linkages and synergies, construct a better integrated network to enhance existing and establish new potential linkages with the City and to adjacent areas, including Phoenix Park.

The SWOT Analyses included as part of this Report highlight the important areas of focus and also allow issues to be demonstrated in the urban environment which need to be addressed, e.g. connectivity / accessibility, retail vacancy and various other social issues which can benefit from a greater understanding of the built environment.

Further to this, it is essential all future plans identify the environmental considerations that must be taken into account to ensure that Kilmainham and Inchicore contribute to the transition to a low carbon society.

Next Steps

The information gathered in this Baseline Report will be used to inform the preparation of the Development Strategy for Kilmainham-Inchicore.

The Recommendations will be outlined as per the four core themes;

- Planning
- Movement
- Placemaking
- Environment

The purpose of this Report is to inform the preparation of a Development Strategy for the Kilmainham-Inchicore area which will in turn be used in the next iteration of the Dublin City Development Plan and the introduction of a new wider Strategic Development and Regeneration Strategy.

The Development Strategy will be responsible for identifying key projects to be brought forward as part of Call 3 of the Urban Regeneration and Development Fund in 2021.

**Kilmainham - Inchicore
Development Strategy**