

Appendix 6

City South West (Kilbarry Ballybeg and Lacken) Design Framework



Waterford
City & County Council
Comhairle Cathrach
& Contae Phort Láirge

Waterford City and County Draft Development Plan 2022 - 2028

Appendix 6

DESIGN FRAMEWORK

CITY SOUTH WEST NEIGHBOURHOOD: KILBARRY AND BALLYBEG

WATERFORD CITY AND COUNTY COUNCIL



Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council

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1.0 INTRODUCTION AND VISION

The City South West (Kilbarry/Ballybeg) Urban Design Framework is intended to inform the future statutory planning for the area. As such, it is a plan and policy led approach which will repurpose the neighbourhood and influence change in the quality of future development and the design of urban spaces in the area. The document considers the existing pattern of development in the study area and its wider context, and aims to formalise a shared approach to the future development of public spaces, mixed use areas, a neighbourhood centre, and pedestrian connectivity, providing the foundation for future growth of the neighbourhood and its communities. Key interventions for achieving this are identified in the vision, the objectives and the guidance set out hereafter.

Sections 2 to 5 of the document set out the vision and the background underpinning the framework for the area. Thereafter, Section 6 illustrates the distinct character areas within Kilbarry and Ballybeg, Section 7 describes the transportation strategy seeking a move toward sustainable transportation and creating more permeability within new and existing neighbourhoods, whilst Section 8 sets out the green infrastructure and open space strategy. Section 9 illustrates in more detail how five key character areas will be developed in terms of land use and specific objectives relating to public spaces, community and commercial development, and building typology.

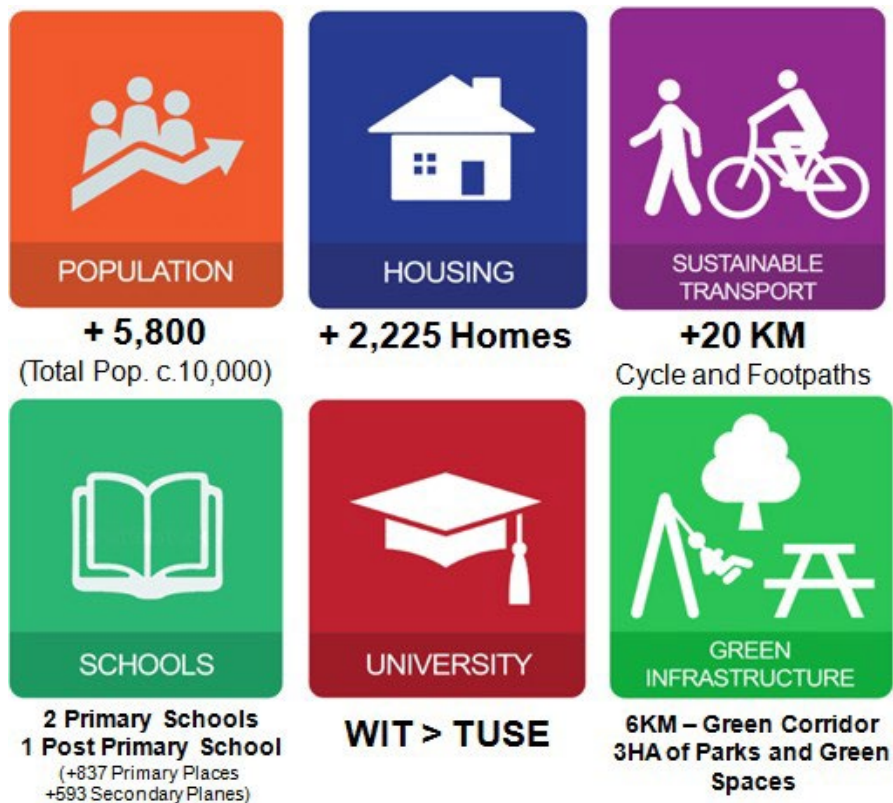
2.0 STRATEGIC VISION FOR KILBARRY/ BALLYBEG

The document builds on the current policies, objectives and land use zoning set out in the Waterford City Development Plan 2013 – 2019, and proposes a number of select changes which will future-proof the area so as to ensure the following vision can be realised:

‘Kilbarry/ Ballybeg will become a vibrant and sustainable neighbourhood which will support and encourage economic, social and cultural development and community interaction in an area which is attractive to residents and which attains a high level of environmental quality to ensure an excellent standard of living for all.’



The Kilbarry and Ballybeg Urban Design Framework is expected to deliver:



3.0 PRINCIPAL OBJECTIVES

- To ensure the development and enhancement of key nodes, landmarks and landmark buildings across the study area in a manner that creates a sustainable urban district;
- To develop a neighbourhood which is safe and sustainably connected;
- Avail of the unique opportunity to enhance and develop the profile of TUSE;
- To develop a vibrant and attractive mixed use neighbourhood centre focused around the Ballybeg Link Road;
- To ensure development is carried out in a design-led manner which prioritises place, permeability, liveability and mixed-uses;
- To enhance access to Waterford Nature Park and Kilbarry pNHA and develop resilient biodiversity and amenity assets/networks within the area;
- Provide a Design Brief and associated principles to guide the design and layout of new development within the Kilbarry/Ballybeg area. All new developments will be required to be consistent with the design brief and principles set out in Appendix Two.

4.0 DESCRIPTION AND ANALYSIS OF KILBARRY AND BALLYBEG

The study area, consisting of c. 479 hectares, is located within the Kilbarry/ Ballybeg neighbourhood, c. 3 kilometres south-west of Waterford city centre. The area is bound to the north by the Cork Road (R680), to the west and south by the Cumann na mBan Outer Ring Road (R710) and to the east by the Tramore Road (R675) as shown in Figure 1.



Figure1: Aerial view showing the study area in red in context of Waterford city centre (Source: WatMaps)



Figure2: Map depicting the study area in context with surrounding areas (Source: WatMaps)

4.1 S.W.O.T ANALYSIS

A SWOT analysis of the area was conducted by UCD Eco-Health Project (2008) which helped inform this analysis. The results are summarised in Figure 3.



Figure 3 - SWOT analysis for the study area (informed by the UCD Eco-Health Project of Kilbarry and Ballybeg conducted 2018)¹

¹ UCD Eco-Health Project (2018). Ecosystem services and health at the local scale: Preliminary findings. EPA/HSE Grant award No. 2015-HW-MS-6. University College Dublin (UCD). This research was undertaken as part of the Eco-Health project, funded by the Environmental Protection Agency (EPA) and the Health Service Executive (HSE) under Grant Award No. 2015-HW-MS-6, and supports the implementation of the EPA Strategic Plan 2016–2020 – ‘Our Environment, Our Wellbeing’ and Healthy Ireland, the national framework for action to improve the health and wellbeing of the people of Ireland.

5.0 POLICY FRAMEWORK

This section of the Urban Design Framework Plan sets out the key National, Regional and Local planning policy as it relates to the study area.

5.1 National Planning Framework 2040

The National Planning Framework 2040 (NPF) aims to deliver at least half (50%) of all new homes that are targeted in the five Cities and suburbs of Dublin, Cork, Limerick, Galway and Waterford, within their existing built-up footprints.

Section 2.6 of the NPF seeks to provide compact and sustainable growth which has the potential to make a transformational difference. To this end **National Policy Objective 4 states:** *“Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being”.*

The NPF seeks to make better use of under-utilised land, including ‘infill’ and ‘brownfield’ with higher housing and jobs densities, better serviced by existing facilities and public transport. Given the proximity of the study area to the city and the extent of underutilised land therein, the design framework seeks to deliver the objectives of the NPF.

5.2 Southern Regional Spatial and Economic Strategy 2020 (SRSES)

Waterford Metropolitan Area Strategic Plan (MASP)

Kilbarry and Ballybeg neighbourhood fall within the Waterford MASP area. Policy Objective 1 for the MASP area states that *“it is an objective to promote the Waterford Metropolitan Area as a cohesive metropolitan area with (i) the city centre as the primary location at the heart of the metropolitan area and region (ii) compact growth and regeneration of the Metropolitan Area across the city centre and suburbs, (iii) active land management initiatives to deliver housing and employment locations in a sustainable, infrastructure led manner”.* The following are the guiding principles for the Waterford MASP:

- Achieving Critical Mass through a City focussed Strategy for growth in population and employment;
- Development of a Compact, Balanced City;
- Integration of Land-Use and Transportation supporting movement by sustainable transport means;

- Harnessing the excellence of Education Resources in WIT, and seeking the development of a University in Waterford;

Future growth enablers for the MASP area are also set out in the SRSES and listed below are the key growth enablers relevant to the Kilbarry/ Ballybeg neighbourhood:

- Identifying infill and regeneration opportunities to intensify housing and employment development throughout city centre and inner suburban areas;
- Progressing the sustainable development of new greenfield areas for housing and the development of supporting public transport and infrastructure [Local Infrastructure Housing Activation Fund (LIHAF) location];
- Public realm and urban amenity projects, focused on streets and public spaces, in the existing built footprint of the Metropolitan Area – North & South in support of urban intensification;
- Expansion of the WIT through development of a Multi-Campus Technological University for the South-East and integration with the Metropolitan Area and region;

5.3 Waterford City Development Plan 2013 -2019

The document builds on the current policies, objectives and land use zoning set out in the Waterford City Development Plan 2013 – 2019.

The Framework Plan is a non-statutory plan. That being said it should be noted that the proposals set out for the University District character area in Section 9.1 of this plan (Former Waterford Crystal and the Yellow House SITES), provide the design framework for the development of lands identified as mixed use/opportunity sites in the Waterford City Development Plan 2013 – 2019, and are therefore consistent with sections 2.2.4 and 12.2 of the development plan. In addition the guidance for new development set out in Appendix 1 is consistent with Ministerial Guidance, and is therefore applicable to all new developments.

5.3.1 Land Use Zoning

Figure 4 illustrates a zoning map extract of the Kilbarry/ Ballybeg study area. The area is zoned for a number of different land uses within the Waterford City Development Plan 2013 - 2019. Land-use zoning objectives for the study area are broken down by character area and discussed in more detail in the design framework below. For a schedule of appropriate uses please see Section 12.16 of the Waterford City Development Plan 2013 – 2019.

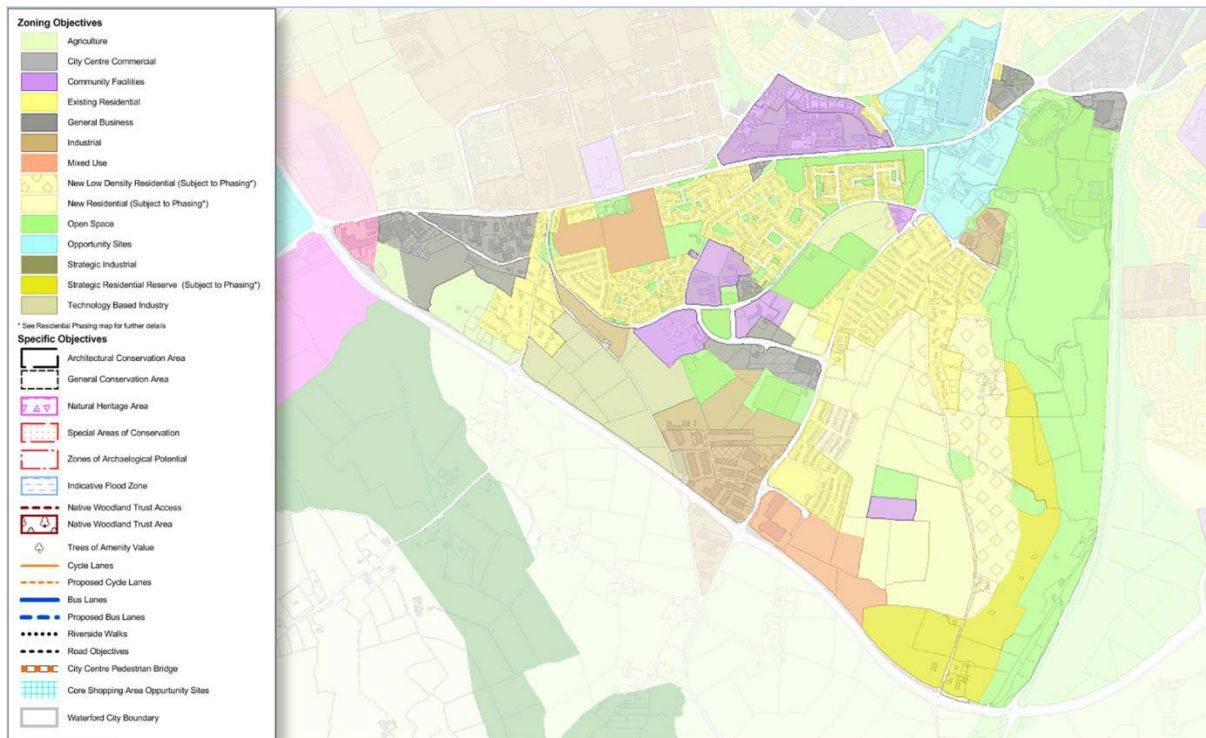


Figure 4: Zoning Map Extract from Waterford City Development Plan 2013 – 2019 (Source: WatMaps)

6.0 CHARACTER AREAS

While recognising the interrelationships between distinct areas, Kilbarry and Ballybeg can be divided into a series of smaller areas of distinct character, land use and physical definition.

There are five character areas which make up the Kilbarry/ Ballybeg Design Framework study area. These are listed below and displayed in Figure 5. These character areas are dealt with in separate sections in the design framework below.

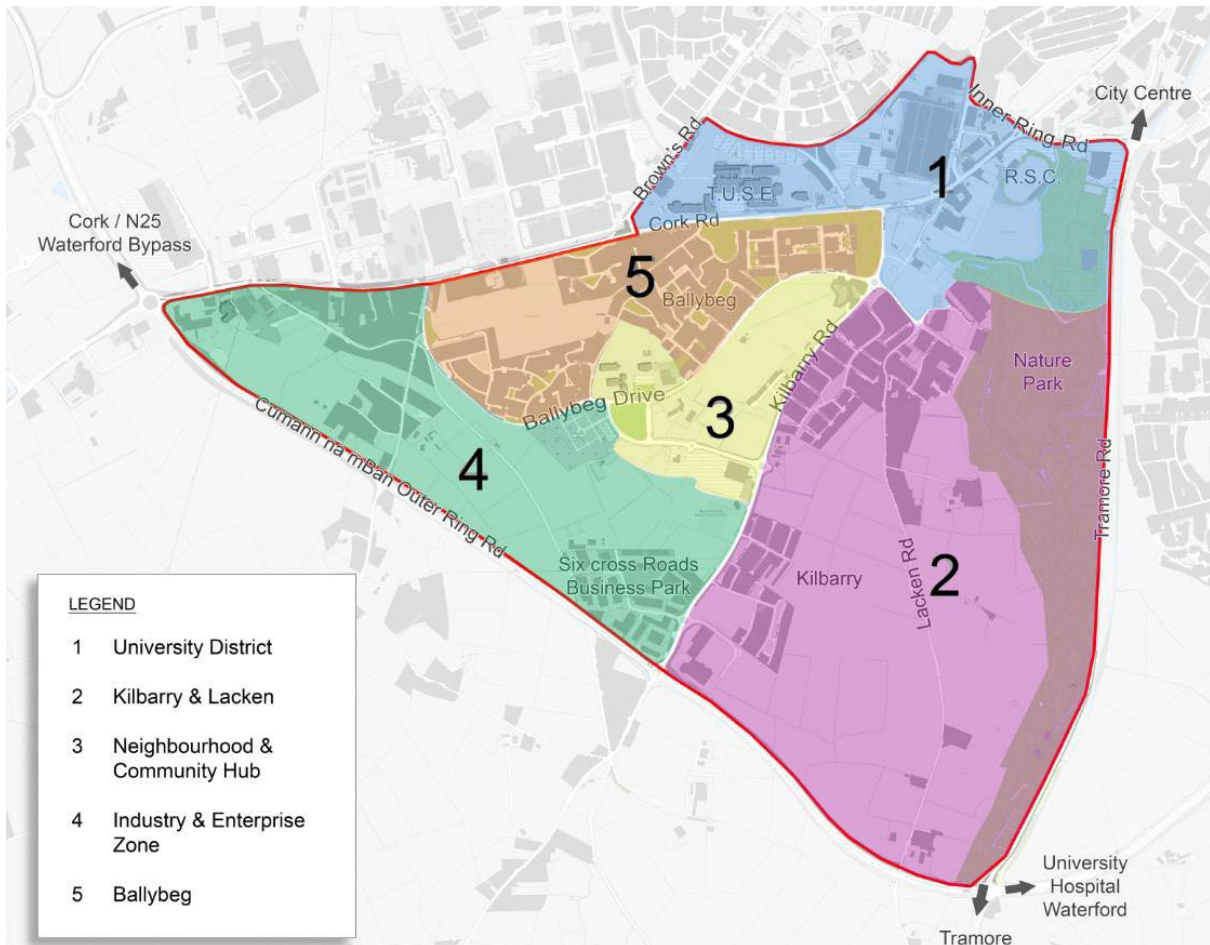


Figure 5: Map depicting the 5no. character areas in the study area

6.1 Education

The study area is currently served by local schools including St. Saviours Primary School (319 pupils), St. Pauls Boys Primary School (226 pupils), and St. Pauls Secondary School (476 pupils) (Department of Education & Skills, 2018²). The population growth envisaged in Section 2.0 above, taken in conjunction with the current requirements of the Department of Education & Skills for school places, indicates a need to reserve a 3.5 ha parcel of land for a primary school (based on 24 classrooms at Population Equivalent of 26 pupils per class) and a further 3.9 ha for a 837 pupil post primary school accommodating 593 pupils (based on 16 classrooms at a Population Equivalent of 28 pupils per class). Taking cognisance of the population increase envisaged an additional 506 childcare places providing full day care will also be required in accordance with the *Childcare Facilities: Guidelines for Planning Authorities (Dept of Environment and Local Government) 2001*.

² Dept of Ed & Skills, 2018. "School Search", 19/12/2018, <http://www.education.ie/en/find-a-school>

7.0 TRANSPORTATION STRATEGY

7.1 UN Sustainable Transport for Development

In 2016 the UN published the world's first Global Sustainable Transport Outlook Report entitled *Mobilising Sustainable Transport for Development*. It addressed all modes of transport, in developing and developed countries, highlighting the fact that transport is not an end in itself, but rather a means of allowing people to access what they need: jobs, markets, social interaction, education, and a full range of other services and amenities which contribute to healthy and fulfilled lives. The report moves away from a focus on providing mobility based on individual motorised transport and improved traffic speed, to the idea of access through transport, prioritising people and their quality of life, with strong attention to safety and social equity.

Through sustainable transport, we can make significant progress on the Sustainable Development Goals and the Paris Climate Agreement, improving the lives of all people in the Kilbarry/ Ballybeg area as well as those located in the greater Waterford city area.

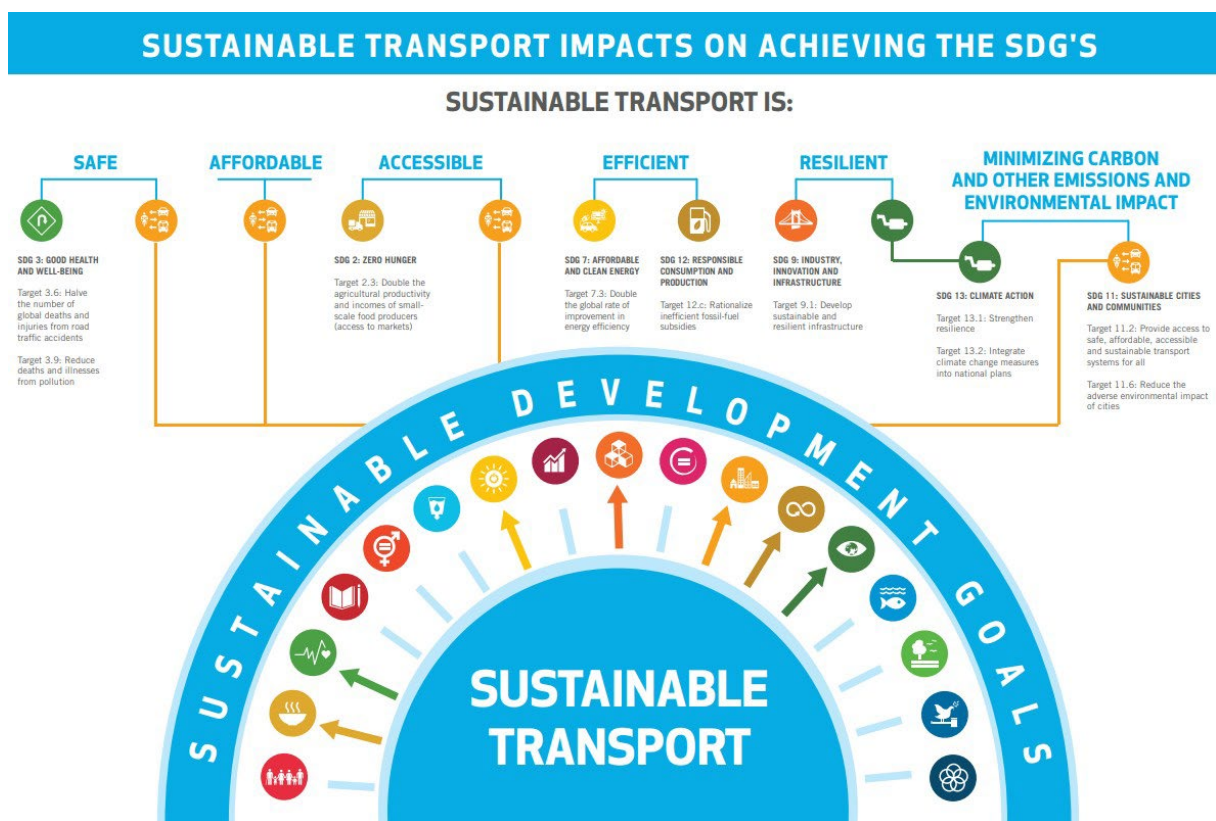


Figure 6: UN Sustainable Transport Goals

Key Transport Proposals

- Flagship Project – Green Route linking Belview to the North Quays and the City Centre with TUSE; Bus lanes and bus priority measures concentrated primarily on the N25;
- Further extension of existing bus services and the promotion of new orbital routes;
- Park and Ride at two locations on the N25 (one north and one south of the River Suir);
- Greater provision for sustainable travel modes (walking and cycling).

Main Strategy Themes

The Strategy is underpinned by a number of key development themes:

- Development of a Compact, Vibrant Sustainable City;
- Integration of Land Use and Transportation Planning;
- Provision of High Quality Transport Infrastructure;
- Expanding and Sustaining a Thriving Commercial.

7.3 Transport and Movement within the Study Area

The study area is ideally positioned to the south west of Waterford city centre to benefit from a wide range of transport opportunities provided by an existing network of regional and local roads, existing local bus routes and bicycle lanes, and the planned PLUTS Green Route along the Cork Road.

Some of the existing transport options in the study area create challenges in the form of barriers to movement and access in and across the area, in particular those created by the main arterial routes out of the city (Cork Road (R680) and Kilbarry Road (L5521)). For the Urban Design Framework Plan to be successful it is necessary that a clear hierarchy of streets and spaces are created which will assist in the creation of place making.

7.3.1 Local Transport Plan

The NPF and the SRSES provide a statutory basis for the need to ensure that transport planning is integrated at all levels in the making of plans and the application of their policies and objectives. The SRSES sets out proposals for the development of Local Transport Plans (LTP) which will represent the lowest tier of the NPF's framework for the integration of land use and transport planning and the achievement of the NPF's objective of 'compact smart growth'.

The Local Authority will prepare a LTP in conjunction with the National Transport Authority (NTA) for the Ballybeg and Kilbarry Neighbourhood based on the Area Based Transport Assessment (ABTA)

guidance produced by the NTA and Transport Infrastructure Ireland (TII). The LTP will provide a short to medium term transport planning framework for the integrated development of transport infrastructure and services in the Kilbarry and Ballybeg Area. The recommendations and objectives of the LTP will inform the implementation of transport and mobility interventions within the study area.

7.4 Sustainable Transport

The study area is currently served by 3 no. bus routes (W1 The Quay – Ballybeg; W2 The Quay WIT and 360/360a Bus Station – Tramore) as shown in Figure 8. Objectives relating to public transport are set out in section 7.4.3 below.

7.4.1 Pedestrian and Cycle Movement

All pedestrian and cycle routes will be designed to be safe and accessible in accordance with DMURS and the NTA's National Cycle Manual (2011). The Urban Design Framework Plan also seeks to ensure that all residential development will be afforded direct or indirect access to pedestrian and cyclist routes to schools and local facilities, especially parks, open spaces, public transport, retail and non-retail services.

Further to the requirements of Appendix 1 Section A2.1 (Design Statement) of this framework document, applications for development should demonstrate such connectivity via a Design Statement which shall underpin the proposal and which shall ensure that there are no barriers to pedestrian or cyclist movement between residential developments.

The PLUTS Green Route runs along the Cork Road to the Outer Ring Road, and links the study area with Waterford City Centre, Ferrybank and North Quay Strategic Development Zone in the form of a dedicated pedestrian and cycle route. This creates an opportunity for Arterial, Link and Local streets in the study area to link with this strategic corridor.

Cycling and walking will be encouraged throughout the study area with the creation of a network of dedicated and street integrated pedestrian and cyclist routes that will permeate open spaces, parks, urban spaces and linear green spaces. This will ultimately create a linked network that maximises route choice for pedestrians and cyclists. All pedestrian and cycling objectives are listed below and should be read in conjunction with the transport and movement map (Figure 11).

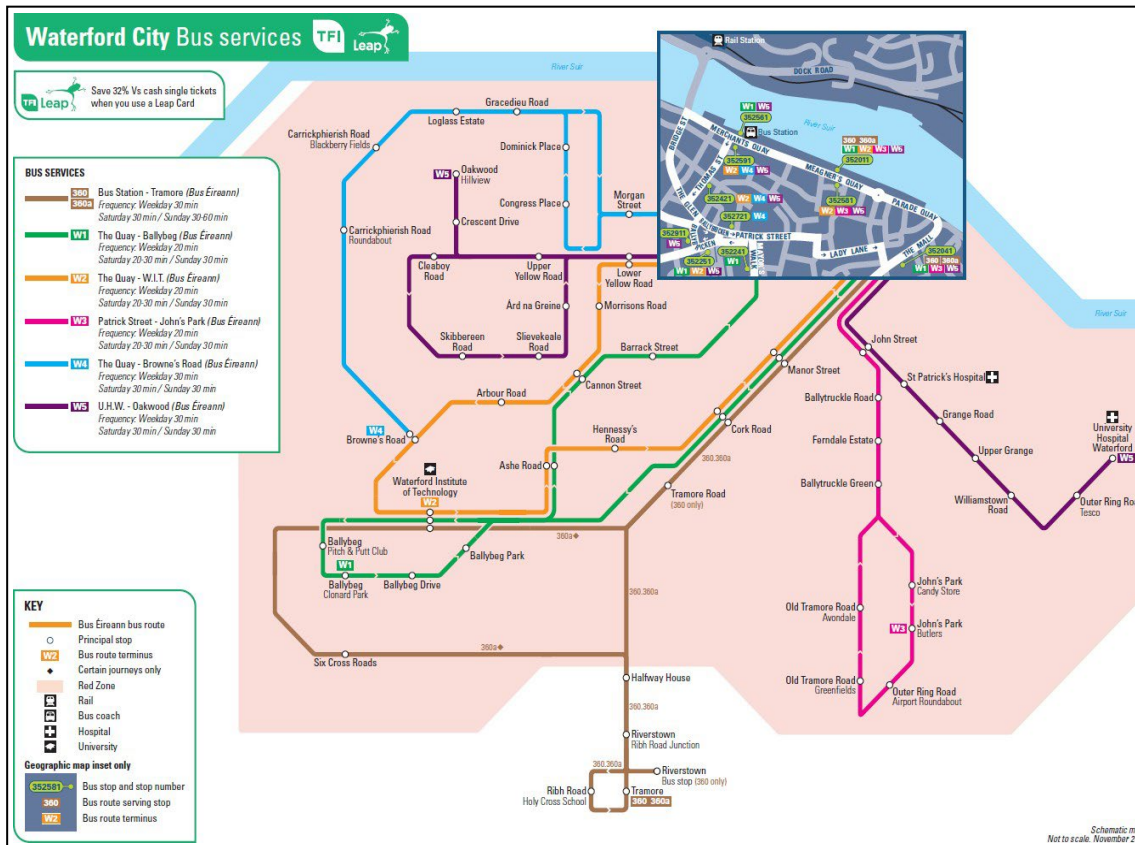


Figure8: Waterford City Bus Network (NTA)

7.4.2 Pedestrian and Cycle Objectives:

- Develop and enhance safe and easy pedestrian and cyclist access to the Nature Park/ RSC from WIT, Ballybeg and new residential developments;
- Develop a looped pedestrian and cycle route incorporating the Waterford Nature Park and the Kilbarry pNHA walk Kilbarry and Lacken Character Area – (please see Section 9.2 for more details);
- Ensure a permeable, high quality and safe sustainable transport network is achieved across existing and new developments. The network shall link development areas to local services such as TUSE, schools, shops, community facilities, parks and amenity areas, etc to ensure a maximum walking time of 10 minutes to a range of such services from any dwelling house (relevant to all character areas) as shown in Figure 9 and 10;



Figure 9: An example of two local permeability projects in Dublin which have significantly improved local access to the LUAS (top) and local shops (bottom) for pedestrians and cyclists. These links formalised routes that were used by locals which previously involved walking across unlit fields, muddy patches and/or climbing over/through fences (Source: DMUS, 2013).



Figure 10: An example of filtered permeability in Dublin (Source: Permeability Best Practice Guide, NTA, 2015)

7.4.3 Public Transport Objectives

- Support modal shift away from private car to public transport, walking and cycling as an attractive means of transport (relevant to all character areas);

- Support the provision of Park & Ride facilities at appropriate locations which are convenient to the Bus Eireann W1 Service (The Quay – Ballybeg) (relevant to Industry and Enterprise Character Area – please see Section 9.4 for more information);
- Support the expansion of the city bus network throughout the study area.

7.5 Street Layout

The framework plan seeks to create a safe and sustainable neighbourhood quarter based on permeable and connected routes that overcomes and incorporates the barriers to movement and links existing and new communities to their amenities. Development within the study area must maximise existing and proposed public transport opportunities. New residential developments must be within walking and cycling distance of educational, employment and community services as well as public transports nodes.

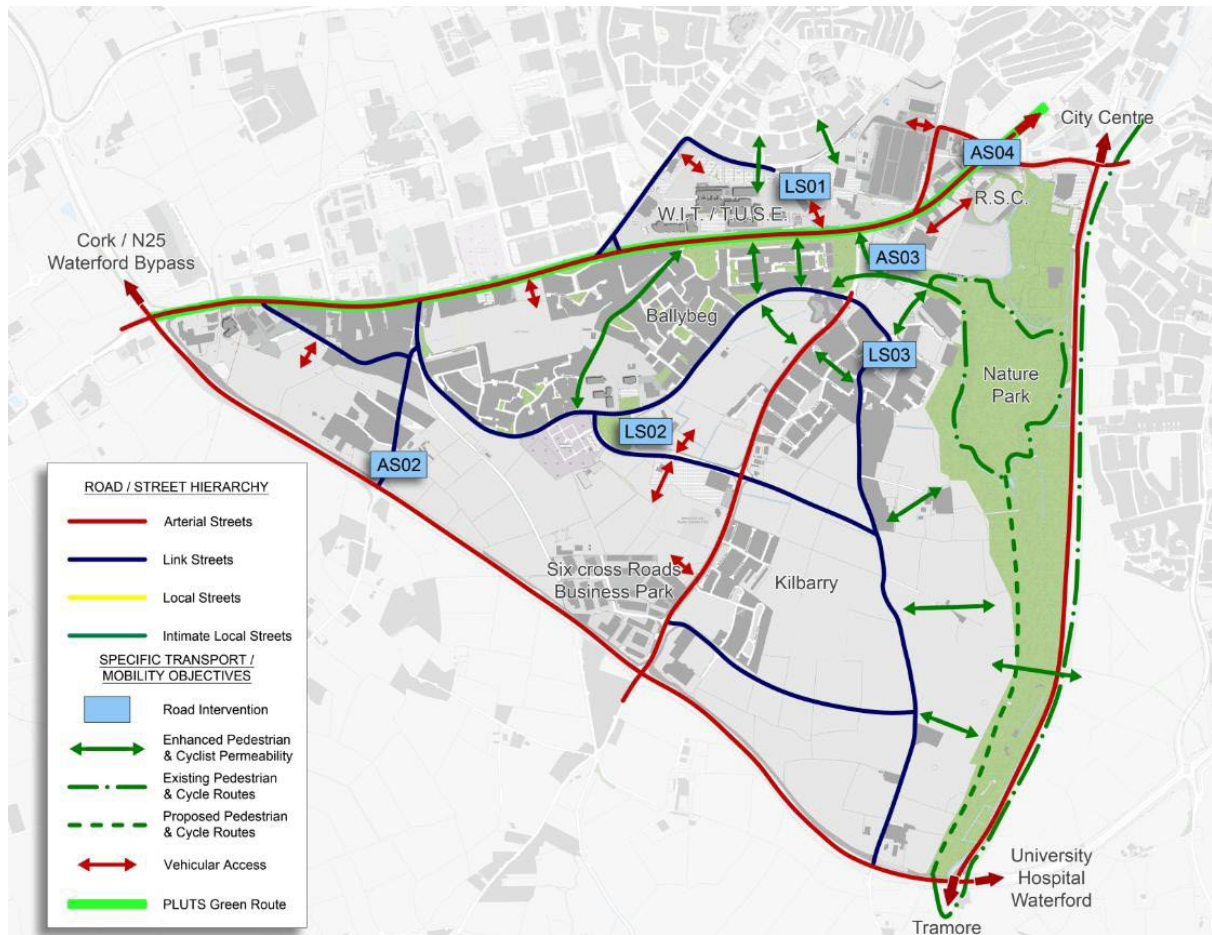


Figure 11: Transportation and Movement Map for the Kilbarry and Ballybeg

The street network within the Urban Design Framework Plan forms an integral part of movement within the study area. The existing and planned streets form a strict hierarchy on the basis of their function, context and location; these include Arterial, Link and Local streets. Arterial and Link Streets

will serve as strategic corridors for multiple modes of transport, including public transport. These streets will help maximise access to existing and planned public transport services. Link Streets will accommodate local bus routes. Local streets will slow traffic completely and serve as intimate homezones.

An example of the street hierarchy is provided in Figure 12 which illustrates the creation of a structure and permeable grid network as a multi-layered process. In general DMURS states that these networks should:

- **Be based on layouts where all streets lead to other streets, limiting the use of cul-de-sacs that provide no through access;**
- **Maximise the number of walkable/cycleable routes between destinations.**

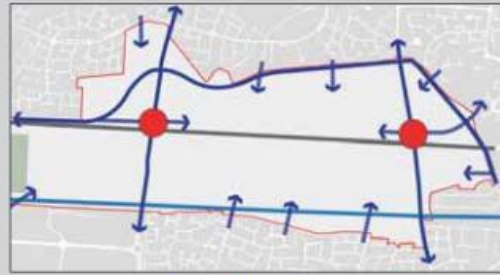
All street typologies within the study area must be designed in accordance with the requirements of:

- DMURS (2013),
- the National Cycle Manual (2011),
- the Guidelines for Setting and Managing Speed Limits in Ireland (2015) in effect at the time of a proposed development,

together with the street typologies illustrated in this Planning Scheme.

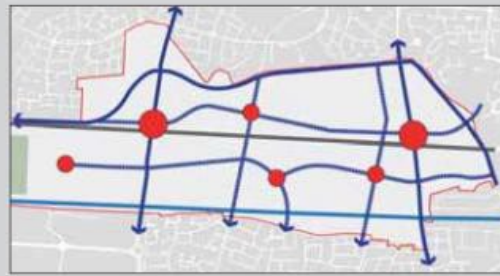
Figure 3.9: Illustrations of the creation of a structured and permeable grid network as a multi-layered process.

The site analysis should identify the connection opportunities (1) within a site including the major destinations (such as Centres and nodes) within it and access from the surrounding area.



1. CONNECTION OPPORTUNITIES

The connection options form the basis for the main *Strategic links* (2) into and through the site. These routes will form the principle corridors for the movement of pedestrians, cyclists, public transport and vehicles within and through the site. They should be as direct and as continuous as is possible within the constraints of any site.



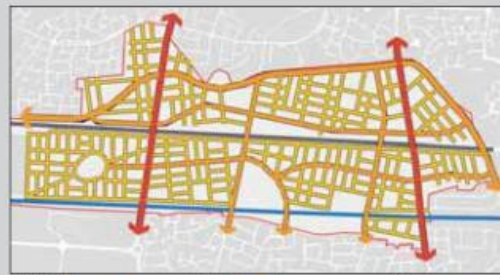
2. MAIN STRATEGIC LINKS

Further links and connections will be needed to allow for permeability within a network. The creation of routes for (3) access and circulation ensure all parts of the site are accessible from a number of different directions.



3. ACCESS AND CIRCULATION

As the process moves into (4) detailed design, designers will need to address further structural issues, including block layouts, mobility levels for different users and the street hierarchy.



4. DETAILED DESIGN

Figure 12: An example of a structured and permeable grid network (DMURS, 2013)

7.5.1 Arterial Streets

According to Design Manual for Urban Roads and Streets (DMURS, 2013), the main purpose of Arterial Streets is to connect major centres at a strategic level. Arterial Streets largely comprise major orbital and cross metropolitan routes such as the Cork Road (R680), Kilbarry Road (L5521),

Cuman na mBan Outer Ring Road (R710), and the Tramore Road (R675), which traverse and bound the study area.

The Urban Design Framework Plan proposes a number of key road interventions which include junction improvements and new junctions/ connections through and along the arterial street of Cork Road and Kilbarry Road which will improve connectivity, and promote a street network that is more urban in character. These road interventions and access objectives are numbered below and should be read in conjunction with the transportation and movement map (Figure 11).

- ASO1** Improve pedestrian and cycling facilities on all arterial streets throughout the study area, particularly along the Kilbarry Road where it is envisaged to provide additional crossing points for pedestrians and cyclists which will help increase permeability between the LIHAF lands the neighbourhood centre and the existing Ballybeg residential area;
- ASO2** Develop and improve access from Cuman na mBan Outer Ring Road to lands zoned for Industrial and Technology Based Industry purposes located to the south-east of the Ballycashin Roundabout with a secondary access servicing Witches Lane. Limited customer access to a portion of these lands may be available from the Tesco Roundabout on Ballybeg Link Road and from Kilbarry Road;
- ASO3** Subject to further assessment by way of a Local Transport Plan/Study, the closing of the existing Ballybeg Drive Road 1(L1518–19) between the Cork Road junction and the Fire Station Roundabout and the provision of a new arterial road from the latter junction to the junction of Ashe Road (L1530) and the Cork Road (R680). See Figure 13 for more detail;
- ASO4** Subject to further assessment by way of a Local Transport Plan/Study, implement a clockwise one way traffic flow to alleviate congestion on the Inner Ring Road (R709), the Cork Road and at the RSC roundabout. See Figure 13;
- ASO5** Rationalise the location of vehicular access points to the TUSE campus in order to ensure distribution of vehicular movement avoids congestion at any one location. See Figure 11.

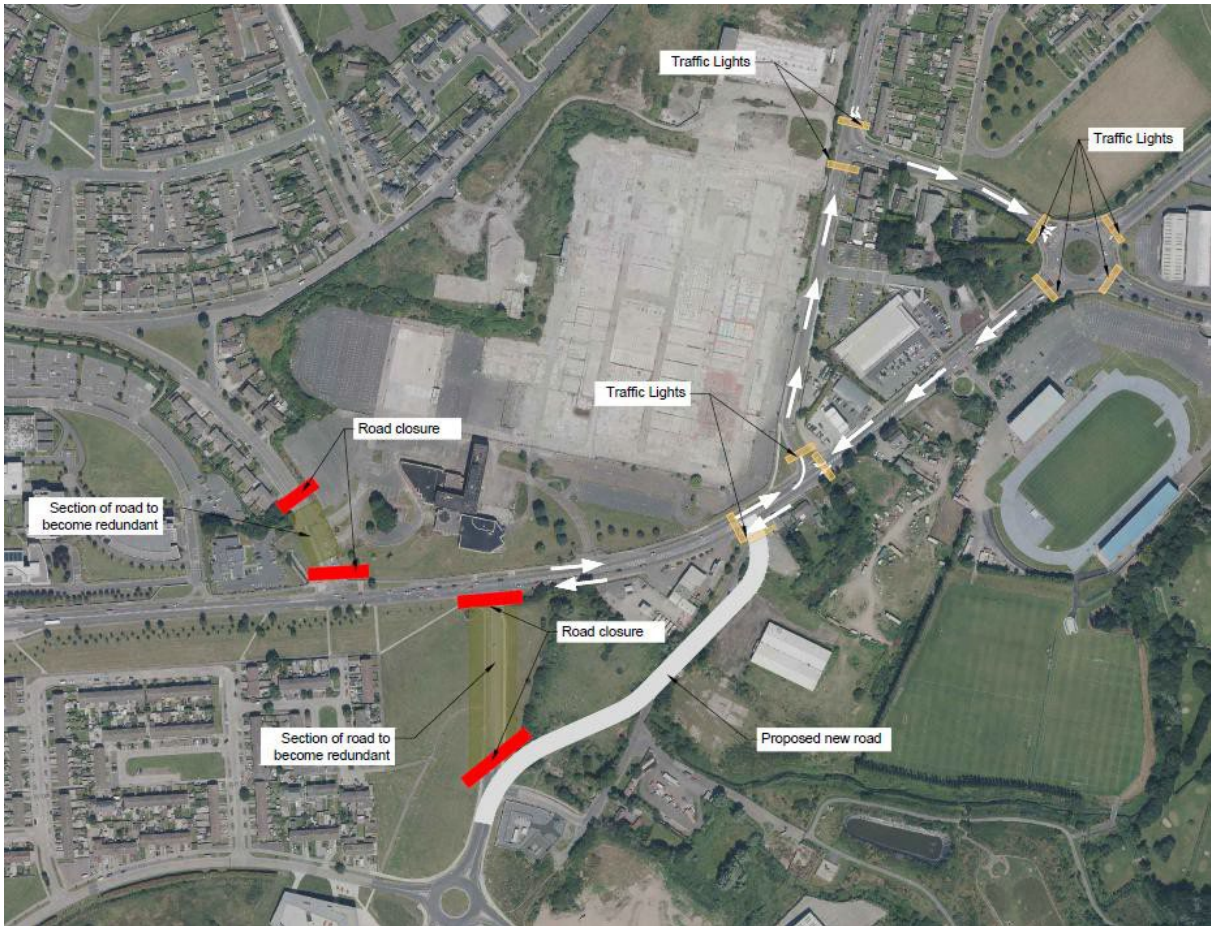


Figure 13: Indicative new junction layout at Cork Road and Kilbarry Road

7.5.2 Link Streets

Link Streets will form a vital linking component between Arterial Streets and Local Streets, and will be instrumental in creating a highly accessible and permeable street network. Link Streets will act as the principle corridors for the movement of pedestrians, cyclists, public transport and vehicles within and through the study area.

Traffic speeds will be reduced along Link Streets in order to promote walking and cycling. Existing roads that are designated as Link Streets within the study area, are Ballybeg Drive (L1518), Ballybeg Link Road (L5039/L90973), Lacken Road (L5522) and the new LIHAF Road. All road and access objectives for Link Street are numbered below, and should be read in conjunction with the transportation and movement map (Figure 11).

- LSO1** Consider options for management of north-south and south-north traffic across the study area on Kilbarry Road and Claremont Road with a view to diverting traffic away from the centre of the neighbourhood while maintaining residential amenity in other residential areas;

- LS02** Consideration could be given to providing a cul de sac on the section of Ballybeg Link Road (L90973) east of St. Saviours Park along with a reduction of carriageway width to facilitate a physical link between the park and the adjacent Ballybeg Community Development Project campus;
- LS03** Reconfigure traffic movements and junctions on the Lacken Road post the coming into operation of the LIHAF Road;
- LS04** Improve and prioritise cycling and pedestrian facilities on all Link Streets throughout the study area to facilitate the modal shift from car based transport to sustainable modes;
- LS05** Maintain and facilitate vehicle access from Link Streets throughout the study area to undeveloped zoned lands as shown on Figure 11.

7.5.3 Local Streets and Intimate Local Streets

Local Streets provide access within communities and to Arterial and Link Streets. Local Streets act as quieter traffic-calmed thoroughfares that are closely fronted and overlooked by development, and provide through-access to neighbourhood blocks and local open spaces. They tend to carry less vehicular traffic and place a greater emphasis on pedestrian and cycling movement. Existing streets within residential developments such as Ballybeg, Meadowbank, Templars Hall, Lacken Wood, Foxwood and Carraig An Aird, perform some functions of local streets but lack through-connectivity. Proposed Local Streets will make up the majority of streets east and west of the Lacken Road (L5522). A number of Local Streets will include homezones and will be classed as Intimate Local Streets. These streets will be a fully shared surface for the integrated movement of vehicles, pedestrians and cyclists.

8.0 GREEN INFRASTRUCTURE AND OPEN SPACE STRATEGY

The provision of a high quality landscape inclusive of green infrastructure, open space, recreation amenities and biodiversity, is essential in creating an attractive and successful environment in which people will enjoy living, working and visiting.

This framework plan makes provision for an expanded and improved network of green linkages and biodiversity areas. The main proposals of the green strategy are outlined in Figure 14.

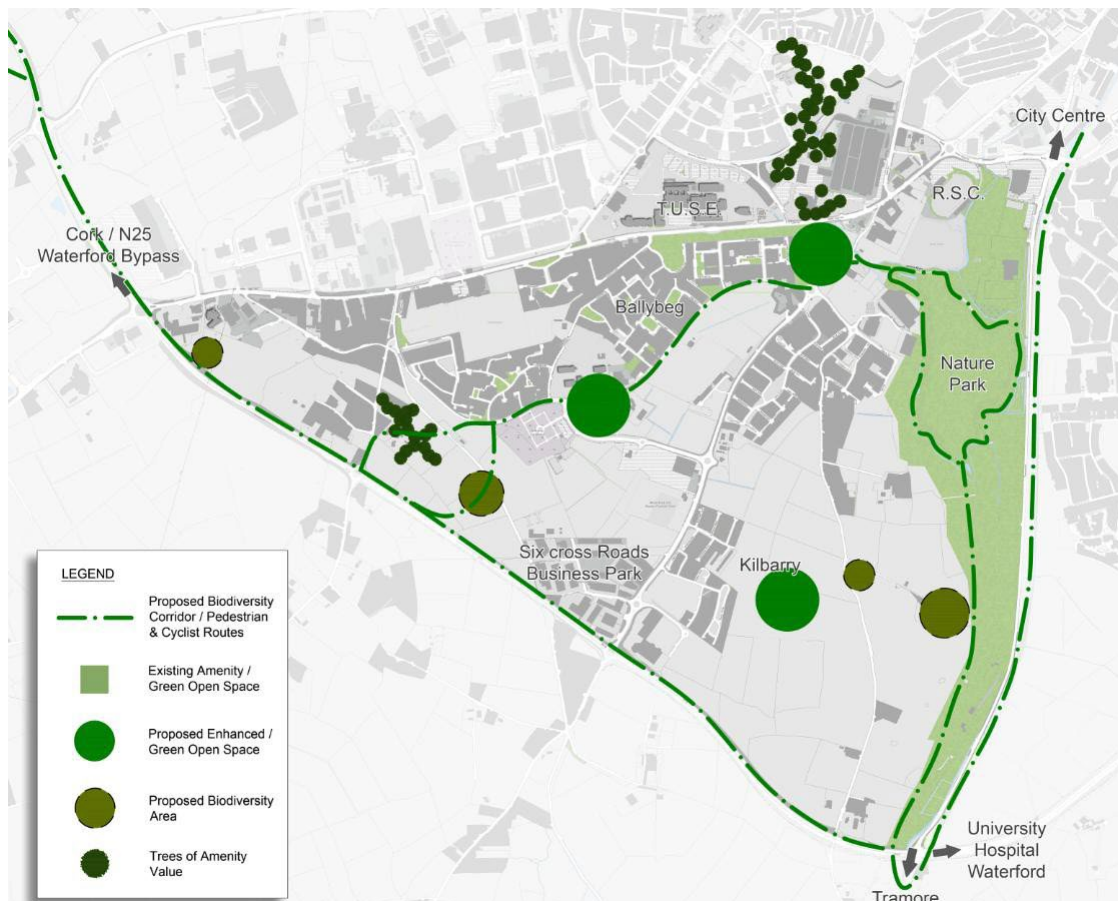


Figure 14: Green Infrastructure and Open Space Map

8.1 Green Infrastructure and Open Space Objectives

- Facilitate the development of an off-road biodiversity corridor along the Cum na mBan Outer Ring Road (linking the River Suir river walk with the Waterford Greenway) and from the Ballycashin Roundabout along Ballybeg Drive linking to the Nature Park (the corridor should be c.5/10m wide and should be planted with naturalised tree spaces such as birch, oak, alder and ash);
- Develop a looped walk way/biodiversity corridor along the Tramore Road;
- Retain and enhance the two knocks at Carrigroe (east of Tramore Road) and Butlerstown Knock as biodiversity areas;
- Maximise the biodiversity and pollinator potential of the area through sustainable maintenance policies and habitat enhancement measures;
- Enhance and develop high quality active and passive recreation open space at selected areas as shown in Figure 14. These areas will be available to a wide and diverse range of the population in order to encourage a more active lifestyle;

- Protect trees of amenity value as designated in the current Waterford City Development Plan 2013 – 2019 located east of Butlerstown Road and associated habitats.

9.0 CHARACTER AREA DESCRIPTION

9.1 University District (TUSE Campus/Opportunity Sites/RSC/Nature Park)

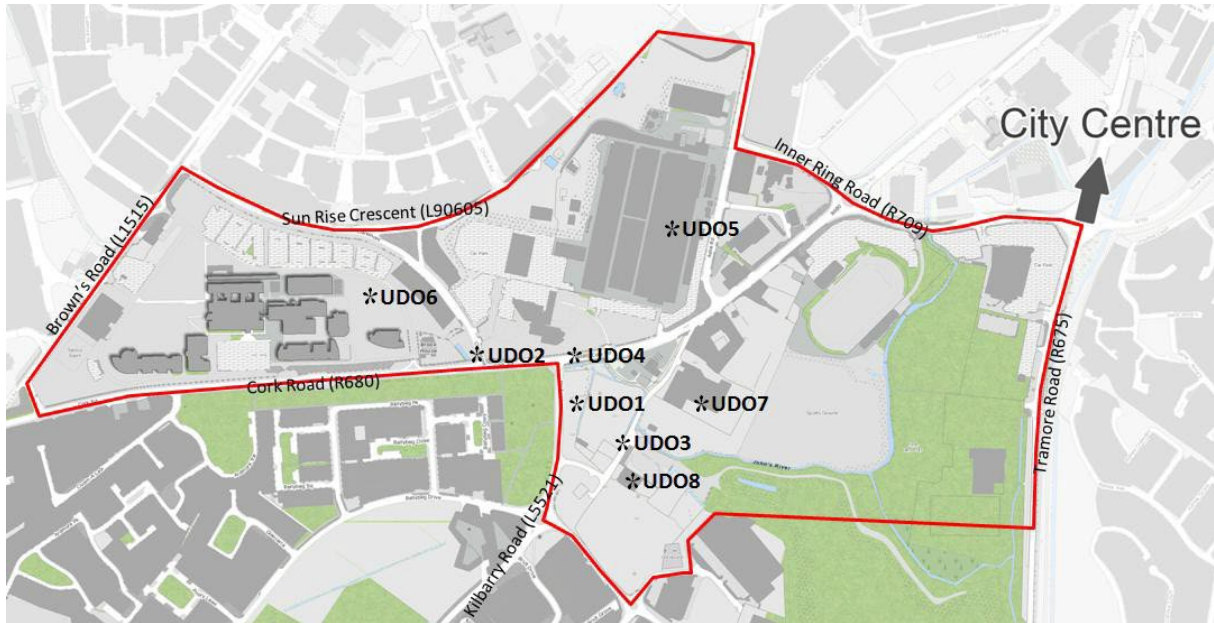


Figure 15: Depicts key objectives for the University District Character Area

KEY OBJECTIVES:

- UDO1** Support the development of taller/landmark buildings³ of mixed commercial/residential uses along Ballybeg Drive within the zoned opportunity site and along the Cork Road to create streetscape, enclosure and sense of place in and around the TUSE campus;
- UDO2** Define a University District as a key entry gateway into the city through the assimilation of the third level campus into its urban context. This could be manifested by a reduction in carriageway width along the Cork Road from its junction with Browns Road to the new junction proposed at the bottom of Ashe Road (L1530), provision of effective traffic calming measures, increased planting and the creation of two prominent public plazas at key nodes along this section of road i.e. at main car park adjacent to Luke Wadding Library building and at the existing junction of the Cork Road and Ballybeg Drive as shown in Figure 16 – 21;

³ Building design shall be consistent with the Urban Development and Building Heights: Guidelines for Planning Authorities, DHPLG (December 2018).

- UDO3** Ensuring safe and easy access to Kilbarry Park, Waterford Nature Park and the RSC from the TUSE campus and wider Kilbarry area;
- UDO4** Support the provision of a public space/plaza to link the TUSE campus, the former Waterford Crystal site, Ballybeg and Yellow House regeneration lands together;
- UDO5** Former Waterford Crystal site identified for possible TUSE expansion and associated enterprise and ancillary student services;
- UDO6** Enhance the profile and status of the TUSE within the context of the immediate area, the broader city and South East Region through appropriate rebranding such as renaming of a section of the Cork Road;
- UDO7** Lands zoned as Opportunity Site to the south of Cork Road at the Yellow House are identified for some commercial uses such as a neighbourhood scale convenience shop, ancillary student retail services, student accommodation, residential, hotel and office use. The lands will also accommodate an enhanced access to Waterford Nature Park linking the nature park to TUSE via a new plaza referred to under UD02 above;

Site development works to lands lying within the Yellow House opportunity site will be required to be consistent with the requirement of the Planning System and Floor Risk Management: Guidelines for Planning Authorities DEHLG (November 2009), or any amendment thereto.



Figure 16: Existing/ Indicative images of the Cork Road/University Mile



Figure 17: Existing images of the Cork Road/ University Mile



Figure 18: Indicative University Plaza on the Cork Road/University Mile

9.2 Kilbarry & Lacken - LIHAF Lands - Undeveloped zoned lands between Kilbarry Road & Lacken Road

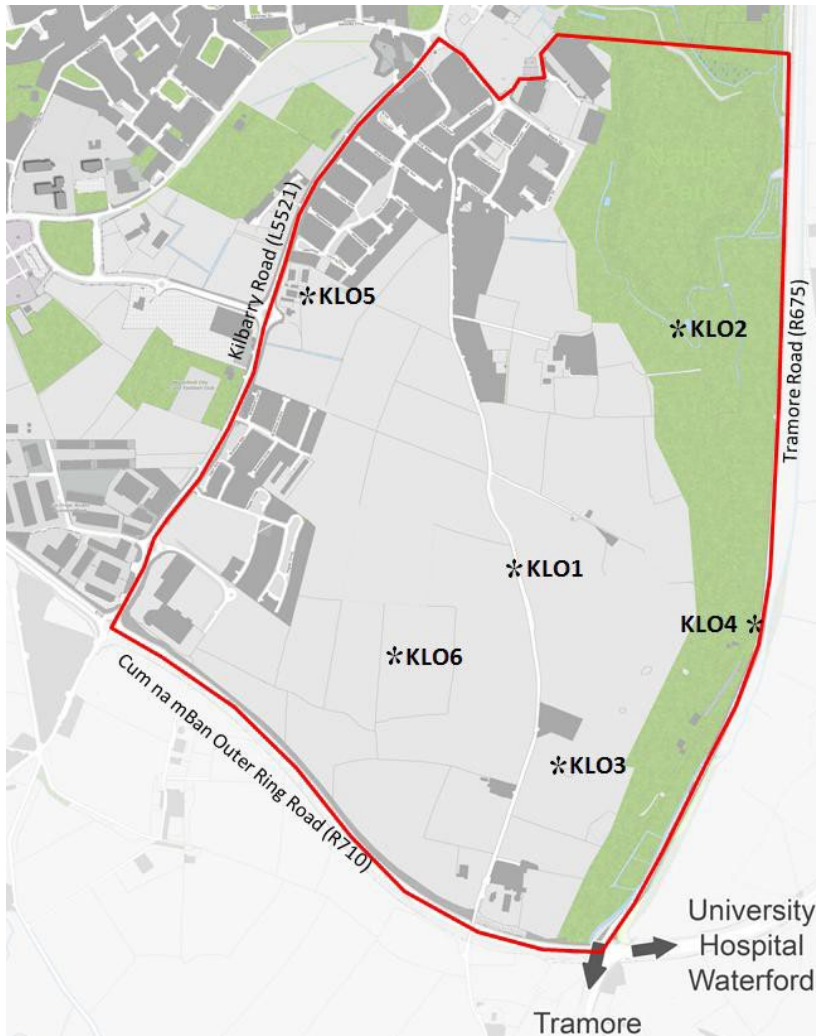


Figure 22: Depicts key objectives for Kilbarry and Lacken District Character Area

KEY OBJECTIVES:

- KLO1** Facilitate the provision of public services such as roads, water, wastewater, surface water and amenities space;
- KLO2** Ensuring safe and easy access to Waterford Nature Park and RSC from a new looped walk which abuts the boundary of the pNHA and from existing and new residential areas;
- KLO3** Ensure all existing and proposed streets/roads are consistent with the block layout, street hierarchy and building heights as shown in Figure 11, Figure 23 and the design brief and associated guiding design principles as set out in Appendix 1, refer to Figure 24 – 26 for further guidance;

- KLO4** Develop a pedestrian and cycle route from residentially zoned lands east of the Lacken Road to the Tramore Road south of the Black Road at Carrigroe (which is outside the pNHA) and link with the John’s River Walk way east of the Tramore Road;
- KLO5** Rezone c.3.6 ha of land east of the Kilbarry Roundabout (by Tesco Ballybeg) and north of the proposed LIHAF Road from ‘Residential’ to ‘Community Facilities’ to facilitate a new school campus;
- KLO6** Rezone c.3.6 ha of land west of the Lacken Road and north of the southern section of the LIHAF from ‘Community Facilities’ and ‘Open Space’ to ‘Residential’ to facilitate the construction of the new post primary school at KLO5⁴.



Figure 23: Depicts indicative street, block layout and areas for taller buildings for undeveloped residential land in Kilbarry and Lacken District Character Area

⁴ The direct swap between residential zoning at KLO5 and community facilities and open space zoning at KLO6 (c. 3.6ha) will have no effect on the Core Strategy.

Figure 4.4: Extract from the Adamstown Street Design Guide.

Illustration of the psychological and physical, or 'hard' and 'soft', measures that influence driver speeds and may be used to enhance place and manage movement.

Close Proximity of Buildings (left)



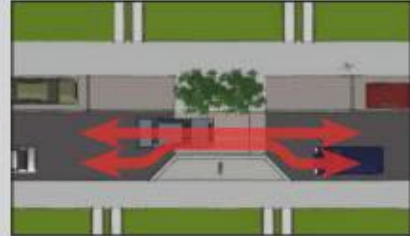
Continuous Street Wall (right)

Active Ground Floor Uses (left)



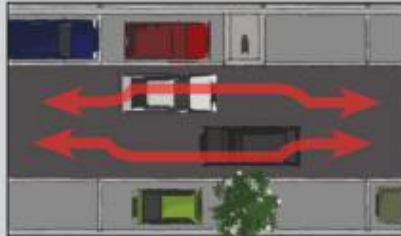
Pedestrian Activity (right)

Frequent Crossing Points and Junctions (left)



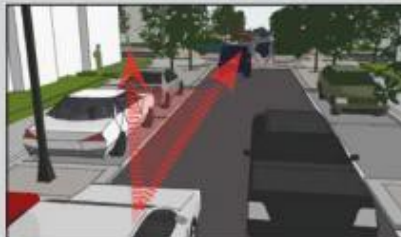
Horizontal and Vertical Deflections (right)

Narrow Carriageways (left)



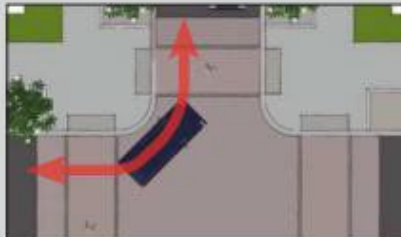
Minimising signage and road markings (right)

Reduced Visibility Splays (left)



On-Street Parking (right)

Tighter Corner Radii (left)



Shared Surfaces (right)

Figure 24: Examples of different block boundary treatments which provide front door access to streets, passive surveillance and influence driver speeds.



Figure 26: (left) Activity on a shared surface street at Furry Hill, Dun Laoghaire Rathdown County Council. Removing cars and their associated design requirements (kerbs, barriers, markings) signals clearly that this is a street designed for people and allows for relaxed activity by residents (Source, Urban Design Manual 2009).



Figure 27: (right) Example of a semiprivate shared space to the rear of houses at Kill, Co. Kildare (Source, Urban Design Manual 2009).

9.3 Neighbourhood and Community Hub: Fire Station – Tesco Ballybeg

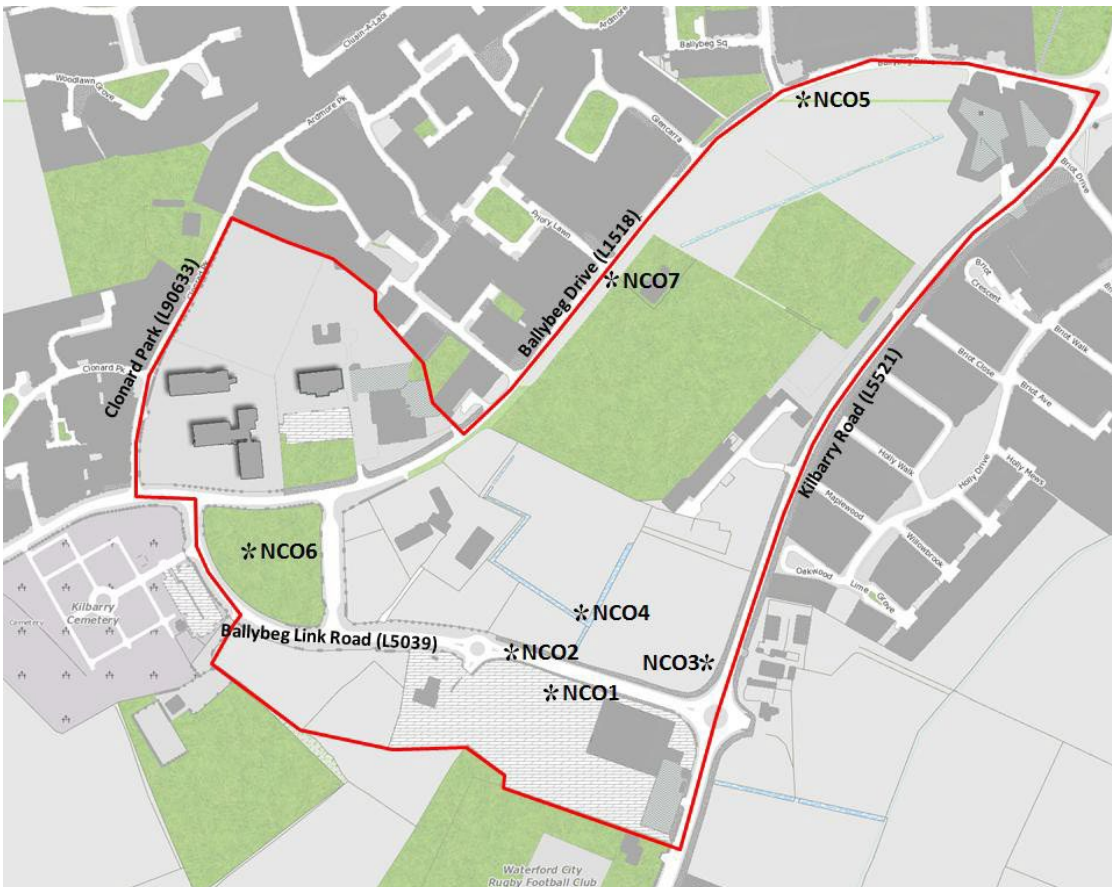


Figure 28: Depicts key objectives for Neighbourhood and Community Hub Character Area

KEY OBJECTIVES:

- NCO1** Facilitate the development of a neighbourhood centre along the Ballybeg Link Road from the Kilbarry Roundabout to Tesco Roundabout which would act as de facto focal point for the local community and which would be anchored by a mix of appropriate commercial, community/ social and residential uses as shown in Figure 29 and 30;
- NCO2** Traffic calm Ballybeg Link Road and its junction with Kilbarry Road by introducing signal controlled junctions, reducing usable carriageway width, enhanced tree planting and creating an intimate public realm with a high standard of architecture design and material finish. This reconfigured street will link the new residential area south of the Kilbarry Road to the existing Ballybeg residential area and create a community focal point for the study area shown in Figure 29 and 30;



Figure 29: Indicative layout of Kilbarry/Ballybeg urban village street



Figure 30: Indicative layout of Kilbarry/Ballybeg urban village street

- NC03** Utilise building heights along Ballybeg Link Road to create a landmark buildings at the junction of Ballybeg Link Road and Kilbarry Road to create a sense of place for the expanding neighbourhood centre. Building height will be subject to compliance with relevant design guidance in place at the time⁵;
- NC04** Rezone c. 2.3 ha land north of Ballybeg Link Road and West of Kilbarry Road from ‘New Residential’ to ‘Community Facilities’ in order to accommodate the development of a school campus. Buildings should be placed along the perimeter of the street in order to assist in framing the streetscape along Ballybeg Link and Kilbarry Road and assist in creation of a sense of place as shown in Figure 31 and 32⁶;
- NC05** Facilitate the development of an urban street on the southern side of Ballybeg Drive west of the Fire Station on lands zoned for new residential purposes. Buildings should be placed along the perimeter of the street in order to assist in framing the streetscape along Ballybeg Drive and assist in creating of a sense of place as shown in Figure 33 and 34;
- NC06** St. Saviours Park is an important public space which is currently underutilised for reasons of exposed location and severance by public roads. The park could be retained with enhanced biodiversity planting and physically linked to lands east of

5 Building design shall be consistent with the Urban Development and Building Heights: Guidelines for Planning Authorities, DHPLG (December 2018).

6 The change from residential zonings to community facilities (c. 2.3ha) directly correlates with the change in zoning in Section 9.5. BGO2 and BGO3 from open space to residential and therefore no change to the Core Strategy will occur.

Ballybeg Link Road in the vicinity of Ballybeg Community Development Project as shown in Figure 35 and 36;

NCO7

Enhance open space and biodiversity by developing a biodiversity corridor along Ballybeg Drive linking Waterford Nature Park to St. Saviour's Park and further south to Cumann na mBan Outer Ring Road through the Six Cross Road Business Park & Witches Lane character area as shown in Figure 11. Where new development is proposed this should be laid out to facilitate the corridor enhancement.



Existing

Figure 31: Existing image of Ballybeg Link Road and Kilbarry Road



Proposed

Figure 32: Indicative image of Ballybeg Link Road and Kilbarry Road showing indicative school building situated on the corner



Figure 33: Existing image of Ballybeg Drive



Figure 34: Indicative image of Ballybeg Drive



Figure 35: Existing image of St. Saviour Park



Figure 36: Indicative image of St. Saviour Park

9.4 Industry & Enterprise Zone - Six Cross Road Business Park & Witches Lane



Figure 37: Depicts key objectives for Industry and Enterprise Zone Character Area

KEY OBJECTIVES:

- IE01** Protect trees of amenity value as designated in the current Waterford City Development Plan 2013 – 2019 located east of Butlerstown Road and associated habitats;
- IE02** Incorporate flood attenuation and green infrastructure as a requirement for future development on lands zoned for Technology Based Industry south of the Green Road (L5520) and north of the Cumann na mBan Outer Ring Road;
- IE03** Retain Butlerstown Knock as a biodiversity area;
- IE04** Enhance open space and biodiversity network by linking new biodiversity corridor and spaces to Waterford Nature Park as shown on Figure 14. The corridor should include the designated amenity trees and new wetlands to be developed to manage storm water runoff in the area and connect to Cumann na mBan Outer Ring Road and the Waterford Greenway.

9.5 Ballybeg (Including Mixed-use zoned lands south of the Cork Road)

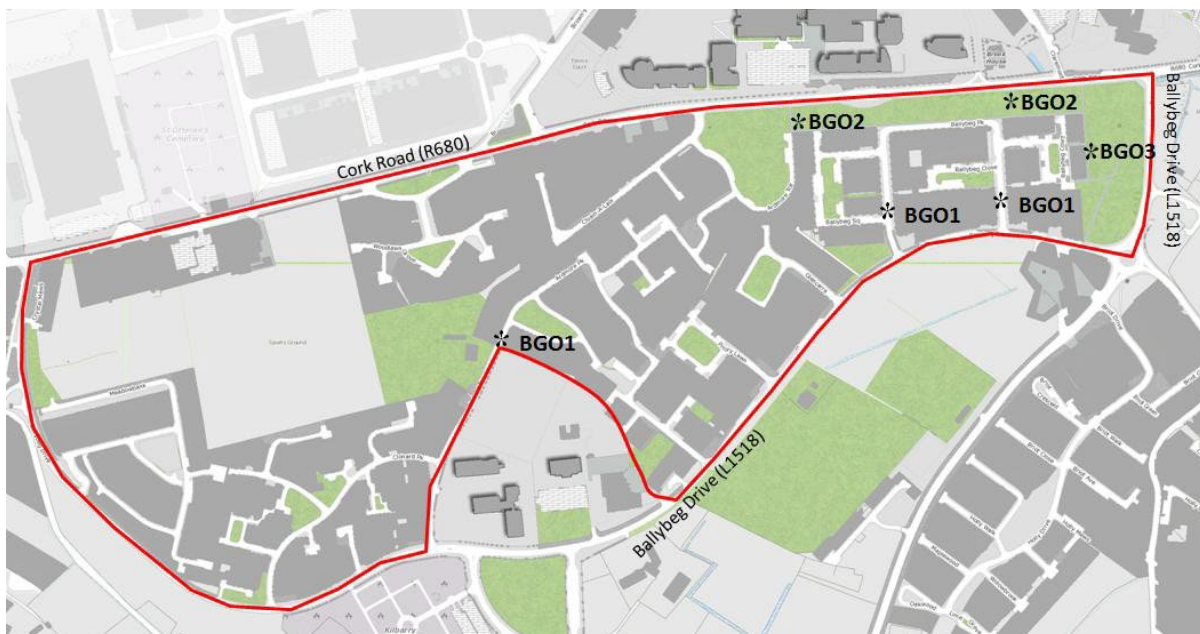


Figure 38: Depicts key objectives for Ballybeg Character Area

KEY OBJECTIVES:

- BGO1** Create focal points/features and enhance pedestrian/cycle connectivity across existing built up area linking the TUSE campus with Ballybeg Drive and beyond;

- BG02** Investigate the repurposing of land south of the Cork Road and west of the Kilbarry Road from 'Open Space' to 'New Residential' to facilitate the development of a number of appropriately scaled residential buildings which will enhance the quality of urban spaces and assist in creating a counter balance to the larger WIT buildings to north of Cork Road. New buildings could be aligned so as to visual screen the rear of properties at Ballybeg Court and Ballybeg Square which face onto the Cork Road.
- BG03** Similarly, provide lands between Ballybeg Court and Ballybeg Drive (Road no. 1) to facilitate the physical enclosure of a new plaza to the east while visually screening the rear of properties at Ballybeg Court⁷.

⁷ The three new blocks of residential zonings will not exceed 2.3ha as this directly correlates with the change in residential zoning in the Neighbourhood and Community Hub Character Area from 'Residential' to 'Community Purposes' (Please see Section 9.3 NCO4) and its replacement in BGO2 and BGO3 above. This will result in no change to the Core Strategy.

APPENDIX ONE — BUILT FORM AND DESIGN PRINCIPLES

A.1.0 Introduction

The following sections of this document provide guidance with regards to the design and layout of undeveloped parcels of land within the study area, with particular focus on lands zoned for Opportunity Sites within the University District character area (i.e. the former Waterford Crystal site and The Yellow House site). The primarily Greenfield/Brownfield nature of the former Waterford Crystal factory site and the Yellow House sites presents an opportunity to create a coherent framework of streets, buildings, parks and spaces. The following sections set out key parameters in relation to design, block size, block form, street frontage, topography, urban grain and street design. The guidance will assist developers, architects and planners in creating an integrated urban district comprising of well-designed character areas and linkages to and between new and existing surrounding neighbourhoods.

A2.0 Design Criteria

To develop a coherent design approach to new development across the study area, the external renders of structures and the overall appearance and design of development must relate to the design led criteria set out under the:

- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (2009);
- Retail Planning Guidelines for Planning Authorities (2012);
- The Urban Design Compendium (2000); and
- Urban Design Manual (2009).

Streets and junctions should be designed in accordance with:

- DMURS (2013); The National Cycle Manual (2011); and
- The Guidelines for Setting and Managing Speed Limits in Ireland (2015).

A2.1 Design Statement

To ensure a quality and coherent approach in design, all medium to large scale development proposals across the study area and within the University character area (i.e. Landmark Buildings, 10 dwellings or more in the case of residential development or development of over 1,000 sqm in the case of employment or retail/ non-retail services development) should be accompanied by a Design Statement that:

- Demonstrates compliance with the overarching principals objectives as highlighted in Section 3 of the design framework;
- Includes a masterplan that demonstrates proposed and future integration with the development of surrounding sites and character areas within the study area including vehicular, pedestrian, cycle and public transport connections;
- Demonstrates compliance with the 12 design criteria contained within the **Urban Design Manual A Best Practice Guide (2009)** in the case of residential development;
- Demonstrates a mix of dwelling types to support a variety of household sizes and dwelling types;
- Demonstrates compliance with the 10 design criteria contained within **the Retail Design Manual (2012)** in the case of retail development;
- Includes street cross sections and plans that demonstrate compliance with **DMURS (2013)** in terms of ‘Movement, Place and Speed’, ‘Streetscape’, ‘Pedestrian and Cyclist Environment’ and ‘Carriageway Conditions’ etc.;
- Includes a Quality Audit addressing street design as outlined under DMURS (2013); and
- Includes cross sections that demonstrates appropriate design responses to existing and proposed site levels including those that relate to streets, spaces, building frontages, services and SUDS

A3.0 Connections

Successful neighbourhoods generally tend to be well connected to places and amenities which support a good quality of life. Any new development within the study area must provide for and create links within the study area and with more established areas surrounding it. These links must include the following:

- Attractive routes in/out for pedestrians and cyclists;
- Placement of development close to mixed use centres;
- The design of a development allows for a bus service;
- Identify desire lines and plan routes along these lines; and
- Provide appropriate densities which can avail of public transport.

A3.1 Urban Grain and Facade Treatment

It is widely accepted that the creation of satisfactory street space requires the enclosure of space either through buildings or planting of trees. These spaces are safe, visually pleasing and create a sense of place.

To create this 'enclosure of space' and to increase density within proposed new developments it is necessary to achieve a continuous built frontage along the street or block edge, where possible. Connecting buildings to one another creates active street frontages, minimises heat loss through external walls and allows more economic construction. This should not result in the mono design of terrace buildings but reflect the fabric of historic towns centres which are largely made up of individual buildings which are joined to one another. The architectural diversity, vibrant mix of finishes and building types will aid in place making, way finding and add to the legibility of the overall development.

In master planning the undeveloped lands within the study area in particular the former Waterford Crystal and Yellow House sites an opportunity arises to subdivide these character areas into development parcels. This will further enable the area to develop a richer mix of building types, tenures and uses. The Urban Design Compendium suggests that parcels of 1 to 2 hectares will avoid a 'monoculture' in any area. Block form and design is explained in more detail in the section below.

Section A3.1. Key Points:

- Enclose space through continuous built frontage along street/block edge;
- Provide for architectural diversity and mix of finish in building type;
- Divide area into development blocks of 1-2 hectares to avoid 'monoculture' design.

A3.2 Block Form and Size

The development of Greenfield and Brownfield sites across the study area should be shaped by a hierarchy of streets and divided into a series of development blocks that will present strong building frontages to surrounding streets. Blocks can vary considerably in shape and size according to the configuration of streets, orientation and topography and the nature of plot sub-division and building types that are to be accommodated.

A3.2.1 Block Form

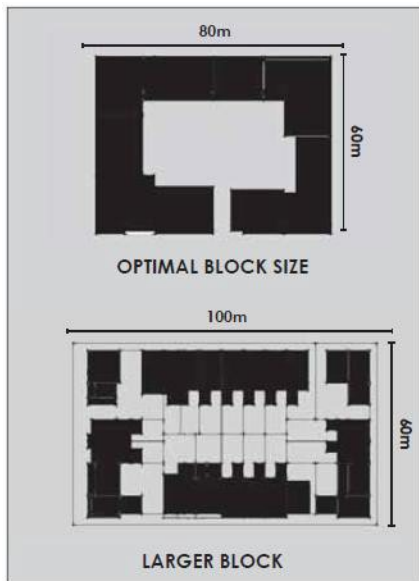
Buildings should be laid out in perimeter blocks across the undeveloped lands. The fundamental requirement in structuring built form within the development blocks is to make a clear distinction between public fronts and private backs. Buildings which front street and public spaces present their 'public face' and create active street frontages.

Well designed blocks can enclose private and semi-private open spaces. All blocks should be designed according to the following principles:

- Building massing to the perimeter of the block;
- Building frontage to all sides, including the shorter sides (secondary street frontage) of the block;
- Proper design and attention to corners, avoiding dead or windowless gables;
- A continuity of building frontage, which relates to the local or urban context, and avoidance of blank walls;
- Block layout places some public spaces in front of building lines as squares or greens, and some semi private spaces to the back as communal courts;
- An appropriate scale of buildings to provide the appropriate level of enclosure of the streets and spaces;
- Adequate back-to-back distances within the block;
- Appropriate building set-backs from the street in line with the use of ground floors;
- Adequate arrangements for car parking and access around, within or below the block; and
- Carefully considered subdivision of the block into plots where fine urban grain or mixed use is proposed.

A3.2.2 Block Size

To encourage pedestrian and cyclist permeability and ensure that streets and blocks are dimensioned to reflect their function and setting, reduced block lengths should be utilised across the study area. Block sizes on The Yellow House sub area 3 of the University District character area and undeveloped lands of sub area 3,4 and 7 of the Kilbarry and Lacken character area should have dimensions of approximately 60 to 80 metres and should be no more than 100 metres in length/depth as illustrated in Figure 39. Block dimensions on the former Waterford Crystal Site sub area 2 of the University District character area should be no more than 100 metres. Larger or irregular blocks of up to 120 metres should be broken up using mid-block penetration. Section 3.3.2 of DMURS (2013) should be consulted in the design of block size.



Section A3.2 Key Points:

- Building massing to the perimeter of the block;
- Scale of building to provide enclosure of streets and space;
- Optimal block size is c.80mX60m which allows for increased permeability for walker and cyclists.

Figure 39: Optimal and Larger Block Sizes which will promote a 'walkable' neighbourhood (Source: DMURS, 2013)

A3.3 Dwelling Type

All new residential development should be inclusive with regards to the provision for housing of different types, sizes and tenures. Providing this choice will enable people from different backgrounds to benefit from the opportunity afforded by the development, and will help to create a balanced, sustainable community.

On larger developments, the overall mix should be selected to create a mixed neighbourhood that can support a variety of people through all stages of their lives as depicted in Figure 40.



Figure 40: Illustrates a residential scheme with a mix of housing sizes and forms which covers a range of demographics (Source: Urban Design Manual, 2009)

A3.4 Access for All/ Universal Design

The design of all new buildings and space within the study area should be inclusive and meet the needs of all users, regardless of age, gender, race or sensory and mobility abilities (Urban Design Manual, 2009).

Particular attention should be given to users of buggies, people with disabilities and the older people. Buildings and public space should be designed to accommodate a lifetime from raising young children, teenage years to having Grandparents stay.

Section A3.3 and A3.4 Key Points:

- New developments should be inclusive and include a mix of dwelling type, size and tenures;
- The design of buildings and space should meet the needs of all;

A3.5 Permeability & Legibility

New developments within the study area must be supported by a permeable and legible street network that offers a choice and flexibility for managing movement.

A3.5.1 Permeability

There should be good connections for walking and cycling between adjacent neighbouring area/developments, and wherever possible, a choice of routes between one location and another. Where it is not practicable to provide vehicular links between old and new residential areas, there is often no reason why pedestrian and cycle links cannot be achieved. Opportunities to organize permeable layouts in a way which extend or link into established walking/cycle routes should be taken.

Permeable layout offers the pedestrian a selection of routes providing greater visual interest. The higher level of pedestrian activity generated provides greater security. If there are more pedestrians around in the street there is a greater chance of casual social encounters and less anti-social behaviour and criminal activities. In order to allow free movement the ideal pattern would be a deformed grid based on the use of small residential blocks (Making Places: A Design Guide for Residential Estate Development, 2011).

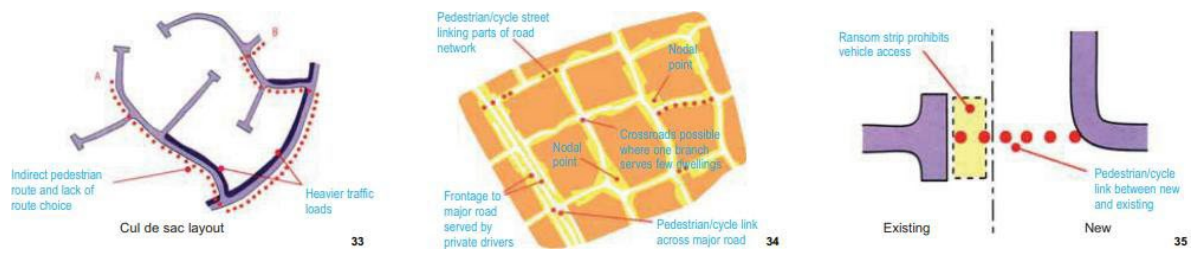


Figure 41: Depicts residential development which have a permeable and non-permeable layout (Source: Making Places: A Design Guide for Residential Estate Development, 2011)

A3.5.2 Accessible Streets

All character areas should be designed so that they are walkable. Blocks must be permeable as to encourage more sustainable active modes of transport by providing direct walking and cycling links to public transport and local shops/services which will reduce the dependency on the private car.

The design of streets/roads has a major impact on the level of permeability and safety within new developments. Streets and roads which are characterised by narrow carriageways, active facades, several points of access and frequent crossings will encourage walking and cycling as shown in Figure 42. These types of environments will produce a much safer environment for pedestrians and cyclists as they slow the flow of vehicles, create passive surveillance and provide exist points. In the design of streets particular attention should be paid to Section 7 of this document.



Figure 42: The elimination of access and frontage along roads was introduced to reduce risk, but it serves to encourage speeding (DMURS, 2013)

A3.5.3 Legible Street

Residential development in recent years has been characterised by a sense of sameness, with entire housing estates designed with a uniform house type and layout. This generic design motif in conjunction with street layouts with proliferation of cul-de-sacs surrounded by faster distributor/link

roads with limited pedestrian/vehicular access makes for a poor and extremely difficult environment to navigate for the end user.

The layout of new residential development within the study area should be designed around a set hierarchy of streets and building types that work in unison to promote a highly legible environment as suggested in Section 7.5 above.

The height and scale of buildings must relate explicitly to street types, with larger scale buildings on major streets (e.g. Cork Road, Ballybeg Link Road, and Kilbarry Road) and lower scale buildings on minor streets (e.g. LIHAF and other residential streets). Important corners and areas around public open space, such as St. Saviour's Park, lend themselves to taller buildings. The design framework also provides for the placement of landmark buildings at key strategic locations namely at the junction of the Cork Road at Kilbarry Road (on lands zoned for 'opportunity sites' purposes within the Waterford City Development Plan 2013 – 2019). These landmark buildings will assist in enclosing new public spaces at the plaza's on the Cork Road.

Section A3.5.Key Points:

- Streets and roads should be designed so that they include several:
 - Access points;
 - Frequent crossings;
 - Encourage walking/cycling.
- New developments must be designed around a hierarchy of streets and buildings to promote legibility.

A3.6 Landmark Buildings

In the interest of place making and improving legibility, Local Landmark Buildings and Landmark Buildings should be incorporated into the design of any new developments at key locations across the study area.

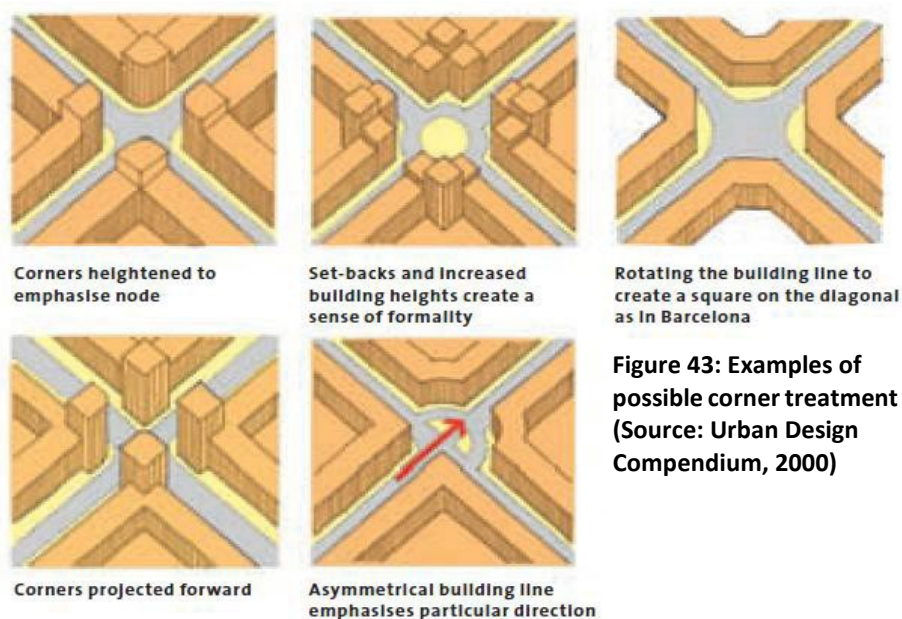
In the development of Landmark Building their design as opposed to building height should be a key determinant. Their design should be unique and distinctive from surrounding buildings in architectural treatment and use of materials. To further distinguish their place-making function, Landmark Buildings should include high quality public realm treatment in terms of surrounding

street planting, furniture, lighting and materials etc. The design of such buildings should be based on a coherent design concept that is clearly communicated via a Design Statement and Landscape Plan.

In addition to the above and the requirement of set out in Section A2.1, a Design Statements for Landmark Buildings should also analyse and illustrate the impact of the proposed development in relation to its immediate and wider context including views/vistas within and beyond the draft URDF lands and in terms of sunlight and daylight effects. All proposals will be considered on their merits subject to compliance with this design framework, Waterford City Development Plan 2013 – 2019 and relevant Government Guidelines.

A3.7 Corner buildings

Corner buildings offer another opportunity to define and enclose space. These sites are visually prominent as they have two frontages facing the public street. These types of buildings can also potentially offer more entrances to different parts of the building. Corner buildings therefore provide special opportunities for mixing uses. See Figure 43 which illustrates possible corner treatment.



It is important to note that houses on corners need to face two ways; many standard building types used by housing developers are rarely able to do this. It is therefore necessary that more tailored designs be considered for these sites. Corners are best emphasised by incorporating prominent entrances and/or windows at the apex, expressing the height by, for instance, using a ‘mansion block’ of apartments, or incorporating a special use into the mix (Urban Design Compendium, 2000).

Section A3.6 and A3.7 Key Points:

- New developments must include landmarks and landmark buildings which will help create a sense of place and improve legibility;
- Corner buildings within residential developments need to be designed to face two ways.